

# LAKE WATCHER

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*The Newsletter of Lake Watch of Lake Martin*  
*by Eric Reutebuch*

*No. 55, January 2020*

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## **2019 Achievements:**

- **24 sites monitored for water chemistry and bacteria in the Lake Martin Watershed**
- **216 data records submitted to the AWW water quality database**
- **Educated hundreds of children and adults about lake and watershed stewardship**
- **Installed educational kiosk at Wind Creek State Park in partnership with the park**
- **Supported the Tallapoosa County Water Festival with funding and people-power**

## **Lake Watch Officers:**

Eric Reutebuch...President  
Judy Palfrey.....Vice-president  
Dianna Porter.....Secretary  
Janne Debes.....Treasurer

## **LW Board of Directors:**

Matt Campbell	George Zorn
Myrna Lehman	Laurie Barrett
Tom Collier	Jesse Cunningham
Dick Bronson	Zelma dePasquale
Joanne Walker	

## **Lake Watch Annual Meeting February 23, 2020**

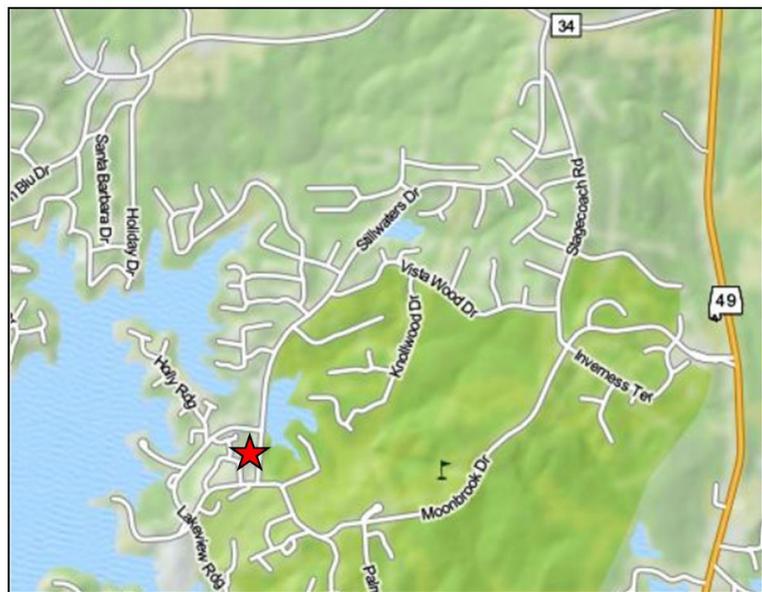
The Lake Watch Annual Meeting will be **Sunday, February 23, 2020, 2:00 pm to 3:30 pm at the StillWaters Residential Association Centre** inside StillWaters Resort (1816 StillWaters Drive, Dadeville, AL; map and directions below). The meeting will be followed by a social from 3:30-4:00 pm, with hors d'oeuvres, dessert and beverages, BYOB if you desire. We ask that you pre-register online so that we have a head count to prepare adequate seating and refreshments.

Register for the meeting at [www.lakewatch.org](http://www.lakewatch.org). Click the **Events** menu on the left side of the homepage, then under Upcoming events click **Lake Watch of Lake Martin Annual Meeting**, then the **Register** button, and follow instructions – be sure to add the proper number of ‘guests’ if you are bringing a spouse or friend(s) with you. Or, if you prefer, send an e-mail to us at [info@lakewatch.org](mailto:info@lakewatch.org) to let us know that you plan to attend, and we’ll register you. Once you’ve registered, please check in at the door at the meeting for an agenda, to update your Lake Watch contact info if needed, and for newbies – to become a Lake Watch member.

We are pleased to have Lance LeFleur, Director, Alabama Department of Environmental Management, to inform us on the emergence of poultry production in the Middle Tallapoosa Basin just above the lake and its environmental consequences relative to the water quality of our lake.

Lake Watch president, Eric Reutebuch, will give an overview of results from Lake Watch volunteer water quality monitoring throughout the lake, including an update on our monitoring of streams with significant poultry production that flow into the lake. The meeting will be followed by social at 3:30-4:00 pm. Go to the Lake Watch website to register for the meeting ([www.lakewatch.org](http://www.lakewatch.org)).

**Directions to StillWaters Residential Association Building:** From Dadeville take Hwy 49 south, turn into StillWaters onto Moonbrook Drive, take Moonbrook Drive to StillWaters Drive, turn right on StillWaters Drive, the StillWaters Residential Association Building will be on your left (red star on map).



### **Lake Watch Leadership and Budget**

Changes in our leadership in 2019 included Judy Palfrey taking over as vice-president and Tom Collier joining our board of directors; and the loss of board of director Kathryn Braund and the addition of Laurie Barrett to replace her – THANK YOU Kathryn for your many years of service on the board and as president, and THANK YOU Judy, Tom and Laurie for stepping up! And a big THANKS to all of our officers and board members, and to Kathryn for posting updates on our website!

Lake Watch budget: end-of-year balance as of 12/31/2018 = \$6,298; 2019 expenditures = \$4,185; 2019 donations and dues = \$2,920, end-of-year balance as of 12/31/2019 = \$5,033. A big THANK YOU to all who've sent their annual dues in, especially to those who have donated at the Silver (\$50; six donors), Gold (\$100; one donor); and Platinum (\$250; two donors). As you probably know, most of the Lake Watch budget is spent on the purchase of water testing supplies. Membership funds are also used to cover costs to spread the word of watershed stewardship, water conservation, to advocate for clean water, and to encourage others to join in our efforts. The website, newsletter, and teaching supplies are all part of these costs. One significant one-time expense in 2019 of \$1,052 was the construction of an environmental education kiosk in Wind Creek State Park. The park graciously provided the labor and Lake Watch provided materials and posters, see *Chickens in the Watershed* (pages 7-8; courtesy of Lake Magazine) for more details on this successful partnership.

### **Water Monitoring**

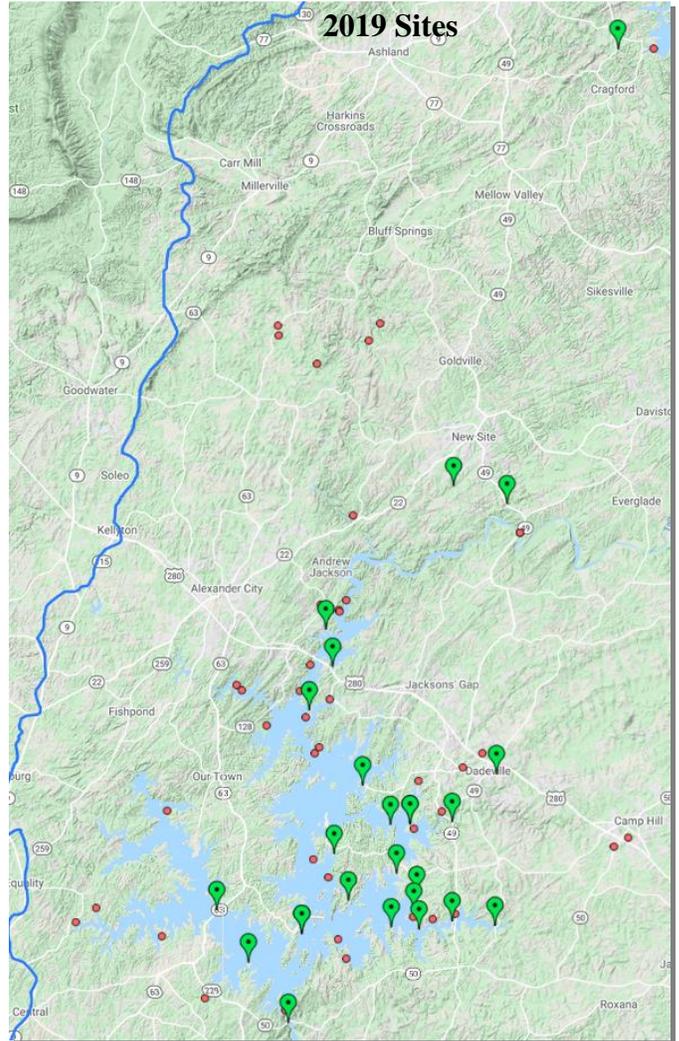
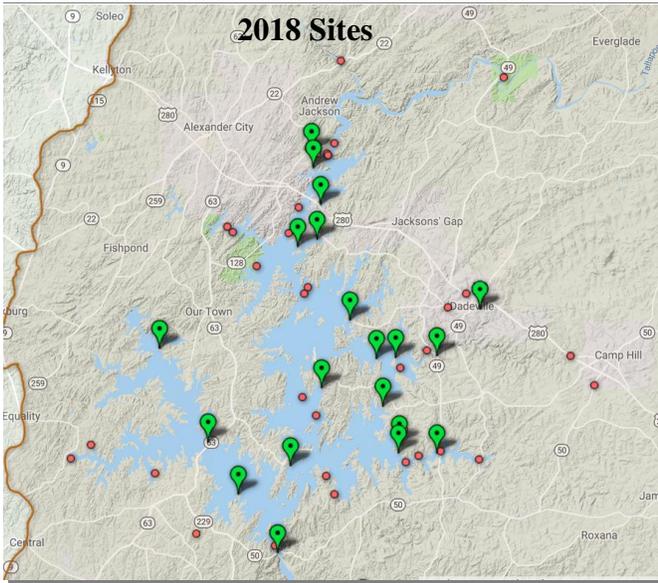
Judy Palfrey served as Lake Watch water monitoring coordinator for several years, ensuring that Lake Watch monitors have adequate supplies to do their water testing. Janne Debes took over for Judy in 2019. THANK YOU Judy for your many years of service as water monitoring coordinator, and THANK YOU Janne for stepping up to replace her! And a big THANKS to all of our dedicated water monitors!!

Lake Watch gained seven new AWW-certified water monitors in 2019, Ken and Tonya Holland, Marge Johnson, Connie Wheatley, Cherie Stephenson, John Owen and Shani Smith. Lake Watch volunteer monitors have increased monitoring throughout the lake



Mike Gulliot testing Secchi disk visibility from his dock on Blue Creek.

and tributaries to **216 water tests** (161 water chemistry records and 55 bacteria records; compared to 200 total records last year) at **24 sites** (up from 20 sites last year); from Crooked Creek (near Lineville) down to Martin Dam. Three of these sites are on streams above the lake draining areas containing significant poultry production, a recent development in the Lake Martin Watershed that we are very concerned about.



I am happy to report that our volunteer water monitors' data showed good water quality throughout the lake, and in streams that flow into the lake. No violations of ADEM water quality standards were reported. We plan to continue monitoring key streams above the lake for bacteria, specifically *E. coli*, particularly after significant rainfall/runoff events to check for potential impacts from poultry operations near these streams.

Note that some areas of the lake still go unmonitored, particularly the tributary streams flowing into the lake, as folks move away and long-time volunteers retire their test kits, so we are always in need of new water monitors.



Allen Sneed and his wife Susan testing DO at their home on Blue Creek.

If you think it's a necessity to have an insurance policy for your home and your car, think the same way about your lake – insure it through your involvement and investment in lake stewardship by becoming a Lake Watch supporter, and consider becoming a water monitor. Visit the Alabama Water Watch website at [www.alabamawaterwatch.org](http://www.alabamawaterwatch.org) for information on water testing and registration for free workshops held throughout the year, or email Eric at [reuteem@auburn.edu](mailto:reuteem@auburn.edu).

## Lake Watch Environmental Education Efforts

*By Dianna Porter*

Earth Day Celebration at Keebler Park, Dadeville: we had an estimated crowd of about 500 visit Keebler Park to celebrate Earth Day. Judy Palfrey and Mandi Milford set up the *Enviroscape* right in the middle of a large example of a watershed. The kids could see firsthand how pollution could travel downhill and into streams, and how pollution in the streams affect macroinvertebrates, fish, waterfowl and people. This year Keebler Park will be celebrating its 3<sup>rd</sup> Annual Earth Day Celebration on April the 25<sup>th</sup> 2020. More information to come on the Celebration.



Tallapoosa County Water Festival at Wind Creek State Park: Judy and I taught the kids about the Water Cycle – precipitation, infiltration, transportation, evaporation and condensation. We assisted the students in making a water cycle bracelet. Making the bracelets reinforced what they had just learned about the Water Cycle.

Judy trained several new water monitors and recertified several existing monitors in 2019 – thanks Judy!

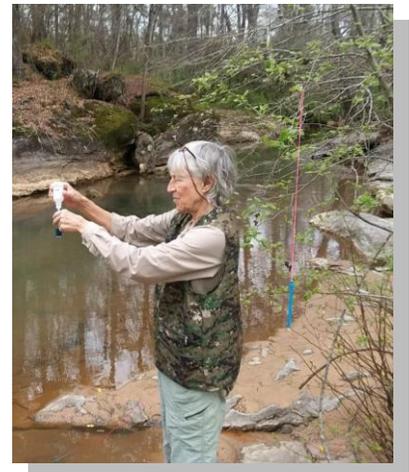
Judy and I attended the ACES *Alabama Watershed Stewards Workshop* and the updated AWW *Exploring Our Living Streams Workshop* in August. We both completed the 4-H Independent Volunteer curriculum and we are actively implementing an approved Alabama Water Watch program at Dadeville High School.

Along with Matt Campbell, Judy and I presented a program to Kiwanis concerning the poultry industry in our watershed. We used the *Enviroscape* and numerous publications to talk about the effect a spill from a processing plant or poultry barn could have on Lake Martin and surrounding rivers and streams.

### 2019 AWW Monitor of the Year (again!)

The AWW Mullen Award for Monitor of the Year recognizes the volunteer monitor who submitted the most water data records in the past year. AWW awarded the 2019 Mullen Award winner to our very own Janne Debes, who submitted a total of **136 records**. You may recall that Janne won the award last year! WOW, that's a lot of water testing!

Janne was first certified as an AWW water monitor in December 2016. She spends time in both Auburn and Lake Martin and is a member and monitor in both Lake Watch and Save Our Saugahatchee. Oh, along with all of her water testing, Janne also serves as Lake Watch treasurer AND water monitor testing coordinator AND in her spare time, does work on the Lake Watch website!!



### Lake Watch Kiosk in Wind Creek State Park

Lake Watch and Wind Creek State Park partnered to create an educational kiosk highlighting:

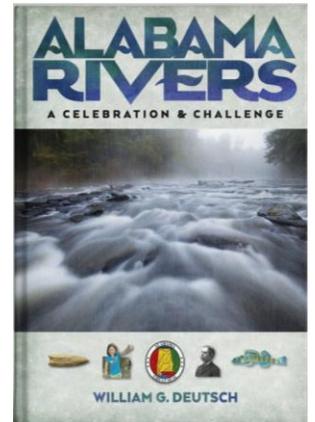
- Alabama's **WORLD CLASS aquatic biodiversity** – we've got more species of freshwater fish, crayfish, turtles, snails and mussels than any other state!!,
- watershed stewardship needed to protect our aquatic treasure, and,
- how folks can get involved with Lake Watch's ongoing environmental efforts.

The kiosk was the brainchild of Mary Ann Bronson and the Bronson family provided major funding for the project, supplemented by a donation from Lake Watch. Wind Creek State Park did the hard work of constructing the kiosk, shown below. It is located at the base of the park's lookout tower. It will inform, educate and inspire thousands of visitors who come to enjoy our Treasured Lake.



### Rivers of Alabama Course

Several Lake Watchers participated in a six-week *Rivers of Alabama Course* organized and sponsored by Lake Martin HOBO. The course was taught by Dr. Bill Deutsch, founder and long-time director of Alabama Water Watch. The course was conducted in Dadeville October through November. The more-than 40 participants learned about the aquatic life, natural and cultural history, and geology of all the major river basins in the state, which is wonderfully presented in Dr. Deutsch's book *Alabama Rivers – A Celebration and Challenge* (see <http://alabamariversbook.org> for more on the book).



### Trash Cleanup

The annual Renew Our Rivers (ROR) cleanup on Lake Martin has removed more than 100 tons of trash from Lake Martin. LMRA president, John Thompson has been coordinating the lake clean up, in coordination with Alabama Power and several other partners since 2006, along with over 2000 volunteers. Ken and Tanya Holland, with Tanya's sister Tammie McVickers and Tanya's mother, Shirley Cook (see picture; source: Lake Magazine) were featured in the July 2019 edition of Lake Magazine for going way above and beyond the call of duty in their effort to clean up the lake. They spend several weekends before the official cleanup collecting and



bagging trash in sloughs for easy pickup during the ROR cleanup. Ken and Tanya became some of our newest Lake Watch water monitors this past fall – welcome aboard and many thanks to the Hollands, et al.!

### **Closing Thoughts**

YOU are what makes Lake Watch of Lake Martin work! We urge each of our Lake Watch members to spread the word on Lake Watch, to support our programs and to participate. Renew your membership! Help sign up new members to our team! Consider an additional donation to Lake Watch! Not everyone can get out and monitor water or teach in a classroom, but each member is essential to our success. Together, we can and will make a difference in the protection of our lake, in water conservation and clean water advocacy, and in the world we leave for our children. If every Lake Watch member encourages one or two friends to join in our efforts, it will go a long way toward ensuring the continuation of the good work we've accomplished over the past 28 years. Go visit your neighbor and sign him or her up. Or send your neighbor to our website, [www.lakewatch.org](http://www.lakewatch.org) to sign up. Better yet, bring them to our annual meeting on February 23<sup>rd</sup> where they can hear about our work first-hand!

### **Dues Reminder**

*Take the plunge*, if you haven't already!

- Protect Lake Martin by supporting Lake Watch!
- And ask a neighbor to do the same!



For the many faithful Lake Watch members who already sent in their dues for 2019, thank you! And for those who haven't yet, don't forget to send your check to:

**P. O. Box 72, Alexander City, AL 35010**

to keep your membership current. Membership levels are listed below:

Regular dues (annual):    **Student \$10**    **Individual \$15**    **Family \$25**

Lake Martin Steward:    **Silver \$50**    **Gold \$100**    **Platinum \$250**

We also welcome donations. Don't forget—a donation in someone's honor/memory is a lovely gift/tribute.



P. O. Box 72  
Alexander City, AL 35010



# Chickens in the Watershed

**A** changing watershed – what does it mean for our Treasured lake?

A lake's watershed is the total land area above the lake that, during a rainfall/runoff event, drains into the lake. For Lake Martin, that area begins below Lake Wedowee Dam (also known as Lake Harris Dam) and extends downstream on the Tallapoosa River to the Lake Martin Dam and includes all of the tributary streams that flow into the Tallapoosa River and the lake along the way. This area, known as the Middle Tallapoosa Basin, covers 1,530 square miles and includes part, or all, of the communities of Lineville, Ashland, Roanoke, Daviston, New Site, Lafayette, Alexander City, Dadeville and Camp Hill.

It is true that the waters of the Lake Wedowee Watershed also flow into our lake through the dam. Fortunately, Lake Wedowee processes the majority of pollutants it receives from the Upper Tallapoosa Basin through settling of particulates and biological processes, so for this article, I am focusing on the Middle Tallapoosa Basin. The significance of this land area to our lake is that all pollutants generated/released within this area have the potential to flow into our lake; thus, to be a good steward of Lake Martin, one must be a good steward of its watershed, as well.

In the past several decades, poultry production has become an increasingly important agricultural commodity in Alabama and has spread across the state in response to the rising demand in the American diet. Poultry production has been positive for farmers and has become Alabama's No. 1 agricultural industry. Poultry has a \$15.1 billion impact on the state's economy and employs more than 86,000 people, according to the Alabama Poultry and Egg Association. Most Alabama farm families grow broiler chickens (for meat versus egg production), pushing the state to its No. 2 ranking among all states in U.S. broiler production.

Shifts in poultry production have been toward fewer, larger, more concentrated production facilities, and that has brought about the need for more efficient and environmentally sound waste management. In fact, virtually all poultry farms in Alabama have shifted to 'factory farms,' displacing the family farms of the past. Today's chicken farmers raise day-old chicks to about 5 to 6 pounds in just six weeks.

The farmers are required to contract with one of only a few corporate entities – Koch Foods, Inc., Tyson Farms, Inc., or Pilgrim's Pride Corporation – to receive chicks and feed. Profit margins tend to be tight. Factory farms, called concentrated animal feeding operations or CAFOs, typically have anywhere from

two to more than a dozen large chicken houses that contain as many as 44,000 birds per house. The largest of these – called mega-houses – are 66 feet wide by 600 feet long.

Recently, Lake Watch of Lake Martin members reported newly-constructed chicken houses along state Route 49 north of Horseshoe Bend National Military Park, which is in the heart of our lake's watershed.

This news prompted us to do a survey of poultry production in the Middle Tallapoosa Basin. A scan of this area in Google Maps yielded a total of around 120 chicken houses on approximately 26 farms, all of which looked very new, as they had shiny metal roofs versus old rusty roofs. Actually, this estimate is probably low, due to ongoing construction of new houses.

Based on an estimate of approximately 400 tons of litter produced per chicken farm per year, a rough estimate of chicken litter production in our lake's watershed equals about 10,000 tons per year. A rough conversion of this amount to a

'human equivalent' would represent the waste generated by a city of more than 200,000 people. That's a lot of waste. So, let's examine the impacts of this new enterprise on our watershed and our lake.

On the positive side, poultry litter contains high nitrogen and phosphorus, making it a very good organic fertilizer for crops, hay, gardens and landscapes; however, nutrients, such as phosphorus and nitrogen, build up in the soil if application rates are higher than the crop can absorb. Following a nutrient management plan and proven best management practices would improve manure nutrient use efficiency and reduce the impact of the land application of manure on water quality of nearby streams, rivers and lakes.

Chicken manure is especially degrading to waterways because it contains two to four times more nutrients, particularly nitrogen and phosphorus, than the manure of other types of livestock. While this makes chicken manure a useful fertilizer, it can also have detrimental effects on water quality and soil quality. When manure washes into streams, rivers and lakes, the added nutrient load could lead to rapid algal growth, turning lakes into green soups of algae. An influx of chicken manure also contributes disease-causing bacteria, parasites and viruses, as well as oxygen-demanding organic matter that, upon decomposition, can create oxygen-depleted aquatic dead zones where little-to-no life can exist.

You may be thinking 'is this all hypothetical, or for real?' It's been very real in the Chesapeake Bay and its watershed where agriculture, primarily poultry production, has been the largest polluter. In the 1990s, vast



## LAKE WATCH

BY ERIC REUTEBUCH

stretches of the bay became dead zones, contaminated with manure, pathogens and other pollutants. In 1997, an outbreak of the toxic marine algae *Pfiesteria* killed thousands of fish and sickened several people. Since then, through government, agency and farmer efforts, waste management and water quality conditions in the Chesapeake Bay have improved.

This toxic algal bloom phenomenon also happens in freshwater lakes when they receive too many nutrients, as described in my *Lake* magazine article in October 2019.

Closer to home, earlier this year, the Mulberry Fork of the Black Warrior River suffered a major wastewater spill from a chicken processing plant, River Valley Ingredients, owned by Tyson Farms, Inc. The spill killed an estimated 175,000 fish. The Alabama Department of Environmental Management reported the incident was so large that direct counts of dead fish were not possible. This incident highlights the industry's environmental perils beyond the chicken farm.

So what can we do to protect our lake from becoming another Chesapeake Bay or Mulberry Fork? Fortunately, there are regulations and guidelines in place for environmentally sound management of poultry farms. ADEM requires annual permitting for farms of 125,000 chickens or more raised in an enclosed environment. The permit requires a detailed waste management plan to minimize runoff of manure/litter to local waterways. The farmers have to file inspection reports every year, showing soil test results and how the farms are meeting standards.

The question remains, is our Treasured lake adequately protected from an influx of nutrients, pathogens and dissolved oxygen-depleting organic matter from the 10,000 tons of poultry waste generated each year above our lake?

Follow-up questions include: Where is all that chicken litter being spread? Are the current management practices adequate to prevent runoff from chick-

en waste into local waterways? Is our lake currently being impacted by these recent changes in our watershed? Should there be a limit to the number of poultry farms, other animal CAFOs and other major sources of nonpoint source pollution in our Treasured Alabama Lake's watershed?

As stewards of the lake and its watershed, Lake Watch has initiated several steps to answer these ques-

tions. The first step was to get an estimate of the magnitude of the changes (amount of chicken production) in our watershed, which was described above. We are planning a more advanced approach to locate and quantify these changes, involving a more accurate GIS analysis of the watershed.

The second step we are taking is to identify streams that now have significant poultry production farms near them and to monitor their water quality. We have established three stream sample sites and con-

ducted a 'dry weather' sample. This sample indicated low levels of *E. coli*, none of which were above state standards.

'Wet weather' sampling throughout the year is needed at the three sites, and additional sites, to see if runoff events are transporting contaminants to streams, the river and the lake. We are also investigating other water testing techniques to test for additional pathogens, such as *Salmonella*, and for nutrients.

In closing, I want to say that I love chicken (especially fried), and I love farmers, since they produce our food. We are hoping that test results confirm clean streams and a clean lake. We'll keep you posted. If you are concerned about this evolving change in the watershed of our Treasured lake, join us in our stewardship efforts – we need your help! For more information on Lake Watch, go to [www.lakewatch.org](http://www.lakewatch.org).

*Eric Reutebuch is president of Lake Watch Lake Martin. Contact him through the Lake Watch website at [www.lakewatch.org](http://www.lakewatch.org).*

