TEN MILE LAKE ASSOCIATION

Dedicated to the Preservation and Improvement of Ten Mile Lake and its Environment

WINTER 2019
www.tenmilelake.org
PO Box 412
Hackensack MN 56452

IN THIS ISSUE

FROM THE PRESIDENT'S DESK

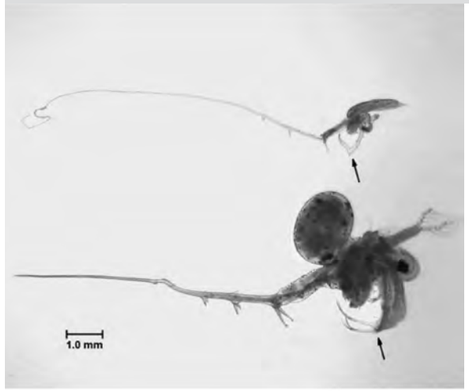
By Bob Iversen, TMLA President

I'm not at the lake now, but as I write this in early December I can see from our webcam (http://tenmilelakemn.info/images/cam_1.jpg) that Ten Mile has just frozen over at least at the north end. It looks beautiful, with over 6 inches of fresh snow.

We're still coming to grips with the fact that our beloved lake now has zebra mussels – quite a shock! To my knowledge, we still don't know when or where they were "introduced" into the lake, and we probably never will. An article by Bruce Carlson in this newsletter provides excellent background on ZM and what changes we may see in our lake. Now, in addition to working to reduce the impacts to our lake equipment, we will focus on making sure no more AIS comes to Ten Mile. The Association, along with Cass County and the MN DNR, will be developing a plan to monitor the spread of zebra mussels and their effects on our lake.

Continued on page 2

FROM THE PRESIDENT'S DESK *(cont)*



A particular concern is that we keep spiny waterflea out of the lake because, like zebra mussels, they are filter feeders, feeding mostly on zooplankton. The combination of zebra mussels and spiny waterflea drastically reduces the plankton that small fish need to survive, as shown by the diminished walleye population at Lake Mille Lacs. SWF are often found on fishing lines and anchor ropes, so please make sure they're not present on your or your guest's equipment if coming from an infested lake.

I hope each of you have a wonderful Holiday Season and a Happy New Year - we'll see you in the spring!

TMLA WINTER-SPRING CALENDAR

January 1, 2020
Annual Membership Dues for 2020 Now Due
Pay online from your statement
Or through the Anchor from MY INFO - Billing
Or pay through the mail
Mail $40 to:
TMLA Membership
P O Box 412
Hackensack, MN 56452

February 28, 2020
Deadline for Spring Newsletter
Mailed March 15th

May 31, 2020
Deadline for Summer Newsletter
Mailed June 15th

To Fisheries Managers and Members of TMLA,

We worked with AFS and an independent production company on a promotional video highlighting our watershed protection work in cisco lakes done in collaboration with Forestry and NGO partners in north-central MN. **The footage in the video was shot on Ten Mile lake in Cass County.** The video is one segment of a larger production called "Fisheries Strong," which premiered at the joint AFS-TWS Annual Meeting in Reno, NV during September. The video can be accessed using the link below.

https://itnproductions.wistia.com/medias/68urb5ndbh (This link is also available on the TMLA website)

Thanks again to Fisheries Area and Research field staff in Walker and Brainerd for participating and assisting with logistics and local outreach.

Martin Jennings
Fisheries Habitat Program Manager
Mn DNR

This Newsletter is a Publication of the Ten Mile Lake Association, Inc.
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association@tenmilelake.org

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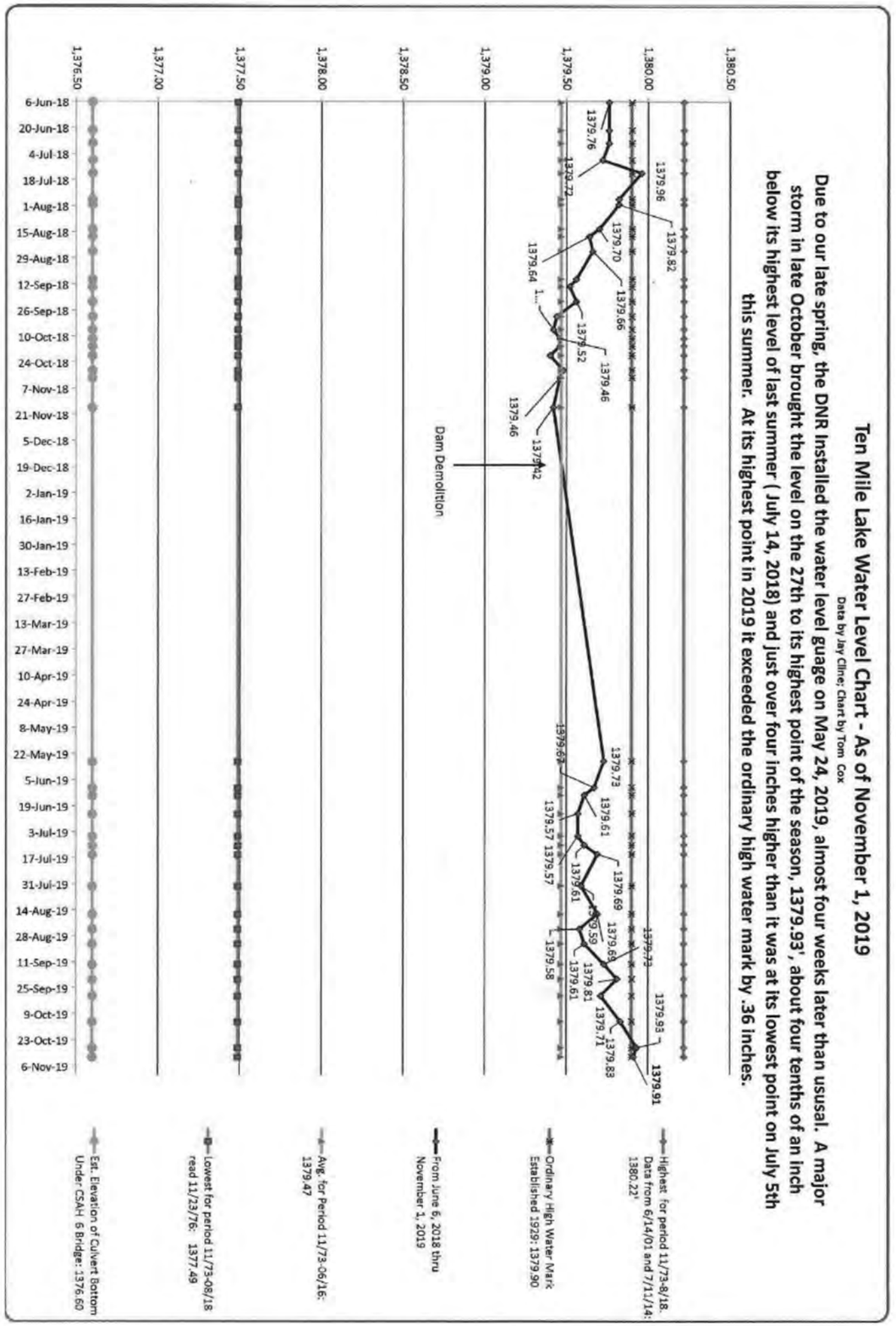


ZEBRA MUSSELS

As I'm sure almost all of you know by now, this past October the DNR reported that zebra mussel larvae have been found in Ten Mile. Given all of our efforts to prevent the introduction of invasive species into the lake, it was disappointing to learn that, at least for zebra mussels, these efforts failed. I was asked to write an article about zebra mussels for the Newsletter. This article will be organized into four sections – 1) some general information about zebra mussels; 2) a brief history of their spread; 3) their effects on a lake; and 4) what their possible impact on Ten Mile might be.

A Bit about Zebra Mussels

Zebra mussels (Dreissena polymorpha) are molluscs, just like the freshwater clams that we have in Ten Mile, but there are also some big differences. An adult zebra mussel doesn't grow much larger than 1-2" in length, and their reproductive habits differ quite a bit from our clams. Zebra mussels get their name from the stripe pattern on their shells (Fig. 1). A close relative of theirs, called a quagga mussel also has stripes, but they fade out toward the edges of the shell. I'm bringing up quagga mussels, another invasive, because when they and zebra mussels are found in the same water, the quagga mussels often squeeze out the zebra mussels and completely take over because they can survive at greater depths. This is what has happened in Lake Michigan. So much for quagga mussels for this article.

Adult zebra mussels adhere to hard objects, like rocks and wood, and do so by means of what are called byssal threads, the string-like projections that you can see coming from the shell in figure 1. Byssal threads are remarkable. They are stronger than steel, but also have elastic properties. These properties, plus their stickiness, allow mussels to adhere to hard objects even in the face of pounding waves (as is the case for ocean mussels). In fact, only recently have bioengineers started investigating their biological and mechanical properties for industrial applications (think of Velcro and its conceptual origin by a man who wondered why thistles stick so tightly to your clothes).

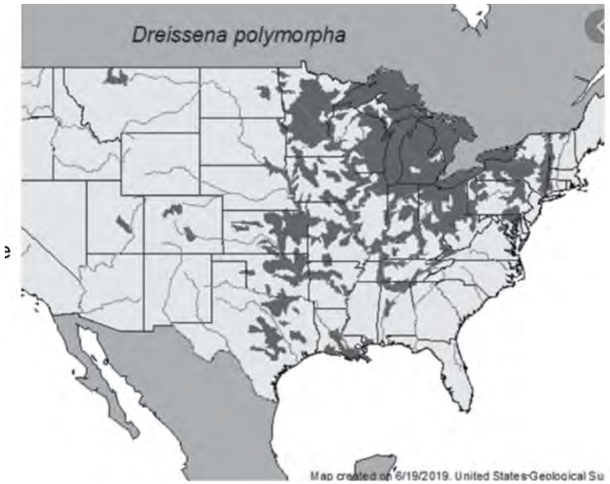
Zebra mussels are filter feeders. Through a siphon system, the details of which I won't bore you with, a single adult zebra mussel passes about a quart of water through its body per day and filters tiny plankton organisms from the water. Most of what they filter out and consume is phytoplankton, microscopic algae that form the base of the aquatic food pyramid. This is of great significance to the overall ecology of a lake because it affects almost all of the animal life in the lake. Filtered material that they can't use for food becomes covered with mucus and is deposited on the lake bottom as what is called pseudofeces. In some lakes, the pseudofeces concentrate contaminants in the water. More on the effects of their feeding habits on a lake later.

Zebra mussels lay eggs which, unusually for many molluscs, are fertilized in the water. A single female produces 30,000 – 40,000 eggs per cycle and up to a million eggs per year. Three to five days after the eggs are fertilized, they develop into larval forms called veligers, which passively float in the water. A veliger is almost microscopic, being .002 - .003 inches in length. At this stage, the veligers are at the mercy of water currents, which determine how they become distributed. (As an aside, almost every lake has currents, most of which are not noticeable to the casual observer.) After 2-3 weeks, the veligers begin to develop fragile shells based on calcium (Ca++) found in the lake water. The water must contain 10 parts per million (ppm) of Ca++ to initiate and 25 ppm to maintain shell growth. As they begin to form their shells, they begin to drop to the bottom of the lake and look for a suitable substrate upon which to settle. At this stage they do have limited mobility. Once they find a substrate that they like, they begin to produce byssal threads, by which they attach to that substrate, often a rock. The attached baby mussels then begin feeding and grow. Ideal water temperatures for zebra mussel growth are between 68 and 77 degrees. Within 6-7 weeks after settling down, a zebra mussel begins to reproduce, and the life cycle repeats itself. Most zebra mussels probably don't live more than 2-3 years, but in Europe, they are known to live up to five years.

The Spread of Zebra Mussels

Zebra mussels are native to the lakes and rivers in the area of the Black and Caspian Seas. As early as the mid-1800s, they had already spread into many

central European countries and Sweden, as well. In North America, they were first detected in Lake St. Clair, near Detroit, in 1988, and it is thought that they were brought over by a freight ship that came from the Black Sea. They could have entered our waters as veligers from emptied ballast water or from adults that were stuck to anchor chains. Whatever the case, they rapidly spread so that by 1994, they were found in most major river systems in the central and eastern parts of the USA. Commercial barges were probably the main contributor to their spread in this early phase. Since then zebra mussels have spread to many of our eastern and midwestern lakes (Fig. 2). They are continuing to spread at a steady rate, mainly because of contamination by veligers from boats or minnow buckets, or by live adults attached to docks or boat lifts coming from an infested lake to a non-infested one.



In Minnesota, zebra mussels were first found in the Duluth harbor of Lake Superior in 1988, but because of the nature of the water in that lake, their impact has been minimal. They were first detected in the Mississippi River south of Minneapolis and the St. Croix River in 1992. Since then, they have been spreading into almost all of our major lakes.

Within a lake, the first indication of zebra mussels is usually the presence of veligers in the water. If there are enough to be detected in plankton samples, then there is probably already a reproducing population of them somewhere in the lake. This is the stage of their spread presently in Ten Mile. At first, the ramping-up process of the population seems very slow, but at some point it explodes. As an example, in Lake Winnibigoshish adult mussels were not found until four years after veligers were detected in the water, but two years later, adults were found everywhere.

In most ecological systems, when an invasive is introduced, it undergoes a population explosion shortly after initial establishment, and then the number declines somewhat. In Lake Mille Lacs, where zebra mussels were first found in 2005, their density in 2013 dropped from 1,270/ft2 to 1,070/ft2. Nevertheless, it is estimated that at present there are about two trillion zebra mussels in that lake.

What Are the Effects of Zebra Mussels in a Lake?

All lakes aren't affected in the same way by zebra mussels. Their impact depends upon many characteristics of the lake. Zebra mussels prefer hard substrates, so lakes with rocky bottoms are ideal for them. They also need sufficient calcium in the water in order to form shells. The very infertile water of Lake Superior is a major factor that limits their spread in that lake. Another factor is temperature. As mentioned above, their ideal temperature is 68-77 degrees. This is another factor that limits their spread in Lake Superior, which is much colder. Ideal depths for zebra mussels are between 6 and 45 feet, but they have been found as deep as 100 feet in some lakes.

One of the most noticeable effects of zebra mussels on a lake is an increase in water clarity. This is due to the filtering out of much of the phytoplankton, which is a major factor that limits water clarity. The increase in water clarity itself can have a major impact on a lake. Increased clarity allows greater penetration of sunlight in the water, and that allows aquatic plants to grow at a greater depth (Check my "Beneath the Surface" book, pp. 19-23 for a more detailed treatment of light effects). It can also greatly affect the behavior of fish and other animals. Those that are sensitive to light will seek deeper water. This can affect fishing because there may be more activity at night.

Of critical importance to a lake is the effect of zebra mussels on the food chain (see "Beneath the Surface", pp. 34-35). Zebra mussels filter out much of the phytoplankton from the water of a typical lake. They also remove some of the smaller zooplankton – the next layer above in the food chain. Zooplankton feed upon phytoplankton, so the remaining zooplankton may be starved of food. As an example of what can happen, Lake Carlos (another sentinel lake, like Ten

Mile) has experienced a 2/3 drop in zooplankton density in the nine years since zebra mussels were first found in that lake. Small fish and some other invertebrates feed upon plankton, so if plankton levels drop, these animals lose their food source, resulting in reduced numbers or growth. This effect carries up the food chain, so that larger fish may not find sufficient numbers of smaller fish to eat in order to remain in top condition.

The presence of zebra mussels can cause the character of a lake to change. Lakes where the food chain is pelagic (open water-based) may transition to what is called a more benthic (bottom-based) food chain that is based upon the presence of huge numbers of zebra mussels on the bottom. Ten Mile tends toward a more pelagic base for the food chain. For a couple of specific examples, in Lake St. Clair, where zebra mussels were first found, the perch population increased five-fold. One reason is that the perch began feeding upon the pseudofeces produced by the zebra mussels. This is a case where there was a positive effect of the mussels upon one species. A number of lakes have found improvements in the smallmouth bass populations. There may be several direct or indirect reasons for this.

A major negative effect of zebra mussels is found on freshwater clams. Zebra mussels adhere to their shells, sometimes by the hundreds or even thousands per clam (Fig. 3). In some eastern lakes, the clam populations have been almost extinguished. With crayfish, it can be a mixed bag. An adult crayfish can

eat up to 100 small zebra mussels per day, but on the other side of the coin, zebra mussels adhere to the hard carapace of the crayfish to the extent that they can become immobilized. Crayfish, however, have an advantage over clams in that as they grow, they periodically shed their carapace and grow a new larger one which, for the time being, is free of mussels.

What Are the Prospects for Ten Mile?

At this point, it is hard to make definitive projections for the effects of zebra mussels on Ten Mile in future years. It is likely that for a couple of years, at least, we won't see much. At what point a real explosion of adults is seen can't be determined exactly, but I suspect that within 3-5 years, adults will be found around most parts of the lake. For most residents, they will be most visible when attached to dock posts and boat lifts. By the way, don't have any part of your boat remaining in the water when not in use or zebra mussels will cover the hull and especially the propeller and other submerged parts of the motor. Sandy parts of the lake will likely be less affected than area with rocky shorelines, but the clams in these areas are likely to become covered with mussels. In addition, sandy beaches are likely to see accumulations of shells of dead mussels. These are sharp and may necessitate wearing shoes while being in the water.

For those who fish walleyes, I think it's safe to assume that within a few years the rocks that cover the underwater islands will be completely blanketed with zebra mussels. Their sharp shells could result in cut lines. Because the water in Ten Mile is already so clear, it's hard to say how much clearer the water might get. My guess is not much, but even a little bit would put the walleyes down deeper during the day.

The most important thing to watch for in Ten Mile is the effect of zebra mussels on the dwarf cisco population. It is estimated that there are from 6-8 million ciscoes in the lake. These fish are plankton feeders, and if there is a major diminution in the zooplankton, it could have a significant effect on the cisco population. Interestingly though, Ten Mile Lake has a very low population density of zooplankton. For example, it is over ten times lower than that of Lake Itasca. The lower density of plankton could have a limiting influence upon the population of zebra mussels that Ten Mile could support. Another potential positive feature of Ten Mile is its great depth. Some parts of lake waters don't mix much, and much of the water in Ten Mile is over 50 feet deep. It will be interesting to see if the plankton over the deep waters in the lake are somewhat protected from filtration by the zebra mussels. If so, this would benefit our cisco population.

If the cisco population does become depleted by the effects of zebra mussels on plankton, it is possible that their role in the food chain for game fish could be supplanted by an increase in the perch population if our perch begin feeding upon mussel pseudofeces like they are known to do in some lakes. This is a big unknown.

It is highly likely that our local clams will be adversely affected by zebra mussels. How badly is hard to predict. An unknown to me, at least, is how the populations of aquatic insect larvae (e.g. mayflies, caddis flies, midges, etc.) will be affected.

Another unknown is the possible effect of the physical properties of the lake in supporting or not supporting zebra mussels. In 2014, Cass County commissioned an important report outlining the potential susceptibility of its major lakes to both the likelihood of infestation by zebra mussels and, if infested, the likely severity of the infestation. Unfortunately, based upon physical characteristics, most Cass County lakes are considered to provide wonderful opportunities for zebra mussel expansion once they gain access to the lake. Ten Mile is no exception, and it is considered to be one that provides a good environment for zebra mussel establishment and growth.

There are, however, some potential mitigating factors that could work in the favor of Ten Mile. One is its great depth, which might protect many parts of the lake from mussel growth. Another is the large area of sandy bottom that covers much of the lake. Sand is not a good substrate for zebra mussel attachment. The low concentrations of plankton in Ten Mile may also have a significant limiting effect on the spread of zebra mussels. Unfortunately, the normal summer water temperatures in Ten Mile are in the ideal range for happy zebra mussels. In some lakes in Michigan there have been huge die-offs of zebra mussels when the water temperatures have reached the upper 80s for a number of days. (This might be one case of a positive effect of global warming!)

A final note about the spread of AIS both into and from Ten Mile Lake. Since Ten Mile is at the top of the Boy River watershed, all lakes downstream could be exposed to zebra mussel veliger-contaminated water emanating from Ten Mile. Birch Lake is the first downstream lake, and it is connected to Ten Mile by a roughly mile-long stretch of the Boy River. What are the prospects for Birch? Fortunately, the characteristics of that stretch of stream will be protective of Birch Lake. A number of studies have looked at downstream spread of zebra mussel veligers. For a typical stream, any lake less than 12 miles downstream is considered to be at great risk of contamination by veligers coming from an upstream contaminated lake. For highly vegetated, slow-moving streams, however, even a mile of separation may be sufficient for protection. The Boy River is in this latter category. Both its low flow and abundant aquatic vegetation may act as deterrents to rapid spread of veligers. Nevertheless, Birch lake should be closely monitored from now on.

Regarding Ten Mile, all of us should be very careful if we are to move boats from Ten Mile to any other body of water in order to reduce the likelihood of contamination coming from our lake. Also, we should continue to be vigilant about trying to prevent the introduction of other AIS into Ten Mile. Therefore, continued monitoring and common-sense care will remain important.

Looking into the Future

Fortunately, Ten Mile is one of 25 sentinel lakes in Minnesota. Sentinel lakes have been heavily studied since that program began, and as a result there is already a large database on many physical and biological characteristics of the lake. This, along with the unusual depth of the lake, makes Ten Mile an ideal lake in which to study the impact of a zebra mussel infestation from the very beginning, similar to the study already underway on Lake Carlos. By continuing to collect the types of data that are already being collected, we should have a very good record of the impact of zebra mussels on many aspects of the lake. At last summer's TMLA annual meeting, I briefly reported on the initial stages of my underwater survey of the lake through documented videos. The timing of this was very fortunate, because we already have a pretty good picture of what the lake is like in the pre-zebra mussel stage. I plan to continue this in future years and will identify specific sites that are likely to have zebra mussel colonies in the future.

I have already had discussions with some folks in the DNR about how we can document the spread of zebra mussels in Ten Mile. One important method that could be used is to identify specific sites in the lake and do counts of mussels in defined areas. Much of this is best done through diving. If any Ten Mile residents would be interested in participating by doing scuba diving surveys of key areas, please contact me by e-mail (brcarl@umich.edu). Working with the DNR, we could set up an important component of the overall survey.

In summary, even though we have news that we didn't want to get, I'm hoping to make at least some lemonade from the lemon that has been presented to us. How we deal with the zebra mussel problem in the future will likely involve many folks around the lake. I'm sure that this will be a major focus of the TMLA Board, so keep tuned for reports and requests for help.

Bruce Carlson

Feedback on our new TMLA Newsletter format is welcome! Email comments and suggestions to membership@tenmilelake.org

THE HISTORY PAGES

The cabin at 4552 Howe Drive is currently owned by Tom Pauly and Mary Goetze, but this property has a 100 year family history behind it. Here is a little of their story.

In the early 1910's Billy and Christine Ivers of Iowa were spending their summers at Lake Howard. At that same time, Billy Ivers and Billy Lothemer had become friends while working together on the railroad. In 1919, together, the two families bought a large parcel of land on 10 Mile. The large parcel consisted of 2,816 feet of shoreline. The total cost for the land was $400, and the two families split the cost. The property had been logged leaving the land clear to build 2 cabins, one for each man's family. With the land already cleared, they set out to build right away.

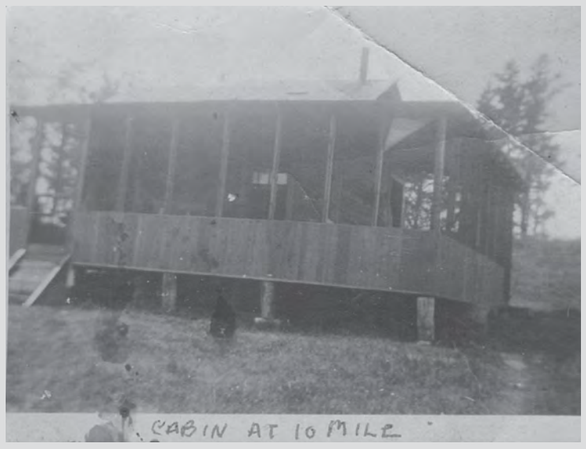
Billy Lothemer died around 1930 but his family retained the property. The parcel of land and 2 cabins remained as a joint piece of property. Kay Pauly, the Ivers married daughter from Chanhassen, MN, took over ownership of the Ivers piece of property following WWII and in 1952 the Lothemer property was purchased by Owen Skreen.

In 1977, the Pauly and Skreen family sold off 2000 feet of shoreline property from the large parcel and at this time the remaining 816 feet were divided among the 2 families leaving each with 408 feet of shoreline property.

The Pauly parcel was then owned by Dutch and Kay Pauly's 4 children. Following the death of their parents, the Pauly parcel was divided among the children and portions sold off. The portion of the original Ivers parcel is now owned by Tom Pauly and Mary Goetze, 2 of Dutch and Kay Pauly's children.

But it's the family stories throughout its 100 year history that make this cabin ownership story interesting. Steve Pauly, the oldest son of Dutch and Kay Pauly, recalls family life at the cabin and the stories he was told or witnessed as a child.

Steve begins by saying his grandparents originally bought the land to both enjoy, but also because Christine Ivers had an illness where being in the "clean air" would help her condition. The cabin offered her this environment. In those earlier days, the only way to get to the cabin area was by train. When Billy Ivers bought his first boat, the boat and Billy were both loaded on the train. He and the boat disembarked the train on Long Bay. From there, Billy and his boat paddled their way to the cabin. With no roads in the area, the boat became necessary transportation.
The Ivers had 2 young children by this time, Tom and Kay. Christine would spend the entire summer at the cabin with her young children while Billy continued with his job on the railroad. Billy would join the family as time permitted. Christine had to depend on neighbors to help her. She would take her boat to close by neighbors to gather milk and ice. Christine was an ingenious and ambitious person. While she ran her errands, she would cast a line to catch fish. As cabin life so often goes, the local resort owner and other neighbors regularly checked in on Christine and her little family.



Billy Ivers died in 1931, but Christine carried on with cabin life and chores. During WWII, many family cabins, along with the Iver's cabin, remained dormant. Steve Pauly was only 2 years old in 1946, but he recalls driving up to the cabin with grandma Ivers and his sister Connie for the first time following WWII. Christine did not know what awaited her at the cabin after lying dormant for those five years. Steve recalls grandma taking axes and saws and clearing the .7 mile driveway of trees and debris simply to get the family to the cabin. Christine and her grandchildren spent one night at the cabin, but after finding mice in the mattresses she took the children and checked into a resort on 10 Mile Island. There was no bridge connecting the island to the shore, so Christine drove the family car through the water along the sandbar to reach the Resort. It took the rest of the summer for Christine and her family to ready the cabin for future use.

Grandma Christine raised chickens and grew vegetables during her full time summer stays at the cabin. She was adept at carpentry work and alongside her family, she tended to the maintenance needs of the cabin. The 1950's and 60's were busy years at the Iver's cabin, but the cabin remained short on modern conveniences. With the baby boom came several children into the Iver's\Pauly clan. Kay Pauly and her sister in law washed many diapers on the rocks of the shoreline. But Steve also recalls the women relaxed after that chore with a drink. After all, a cabin is a place to have fun.

Christine Ivers and the Dutch and Kay Pauly family and their 4 children spent their summers at the cabin from the 1950's through the 1970's. The Pauly's were social and gregarious people. They invited many friends, neighbors and relatives to the cabin. One afternoon a bush plane pilot mistook the Pauly cabin for a resort because of the large number of cars and people he saw from the air. He landed near the cabin only to find out it was the Pauly clan and a few close friends enjoying the day.

Currently the Tom Pauly and Mary Goetze family own and frequent the family cabin. Including Tom and Mary's grand children, five generations of Ivers descendants have gathered and made memories on Howe Drive. It was important to Christine Ivers to leave the legacy of the cabin life she loved to her family. Christine would be happy to know her great-great grandchildren are now sharing in on the life she loved on Howe Drive.

AND SPEAKING OF HISTORY...
HELP PRESERVE TEN MILE'S ICONIC STEAMSHIP "AMY"

When the last of the three Siqveland cabins sold last year, many long-time Ten Milers were stunned because the family had been at the lake for nearly a century and were fixtures in the Ten Mile community. Ivar Siqveland Jr. is a past president of the Ten Mile Lake Association and his brother Tom is a past commodore of the Ten Mile Lake Yacht Club. Brothers Bob and Jimmy were also active members of the Ten Mile community. The Siqvelands were early members of the Ten Mile Lake Yacht Club, had the one-time fastest speedboat on the lake (the 1957 Wepasem) and also one of the slowest but coolest boats -- the iconic "Amy" steamship.

When I learned that Chris "Kritchen" Bliska had a plan to keep the classic Amy steamship on Ten Mile, I jumped at the chance to preserve this piece of our culture and history that has been a fixture on the lake for the past 40 years. The Amy has special meaning for those of us who are old enough to remember Ivar Siqveland Sr. building the boat in the garage behind the Siqveland cabin.

Chris, who was a metal worker in his youth, actually fabricated a small component for the steamship's engine.

And my dad, Malcolm Moos, was with Ivar Sr. when he visited an oak grove east of Walker to select the tree that would become the keel for Amy. (The discarded ends of that keel still serve as the legs of a coffee table in the Moos cabin).

To date, several people have stepped up to save Amy, including Chris Bliska, Tom Bliska, Patty Brandt, Tom Brandt Sr., Grant Moos, Andy Nelson and Brad Putney. And best of all, the Siqveland brothers have agreed to remain part owners even though they no longer have cabins on the lake. The idea is to operate the steamship as a public treasure during the Fourth of July week and other busy times during the summer to provide rides to whoever wants one.

The group now has enough to cover the price of the Amy. Donations are now being accepted to help pay for a lift, trailer, storage and upkeep to preserve this bit of our common history and culture. If you'd like to be a part of the Amy team, please contact Chris Bliska (612-940-4568 cbliska@gmail.com) or Grant Moos (612-834-7030, grant.moos@gmail.com).

This is a once-in-a-lifetime opportunity to preserve a one-of-a-kind boat on one of the premier lakes in Minnesota.

Grant Moos

Editors note: The following was received from Chris Bliska shortly before this newsletter went to print:

Greetings All,

I'm happy to report that Amy is back on Ten Mile lake Shores. She is in Brad Putney's storage building for the winter. Grant Moos and Brad Putney with help from Jeff Manlove hauled her from Longville back to TML. Our informal initial outreach raised about $15K. this was enough to purchase her and to buy a very nice used trailer.

Also very good news is that the Siqveland Brothers decided to retain part ownership so they will be able to help us learn to operate and maintain her. They have also provided a great deal of historical documents and literature. We created a limited liability corporation that will own her called Amy of Ten Mile Lake LLC. At some point we will have a shareholders meeting and elect officers. In the meantime, Grant Moos and I share responsibility for financial oversight of your investment. Next steps include looking for and buying a suitable lift. We are in discussions about where on TML she should be kept during the summer. I've suggested the Moos Cabin shore because several of you are along that shore. The only concern I have is the exposure to south winds in a big storm. Any comments on this are welcome.

Our hope is that you all will take her out frequently during the summer offering rides. (Tom Siqveland is creating a "how to operate" video and we will all need to be checked out before operation). We hope to attract more investors to fund the lift purchase and maintenance so feel free to spread the word. And we hope some of us can get together in the spring to some cosmetic maintenance like paint and varnish. Please contact me or Grant with any questions or suggestions.

Chris Bliska

On behalf of myself and my brothers we're delighted Amy is entering this new phase of her life on Ten Mile and in the care of such a nice group of friends. Our Dad, Ivar Sr., would have been equally pleased.

We look forward to providing operating training and helping with maintenance. You'll be relieved to know that operating her is not terribly complicated and you'll quickly develop an appreciation for the ingenuity of the early steam engineers. (…and a small step into 'yesteryear')

Tom Siqveland

DO YOU KNOW WHAT A HOT POND IS?

From The History of Akeley, published by the English II class of Akeley High School in 1933:
After the first sawmill, built in 1898, burned to the ground in 1909, another was built on the same site and called the "Sawtooth Mill" because of its peculiarly constructed roof which resembled a huge saw. One of the modern details of this mill was the "hot pond" which was constructed in Eleventh Lake. This pond was made by fencing off several acres of the lake near the mill. A large burner, where all the refuse of the mill was burned, supplied heat for the pond. Pipes lined the burner, through which the water circulated and went back into the enclosure, thus keeping the water hot at all times. Logs were placed into this hot pond, and this made winter sawing possible.

Now you know!
Sue Eikenberry, History Committee Chair

The **TMLA Nominating Committee** is always seeking prospective candidates for the Board of Directors, which is comprised of 4 officers and 12 directors elected by the membership of the association. Board members support the mission of the TMLA through leadership and strategic governance. Directors are elected to 3-year terms and the Board meets monthly, May through September. If you enjoy this type of volunteer commitment and think you might be interested in serving on the board in the future, we would love to hear from you. Please send an email with the subject "interest in the TMLA board" to **membership@tenmilelake.org** and your message will be delivered to our **Nominating Committee Chair, Diane Finley Power.**

CONSERVATION COMMITTEE UPDATE

The Conservation Committee has been involved with a number of projects over recent months:

Lundstrom Bay
Early in 2019 the TMLA was approached by the Northern Waters Land Trust and Cass County to join in the acquisition of an environmentally sensitive parcel in Lundstrom Bay, primarily funded by a Lessard grant from the State of Minnesota. However, after many months of working on the transaction, the state's appraisal did not satisfy the property owner's target price and the property has been sold to a private party who is a long-time resident on Ten Mile.

North shore rip-rap project
The Cass Country Soil and Water Conservation District (SWCD) has offered a program to approximately 30 property owners along a ½ mile portion of the north side of the lake. This area has sandy shoreline and some properties have been losing beach due to high water and waves. The SWCD would secure bids and pay 50% of the cost of placing rock/rip-rap along the shoreline, with an enrolling property owner paying the other 50%. It is a voluntary decision on the part of each property owner as to whether to participate in this project. Property owner responses to Kelly Condiff at Cass County Environmental Services should be made by January 31, 2020.

Kenfield Bay possible acquisition
The leadership of the Committee has recently been approached by the Northern Waters Land Trust and the Mn. DNR to consider partnering in the acquisition of several parcels in our most environmentally sensitive bay. Reinvest in Minnesota (RIM) funds would be the primary funding source. After fact-gathering, this proposal will work its way through the full Conservation Committee and eventually the TMLA Board.

Andy Biebl, Conservation Committee Chair

VISIT THE TEN MILE LAKE ASSOCIATION FACEBOOK PAGE

The TML Association Facebook page is a dedicated page for Ten Mile Lake Association (TMLA) members and will be monitored by the TMLA. This page can be a place to share community information, ask questions about Ten Mile Lake, local activities and events, start clubs, post lost and found items, and find local resources and recommendations. Please join the TMLA Facebook page and invite your fellow TML Association member to join also.

If you are the minor child (under 18) of a member you may join - however, if your parents have not listed you we can't verify your membership. So - ask your parents to include you when adding or editing their profiles.

Note: There are several Ten Mile Lake Facebook pages (i.e. sailing, fishing, etc.) already in existence. Our new TMLA Facebook page is linked to the website and is the official Association page. This page is for Association members only and posts on this Facebook page can only be seen by members. The other Facebook pages are not affiliated with the Ten Mile Lake Association and do not guarantee TMLA membership access only.

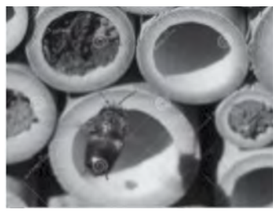
BEE AWARE!

Everything there is to know about bees can be found at https://www.beelab.umn.edu/. The internationally renowned, bee lab, as part of the University of Minnesota, Saint Paul Campus land grant college, is a good source of information.
Here are some facts available on the site:

- Most bees (between 60 and 70%) dig burrows in the ground. The other 30-40%, the cavity-nesting bees, use hollow plant stems or holes in wood left by wood-boring beetles, instead of digging their own tunnel in the ground.
- There are almost 20,000 known species of bees in the world. About 3,500 live in the United States, and in Minnesota, there are probably close to 400. Less than 2% of these are honeybees and bumble bees. The other 98% are wild bees.
- Interested in attracting wild bees to your yard or garden? They require food and shelter. Flowers provide food for bees in the form of nectar and pollen. Not all nectar and pollen is equally nutritious, so a variety is important for a healthy bee diet. The greater variety of flowers there are the better the bee availability. Wild bees generally have a much shorter foraging range than honeybees.

Honeybees pollinate most of our crops. Wild bees make sure garden plants, ornamentals, and wildflowers get adequate pollination. They are better at pollinating a lot of plants. Bumble bees make great tomato and pepper pollinators. The solitary blue orchard bee pollinates early in the spring. The squash bee seeks out pumpkins, squash, and other cucurbits to the exclusion of others.

Building Wild Bee Houses:



Simplicity: ***Accessibility:*** ***Reusability:***

The simplest type of bee house is the bundle of sticks model. Just take some hollow sticks or reeds, bundle them up, and put them out where bees can find them. Provide shelter to keep the sun and rain off.

Bamboo is a popular material. You can even collect dead stems from your garden in the fall or spring from Raspberries, Bee Balm, Joe-Pye weed, Cup plant, Sumac, certain Asters, or anything with a large hollow stem. More information is available on the above web site.

COMMON VISITORS TO WILD BEE HOUSES
THEY COME IN ALL SHAPES AND SIZES

Bees Osmia (mason bees) fly from early spring to early summer. Nests are highly variable depending on the species. Most construct cells with mud or leaf pulp, but sand, gravel, resin, wood chips, or flower petals may also be used. The adults are dark, bulky bees, often with a metallic blue sheen, and are easily recognizable but rarely seen due to their fast flight.

Hoplitis fly from mid-spring to early summer. They are closely related to mason bees and have similar habits. Nests can be made out of leaf pulp or mud. The adults look like mason bees, except somewhat slenderer and usually without any metallic sheen (one Southern species is brilliant bright green or purple.

Heriades fly all summer. A small group, there are just two common species in the Midwest (11 in all North America), and both use plant resin to construct cells. These are small, black bees with short white hair, easily overlooked in the wild. Heriades carinatus prepupae in cells made completely of hardened plant resin.

Hylaeus (yellow-faced bees) fly all summer, and are one of the few cavity-nesting bees not in the family Megachilidae. Only Megachilidae use foreign material (leaves, mud, resin, etc.) in their nests; yellow-faced bees make cells out of a thin, clear film that they secrete from glands on their bodies. The adults are tiny, hairless, and glossy black with yellow markings

Hylaeus prepupae in fragile cells of thin, clear waterproof film.

Anthidium (carder bees) fly all summer. They collect hairs off of certain fuzzy plant leaves and make a wooly substance with which to line their nests. Adults are black with yellow markings, and are easily mistaken for wasps or hover flies, although they have the stout body and long hair of a bee. The most common species is the invasive European wool carder bee, whose males have a distinctive hovering flight as they patrol their territory, chasing away other bees that get too close.

Coelioxys and Stelis are cleptoparasitic bees. They do not make nests of their own; instead, they find another bee's nest, destroy the host bee's egg, and sneak their own egg in its place. The host bee can't tell the difference, and the cleptoparasite larva will eat the host's pollen, all without the cleptoparasite mother needing to do any work. Fortunately, cleptoparasitic bees are very rare and do not have a large impact on host populations compared with other factors (such as disease). Coelioxys adults resemble leafcutter bees with short hair and a long, sharply pointed abdomen. Stelis adults resemble short-haired mason bees or carder bees, often with pale spots or yellow stripes on the abdomen.

Wasps Like solitary bees, solitary wasps are much gentler than their social cousins. They will not sting under normal circumstances, even if you open their nests.

Unlike bees, wasps are predators. Instead of provisioning cells with pollen, they will catch prey and bring it back to the nest for the larvae to eat. Solitary wasps visit flowers for nectar and do some incidental pollination, but their main benefit is in keeping pest insect populations down. Ancistrocerus and Euodynerus (potter wasps) fly all summer. Their nests are made out of mud and stocked with small caterpillars or beetle larvae. They have two generations per year, one in early summer and another in late summer. Adults are large, glossy black, with yellow stripes and spots.

Passaloecus (aphid wasps) fly in early summer. Nest cells are made out of pine resin and stocked with a couple dozen aphids each. The adults are tiny, black, and unremarkable; perhaps their most distinguishing feature is their large protruding jaws. Due to their efficiency at collecting aphids, they have been considered as a possible aphid biological control agent, something any gardener should be interested in.

Passaloecus prepupae, along with uneaten aphids (6th cell from right) and a parasitic chrysidid wasp (9th from right.) Isodontia (grass-carrying wasps) fly in mid-summer. As their name suggests, grass-carrying wasps carry grass to build their nests,

COMMON VISITORS TO WILD BEE HOUSES
THEY COME IN ALL SHAPES AND SIZES

which they stock with captured tree crickets. No other bee or wasp uses grass as a construction material. Adults are large and solid black, with a distinct narrow "waist" between the thorax and abdomen.
Abandoned Isodontia nest with grass filling.

Chrysididae, Sapyga, Ephialtes, Melittobia, and others are parasitoids that fly at various times depending on host activity. Parasitoid wasps find a host (in this case, a solitary bee or wasp larva) and lay an egg in or on it. The parasitoid larva then hatches and eats the host alive. Parasitoid wasps are extremely diverse and more common than cleptoparasitic bees.

Anthrax, a parasitoid fly, also attacks solitary bees and wasps.

Pompilidae (spider wasps) fly in summer. Most nest in underground burrows, but a few will use solitary bee houses. Nest cells are made out of mud, sometimes in a distinctive pot shape, and stocked with one spider each. Adults vary greatly in appearance, but most species using bee houses are small, black, and slender. If you are lucky, these rarely-seen wasps can help protect your bee house from spiders.

Sources of information

- Wild Bees and Building Wild Bee Houses, www.BeeLab.umn.edu, Written by Joel Gardner.
- Pictures from various internet sites for bee houses for sale.
- https://www.beelab.umn.edu/

From Marty McCleery

REMEMBERING OUR TEN MILE LAKE FRIENDS

The obituary sent to us for Beverly Lingwall, while mentioning that Beverly was survived by her two daughters, Nancy and Mary, failed to mention that Beverly was also survived by her son Andy Lingwall, now of Clarion, Pa. We are glad for the chance to correct this omission, which has also been incorporated into the online version of Beverly's notice.

Editor's Note

Christian K. Zacher (1941-2019)

Chris Zacher died at home in Columbus, Ohio with his son, Sam and his wife, Kay Bea with him. He loved reading and visiting relatives at Ten Mile, where he summered each year since he married Kay Bea Jones. Chris enjoyed a storied childhood between the Chicago's South Shore lakefront and the Gallinas Canyon in New Mexico. Jesuit educated at Loyola High School and The College of the Holy Cross, after receiving his PhD at University of California at Riverside, he accepted a teaching position in Ohio State's Department of English in 1968 where he was employed for 44 years. Zacher presided over the New Chaucer Society (1990-1997), OSU's Medieval and Renaissance Studies Center (1984-1992), The Ohio State Columbus Quincentenary (1984-1992), The OSU Faculty Club, and served two terms as secretary of the OSU Faculty Senate (2006-2012). Zacher served on the OSU Athletic Council and was recognized with the OSU Distinguished Service Award for his "initiative to make things happen, dedicating himself to the university and producing tangible results . . . his attention to the details of reality, his creative vision of possibility, and his quiet, effective style of leadership."

As a perpetual connector between colleagues, Zacher established Ohio State's Institute for Collaborative Research and Public Humanities, a research center, and served as its director for 13 years until he retired (1998-2011). The Humanities Institute fostered the research of countless OSU scholars and visitors, including re-establishing Ohio Chautauqua with the Ohio Humanities Council, OSU Literacy Studies, and The Big Picture Series with the Columbus Museum of Art. In 2006, Zacher was awarded the Ohio Humanities Council's Bjornson Award for Distinguished Service in the Public Humanities.

His ambitious publication of the Encyclopedia of the American Midwest, co-edited with Richard Sisson and Drew Cayton, garnered the support of

the National Endowment for the Humanities. Zacher subsequently wrote the the Holbrook Years 2002-2007, which chronicles the tenure of Karen Holbrook, OSU's 13th president. His forthcoming publication with Morris Beja, Not Even Past, records the history of the OSU Department of English from 1870-2000.

Chris Zacher is survived by his wife of 27 years, Kay Bea Jones, His sister, Cathie Zacher of Santa Fe, NM, his daughters, Jessica Zacher Pandya (Mihir) of Long Beach, CA, Lydia Zacher Dixon (Pete) of Camarillo, CA, his son, Samuel Zacher of New Haven, CT, and nieces and nephews in Chicago and California. Chris was especially proud of his five grandchildren, Nick Garcia-Zacher, Miki Pandya, Leela Mae Pandya, Juno Azuz-Zacher, and Castor Dixon, who all resemble more Martha than Sally Lou. A devoted father and true Catholic humanist, Chris long believed and demonstrated that "we raise our children to be better than us."

Donald Lundberg

Donald Lundberg died June 8, 2019. He was born to Pastor Harry and Eva Lundberg in Battle Creek, Iowa. He attended schools in Iowa, Vermont and Minnesota where his father had parishes in the Swedish Lutheran Church. Don graduated from North Branch, MN and then went on to get a teaching degree in Foreign Languages from Gustavus Adolphus college. There he met Marian Edstrom and they were married in 1951.

Don taught languages in Crosby/Ironton and Wayzata public schools. His love for cars led him to a career with Ford Motor Company teaching the Service Technical School. After retirement he continued as a consultant for another 10 years.

Don Loved Ten Mile Lake where he and Marian lived summers after retirement. Their property was a farm on the east coast of the lake that was bought by his father from the Bostrom family who were the original owners of that acreage. It is on Herg Trail Road which Don named after his Swedish ancestry. Don and Marian hosted many gatherings there with family and friends. The grandchildren fondly remember the famous treasure hunts he created for them. He wasn't a fisherman but spent many hours on and in the lake or puttering with his many tools in the out buildings.

The Lundberg home is in Plymouth, MN but winter vacations were spent in San Clemente, CA and many cruises with friends.

Besides Marian he is survived by his 2 sons, Mark (Melinda), Bob (Melody) and a daughter, Becca (Brian Redmond). They will take over the property and continue to love and enjoy it.

Donations should be made to the Ten Mile Lake Association, the Salvation Army or donor's choice.

Lawrence Urbanski

Lawrence Urbanski, 93, Cloquet, Minn., passed away Wednesday, Aug. 14, 2019, in Inter-Faith Care Center in Carlton, Minn. Larry was born on April 3, 1926, in Clifton Township, Minn., and grew up and attended school in Tracy, Minn. In 1956, Larry married Joan Thomes of Hackensack (a Ten Mile Lake resident) at St. Agnes Catholic Church in Walker and together they spent many weekends and summers on Ten Mile Lake and became year-round residents during retirement.

Over the years, Larry was an active participant in the Ten Mile Lake Association. He served on the Board of Directors and volunteered for the Association's specific efforts including the History Committee, Fisheries Committee, and Adopt-a-Highway Committee. Larry enjoyed attending, and hosting, the weekly Men's Coffee group around the lake.

Prior to completing high school, Larry was inducted into the U.S. Army at age 18 and in February 1945 shipped out overseas for the Pacific Theater of WWII with the Army's 381st Infantry 96th Division "Deadeyes" as a field telecommunications specialist and infantry rifleman. During frontline combat in Okinawa, Larry was wounded by enemy fire on June 15, 1945. He received the Purple Heart medal, Bronze Star, Combat Infantryman's Badge, and numerous battle medals, ribbons, and overseas service bars for his service in the Army.

Post WWII service, Larry earned a bachelor's degree in Social Science from St. Mary's College in Winona. He began teaching in Aitkin in 1951, then moved to Cloquet for a teaching position in 1954. He taught social studies and English, coached, directed plays, and advised the school newspaper. After earning a master's degree in Library Science from the University of Minnesota in 1969, he became the Cloquet Senior High School librarian until he retired in 1988,

completing a career of 37 years in public education. Larry had many interests and always enjoyed learning something new. His hobbies included fishing, gardening, history, woodworking, reading, sports, and music. He participated in bowling leagues and kept the official scorebook for Cloquet Lumberjack basketball for many years. While teaching, Larry cherished weekends and summers at the family home on Ten Mile Lake, and ultimately living at the lake after retiring. He enjoyed watching his children participate in school and community activities ranging from concerts to plays to sports.

Larry was actively involved in community organizations and events, including the Carlton County Historical Society, Queen of Peace Parish, Ten Mile Lake Association, Sacred Heart Parish in Hackensack, Knights of Columbus, Cloquet Exchange Club, Kiwanis, and serving for many years as Quartermaster and Historian of the Hebert-Kennedy VFW Post 3979. He held memberships in countless groups, freely donated his time and knowledge to others, and easily made new friends everywhere through conversation. Larry was preceded in death by his parents Peter and Rose, and his ten siblings Leo, Mary, Margaret, Tony, Louis, Victor, Aloysius, Hans, Clara, and Evelyn.

Larry is survived by Joan, his wife of 63 years; his three daughters, Becky (Scott Junkert), of Hermantown, Minn.; Mary Urbanski of Grand Forks, N.D.; Sue Conlon (Joe) of Torrance, Calif.; and his son, Tom (Patti) of Cloquet, Minn.

Visitation was held on Tuesday, Aug. 20, and a Mass of Christian Burial on Wednesday, Aug. 21, at Queen of Peace Catholic Church in Cloquet. Burial with military honors was in New Calvary Cemetery. Memorials may be sent to the Ten Mile Lake Association, Carlton County Historical Society or Queen of Peace Parish in Cloquet. Arrangements were by Atkins-Northland Funeral Home & Cremation Service.

Please send obituary articles to the editor at membership@tenmilelake.org and include pictures if possible. We are happy to add pictures or details to obituaries after initial publication. Added details will appear in the obituary archives on our website at www.tenmilelake.org under current news or in the library.

TEN MILE LAKE ASSOCIATION

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