

**Tuftonboro Times**  
Mirror Lake Reflections  
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Ahh, autumn. Mirror Lake is such a refuge for those who love the natural beauty not only of the lake but also the grandeur of Mt. Shaw, known as one of New England's Fifty Finest peaks, which rises impressively over the lake. Residents on Mirror Lake marvel at the assorted views of Mt. Shaw from various angles, especially from docks, decks, and living room windows. With its summit of 2,990 feet Mt. Shaw boasts the highest peak in the Ossipee Mountain Range. Born of a volcano, on very still autumn mornings Mt. Shaw is perfectly reflected in Mirror Lake. On clear fall nights, it is the stars that are reflected in the water.

Much as we treasure the lake and would love to simply kick back and enjoy it, this year's two premier water events, The Wolfeboro Water Summit III and the 26<sup>th</sup> Lakes Congress-NH Lakes emphasized the need to be proactive in taking care of our lakes. The Water Summit at The Great Hall in Wolfeboro on May 11, 2019 focused on the looming threat of cyanobacteria to all lakes in the Wolfeboro area. Dr. Jim Haney, a UNH professor in biological sciences, shared information that was alarming as well as facts that were reassuring. The alarming information related to the increasing incidents of cyanobacteria blooms in the Lakes Region and the toxic nature of certain blooms which have caused the illness and sometimes death of dogs who swim in and drink the blooms in the water. Known as liver and neurological toxins, cyanobacteria blooms have been linked to Parkinson's, ALS, and Alzheimer's in certain lakes across the United States. Dr. Haney acknowledged there may be other unknown factors contributing to clusters of outbreaks in people living near particular lakes where patterns of disease are noted. None of these patterned lakes are in the Lakes Region. The reassuring information was that blooms are not always toxic; cyanobacteria is an ancient and natural part of all lakes; phosphorus levels, which can be controlled, when kept low will assure that cyanobacteria outbreaks will not occur; and most importantly, people can exercise some degree of control over how much phosphorus enters a lake. Finally, the NH Department of Environmental Services is vigilant about cyanobacteria bloom outbreaks and will close beaches until the blooms are gone.

Wolfeboro has organized a Cyanobacteria Task Force with the mission of: 1) assessing water quality; 2) identifying and mitigating stormwater runoff; 3) informing the general public, and 4) creating protocols to evaluate and respond to blooms. Mirror Lake volunteers are connected with the task force and they bring vital information to lake residents.

Larry Gil served on a panel at the Lakes Congress representing Mirror Lake and shared information specifically related to the lake including the fact that we have about 50 years of lake data and a very good idea of the trends on the lake. Mirror Lake had a cyanobacteria outbreak in 2007, and the event prompted a study supported by a 319 Grant written by Dusty Davies, which led to the development of a Watershed Management Plan designed by Geosyntec Consultants, an environmental consulting firm. Over the past dozen years Mirror Lake residents have faithfully implemented the action items recommended in the Geosyntec plan and consequently, have seen a reduction in the levels of phosphorus. Additionally, Mirror Lake is free from invasive plants at this time due in part to the work of the Weed Watchers team and the Lake Host program. Phosphorus levels and invasive species require constant surveillance and measures are in place for Mirror Lake.

#### The Lakes Congress

The 26<sup>th</sup> Lakes Congress held on May 31, 2019 at Church Landing in Meredith is an annual event focused on all lakes and ponds in New Hampshire. Tom O'Brien, the President of New Hampshire Lakes, opened with the happy reminder that New Hampshire is home to some of the cleanest and healthiest lakes in the country. He noted our duty to be vigilant about caring for the lakes and mediating threats to clean water. Tom also shared the great news that blueberry sod is available for those wishing to create a natural barrier on property bordering a lake. Simply place the sod close to the lake and a natural stormwater runoff barrier is created along with yielding delicious berries every summer.

Eric Eckl was the keynote speaker and he reviewed the impact on American lakes when moving from a primarily rural country in the 1930s to an industrialized nation. As farmland gave way to paved surfaces, including roofs, rain water run off headed directly into streams and rivers without the natural filtering of soaking into the land. Various materials, and especially phosphorus, enter waterways when unfiltered stormwater flow freely. Increased phosphorus levels led to cyanobacteria outbreaks throughout the country. Eckl showed the impact of phosphorus rich fertilizer and other phosphorus laden materials on lakes and cautioned that individual land owners typically resist the idea that they are responsible for, or can correct problems in a lake. Yet homeowners are often the culprits and the key to solutions. Homeowners often resist solutions to lake contamination because 1) they find the problem insurmountable or don't really believe there is a problem; 2) there are costs involved; and 3) people can be indecisive when it is time to take action. The data indicates there is indeed a problem in New Hampshire as reported outbreaks of cyanobacteria rose from 300 reports to 800 reports last year.

There are several actions homeowners can take to prevent phosphorus from entering the lake. All are directed at stopping stormwater runoff from entering the lake directly and include: establishing

small gardens; planting or leaving a natural barrier at the shoreline; digging trenches below rooflines and other areas where water rushes toward the lake; using fertilizer without phosphorus; using detergents without phosphorus; purchasing rain barrels to capture stormwater; paving walkways and driveways with pervious materials that stormwater can soak through to the earth below; and building infiltration steps to allow water to soak into the land rather than rush directly to the lake.

We can all appreciate a beautiful lake and a majestic mountain. And we can all do our part, however small, to protect those gorgeous gifts. Then we truly can kick back and enjoy the lake.