

# THE VERMILION



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*To Protect  
and Improve  
Lake Vermilion*

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# PRESIDENT'S MESSAGE

I am writing this on the first day of 2025, the first “official” day of my term as the Vermilion Lake Association’s President. While I am looking forward to this new challenge, I am also aware of how much I will be relying on our current board members for support. I am awed by the level of commitment they have in supporting the VLA’s mission, “to protect and improve Lake Vermilion.” In particular,



I would like to thank our outgoing President from the last two years, Dwight Warkentin. Dwight has been on the board for many years and will continue to serve as an at-large board member. I thank him for his strong leadership.

One big project that was completed during Dwight’s term as President was the new accessible shore lunch site in Smart Bay. This project, in collaboration with the DNR and the U.S. Forest Service, and headed by board member Pat Michaelson, was done with the help of many VLA volunteers. We thank them all. Keep an eye out for updates on future public use projects with the DNR and Forest Service.

A little more info about myself: My husband, Mike Ptak, and I bought our boat-access property in 1990. We joined the VLA very soon after this, on the suggestion of our island neighbor, the late Bob Larson. (Be like Bob, invite your neighbors to join our lake association!) We started out our involvement with the volunteer program first as shore lunch site monitors, and then with the loon counting program.

You may recognize my husband’s name as the Shore Lunch Site Leader for the East End. After we retired and started spending 5+ months up here each year, I joined the board in the Fall of 2019, serving as the Communications Leader.

One of our board members, Jessica Templeton, will be taking over the Communications Leadership position. She will be heading up the newsletter, website and social media. See page 8 for “We Want Your Articles and Suggestions?” Email any suggestions to [communications@vermilionlakeassociation.org](mailto:communications@vermilionlakeassociation.org).

Recently, we were informed that long-time VLA member Walt Moe passed away in December. Walt was the president of the Sportsmen’s Club, now called the Vermilion Lake Association, for six years. We would like to thank him and his family for his long-term commitment to protecting and improving Lake Vermilion.

One last note before I conclude: Save the date for this year’s Annual Meeting, being held on July 26, 2025. It will again be at beautiful Camp Vermilion, so you know the food will be good!

Take care and stay warm,

**Lori Ptak, VLA President**

**The Vermilion Lake Association newsletter is published quarterly and mailed to members.**

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**We welcome your contributions! Send story ideas and photos to Jessica at [communications@vermilionlakeassociation.org](mailto:communications@vermilionlakeassociation.org).**





# Lake Vermilion Water Quality Update

2024 was a strange year for Vermilion. We went from a record-breaking high-water level in June, and then watched the level drop almost 33 inches just before ice-in. The June water sampling of over 400 analyses got us into lake locations which had no records or had not been previously sampled. The last sampling of the year in late October of our two 'hot spots' (East Two River and Pike River as they enter Pike Bay) showed us what we've been seeing for years: elevated levels of calcium (a contributor to zebra mussel shell growth), iron (which can combine with toxins such as lead and arsenic, making them more mobile), phosphorus (algae growth contributor), and sulphate (detrimental to wild rice growth). Fortunately, the levels are not high enough to raise



**Craig Beveroth**  
VLA Water Quality  
Leader

any alarms, although Vermilion is listed by the U.S. Environmental Protection Agency and Minnesota Pollution Control Agency as an impaired lake due to the sulphate levels, as they affect wild rice growth.

Be sure to read the guest articles by Dr. Adam Heathcote (Science Museum of Minnesota) about a summer survey of sediment and its effect upon historical walleye production on page 13, and Dr. Sara Heger (University of Minnesota) about septic systems on page 6.

Vermilion's water is great. Let's do our best to keep it that way.

**A view of the Pike River flowing into Pike Bay at the height of the June 2024 rains. Photo by Craig Beveroth**

# Legends of the Lake

**M**y name is Jeff Banks, and I have been a long-term member of the Vermilion Lake Association since we visit my brother-in-law and sister-in-law each year for a week, usually in early July. I enjoy fishing and the beauty of the lake. Sometimes the early July time frame was difficult for fishing. In 2023, June was exceptionally warm, with surface water temperatures approaching the 80 degree level, making early July more like midsummer fishing. We were able to do really well catching a lot of bass at several different locations on the lake. The numbers of bass were high, but we did not catch the larger bass. It was a beautiful week with no rain, and the temperatures were near normal for July.



**Jeff Banks with his legendary northern**

The second to the last night of our vacation, we decided to try for larger fish and cast a bay where, over many years, the family had luck with larger northers and even a few muskies at times. We cast almost the whole bay without any action. Near the far side of the bay I had a muskie follow, but it did not hit the lure. Only a few minutes later my brother-in-law then indicated that he had a fish on. The rod was bent double and, although the fish hit far out from the boat, it was moving quickly at the boat. All of sudden a muskie, most likely 40 inches plus, came completely out of the water and then immediately turned around, headed toward the middle of the bay, taking drag with it. The muskie again came completely out of the water, twisting as it landed back in the water, and it cut the line like butter. Well, those were a few exciting moments, but disappointing. We were not prepared for that size of fish, with only a small net in the boat, and we needed longer leaders to protect the line.

The next night was our last night, and we decided to go back to the same bay, fish it again, and maybe cast the next bay as well. Joseph, my son, was also with and hoping to get in on the action or get a few pictures. There was no action in the bay where we lost the muskie, so we moved over to another bay to give it a try. Again, a beautiful night with the excitement that only Vermilion can generate. We were

better prepared with a muskie net and wire leaders. We started on one side of the bay and cast almost the whole bay. Just as we were coming out of the bay in deeper water, I heard my brother-in-law indicate that he had a very large northern follow but not hit the lure. All of a sudden, almost at the same time, a large fish hit the top water lure I was using in an amazing strike. There is nothing like a strike on a topwater lure by a large fish, something you will never forget. The battle was on with the fish making several long runs, but after a few exciting moments, we landed a large northern pike in the larger net.

After a quick measurement and removing the hooks, the northern pike was released. When a northern pike reaches 40 inches, it certainly can be considered a legend of the lake. What was also amazing was that the northern that followed looked to be the same size as the one we caught. Joseph was able to get some video of the fight and a picture (above) before it was released. We did not weigh the fish, but we estimated it to be around 20 pounds. The lure it was caught on is no longer manufactured but seems to attract larger fish. What an exciting night creating memories of the largest fish the family has caught, and a story that will last a long time.

# Northern Lights, Camera, Action!

Fans of the Northern Lights, grab your cameras and get ready for some late nights! NASA has just announced that 2025 will be a “once-in-a-lifetime year” for viewing the Aurora Borealis, as the current solar cycle (an 11-year period during which solar activity rises and falls) reaches its peak. Scientists expect high levels of solar activity to trigger strong geomagnetic storms, which create dazzling aurora displays.



Jessica Templeton  
VLA Communications  
Leader

Lake Vermilion is an ideal location for viewing the Northern Lights, thanks to our low levels of light pollution. Dark skies are essential for

viewing the aurora. You can do your part to enhance our dark skies by ensuring that outdoor light is only used when and where it is needed, directing lights downward, and using “warm” bulb colors that emit less blue light. Look for bulbs with a color temperature (Kelvin rating) of 3,000K or less.

Taking actions to protect the dark is also important for birds, wildlife, and plants. Songbirds and shorebirds can be disoriented by artificial light at night; to reduce these risks, Audubon Minnesota recommends turning off decorative exterior lights during key months for bird migrations (March – May and August – October). Because plants rely on a network of animals for pollination and seed dispersal, artificial lights that distract or repel creatures like moths, bats, and various mammals can reduce native plant growth and reproduction. Light pollution can also change the timing of growth, flowering, and fruiting, reducing the availability of key food sources for plant-eating animals. Even invertebrates like beetles are affected – artificial light slows the rate at which they break down dead organic materials, an activity that is essential to healthy soil.

A recent study shows that artificial light at night also has negative impacts on fish. The study, published in



the journal *Science of the Total Environment*, found that after eight nights of exposure to artificial light, the female zebrafish under observation swam less, clustered closer together, and spent more time near the wall of their aquarium, a behavior which indicates anxiety. The authors speculated that the artificial light was causing sleep deprivation. The offspring of the exposed fish also swam less, even though they were never subjected to artificial light at night. According to one of the authors, Ming Duan, “Many of the places we light up at night are close to animal habitats. The best thing we can do is to minimize the use of blue wavelength light sources where animals are trying to sleep” (Max Planck Society 2024).

Lake Vermilion’s nearly 40,000 acres sit at the edge of the Boundary Waters Canoe Area Wilderness – the world’s largest International Dark Sky Sanctuary – offering an extraordinary opportunity for stargazing and viewing the Northern Lights. Considering how and when we light our way will enhance our experience and the ecology of this amazing lake. Whether you are bundled under blankets on your deck, stepping out of a fish house, or trekking across the lake on snowshoes, 2025 will be a great year to celebrate the lightshow at the 47th parallel.

For aurora forecasts, see the National Oceanic and Atmospheric Administration’s (NOAA) Space Weather Prediction Center: <https://www.swpc.noaa.gov>. For more ideas about how to limit light pollution, check out DarkSky International: <https://darksky.org>. You can read more about the study of impacts of artificial light on fish here: <https://phys.org/news/2024-09-artificial-night-behavior-fish-generation.html>

# Septic Systems 101: Treatment and Management

Dr. Sara Heger, University of Minnesota

Simply put, wastewater is water that contains waste compounds. These wastes include suspended solids, dissolved organic and mineral compounds, odoriferous gases, and pathogens. When we bathe and launder our clothes, water dissolves the sweat and soil and rinses those compounds down the drain. When we flush the toilet, water is used to transport the by-products of our metabolism out of the house.

The primary objective of your subsurface sewage treatment system (SSTS) is to remove the wastes from the water. Proper treatment of sewage recycles water back into the natural environment with reduced health risks to humans and animals and prevents surface and groundwater contamination. Sewage from our home contains four primary groups of contaminants that must be removed to effectively protect public and environmental health:

- Pathogens – harmful viruses and bacteria
- Solids – organic and inorganic material
- Nutrients – nitrogen and phosphorus
- Chemicals – cleaning products, personal care products, medications, etc.

Systems that do not provide adequate treatment represent a danger to humans and the environment. It is unhealthy for humans, pets, and wildlife to drink or come in contact with surface or ground water contaminated with sewage. Inadequate treatment of sewage allows bacteria, viruses, and other disease-causing pathogens to enter ground and surface water. Hepatitis, dysentery, and other diseases may result from bacteria and viruses in drinking water. Flies and mosquitoes that are attracted to and breed in wet areas where sewage reaches the surface may also spread disease.

An SSTS that fails to adequately treat sewage can also allow excess nutrients (phosphorus and nitrogen) to reach nearby surface waters, promoting algae and



plant growth. Algal blooms and abundant weeds may make the lake unpleasant for swimming and boating and can affect water quality for fish and wildlife. Aerobic bacteria decompose plant matter as it dies and settles to the bottom. The aerobic decomposition process consumes the dissolved oxygen that fish need to survive. Nitrogen can also be a problem for those who depend on groundwater for drinking water, as inadequate treatment of sewage can raise nitrate levels. High concentrations of nitrate in drinking water are a special risk to infants; nitrate affects the ability of an infant's blood to carry oxygen, a condition called methemoglobinemia (blue baby syndrome).

The septic tank, a solid watertight tank, is typically the first step of the sewage treatment process. The goal of septic tank design is for the sewage to take at least two days for the liquid to move across the length of the tank. In order to achieve the necessary volume to hold two days of volume, some installations may have two tanks in a row or one large tank with two compartments. A manhole allows proper cleaning and inspection of the tank. The manhole cover must be kept securely in place. If the existing septic tank cover does not have a manhole or inspection openings, sometimes a new cover with these features can be installed.

Some SSTS are designed to let gravity do the work of

**Continued on next page**

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moving effluent. Effluent may need to be pumped to the next component in the treatment train because it is upgradient from the previous component, or effluent may need to be pumped to the soil treatment area, such as those with a mound. In these situations, an additional tank, pump, and pump controls are installed.

SSTS use the soil as a medium to provide final treatment and return the reclaimed water to the environment. Suitable soil is an effective treatment medium for septic tank effluent because it contains a complex biological community. One tablespoon of soil can contain over one million microscopic organisms, including bacteria, protozoa, fungi, molds, and other creatures. The bacteria and other microorganisms in the soil treat and purify the wastewater before it reaches groundwater. The wastewater must pass through the soil slowly enough to provide adequate contact time with microorganisms. To achieve this, it is necessary to have at least three feet of aerated or unsaturated soil and limit the loading of effluent.

Just as roofs must be replaced and walls need to be repainted, SSTS need to be maintained and sometimes replaced. Even with routine maintenance, SSTS have a finite life. Wastewater may start ponding on the soil surface after years of receiving septic tank effluent. The soil can become clogged with solids that are still suspended in the water after it passes through the septic tank.

The total amount of water and the pattern of water use affect how well the SSTS performs and how long it will last. Property owners should be conservative with their water use and time water usage throughout a day and week whenever possible. Every time water is used, sewage enters the septic tank, and an equal amount of water leaves the tank. Large volumes of water entering the septic tank or other treatment component in a brief period of time may agitate and re-suspend sludge and scum into the liquid contents. If this happens, suspended solids are carried into the soil treatment system, clogging soil pores and preventing adequate treatment.

The pumping or “cleaning” of the septic tank must be done by bonded professionals licensed by the Minnesota Pollution Control Agency as Maintainers. Such professionals can be found using the search tool at <https://webapp.pca.state.mn.us/ssts/business-search>. Proper pumping will remove ALL scum and sludge from the septic tank(s) and lift tanks. This requires pumping, flushing, and back-flushing liquid contents back and forth between the truck’s tank and the septic tank through the manhole several times. This process breaks up all scum and sludge in the tank, allowing all solids to be removed by the truck’s suction line. Pumping will leave a black film on the tank walls and a small amount of liquid on the tank floor. This contains millions of bacteria to quickly regenerate the bacterial activity following the pumping. The material removed from the tank, called septage, must be managed in accordance with state and federal regulations.

When the tank is pumped, be sure to have the Maintainer check for leaks and make sure the baffles are in place and functioning properly. Pumping a tank through the inspection pipes is a bad idea and will often leave solids in the tank and damage baffles. Insist that the tank be pumped through the manhole, as most tanks have manholes, but they may be covered with soil. It may cost slightly more to have the tank pumped through the manhole, but this will save money overall. Adding risers to the manhole can reduce future costs and facilitate proper pumping. The pumping frequency depends on its size, use, and operating condition. Septic tanks for single family homes are typically cleaned every two to five years. In Minnesota, it is required that septic tanks be evaluated at least every three years to determine if they need maintenance.

Dr. Heger is a researcher and instructor in the Onsite Sewage Treatment Program in the Water Resources Center at the University of Minnesota. Since 1999, she has been providing education and technical assistance to homeowners, small communities, onsite professionals and local units of government regarding onsite wastewater treatment.

**Additional information and resources can be found on the University of Minnesota Onsite Sewage Treatment System website.** <https://septic.umn.edu/resources/septic-system-owners>

# Keep Lake Vermilion Clean

Thanks in no small part to the grassroots organization “Keep It Clean,” it is now illegal to leave any kind of waste – from cigarette butts to dead animals – on or under the ice in Minnesota’s lakes and rivers. Unfortunately, trash is a growing problem on Lake Vermilion. Last winter, Adam Kladivo of Lake Vermilion Ice Fishing collected several loads of garbage left on the ice, ranging from beverage containers to wood blocking. His efforts prevented this trash from going straight into the water as the ice melted, making the lake less safe for humans, fish, and wildlife.

## *This season, Keep It Clean suggests taking five actions:*

- Make a plan for trash and waste removal before you hit the ice.
- Use colored garbage bags, as they are easier to spot on the snow.
- Do not place garbage and waste on or under the ice.
- Make sure your garbage is secure before you depart to prevent it from blowing off truck beds, trailers, and sleds.
- Remove all materials when moving a fish house, including wood blocking and insulation.



Trash left on the ice last year included wood blocking, garbage bags, and even human waste. Photo by Adam Kladivo.

You can read more about this important campaign at <https://keepitcleanmn.org>

## We want your input and ideas!

At our last board meeting in November, the Board discussed an idea brought to us by a member about creating more trails, possibly around existing shore lunch sites. This led to a general discussion among Board members that we ought to be more proactive in seeking member input on how to spend our funds. Some of the ideas we talked about were to find out what other lake associations were doing with their funds, educational programs in conjunction with elementary and high schools, and increasing interest in fishing among youth, since this is an activity that is known to be declining. If you have an idea, please share it with us.

And don't forget to send us your stories for our new feature, Legends of the Lake. We have received some input from members for an initial story or two, but we hope to continue hearing from members and friends of the lake, so we can make this feature an on-going success.

Have a great idea for us or a story about Lake Vermilion? Send it to: [communications@vermilionlakeassociation.org](mailto:communications@vermilionlakeassociation.org)



# Tree, Shrub, and Native Plant Sale

It's back! The North St. Louis SWCD Tree, Shrub, and Native Plant Sale returns on January 8th, 2025! From January through early May, annually, we sell trees, shrubs, native plant kits and native seed mixes to local landowners. These plants are sourced from greenhouses and nurseries including Schumacher's Nursery, MNL, and the DNR State Forest Nursery. Orders may be picked up at the Eveleth DNR office (7979 MN Hwy 37 Eveleth, MN 55734) on Thursday, May 8th from 9am-3pm, or Friday, May 9th from 9am-6pm. You can order on our website at [www.nslswcd.org](http://www.nslswcd.org), or by phone (218-288-6146), or by mail.

The 2024 sale was great with over 15,000 trees and shrubs sold, along with 63 native plant kits and seed mixes. The top sellers in 2024 were red pine, white pine, and white spruce. The proceeds from the sale support the conservation efforts from our office in forest management, aquatic invasive species control, community education/outreach, watershed protection, and much more.

New for the 2025 sale are e-gift cards! These e-gift cards are available now on our website, feature unique designs, and are a great gift for any occasion. Visit our online store to browse our unique e-gift card designs!

Trees and shrubs include of a variety of deciduous and coniferous trees along with deciduous fruiting shrub bareroot seedlings sold in bundles of 20-25 trees depending on the species. Native plant kits are available for pollinator gardens, shoreline vegetation, woodland understory, raingardens, and buckthorn replacement. Plant kits contain 6 each of 6 different plant species. Native seed mixes include mixes for shorelines and septic mounds.

If you would like to order trees, shrubs, native plants, seed mixes, or e-gift cards, be sure to visit our website at [www.nslswcd.org](http://www.nslswcd.org). Quantities are limited so we recommend that you order soon!

We are very thankful for each of our customers, the Eveleth DNR staff and cooler, and for the trees, shrubs, and native plants that will help keep Minnesota forests healthy for generations to come!

If you have any questions on what kind of trees, shrubs, native plants, or native seed may be best suited for your property, visit our website to read individual descriptions or contact District Forester Tristan Nelson at [tristan@nslswcd.org](mailto:tristan@nslswcd.org) or 218-288-6146. Thank you for supporting local conservation by planting trees, shrubs, and native plants!



## *Wear your new caps proudly...*

Show your support for your lake association. The price is right! Cap prices are \$20, plus \$7 shipping per order. When you order 3 or more hats the shipping will be \$9. Free local pickup is available. Order online at

<https://www.vermilionlakeassociation.org/merchandise/caps/>

For more information contact Jerry Lepper, 218-753-2629 (H) or 218-404-2320 or email at [jnclep4@frontiernet.net](mailto:jnclep4@frontiernet.net)

***Support the Vermilion Lake Association  
Help Us Make a Beautiful Lake Even Better!***

# AIS: Walleye in lakes with zebra mussels have higher mercury levels

A recent study found that zebra mussels have another negative impact on lake ecology. In a study of 21 medium-sized lakes considered good for walleye, researchers from the University of Minnesota, the U.S. Geologic Survey and other agencies found



**Nancy Watkins**  
VLA Board Member/  
AIS Co-Leader

unexpected results. Adult walleye in infested lakes with zebra mussels had a 72 percent higher mercury concentration than those in lakes without these invaders. In yellow perch – a common prey for walleye – the concentrations were 157 percent higher. Smaller and average-sized walleye and perch

from these lakes were also much more likely to exceed 0.22 parts per million of mercury, a threshold that triggers more restrictions on how much fish humans can safely eat.

Gretchen Hansen, associate ecology professor at the University of Minnesota and one of the lead authors, noted that there were other surprising results. The effect was noted in multiple species across multiple life stages. Researchers saw similar responses in yellow perch and also young-of-the-year (i.e., juvenile or baby fish). Juvenile fish are not as likely to be eaten by humans, but the findings point to larger trends with mercury in infested lakes and the pathways through which fish are affected.

Mercury is often released into the air by coal-fired power plants and other industries. It primarily enters lakes through deposition by rain or snow. When it enters a lake, it is in a pure elemental form. Bacteria in the water converts it to a more toxic form called methyl mercury, which can be absorbed by fish or humans. The amount of mercury that gets into fish depends on the food web and where fish are eating.



**Zebra mussel cluster. Photo by D. Jude, University of Michigan**

When zebra mussels infest a lake, they can form dense mats on the bottom. These mats create sediment without oxygen, a perfect spot for bacteria to thrive. Due to their filter feeding, zebra mussels also suck nutrients from the open water pelagic zone to the near-shore littoral zone, increasing production in this area. Fish in invaded lakes may migrate to these now larger near-shore zones for energy sources. The combined effect of the increased littoral production and increased mercury methylation in these near-shore zones could lead to increased mercury concentrations in the fish.

Hansen said the findings do not mean it is unsafe to eat fish. The team is interested in further studies to learn if the same effect is happening in other lakes. However, people might want to be more cautious eating fish from lakes with higher densities of zebra mussels, and may limit exposure by eating smaller fish or those lower on the food chain. The Minnesota Department of Health issues fish consumption advisories for many Minnesota lakes based on mercury levels.

**For further reference, see: Blinick, Naomi, et al. 2024. "Increased mercury concentrations in walleye and yellow perch in lakes invaded by zebra mussels" in *Science of the Total Environment*, Vol. 957 <https://www.sciencedirect.com/science/article/pii/S0048969724076721>**

# Golden Mussels – New AIS in North America

The good news is that the Vermilion Lake Association and North St. Louis County Soil and Water efforts, using grants from the state to protect Lake Vermilion, have been successful since boat checking was initiated some eight years ago. The Lake Association is diligent in checking for



Terry Grosshauser  
VLA Fisheries Leader

new weeds and zebra mussels, and we have not found them in the lake even though some boats have been caught with zebra mussels on them. We are in good shape currently, but we need to be even more vigilant going forward, and we need your help to make sure your boat(s) are clean.

The Lake Association is trying to keep abreast of new Aquatic Invasive Species (AIS) that have entered North America and one recent entry, called Golden Mussels, has been found in North America for the first time. The Golden Mussel has entered the Sacramento-San Joaquin River Delta in California. There is significant concern that this AIS will be an immediate threat to California's most significant watersheds. California issued a public alert – "The species poses a significant immediate threat to the ecological health of the Delta and all waters of the state, water systems, infrastructure, and water quality." Without containment, the Golden Mussels are likely to spread to freshwater lakes in California and to other ports and inland waters of North America.

The Golden Mussel is a bivalve similar to but larger than the Zebra and Quagga mussels already present in Minnesota. These mussels have devastated ecosystems and critical infrastructure in other parts of the world. The Golden Mussel was most likely spread by a ship traveling from an international port. These dark yellowish mollusks are native to rivers in China and Southeast Asia. The Golden is already found in rivers in South America, with devastating impacts, and it is moving up and down rivers and getting close to the Amazon River.

So why should we be concerned? Officials have noted that Golden Mussels can survive in considerably lower calcium waters than either Zebras or Quagga Mussels. Vermilion has low calcium levels,



but is it low enough? They tolerate a wide range of salinity, temperatures, and pH levels. The larvae can swim and are capable of moving up and down rivers – think whole watershed issues. Golden Mussels can grow in huge clumps or colonies containing as many as 80K to 200K organisms per square meter. They can also impact boating and recreation by encrusting docks, engines and steering equipment. These large quantities of Golden Mussels can filter out considerable amounts of organisms in the food chain. This would disrupt the food chain and limit the availability of smaller fish and eventually larger fish like wall-eyes – think Mille Lacs impact and probably worse.

While the golden mussel is only in California now, we need to be aware if they are spreading and make sure that all boats are clean, drained, and dried before entering and leaving lake Vermilion. The Minnesota Legislature and the DNR need to reconsider current laws and approaches if this AIS begins to spread east from California. If this AIS enters the state, fisheries and recreational capabilities will all be at risk for lakes, rivers, and watersheds.

# Making Memories on Lake Vermilion

**M**y name is Travis Hilstad and I have been going on family vacations for 30 years to Vermilion Dam Lodge on the Cook end of the lake. I am only 33, so as far back as I can remember I have been enjoying the thrills of Lake Vermilion.

One story I wanted to share dates back 12-15 years or so ago. I grew up learning to fish primarily from my grandpa (my dad as well). My grandpa has always worked so hard for everything in his life and didn't get to fish as often as he would like (something as a full-time working adult and parent I now understand). He and my dad have been a part of the Lake Association for 20+ years.

We were out on a cold, rainy, windy, overcast day in early June, in a bay that was visible from our cabin. A bass fisherman came up to us and asked what we were fishing for. Well, we were throwing various lures in attempts to catch some northern pike. As we were talking with this bass fisherman, he proclaimed, "You will never catch any pike in here." And not even before he could finish that sentence, I set the hook into one and boated him with the bass fisherman right next to us. He had a dumbfounded look on his face. Needless to say, our conversation ended up being short (and that is saying something because nobody I know can talk more than my Grandpa). He asked if that was the first one we had caught, and I let him know it was roughly our tenth of the day. We have always had good luck fishing for northern pike in that bay. It is very tiny and does not even have a for-



mal name. But in our family, it is called "Pike Bay." We proceeded to catch almost 30 northern pike that day – the best we have ever done in one outing (which lasts anywhere between 2 and 5 hours).

A side story to that is I had made a cast, got a "rat's nest" in my bait caster, and the line snapped. I lost my top producing lure in the middle of "Pike Bay." I was devastated at the time. I thought it was gone forever. But Lake Vermilion decided to give back to me once more the following day. I made a cast in what must have been a similar part of the bay, and as luck would have it, I snagged the frayed line and reeled back in the lure I had lost the day before!

What are the odds?! Needless to say, I was so grateful to the good fortunes that Lake Vermilion provided. It is a place where I have many core memories and a place I look forward to visiting every single year.

# New study assessing threats to Minnesota's walleye fisheries to include Lake Vermilion

By Adam J. Heathcote, Ph.D.  
Director, Department of Water and Climate Change at the St. Croix Watershed Research Station, Science Museum of Minnesota

A new research project is kicking off this year that will look at the history of walleye populations and the food webs that support them. This study, the first of its kind in Minnesota, will use the remains of tiny organisms preserved in sediment cores (e.g., algae, zooplankton, and aquatic insects) to reconstruct the history of food webs across some of our most prized walleye lakes. With funding from the Minnesota Environment and Natural Resources Trust Fund, a team of experts from the Science Museum of Minnesota, University of Minnesota, and Minnesota DNR will be crisscrossing the state over the next two years, collecting sediment cores and zooplankton samples and compiling decades of fishery survey data. From these data, the team hopes to better understand why many lakes across the state are seeing walleye populations go in opposite directions. They will evaluate the roles of aquatic invasive species, nutrient pollution, warming water, and angling pressure to better understand key factors leading to the decline in walleye, and what features may make some lakes more resilient than others.

Lake Vermilion has been selected as one of the fifteen lakes included in this study due to its combination of unique double basin morphometry and recent fisheries data indicating contrasting walleye population trends. The team of scientists will be visiting the lake to collect and process cores from both the West



**Above: Researchers from the Science Museum of Minnesota collecting a sediment core. Photo by Alaina Fedie, SMM**



**An example of a zooplankton fossil preserved in a sediment core. Photo by Mark Edlund, SMM**

and East basins in the summer of 2025. Members of the Vermilion Lake Association are welcome to join them in your boat or on shore and learn more about the project, as well as share your knowledge on the history of walleye in the lake. Final fieldwork dates will be confirmed in spring of 2025.

# Magnificent Bryozoans: Good news for Lake Vermilion

Bill Harley, a VLA Member who has a place on Daisy Bay, sent us a couple of photos of something growing on his dock posts, wondering what it could be. Our water quality leader, Craig Beveroth, sent it to the Science Museum of Minnesota and received this reply:

“Cool and very harmless find. That is a large bryozoan colony (the moss animals), called *Pectinatella magnifica*, the Magnificent Bryozoan. They are actually a sign of good water quality, filter feeding in the lakes, and later in the season will break apart and make little, microscopic ‘statoblasts’ that will overwinter and hatch next year. My recommendation...tell your friend how cool it is to have growing on his dock post, and tell him to show it to everyone. They can even gently touch it, no problem.”

To read more about the bryozoans, go to <https://www.dnr.state.mn.us>



Above: This bryozoan colony was discovered growing on a Lake Vermilion dock. photo by VLA member Bill Harley.

Left: A close-up of a magnificent bryozoan. Photo by Leslie J. Mehrhoff, University of Connecticut, Bugwood.org.

## Be a lake steward!

Winter is a good time to begin planning for upgrading your shoreline to help preserve the beauty and water quality of our lake. If you have a lawn along the shore, an easy way to begin is to let the shoreline go wild this spring! Stop mowing along the shore, except for dock access or water play area. The more you let go wild, the better. Or you might think about planting some bushes and native grasses along the shoreline in the spring. While you are warm by the fire or sipping a hot beverage, take a look at some of the shoreline restoration resources listed below.



### Best Management Practices for Shoreland Properties:

<https://extension.umn.edu/lakes-and-wetlands/shoreland-properties>

### Minnesota DNR Maintaining and Restoring Natural Shorelines:

<https://www.dnr.state.mn.us/lakescaping/maintaining-and-restoring-natural-shorelines.html>

Are you curious about whether your property qualifies for a Lake Steward award, or are you looking for ideas to improve alignment to best stewardship practices? Visit the VLA website and take the “Are You a Lake Steward” Survey: <https://www.vermilionlakeassociation.org/other-programs/become-a-lake-steward/>. We are always looking for volunteers for the Lake Steward program. We will provide training and mentoring to all new volunteers. Contact Sara Bright, Lake Steward Program Leader: [VLALakeSteward@gmail.com](mailto:VLALakeSteward@gmail.com).

# In Memory...

The Vermilion Lake Association is grateful for donations received in memory of beloved friends, family, and neighbors. These gifts were received between October 1, 2024 and December 31, 2024 honoring:

Abe Peterson	Gordon & Henry Bockus	Leo Ducharme	Rick Steblay
Ann Cownie	Greg Annen	Linda Carter Biddle	Robert & Violet Jurek
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Dale Lundblad	Jack Jordan	Mike & Lucy Begich	Sheri Sawatzky
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Dick Schultz	Jerry Maas	Pam Clines	Terry Anderson
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Eddie Eisinger	John W Arola	Phil Bartusek & Merlyn Bohlen	Vern & Elinor Lundberg
Elio Pietrini	Judy Moline	Richard & Jody Eveleth	Virginia Gajownik
Frank Brula	Karli Wilson	Richard Kesl	William Allen - Matthew Allen
Fred Urbanek	Katharine Marbaker Bolton	Richard Weber - Carl & Betty Davis	William Teeter
Gabrielle Pihlaja	Keith I Loken	Rick and Sharon Patterson	
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## Board of Directors and Officers 2024-2025

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Jessica Templeton, Communications Leader, Frazer Bay, [communications@vermilionlakeassociation.org](mailto:communications@vermilionlakeassociation.org)

# Don't Let It Loose! Keeping Lake Vermilion Free of AIS, Even in the Winter

The lake is covered with ice, so we don't have to worry about Aquatic Invasive Species (AIS)...right?! Although



Jon Utecht  
NSL Soil & Water

most aquatic invasives go dormant over the winter, there are still ways that invasives can spread and harm our lakes. One of the biggest concerns of spreading

AIS in the winter is through live bait and bait water, which can contain harmful fish pathogens.

The bait disposal stations at the public accesses are closed for the season, but we all must still adhere to Minnesota's bait disposal regulations. This means that if you take live bait out on the ice, do not release the bait or bait water into the lake. If you don't want to keep your bait, you must dispose of it properly. Minnesota's new "litter-on-ice" law means that dumping and leaving your bait on top of the ice is also not allowed. If you dispose of the bait on the ice, it must be in a container that is secured to the shelter, motor vehicle, or conveyance, and it must be taken with you when exiting the ice. The good news is that if you want to keep your bait while ice fishing, you are not required to exchange the water in your bait container upon leaving the lake (although



Photos courtesy of Dr. Mohamed Faisal



**DON'T LET IT LOOSE.**

**TOSS IT**  
Drain water from bait container on shore, away from water. Dispose of bait in the trash.

**...OR KEEP IT**  
Drain water from bait container on shore, away from water. Refill container with bottle or tap water.

Releasing live bait threatens our environment. Bait and bait water can harbor fish diseases and aquatic invasive species.

Do your part to protect our lakes and rivers.

Scan to learn more and enter to win!

**CLEAN DRAIN DRY INITIATIVE**

**IT'S THE LAW!**

this is still recommended, and it is required during the open water season).

So why is it so important not to release the bait and bait water into the lake? The bait and bait water could contain harmful and very contagious fish pathogens like the Viral Hemorrhagic Septicemia Virus (VHSV). Viruses like VHSV can spread quickly among a population of minnows and rough/game fish. Although not harmful to humans, the virus can be dam-

aging to fish populations. Currently, VHSV has not been found in inland MN lakes but is observed in the Great Lakes system (including Lake Superior). There have also been some reported cases on inland lakes in Wisconsin and Michigan. The MNDNR does actively monitor for the virus. If you catch a fish suspected of containing the virus, please contact the local fisheries office

or the MNDNR Pathology Lab (651-259-5096). You will want to keep the suspected diseased fish in a clean plastic bag on ice or in a refrigerator (do not freeze) for testing.

Let's continue to keep harmful AIS out of Lake Vermilion and preserve our pristine waters - even in the winter!

**Jon Utecht is the AIS Program Coordinator/North St. Louis Soil and Water Conservation District**

To learn more about Minnesota invasive species laws and the regulations on the transport of water please visit: <https://www.dnr.state.mn.us/invasives/laws.html>

More information on VHSV can be found here: [https://www.dnr.state.mn.us/fish\\_diseases/vhs.html](https://www.dnr.state.mn.us/fish_diseases/vhs.html)



# One Watershed One Plan: A New Plan

The first watershed plan for the Rainy Headwaters and Vermilion River watersheds was created with public and agency input over an 18-month period. The plan was approved by the Minnesota Board of Water & Soil Resources in April 2024. As a result, a two-year funding allocation was received in June - totaling \$1,004,508!



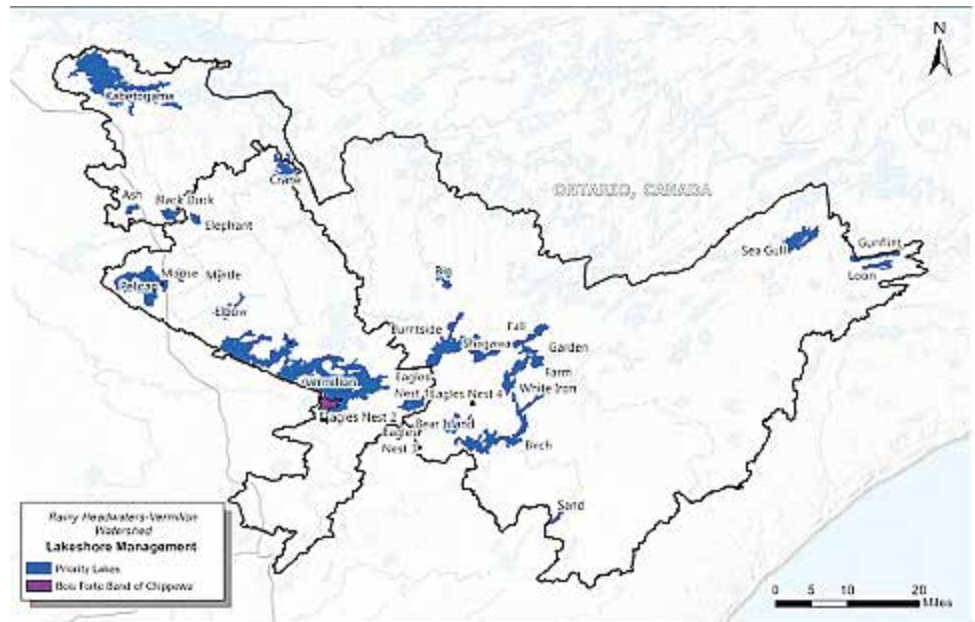
**Corey Denning**  
NSL Soil & Water

This funding will be used to carry out the priorities listed in the plan by the counties and soil and water conservation districts in Cook, Lake, and St. Louis counties.

Minnesota's Clean Water, Land, and Legacy Amendment encouraged transition from county-based to watershed-based planning under the One Watershed One Plan (1W1P) program. Not only did 1W1P encourage agencies to work together to prioritize needs and protect resources in the watershed, but it dedicated non-competitive funding to carry out the plan's priorities.

Lake Vermilion is designated a priority lake in this plan, along with the East Two and Vermilion rivers. The 1W1P program encourages landowners, like yourself, to actively engage in conservation efforts on privately owned land and supporting conservation-focused cost-share incentive programs. Additionally, it provides technical assistance to ensure that conservation practices are properly implemented.

Some of the 10-year goals are to restore two miles of lake shore to native vegetation, complete 37 plans to manage 4200 acres of private forested lands, enhance one mile of riparian land, implement 100 acres of agricultural best management practices, seal 50 unused wells, replace 50 noncompliant septic systems, and replace 10 priority barriers in the watershed



to increase connectivity and maintain fish passage. These goals are supported by evidence showing that their implementation will protect water quality, enhance fish and wildlife habitats, and improve climate resilience.

Lakes such as Vermilion, along with streams bordering the Boundary Waters Canoe Area in northern Minnesota, represent some of the state's most pristine water resources. To maintain their health, protection strategies such as forestland conservation, the creation and restoration of native shoreline buffers, proper culvert installation, and regular septic system maintenance will be essential.

However, a growing concern is the potential impact of overdevelopment on the lake, including effects on water quality, wildlife, and local communities. With over 290 miles of shoreline, Lake Vermilion boasts the longest shoreline of any lake in Minnesota, around 50% of which is already developed. There are 494 miles of privately owned shoreline on the priority lakes identified in this plan. The DNR projects that one to two percent of natural buffers on shoreline will be lost per decade in Minnesota from 2003 baseline measurements. This means that in the 10-year implementation-program in this plan, between 5-10 miles of shoreline could be lost on these priority lakes. Halting this loss and reversing these trends by

**See Watershed... on next page**

# Recipes: Walleye Two Ways

Need some inspiration for cooking up all of that walleye you are catching this winter? Here are two go-to recipes from members of the VLA Board.

## *Easiest Walleye Recipe Ever*

**Contributed by Lori Ptak, VLA President**

### Ingredients

Walleye filets, rinsed and patted dry on paper towels

½ fresh lemon

2-3 tbsp butter

salt/pepper

Preheat oven to 350°. Place butter in glass baking dish and put in the oven just long enough to melt the butter. Place the walleye filets in the dish and turn over to coat each side with butter. Squeeze lemon juice over the filets, then sprinkle with salt and pepper. Cover dish with foil and bake for 30 minutes.

## *Walleye Tacos*

**Contributed by Terry Grosshauser, VLA Board Member**

### Ingredients

4 walleye filets

1 cup panko breadcrumbs

½ cup all-purpose flour

2 eggs

2 tsp. blackened seasoning

2 cups green cabbage, shredded

3 tbsp. mayonnaise

2 tbsp. lime juice

Pinch of salt (optional)

¼ tsp. celery seed

Vegetable or other low-smoke oil for frying

Small flour tortillas

**Continued on next page**

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## *Watershed...from page 17*

returning lakeshore to natural vegetation and protecting forested lands provides water quality, habitat, and erosion benefits for the lakes.

Landowners or occupiers can request financial and technical assistance to implement conservation practices that will improve water quality. Funding is available for between 50% and 100% of a plan or practice, depending on what it is and the pertinent guidelines. For more information, contact Corey Denning, Resource Conservationist at 218-288-6143 or send an email to [Corey@nslswcd.org](mailto:Corey@nslswcd.org). You can also reach out to other staff found on our website: [www.nslswcd.org/contact/staff](http://www.nslswcd.org/contact/staff).

By participating, landowners can play a vital role in protecting Lake Vermilion and its surrounding ecosystems for future generations. You can learn about more work being done in the watershed and the 10-year goals at [www.nslswcd.org/rrhwvr](http://www.nslswcd.org/rrhwvr). North St. Louis SWCD looks forward to working with the Vermilion Lake Association and its landowners to restore and protect Lake Vermilion and its watershed.

**Corey Denning is a Research Conservationist for the North St. Louis County Soil and Water Conservation District**

## Recipes...from page 18

Sliced avocado

Fresh cilantro, roughly chopped

Mango salsa

You will need three bowls for breading the walleye – one for the flour, one for the beaten eggs, and a third for the seasoned breadcrumbs. For milder tacos, substitute seasoned salt for blackened seasoning.

In a bowl, combine the shredded cabbage, mayonnaise, lime juice, a pinch of salt (use less or skip if you substitute seasoned salt for the blackened seasoning) and celery seed.

Combine the panko breadcrumbs and blackened seasoning. Taste the coating mixture and add additional seasoning if desired.

In a separate bowl, beat the eggs.

Place the flour in a third bowl.

In a frying pan, heat 1 inch of oil to 325°F.

To bread the walleye, lightly coat a filet with flour, dip it in the egg wash, and then in the breadcrumbs. Gently press the coating into the filet. Shake off excess crumbs to prevent burning.

Fry the fish until it is golden on both sides, turning it



**Lake Vermilion resident Dave Billett shows off his catch of the day.**

once. Place the fried filet on a paper towel to absorb the excess oil. Keep it warm while you fry the remaining fish.

To serve, break the fried fish into pieces. Serve it on warmed tortillas with coleslaw, avocado, cilantro, and mango salsa. Add hot sauce if desired.

Enjoy!

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## Dock Signs Show Member Support for our Mission.... to protect and improve



The 12x18 inch sign is designed to attach in either corner of dock front with self-tapping sheet metal screws or stainless hose clamps. Some members are choosing to mount them on their boat houses as well, or even at the entrance of a driveway. These striking aluminum signs with UV protection can be ordered at

<https://www.vermilionlakeassociation.org/merchandise/membership-signs/>



Vermilion Lake Association  
PO Box 236  
Cook, MN, 55723

## Volunteers Make the Difference

The Vermilion Lake Association has been fortunate over the years to have a dedicated group of leaders and volunteers to staff our important activities. We are grateful for their help.

Please consider joining this team. We have needs for both workers and leaders, for those with only a few hours to spare, and for those who can make a larger time commitment.

If you think you may be interested, please contact Andrine Lemieux, VLA Volunteer Program Leader, at 218-979-7893 (cell) or [Lemieux.andrine@gmail.com](mailto:Lemieux.andrine@gmail.com).

### Vermilion Lake Association

Lisa Tamte, Member Records • P.O. Box 236 • Cook MN 55723  
ltamte@gmail.com • 612-475-3064

Membership year runs from Jan 1st through Dec 31st

2025 New Member       2025 Renewal

Membership level

\$20.00 Household membership  
 \$50.00 Business or Organization

Member Name \_\_\_\_\_

Spouse/Partner Name \_\_\_\_\_

Mailing address

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Email (requested) \_\_\_\_\_

Phone (requested) \_\_\_\_\_

Please clip or copy this form and send to the address above.

### Become a Member

Join those who love Lake Vermilion as much as you do. Help us continue the many activities you've just read about.

Not sure? Check us out at our website [VermilionLakeAssociation.org](http://VermilionLakeAssociation.org). We're pretty sure you'll like our vision for the future and the work we have underway now to make Lake Vermilion even better.

Please mail a check with the form on this page or join at our website using PayPal or a credit card.

The Vermilion Lake Association is a 501(c)(3) nonprofit organization.

### Do You Qualify?

**Yes, You CAN Become a Member.**  
You do not have to be a property owner, resident, or a fisherman to become a member of the Vermilion Lake Association. Anyone who cares about improving and protecting our lake for future generations can join. You will get four colorful newsletters per year sent to your home, informing you of volunteer opportunities, protection efforts, and other happenings at the lake.