

One of the Cleanest Lakes in the State

Most people who either live on or recreate at Lake Martin know that it is a Treasured Alabama Lake (TAL). It is, in fact, Alabama's one and only TAL. Thanks to the numerous TAL signs developed by Lake Martin Home Owners and Boat Owners Association and posted around the lake, even passers-by should be aware of our lake's special designation. The designation was bestowed on the lake by the Alabama Department of Environmental Management (ADEM) in 2011 after years of effort by Lake Watch of Lake Martin.

This begs the logical question: Does the TAL designation make Lake Martin exempt from pollution? Well, not entirely, but it sure helps – by prohibiting new point sources of pollution (waste water treatment plants and waste outfalls from industries) from emptying into the lake; thus, it's expected that the lake, known as one of the cleanest in the state, would remain clean.

However, there have been questions raised recently on the Lake Martin Forum about how the lake water quality has fared in recent years. These are good questions that deserve answers.

An enormous amount of data about the lake has been collected during the last 30 years by ADEM, Auburn University, Alabama Power Company and Lake Watch of Lake Martin.

An index known as the Trophic State Index (TSI) was developed in the 1970s by a renowned limnologist (scientist who studies lakes), Robert Carlson. Dr. Carlson converted algae levels into a scale ranging from zero (super-clean) to 100 (super-green, think 'pea soup' green). Through the years, Lake Watch of Lake Martin, in collaboration with Alabama Water Watch at Auburn University, has plotted and monitored the trend in this pollution index for Lake Martin. Higher values mean more pollution in the form of nutrients (think nitrogen, phosphorus and potassium, N-P-K), which equates to more algae and a greener, more turbid lake.

I recently obtained the latest water quality data from the good folks at ADEM to see how the lake has been trending



LAKE WATCH
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in recent years. Measurements presented here were taken just above the Martin Dam near Goat Island. As you can see in the accompanying graph, the measurements bounce around from year to year due to the varying biological responses to wet and dry years, and the varying rates of flow through/flushing of the lake.

Values for Martin have ranged from the mid-30s to the mid-40s over the past three decades, with the most recent value, 35, indicating that the lake (at least down by the dam) is in the 'Oligotrophic' range. This is pretty much as clean

as the lake has ever been in the past three decades, and is very good for an Alabama Lake – more than half of our lakes are in the 'Eutrophic' range – characterized by nutrient rich, green, algae-laden waters.

In fact, Lake Martin has one of the lowest TSIs (pollution levels), on average, in the state (see 2016 *Integrated Water Quality Monitoring and*

Assessment Report or commonly known as the *Water Quality Report to Congress*, www.adem.state.al.us/programs/water/waterquality.cnt).

The graph represents results from several studies, along with routine monitoring conducted by ADEM and AU, and plots in Lake Martin's TSI in the lower lake (blue line, sampled just above the dam) over 27 years. Dots represent TSI for the growing season (April through October, with an average of 6-7 readings per year).

So, tip your hat to those fine limnologists if you motor by them while they are sampling on the lake and maybe even shout a 'thank you' to them for looking after our lake. Better yet, join Lake Watch of Lake Martin and start looking after the lake yourself – we can always use a helping hand. To join the effort, go to www.lakewatch.org.

Eric Reutebuch is president of Lake Watch of Lake Martin. To learn more, visit www.lakewatch.org.

