



QUARTERLY

THREE LAKES ASSOCIATION

SERVING LAKE BELLAIRE, CLAM LAKE AND TORCH LAKE IN NORTHWEST MICHIGAN

WINTER 2023

Chain of Lakes, On the Water 2023

By Fred Sittel
TLA President

The summer of 2023 looks to be an exciting time of environmental engagement, discovery and action. Up and down the chain of lakes, people are getting involved and taking steps to preserve our water resources.

On Elk Lake, the Elk Skegemog Lake Association (ESLA) plans to continue working with the DNR to figure out where all their stocked brown trout went. According to Heather Hettinger of the Fisheries Division, “something’s going on in Elk and it could be that something ecologically is going on in Elk that’s causing fish to not survive or to potentially migrate into Torch Lake.” Simultaneously with DNR’s fish surveys, a team from Northwestern Michigan College last summer used remotely-operated vehicles carrying high-definition cameras, lights, and acoustic sonar to map and record imagery of the lake bottom. One of their findings was that both zebra and quagga mussels are present in Elk Lake. According to ESLA president Bob Campbell, invasive mussels could be removing all the phytoplankton from the water and fundamentally changing the food chain. ESLA is planning to perform sampling this summer to see if phytoplankton may have been depleted to unnatural levels in Elk Lake.

On Torch Lake, TLA’s interns last summer documented the presence of both zebra and



Pebbles, debris and mussel shells washed up on Torch Lake shoreline

quagga mussels. Their project used a deep-water benthic sediment sampler to retrieve samples from the lake bottom. Their primary focus was a small amphipod common to the Great Lakes called *Diporeia*. A decrease in their numbers compared to past surveys could be a sign the lake’s ecosystem is changing since *Diporeia* are an essential part of the diets of many bottom dwelling fish. A report of their findings will be posted on the TLA website soon. Although a few quagga mussels had previously been found in Torch Lake by the DNR in 2018, the number of mussels present in last summer’s sediment samples was a surprise to everyone. The interns documented over 345 quagga mussels in twelve samples taken from depths ranging from 41 to 205 feet. Although, zebra mussels can be found in moderate numbers in shallow areas and along the shoreline of Torch Lake on rocks and dock pilings, so far few if any quagga mussels have been reported by the public. That changed in December when an area resident on social media described piles of mussel shells washed up along a section of Torch Lake shoreline. The report was promptly investigated by TLA volunteers who sent photos to a noted Great Lakes biologist and invasive mussel expert who confirmed the deposits included large

numbers of shells from dead quagga mussels. The potential for high densities of quagga mussels in deeper waters of Torch Lake has TLA researchers reconsidering their impact on nutrient cycling. Plans are underway for more sampling this summer to get a quantitative estimate of the quagga mussel infestation.

TLA’s research into causes of golden brown benthic algae (GBA) will also continue this summer. The research is being led by Professor Jan Stevenson of Michigan State University and explores fourteen potentially contributing factors, or hypotheses. Much of last summer’s effort looked closely at one of these, the possibility that changes in phosphorus availability could be driving benthic algae. Conceptually, either increased or decreased phosphorous availability could be causes. However, local and regional long-term monitoring suggests a decades long trend of decreasing mid-lake phosphorus concentrations. Extensive near shore groundwater, porewater and surface water sampling so far has not provided evidence of a sudden increase in phosphorous availability coincident with the onset of GBA.

Sneak peek

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THREE LAKES ASSOCIATION

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- Past President: Mike Bertram

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- D. Central Lake Township: Todd Collins, Steve Laurenz
- E. Forest Home Township: Fred Sittel
- F. Helena Township: Carol Fricke
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- Membership: Todd Collins
- Education: Steve Laurenz
- Lake Monitoring Program: Cheryl Lynn Fields
- Publicity: Chris Herb

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Executive Director
 Lois MacLean

TLA's 2022 Interns



After completing the season's field work and report writing, TLA's 2022 Interns were required to make a presentation about their summer project with TLA to their respective school boards. Each intern received a stipend and a certificate of completion after their presentations. Shown (L to R) are Kalkaska H.S. students Navaeh Wise and Maddie Birgy, holding their certificates, and Freddie Shannon, holding the deep water sediment sampler used during their project. Standing to their right is TLA board member and Intern Advisor Norton Bretz. Not shown are interns Nils Stoldt and Morgan Standfest, both of Elk Rapids H.S., and Aaron Brown of Mancelona H.S. who also made presentations to their respective schools.

Carol Fricke - New Board Member



Carol Fricke

Carol Fricke was introduced as a new Board member and Zone Director for Helena Township at December's Board meeting.

When Carol dipped her toes in Torch Lake for the first time in 1955, nothing would do until she and her family lived on the lake year-round. From Nebraska (Go Big Red!), she and her family drove 15 hours

each way annually to vacation on the south end of Torch, frequently travelling on the Spartan or Badger ferry, that they used as an overnight motel room.

Following a successful career in marketing and advertising, Carol sold the agency she owned in Kalamazoo, and realized her life's dream of living on Torch Lake full-time. She and her husband Tom, have 3 kids (all boys), five grandchildren, and 3 great-grandchildren, who have all come to love the lake as much as she does.

In addition to serving on the Publicity Committee for TLA, Carol is the Application Coordinator for Golden Retriever Rescue of Michigan. She's the proud human mom of 3 Golden.

Outside of those endeavors, Carol loves playing pickle-ball and gardening.

Her motivation for joining the TLA Board is the work the organization is doing with Golden Brown Algae.

Chain of Lakes *continued from page 1*

Also, research into benthic algae elsewhere in the country has shown changes in phosphorous concentration around an ultra-low threshold can be related to the development of durable calcareous mats of benthic algae similar to the GBA we are seeing in Lake Bellaire and Torch Lake. Professor Stevenson described his research in a four-article series which appeared in last year's editions of the TLA Quarterly.

The potential presence of large numbers of quagga mussels in Torch Lake must now also be considered in TLA's ongoing GBA research. Invasive mussels were originally included in the list of hypotheses because their appearance in local lakes coincides roughly with the onset of GBA. However, the limited numbers being observed in the near shore zone and lack of mussels in sediment samples from GBA test sites has kept them on the back burner. It is still possible mussels are filtering near shore water closer to suspected sources of nutrient loading and increasing nutrient availability in bottom sediments with their excretions, thereby fueling GBA growth at those locations. On the other hand, if most mussels lie beyond the depth range where GBA thrives, its possible mussels are contributing to the suspected trend of reducing lake-wide phosphorous concentrations, potentially driving levels of this nutrient below a tipping point causing the formation of disturbance resistant calcareous mats of GBA.

Professor Stevenson also plans to complete a project started last summer to compare GBA in twenty different Northern Michigan lakes, including Torch Lake and Lake Bellaire. Funding for TLA's research into the causes of GBA comes from our annual budget, several grant opportunities and from public donations.

Also on Torch Lake, Torch Lake Protection Alliance (TLPA) and Torch Conservation Center (TCC) are investigating whether there has been an increase in the availability of nutrients from human sources. They have raised funds to contract a lake expert from the U.S. Geological Survey (USGS) to conduct a three-year study of Torch Lake water chemistry. One goal of the project is to develop a long-term monitoring program for the lake. Since TLA has conducted most of the long-term monitoring for Lake Bellaire, Clam Lake and Torch Lake for decades, we signed a Memorandum of Understanding between the organizations to indicate our support for this project and agreed how best



Spillway of the Bellaire Dam a day after a heavy rain event

to coordinate our activities. TLPA and TCC will lead the USGS project going forward. TLA will lead the continued investigation into potential causes of GBA and will include the development of a monitoring protocol for GBA in our research with Professor Stevenson, beginning this summer. This will be accomplished by sampling multiple sites in the lake throughout the season and over the course of the next two years to characterize the chemical, physical, and biological characteristics of GBA. The goal is to provide data about causes of GBA that may reveal relationships to the groundwater and surface water chemistry measurements coming from the USGS project's extensive sampling program. None of the funds raised for the USGS project will be used to support TLA's research activity or GBA monitoring.

Further upstream on the chain, TLA is joining the Intermediate Lake Association (ILA) and Antrim County to help expand the Hydrology model.

Last year, the U.S. Army Corps of Engineers (USACE) completed a two-year effort to develop a hydrology model for the chain of lakes starting from Six Mile Lake downstream to Elk Lake. The primary use of the model has been to identify potential management actions to reduce nuisance flooding. TLA sponsored a well-attended public meeting last summer at Central Lake High School during which details of model development and its potential uses were presented. This year, Antrim County is providing most of the funding necessary for Spicer Group engineering to extend the model all the way to the Elk Rapids Dam

including its spillways into Lake Michigan. River channel cross-section surveys required for this work were previously completed by the County surveyor.

It is anticipated that many uses of the hydrology model will serve regional stakeholders such as lake associations in addition to the needs of local government. The Antrim County Operator of Dams asked for support and a financial commitment from lake associations to expand the model. TLA, ILA and ESLA agreed to support this work. The kickoff meeting for Spicer engineering was held in late February. In addition to expanding the model, Spicer Group engineering will use it to conduct a hydraulic capacity analysis of both the Bellaire and Elk Rapids Dams and identify potential conceptual improvement options for both dams to assure they can safely pass water flow from simulated storm events previously modeled by the USACE.

***Watch for School
Grant Information
Coming Soon!***

*You will want your schools
to know about these
education
enrichment
opportunity.*



Aquatic Plant Survey and Eurasian Water Milfoil Update

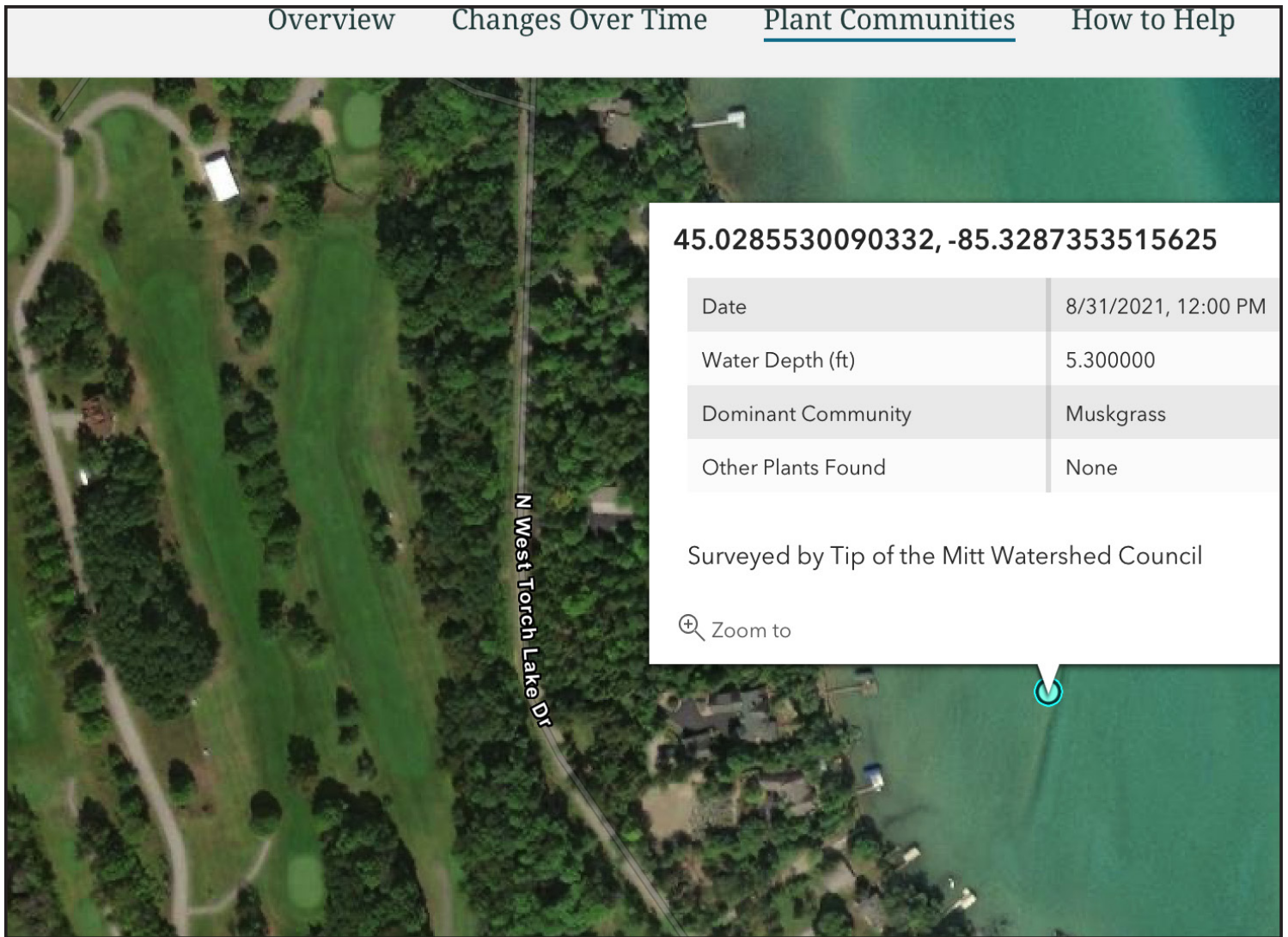
By Mike Novak

An article in last August's edition of this publication described an aquatic plant survey of Torch Lake which was the result of a collaboration between TLA and the Torch Lake Protection Alliance (TLPA). The survey, conducted by the Tip of the

Mitt Watershed Council and funded by the Dole Family foundation, was completed in 2021. This was the first comprehensive plant survey of the entire lake. The full survey report can be found on the TLA home page at: [https://www.3lakes.com/wp-content/](https://www.3lakes.com/wp-content/uploads/2022/08/Torch-Lake-Aquatic-Plant-Survey-2021-Report-FINAL.pdf)

[uploads/2022/08/Torch-Lake-Aquatic-Plant-Survey-2021-Report-FINAL.pdf](https://www.3lakes.com/wp-content/uploads/2022/08/Torch-Lake-Aquatic-Plant-Survey-2021-Report-FINAL.pdf).

An interactive version of the survey, called a Story Map, is now available. You can access the Story Map on the home page of the TLA website.



Pop-up box at selected location under Plant Communities tab

Aquatic plant observations made around the lake can be viewed by navigating to the location of interest under the Plant Communities tab. After selecting a displayed marker, a pop-up box will indicate the coordinates of that observation and the plant communities detected. The screen photo above

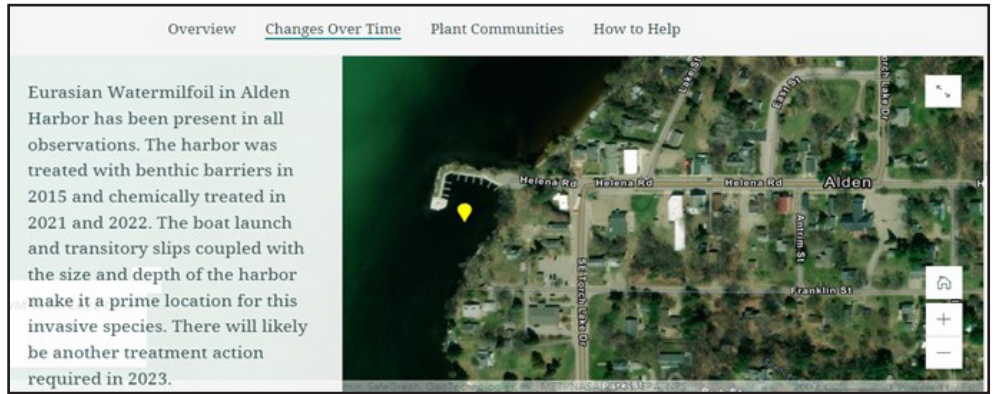
shows an observation made near A-Ga-Ming Golf Resort. It indicates Muskgrass was found in 5.300 feet of water. Muskgrass, while typically referred to as being a plant, actually has no roots and is a community of single celled algae which forms plant-like stems and branches. It is native to Northern Michigan

lakes and is found in great abundance.

Under the Changes Over Time tab, viewers can select sites where aquatic plants were detected and learn about the history of observations and treatments performed at that location.

Aquatic Plant continued from page 4

The Story Map is a living document and will be continuously updated. Some of those updates will come from the Eurasian Water Milfoil (EWM) team which also is a collaboration between TLA and TLPA. Last year the team revisited seven known sites where invasive plants had previously been detected and partnered with a lake and land management company called PLM for chemical treatment at two of those locations, Alden Harbor and the Torch River Bayou. The team also hand-pulled EWM in the boat wells at Butch's harbor off of the Clam River. This was the team's first attempt at hand-pulling and they were pleased with the success of this effort. Going forward, the team plans to do more hand-pulling, if that alternative is deemed appropriate, instead of using chemicals. Successful treatments in prior years have eradicated invasive milfoil from Stony



History of treatments at selected location under Changes Over Time tab

Point and the Sandbar sucker holes (created decades ago when sand was dredged from the lake).

This summer the team will be recruiting additional volunteers to focus on EWM in Clam

Lake and Lake Bellaire. The goal will be to form sub-teams that will start by surveying the lakes. If you have any early interest in participating or you have questions, email Mike Novak at mjn2016@aol.com.



Eurasian Water Milfoil as observed in the lake.



Having difficulty using the membership portal for renewal, donations or information updates?

If you have provided an email your email address will be your login ID. If you have never accessed the portal or you cannot remember your password you can choose to change the password. You will receive an email at the address you provided with information to update your password.

If you have not provided an email or you would like to login but are having difficulties you can request your login credentials by emailing your name to: 3lakes.info@gmail.com using MEMBERSHIP LOGIN as the subject.

Keeping your email and mailing addresses up to date help us in keeping you up-to-date on the happenings in and around our three lakes area!

(BTW, we absolutely NEVER share your contact information with anyone!)

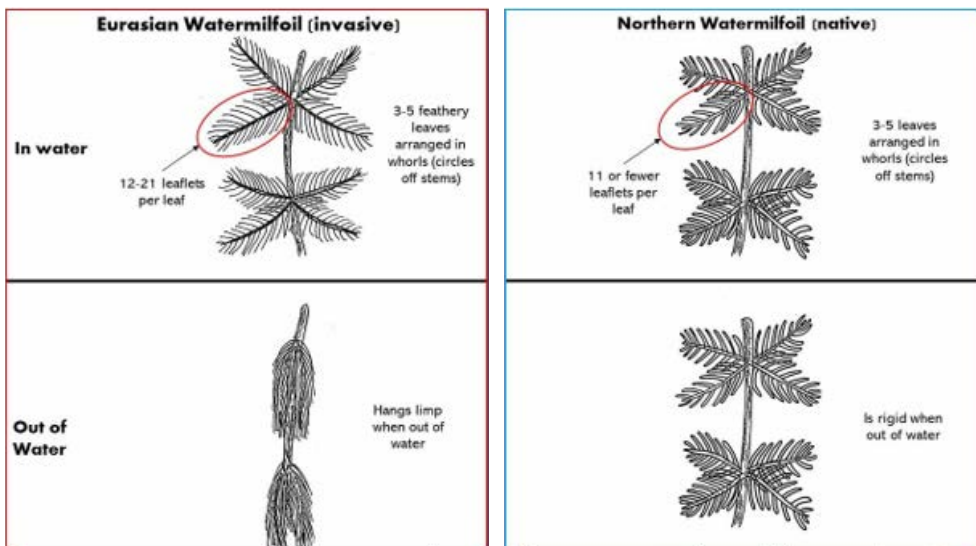
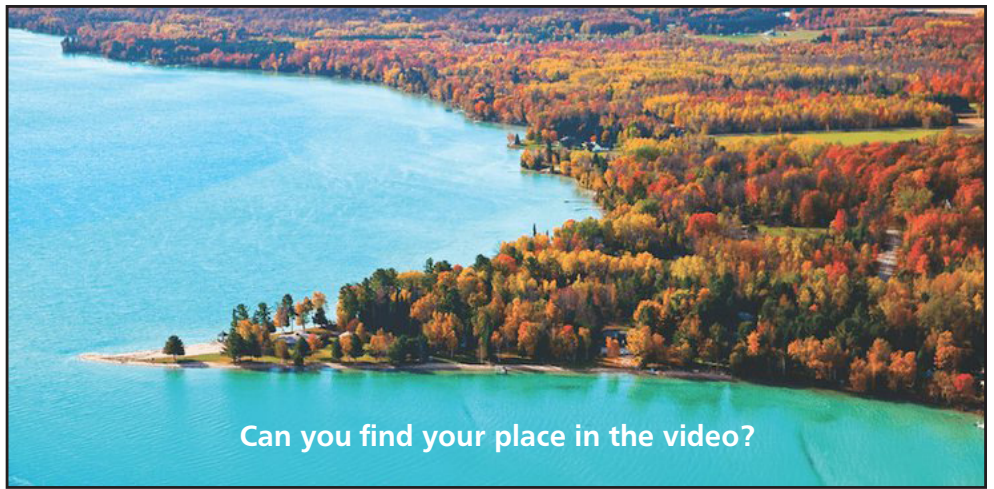


Diagram showing the physical difference between invasive Eurasian Watermilfoil and Native Northern Watermilfoil. Source Carter Marquis and Angela Vander Eyken.

Art Hoadley, Our Resident Aerial Photographer, Enjoys The Fall Colors!

Thank you, Art, for sharing the beauty
of the lakes from another angle!
Fall 2022 color flight link
<https://youtu.be/snCmJJ2Skys>
Fall 2020 color flight link
<https://youtu.be/RK3D-XX92kl>



Volunteers Needed - No Experience Necessary

VOLUNTEER

Do you enjoy getting outside and learning new things? Are you willing to dedicate a few hours per month to help Three Lakes Association (TLA) protect the water quality of Torch Lake, Clam Lake, and Lake Bellaire?

The Three Lakes Association Water Quality Committee is looking for a few additional volunteers to help support our 2023 project portfolio. Your help in one (or more) of these areas is greatly appreciated: take periodic water samples from our lakes and

streams, transport samples to area laboratories for analysis, help remove invasive plant species, and provide boat transportation for on-the-lake experiments. You, too, can be a citizen scientist. No previous experience or science background is necessary as you will be trained by existing TLA volunteers.

If you are willing to volunteer or have an interest in supporting TLA in this way, please contact Rick Doornbos (Water Quality Committee Chairperson) at rsdoornbos@torchlake.com or Lois MacLean (Executive Director) at 3lakes.info@gmail.com with **VOLUNTEER** in the subject line.



SNAP A PHOTO OF YOUR GREAT CATCH!

Three Lakes Association's First Annual Fishing Photo Contest

Show us your 2023 fishing victories on Clam, Torch and Lake Bellaire! Send photos of you or your family landing lunkers, panfish and everything in between. Ice fishing, too! We'll share all entries on social media late this summer, and announce winners in several categories. Watch for details.

Email your high resolution digital photos, with your name, phone number and location of the catch to:
3lakesphotos@gmail.com by Labor Day, September. 4.
Good luck!

In Remembrance:

Remembering Leonard Franseen

By Tina Norris Fields

It was in the summer of 1994 that Len Franseen took the helm as President of the Three Lakes Association, serving in that position until passing the torch to his Vice President, Jack Norris, in 1997. Len served again as President from 2000 to 2002. He remained an active member of the board until about 2016, when his health made it difficult for him to physically attend meetings. After that, he retained the position of Director Emeritus and continued to be a generous donor to the mission of the Three Lakes Association.

At the same time as he served with us on the board of TLA, he also served on the boards of the Grand Traverse Regional Community Foundation and the Grass River Natural Area. Caring for the environmental and economic health of our region was clearly a driving force in his life.

I served as Secretary on the TLA board in the

final year of Len's first term and through most of his second term. In this capacity, it was my privilege to work closely with him as he strove to expand TLA's focus from the boundary limits of Lake Bellaire, Clam lake and Torch lake, plus the Grass and Clam Rivers, to a watershed-wide understanding of stewardship. It was under his presidency that we updated the TLA Mission Statement, to include the watershed as well as leadership in environmental education. There have been only minimal changes to its wording since then.

It was during Len's first term that we celebrated the 30th anniversary of the founding of the Three Lakes Association. His strong point, or super power, was definitely the ability to organize people to tackle a project. He put Brad and Elizabeth Norris in charge of the Anniversary Committee and kept a close watch over the progress of the committee and

their many volunteers who prepared for the celebration event and collected articles and photos for the publication of, *The First 30 Years*, a history book publication commemorating the occasion. Len's close attention and oversight resulted in a truly grand celebration in July of 1996! The publication can be found on the website under the About and History tabs: <https://www.3lakes.com/wp-content/uploads/2008/04/1996-tla-the-first-30-years.pdf>

The footprints a man leaves in the sand do not tell the whole story of the man, just as this short account does not relate all there is to know about Len Franseen. However, those who have come along after him, who have set their hands to similar tasks will have a respectful understanding of what it meant to have Len Franseen be part of the history and leadership of TLA.

The Unstoppable Dean Branson

By Fred Sittel

It's no understatement to say Dean Branson was a driving force for preserving water quality. From his days as a Dow biochemist, to the day he met TLA's Jack Norris, to the development of an empirical model of phosphorus cycling in Torch Lake, Dean was focused on water quality. His impact at TLA went well beyond that. Those who served with him on the board of directors know how much he drove us as volunteers to start new projects, to hold more meetings, to make more phone calls, to engage university professors for help and most of all, to join others in the hands-on work required for a successful project.

I met Dean for the first time in 2009 when

a group of TLA Interns were looking for an access point from which to embark in kayaks on a lake algae survey. We ended up standing on my property shoreline for an hour watching the interns at work and talking about the local loon nursery. Just a few weeks later I joined other volunteers on the TLA board. That's when Dean's tenacity for shepherding impactful projects became apparent to me. As just one example, in 2011 he engaged four area lake associations, three regional environmental non-profits, over a half dozen Townships and a large army of volunteers in a five-year long State permitted project to install hand fabricated fish habitat shelters, weighing hundreds of pounds each, at eighty

locations across five lakes of the chain.

Thanks to Dean there were many other victories for TLA before and after the Fish Shelter project. Each and every TLA board member who had an opportunity to work on a project with Dean will forever be inspired by his drive and focus on preserving water resources for future generations. The August 2022 edition of this publication featured a front page article titled "The Unstoppable Dean Branson" which highlights some of Dean's most impactful work. I hope you had a chance to read it, if not, it can be found on the TLA website at: www.3lakes.com/august-22-newsletter/

New Members and Donations:

Welcome and Thank You To Our Newest Members:

| | | |
|-----------------------|---------------------------|-----------------------------|
| Todd Brighton | Beth Lavasseur | Stephanie Pereira |
| Edwin Campbell | Ann & Kevin Lynch | Jeffrey Richards |
| J Lewis Cooper Jr | Chris & Pam McCoy | Michael Rontal |
| Brian & Michelle Duly | Gavin & Allison McDermott | Tom, Mike & Barb Schowalter |
| Kurtis & Lynn Finch | Geary McLaughlin | Carole & Charles Selander |
| Rick & Jane Franz | Linda Miller | Sholund Trust |
| Rebecca Huffman | Timothy & Wendy Nickles | Jerry Sorgie |
| Joyce Isenga | John Packer | Robert Warner |
| Lewis & Shelley Lake | Gerald Parka | |

Donations were received in memory of both Dean Branson and Carl Hartman.

Just SO YOU KNOW

After the public was notified of an emergency release from the Bellaire waste water treatment plant last spring, it has become clear changes will be required by the State. TLA is currently talking with permit issuers at the Water Resources Division in Gaylord with the goal of assuring that nutrient loading to Lake Bellaire will not increase as a result. Look for updates in the spring edition of TLA Quarterly.



The mission of the Association is to provide leadership to preserve, protect, and improve the environmental quality of the Elk River Chain of Lakes Watershed for all generations with emphasis on Lake Bellaire, Clam Lake, Torch Lake and their tributaries.



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- Water Quality
- HS Intern Program
- Water Safety
- Education
- Invasive Species
- Membership
- Finance
- Publicity
- Office/Data Entry
- Other

Three Lakes Association is a 501(c)(3) corporation. Your dues and other contributions are tax deductible.

To join Three Lakes Association,

Please visit our website 3lakes.com or return this form with your check to: THREE LAKES ASSOCIATION, P.O. Box 689, Bellaire, MI 49615