Wilson Lake News
Fall, 2015

Mission Statement: The Wilson Lake Association will establish and maintain a program that will reverse any trend of degrading the water quality in Wilson Lake and result in continuous improvement in water quality. The Association will also encourage all the Lake's stakeholders to be involved and support a cooperative effort to reduce or eliminate the impact of contaminants on lake water quality.

Board of Directors:

- President: Jeanne Achille
  477-0310/jach28@gmail.com
- Vice President: Jeff Brown
- Treasurer: Ann Marie Nadeau
- Secretary: Betty Wildes
- Arlie McGaw
- Heidi McGaw
- Dan Orino
- Bill Pimental
- Teg Rood
- Glenn Wildes

Next Board Meeting:

April 9, 2016 9:00AM

94 Peacock Road

All WLA members welcome

Our Website: Wilsonlake.net

A Note from the President's Desk:

This Fall has brought a bountiful splurge of autumnal color and with it the wistfulness of another summer season coming to its end. Most docks and boats have been removed and stored for the Winter, while barbecue gear and picnic tables are cleared and protected from anticipated snowfalls.

Looking back on the accomplishments of WLA homeowners during this past season we must give congratulations and thanks to the members of the Invasive Plant Patrol who donated some of their precious lake time to complete searches for exotic aquatic species. A thorough list of native plants is being compiled as a result of these paddles and we have taken on the task of creating a booklet of our native plants for distribution to all property owners. David Spahn has donated an underwater camera to help in this long range project.

WLA again took advantage of Acton Wakefield Watersheds Alliance to work with the University of New Hampshire program of water quality testing. Every other Tuesday members of UNH were on our lake with sophisticated electronic equipment to measure water clarity, temperature, dissolved oxygen, alkalinity, phosphorus, chlorophyll A and turbidity. Thanks to Heidi and Arlie McGaw and Bob Seckar for taking the test crew out to the deepest part of the lake and assisting in the gathering of samples and data. Dan Orino used WLA's equipment to test clarity, temperature and dissolved oxygen. It will be interesting to compare the data.

A new test was added to this process this summer. Volunteers Stephanie Thornton and intern Kaitlin Carr of AWWA completed training to test for cyanobacteria and photograph the samples which were sent to New Hampshire's Department of Environmental Services. Preliminary results show that our scores were in the lower range and indicate that we are not in danger of toxic levels of cyanobacteria.

The fact that many homeowners have taken advantage of AWWA's program to reduce storm water reaching the lake seems to be beneficial to the overall water quality although we will need several years worth of comparing data to obtain proof. Meanwhile it is hoped that those who have not consulted with Sam Wilson of AWWA, will do so and, if warranted, become Project Hosts to have any storm water issues resolved. Keep in mind that the labor of installing corrective Best Management Practices (BMPs) is completed free of charge by the Youth Conservation Corps. Ask your neighbor who has taken advantage of this valuable service how they feel about the improvements on their property. If everyone maximized their landscaping to prevent phosphorus from entering the lake by using the YCC's service we could all be confident that we, as homeowners, have done everything possible to protect our water quality.

Wishing you a warm, safe and healthy Winter!
Jeanne

Septic Survey coming this Spring:
As a requirement of the Maine Department of Environmental Protection Clean Water Grant which provided monies to improve both Hawk and Eagle Roads erosion issues, we must complete a Septic Survey of all homes around Wilson Lake. This will be a mail-in or on-line survey which will take little of our time to complete. There will be an incentive to encourage prompt responses and everyone who completes their survey will be entered in a drawing for the prize.

Thoughts from the V.P.:

Threats to Wilson Lake

Jeff Brown

Wilson Lake seems to be healthy and resilient. How fragile is our lake? Let's assume that we all want to see our lake remain a source of pleasure for generations ahead. What can we do to ensure this?

All lakes are at risk of environmental catastrophe. Although Wilson Lake has been stable for decades, the greatest threat to our lake comes from humans. There are three major concerns to our lake: pollution, invasive plants and eutrophication.

Risk of pollution of a small lake may seem obvious, but there are behaviors that we all need to change. Pollution can be from careless release of gas or oil into the lake. The oil spill last spring is an example of people walking away from a serious problem. Septic systems in disrepair risk obvious damage. Golf balls and fireworks leach toxic chemicals and metals into the lake water. Neither activity should be launched into our lake. (http://www.cnn.com/2009/SPORT/11/04/littering.golf.balls/index.html and http://www.newsweek.com/are-fireworks-chemicals-dangerous-)

Invasive plants will ruin a lake, making boating impossible without clearing a path above and below water. The cost to control invasive plants is breathtaking and the effect on property value astounding. Our Lake Association has formed an Invasive Plant Patrol to try to monitor for bad plants. Everyone can and should get involved in this threat. Boats and boat carriers can easily transfer invasive plants from an infested lake to ours. For more information, one resource is http://www.mainevlmp.org .

Eutrophication sounds like a great feature for a lake. Unfortunately, what it means is a dead lake. How does this happen? It starts with a low oxygen level. Because Wilson Lake has no significant springs to feed fresh water, our lake's oxygen level drops to zero in the hot weather. This is not a new characteristic; it has been like this for the decades that we have been taking measurements. The next step toward eutrophication is an increase in phosphorus. A level above just 10 parts per billion is enough to trigger damage. Phosphorus is concentrated in lawn fertilizer. Only phosphorus-free fertilizers should be used in our neighborhood. Phosphorus can leach out of sand and burst out of fireworks. The combination of low oxygen and elevated phosphorus sets the perfect opportunity for an algae bloom. This creates water quality which is both unhealthy and unappealing.

Our Lake Association has taken many steps to reduce these risks. The lake survey from 2009 demonstrated roads and properties most at risk of leaking phosphate into the lake. Road Committees were set up on Eagle and Hawk roads. Many property owners took steps to reduce run-off. Some owners still need to remedy their problems. Long driveways, steep grades and sandy beaches contribute most to phosphorus leaching into the lake. More information is available at http://www.maine.gov/dep/water/lakes/index.html .

So the answer is that Wilson Lake remains healthy, but is a fragile lake. The long-term success of our lake depends on all of us taking efforts to protect the water and its environment. Please don't expect the Lake Association, alone, to maintain your lake. In order to preserve the lake, everyone needs to get involved. Below is a list of 13 items we can all do to keep the lake healthy. Don't stop there; take action. Attend a Wilson Lake Association board meeting (everyone is invited), join the Invasive Plant Patrol, and consider having AWWA inspect your property for conservation landscaping. Talk to your neighbors and share this information with them. If we work together as a community, we can protect our wonderful lake for future generations.

A Laker's Dozen: Adapted from *The Lake Book*
Maine Congress of Lakes Association

1. Always check boat, trailer and equipment for plant fragments.
2. Respect Shoreland Zone regulations
3. Control storm water run-off from buildings, paths, driveways and roads.
4. Cultivate a wooded shoreland buffer.
5. Take a break, Retire the rake and Save the Lake –Limit lawn size.
6. Use only phosphorus free fertilizer.
7. Don't stress the septic system.
8. Construct docks and floats with lake-friendly materials.
9. Dogs, humans and boats should never be washed in the lakes!
10. Observe headway speed within 200 feet of shore in Maine. 150 feet in NH.
11. When you replace a boat motor, choose a clean 4-stroke engine.
12. Preserve wildlife habitat on land and underwater.
13. Support your local and regional lake associations.

The Sutcliffes lead the 2015 Boat Parade.

And we're off to celebrate Independence Day!

Membership Dues:

It's never too late to send in your annual dues. If you were so busy getting ready for your summer on the lake and your envelope got buried at the bottom of your desk, it's still timely to help WLA fulfill its mission to protect the lake we love. Just pop your $20 check into an envelope and mail it off to:

Wilson Lake Association
PO Box 162
Acton, ME 04001

New Invasive Plant Nearby!

By now, most of us are familiar with the dangers of infestations of Milfoil, whether it be Variable or Eurasian Milfoil, and many lakers know that Pickerel Pond in nearby Limerick has been fighting the very aggressive Hydrilla. Newly discovered in the Three Ponds of Milton, NH and Berwick, ME, is an invasive plant called European Water Naiad. This was discovered only recently in September by Dennis Roberge of Mousam Lake. Dennis spends much of his summer by donning his snorkeling gear and exploring local lakes for invasive plants. His discovery triggered paddles by the York County Invasive Aquatic Species Project, led by Laurie Callahan with Melissa Brandt of York County Soil and Water Conservation District, several volunteers, and Maine Department of Environmental Protection personnel.

The goal was to locate the largest area of infestation which turned out to be at the northern end of Northeast Pond near the inflow of the Salmon Falls River. Remnants of this plant were found, along with scattered individual plants throughout Northeast Pond, and threaten the entire 3 lake system.

The Three Ponds Protective Association is considering methods for controlling this plant. It is vital that boaters who use these lakes are vigilant in cleaning their boats, motors, trailers, paddles and all gear when leaving any water body and before entering another, to be sure they are not transporting any invasive species from one place to another.

You can be sure our Invasive Plant Patrol will be watching our shoreline and we need to have everyone on the lookout for any unusual plants!

European Water Naiad: A New Threat!
Photo by Wayne Reetz

This is what Eurasian Milfoil looks like: Notice the leaves have a feather-like appearance. If you see anything like this try to mark or carefully notice its location and call Jeanne right away! Photo from www.Lake Restoration.com

What Happened to the Dam?

Road Commission David Winchell Jr. addressed the audience at the Annual Meeting of the WLA on July 11 and told us he would be putting in a new dam at the public ramp on Youngs' Ridge Rd. in August 2015.

August has come and gone and I was finally able to connect with him to learn that he ran into problems with suppliers and was unable to complete the project as expected.

Mr. Winchell assured me that he will complete the construction and installation of the modern dam after ice-out in the Spring of 2016. He is hoping to obtain a grant for the project which will help defray the cost to the town but promised that either way, the job, including new conduits will be completed in one or two days.

PO Box 162
Acton, ME 04001

To:

Cyanobacteria Monitoring & Bloom Watch

Linda Schier, AWWA

In the summer of 2015 AWWA volunteers participated in the newly developed Cyanobacteria Monitoring and Bloom Watch program on Wilson Lake as well as Great East Lake, Lovell Lake and Province Lake.

Cyanobacteria are bacteria that photosynthesize. Many species grow in colonies and can form surface water "blooms." The blue-green blooms consist of thousands of individual cells. Formerly called "blue-green algae", cyanobacteria blooms are still frequently referred to as "harmful algal blooms" or "HABs."

Cyanobacteria have been on earth for 3.5 billion years and are naturally occurring in all our lakes, generally in relatively low numbers. However, research has shown that when nutrient levels in the lakes increase so does cyanobacteria abundance. They are part of the aquatic food web and can be eaten by various grazers in the ecosystem such as zooplankton and mussels.

While the blooms are most commonly noticed as scums floating on the surface of a waterbody, most cyanobacteria spend much of their lives in the sediments or throughout the water column. When conditions are right they migrate up the water column to the sun where they can photosynthesize and form the surface scums.

Some cyanobacteria are capable of producing liver and neuro toxins which can affect human health when in bloom. Studies are investigating the possible link between cyanobacteria blooms and ALS. The neuro toxins have almost immediate effects when ingested. The liver toxins tend to act more slowly. Exposure to toxic cyanobacteria scums may cause various symptoms including nausea, vomiting, diarrhea, mild fever, skin rashes, eye and nose irritations, and general malaise. In 2014, people in Toledo, Ohio were advised to not drink or bathe in the city's water due to cyanobacteria contamination, and this year 500 miles of the Ohio River were in bloom for over a month. It does seem that we are seeing increased frequency and intensity of cyanobacteria blooms world-wide.

Abundance increases as nutrients increase. Current studies indicate that when total phosphorus levels are greater than 10 ppb the likelihood of toxicity increases greatly. Wilson is well below that threshold. Phosphorus, a naturally occurring element, is the limiting factor in freshwater ecosystems meaning that the level of phosphorus determines the productivity (growth) in the lake. High levels of phosphorus lead to excess algae, plant and cyanobacteria growth reducing water clarity and declining water quality.

All of the work that AWWA does is focused on reducing phosphorus loading to Wilson and the other lakes in our region. Phosphorus enters the lake through atmospheric deposition (we can't do anything about that), septic leakage, excess fertilizer applications, and primarily attached to sediments that are washed into the lake with storm water. Phosphorus pollution can be reduced by eliminating the human impacts that introduce it into the lake – lake friendly landscaping, properly functioning septic systems, and road maintenance practices to enhance infiltration and minimize erosion.

Over the past couple of years the EPA New England Regional Laboratory convened a region-wide (including NY) cyanobacteria monitoring and bloom watch workgroup consisting of state environmental water quality and beach monitoring programs, departments of public health, tribes, public water suppliers, NGO's, citizen monitoring groups and academics to establish a uniform and consistent approach to monitoring cyanobacteria. The first pilot season was in 2014 and the updated protocols were released in the spring of 2015. Citizen scientists throughout New England were charged with measuring the phycocyanin (cyanobacteria pigment) and chlorophyll (algae pigment) levels of the lake water using a handheld fluorometer to establish a dataset for cyanobacteria and algae levels. Using an inexpensive microscope and a smart phone, volunteers took photos of cyanobacteria that were sent to UNH and EPA for species identification. This was our first year work with the program so we don't expect a lot of results but monitoring the cyanobacteria levels over the years will provide a view of the way the lake is trending. Please feel free to contact me at AWWA 603-473-2500 or info@AWwatersheds.org for more information or to get involved. If you haven't invited Sam Wilson of AWWA to your property to assess your storm water issues now is a great time to do so.