

Water Quality Report General Meeting, October 13, 2018

Despite considerable rain, the health of our lake remained good throughout the 2018 season. Although there was an elevation of bacterial counts in the upper portion of the lake following heavy rains, overall bacterial counts in our lake's waters were well within Virginia's health guidelines for recreational use. Chemical and biological analyses of the water indicated that the lake exhibited characteristics of a healthy maturing lake. An issue that we noted is a decline in the oxygen content of the water from past years. Water entering our lake from Smith Mountain Lake has depleted oxygen content, because of the depth at which the water is drawn through the turbines. Although the situation is not yet problematic and dam operations may not be the only factor, this will continue to be a point of discussion with Appalachian Power Company.

Because water entering Leesville Lake from the Pigg River is of poor quality, this season we began the evaluating water quality in the Pigg River and two of its tributaries. We sampled water at 12 locations from Leesville Lake to S. Main Street in Rocky Mount. As expected, bacterial counts were very high and variable. Water quality varied greatly depending upon rainfall in various regions of the watershed and the time sites were evaluated. This is a highly dynamic situation. Multiple samplings indicated that bacterial counts were very high in the region of the Rocky Mount water treatment facility. However, direct sampling of the effluent from the plant indicated that water exiting the plant was not problematic – at least on that day. The surrounding environment therefore appears responsible for the poor water quality.

I must caution that the data we have collected has not been fully evaluated. This will be completed in the coming months. A report will be prepared and presented to Appalachian Power and the Tri-County Lake Association. The report will be posted on our Association's website and will be summarized in future correspondences from this committee.

That being said, "What are plans for the future?"

With regard to the Pigg River, we will continue our monitoring efforts with the goal of identifying problem regions and potential sources of contamination. We hope to assist this determination by using laboratory analyses that have been termed bacterial source tracking. That analysis more fully evaluates the species of bacteria in the water and draws conclusions as to the contributing source of the bacteria – that is are they derived from human, agricultural or wildlife waste. If we can identify a 'smoking gun or smoking guns' authorities will be notified and we will push for remediation efforts through enforcement of existing regulation or new legislation.

Specific to Leesville Lake, we will continue to evaluate the dynamics of how water flow influences water quality and what might be done to enhance that quality. We will continue to study and push for dam management protocols that will improve the oxygen content of the lake.

How do we evaluate water quality?

This is accomplished by the cooperation of lake volunteers and Dr. Thomas Shahady's laboratory in the Department of Environmental Quality. Water is monitored on Leesville Lake from April to October – twice per month in June, July and August and once per month in remaining months. Water in the Pigg River watershed is monitored once per month June to September. Sampling of the lake is accomplished by boat and sampling on the Pigg River has been accomplished by accessing the river at road crossings over a distance of more than 100 miles. More intense sampling by kayak may be necessary this coming season.

Water probes are used to measure a variety of parameter including pH, oxygen level, redox potential, fluorescence and temperature. Additionally, water clarity, the content of phosphorous, nitrogen, chlorophyll-a (indicator of algal activity), turbidity and assessment of zooplankton numbers (prey for fish) are evaluated. Together these measurements provide an overview of lake health and potential issues with contamination.

Through collaboration with Dr. Shahady's lab, volunteers from our Association and funding by Appalachian Power, we obtain information that is critical to assess the health of Leesville Lake, make recommendations for maintaining its health and push for enforcement of environmental regulations when necessary. These are fundamental benefits provided by your support of our Association.

Tony Capuco, chair
Water Quality Committee

Debris Committee Report: October, 2018

While continuing to work with local AEP personnel, at the beginning of 2018 we engaged in a promising relationship with high-level executives at AEP's corporate office in Ohio. This relationship has thus far resulted in huge strides towards a more powerful effort by AEP at our lake, and in visible results and verifiable improvement, as reported by many Leesville Lake residents.

On behalf of the LLA Debris Committee, we stress that keeping high standards of safety, cleanliness and water quality for our lake is an ongoing work-in-progress, as any endeavor of this nature needs to be. We greatly appreciate AEP's commitment to their contractual agreement with FERC and their close working relationship with the LLA, and hope and expect their efforts and partnership with the LLA to grow even stronger in the future.

To date, we are pleased to say that our working relationship with AEP has yielded these results, among others:

- Members of our committee have been invited to accompany the AEP crew on monthly inspections of Leesville Lake, and our committee has been asked to recommend where the crew will work the next month.
- AEP has increased their crew's time to 6, 10-hour days/week devoted to Leesville Lake. They also added an independent contractor to work 3-4 days/week, but this has been amended since the two major storm systems in our area. For now, that contractor will split time between the two lakes, and some of their own clients. But the contractor will return to focusing on our lake at a later point.
- Another contractor has been assigned to chipping the large debris pile at the Brumfield area, and has been working there extensively.
- AEP has stated that they plan to continue with the Debris work on Leesville Lake through the end of the year instead of stopping in October as in previous years.
- A 2019 Work Schedule/Plan is currently in progress of being created by AEP.

The assistance of all residents of Leesville Lake as well as recreational users of the lake is essential. It is more important than ever to report lake debris sightings. We strongly request that all residents and boaters of Leesville Lake continue to e-mail complaints and STILL-photos regarding lake debris, which affects immediate actions by AEP, and the year-end statistics.

**The Leesville Lake Debris Committee
Jim and Randy Weiss, Co-Chairs**