Water Quality Report, August 2018  
  
  
More than ever before, we must all act responsibly to maintain water quality. This means taking proper care of the properties on our lake, carefully researching products you use for cleaning, personal care and yard maintenance, and always looking for environmentally safe products. Anything you put on the land surrounding your home or down your drain will eventually find its way into the lake and each of us can do our part.

When we alter the water shed, the natural purification of water that flows into our lake changes. Trimming shrubs, cutting trees and landscaping near the waterfront, alters the flow of rain water and can introduce elements that are undesirable. Before landscaping, check out the Shoreland Protection Act, keeping in mind that storm run-off is one of the primary causes of problems in any lake. (<http://des.nh.gov/organization/divisions/water/wetlands/cspa/categories/faq.htm>) There are laws to follow when you work near the water on your property.

July’s water testing showed a significant increase in phosphorous levels on the bottom layer of our lake. Between 2016 and 2018 this number increased 14.4% and is of concern. Phosphorous is the number one influence on water quality, introduced into the lake in the form of fertilizers, road salt, and as a byproduct of landscaping and personal and home care. Phosphorous promotes algae growth, robbing the lake of its oxygen and providing a poor habitat for aquatic life. Phosphorous is common in agricultural fertilizers, manure and organic wastes and in sewage. Please become a label reader: any product containing phosphorous is unsafe to use near our lake; natural products are best. Decaying plant life (including fallen trees) also cause higher phosphorous levels. If you are able, please remove branches and tress that have fallen into the lake.

Conductivity has been trending as “worsening” according to the DES and we, too, see this trend in Winona. Conductivity is the ability of water to carry electrical current. High conductivity may indicate pollution from the previously-mentioned sources. Disturbance in soils from construction projects are also major contributors.  
Conductivity increased significantly (19%) in our surface layer (one of three “layers” in the deepest part of the lake) in the last two years. The DES reports any number exceeding 100 units (uMhos/cm) indicates human disturbance and our bottom layer (42’) exceeded 100 (103.30) for the first time since testing began of Winona in the 1970s. We should communicate our concern about road salt use on the roads surrounding our lake to the towns and private road contractors and unnecessary disturbance of soil to contractors doing construction and home improvements. Please consider having your septic systems or holding tanks serviced and maintained on a regular schedule, as recommended by the state of NH and septic system contractors.

According to a DES publication on reducing conductivity in lakes, here are steps, as watershed residents, we can all take to help Winona:

* Limit soil disturbance and bedrock exposure on your property
* Create vegetative buffers or rain gardens to filter and reduce the amount of storm water runoff from your property
* Replace a conventional beach with a perched beach (one with a stone edge and where the sandy area is flat)
* Pump your septic system tank once every year
* Replace/upgrade a failing leach field immediately
* Discuss alternatives to road salt use near the lake and its tributaries with the Town Road Agent or DOT Agent for your region

E-Coli numbers were tested in only two areas of the lake due to lack of flowing water (no rain for well over a week prior to the sampling date). This year the Winona Heights inlet (at Anchorage Beach) had the most significant increase ever in e-coli. The previous high number for this area of Winona was 40 ; the increase was almost 90 points, to 129.10.

This number is not sufficiently high as to close a place like Weirs Beach since units are reported in the number of bacterial cultures per ML and it would take 406 to do that but, for our lake, this is a very high and significant increase since we do not have the numbers of people as does the Weirs. If our budget allows, we will do a second sampling this summer, hoping the number comes back down to a more normal range for our lake.

Residents who reside near this stream (the Heights Brook) should be especially diligent when it comes to sewerage issues. Animal life upstream may be a contributing factor to higher e-coli numbers but if you live in this particular neighborhood, please consider taking extra precautions.

A composite for the testing for Chlorophyll-A was 5.29 when, in 2016, it was 6.39. This shows a slight improvement in this area and puts us in the “more desirable” range. Chlorophyll-A relates to algae or “plant life” that rob oxygen from our water. Our ever-increasing numbers in this category indicate the importance of all of the previously-mentioned good practices and show how we can make a difference

Algae blooms and cyanobacterial blooms are becoming more common in NH Lakes. In July our neighboring lake, Wicwas, had a reported bloom. Last summer, Waukewan had two such blooms. Lake Winona has shown the presence of cyanobacteria but has not officially had a bloom reported to the DES. Since we have more year-round residents at Lake Winona than ever before, leading to the more frequent use of showers, dishwasher and washing machines, the oft-repeated “safe practices” in all avenues of lake care cannot be stressed often enough.   
  
Aquatic Weeds are increasing throughout our state. Approx. 4 years ago, a very small patch of milfoil was found in the outlet.  A DES diver hand pulled the patch and placed a benthic barrier at the site.  To date, there has been  no re-growth, so as of this writing, there is no known milfoil in Waukewan. We caution you to carefully check any boat your may bring to other waters and keep watch when our on our lake for any of the invaders that are outlined in this DES publication: <https://www.des.nh.gov/organization/commissioner/pip/publications/wd/documents/wd-05-30.pdf> In addtion, on our lake Pam Hunt and Bea Thibault are trained weed watchers. Contact either of them should you see a suspicion weed, or the DES.

Remember, each and every one of us, our families, tenants and guests, impact the lake in some way and it cannot be repeated often enough, nor have we neglected to do so, the importance of safe practices and products, label reading and always being mindful of steps we can take, now and in the future, to protect the water and beauty of our beloved lake.

Respectfully submitted,

Lake Winona Water Quality Committee  
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Amended 8/19/18 per update from Janan Hays