Wildwood Valley Property Owners Association & Club

Restorative Lake Sciences

Wildwood Lake Management Plan Newsletter

Spring 2017

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2017 Agenda For Wildwood Lake

Restorative Lake Sciences (RLS) has been retained by the Wildwood Valley Property Owners Association Board to conduct aquatic plant surveys, scientific research, water quality sampling, and other lake management activities on Wildwood Lake. RLS will also be involved in the oversight of all weed treatments to assure the best outcome.

RLS issues an annual report each fall on the current condition of the lake. The report also compares lake trends and makes scientific recommendations for moving forward with further improvements. Scientists from RLS will be on the lake soon to sample for water quality and scan the whole lake for aquatic vegetation and create updated maps.

Coontail-A native plant that can be a nuisance on Wildwood Lake.

From the WVPOAC President...

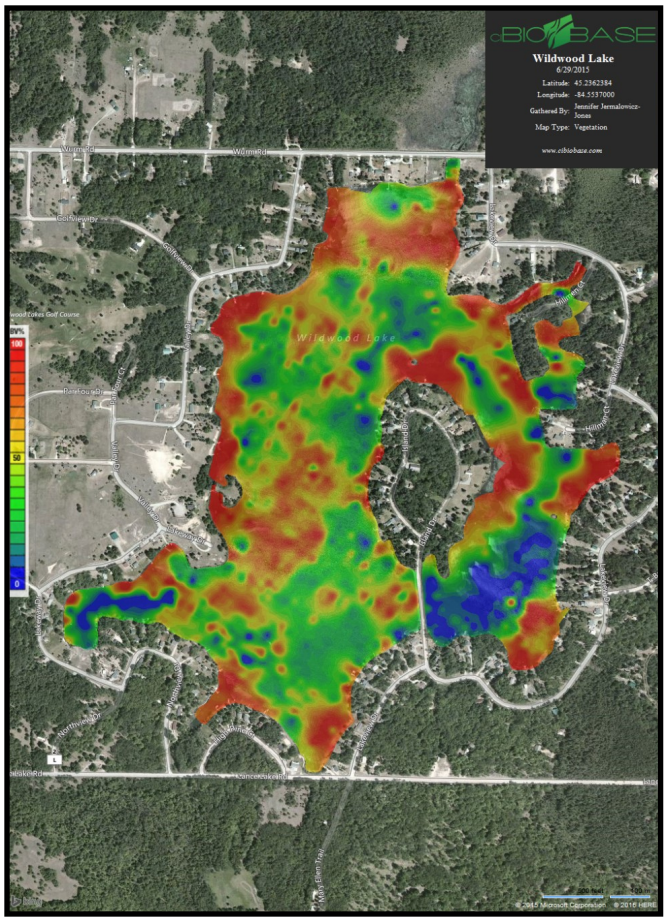
Let me start off by thanking the Lake Committee (Blair Wickman, Dave Dohring, Bill Staples, Linda Manier, Carrie Dorcey), Restorative Lake Sciences and all of the folks that worked so hard last year to make sure our lake continues to improve with each passing year. As you know we face new and old challenges every year. Zebra mussels, quagga mussels, Eurasian milfoil, nuisance pond weeds, floating algae bloom, etc., etc. etc. The dynamics are constantly changing and we must stay focused on the task at hand. That is exactly what our team does every year so you can enjoy our pristine lake.

Last year we began holding meetings with all lake front property owners twice a year to keep everyone informed on what is going on with "OUR" Great Lake. Those meeting have been a huge success and the Board has decided to continue that process. That being said, the first meeting will be on May 28, 2017 and the second meeting will be on September 3, 2017. We will be discussing the lake treatment schedule and lake draw down options among other topics. Both meetings will take place at the WVPOAC clubhouse at 15621 Lakeway Drive, Wolverine, Michigan. Both meetings will be at 12 noon. I look forward to seeing you all at the meeting and hearing your input. Remember, when you come to the meeting, please give us your email address so we can add you to our mailing list for any updates between meetings.

See you at the Lake,

Jim Nihls

President WVPOAC

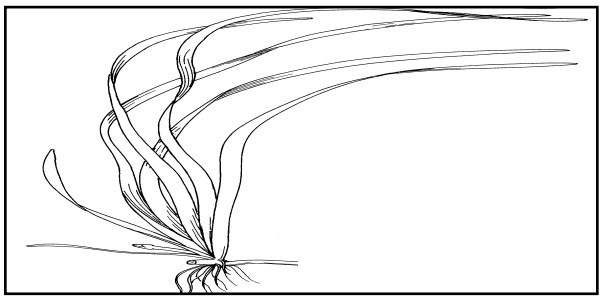


A Mild Winter = More Weeds!

The winter of 2016 was one of the mildest on record with record high air temperatures and a short period of ice cover. Some lakes in the southern region of Michigan even had no ice cover during the winter months. When ice cover forms, the water temperature remains around 4°C and the metabolism of all aquatic life slows down. Many aquatic plants die but some overwinter (such as Eurasian Watermilfoil) and go dormant until the spring when the plants continue growth. Aquatic plants that do die back under winter ice, break down on the lake bottom and attempt to decay. The metabolism of microbes in cold water is very slow and the decomposition process of vegetation and other organic matter on the lake bottom is quite slow and often incomplete. This is why so many lakes have the accumulation of "muck" on the lake bottom. In deeper lakes, this muck first settles at the deepest area of the lake; however, many shallow lakes have accumulation of muck at all depths. This can lead to decreased use of the lake and shallower depths (especially when paired with lower water levels).

Since the 2016 winter season was so mild (relative to a typical Michigan winter), many aquatic plants survived and have re-bounded early in the spring season. Eurasian Watermilfoil in particular is growing quickly and spreading in many lakes since it has a competitive growth advantage relative to most other aquatic plant species. This means that the 2017 weed management season is shaping up to be a very busy one and some lakes may require multiple treatments.

Low/no ice cover means that more light has also reached the aquatic plants throughout the winter and allowed some of them to grow during the winter, although at a very slow rate. In Michigan, we rely on thick ice cover with snow to reduce the light penetration to the aquatic plants and reduce plant growth for the following season.



Some aquatic plants form winter buds called "turions" that allow them to store energy from a previous season and then use that energy to continue growing in cold water and even under winter ice. This is one reason why the use of systemic herbicides is always preferred over the use of contact herbicides since they will kill the plant by the roots and therefore winter buds will not form.

Another cause of vigorous weed growth is the increase in lake water column nutrients from runoff, septic systems, or inlets, drains, etc. This is especially problematic on lakes that experienced low/no ice cover and that have inlets or frequent runoff events. Remember: aquatic vegetation thrives first on sunlight and secondarily on nutrients. A combination of the two are a recipe for abundance and often excessive aquatic plant growth.

A Primer On Common Lake Management Methods

Most developed lakes in Michigan have issues with aquatic vegetation over-growth, high nutrient levels, and other problems that affect waterfront property values and recreation activities. In the field of lake management, there are a limited quantity of "tools" or lake improvement methods to choose from. Below is a summary of commonly used management tools and their key attributes:

Mechanical Harvesting:

This method utilizes a mechanical moving vessel that cuts aquatic vegetation near the lake bottom and then uploads it onto a conveyor and eventually into a dump truck. The purpose is to remove weed biomass to lessen the degree of muck accumulation. Harvesting is only recommended for nuisance native weed removal since milfoil may fragment and further spread.

Aquatic Herbicides:

These chemicals are approved for use in public trust waters by the EPA, USDA, and the MDEQ. They have restrictions for use associated with application label rates, doses, etc., and are also allowed only under a state MDEQ treatment permit. Aquatic herbicides can be used on most plants and include "contact" herbicides that quickly kill the shoots and stems of the plants or "systemic" herbicides that aim to kill the roots of the plant and prevent further growth.

A combination of both types of herbicides are often used for lake treatments.

Suction Harvesting:

This methods uses diver-assisted suction harvesting (DASH) where individual plants are physically uprooted by hand and fed into a suction device. This technology is quite useful for small areas of removal such as areas densely infested with lily pads or in lakes that desire a natural approach to remove small areas of milfoil or other nuisance plants.

Dredging:

Dredging is recommended for the removal of muck or sediment in desired areas of a lake. It is high in cost and often needs to be repeated with time since sediment accumulates at a fast rate in many lakes. In addition, many lakes have sediments high in metals which require a Type 2 landfill for disposal which also adds significant cost.

Lake Aeration:

This method aims to increase the dissolved oxygen (DO) in lakes to reduce fish kills. It also may infuse the sediment organic matter with DO and lead to reduction of organic muck on the lake bottom. Some lakes also experience other benefits such as the reduction of nutrients which could affect algae and other plant growth. Aeration is costly but is a natural approach to managing lake water quality issues.

Signs of Water Quality Impairments In Lakes

Sometimes it takes a lake many decades of abuse before symptoms begin to appear relative to water quality. The question thus arises: "How does one know when the water quality is impaired?". There are many ways to determine the answer to this important question:

1. If there are visible fish kills of more than one species of fish—that can be an indicator especially if not near ice-off.
2. If the water is usually clear and then suddenly become turbid (murky) it can indicate sediment loading to the lake or other pollutants have entered the lake.
3. If the water has a musty odor and appears bright green or blue-green in color, a toxic algal bloom or nuisance algae may be in overabundance. This is often due to runoff of nutrients into the lake and high water temperatures.
4. If the lake has a consistent amount of aquatic vegetation and then seems to be over-run with it, it could mean an invasive species has arrived.
5. If swimmers are complaining of rashes it could be Swimmer's Itch or some irritant in the water.
6. If high E. coli bacteria levels are measured, it could indicate septic failures or some external source or even waterfowl as potential culprits.
7. If you notice an aquatic plant or animal that has not been present in the past, it could be an exotic and should be evaluated by a professional.

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