

## **The State of Winnepesaukee Water Quality and What We Are Doing About It Gilford Island Association Mid-Winter Meeting, March 2, 2019.**

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Winnepesaukee is “the golden goose” of the Lakes Region, the main driver of the tourism economy. Estimates indicate that the lake accounts for 75% of total sales in the region.

UNH has been testing the water for 30 years; the Gilford Island Association has assisted with the testing since 2010. The Lake Winnepesaukee Association is the leading non-profit dedicated to protecting our lake.

Overall water quality is still good. In the Broads the water is clear down to 30 feet. Four feet is the national standard. Unfortunately, phosphorus (the middle number on fertilizer bags) that feeds cyanobacteria (blue-green algae), milfoil and other invasive plants, is threatening water quality. The natural background level is 2 parts per billion, and the lake-wide average is up to 6.5. In some parts of the lake such as parts of Moultonborough and Alton Bays, the average is much higher. The averages in Saunders Bay are variable. Some causes of Phosphorus in the lake include untreated storm water, fertilizers, and shoreline erosion. Failing septic systems can be 50% phosphorus.

Increased levels of phosphorus affect swimming, fishing, boating, and property values. It is also a public health issue. Cyanobacteria is of particular concern because it can produce toxins that cause liver and nerve damage in humans. There have been several cyanobacteria blooms in Winnepesaukee in recent years. Just last summer, there were major blooms in Paugus Bay/ Weirs Channel and in Winter Harbor in Wolfboro. In August and September, a cyanobacteria called Gleotrichia that looks like pollen in the water was prevalent in the Broads. This particular type is not thought to be toxic, but research is scant, and it is worrisome nonetheless. **NEVER drink lake water. Filters do not work on Cyanobacteria. Boiling the water makes it worse.**

The islands are generally more forested than the mainland, and natural plants help prevent runoff. Failing septic systems are definitely a problem, and towns do not regulate them. While island residences are seasonal, thus contributing less to the phosphorus load than mainland houses, islanders should have their septics checked and pumped regularly. Well-placed outhouses are environmentally sound.

Controlling phosphorus in Winnepesaukee is an issue that extends way beyond waterfront property. The Winnepesaukee watershed that feeds the lake is large and complex, encompassing 369 square miles, 236,225 acres. In addition to water

testing programs, The Lake Winnepesaukee Association engages in watershed planning management, working with local stakeholders to address problems.

Lake Waukegan, a major input to Meredith Bay, had very high phosphorus levels. With the Waukegan Action Plan, storm water was redirected, using gravel and other pervious surfaces, which resulted in quickly reaching 1/2 of the needed load reduction.

A NH state fish hatchery has been discharging into the Merrymeeting River that feeds Alton Bay, resulting in a huge phosphorus problem. The Conservation Law Foundation sued NH Fish & Game on October 31, 2018. Although the suit is still before NH Federal District Court, the state has agreed to temporarily treat discharge waters while a permanent solution is sought.

The LWA is making progress! They have identified hundreds of phosphorus “hot spots” and completed 28 protection projects. In addition they have found 378 waterfront residential sites that need improvement through vegetation or other erosion controls. It’s worth noting that they currently test for phosphorus and chlorophyll-A only; other contaminants such as pharmaceuticals, heavy metals, bacteria and petroleum are not currently tested. They need money and volunteers to sustain and expand their important programs. “It is easier to keep the lake clean than it is to fix established problems.”

For more information, see  
Winnepesaukee.org  
winnepesaukee.gateway.com

## A Winnepesaukee Dozen Ways To Love The Lake

- Wash** boats and cars away from the lake.
- Inspect** your boat and trailer for invasive plants and animals.
- Never** feed the ducks and geese.
- Never** rake leaves or dump sand into the lake.
- Inspect** and pump septic systems regularly.
- Put** a bilge sock in your boat.
- Eliminate** or reduce the use of household hazardous products.
- Stabilize** soil with native plants and/or mulch to prevent erosion.
- Aid** our lake protection efforts – become a member or donate to the LWA.
- Use** phosphate-free fertilizers and cleaning products.
- Keep** the natural vegetation and buffer along the shoreline.
- Educate** your friends & neighbors.
- Enjoy** the beauty. It’s why we live here.