

**LLA Annual Meeting
August 28, 2021**

L  **NG**
LAKE

www.LongLakeAssociation.com



Agenda [Meeting Time 120 Minutes]



- Call to Order
- Acceptance of Minutes from 2020 Annual Meeting
- Presidents Message – Brent Schnell
- Treasurer's Report
- Audit Report
- Committee Reports
 - Lake Management Update
 - Water Quality
 - Eurasian Watermilfoil Treatment
 - Zebra Mussel
 - Water Safety/Road Clean Up Update
 - Island Maintenance Update
 - Fishing/Loon Update
 - Membership Update
 - Communications/Long Range Planning
 - Community Affairs Update
- Announce New Board Members (if applicable)
- Questions and Answers Session
- Adjourn



President's Message



Brent Schnell

- Thank you to all our current members for your continued support of the Long Lake Association (LLA)!
- We will continue to strive to accomplish our main mission “to preserve Long Lake as a natural resource and recreation area through protection and prudent use of its environs.” For example, we have had great success in controlling the levels of Eurasian Watermilfoil (EWM) thanks to your support.
- We will continue to address this aquatic invasive species and our vision is to become a resource to provide education to the LLA members regarding other aquatic and terrestrial invasive species. For example, we will provide info on invasive species currently impacting the trees in our watershed including Purple Loosestrife, Oak Wilt, Beech bark disease (BBD), Hemlock Woolly Adelgid (HWA).
- We also have discovered a new aquatic invasive species in Long Lake in 2020: zebra mussels. We have created a new committee to specifically respond to the zebra mussel threat. In addition, our sister organization, Long Lake Foundation, has created the “**LLF Invasive Species Defense Fund**” to help fund the study and remediation of both aquatic and terrestrial invasive species in and around Long, Mickey and Ruth Lakes.



Budget Summary - Income



FY 2020-21 [September 1, 2020 through July 31, 2021]

	Budget	Actual as of 7/31/2021
<u>INCOME</u>		
Contributions and Gifts	\$5,500.00	\$8,630.75
Membership Dues	\$14,875.00	\$14,862.00
Riparian Subscriptions	\$600.00	\$548.00
Partner Contributions:		
Long Lake Township, excludes weed treatment	\$10,000.00	\$1,921.25
Long Lake Foundation	\$2,500.00	\$1,921.25
Oleson Foundation	\$2,500.00	\$1,921.25
Other (Travel Mugs)	\$0.00	\$1,225.00
Total Income	\$35,975.00	\$31,029.50



Budget Summary - Expenses



FY 2020-21 [September 1, 2020 through July 31, 2021]

EXPENSES

	Budget	Actual
Administrative & Financial (Brent Schnell, Janice Moy, Wendy Wares)	\$3,545.77	\$3,116.80
Communications (Rick Kiehle)	\$3,330.00	\$3,518.53
Membership/Nominating (Becki Watson)	\$2,500.00	\$2,623.65
Lake Management (Brent Schnell, Rick Dahlstrom)	\$22,830.00	\$5,100.00
Lake Science Committee: (NMC Internship, partners \$4,500) (Barry Lishawa, Len Klein)	\$7,563.00	\$ 9,058.50
Fishing and Wildlife (Terry Motley)	\$ -	\$ -
Island Maintenance (Adam Adamczak)	\$1,000.00	\$ -
Water Safety (Mark Cerny)	\$0.00	\$0.00
	<u>\$40,768.77</u>	<u>\$23,417.48</u>



Budget Summary – Fund Bal.



FY 2020-21 [September 1, 2020 through July 31, 2021]

Beginning Fund Balance	9/1/2020	\$24,789.42	
Fund Balance Change		\$7,612.02	\$7,612.02
Reconciliation Summary register balance as of	7/31/2021	\$32,401.44	



LLA Audit Results



Cherry Capital Accounting

4446 Bridlewood Dr., Traverse City, MI 49685

August 16, 2021

Long Lake Association Inc.
PO Box 257
Interlochen, MI 49643

To whom it may concern,

At the request of Janice Moy, I have reviewed the attached Long Lake Association, Inc. financial documents. Based on my 38 years' experience as an accountant, I have found the statements are free from material error. My review should not be construed as a forensic audit, which is used to derive fraudulent evidence.

The balance sheet as of 7.31.21 accurately reflects the cash basis banking records (Honor Bank) provided. The fund balance per the records is \$32,401.44. It was noted that there were no checks issued to vendors in July that were outstanding as of July 31st.

The Statement of Income, Expenses and Fund Balance for 9.1.20 – 8.31.21 (actual ending date is 7.31.21) accurately reflects the cash basis bank documents or disbursement records provided as of July 31st. Total actual income reported is \$31,029.50 and total actual expenses reported is \$23,417.38.

No individual deposits were reviewed or compared to the statement of income. I was able to trace randomly selected vendor invoices to the statement of expenses. Lastly I was also able to trace the ending fund balance to the bank statement provided for 7.31.21.

My review was also conducted on the records as provided, which were essentially the cash basis Honor Bank documents. No review was conducted of receivable balances due or any outstanding disbursement invoices to be paid. No review was conducted of budgeted information as compared to fiscal year-to- date actual spending.

Thank you for the opportunity to provide you the financial services requested. If there are any questions or concerns, feel free to contact me at 231.632.5627.

Cordially,

A handwritten signature in black ink, appearing to read "B. Crouch".

Brian Crouch – Cherry Capital Accounting



Lake Management –Water Quality



Co-Chairs / Len Klein/Barry Lishawa



LLA Lake Management Water Quality team with 2021 including Dr. Roeper, Phyllis Laine and the LLA Summer Interns:

- Meagan Walters
- Kesley Mills



Long Lake: 2021 Water Quality Report



Presented by Meagan Walters and
Kelsey Mills



Meagan Walters

- Grew up and currently resides in Traverse City
- Previously obtained degree through Michigan Technological University
- Returned to school to pursue a career in conservation (Freshwater Studies through NMC)
- Also working as an intern at Grass River Natural Area
- Enjoys hiking with husband and toddler
- Special interest in Herpetology (study of reptiles and amphibians)



Kelsey Mills

- Resident of Fife Lake
- Freshly graduated from NMC (specifically from the Freshwater Studies Program)
- Varsity Volleyball Coach at Forest Area Community Schools. (Go Warriors!)
- Huge in environmental stewardship. I love to educate others and clean up highways and beaches.





Our Mission



Analyze the health of Long Lake, Mickey Lake, and Ruth Lake through the collection of physical, biological, and chemical data.

Report and share our findings to inform lakefront property owners and the community.





YSI Professional Plus Multiparameter Monitor



- Generously funded by the Oleson Foundation, Long Lake Foundation, Long Lake Township and Long Lake Association
- One of the most advanced water quality measurement tools on the market
- Measures temperature, depth, dissolved oxygen, conductivity, and pH





Parameters Measured



- Temperature: in Celcius
- Depth: in meters and feet
- Dissolved Oxygen: the amount of oxygen present in the water
 - Too low and some aquatic species cannot survive
 - Lowered by the decomposition of algae by bacteria
- Conductivity: ability of water to pass electrical current
 - Directly related to salinity: amount inorganic dissolved solids in the water
- pH: measurement of acidity or basicity of the water
 - Freshwater lakes have an average 6-8 pH



Secchi Disk



- Used to measure water clarity
 - Clarity is affected by amount of plant life and suspended particles in the water
 - The further down you can see the disk the clearer the water
- Consists of a painted disk, marked rope, and a weight
- To use:
 - Lower the secchi disk until you can no longer see it, mark the depth
 - Slowly pull the secchi disk up and note the depth at which you can see it again
 - Take the average of the two depths, that is your secchi disk measurement



Van Dorn Bottle



- A water collection device that allows the user to collect a water sample from a specific depth
- To use: secure end caps so bottle is in open position, lower into water to desired depth, release weight (messenger) down the line to trip cap release, pull up the sealed van dorn bottle



Chlorophyll- A Equipment



Collection:



- A Bottle
- Rope
- Weights
- 5 drops of MgCO_3

Analyzing:



- Syringe
- A filter
- Tweezers





Laboratory Samples



Several Samples were taken throughout the summer and analyzed by local laboratories:

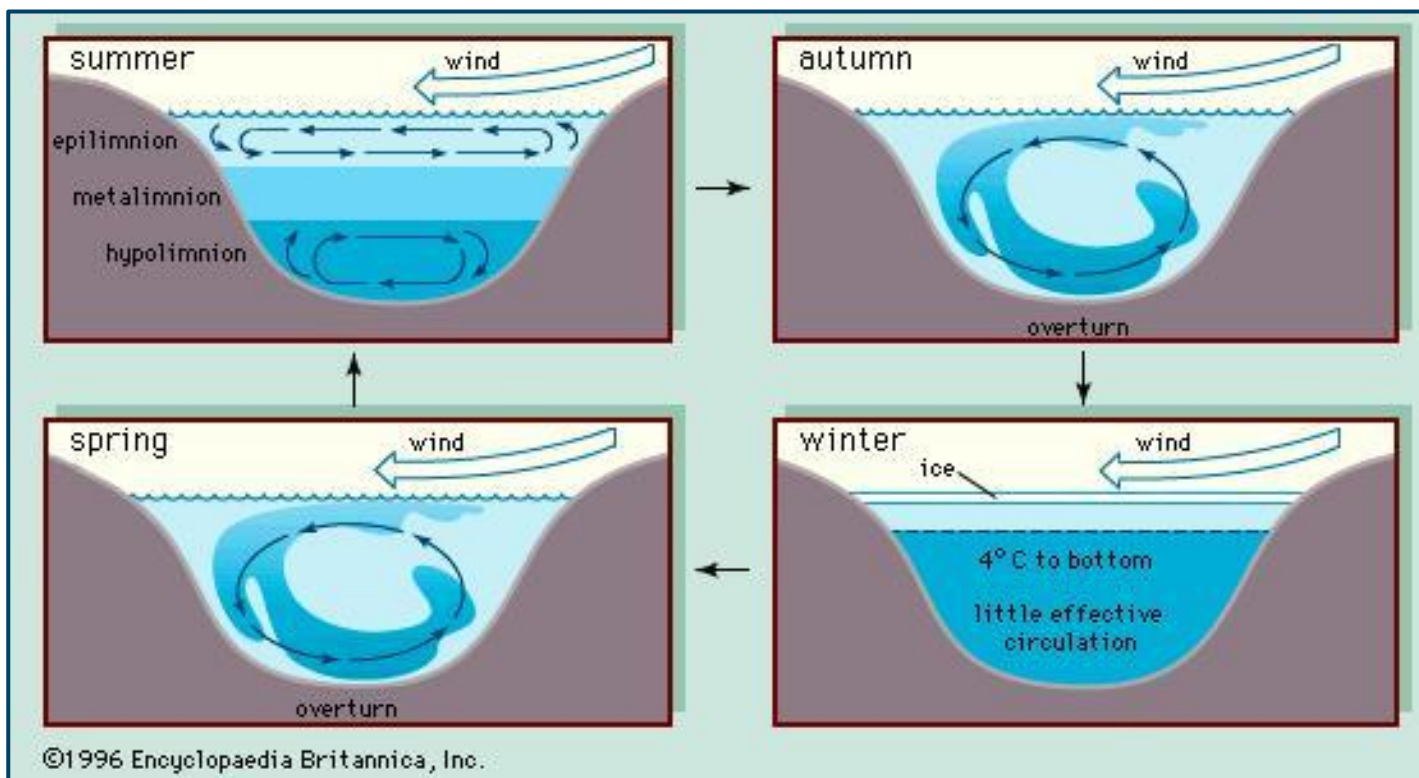
SOS ANALYTICAL

- Calcium

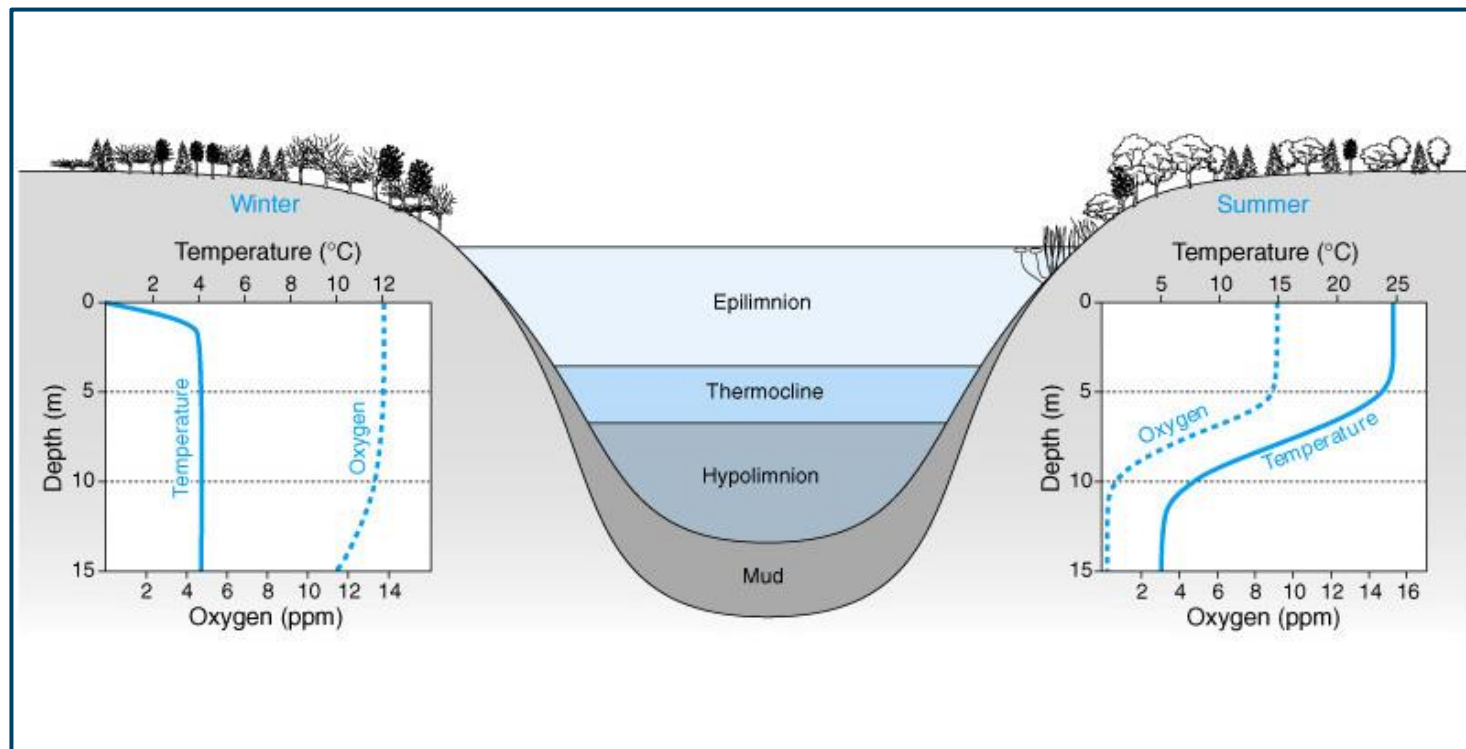
GREAT LAKES ENVIRONMENTAL CENTER

- Chlorophyll
- Nitrates
- Nitrites
- Phosphates

Lake Level Stratification

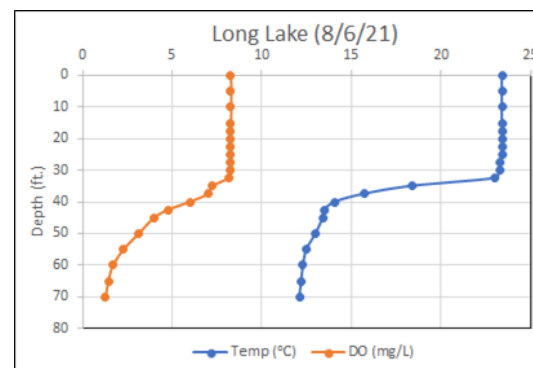
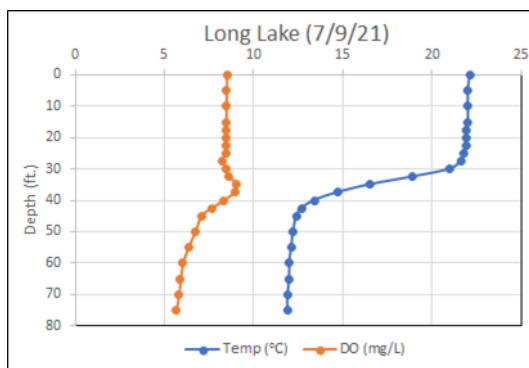
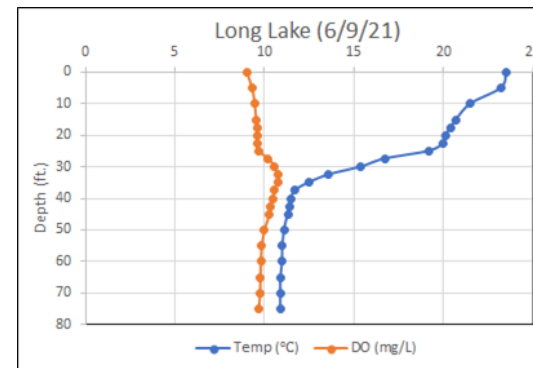
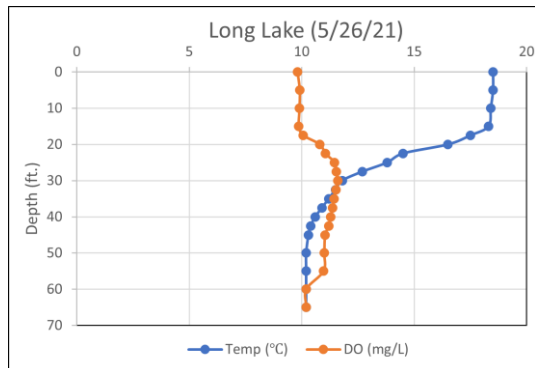
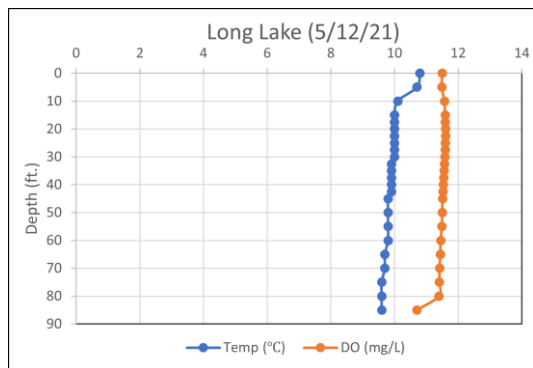


Lake Level Stratification





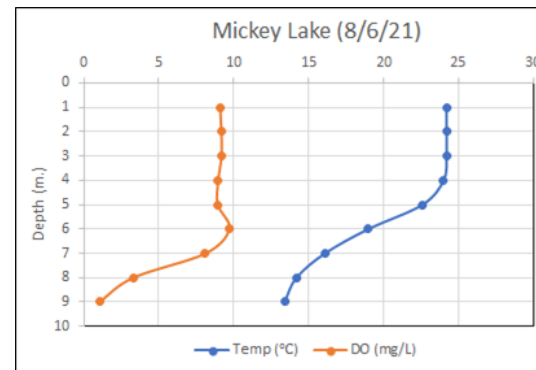
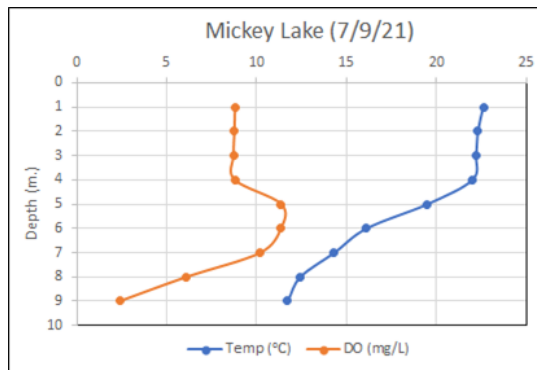
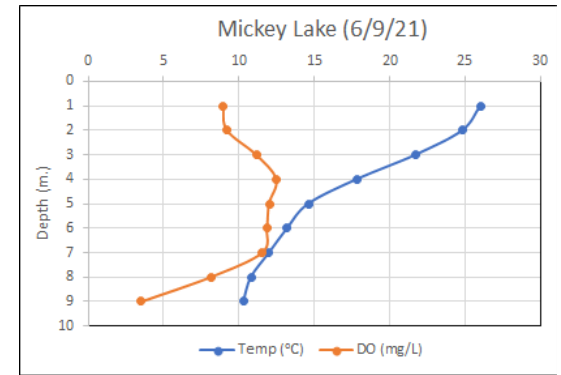
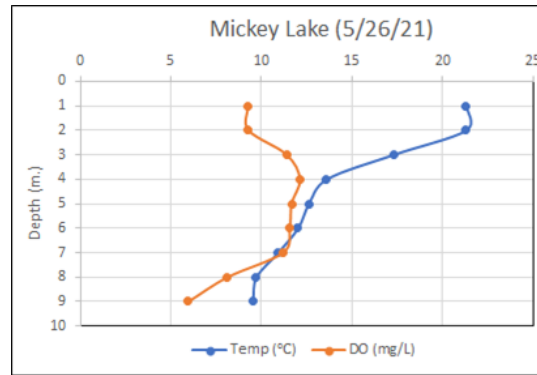
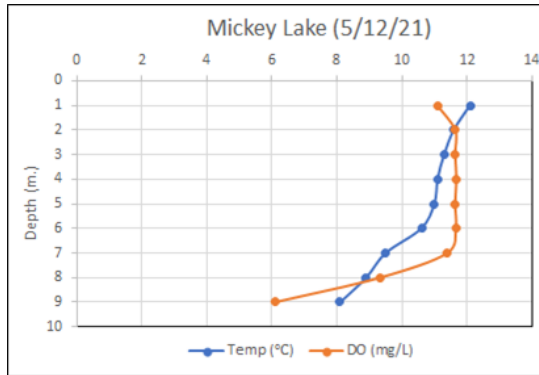
Lake Stratification: Long Lake



Horizontal Axis:
Temperature in
Celsius and
Dissolved
Oxygen in ppm.



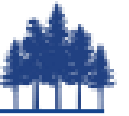
Lake Stratification: Mickey Lake



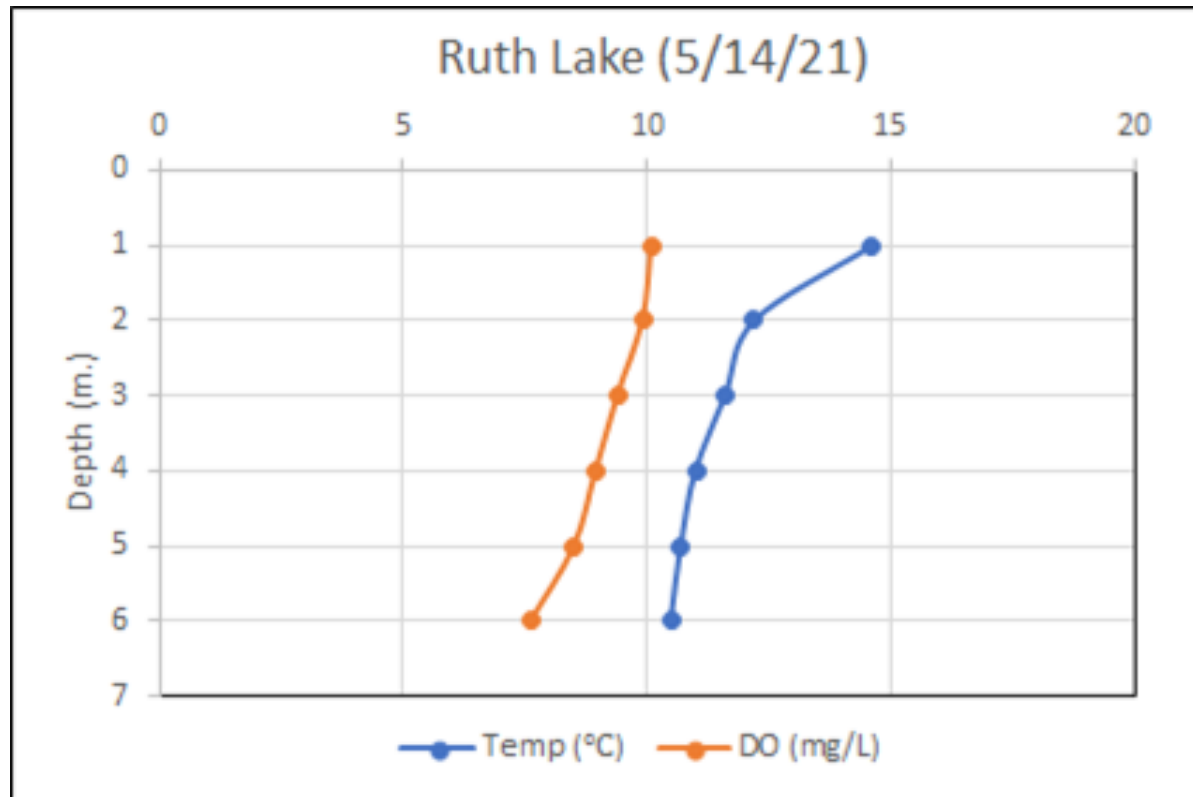
Horizontal
Axis:
Temperature
in Celsius and
Dissolved
Oxygen in ppm



Lake Stratification: Ruth Lake



Horizontal Axis:
Temperature in
Celsius and
Dissolved
Oxygen in ppm



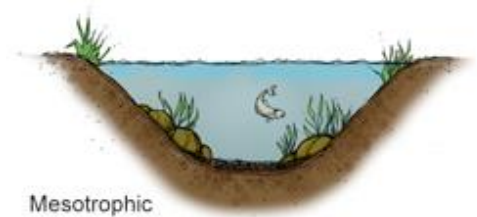
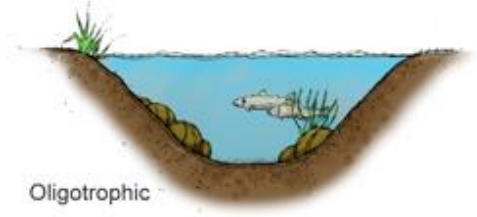


Trophic Status



Table 3. Trophic State Classification Based on Simple Lake Characteristics
(adapted from Rast and Lee, 1987)

	General Characteristics	
Variable	Oligotrophic	Eutrophic
Total aquatic plant production	Low	High
Number of algal species	Many	Few
Characteristic algal groups	Greens, diatoms	Blue-greens
Rooted aquatic plants	Sparse	Abundant
Oxygen in hypolimnion	Present	Absent
Characteristic fish	Deep-dwelling cold water fish such as trout, salmon, and cisco	Surface-dwelling, warm water fish such as pike, perch, and bass; also bottom-dwellers such as catfish and carp
Secchi depth	25 feet or none	6 feet or less

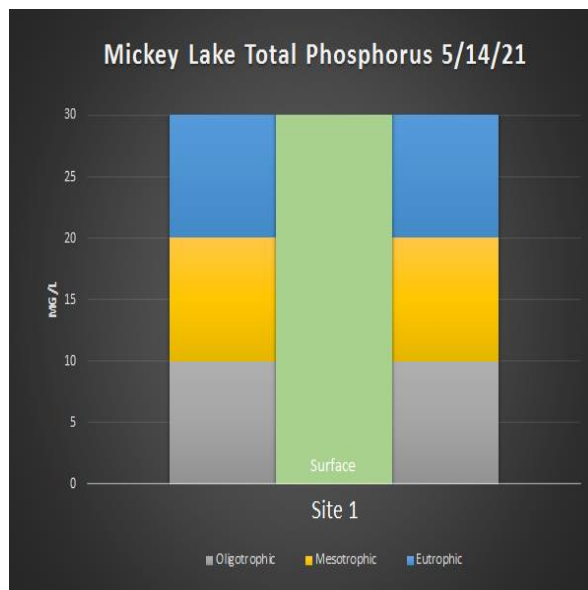
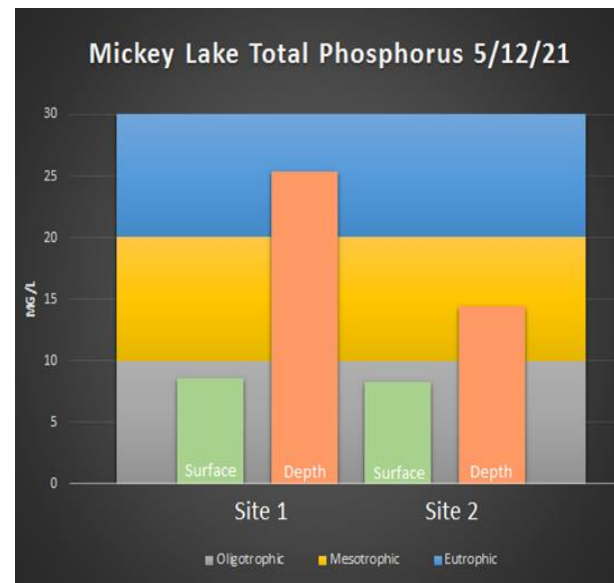
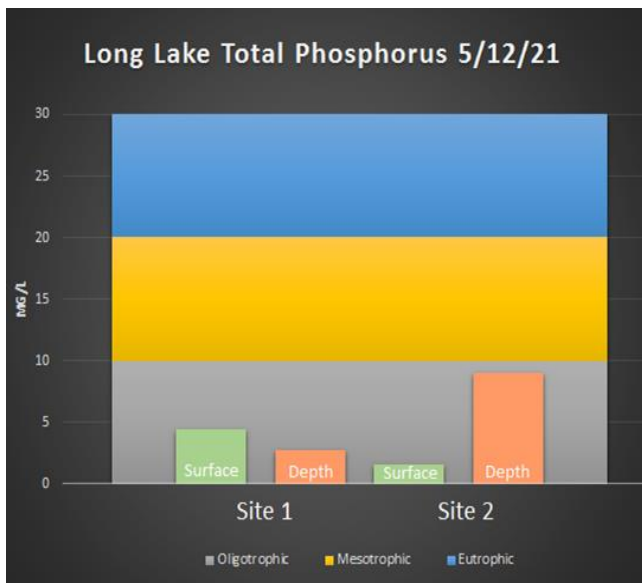


Wilson, K., & Anderson, C. (2013, July 26). What's in a lake? Exploring Florida's diverse lakes: Part 1 [Blog post]. Retrieved from From Reefs to Rivers: Florida's Fisheries Science Blog: <http://floridafisheriesscience.blogspot.com/2013/07/whats-in-lake-exploring-floridas.html>

Brown, T., & Simpson, J. (n.d.). *Managing Phosphorus Inputs to Urban Lakes: Vol. 1. Determining the Trophic State of Your Lake.*

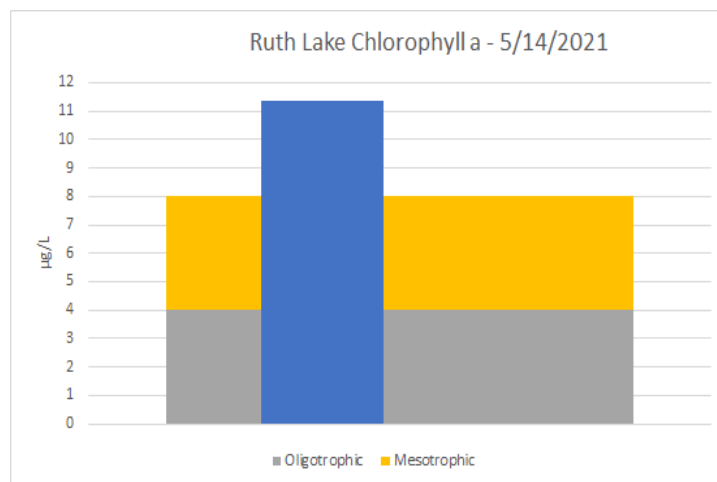
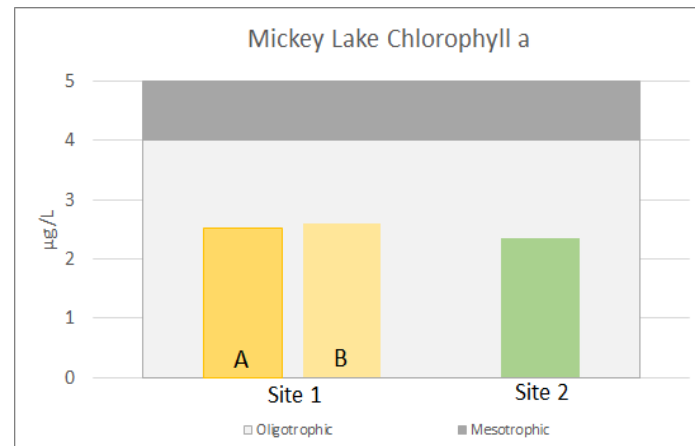
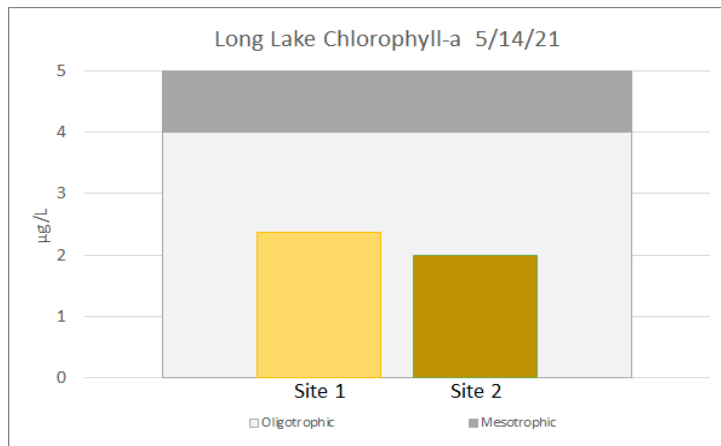


Total Phosphorus





Chlorophyll A

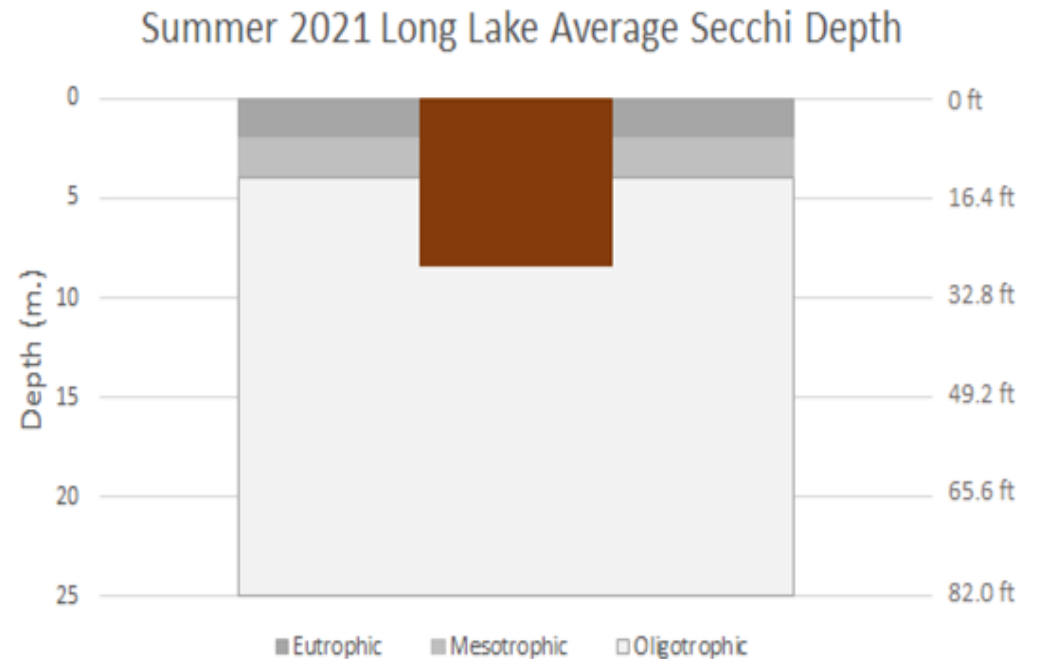




Long Lake: Average Secchi Depth



The average Secchi Depth for Long Lake from May 12th-August 6th is about **8.4m or 27.5ft.**



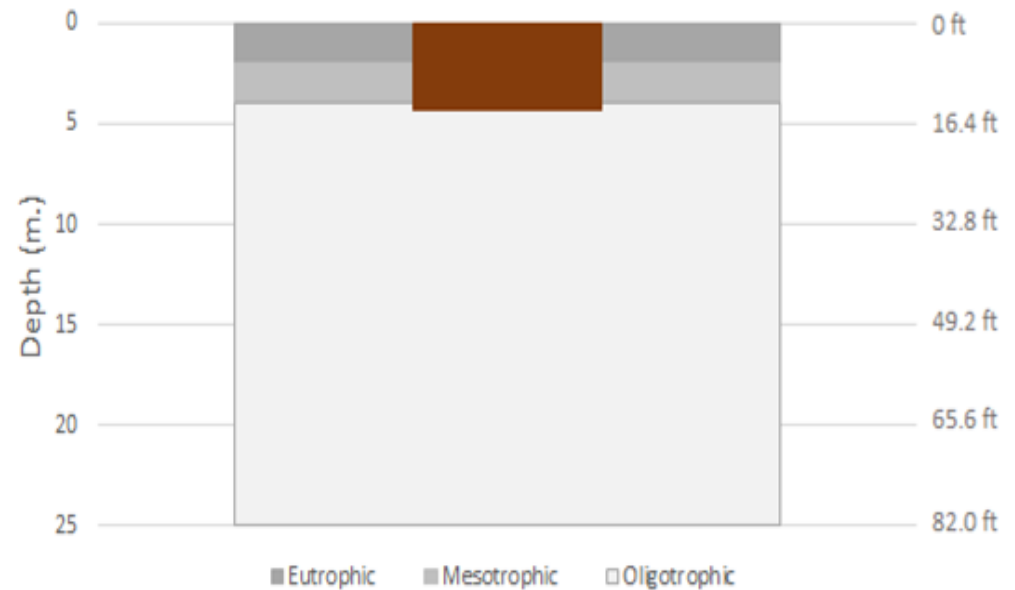


Mickey Lake: Average Secchi Depth



The average Secchi Depth for Mickey Lake from May 12th- August 6th is about **4.3m or 14ft**

Summer 2021 Mickey Lake Average Secchi Depth

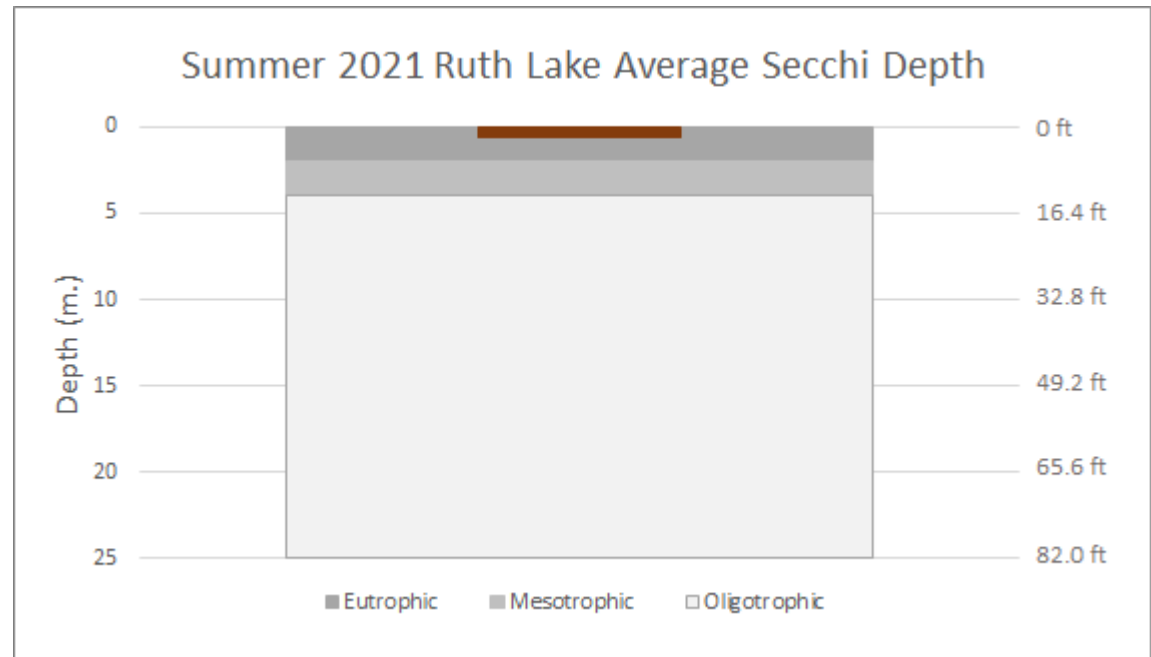




Ruth Lake: Secchi Depth on May 14th

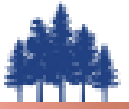


We only sampled
Secchi Depth at Ruth
Lake once- May 14th.
The depth was about
2ft or 0.6m





Zebra Mussels & Calcium



- Zebra Mussels need calcium rich waters in order to have adequate calcium to build their shells
- Scientists think it is unlikely Zebra Mussels would be able to establish in waters with calcium concentrations less than 20 mg/l
- Calcium concentrations are currently between 22.1 and 23.0 mg/l in Long Lake and Mickey Lake and 8.3 mg/l in Ruth Lake

Cohen, A. (2005, October 4). *Calcium requirements and the spread of zebra mussels*. eScholarship, University of California.
<https://escholarship.org/uc/item/0348q9pq>.



WHY BE CONCERNED?

Zebra mussels are a destructive species that can cause environmental and economic damage.



THE MUSSELS CAN:

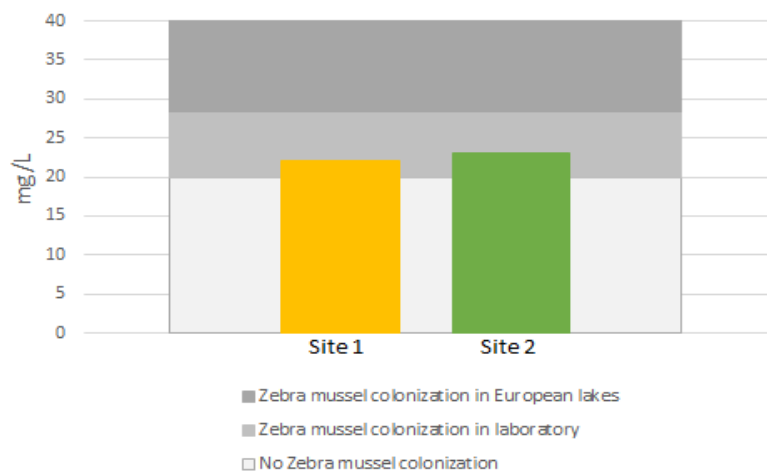
- | | |
|---|--|
| ■ Pose an ecological threat to aquatic life | ■ Leave sharp shells along lake shores |
| ■ Damage boat hulls and plug water systems in boat motors | ■ Threaten a city's water supply by clogging pipes |



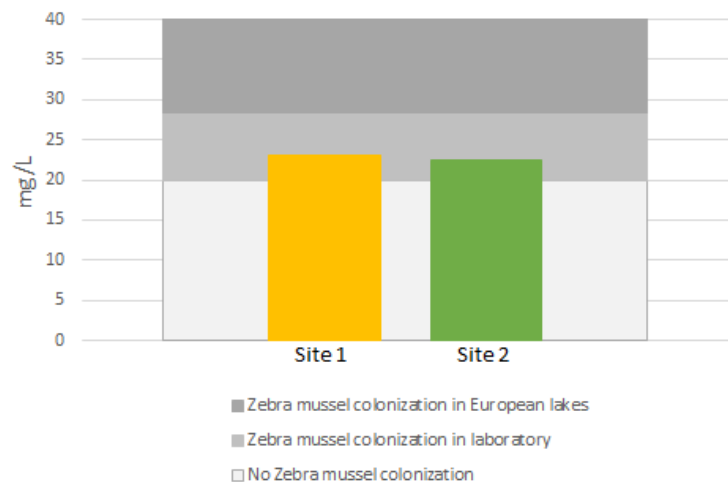
Calcium



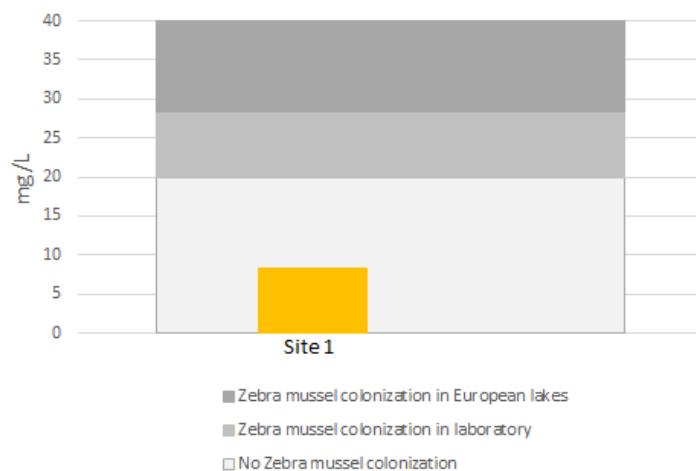
Long Lake Calcium - 5/12/2021



Mickey Lake Calcium - 5/12/2021



Ruth Lake Calcium - 5/14/2021





Historical Trends



- Calcium levels have increased slightly on all three lakes
- Chlorophyll A levels have increased on Long Lake and decreased on Mickey and Ruth
- Average Secchi depth on all lakes remains relatively constant
- Phosphorus levels appear to be slightly lower in Long Lake and Mickey Lake, but higher in Ruth Lake
- Data collection will continue through September and a final comprehensive report will be shared on the Long Lake Association website



Thank You!

- Long Lake Association
- Long Lake Foundation
- Long Lake Township
- Oleson Foundation
- Mentors: Len Klein, Barry Lishawa, Dr. Roeper, Phyllis Laine

Thank you for making this internship possible
and for encouraging students to be an active
part of community lead conservation!



Lake Management –Treatment



Co-Chairs / Brent Schnell & Dave Baker

- Controlling Eurasian Watermilfoil (EWM) is an important activity to maintain the quality of Long Lake for boating and other activities plus to allow native aquatic plants to thrive.
- In 2021, Long Lake Association and our partners *Zero Gravity* (the drone company) and Clear Water Lake Management (our targeted herbicide applicator) conducted Eurasian Watermilfoil treatments on June 22nd and July 20th.
- In 2021, 12 acres including 19 sites were treated. This represents only about 0.40% of the total area of Long, Ruth and Mickey lakes combined. The mapping technology allows us to precisely target areas where EWM is currently present greatly reducing the amount of chemical added to the lakes.
- There are some areas that were treated in 2020 that did not require treatment this year. Many of the areas that contained EWM are growing native plants now that the EWM is gone. There are some areas that were treated successfully in past years, but the EWM has returned, so these areas required treatment in 2021.
- Long Lake Association membership dues are an essential part of our funding to continue treating the lakes.



Lake Management–Zebra Mussels



Chairperson / Rick Dahlstrom

- New committee created in 2021
- Zebra mussels are a well-known invasive species in the Great Lakes region. Together with their cousin the quagga mussel (which can grow a little larger and live in deeper waters, but looks the same), they have spread into inland waters and the Great Lakes since they arrived in Lake St. Clair more than 20 years ago. They cause a variety of negative changes in the lakes where they live: they filter out tiny food particles that young fish like walleye and perch need to survive and grow, are responsible for loon and other waterfowl deaths through botulism poisoning and are a nuisance to swimmers and boaters with their sharp edges and ability to form massive colonies on any dock, hoist or structure in the water.
- Many northern Michigan lakes have seen zebra and quagga mussels appear and flourish. Long Lake has been extremely fortunate to avoid such infestations, in part due to it being a relatively quiet lake with few boat launches (most invasive species are unknowingly brought in by boaters that don't live on the lake).





Lake Management–Zebra Mussels



Chairperson / Rick Dahlstrom

- However, several lake residents have recently found small clumps of mussels. Zebra mussels can have small populations for years before suddenly showing explosive growth. They are usually about ¼-1.5 inches long, with brown and tan stripes (though stripes may be lacking) on a D-shaped shell. They produce microscopic eggs that can travel through open water and in bilge water or minnow buckets on boats.
- Because Long Lake may be in the early stages of an invasion, it is important to document and remove all new populations to slow their spread. If you think you may have found a zebra or quagga mussel, please note the exact location, take a photo, and remove the mussels from the water, making sure no parts of the mussel are left in the lake. Removal will not only prevent them from releasing more eggs but will allow Long Lake Association to make a positive identification. Please contact Rick Dahlstrom at dahlstromrick5@gmail.com or 248-568-4263 if you think you have found zebra or quagga mussels or have any questions. Thank you for your assistance in helping to manage this potential issue and maintaining the high quality of Long Lake.





Water Safety

Chairperson / Mark Cerny

2020 Water Activity on Long Lake

as Reported By Ian Ferguson of the Grand Traverse Sheriff

223 Patrol Hours on Long Lake or 21.5% of total hours spent on all bodies of water

- 135 Stops
- 1 BUI (Boating Under Influence)
- 1 BUI Warning
- 8 Careless/Negligent/Reckless Operating warnings
- 4 Navigation Rules Citations
- 52 Navigation Warnings
- 19 Mandatory PFD (personal flotation device) Citations
- 2 Mandatory PFD Warnings
- 5 Registration Citations
- 14 Registration warnings



Water Safety



Chairperson / Mark Cerny

- Long Lake Township has hired an attendant for the boat launch at Crescent Shores.
- We will contract for additional marine patrol on an as needed basis
- Swimming safety reminder - Dangers of attempting to swim from islands to shore
- Marine Patrol - 231-922-2112. Try to get the MC number when reporting incidents.
- If you witness a natural resource violation (e.g. loon harassment, poaching, etc.), contact the DNR REPORT ALL POACHING (RAP) line at 800-292-7800 (CALL OR TEXT). The RAP Center is staffed 24 hours a day, 7 days a week.
 - Please take pictures/video, if possible. Video is highly preferred! Please provide the MC number of the offending watercraft when reporting incidents. Otherwise, no action can be taken.
- Central Dispatch Non-Emergency - 231-922-4550.



Road Cleanup



Chairperson / Mark Cerny

- The road cleanup date for 2021 was May 8th. LLA board members and other volunteers picked up trash along the northern edge of Long Lake along North Long Lake Road.





Island Maintenance

Chairperson / Adam Adamczak

- Removal of trash is a must and any trash that can be taken off is appreciated. Clean islands are a must for everyone to enjoy.
- Before Labor Day activities:
 - Trail clearing, early August storm brought a few trees down over trails.
 - Clean and stock outhouses.
 - Litter pick up.
- After Labor Day activities:
 - Bring docks in for winter.
 - Move picnic tables away from waters edge.
 - Litter pick up.



Fishing & Loons



Chairperson / *Terry Motley*



- There are four Loon families and five chicks on the lake this year.
- The loon population remains very strong
- Please look out for the Loon families while boating and keep your distance.



Fishing & Loons



Chairperson / *Terry Motley*



- Fishing for walleye, bass and perch has been good this spring and summer.
- Fishing habitat, food and spawning on the lake continues to be very strong, supporting a vibrant fishery.



Membership Update



Co-Chairs / Becki Watson & Rick White

Annual Membership Stats Summary:

(Calendar Year/# Members)

2012-2013: 373 members

2013-2014: 386 members

2014-2015: 426 members

2015-2016: 426 members

2016-2017: 443 members

2017-2018: 434 members

2018/2019: 455 members

2019/2020: 417 members

2020/2021: 446 members





Communications/Long Range Planning



Chairperson/ Rick Kiehle

- Email subscriptions reached 481 mail chimp
- Join Now – Online membership is increasing
- New Join Now options have been added
- Facebook Reached over 1,137 followers
- Facebook total page likes 1,078
- Long Lake Association and Long Lake Foundation are working together to raise funding for preserving and protecting the Long Lake Watershed and will share communications tools and lists to reduce expenses



Community Affairs Update



Carrie C. Barnes Trust Project aka Windswept Pines Project (EGLE Application Number HP6-WPNY-PHWPX)

As many of you may already know, there is a proposal under review by EGLE now that calls for dredging along a 120' dock into Long Lake and dredging of an inland channel and boat basin with a boathouse in Birchwood Cove. Documents for this project can be downloaded at the link below as posted on the LLA website and Facebook page:

- <https://miwaters.deq.state.mi.us/nsite/site/-6890855560443164554/documents>

EGLE has recently requested that the permit application be updated and resubmitted as a revised proposal. This should result in another public comment period regarding this project in the future.

What has the LLA done thus far regarding this project?

- Conducted three calls with the EGLE project manager- Neil Schock 231-429-5244; SchockN@michigan.gov
- Helped drive EGLE to conduct a public hearing on August 3rd and attended the hearing
- Attended the Long Lake Township Board of Trustees meeting on August 10th. Public comment during this meeting was almost exclusively regarding this project.
- Submitted comments and questions on behalf of our membership before the August 13th deadline for EGLE to address.
- Posted important updates regarding this project on our LLA website and Facebook page

What can LLA members do?

- Contact EGLE during the next public comment period and attend Long Lake Township meetings to express your opinion.
- Check the LLA website and Facebook page for updates



LLA Objectives



1. To preserve Long Lake as a natural resource and recreation area through protection and prudent use of its environs.
2. To be on guard for the health, welfare and safety of the resident community.
3. To be alert to the best interests of the membership in fiscal, economic and civic matters such as taxation, zoning, developments affecting property rights and value, pending legislation, law enforcement, etc.
4. To serve as responsible citizens of the community.
5. To do any and all things lawful as a non-profit corporation in furtherance of these objectives.
6. To re-affirm the ethical principal established in 1953 organization of this association, that the individual rights should be enjoyed and protected without trespassing on the rights of others.



Culvert Update



- The Grand Traverse County Road Commission has stated that they plan to update the culvert near West Long Road this fall or next spring
- The culvert near Fisher Road is currently not in their plan since it is a seasonal road. In addition, Green Lake Township does not have the money budgeted to do this project (\$260,000).



Q&A Session



**Please ask any questions you
may have for the LLA board
members and any specific
questions regarding the
committee updates.
Thank you!**

Adjourn

THANK YOU!

LLA Annual Meeting

August 28, 2021

L**NG**
LAKE

www.LongLakeAssociation.com