

# Alabama Water Watch –

*rising to evolving water resource management challenges*

Eric Reutebuch  
Alabama Water Resources Conference  
Orange Beach, Alabama  
September 10-11, 2015



Alabama  
Water  
Watch



**extension**  
ALABAMA A&M & AUBURN UNIVERSITIES

# Alabama Water Watch –

*rising to evolving water resource management challenges*

- ❖ Overview of the AWW Program
- ❖ Existing AWW tools for volunteer monitors
- ❖ New tools on the horizon
- ❖ Come join us!



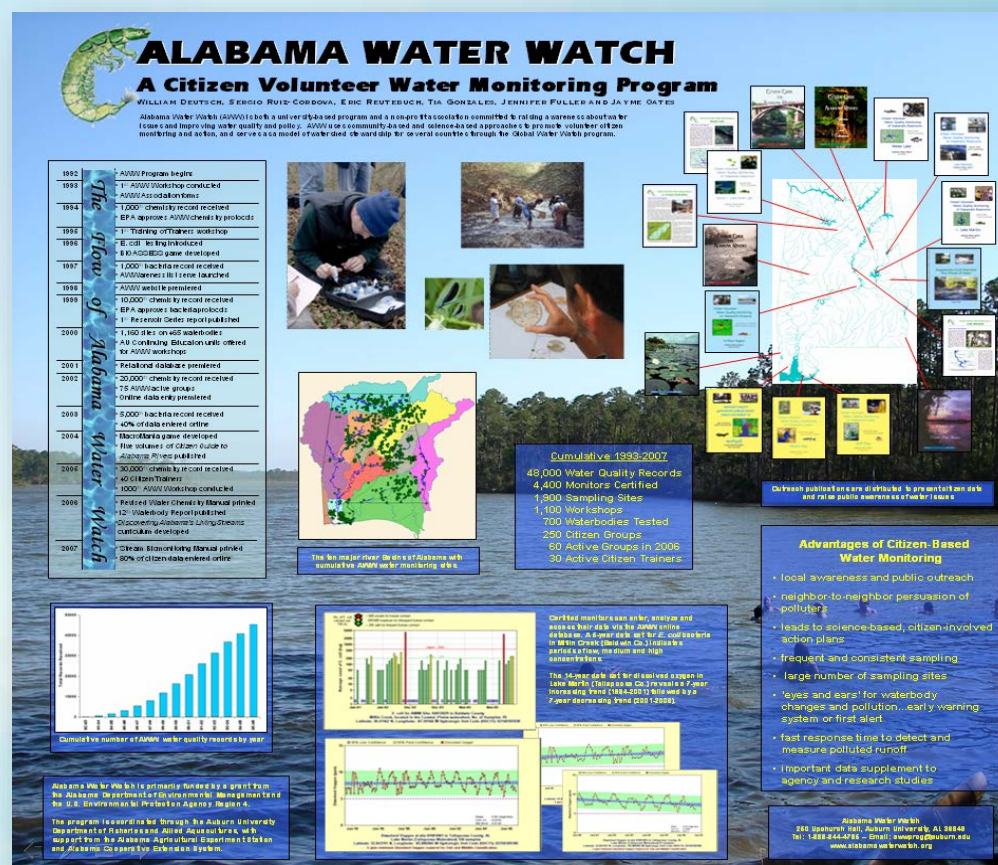




# What is Alabama Water Watch?




?





# Community-based Watershed Monitoring & Stewardship



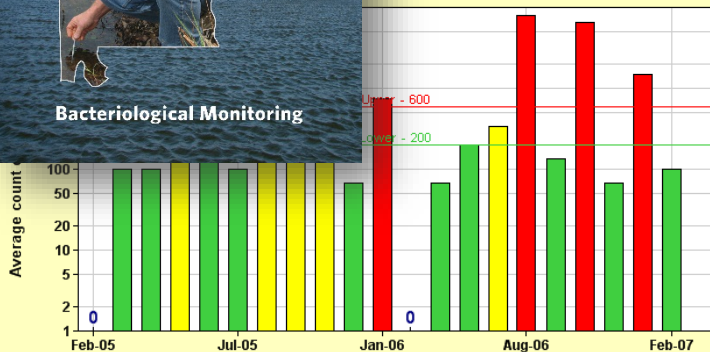

 > 600 unsafe for human contact  
 200-600 maximum for infrequent human contact  
 < 200 safe for frequent human contact



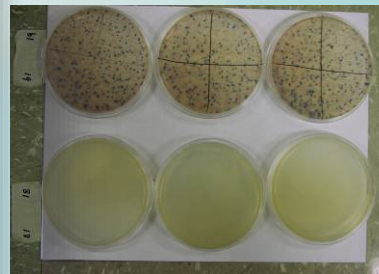
Alabama Water Watch



Bacteriological Monitoring



E. coli for AWW Site: 07011028 in Lee County  
 Saugahatchee Creek, located in the Tallapoosa watershed, No. of Samples: 21  
 Latitude: 32.6602 N, Longitude: -85.4518 W Hydrologic Unit Code (HUC11): NA



## Public Advisory

Recent investigations by Auburn University have determined the water in this area to contain elevated levels of fecal coliform bacteria. Further investigations have identified a broken sanitary sewer line in this area to be a likely source of the bacteria. Auburn University Facilities Division is currently working towards the repair of this line.

As a precautionary measure, it is suggested that persons avoid contact with the water until further notice.

Should you have any questions, please contact the Department of Risk Management and safety at 844-4805

College of Sciences

Donald E. Davis

Training & Certification

Monitoring, Data Reporting, & Stewardship



# Alabama Water Watch



Community-Based Watershed Stewardship  
through Citizen Volunteer Monitoring of  
Alabama's Lakes, Streams and Coasts

## ALABAMA WATER WATCH

### From Science-Based Data to Community Action

#### Get Certified

Collect water data with hundreds of other monitors using simple and accurate methods backed by U.S. EPA-approved quality assurance plans.

#### Put Your Data into Action

Work together to use water quality information to protect and restore waterbodies, raise awareness of watershed issues, improve environmental education in classrooms, and advocate improved water policies.

#### Share Your Experience

Tell others about the challenges and successes in your watershed to inform and motivate monitors, policy makers and the general public. Statewide success stories are featured on the AWW website.

#### Support AWW

Contribute your experiences, services, membership dues and gifts to ensure that AWW will continue to educate, train and empower citizens through community-based watershed stewardship for years to come.

#### Water Chemistry Monitoring



Conduct simple chemistry tests, such as dissolved oxygen and pH, to assess pollution.

#### Bacteriological Monitoring



Test for waterborne pathogens, including *E. coli* and other coliform bacteria.

#### Stream Biomonitoring



Survey macroinvertebrates or "aquatic bugs" to determine stream health.

# *Humble Beginnings*

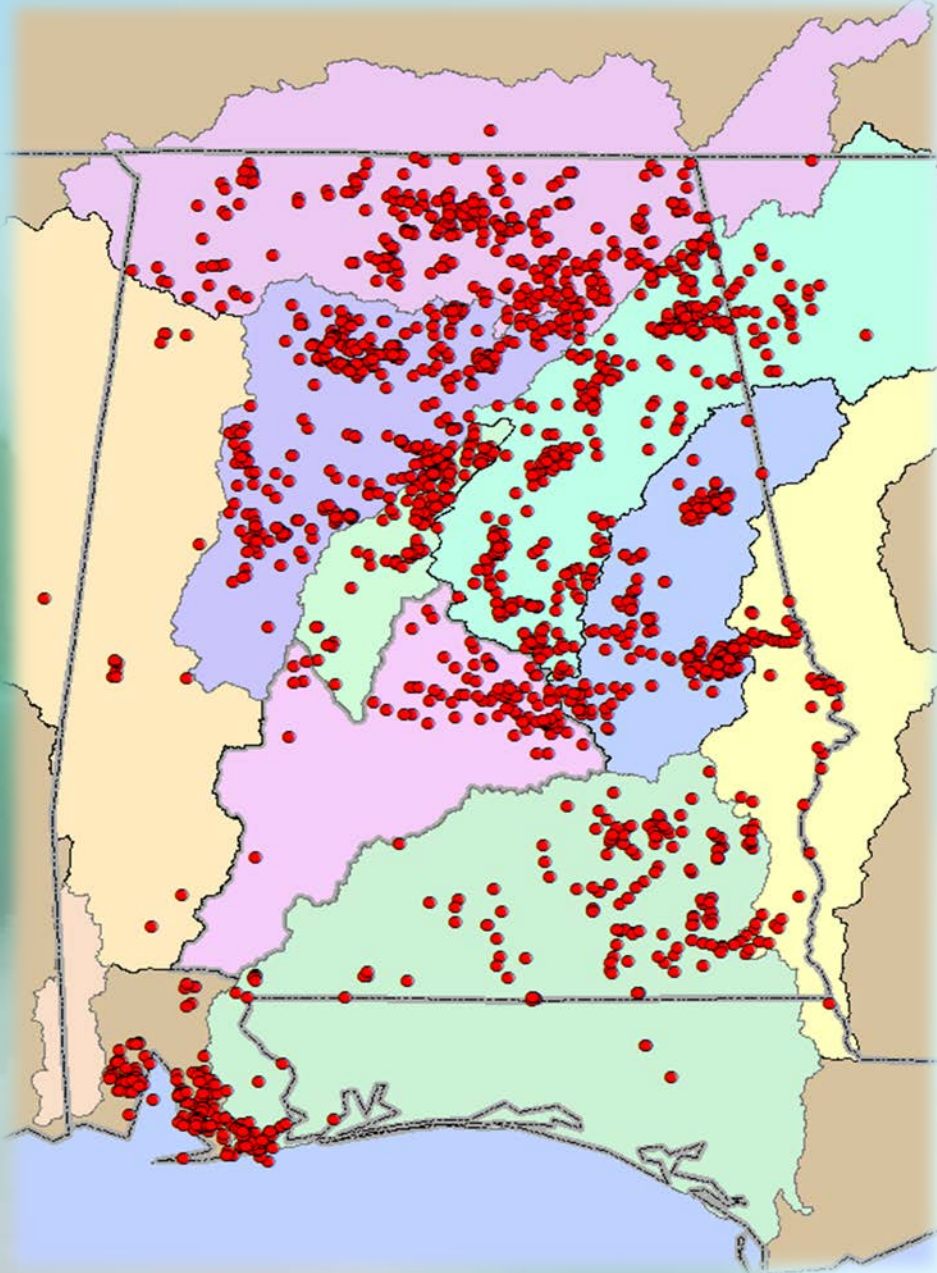




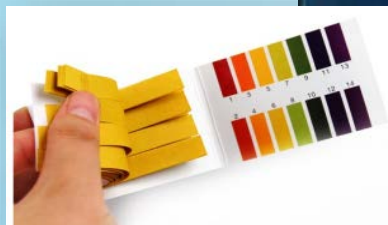
# ***AWW in 2015***

## **Cumulative 1993 – 2015** (cao 8/2015)

- ❖ 80,990 Water Quality Records
- ❖ 6,760 Certified Monitors
- ❖ 2,300 Sites
- ❖ 289 Citizen Groups
- ❖ 40 Active Citizen Trainers
- ❖ 1,945 Workshops  
(water chemistry monitoring, bacteriological monitoring, stream biomonitoring)



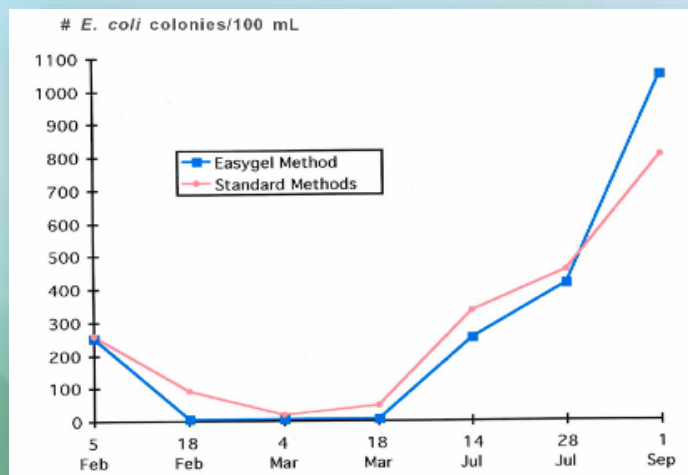
# *Emphasis on Science-based Information*





# AWW's EPA-Approved Monitoring Protocols

## Bacteriological



Revision No. \_\_\_\_\_  
Date \_\_\_\_\_

### QUALITY ASSURANCE PLAN FOR BACTERIOLOGICAL MONITORING

(Addendum to the Quality Assurance Plan  
approved on March, 1995)

for  
**Alabama  
Water  
Watch**

A Program dedicated to developing  
Citizen Volunteer Monitoring of  
Alabama's Lakes, Streams and Wetlands  
Funded in part by a grant from the U.S. EPA, Region 4  
Clean Water Act, Section 319  
and the Alabama Department of Environmental Management

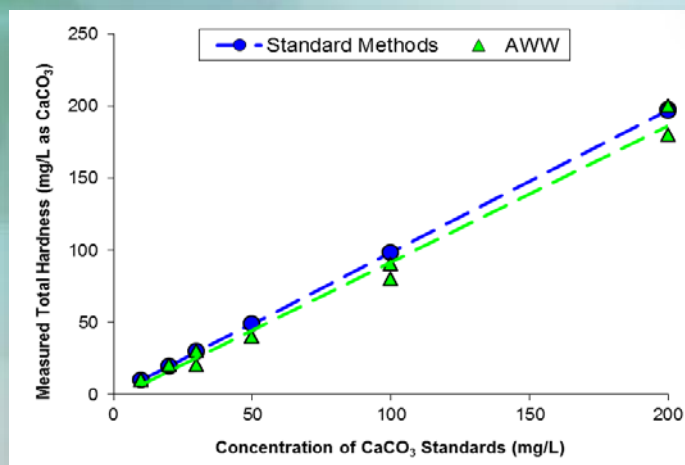
prepared for  
U.S. ENVIRONMENTAL PROTECTION AGENCY  
REGION 4, Section 319  
November 10, 1999

APPROVALS:

<i>Allison L. Dugan</i> Allison L. Dugan, M.S., AWW QA/QC Officer	11/16/99 Date
<i>William G. Deutsch</i> William G. Deutsch, Ph.D., AWW Program Manager	11/16/99 Date
<i>Norman Blakey</i> Norman Blakey, ADEM Project Director	11/13/99 Date
<i>Gary Darden</i> Gary Darden, U.S. EPA Region 4, Quality Assurance Officer	11/10/99 Date



## Water Chemistry



### ASSURANCE PLAN

(Revision of the Quality Assurance Plan  
Approved June, 1994)

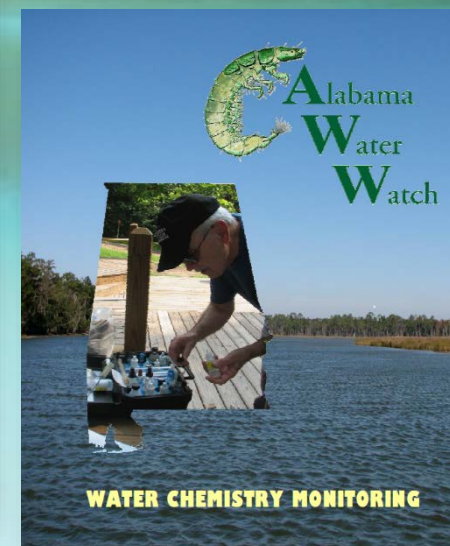
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A Program dedicated to developing  
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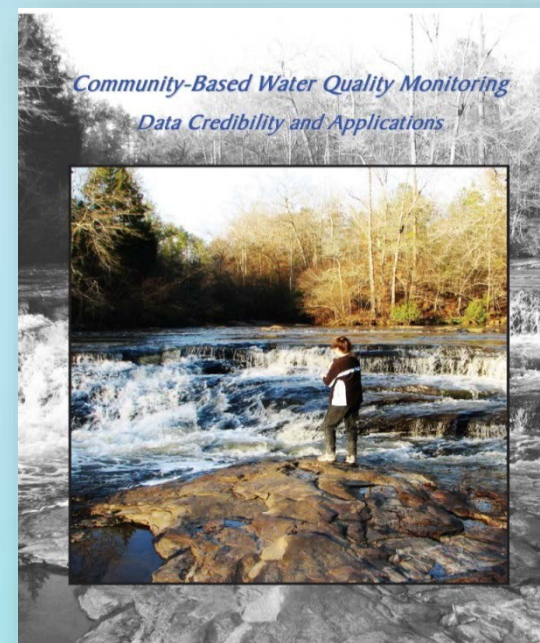
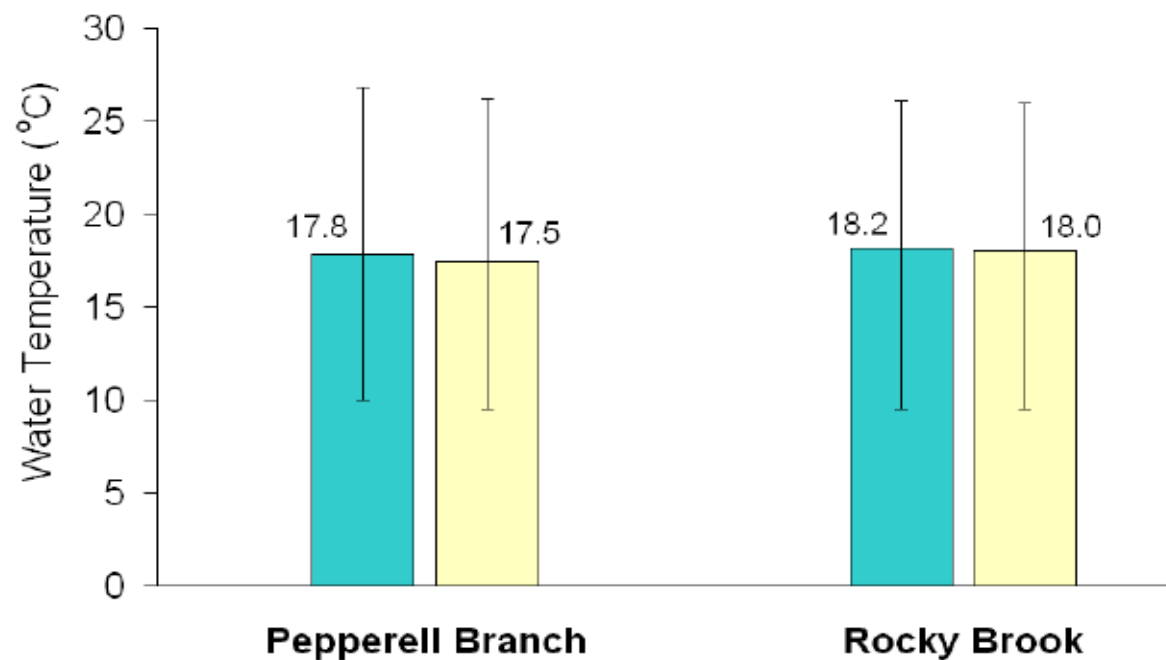
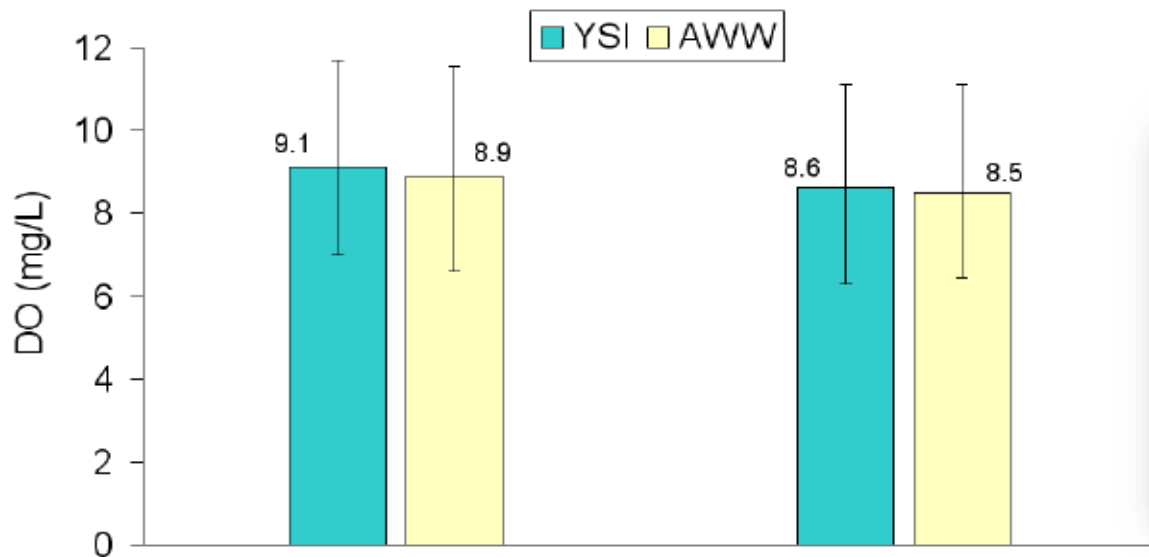
Prepared for  
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 4  
January 23, 2004

APPROVALS:

<i>Ronald E. Estridge</i> Ronald E. Estridge, M.S., Data Quality Coordinator	1/23/04 Date
<i>William G. Deutsch</i> William G. Deutsch, Ph.D., AWW Program Manager	1/23/04 Date
<i>Norman Blakey</i> Norman Blakey, ADEM Project Director	1/26/04 Date
<i>Marilyn Thombs</i> Marilyn Thombs, U.S. EPA Region 4, Quality Assurance Manager	March 9, 2004 Date



# Data Credibility





# ***Tools in the AWW Toolbox***



- ❖ Website
- ❖ Training in water monitoring
- ❖ Web-based water data tools
- ❖ Outreach tools

# Gateway to AWW Tools





[ABOUT US](#) [RELATED PROJECTS](#) [RESOURCES](#) [WATER DATA](#) [GET INVOLVED](#) [ENVIRO ED](#) [STORE](#)

## Dedicated to Community-Based Watershed Stewardship through Citizen Volunteer Monitoring

Alabama Water Watch (AWW) is a citizen volunteer, water quality monitoring program covering all of the major river basins in Alabama. AWW is a part of the [Global Water Watch](#) network.

The AWW vision is to have a citizen monitor on every stream, river, lake and coast in Alabama. The goal of AWW is to foster the development of statewide water quality monitoring by:

- Educating** citizens on water issues in Alabama and the world
- Training** citizens to use standardized equipment and techniques to gather credible water information using quality assurance protocols.
- Empowering** citizens to make a positive impact by using their water monitoring data for environmental education, waterbody restoration and protection, and involvement in watershed stewardship.

AWW receives support from multiple sources including the Alabama Cooperative Extension System, the Alabama Agricultural Experiment Station, grants from various governmental and private agencies, and contributions from individuals and groups throughout the state.

We invite you to take a few minutes to view AWW's award winning video, produced in 1998 and digitally enhanced and updated in 2010 (click the 'Living Downstream' link below).

Living Downstream - an introduction to Alabama Water Watch, Version 2



 [SUPPORT AWW](#)

 [DATA ENTRY](#)

 [EVENT CALENDAR](#)

 [GLOBAL WATER WATCH](#)

 [WORKSHOP REGISTRATION](#)

 [AWW SUCCESS STORIES](#)

 **AWW Awareness**

**MeOWW (Meet Our Water Watchers) – Taylor Steele, AWW trainer extraordinaire!**

Taylor Steele has a long career in environmental education and public outreach, and currently serves as Volunteer Coordinator at the Birmingham Botanical



# ***Tools in the AWW Toolbox***



**Water Chemistry Monitoring**



**Bacteriological Monitoring**



**Stream Biomonitoring**



# ***The Sharpest Tools in the Shed:***

## North Alabama Trainers

Larry Barkey  
Chip Blanton  
Marshall Carter  
Whitney Henson  
Francine Hutchinson  
John Kulbitskas  
James Mason  
Stephen Morros  
Stephen Tsikalas  
Susan (Soos) Weber  
Lynn Weninegar

## Central Alabama Trainers

Hana Berres  
Bill Boozer  
Dick Bronson  
Ann Campbell  
Matt Campbell  
Deborah Cearley  
Katie Dylewski  
Michael Freeman  
Gene Grimes  
Stephen Morros  
Jayme Oates  
Florence Peters  
Linda Ruethemann  
Wendy Seesock  
Sydney Smith  
Taylor Steele  
Ginger Taylor  
Isabella Trussell  
Jim Woodrow

## Coastal Trainers

Robert C. Davis  
Mimi Fearn  
Liz Langston  
Christian Miller  
Mike Mullen  
Mike Shelton  
Homer Singleton

## Statewide Trainers

Bill Deutsch  
Mona Dominguez  
Rita Grub  
Patti Hurley  
Eric Reutebuch  
Sergio Ruiz Cordova



# MeOWW!

MeOWW

(Meet Our Water Watchers)



Hana Burwinkle – Trainer Extraordinaire!

MeOWW

(Meet Our Water Watchers)



Francine Hutchinson – Trainer Extraordinaire!

MeOWW

(Meet Our Water Watchers)



Taylor Steele – Trainer Extraordinaire!

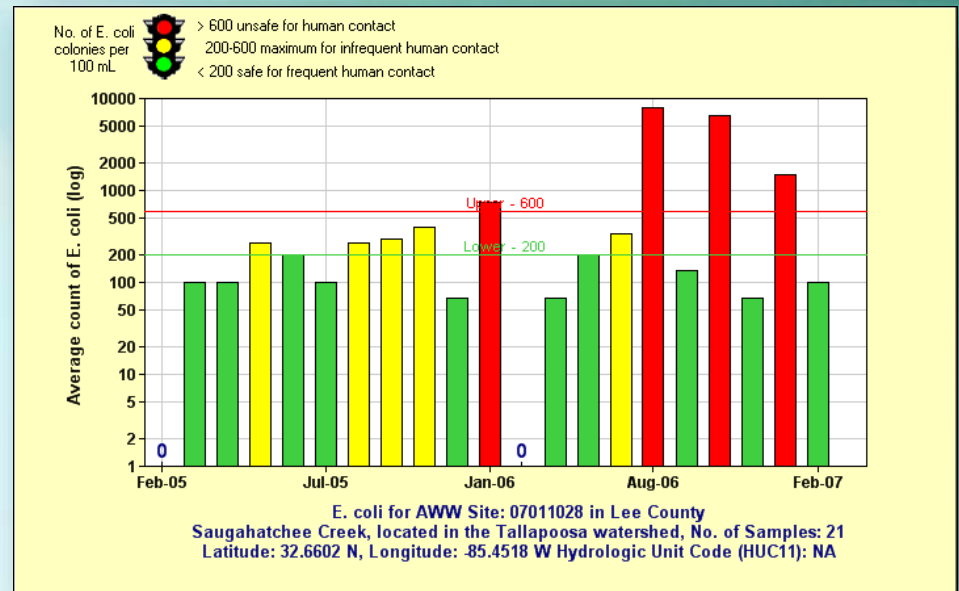
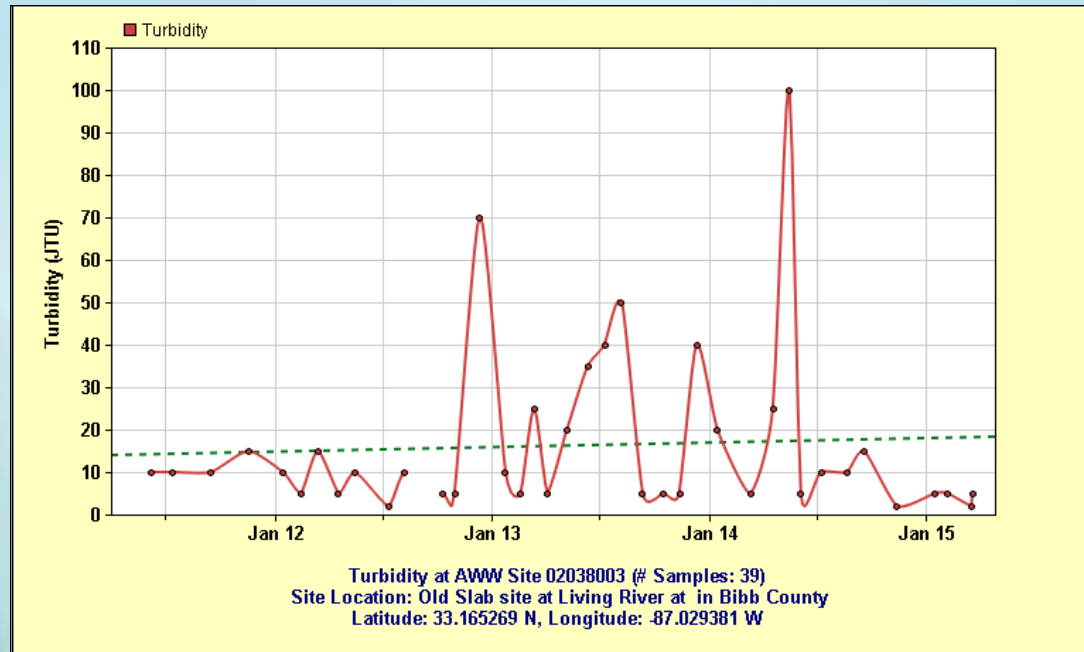
MeOWW

(Meet Our Water Watchers)



Mike Shelton – Trainer Extraordinaire!

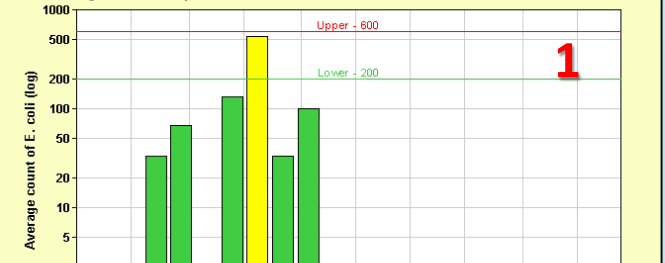
# Data Visualization Tools



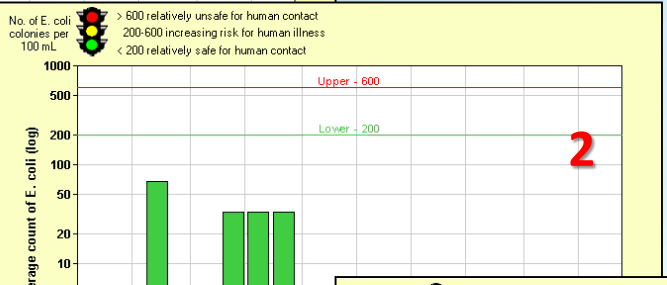


No. of E. coli colonies per 100 mL

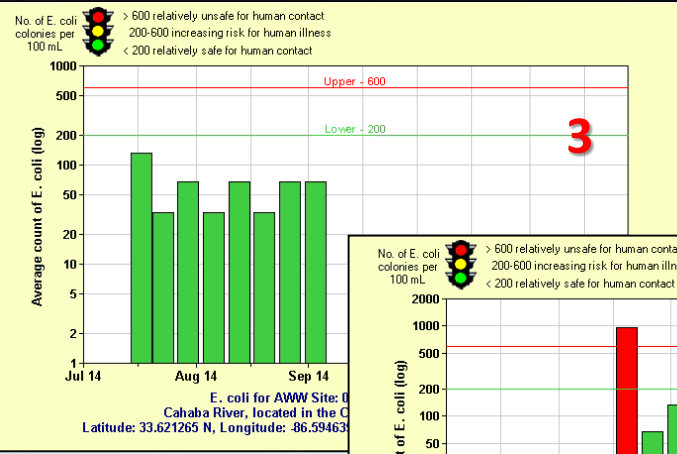
- > 600 relatively unsafe for human contact
- 200-600 increasing risk for human illness
- < 200 relatively safe for human contact



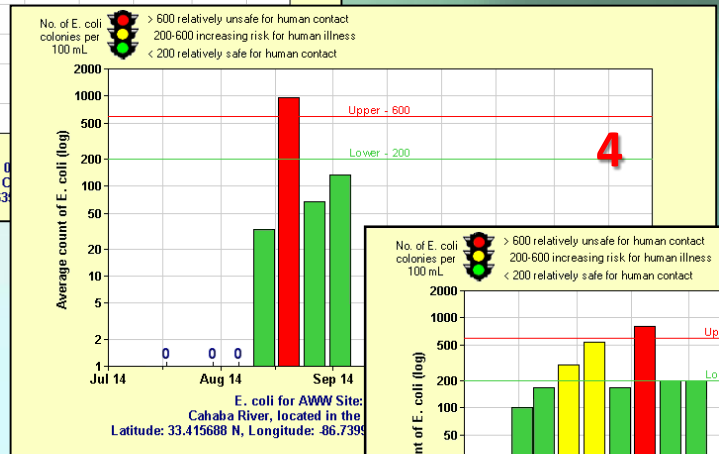
E. coli for AWW Site 1  
Cahaba River, located in the  
Latitude: 33.363294 N, Longitude: -86.8



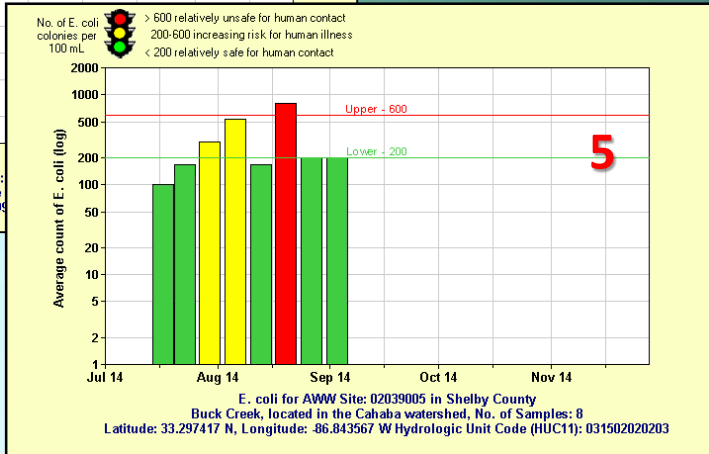
E. coli for AWW Site: 2  
Cahaba River, located in the  
Latitude: 33.511513 N, Longitude: -86.6524



E. coli for AWW Site: 3  
Cahaba River, located in the  
Latitude: 33.621265 N, Longitude: -86.59463



E. coli for AWW Site: 4  
Cahaba River, located in the  
Latitude: 33.415688 N, Longitude: -86.7399



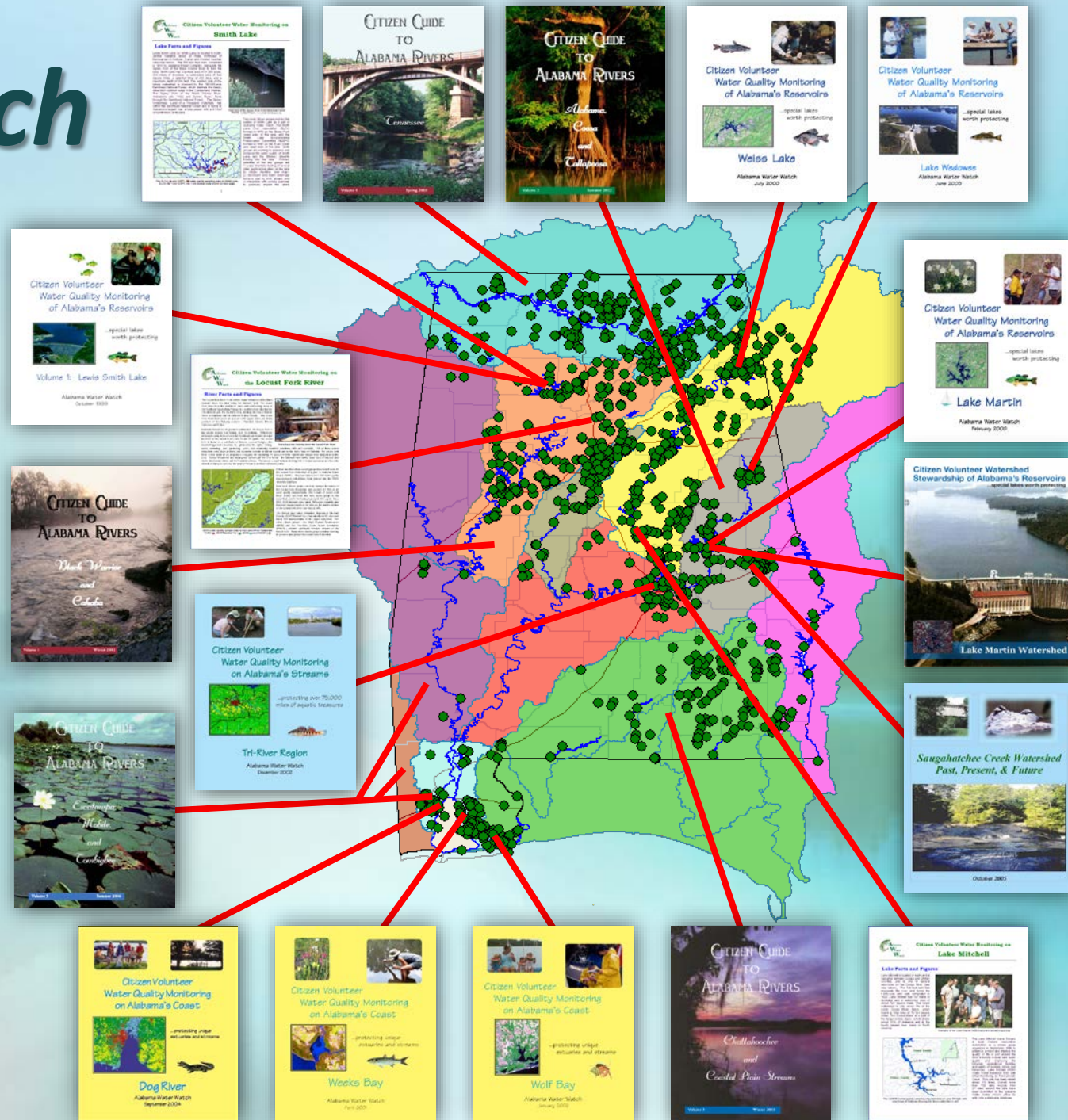
E. coli for AWW Site: 02039005 in Shelby County  
Buck Creek, located in the Cahaba watershed, No. of Samples: 8  
Latitude: 33.297417 N, Longitude: -86.843567 W Hydrologic Unit Code (HUC11): 031502020203

Is it safe to swim in the Cahaba?



# Outreach

# Tools







[AWW Homepage](#)

[Most Recent Article](#)

[Op Ed: Alabama needs a water management plan now](#)

IMAGE

## MeOWW (Meet Our Water Watchers) – Mike Shelton, AWW trainer extraordinaire!

1

Mike Shelton works as Coastal Training Program Coordinator at the beautiful Weeks Bay National Estuarine Research Reserve near Fairhope, Alabama. He has introduced thousands of folks, youth and adults, to the wonders of coastal Alabama, and in the process has instilled in them a great appreciation for our state's precious and abundant biodiversity.



SEARCH AWWARENESS

 Search

FOOD FOR THOUGHT

- [Op Ed: Alabama needs a water management plan now](#)
- [Should we settle for second to last?](#)
- [How Much is AWW Worth?](#)
- [Do You Know...the critters inside us](#)

RECENT ARTICLES

- [MeOWW \(Meet Our Water Watchers\) – Mike Shelton, AWW trainer extraordinaire!](#)  
September 4, 2015
- [MeOWW \(Meet Our Water Watchers\) – Taylor Steele, AWW trainer extraordinaire!](#)  
August 18, 2015
- [The Jacksonville River Monitors – making a big splash in Alabama](#) July 30, 2015
- [2015 AWW Award Winners](#)  
July 10, 2015

Blog On!

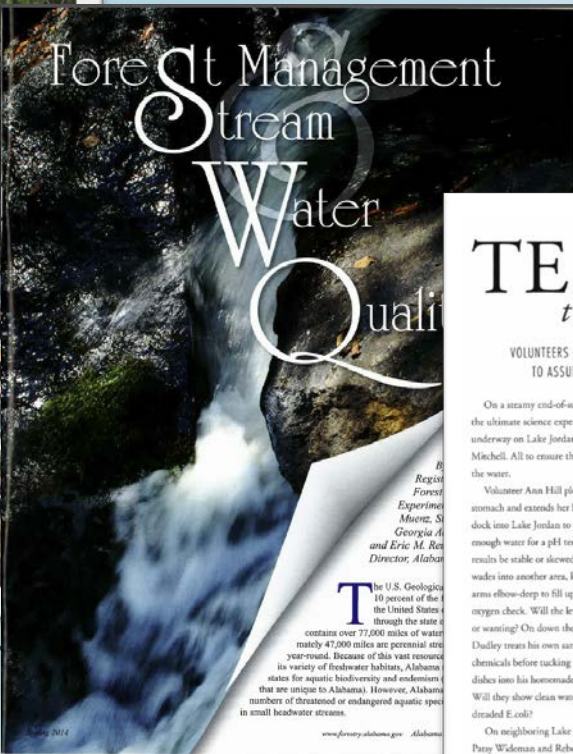
# PRESERVING OUR WATER WALKS

"What we give to the land,  
always comes back to us in the  
water." J. Patola



Author: Najeda L. Patola

## Forest Management Stream Water Quality



By  
Regist  
Forest  
Experim  
Mueze, S  
Georgia A  
and Eric M. Res  
Director, Alaba

**T**he U.S. Geological Survey estimates that 10 percent of the United States is covered by forest. Through the state of Alabama, there are approximately 47,000 miles of waterways. Because of this vast resource in variety of freshwater habitats, Alabama is a state for aquatic biodiversity and endemism (that are unique to Alabama). However, Alabama numbers of threatened or endangered aquatic species in small headwater streams.

[www.forestry.alabama.gov](http://www.forestry.alabama.gov)

[www.forestry.alabama.gov](http://www.forestry.alabama.gov)

## TESTING the waters

VOLUNTEERS ON ALABAMA POWER LAKES DONATE TIME  
TO ASSURE GOOD CONDITIONS FOR EVERYONE

On a steamy end-of-summer day, the ultimate science experiment is underway on Lake Jordan and Lake Mitchell. All to ensure the health of the water.

Volunteer Ann Hill plops into her stomach and extends her hand over the dock into Lake Jordan to collect just enough water for a pH test. "Will the results be stable or skewed?" Judy May wades into another area, lowering her arms elbow-deep to fill up vials for an oxygen check. "Will the levels be healthy or wanting?" On down the lake, Don Dudley treats his own samples with chemicals before tucking the Petri dishes into his homemade incubator. Will they show clean water or any dreaded E.coli?

On neighboring Lake Mitchell, Patty Wideman and Rebecca Beary prepare to conduct their multi-step water regimen for their 99th and 101st months, respectively. Will there be

new findings? In all, the reliable tenets report air and water temperature, pH, alkalinity, hardness, turbidity/water clarity and dissolved oxygen.

These volunteer water monitors, residents on Alabama Power lakes, site official black testing kits — filled with

"CHERISHING YOUR LAKE IS NOT  
JUST LOOKING FROM THE PORCH.  
LOVE IS AN ACTIVE VERB. YOU  
CHERISH BY DOING SOMETHING."

—PATTY WIDEMAN, A WATER MONITOR  
ON LAKE MITCHELL

bottles of chemicals, sterile droppers, glass vials and more — to designated spots once a month. The process takes about an hour once they get the hang of it, and each monitor is as serious and dedicated as a white-coat scientist. But these are handy scientists. See

Right: Photos by "Watershed" — Volunteer Don Dudley fills test tubes at Lake Jordan.

GREENEVILLE 1 2013/6/3

[www.apcshorelines.com](http://www.apcshorelines.com)

## Watching the water

**L**ake Watch of Lake Martin (LWL) volunteers have been monitoring water quality on Lake Martin and its tributaries for more than 20 years. We currently have 20 volunteers on our water monitoring team, with several more in various stages of joining the team. Our goal, along with all the other members of Lake Watch of Lake Martin, is to protect Alabama's cleanest lake.

Our monitoring program focuses on chemistry and bacteriological methods, as well as stream bio monitoring. In chemistry monitoring, we test physical and chemical characteristics of water to determine pollution sources and long-term trends in water quality. Variables are measured with a customized test kit (provided by Lake Watch), and results can be compared with water quality standards that define conditions for healthy water bodies. The water chemistry volunteer monitor gathers data from the air and water temperature at the site and the water's pH, alkalinity, hardness, dissolved oxygen, clarity and turbidity.

Bacteriological monitoring is used to detect levels of E.coli and other coliform bacteria in water as indicators of contamination. In the field, we gather a series of three 1-milliliter water samples via sterile pipettes, which are then deposited into three media vials. Once at home, the volunteer empties the vials onto three corresponding treated petri dishes that are then moved to a pre-heated incubator. The incubation period is 30-48 hours at 29-37 degrees centigrade, which selects for the growth of coliform bacterial colonies. At the end of the incubation period, the bacterial colonies are counted and EPA standards applied to the count to determine if the water is safe for drinking, swimming and aquatic life.

Stream bio monitoring gets in down in the creek to assess stream health, observing the presence of various macro invertebrates or "aquatic bugs" as water quality indicators.

All of the data we gather is reported to Alabama Water Watch (AWW), based at Auburn University, which maintains monitoring records from across the state. AWW also guides us in recommendations for reporting problems and for further documenting of problem findings toward advising the proper authorities.

One of the most important aspects of our monitoring program is keeping the data credible through an effective Quality Assurance Plan. Lake Watch volunteer monitors operate under an AWW quality assurance/control plan for state-wide Citizen Volunteer Water Chemistry and Citizen Volunteer Bacteriological Monitoring approved by the U.S. Environmental Protection Agency (EPA).



LAKE WATCH  
BY ANN CAMPBELL

We follow specific protocols to develop long-term data sets that are useful for determining water quality conditions and trends. Proper interpretation and understanding of these trends, conditions and causes of water quality impairment require consistent and careful monitoring. Because there are natural changes occurring over time, we can only identify and document degradation or recovery if we collect data for several months or years at the same place, at approximately the same time of day and in the same way. After several years of monitoring a particular site, a valuable record of water quality trends is established.

Lake Watch of Lake Martin needs more monitors. A one-day training workshop is all that is required to become certified as a monitor. Come learn something new, enjoy the outdoors and do a good service for our Lake. Monitoring is fun, and it gets you outside to enjoy our beautiful Lake and creeks more often than life might otherwise allow.

Have a look at the Alabama Water Watch website at [www.alabamawaterwatch.org](http://www.alabamawaterwatch.org) to see the schedule of volunteer training workshops available in Auburn and across the state. The AWW website also offers a wide range of water quality information from across the state.

Lake Martin became the first Treated Alabama Lake in April 2011, a quality level that was achieved as a result of the untiring efforts of LWLM president emerita Dick Bromson and with the extensive support of the data collected by our volunteer monitors.

"The lake and the river will continue to be vital for the development of Alexander City, Dadeville and the other communities within the watershed, providing drinking water, wastewater treatment, irrigation, recreational opportunities..." Dick has said. "Decision made today will affect the condition of the watershed in the future."

Lake Watch of Lake Martin's goal to protect our lake is realized in substantive ways through the dedication of volunteers. Our data has been used in recent years to document pollution problems, and through the monitoring efforts of Lake Watch of Lake Martin, damaged sewer lines and faulty septic systems have been located and repaired.

In conjunction with Alabama Department of Environmental Quality support, our data has been the impetus for extensive renovations to waste water systems and treatment facilities on tributaries feeding Lake Martin.

Ann Campbell is the water monitor volunteer coordinator for Lake Watch of Lake Martin. Visit the LWLM website at [www.lakewatch.org](http://www.lakewatch.org) like Lake Watch of Lake Martin on Facebook to learn more about Lake Watch or sign up as a volunteer.

APRIL 2014

LAKE 75

[www.lakemartinmagazine.com](http://www.lakemartinmagazine.com)





# ***New Tools on the Horizon***

# New AWW Database

AWW FE BETA

Σ

## Alabama Water Watch

*Citizen Volunteer Monitoring of  
Alabama's Lakes, Streams,  
Wetlands and Coasts.*

Enter Database



AWW

Google Maps



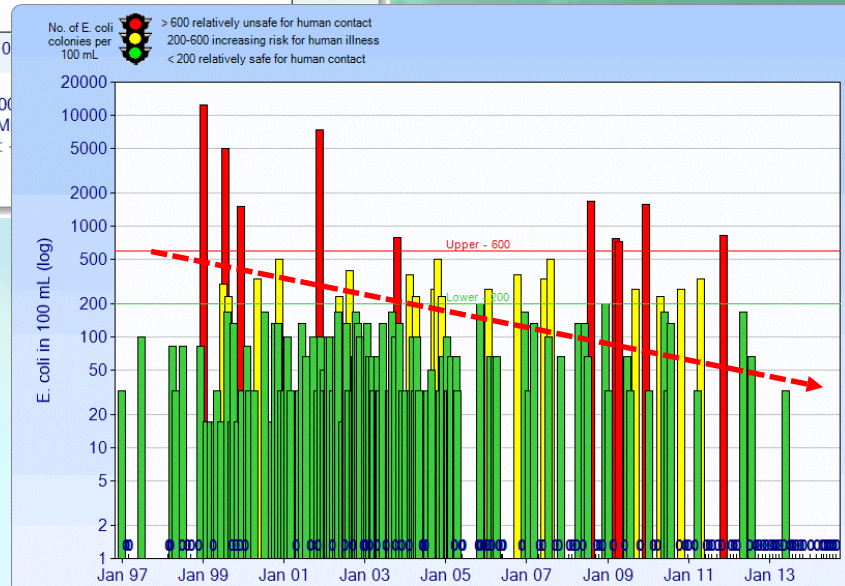
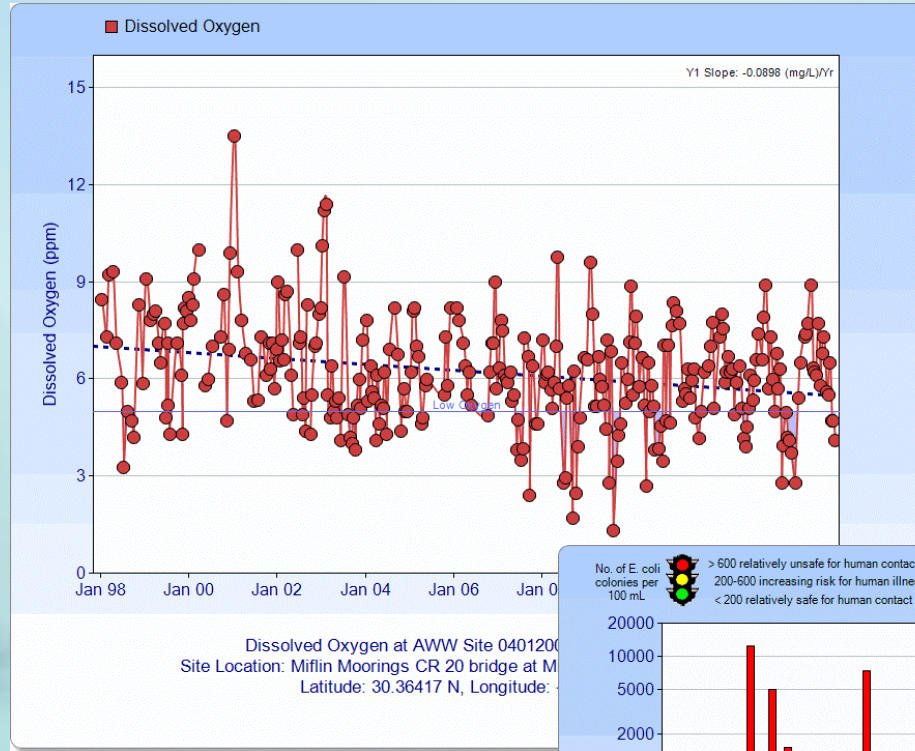
Weekly Update

*Programmed for Alabama Water Watch  
Auburn University, 2002-2014 (c)*



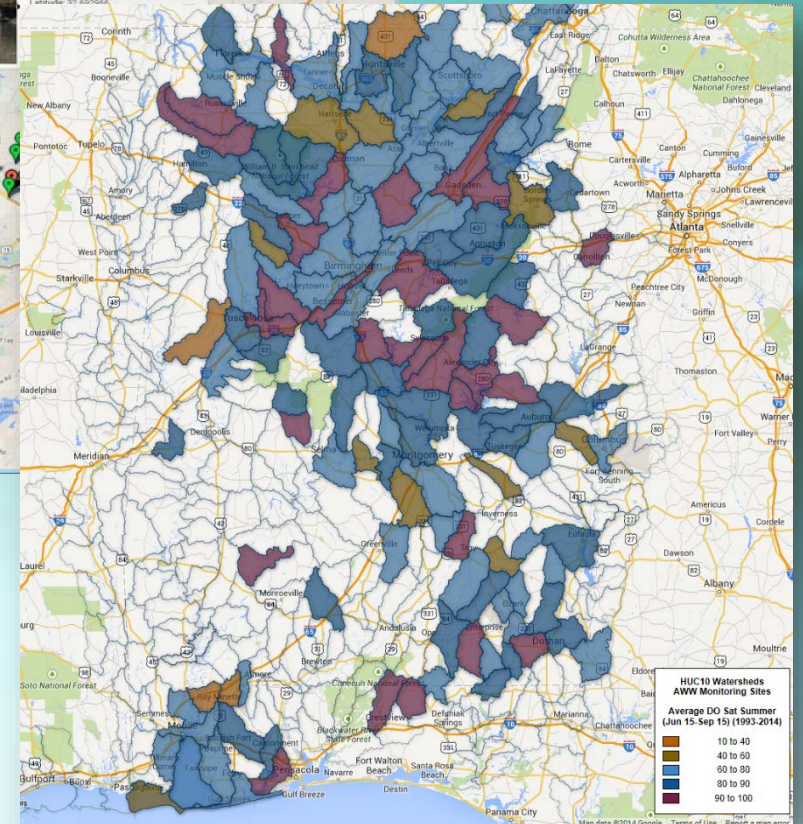
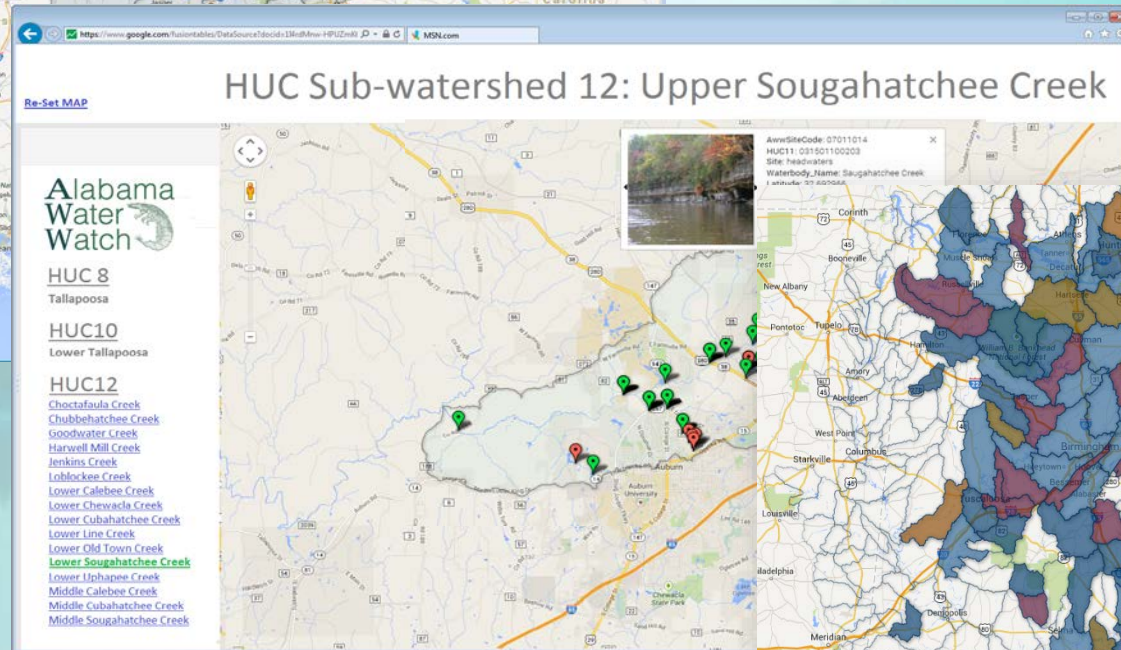
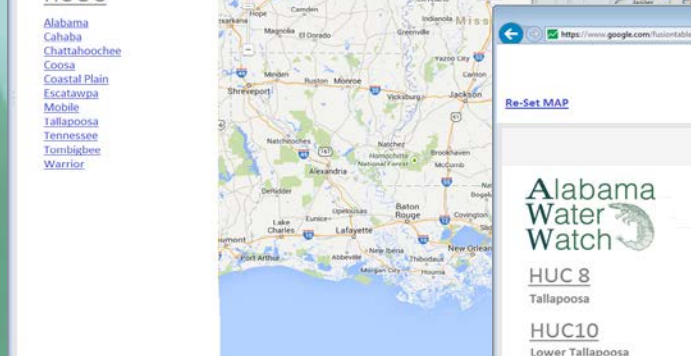
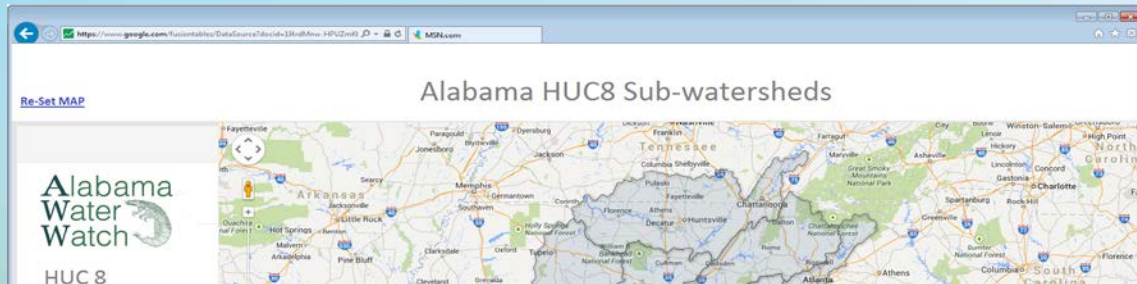


# Data Visualization Tools





# Query by Watershed!





# ***Research Project : Identification of pollution sources on agricultural farms and evaluation of new fecal indicators for surface water quality monitoring***

Project Proposal  
for  
Water Resources Research Institute Program  
under  
Section 104, Water Resources Act of 1984  
to the  
Alabama Water Resources Research Institute

In support of the  
Research Proposal

## **Identification of pollution sources on agricultural farms and evaluation of new fecal indicators for surface water quality monitoring**

by

Luxin Wang, Ph.D.  
Principal Investigator  
Assistant Professor  
Department of Animal Sciences  
Auburn University, Alabama  
Telephone (334) 844-8146

Eric Reutebuch  
Co-Principal Investigator  
Director, Alabama Water Watch  
Auburn University, Alabama  
Telephone (334) 844-4785

# New tools for the AWW toolbox:

Waterborne diseases associated with fecal contamination

Common Name	Type of Organism	Site/Symptoms	Source(s)
Cholera	<u>Bacteria</u>	Gastrointestinal	Water and food
Cryptosporidiosis	Protozoa	Gastrointestinal	Water
Dysentery	<u>Bacteria</u> , viruses or protozoa	Gastrointestinal	Water and food
<b>E. coli Infection</b>	<u>Bacteria</u>	Gastrointestinal	Water
Enterococcal Infection	<u>Bacteria</u>	Gastrointestinal, bacteremia meningitis, endocarditis, urinary tract	Water and food
Giardia	Protozoa	Intestine	Water
Hepatitis A & B	Viruses	Liver	Water and food
Schistosomiasis	Flukes	Liver, renal system	Water
Typhoid	<u>Bacteria</u>	Gastrointestinal	Water and food



*Vibrio cholerae*



*Shigella*



*E. coli*



*Enterococcus*



*Salmonella*





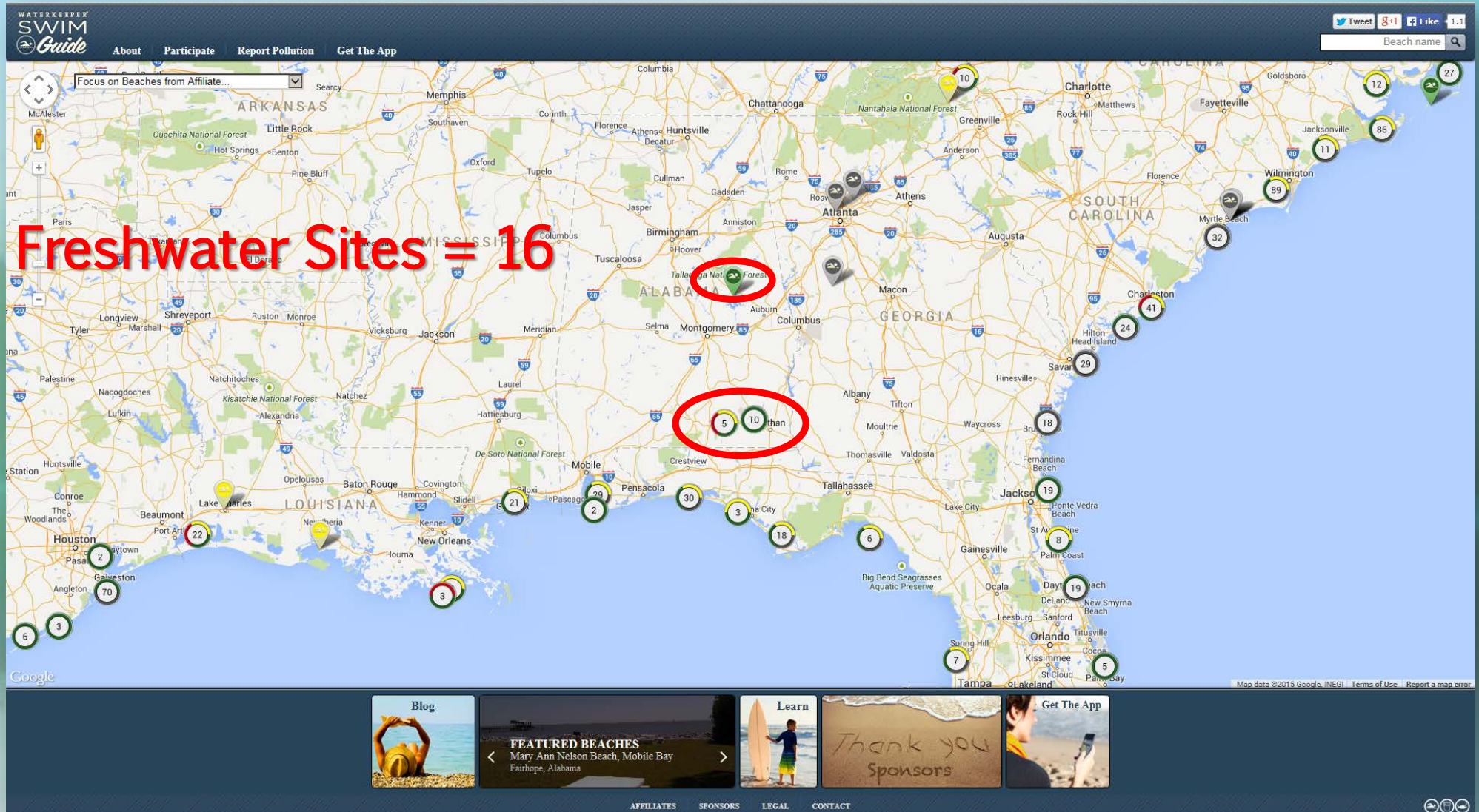
*Let's go Swimming!*

*\*check at Swim Guide first\**





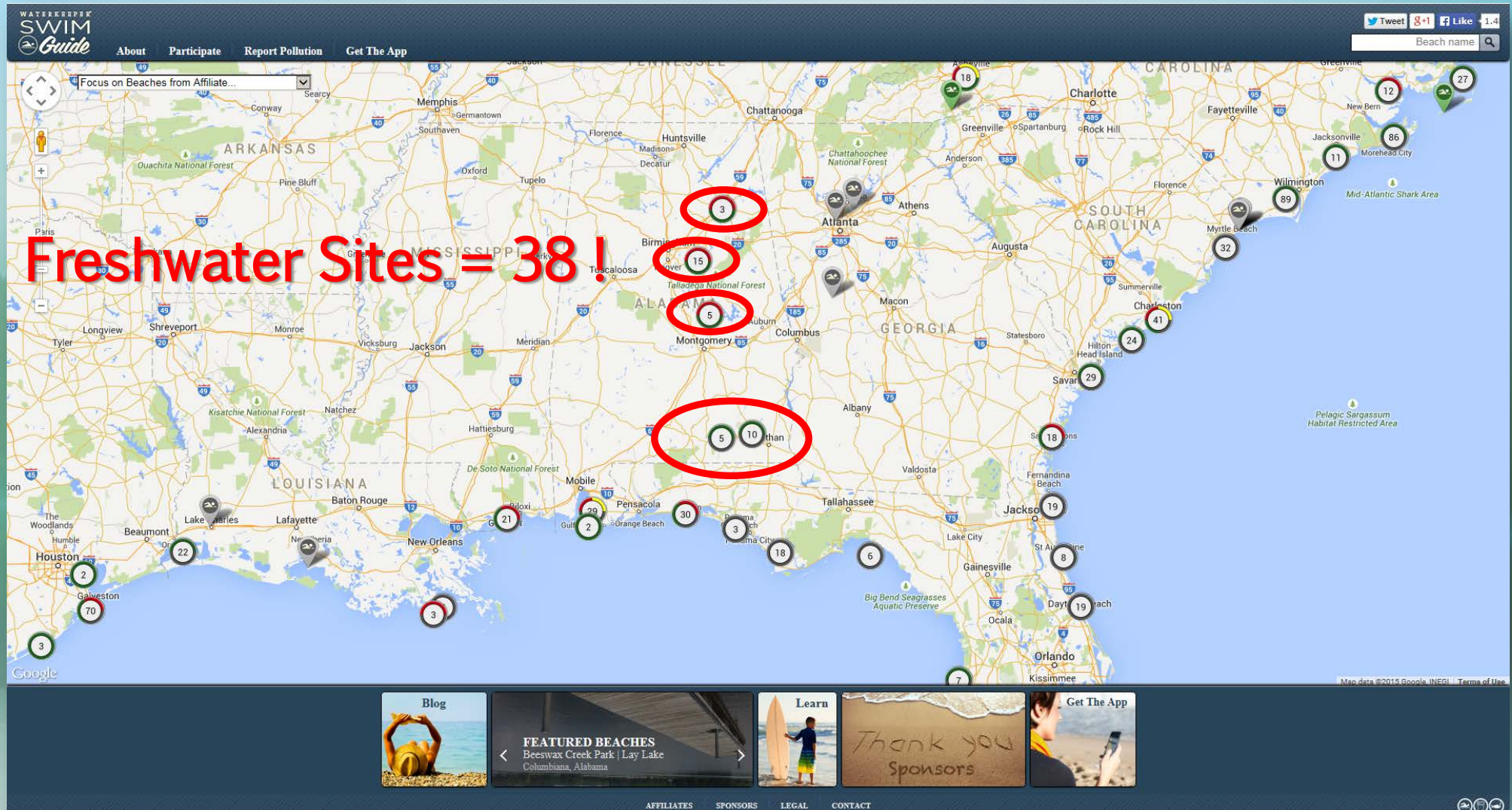
# SG in Alabama - 2014



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



# SG in Alabama - 2015



# Wind Creek State Park

Updated by Alabama Water Watch



● Photograph by Waterkeeper Swim Guide



[f Like](#) 0 [+1](#) 0 [t Tweet](#) 0

Wind Creek State Park  
Thank you for joining Swim Guide

## DESCRIPTION

Wind Creek State Park, Your Public Access to Lake Martin!

Wind Creek State Park spans 1,445 acres along the shores of scenic Lake Martin, a 41,000-acre clear-water reservoir perfect for fishing, swimming and boating.

Wind Creek boasts the largest state-operated campground in the United States with 626 sites. One hundred eighty-seven sites are waterfront, allowing for fishing, swimming, and boating.

Other facilities include a marina, camp store, fishing pier, hiking trails, playground and picnic areas with tables, grills and shelters.

Bath houses are located throughout the campgrounds, and facilities for laundry. Seven camping cabins are now open to the public.

Location: South of Alexander City on AL Highway 128.

Hours of Operation: 7 a.m. until sundown (day use).

Day use fees: \$3 for Adults; \$1 ages 6-11; \$1 seniors age 62 and over; children under 6 admitted free.

Recreational Opportunities: Camping, cabin rentals, boating, fishing, fishing tournaments, swimming, hiking, playground and picnic areas.

Camping: 626 modern campsites and 16 horse camping sites. Reservations taken Monday - Friday from 8 a.m. - 4 p.m.

Marina: Bait, camping and boating supplies. Hours 8 a.m. - 4 p.m.

Hiking: Two hiking trails, rated moderate to difficult, and one 10-mile horseback riding trail. Overnight horse camping available.

Want more information - simply go to: [www.alapark.com/windcreek](http://www.alapark.com/windcreek)

## SOURCES

The State of Alabama does not routinely monitor inland (freshwater) swimming areas/beaches. Several swimming areas are monitored by Alabama Water Watch volunteer monitors at sites where there is significant recreational use. Monitoring is done using methods (protocols) developed by the AWW Program that have been approved by Region 4 of the U.S. EPA (the EPA-approved AWW bacteriological monitoring plan is available at [www.alabamawaterwatch.org/resources/publications.html](http://www.alabamawaterwatch.org/resources/publications.html)).

AWW volunteer monitors throughout Alabama continue monitoring sites as long as resources and trained volunteers are available. All bacteriological monitoring data is routinely uploaded to the

Alexander City, Alabama



[Get Directions](#)

[Report Pollution](#)

## STATUS

Wind Creek State Park is sampled monthly from April 1st to October 31st.

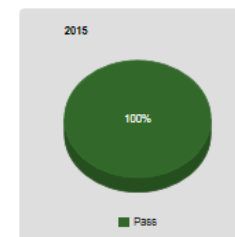
**The status of this beach is GREEN.**

This means the beach was tested recently and met water quality standards. Please see the **SOURCES** section for more information.

**The status of this beach was last confirmed by Alabama Water Watch on June 8, 2015 at 02:15:34 PM UTC.**

The Swim Guide shares the best information we have at the moment you ask for it. Always obey signs posted at the beach or advisories from official government agencies.

## GRAPHS





# Local Community supports Water Watchers

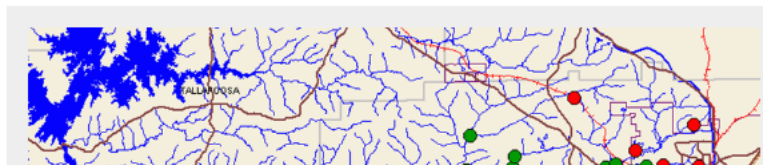
Save Our Saugahatchee water monitors got some great news at their last group meeting in mid-October – funding from local government to support their ongoing water monitoring activities in the Saugahatchee Watershed! This was extremely welcome and important news on several fronts:

- SOS has very limited financial resources,
- given the ongoing rapid development, the Saugahatchee Watershed needs TLC now more than ever, and
- support by local governmental entities equates to them 'buying-in' to Alabama Water Watch's *Community-based Watershed Stewardship* model – a big boost for SOS monitoring and watershed stewardship efforts!



— Cliff Webber and Eric Reutebuch (on left, SOS board member and president) ceremonially receive support for annual water monitoring supplies from Joey Hundley, Dan Ballard and Scott Parker (center and to the right, representing Lee County, City of Auburn and City of Opelika).

Since they value and utilize SOS water data, the City of Opelika, the City of Auburn, and Lee County have pledged support of local water monitoring efforts to the tune of \$350 each, for a total of \$1,050 per year. SOS volunteer monitors have been monitoring numerous sites in the Saugahatchee Watershed since 1997, and currently monitor 23 sites from Opelika to Reeltown (see map below).



- tracking contamination (sewage) of local waters,
- aiding in monitoring and tracking fish kills,
- monitoring industrial point source discharges,
- water monitoring used in implementation of ADEM-funded watershed management plans aimed at water quality improvement, and,
- municipal and county water monitoring required by ADEM's permitting of Phase II *Small Municipal Separate Storm Sewer Systems (MS4s)*.

# ***New tools for the AWW toolbox:***





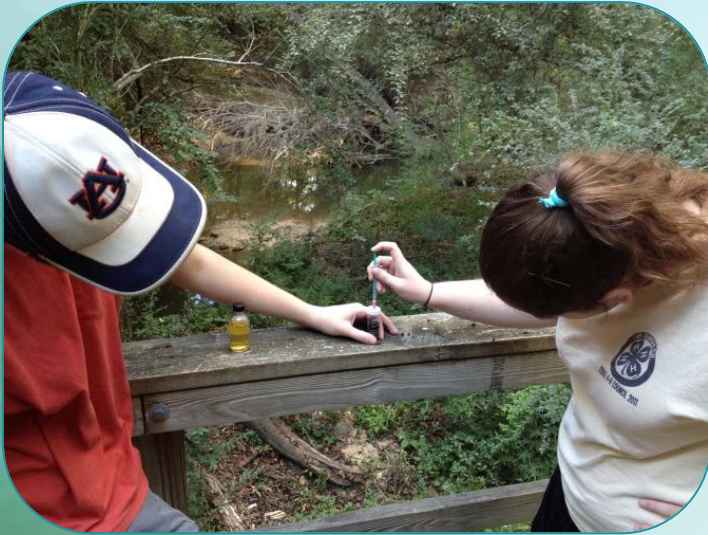
# Alabama Water Watch



# H AWW Program



**Alabama 4-H**  
Alabama Cooperative Extension System







# Who Uses AWW Data?



- Local community groups
- Schools
- Consulting firms
- Municipalities
- County agencies
- Watershed management plans
- Universities
- State agencies



**Protecting Public Health**

## I. Streamside Classroom Initiative

In an effort to educate and raise awareness in our community about the need to protect local streams, the City of Auburn, ALOAS (citizen stormwater advisory committee), Save Our Saugahatchee (S.O.S.) and Auburn City Schools have joined together to provide streamside classroom activities. This past year's event was held May 2 - 3, 2012 along Swingle Creek in Auburn. Students from local middle schools combine classroom instruction with hands on field activities to conduct water chemistry and a biological assessment of a local stream. The program, geared to sixth graders, focuses on providing students with a background in the type of habitat expected to sustain a healthy stream. The students conduct a chemical analysis of the stream and compare the results with that of a biological assessment of the same stream. The City of Auburn participates by providing funding for transportation of the students to and from the stream site as well as for having appropriate restroom facilities on site.



**Fulfilling Stormwater Management Plan Regs  
(for ADEM NPDES Phase II Stormwater permits)**

***So, why monitor?***





*Better to have that warm fuzzy feeling*

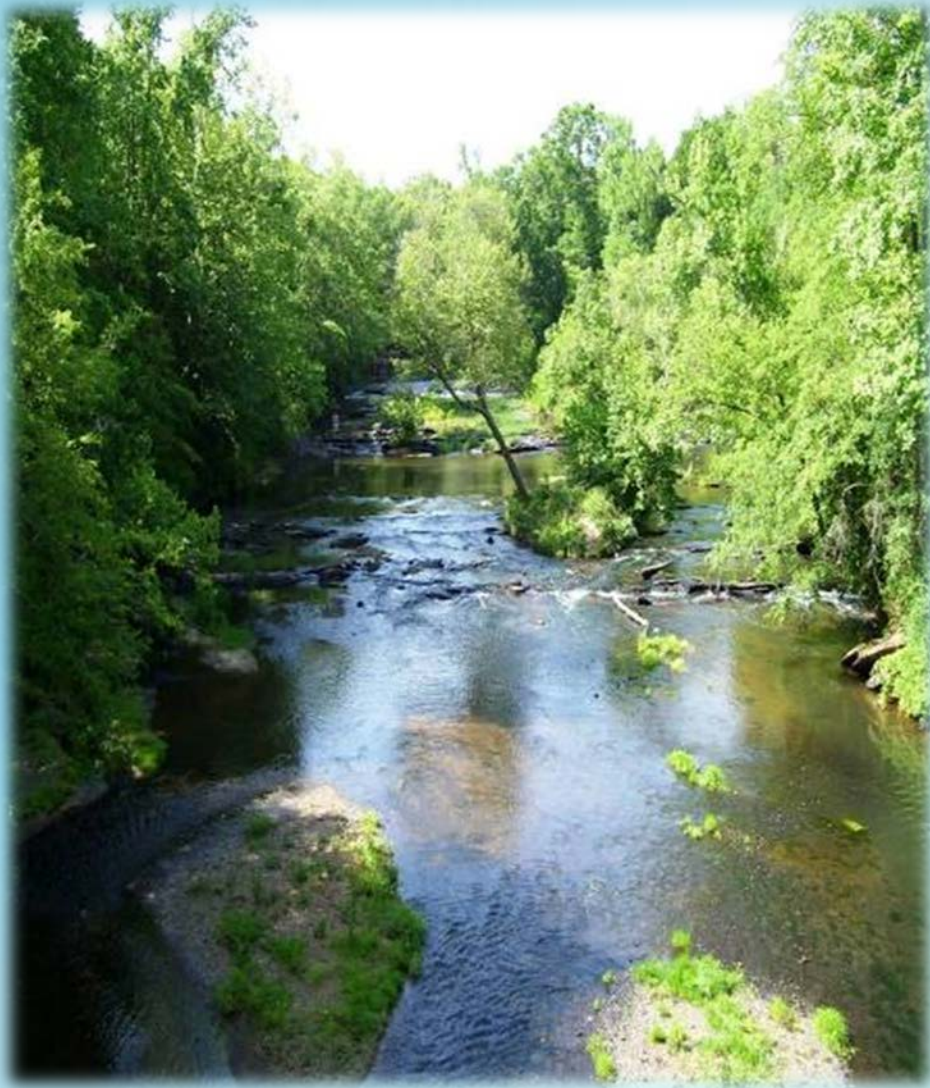


*Than that 'I gotta go NOW' feeling*





# ***Come see us!***



***Saugahatchee at Lee CR 65 Bridge***



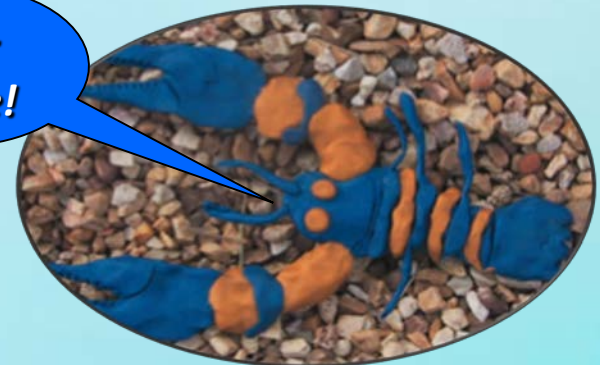
## ***Alabama Water Watch***

559 Devall Drive  
Auburn, AL 36849

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

Toll Free: 1-888-844-4785  
email: [info@alabamawaterwatch.org](mailto:info@alabamawaterwatch.org)

***War  
Eagle!***



*The Auburn University crawdad, found only  
in the waters flowing through AU campus!*