

Watching the water

Lake Watch of Lake Martin (LWLM) 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 us 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 US 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 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 Treasured Alabama Lake in April 2011, a quality level that was achieved as a result of the untiring efforts of LWLM president emeritus Dick Bronson 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. "Decisions 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 Lake Martin. Visit the LWLM website at www.lakewatch.org like Lake Watch of Lake Martin on Facebook to learn more about Lake Watch or sign up to volunteer.