



THE LOWER HERRING LAKE ASSOCIATION

Fall Newsletter November 2019

PRESIDENT'S LETTER

It's been a busy couple of months for the LHLA Board since the Association's Annual Meeting in July. The Board with its two new members, Sarah Delavan and Bill Mendenhall, have met several times to continue past programs and plan our goals and objectives for the future to protect our lake and properties.

Our biggest positive news since the Annual Meeting is that the diligent efforts of Sarah Delavan and Jim Ryan have paid off with the LHLA having now received approval of our Joint Permit Applications from both the state Environment, Great Lakes & Energy agency and the U.S. Army Corps of Engineers for a 5-year "Maintenance Dredging" permit. This will now allow us to use either mechanical or manual means to open the Outlet. This is a major development in our efforts to deal with the effects of the historic high-water levels we've experienced and most likely will continue to experience for the foreseeable future. Unfortunately, these permits are not a silver bullet for solving our Outlet blockage problems.

At any given time, there are several factors presented by Mother Nature that can make the difference between being able to open the Outlet or not. Reacting to current challenges, the Board has developed a monitoring and action protocol to respond on a daily basis to Outlet conditions. First, a group of year-round residents, Board & Committee members, and Cleve Swanson from Watervale have volunteered to check the Outlet on a daily basis to determine if action is needed and to initiate it when necessary. An internet app is also being used to track current and future wind conditions. In addition, LHLA is currently negotiating with local firms to provide back-up labor for hand digging. When the situation requires more than just hand digging, we have a primary and back-up excavator on call when necessary.

The high-water levels are presenting our Association with many issues in protecting our lake and properties. The Board is researching stewardship strategies that can be used for shoreline protection and lake health. It is our goal to provide educational resources to members in order to limit shoreline erosion and improve the overall level of our lake's health. With this in mind, the Board has hired a Traverse

City firm, ZeroGravity Aerial to perform a complete aerial survey for the approximately four miles of shoreline and 88 acres of shoals and shallows of Lower Herring Lake. This survey will provide a valuable baseline of our lake's health with regard to shoreline issues as well as invasive species.

This past month the lake was treated as part of our on-going fight against invasive species. Our primary nemesis has been Eurasian Water Milfoil. Our treatment program has been very successful in keeping this invasive under control in our lake. However, demonstrating the need for ongoing surveying of the lake, the presence of Starry Stonewort was discovered near the White Owl Rd. public access ramp. We were able to treat for this as well and are optimistic that this will not grow into a major problem for the lake. It is the Board's goal to be very aggressive in our efforts to stay out in front of lake health issues.

The Association's recent IRS approval of our application to become a 501(c)(3) non-profit organization should help us continue to fund our lake health efforts. Thanks to Jim Ryan's work, we will now be eligible to pursue a wide variety of grants and receive tax-deductible donations. Another advantage to both members and non-members is that all donations are now tax deductible to the extent permitted by law. A key item for our Association in both monetary and lake protection awareness terms is to increase our membership.

There are approximately 100 Riparian property owners on Lower Herring Lake. Of these Riparians only about 65% are LHLA members. One of our goals is to increase that percentage before next summer's Annual Meeting. A Membership Benefits Statement has been developed and will be used when making personal contact with non-members in our efforts to increase our Association membership. This statement will be placed on our website and I hope that all our members will reach out to friends or neighbor Riparians who aren't currently members to help us grow our numbers.

Best wishes to all and hope you will have the opportunity to enjoy our beautiful area through the Fall and Winter.

-David Oellerich, LHLA President

HIGHEST WATER LEVEL IN LIVING MEMORY

The water levels of both the Lower Herring Lake and Lake Michigan have matched or exceeded the recorded highs. The Lake Michigan Beaches continued to get smaller and smaller over the summer months. Also, on the Lower Herring Lake, the water crept closer and closer to our homes and cottages. However, the highest water levels for both lakes belong to a few weeks in the middle of October. Between October 12 and October 18th, the Lower Herring Lake experienced water levels, the likes of which, have not been seen in any of our lifetimes. This was followed by another high water event October 24th through October 27th. During both of these events, there were docks, boats, and even gardens that floated their way to the opposite sides of the lake. It was a busy time, with few folks left in the region. If you have not checked your properties over the past few weeks, it may be a good idea for you to do so!

During times of high water on Lake Michigan, Mother Nature can choose to close the outlet stream between the Lower Herring Lake and the big lake with sand or ice. This can further exacerbate the high water problem, causing water to back up into yards, crawl spaces, and living rooms of the homes surrounding the Lower Herring.

Luckily, the State of Michigan and the Federal Government have a mechanism for the public to try to influence the flow of the outlet stream. Any one of us could go through the process of obtaining permits to dig-out the outlet stream. The Lake Association, as your neighbors and friends, have gotten together and put the time in to obtain those permits. Our association now has permits from both the State of Michigan (through EGLE), and the Federal Government (through the Army Corps of Engineers) to allow us to attempt to open the outlet channel for the next five years.

As an association, we have taken the time to come up with a procedure to determine how and when we, as a community, will attempt to open the outlet stream. The situation is bound by three factors:

Physics, Safety, and Laws. Obviously, the getting to the outlet in the winter is a much different ballgame than it is in the summer time! If you have never tried it, make sure you put that on your bucket list. It can be a treacherous walk in the cold, ice, wet, rain, sleet, hail, etc. So, when the Lake Association makes a call on whether to attempt to open the outlet, we need to be sure that we are not putting folks in a dangerous situation. Protecting people is our first priority. Another factor that we have already tackled is the Laws. There are many laws that protect our precious outlet, and the Lake Association has found a way to follow all of them through the permit process.

Finally, the outlet dig-outs are bound by physics. As shown in the pictures on the following page, there are three types of situations that can govern the outlet when we try and deal with the high waters. In the top picture, you can see what happens at the Outlet under normal conditions. Water flows downhill from the Lower Herring Lake, through the outlet, into Lake Michigan. As Lake Michigan rises and backs up through the Outlet, the Lower Herring Lake matches the water level of Lake Michigan and water does not flow out of the outlet (or flows very slowly), this is the second picture. This happens when the water level is above the level of the dam and we are able to kayak all the way out to Lake Michigan from the Lower Herring. Should the outlet close when the Lower Herring Lake and Lake Michigan are at the same water level, it does not do any good to try and dig-out the outlet. This would be a whole lot of work for no benefit, because the water would still not flow. In the third picture, the wind and the waves have blown sand or built ice to block the outlet.

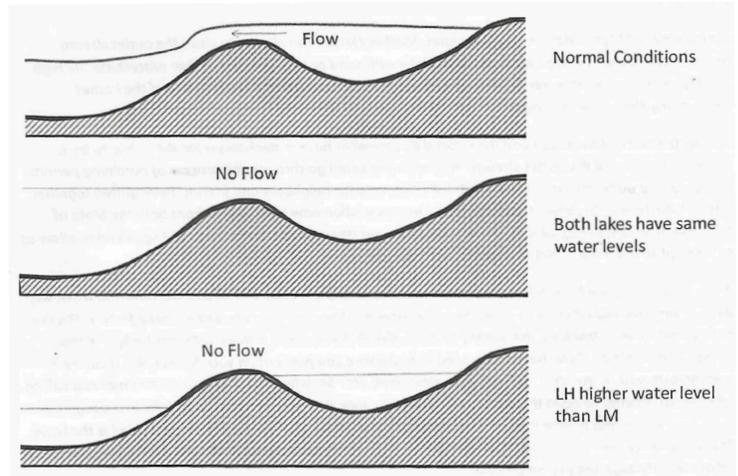
The Lower Herring Lake rises above the level of Lake Michigan. This is the situation in which our permits can come into play. However, depending on the waves and the winds on Lake Michigan, we may need to wait until the Lower Herring Lake is much higher than Lake Michigan or the wind and waves are minimal. We need the pressure head (potential energy) in the little lake to be able to overcome the

HIGHEST WATER LEVEL IN LIVING MEMORY - CONTINUED

forces of the winds, waves, and sand. Under natural conditions, eventually, the Lower Herring Lake would get so high as to go over the sand/ice dam and often scour a deep channel. With lots of effort or lots of money to pay excavators, we can sometimes help nudge that process along.

If we band together as a community, we can all help protect our shoreline and our homes! The Water Levels Committee continues to work toward helping to mitigate the damage of the high waters on the properties around the lake. Thank you so much for all of the support and volunteering that you, the members, have contributed so far to help!

-Sarah Delavan, Water Levels Committee



FALL 2019 AQUATIC INVASIVE PLANT UPDATE

We continue to closely monitor our lake for Eurasian Water Milfoil (EWM) and other aquatic invasive plants. Our partnership with Professional Lake Management (PLM) has been a mutually beneficial relationship. This spring PLM once again surveyed our lake for EWM and any other aquatic invasive plants. PLM detected a very isolated bed of Starry Stonewort, a particularly troublesome invasive if not caught early. As the attached PLM Treatment Map shows, we treated the few remaining batches of EWM as well as treating the Starry Stonewort. The location details of these treatments are attached. The cost for this Fall treatment was \$5,529.14. We want to once again thank our Riparian Owners for providing the necessary permission to treat our lake. We will continue our efforts to stay “on offense” with respect to these invasive plants. PLM will provide a post treatment summary for our review and planning. On a quick note, we did contact the Benzie Conservation District regarding their assistance/treatment for Phragmites. The BCD informed that they did see a need for Phragmites treatment this fall, BCD will monitor our lake this Spring.

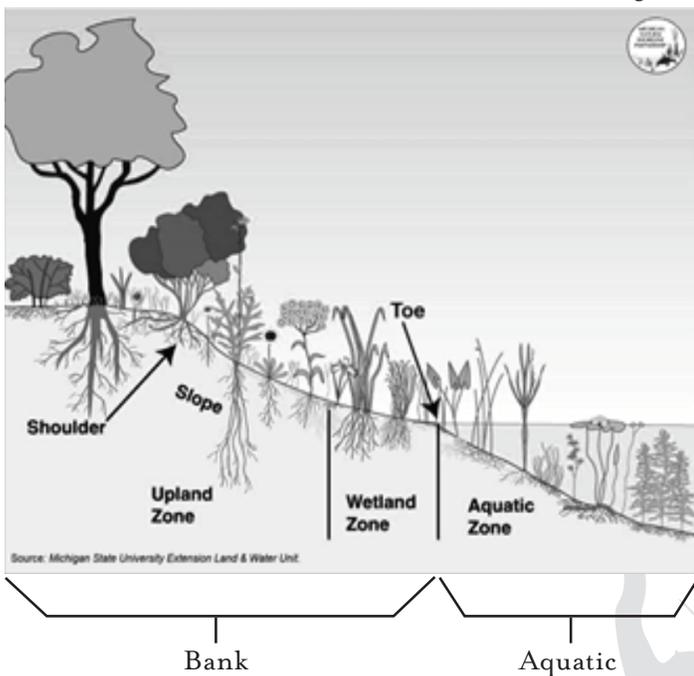


SHORELINE EROSION AND SHORELINE STEWARDSHIP

Michigan State University Extension hosted a Shoreline Stewardship workshop in July (2019), with strategies on how to restore and keep natural shorelines healthy. The Tip of the Mitt Watershed Council and Michigan DNR cosponsored the workshop.

Two common shoreline problems discussed at the workshop, that we on Lower Herring Lake have become aware of, are 1) **erosion of shoreline banks**, and 2) **degradation of aquatic zone vegetation**, extending out into the lake from the bank, where fish and other aquatic life are most abundant. See the diagram 1, below, showing a typical shoreline profile with the bank and aquatic zone.

Diagram 1



Problem 1: Erosion of shoreline banks is probably our biggest problem right now on Lower Herring. Bank erosion can be due to natural processes or to impacts of human activities, or a combination of both. As we are experiencing this year, natural processes such as wind and wave action, and changes in lake-levels, contribute to washing away or undercutting the bank. Human impacts include high boat wakes. Removing the native vegetation from the shoulder or slope also contributes to bank erosion. And over time, sand beaches or lawns that extend to the lake edge may lead to a more eroding shoreline.

Problem 2: Concerns have been raised by LHLA members about possible **reduction of the aquatic-zone vegetation** in LHL. Our natural aquatic vegetation supports the lake's fisheries and food web. A balanced system needs to be maintained. One major problem has been the arrival of invasive zebra and quagga mussels, that have proliferated and devour our native lake vegetation. This reduces the native food web richness, and can even tip the balance toward invasive plants taking over. We are now actively treating the invasive Eurasian milfoil, with good success so far. Nutrient pollution from fertilizers, animals or even septic leakages can further contribute to a take-over by invasive plants and algal blooms.

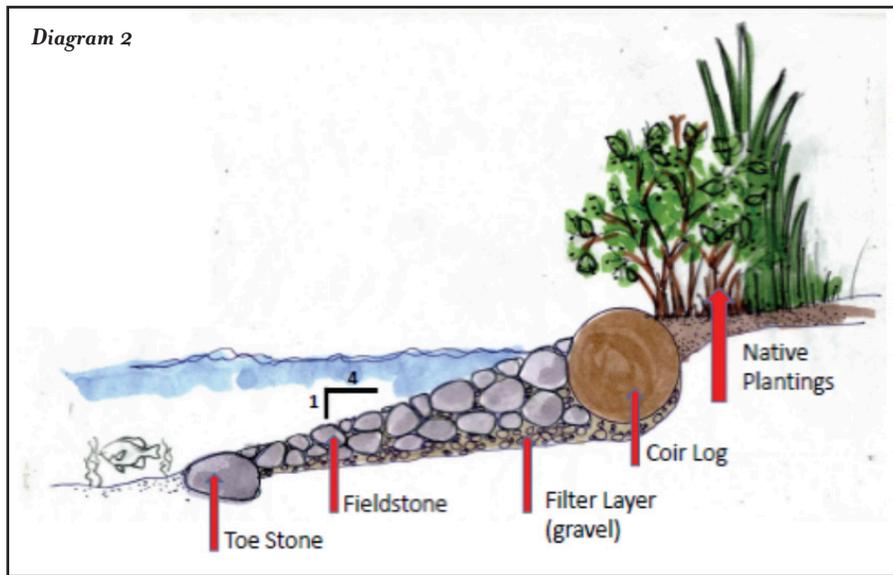
Take-Aways from the Workshop

There are **natural shoreline protections** that can be employed by lake association members, that can reduce high-water impacts, and also help maintain or improve the fish habitat. Some examples:

- Maintain or create “no-mow” buffer zones of natural vegetation at the shoreline, including on the shoulder and the slope. These zones stabilize shorelines, reduce erosion, and encourage native vegetation for natural habitat (insects that fish feed on, bird life, etc.).
- Allow, or even incorporate, woody debris along the banks, where this is feasible. Woody debris especially woody roots, provides important structural and food habitat, slows the impact of wave action and reduces erosion. Some methods of construction were shown at the workshop.
- “Bio-engineering”: This refers to restructuring of shorelines that have been eroded, or damaged by wave action or ice push. The methods involve installation of coir logs, creation of sloped gradients with sized cobbles, and replanting with native species. See diagram 2 on page 5.

Continued on Pg. 5

SHORELINE EROSION AND SHORELINE STEWARDSHIP - CONTINUED



The above shoreline protection methods require time. The example we visited on Pickerel Lake was a restoration of a highly eroded shoreline, carried out by Tip of the Mitt Watershed Council in 2014. By 2019, the resulting new shoreline is spectacularly successful, and has even extended the shoreline. So this restoration approach does work.

For this year, though, with severe flooding from high increases in lake level at LHL, combined with stormy winds and waves, the first two methods may not be sufficient. The best option, and also the most expensive, would be the “bio-engineering” approach, which includes supporting the bank with strategically placed rock and staking of the coir log. I will look into this further with practitioners who install the bio-engineered

shorelines, and report to the LHLA about their advice.

If LHLA members have experienced loss or degradation of shoreline, and are interested in learning more about these methods, please let me or other board members know. amberry@ucdavis.edu

In addition, it will be useful to establish baseline surveys of both the terrestrial shoreline and the littoral zone of Lower Herring Lake, to monitor health over time, using the drone technology that several lakes nearby are also planning to use (Crystal Lake, Platte Lake, Glen Lake, Green Lake, and others). These imaging surveys taken by Zero Gravity Aerial will be combined with shoreline surveys described in the Herring Lakes Watershed Protection Plan.

STORM DAMAGE SURVEY

Let us know if you had any of the following problems due to the recent storms and lake-level rise. If yes, email to amberry@ucdavis.edu

Flooding and erosion of shoreline.

Tree fall or major branch break.

Flooding of yard.

Loss of boat or other recreational gear.

Flooding of crawl space/basement.

Dock floated away.

Comments:

WHAT'S IN IT FOR YOU??– LHLA MEMBERSHIP BENEFITS

The Lower Herring Lake Association was founded in 1963 by riparian property owners working to maintain and protect our lake's natural beauty, keep it healthy, sustain its water quality, and ensure it's ongoing recreational opportunities. After 2000, membership was opened to to enable eligible non-riparian owners in the area adjacent to LHL to participate in the organization and be active in its efforts.

Today we plan and operate as a part of the larger Herring Valley Watershed Coalition connected to the other watersheds in the surrounding area.

The LHLA is a 501(c)(3) non-profit organization that raises funds through membership fees, contributions from individuals, businesses, other non-profit groups, governmental bodies, and qualifies for both private and public grants and other qualified gifts to do its work.

LHLA Members benefit from:

1. Having a primary organization that deals with our issues and works with a coalition of various other organizations on larger watershed issues;

2. Keeping the outlet open for consistent lake levels and Lake Michigan access;

3. Monitoring and keeping the dam sound and functional;

4. Monitoring and maintaining water quality;

5. Monitoring and controlling shoreline invasive plant species and underwater weeds;

6. Learning information about stewardship strategies that can be used for shoreline protection and lake health;

7. Our working with local and state governments to maintain fish populations for area fishermen;

8. Our working with local and state governments to ensure watercraft access and law enforcement;

9. Having a go-to organization to hear issues and act as a sounding board related to Lower Herring Lake and the watershed area;

10. Ensuring that matters related to and that impact Lower Herring Lake and the watershed area are handled professionally and legally for LHLA members.



Photo Credit: Rob de Bruin

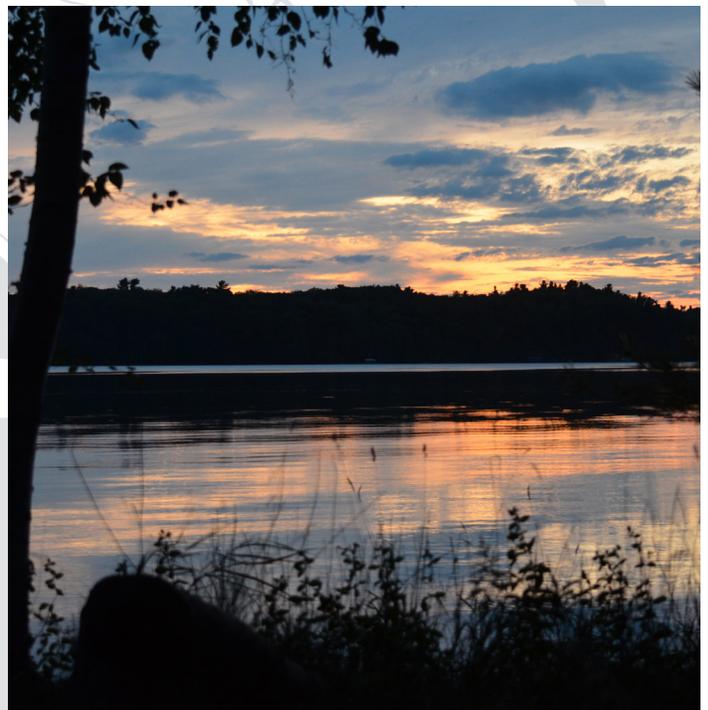


Photo Credit: Rob de Bruin

LHLA FACEBOOK PAGE

Thank you to all of the LHLA members who have liked, are following, and have contributed posts and/or comments to the LHLA Facebook page. We hope the page has proven helpful to members for learning of events and issues, as well as for gaining other useful information.

Thank you for your patience as I familiarize myself with the workings of running a FB page--suggestions are always welcome! In the future, visitor posts will be more visible. I encourage all association members on Facebook to follow the LHLA page. It's a great way to quickly and easily disseminate association, lake, and area information. We're looking forward to more of your posts and photos!

HELP WANTED!

If we learned anything this fall from the high waters and the resultant damage to shoreline, vegetation and cottages, it was that we need quick response. Skip Noble is enlisting some year-rounder help in monitoring the Outlet and looking for indications that a dig-out might be imminent. But also needed is a call list of volunteers who are willing to head over there when needed. So if you are around most of the year, or even if only in summer, and are willing and able to pick up a shovel and help, send an email to Vern (Skip) Noble at vh noble@gmail.com and join the team!



Photo Credit: Rob de Bruin

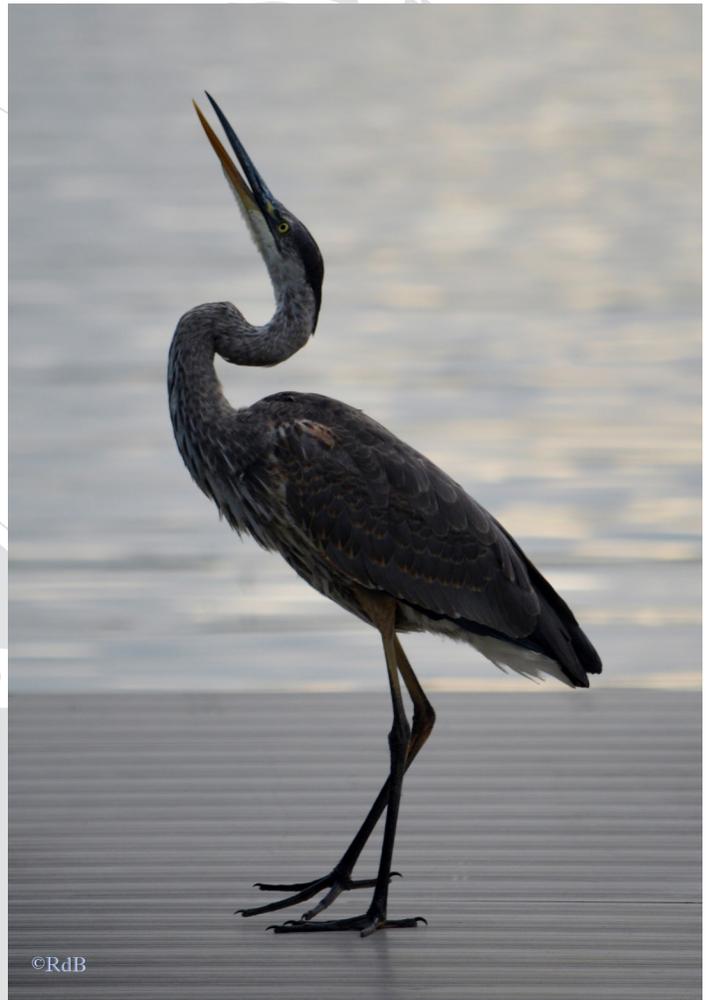


Photo Credit: Rob de Bruin



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2019 LHLA ANNUAL MEETING - LUNCHEON THANK-YOU

Thanks to all the volunteers who contributed to the potluck luncheon. Everyone enjoyed the delicious variety of salads, baked beans, deviled eggs, and desserts that people brought. Once again our meeting fell "on top of" July 4th. Your contributions during this busy week are greatly appreciated!

Special thanks to:

Set-up and Clean-up crews: Tom and Carol Glarum, John Meade, Todd and DeAnne Frank, board members, and the numerous others who pitched in.

Kitchen helpers: Carol Glarum, Arden Poole, DeAnne Frank, Chris and Joe VanLinden.

Tablecloths, ice tea, and lemonade: Jenny Schmidt and Watervale, John and Wilma Hultman for delivering and returning.

Best Ever Bread: John Hultman and Dori Turner

Sue and Mark look forward to reaching out to volunteers via email next year. Thanks for sharing your emails.

- Sue and Mark Smith

NEXT YEAR'S ANNUAL MEETING: NOON ON FRIDAY JULY 3