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2019 Accomplishments

Through your annual membership, your additional generous support, and countless hours of volunteer time, TLA was able to successfully participate in, and complete, a variety of projects in 2019. You can always find more information on our website: 3lakes.com.

New Executive Director



TLA is very fortunate to have retained the services of Jeanie Williams as its Executive Director, effective on October 1, 2019. Jeanie earned her Bachelor's degree in Biology & Environmental Studies from Kalamazoo College in 1999 and a Masters Degree in Environmental Studies from Antioch University in 2004. Jeanie has come to TLA from the Inland Seas Education Association in Suttons Bay, where she worked as their Lead Scientist, teaching students about various native and invasive species, and making research discoveries about micro-plastics in Traverse Bay. We look forward to having Jeanie's leadership in promoting TLA's recent accomplishments and developing meaningful new collaborative projects.

Science Education Outreach Program

This is a grant program developed by TLA to build relationships with area schools and to help educate the future stewards of our lands and lakes. In 2019 we awarded \$6000 to nine teachers in four public schools in Bellaire, Central Lake and Kalkaska: John R. Rodgers Elementary School, Bellaire Middle School, Central Lake Elementary School, and Birch Street Elementary School.



The grant requests for 2019 were varied and included classroom science teaching modules and tools, a school-wide subscription to the Mystery Science curriculum, and educational field trips. We were able to meet most of the top-ranked requests in full, or nearly so.

The Science Education Outreach Program began in 2007 and has awarded grants totaling over \$75,000.

Swimmer's Itch

Swimmer's itch, long a minor problem in our area, seems to have increased considerably in recent years. In 2019, TLA sponsored three Comprehensive Assessments of Swimmer's Itch; one in northern half of Torch Lake, one in southern half of Torch Lake, and one in Lake Bellaire.

Ron Reimink (Freshwater Solutions LLC) conducted the assessments, which started with an inventory of the waterfowl including which of their droppings collected on docks around the lakes contained the intermediate stage of the swimmer's itch life cycle. Then Ron's team collected and tested snails from at least 10 locations around the lakes.



The final part of the comprehensive assessments was to test water samples from ten locations for the nine different species of swimmer's itch cecariae.

We also led the development of an educational rack card which described practical things people can do to minimize getting swimmer's itch, and distributed these collaborative rack cards, which included a Quick Response code so people could easily report where they got swimmer's itch.

Interns



In 2019, we selected high school interns Emily Comai from Kalkaska High School, Matt Baker from Elk Rapids High School, Riley Fillmore from Mancelona High School, and Angel Shaw from Central Lake High School, to pioneer the use of Community DNA-Based Monitoring on Torch Lake and Lake Bellaire.

Emily, Matt, Riley, and Angel worked with TLA volunteers and Freshwater Solutions Laboratory in Leelanau County to collect and quantify the DNA from swimmer's itch cecariae, and the DNA from enteric bacteria. This study helps us understand water safety in Lake Bellaire and Torch Lake. Find their full report on TLA's website.



Since 2004, TLA has sponsored a high school water quality internship program. This was our 16th year of fabulous interns!

Golden Brown Algae



2019 has been another year of intensive study of nitrogen and phosphorus levels in lake water, lake floor pore water (the liquid within the top few

inches of the sand on the lake bottom), and groundwater, seeking to identify the most likely source of nutrients encouraging the growth of the GBA.

Results from the past four years of study are being compiled for inclusion into an over-all report that should encompass everything we have learned. These results will inform recommendations for further study, if any, and conclusions on the significance of the GBA to the health of the lakes.



Regional Lake Association Workshop

On September 22nd, TLA co-hosted a seminar with Freshwater Solutions LLC regarding a new water quality management tool to measure the DNA of target organisms in samples of water collected from lakes and streams.



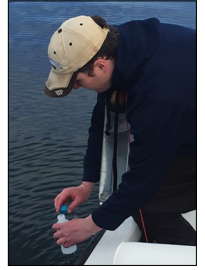
Professor Patrick Hanington from the University of Alberta is a recognized expert on the use of quantitative

Polymerase Chain Reaction (qPCR) technology. About 35 people from seven different lake associations in this region participated in this seminar.

Representatives from four lake associations are looking into establishing a regional qPCR Lab, which would be able to extract DNA from water samples in a timely manner prior to analyzing the sample for target DNA as part of a "Community Based DNA Monitoring" program.

Cooperative Lake Monitoring

As for the past 15 years, TLA volunteers again participated in MI-EGLE's Cooperative Lakes Monitoring Program (CLMP) at four locations; northern Torch, southern Torch, Clam, and Bellaire Lakes. Our very own Duane Drake coordinates this with help from other volunteers, who measure water clarity every week, and collect water samples for chlorophyll A and phosphorus measurements.



The results from this water quality monitoring program provide TLA's Water Quality Team early warning of changes in these key parameters, which are basically each lake's VITAL SIGNS. The results are available on MiCorp's website, micorps.net/lake-monitoring/clmp-documents/

Hydrology Study

TLA participated in the development of a project to conduct a Hydrology Study of the entire Elk River Chain of Lakes. This included developing an RFP, an evaluation of proposals process, and establishing a process for documenting daily lake levels. TLA assisted in advocating for \$77,000 of financial assistance from Antrim County to supplement the US Army Corp of Engineer's funding of the study.

2020 Plans

In 2020, your membership and donations of time and money will allow us to continue pursuing our Mission by funding our standing projects and programs. Specific goals for 2020 are:

- Strengthen and expand the educational efforts of TLA to increase awareness regarding boater safety, swimmer's itch, and responsible stewardship whether you are a riparian, an area resident or are vacationing on our lakes.
- Activities to locate Eurasian water milfoil patches using aerial surveillance by drone and/or airplane.
- Continue to collect data on lake levels for the Hydrology Study.
- Follow-up on leads concerning the causes of GBA suggested by examination of our data so far.
- Collaborate with others to establish a qPCR laboratory for DNA analysis to track biologically relevant indicators of water quality.
- Continue to help build a Watershed Protection Plan for the Elk River Chain of Lakes (ERCOL) area
- Continue water quality monitoring of all three lakes which will include E.coli and cladophora.
- Continue to publish a quarterly newsletter, sharing pertinent environmental information.

Join or Renew

Please join or renew your membership today and consider an additional donation to support a specific project or program.

Our watershed thanks you!

To join or make a donation, go to our website, 3lakes.com, and use the PayPal option or mail us a check: TLA, P.O. Box 689, Bellaire, MI 49615

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