

## Lake Latonka Property Owner's Association Board Update Oct/Nov 2019

This is a monthly summary of Board activities for our 650 Members. We would like to congratulate and welcome John Chamberlain, Glenn Graeves, and Garth Stewart to the Board and thank the other six candidates who ran for election. We thank retiring Board Members Dick Harper and Justin Safran for their service to the LLPOA!

**Lake Draw Down:** The Lake drawdown will end December 13.

**Healthy Lake:** Keeping the lake healthy is critical to our community and it is an ongoing challenge because it continues to age and there are so many factors involved, and many of these factors are beyond our control. This is a very complex issue that will require a multi prong and ongoing approach to address.

LLPOA contracted with EnviroScience (a water quality consultant firm) to perform a study on the quality and condition of our lake. This was in conjunction with our treatment advisor and applicator AquaDoc. Both companies performed numerous tests from April through September. EnviroScience finalized their 93-page report and presented their findings and recommendations at the Board meeting on November 14. All members of the Lake Water Committee were invited to this meeting as well as lake resident David McGuirk. The purpose of the meeting was to review the findings and address questions from the attendees. The Executive Summary of the report is included below as an Appendix. A full copy of the report is available to Members – for details see the Lake Preservation/Lake Water Quality Studies section of our website <https://lakelatonka.org/misc.aspx?id=12> (the reports are not posted on our website so that the reports are not available to the general public).

The Board is appreciative and excited by the passionate and talented Members who applied for and were appointed to the Lake Water Quality Committee: Jim Daley, Ted Dunham, Ken Ferrans, Alan Hannas, Bill Hazlett, Brian Heery, Ken Kormoroski, Tony Lemoncelli, Paul McCloskey, Gary Novak, Paul Rassel, and board liaison Tom Rizzo. THANK YOU!

The Lake Water Quality Committee will review the results of the EnviroScience report, develop a comprehensive strategy and make recommendations to the Board, and support Member communications (including a Town Hall meeting in the Spring) on this important issue. Current plans include exploring potential solutions, applying for a PA DEP treatment permit, increasing Member education, increasing lake sampling by volunteers to help guide decisions, and generally advise the Board to help improve the quality of the Lake.

The report made it clear that removing and limiting excess silt and sediment from lakes is important. The Board has approved up to \$60,000 being spent to do this during the lake drawdown.

**Financial:** We are tracking well compared to the budget on overall revenue and expenses. Several Members made suggestions related to the budget at the Open Meeting. We approved the purchase of new docks at Dock 15 in the amount of \$49,000 that our staff will assemble this winter. As a reminder, dock purchases are funded by fees paid by users of the public docks. We worked on the 2020 budget during October and November and approved it November 21.

Annual dues will remain at \$1,800, initiation fees will increase from \$4,000 to \$5,000, and we will continue to put funds in reserves to pay for replacing major assets when needed. A detailed budget will be available in the office in early December and an overview will be provided at the January Open Meeting.

**Systems:** The staff is implementing the TOPS ([www.topsoft.com](http://www.topsoft.com)) Community Association software system to more effectively and efficiently maintain our infrastructure and to better serve Members. They are planning to implement in time for the annual dues billing cycle January 1. **It is critical that all Members provide an email address that serves as their user name for TOPS and so that they have access to the system and get their annual dues invoice.**

**Roads, Culverts and Bridges:** The Committee (Chuck Becker, John Chamberlain, Hank Cummings, Art Fischer, and Justin Safran) has been active weekly with a focus on culverts and storm water management. Improperly functioning culverts impact the run-off into and ultimately the health of the Lake, and good storm water management is important to appropriate road maintenance. They provided an update on their process and progress at a Town Hall Meeting on October 20. A bid was approved and culvert work done at the intersection of Allegheny and Latonka Drives in November. We will also do some crack sealing on Lake Latonka drive soon with another generous offer from John Chamberlain who will allow us to use his equipment without charge. THANK YOU JOHN!

**Rules:** A resolution was passed at the October Open Meeting that clarified a rule to eliminate two sets of dues on one home by both a tenant, and a Member who owns another home at Lake Latonka. The resolution also clarifies that homes registered to an entity (such as an LLC) cannot avoid the initiation fee when they transfer the ownership of the entity that owns the home. The review of LLPOA rules continues with four Board Members and the Lake Manager, who will provide recommendations to the entire Board in January. This will be followed by a review by an LLPOA attorney, and then presented to Members for their feedback.

**Other:** Thanks for the role so many of you play in helping to making Lake Latonka special. There are so many examples of this often enumerated in the Latonka News including in reports by the Social Club, Fish Club, Women's Club, Latonka Players, Garden Club, etc. We appreciate the support and words of encouragement from so many Members during 2019 and wish all Members a Happy Thanksgiving!

Please provide suggestions or feedback to us at meetings or when you see us at the Lake.

**LLPOA Board of Directors:** Chuck Becker, John Chamberlain, Graig Filer, Dick Harper, Jim Hart, Denis Meinert, Tom Rizzo, Justin Safran and Michael Turton

Appendix: EXECUTIVE SUMMARY OF THE LAKE LATONKA DIAGNOSTIC STUDY AND MANAGEMENT OUTLINE by EnviroScience – November 11, 2019

Lake Latonka is an approximately 1,565-acre private resort lake community located four miles northeast of Mercer, in Jackson and Coolspring Townships, Mercer County, Pennsylvania and is shown in Figure 3.1. It is a recreational impoundment in the Cool Spring Creek watershed as it

captures several of smaller tributaries and outlets to the mainstream of Coolspring Creek to the south. In addition to Coolspring Creek, the lake is fed by numerous other smaller tributaries and springs, as well as two artesian wells (Clemmys, 2011). The watershed area is comprised of predominately residential and agricultural land-use types.

Lake Latonka POA expressed interest in a diagnostic study of the lake after becoming concerned that the lake's water quality is continuing to degrade. Their observations included: increased turbidity, excessive algae, and low dissolved oxygen. EnviroScience proposed several tasks to help gain a better understanding of the overall health of Lake Latonka.

These tasks included: • Water Quality Sampling • Lake Sampling • Tributary Sampling • Biotic Sampling • Phytoplankton Analysis • Cyanotoxin • Chlorophyll A • Zooplankton Analysis

The goal of the sampling and analysis was to illuminate the singular or cumulative cause of Lake Latonka's perceived lake health degradation as a result of one or a combination of the following: 1. Abiotic contributions in the watershed, e.g., suspended silt from bank erosion upstream in the watershed (TSS sampling performed in primary tributary streams). 2. Tributary nutrient loading, e.g., phosphorus inputs from upstream in the watershed (analytical sampling of tributaries) 3. Biotic contributions from within the lake itself, e.g., phosphorus derived from the digestive processes of fish and plankton suspended in the water column.

Our study aimed to determine if any of these factors are having a greater effect on the water quality and lake health to prioritize future management decisions. These decisions will be based on how to improve the overall health of the lake with actions such as dredging, watershed restoration, fishery management, aquatic plant management, etc.

EnviroScience, Inc. tested several water quality parameters at Lake Latonka during 2019 in response to the Lake Latonka POA's increasing concern degrading water quality, including algae blooms. Targeted areas included open water and tributaries. The results mostly showed that Lake Latonka is typical of other eutrophic lakes. While Total Phosphorus (TP) was found to be relatively low, Lake Total Kjeldahl Nitrogen (TKN) values, were between <math>1.6 - 3.9 \text{ mg/L}</math>, which is higher than the EPA standards ( $0.6 - 1.2 \text{ mg/L}</math>). This suggests that Lake Latonka is slightly above the average, but not abnormal, in terms of TKN values.$

Due to the past occurrences of algae blooms, it was anticipated that nutrient levels would be consistent with other eutrophic lakes. TP levels remained consistently low throughout the season, with few increases, TKN levels were intermittently elevated, and total suspended solids (TSS) values were relatively normal, but highest in Stream 6 (see Figure 3.1).

Tributary water samples were collected at six primary locations (Figure 3.1) two times from June September during both a single wet weather and dry weather event. Streams 1-4 had relatively similar values across all parameters, while Stream 5 and 6 were outliers for TSS and TKN (and other Nitrogen congeners). Since they were slightly elevated, it may be advisable to focus some nutrient mitigation efforts in these subwatersheds.

The results of the phytoplankton analysis showed similar results throughout the sampling season with blue-green algae (cyanobacteria) dominating the system. Cyanotoxin levels around areas of greatest exposure (Latonka Beach) had ranged from  $0.174-1.13 \text{ }\mu\text{g/l}$  microcystin. This

places Lake Latonka well below recreational standards and close to meeting world health organization standards of 1.0 µg/l. However, cyanotoxin levels vary throughout the water column and are affected by multiple parameters. Summer dominance of cyanobacteria suggests that a potential human (and domestic animals) health risk is present in the lake at times.

Chlorophyll-a is a light energy-absorbing pigment that occurs in all algae and is their primary photosynthetic pigment. Chlorophyll-a samples yielded values in a range of 4.8-36 µg/L, which is considered average in terms of eutrophic lake conditions. Because both the cyanotoxin and chlorophyll-a are cost effective tests, EnviroScience recommends both these samples be collected on a regular basis to develop a better understanding of the algal community as well as a proactive safety precaution against toxic algae.

The 2019 plankton survey showed a typical eutrophic assemblage and density of zooplankton. No exotic or invasive zooplankton species, such as zebra mussels or spiny waterfleas, were observed in the sample. The zooplankton community consisted of desirable species at densities typically necessary to sustain a healthy fish community.

Considering the suite of parameters measured in the lake and tributaries, and the inclusion of information from past studies, findings remain consistent with past reports indicating that Lake Latonka is a eutrophic system with various sources of nutrients (both internal and external). Despite current management efforts algal blooms and turbidity issues remain, and it is recommended that management moving forward consider a multi-tier approach through watershed education and a combination of biological, physical, and chemical treatments in order to mitigate the current eutrophic state.