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## Staff

Leslie Meyers, Executive Director  
Lois MacLean, Administrative Assistant

**[3lakes.com](http://3lakes.com)**

## 2015 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 2015. You can always find more information on our website: [3lakes.com](http://3lakes.com)

### Golden Brown Algae



That orange-y stuff proliferating on the floor of Torch Lake (and in other lakes as well) garnered our undivided attention during 2015. Understanding what is proliferating this algae is essential for developing strategies to remedy the situation. With the assistance of scientists and scholars from MSU, U of M & the University of Colorado, TLA is working with the hypothesis that excess nutrients (phosphorus and nitrogen) are being delivered to the lake floor through groundwater inflows.

Analysis of one benthic algae sample costs \$200. Analysis of the nutrients in one water sample costs \$50. Essential equipment to conduct the study costs several hundred dollars. Thousands of additional dollars will be needed to investigate remediation possibilities.



### Science Education Outreach Program



The Science Education Outreach Program (SEOP) is a grant program developed by TLA to build relationships with area schools to help educate the future stewards of our lands and lakes. It began in 2007 and has awarded grants totaling over \$62,000, thanks to our generous TLA membership. SEOP grants provide materials, equipment and experiences that enhance the science curriculum but are not within the districts' budgets.

In 2015 we sent students on field trips to the Fox River, Whitefish Point, Grass River, Jordan Fish Hatchery, Au Sable Institute, Inland Seas, Camp Hayo-Went-Ha and the Impression Five Museum. We were also able to put microscopes, electricity kits, science readers, globes, interactive document cameras, environmental impact kits, equipment for the Michigan DNR Salmon program and much more into a dozen classrooms.

### Fish Shelters

TLA continues to collaborate with Elk-Skegemog Lakes Association, Friends of Clam Lake and Intermediate Lake Association to install fish shelters throughout the lakes. The total now stands at 74 shelter sets of the permitted 82. Interactive maps with GPS coordinates are available on our website and paper copies can be found in local marinas.



## Benthic Barriers and Eurasian Water Milfoil (EWM)



TLA has been monitoring EWM since the late 1990's. We have utilized limited chemical treatment, diver assisted suction and rudimentary benthic barriers to combat its spread. EWM continues to make its home in 4 locations:

Butch's Tackle and Marine, the Clam River (adjacent to Butch's), the embayment between Stony and Lone Tree Points and Alden Harbor.

This summer the TLA Interns experimented with formalized non-toxic benthic barriers that prevent plant growth by blocking out the light required for growth. The barriers are non-exclusive, meaning they prevent ALL plant growth. By starting small, our goal is to see if we can eliminate the bad and allow the good plant life to return.

## Interns

Since 2004, TLA has sponsored a high school internship program under the direction of our Executive Director. Each year, the interns study the aquatic environment. The internship includes over 300 hours of research, training and sampling.



In addition to the benthic barriers, this year's activities included E. coli sampling, macroinvertebrate inventorying, and water sampling with the Hydrolab. They also assisted the MDNR with shocking local streams to create fish inventories and manned our booth at the County Fair.

## Grass River Sedimentation

Sedimentation has begun to widen Grass River and in turn the channel has gotten shallower. Large Woody Debris (LWD) are structures designed to deflect the flow of water with a goal of reversing sediment buildup and restore the channel depth in areas where navigation has been impacted. LWD is also intended to improve fish and aquatic insect habitat. Our research continues with a permit from the MDEQ



for an additional 10 structures and their support for "beefing" up the 7 installed LWD structures. We currently await results from a recent grant application to further the study and purchase necessary equipment.

## Educational Events

During 2015, TLA provided environmental education to over 2000 visitors at events which included:

- The Antrim County Fair
- Water Awareness Fair
- Two summer educational events (co-sponsored with Grass River Natural Area, Torch Lake Protection Alliance, Friends of Clam Lake and Intermediate Lake Association): "Rights and Responsibilities on the Lakes" and "Got Fish 2."

## Water Quality

During 2015, TLA continued ongoing water quality monitoring activities including:

- Participating in the Michigan Lakes and Streams Associations' Cooperative Lake Monitoring Program. Our lakes continue to be exceptionally clean.
- Human Chemistry study of the Torch Lake Sandbar.
- E. coli sampling at 27 locations.
- Investigating, monitoring and treating Eurasian water milfoil.
- Participation in Elk River Chain of Lakes - Watershed Plan Implementation Team and the creation of the Elk River Chain of Lakes Watershed Plan in conjunction with U of M.

## Other News

TLA continues to publish its quarterly newsletter, sharing pertinent environmental information.

TLA is researching the possible removal of aging small dams.

## 2016 Plans

In 2016, your membership and donations of time and money will allow us to continue pursuing our Mission by funding our standing projects and programs and further foster....

- The study and remediation of Golden Brown Algae
- Expanding the Large Woody Debris project on Grass River
- Monitoring and suppressing Eurasian water milfoil
- Finding a steady financial funding stream for the Science Education Outreach Program

## 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](http://3lakes.com), and use the PayPal option or mail us a check:

TLA, P.O. Box 689, Bellaire, MI 49615

