



Lake Leelanau

L A K E A S S O C I A T I O N

Winter/Spring 2018

News & Views from the Watershed



Frozen South Lake Leelanau

Photo Credit: Jeremy Tobin / Tobin Tree Service

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There is no winter
without
snow,
no spring without
sunshine,
and
no happiness
without
companions.

-Korean Proverb

Mission Statement

As a volunteer organization, our efforts are directed towards maintaining and improving the waters of Lake Leelanau and its watershed for all to enjoy. We do this by educating our members and the public at large through a variety of activities. We also participate in township, county and state planning and development proposals that may affect the quality of the lake and its watershed. We are here to serve the Lake Leelanau riparian owners, businesses, anglers and users and we welcome the involvement of interested people or groups.



Board of Directors

OFFICERS

Nick Fleezanis, President
 313-418-8248 drnick9744@yahoo.com
Jeff Sanborn, Vice President
 231-946-8680 JFSanborn80@gmail.com
Dan Sweeney, Treasurer
 231-256-9182 dan.sweeney@hotmail.com
Cindy Kacin, Secretary
 231-256-8873 cakacin@charter.net
George Prewitt, Past President
 231-499-4470 geoprewittjr@charter.net

TOWNSHIP REPRESENTATIVES

John Popa, Bingham
 231-947-1088 jjpopa@charter.net
Jamie Damm, Centerville
 231-228-2409 jamedamm@gmail.com
Robert Bosch, Elmwood
 231-421-1676 rbosch10@yahoo.com
Wayne Wunderlich, Leland
 231-256-9294 cedarhavencot@hotmail.com
Jeff Green, Leland
 231-256-0644 green@indiana.edu

COMMITTEE CHAIRS

Jim Kacin, Fish
 231-256-8873 captainjimbigfish@gmail.com
Bonnie Gotshall, Water Safety
 231-929-2177 gotshall2002@hotmail.com
Barb Kobberstad, Membership
 231-256-8802 bkobberstad@gmail.com
Hugh Farber, Water Quality
 231-256-7187 hughnbetty@gmail.com
Patrice Korson, Communications
 231-994-2000 korsoncreative@gmail.com
David Baty, Website/Social Media
david@lakeleelanau.org



Credit: Jeremy Tobin / Tobin Tree Service

President's Letter by Nick Fleezanis



Another year comes to a close with winter's cold breath changing our lake into the frozen splendor for iced skaters, ice boaters and ice fishermen. The Lake Association looks back over this year with many accomplishments that will improve our beloved lake and maintain its beauty and grace for us all to enjoy.

Advancements in controlling swimmers itch were made with the removal of Mergansers from the lake, as well as a shoreline drone study and algae growth study (thanks to Jeff Green and John Fitzpatrick). Our members were also active in speaking out in support of a septic ordinance that is sadly needed in Leelanau County to protect our lake from needless contamination.

Dan Sweeney stepped in to replace David Hunter as our treasurer and has done a yeomen's job of keeping our finances in order and overseeing our 501c3 audit. Dan has decided that it is time for someone else to assume his role as treasurer; therefore we are looking for a brave and qualified member to step into his shoes.

Cindy Kacin (secretary) has done a magnificent job keeping the minutes of our meetings, distributing them to all board members and taking leadership in getting the lake association involved in the Lake Leelanau Street Fair.

Our former president, George Prewitt, has been a constant lake advocate on the board and brought his experience and leadership to bear at all of our meetings. We look forward to his continued support.

Wayne Swallow (watershed biologist) and I were immersed in the Michigan Swimmer Itch Partnership organization in developing a state wide Merganser control policy and the production of the new Land Owners Handbook with Patrice Korson (our new communication chair). Wayne has been a true workhorse of the association, however, he may be leaving us to begin a new entrepreneurial part of his life developing a swimmer itch preventative cream. Therefore, we are going to be looking

for a new water shed biologist in the coming days.

Barbara Kobberstad (membership chair) has been busy all year maintaining memberships, communicating with current and new members, and shaping our membership database. Without her tireless work our organization would flounder.

Bonnie Gottshal (water safety chair) has been our steward for water safety insuring that buoys are placed at critical points in north and south lake and narrows, and replacing lost or damaged buoys. She also acts as liaison with the Sheriff's marine safety personnel.

Hugh Farber (water quality chair) has brought his knowledge and experience to issues of concern that our lake is changing and we need to be vigilant and guard against misuse and unnecessary use of products that cause lake deterioration. He serves on the Leelanau Clean Water organization and has done so since its inception.

A special recognition to our new web master David Baty who has taken over the management of the web site and the Facebook page. David has taken over from Mark Smith who brought our organization into the social media age and published many newsletters. David's addition to our organization will bring us forward and allow us to communicate more effectively to our membership.

Patrice Korson has volunteered to come on the board as our communications chair. She has taken over from Mark Smith in the production of our newsletters and is instrumental in the publishing of the new Land Owners Handbook. Patrice's creativity and vitality has brought a new dimension to the board's ability to outreach to the community.

Jim Kacin came on the board and replaced Pete Taylor as the Fish Chair. His effort in managing the Kids Fishing Day and bringing his animal displays made the event a huge success. Unfortunately Jim's health will preclude him from heading up the Kids Fishing Day 2018, so we are looking for a volunteer

to head-up the most important event that we host.

All of our township representatives need to be thanked for attending our meetings and contributing to our success. Wayne Wunderlich (Leland, who founded the lake association and was president for 10 years) is our historian and brings a wealth of knowledge to all of our board meetings. John Popa (Bingham), a tireless board member instrumental in initiating and installing the lake level monitors in South Lake, the narrows and at the dam in Leland. John is a powerful force on the board and in the county. Jeff Green (Leland) has volunteered in so many areas and is a true steward of the lake, without his knowledge and help many projects would not have been done. Bob Bosch (Elmwood) has lent his expertise and dedication to the board. Jamie Damm (Centerville) is our newest township representative and has been an invaluable asset to all of our proceedings and efforts.

I would like to recognize Steve Lindo, who came on the board as a volunteer to spearhead our outreach and fundraising effort with posters and magnets that were distributed widely in the county. Steve has been an imaginative and resourceful participant on the board.

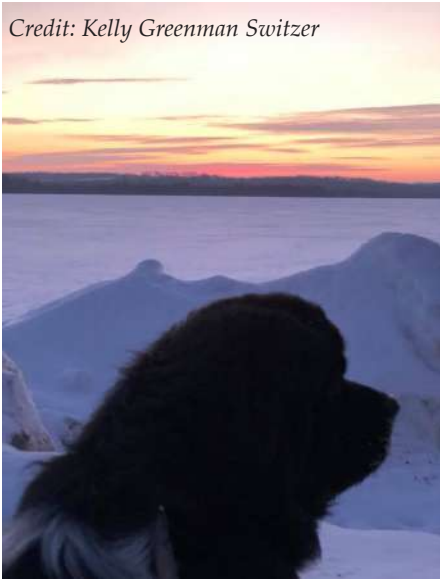
We look forward to a new year and new leadership from our vice president Jeff Sanborn. Jeff has been active in attending conferences and assisting with the boat washing effort we participated in with the Benzie Conservation District. We look forward to his scope of leadership and energy to lead us on to bigger and better things in the coming year. He will take over as president at our next annual meeting.

Take a moment to thank each of these board members for their volunteer efforts in making this a strong and productive association. And as a closing note, mention to your neighbors and friends that live on or use our lake to become members and help in the cause of keeping our lake a true jewel of the county.



Winter on Lake Leelanau

Those who choose to spend the colder months in this northern Michigan winter wonderland can't get enough of all that frozen Lake Leelanau has to offer. The winter fun awaits.



Credit: Kelly Greenman Switzer



Credit: Ben Coughlin



Credit: Patrice Korson

To appreciate the beauty of a snowflake it is necessary to stand out in the cold. -Aristotle



Credit: Ben Coughlin



Credit: Ben Coughlin



Credit: Kelly Greenman Switzer



Credit: Cathy Sehnert

Wayne's World

by Wayne Swallow, *Water Quality Consultant*



SWIMMERS ITCH PROGRAM NOTES

2017 Swimmers Itch (SI) Activities & Reminders

Last fall's newsletter summarized the 2017 SI activities, which we presented in bullet form. The entire report is now available and is posted on our website. <https://wp.me/a6Dljc-La> It includes the results of all three Leelanau County Lakes (Leelanau, Lime and Glen). Please read the report for yourself. Work completed on other MISIP lakes (Crystal and Higgins) can be read on the MISIP website <https://www.misip.org/reports/>. We won't revisit the long list of accomplishments carried in our fall newsletter. Please review the newsletter yourself: <http://lakeleelanau.org/fall-2017-newsletter/>. However, a few are worth reiterating.

First, researchers investigated the effectiveness of the use of copper sulfate on South Lake. The use of this chemical was not as effective as folks might hope for. The SI life cycle is different between North Lake and South Lake. The common merganser and Stagnicola snail are the primary vectors on North Lake. That is why we will trap merganser broods again this year and try to locate nests to cover after the broods hatch. Our objective is to close off the nests, and then only have to trap periodically.

The SI cycle on South Lake is entirely different. While we see occasional common mergansers on South Lake, we had none nesting in 2016. Freshwater Solutions (FWS) collected fecal samples from young mallards and geese on South Lake. They identified five different parasites, three from the mallards and two from the geese. We do not know the intermediate snail host for these life cycles yet, and will continue to learn more about them in 2018. However, with mallards and geese being identified as the primary host, it is prudent to reduce interaction with these species. We've received numerous complaints from members about neighbors feeding

mallards. We will remind you again... DO NOT FEED THE MALLARDS. Geese like to graze on well-manicured lawns. Be diligent and chase them away....better yet develop a natural buffer zone along your lake shore to keep them off the grass entirely.

2018 Swimmers Itch Budget

LLLA will receive \$32,000 this year as the result of being a member of MISIP. Ten thousand dollars (\$10,000) is repayment of 2016 expenses, and \$22,000 is for 2018 control activities. All the sampling and qPCR analysis, trapping/relocation, and nest location (if paid contractors are used) are control activities. Items 3a, b, and d that follow are research. LLLA will be raising additional funds to fund this critically important work. Additionally, this work will provide information for an NSF grant application by FWS and two universities. The NSF grant would provide extensive funds for continued monitoring of SI.



Credit: Patrice Korson

Michigan DNR Merganser Permit Program

Michigan Swimmers Itch Partnership (MISIP) has been working collaboratively the last two years with the Michigan Department of Natural Resources (MDNR) to develop a permit program for trapping and removing mergansers. The Michigan Natural Resources Commission (NRC) approved a new rule to establish this permit system in February. LLLA will be applying for a permit as this newsletter goes to press. The permit will be good for three years, and allow us to hire an approved firm to trap and remove mergansers. The Glen Lake Association has formed a trapping crew that will remove mergansers from North Lake at a much reduced cost than prior years. We will still need “spotters” again from North Lake to complete the trapping task. It would be nice if you were spotters last year to sign up again. There were about eight families that performed an invaluable service. The activity will last for about one month. It will involve watching the lake for broods of mergansers and then alerting Wayne Swallow. Please email Wayne Swallow (leelanaubound@gmail.com) if you can volunteer again.

Another volunteer activity is to help locate nests.

This activity will need two people working as a team for approximately one month, while the hens are incubating their broods. Based on our experience last year, we believe we have four nests on North Lake, generally located in the Robinson Bay area. The activity will involve one person watching the merganser pair when the female is on the lake with the male “resting” from her incubation duties. Once

she leaves the lake, the other person will watch at potential nest holes that we have identified from aerial drone flights. We have several holes that are likely nests. So the team will spend a few days watching each hole to determine which may be the actual nest. Once a nest is located, we will have a biologist confirm its use. We can then cover the nest hole once the brood has left. This will prevent the female from nesting in 2019, and hopefully seek another lake. Data is becoming more definitive that nesting sites (trees) may be the limiting factor for mergansers nesting on any particular lake. While we did not capture any broods in the Nedows Bay area, that area had the most reported cases of SI, and might mean a fifth nest area.

2018 Field Work

Contracts with Freshwater Solutions and Glen Lake (trapping)

1. Merganser trapping – merganser broods will be trapped and removed as stated above. (GL)
2. Locating Merganser nests – finding nests as stated above (LLLA volunteers)
3. Freshwater Solutions (FWS) work.

a. Multi-lake assessment (North & South Lake). This title seems like a misnomer, but it links this work to FWS studies in other lakes. Its purpose is to collect snails, determine species of the parasites, determine parasite infection rates, and train volunteers on how to collect water samples. The data are to be collated in preparation for an NSF grant application. It should be noted that FWS is also working with a technology company to make the qPCR analysis widely available to the general public. Within a couple years it is likely that riparians can measure cercariae concentration in the water with a small qPCR device linked to their cell phone. That is exciting!

b. Continue water sampling at sites on North & South Lake for parasites (cercariae). Training provided above. Samples will be collected and analyzed by qPCR. This information is needed as part of the MDNR permitting process and also to determine how effective our controls are.

c. Refine and expand DNA analysis of cercariae to enable identification of different species of parasite. Right now our ability to differentiate



Female merganser leaving her nest in a tree cavity

parasites is limited to just a few species. This work is needed to help with South Lake identification of parasites, and hopefully lead to a control mechanism.

d. Cercariae behavior. FWS has conclusively shown that the SI cercariae are found predominantly in the top six inches or so of water. However, there are other questions that are important to inform members and visitors. What is the effect of wind? Does it make a difference to swim off-shore in deep water? Are cercariae carried out of North Lake via the Leland River causing SI in Lake Michigan? Answers to these questions will be used to develop a brochure providing members and visitors with better SI information.

Aerial Surveys by Wayne Swallow

Recall that we performed drone flights on North and South Lake Leelanau last year. We have not started to review the footage yet, but captured this one frame to show the possibilities. We're looking for many things including invasive species, erosion, and Cladophora. The frame below appears to be Cladophora, an indicator of over-fertilization, septic or other reasons. If verified as Cladophora we can provide the landowner guidance of possible causes and solutions. We are looking for volunteers to help us collect samples to verify actual field conditions. Contact Wayne Swallow at leelanaubound@gmail.com.



Drone photo of possible Cladophora growth

Golden Brown Algae

Recall that the fall newsletter mentioned that Jeff Green and John Fitzpatrick worked with Three Lakes Association on golden brown algae (GBA). GBA is the unsightly and sometimes slimy deposits of diatoms (a type of algae) that grow on the bottom of many areas of North and South Lake Leelanau. Water samples were collected from the surface column, one inch below the water/sediment interface, and at the sediment/water interface. The samples were analyzed for soluble reactive phosphorus, which is the amount of phosphorus that is readily available to be used by algae. We have received



Example of Golden Brown Algae

copies of just the preliminary data. Further analysis is to be completed by various universities. However, the preliminary data were quite noteworthy.

The water column data showed lower levels of phosphorus (0.7-0.9 parts per billion – ppb) than we typically get in our water sampling program. We normally get about 8 ppb in our sampling in the middle of the lake. One might expect some difference since LLLA measures total phosphorus, and this study measured soluble phosphorus (just a portion of total phosphorus). The samples from below the sediment/water interface ranged from 195 ppb in July down to 26 ppb by August, and the sediment/water interface samples ranged from 203 ppb in July down to 20 ppb in August.

From a science perspective, many questions arise from the sample in comparison to LLLA sampling, and what does this data tell us about the GBA deposits? Is there anything we can do as riparians to mitigate the GBA deposits? We will have to await further technical analyses from the universities. Stay tuned.

From Vice President Jeff Sanborn



Just a short article from me this time around. I'm currently in sunny Florida where it's 85 degrees.... not cloudy, zero degrees and snowy!

As I look ahead, my main concerns this coming summer are going to be getting local businesses concerned about Swimmers Itch and their bottom line, as well as dealing with Plant Invasive Species.

My plan includes going around the county to those businesses directly affected by tourists using Lake Leelanau... I'm talking about the visitors who are actually coming to the county BECAUSE of the lake, either North, South or both. If Swimmers Itch is not somewhat controlled, just how many visitors would go somewhere else? So my idea is to approach those businesses to ask for financial assistance to help drive research and bird control. I think this is a critical matter and it is important to get the local businesses involved, and hopefully have them be part of the solution.

Also, I was involved in Invasive Plants last year and plan on continuing this year, as I thought I found a sample of Eurasian Water milfoil. So, here I go and look again, dragging the bottom. One good thing is the drone video taken last year showing those areas in the lakes with plant growth. See a snapshot in Wayne's article on page 7.

I hope you all have had a great winter and I hope to see you all this summer on the Lake.

Can You Help?

The revised *Lake Leelanau Land Owners Handbook* is coming this spring. Last fall we requested that community members provide us with essays (250-300 words) telling us why they love Lake Leelanau. These stories can be of historical nature, or just your memories of life on Lake Leelanau through the years. You are welcome to include photos with your submission, but it is definitely not required.

We could use four or five more stories for publication in our book. If you're bashful, and don't want your name to appear, we can publish it anonymously. Please send your submissions to Wayne at leelanaubound@gmail.com.

Communications Update by Patrice Korson



I couldn't resist sharing this winter photo. I love the changing seasons here in Leelanau County.

The new handbook is well underway and the finished product is going to be something to behold. If you still want to submit a story, please don't hesitate any longer, as the book will go to press in about 4-6 weeks. Again, stories can be sent to Wayne Swallow at leelanaubound@gmail.com.

If you have any photos of life on the lake that you would like to share for future newsletters, send them to my email... KorsonCreative@gmail.com. I can also be reached on my office phone at 231-994-2000. Happy Leelanau Winter, everyone.

A SPECIAL THANK YOU
to these businesses, whose donations of food & beverage made our annual Legacy Event in August a huge success.

Big Cat Brewing Co.
 Boathouse Vineyards
 Dairy Lodge
 Hansen's Foods



Membership Update

by Barb Koberstad



Thank you to you, our current members. Your financial support is invaluable as we strive to effectively maintain and improve the quality of our lake. Our current membership number is 378. While this number is up, it falls short of the 1400 riparians on Lake Leelanau. Membership reminder postcards will be mailed out to those whose membership lapsed in 2017.

VOLUNTEERING

I would like to extend an invitation to you to pitch in and help! The board members of the Lake Leelanau Lake Association are all volunteers. They need your help! Please look over the list below and see if there is a place for you to "give us a hand"! Contact the person listed if this is an area you can help out in.

Door to door distribution of our revised Handbook

(One time distribution is scheduled for May or early June 2018.)
 Nick Fleezanis / 313-418-8248 / drnick9744@yahoo.com

Mail membership reminders

(This is an ongoing project as reminders go out on a monthly basis.)
 Barb Koberstad / 231-218-1033 / bkoberstad@gmail.com

Merganser spotters on the lake and in the trees

(Spotters are those who are often on the lake, able to lookout for merganser nests and report any sightings in a timely manner.)
 Wayne Swallow / 231-649-2087 / leelanaubound@gmail.com

Search for Vice President

(The new Vice President will begin a 2 year term starting in August)
 Jeff Sanborn / 231-946-8680 / jfsanborn80@gmail.com

Work the hotdog booth at the Lake Leelanau Street Fair

(This is a one-day event. The LL Street Fair is Sept. 15, 2018.)
 Cindy Kacin / 231-256-8873 / cakacin@charter.net

If you have any questions or comments, please feel free to contact me, or any of the board members. I can be reached via email at bkoberstad@gmail.com or via telephone at 231-256-8802. **Thank you!**

MEMORIAL

James Rixey of Cincinnati passed away in December, 2017. We thank his family for their memorial contributions made on his behalf, in honor of his love of the lake.

*Dr. Jack and Nancy Gottschalk
 Buffie & Eppa Rixey Family Fund*

Volunteer! Get Involved!

THANK YOU

to the following businesses who show their love of the lake through membership

Amber Sands Resort
 Bluebird of Leland
 Boathouse Vineyards
 DeWeese Hardware
 Hansen Foods
 Harleys Inc.
 Korson Creative
 LL Narrows Yacht Club
 Lake Leelanau RV Park
 Leelanau Conservancy
 Leelanau Enterprise
 Riverside Inn
 Stander Marine
 Timberlee Property Owners
 Whaleback Inn

If you are a member of the LLLA and your business isn't listed here, please let us know so we can give you the recognition you deserve!

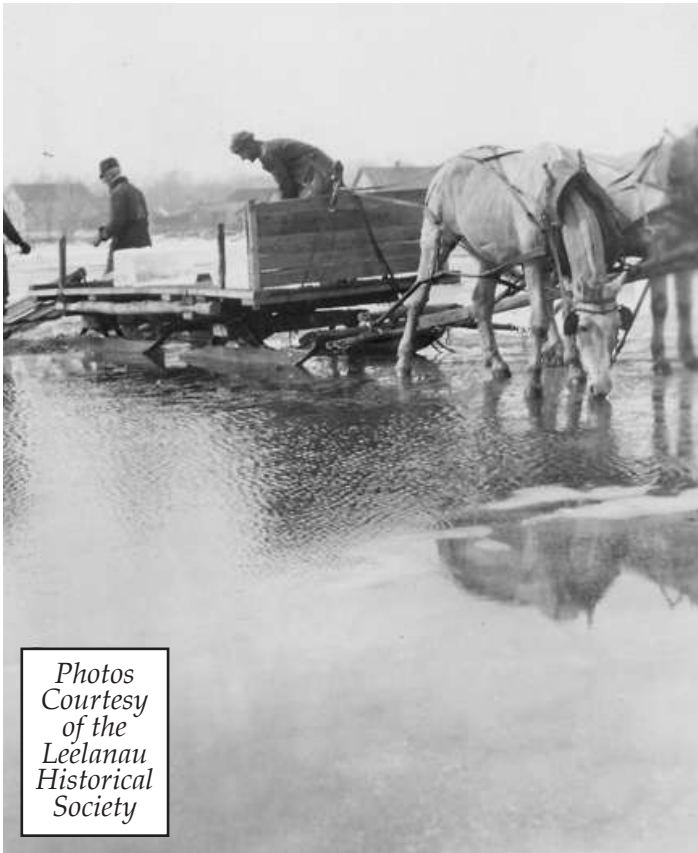
If you're NOT a member but would like to be, visit lakeleelanau.org or contact Barb at bkoberstad@gmail.com

Leelanau's Ice Harvest

For many years, in the days before electric refrigeration, ice would be harvested from the lake for use in businesses and homes throughout the year.



Harvesting typically took place for a couple weeks in January or February, and it was an arduous task. The local men would use hand saws and gas-powered circular saws to cut blocks of ice from Lake Leelanau. The large slabs of ice, weighing upwards of 150 lbs each would be loaded onto horse-drawn sleds, and in later years, truck beds. They would be hauled to the ice houses where they were packed in sawdust and stacked. While having ice for refrigeration in the warmer months was a benefit for all, it was **CRITICAL** for local fishermen, who used it to deliver fresh fish to customers all over the area.



Photos
Courtesy
of the
Leelanau
Historical
Society

Water Quality Report *by Hugh Farber*



In regards to the water quality issues of Lake Leelanau, we continue to work with other groups from the Leelanau Clean Water task force (LCW) seeking a septic tank inspection/monitoring process. The concern is that partially treated waste water from the drain field or tank could be reaching the lake and/or impacting the on-site drinking water source. The affect in the lake could be increased weed growth near shore, faster eutrophication, coliform-related illness for swimmers, etc.

The drinking water issue relates to potential well-known coliform effects. It is not possible to tell what the political output (ordinance?) will look like if one

is enacted. The ongoing effort and progress are reviewed in local media and on the county website. Whatever the output of these proceedings, the Commission review should create a greater awareness of the concern and result in more attention on the part of the property owners near lakes and streams. This could result in some voluntary evaluations which could lead to full inspection and if necessary some voluntary upgrading of septic systems. Please note the tentative nature of these comments. Time will tell.

I encourage all to review the Leelanau Clean Water minutes on the county website and the various lake association websites. I also encourage all who use the lake to watch for developing issues, particularly near the shoreline of streams and lakes, for example, excessive or unusual weed growth. These issues can and should be reported to the LLLA, to be documented and possibly dealt with.



Glorious Sunrise over Lake Leelanau

Photo Credit: Kelly Greenman Switzer



Lake Leelanau Lake Association
P.O. Box 123
Leland, MI 49654-0123

Photo Credit: Kelly Greenman Switzer



*Snow provokes responses
that reach right back
to childhood.*

- Andy Goldsworthy



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