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3lakes.com

2017 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 2017. You can always find more information on our website: 3lakes.com.

New Executive Director



The Board of Directors of the Three Lakes Association (TLA) is pleased to announce Marina Friend has been named its new Executive Director. Friend brings a wealth of experience to her new role, having extensive sales, marketing and public relations experience with organizations throughout northern Michigan as well as owning her own business in the Elk Rapids area. Her knowledge of the geographic area, the people who live here and those that visit will be invaluable to the success of TLA's overall mission.

Golden Brown Algae

Many thanks to those who have helped us in 2017 to continue and extend our study of Golden Brown Algae (GBA), the diatoms that make up the orange-y stuff coating a good deal of the lake floor in the lakes of this region.

In April, TLA arranged for a Mini-Symposium on GBA at Michigan State University which was well attended by MSU experts, representatives from several other lake associations, DEQ, and the University of Michigan Biological Resource Station in Pellston.

This spring and summer we have continued study of the golden brown algae (GBA) in our lakes. The Elk-Skegemog and Lake Leelanau lake associations are participating with us to track the seasonal pattern of phosphorus levels in the lake water and in the subsurface "pore" water in the lake floors. Sampling devices are installed at one site in each of Torch Lake, Lake Bellaire, Elk Lake, and Lake Leelanau. We are seeking to determine if changes in phosphorus levels parallel changes in the visible GBA.



Samples have been collected for July, August and September and results are pending from the laboratory. We are also tracking the sub-lake floor temperature as this may have an impact on the GBA growth. Lake floor algae samples have been collected at the same time points as the water chemistry samples and correlation will be attempted between the algae composition, the lake floor appearance, and the water chemistry data.

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 \$70,000.

SEOP grants provide materials, equipment and experiences that enhance the science curriculum but are not within the districts' budgets. Many thanks to a generous TLA membership over the years and to Gordy Schafer of Docksides - Torch Lake for additional matching grant funds.

In 2017 we were able to grant a total of \$7,848 to seven teachers in the Bellaire, Central Lake and Kalkaska public schools.



Interns

Since 2004, TLA has sponsored a high school internship program. Each year, the interns study the aquatic environment.



During the summer of 2017, we had two summer interns who worked with Becky Norris, focusing on water quality projects, including:

- Collecting data from the Torch Lake Sandbar during the week of July 4
- Collecting water samples for the GBA study
- Helping with the Cladophora Shoreline Survey
- Participating in Fish Shocking
- Monitoring for E. coli
- Macroinvertebrate collection

Large Woody Debris

In 2017, TLA volunteers returned to sites on Grass River where Large Woody Debris (LWD) was installed along shallow sediment laden stretches last year. The follow up included measuring year over year changes in channel depth and contour. LWD has proven to be well accepted by the public and provides additional river habitat.

Importantly, it does not appear to be causing sediment problems elsewhere along the river. Emergent vegetation between sites is being protected from boat traffic and growing vibrantly, potentially beginning a long term healing process at locations where the channel widened over time. Next season TLA plans to engage stakeholders to assess what was learned, develop a long term maintenance plan and decide how the technique fits into the larger initiative of managing sediment in the connecting rivers of the Chain of Lakes.

Water Quality

During 2017, 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.
- 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 the University of Michigan.

Torch Lake Sandbar

During 4th of July week, samples were collected from three sites near the sandbar. Samples were analyzed for E. coli counts and nitrate nitrogen levels. These samples came up with values in the acceptable range for surface waters. Additional samples were evaluated, for odors associated with human sewage, by dogs specifically trained to distinguish human from non-human waste. These samples were positive on July 3 when there was a high density of people and boats on the sandbar and were equivocal or negative before and after the holiday period. The overall conclusion was that human presence in high numbers has a detectable effect on the water quality but there was no indication that fecal contamination, specifically, was present.

Watershed Protection Plan

TLA participated in the creation of a new Watershed Protection Plan for all of the Elk River Chain of Lakes, which includes a series of Implementation Tasks (wish list activities to help protect this watershed). We anticipate that TLA will be involved in developing this plan in the following ways:

- Co-advocating for appropriate oversight of septic systems by public health departments, which may include the first uniform Sanitation Code in the State of Michigan.
- Participation in exploratory meetings with Grass River Natural Area and Tip of the Mitt Watershed Council to engage riparians living on the river and tributaries regarding their interest in reviewing development activities as part of an alliance.
- The development of a Stormwater Management Plan to reduce the loading of sediment into Grass River, as specified in the permit to install the LWD.

Fish Shelters

TLA built and installed a final set of fish shelter structures, which concluded this 5-year project. This resulted in 82 permitted sites being populated with a crate and a slab tree. TLA partnered with other organizations to place fish shelters throughout the Elk River Chain of Lakes.



2018 Plans

In 2018, 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 2018 are:

- To 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.
- 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.
- Exploring cost-effective options for managing the Eurasian watermilfoil in the Elk River Chain of Lakes.
- Exploring collaborations for nominating native species of fish and tributaries that could be candidates for re-establishment.
- Obtaining samples of lake trout from Torch Lake for genotypic evaluation relative to the relict lake trout in Elk Lake.
- Exploring options for evaluating the new technology for quantifying the parasitic cercaria that cause swimmer's itch.
- Continue to participate in educational events, such as the Antrim County Fair.
- TLA continues to publish its 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

