



# Fireworks Near Our Lakes Community, Conservation, & Cost

By Sara Windjue, Leadership and Capacity Development Specialist, Extension Lakes

*For those who spend any amount of time on a lake in July, you are probably very familiar with the ongoing sounds of people celebrating our independence from Great Britain with fireworks. Over the years, we have received many questions about the impact fireworks have on water quality, wildlife, and people, and the request for research on the impact continues. We would like to explore this issue more as we look ahead to the summer months and provide potential alternatives for July 4th celebrations.*

*DreamSky - Pexels.com*

**T**here are two types of fireworks celebrations we'd like to discuss: 1) large-scale, community-wide fireworks displays, oftentimes organized by a municipality or organization (could be a lake association, district, or friends group), and 2) individual fireworks celebrations that happen at residences around lakes for multiple nights (sometimes multiple weeks).

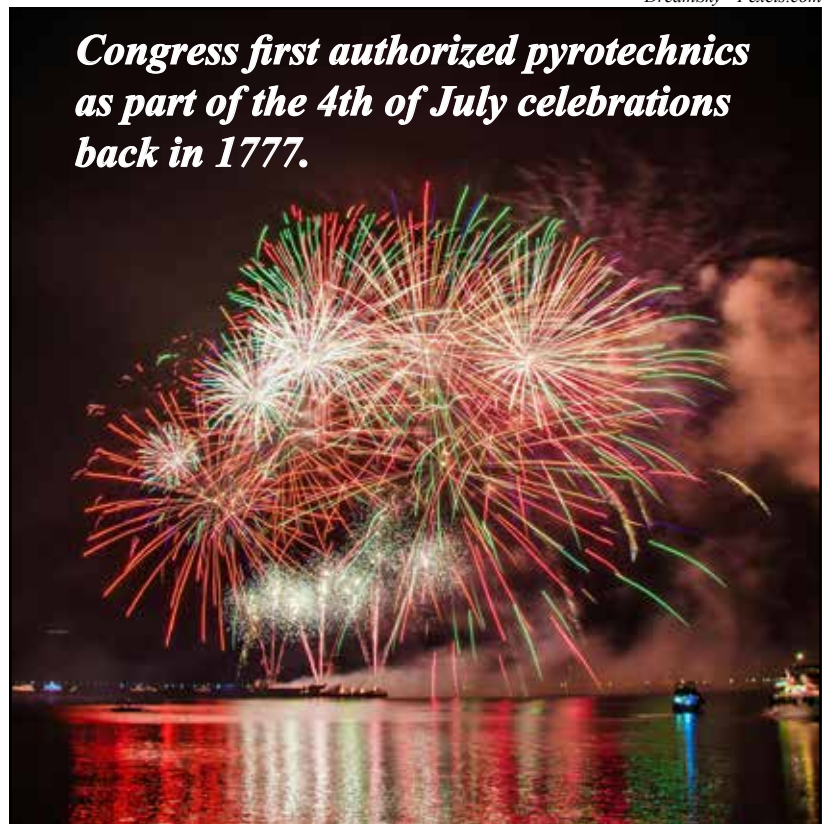
## Large-scale, Community-wide Fireworks Displays

To try to understand how lake groups relate to large-scale, community-wide fireworks displays, we sent out a poll to all lake organizations in August 2023 that asked three questions:

- |  |                         |
|--|-------------------------|
| 1. Does your lake organization organize a fireworks show to celebrate the 4th of July?     | <b>16% Answered Yes</b> |
| 2. Would your organization be interested in learning more about alternatives to fireworks? | <b>49% Answered Yes</b> |
| 3. Does your lake organization organize a drone or laser light show?                       | <b>0% Answered Yes</b>  |

**Total Responses: 145**

*(Continued on page 2)*



**Congress first authorized pyrotechnics as part of the 4th of July celebrations back in 1777.**

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**Wisconsin Lakes & Rivers Partnership**

*Fireworks that explode late into the night and over the course of many nights (sometimes weeks) can be very disruptive to neighbors, pets, and wildlife.*

We wanted to learn more about lake groups that take a lead role in fireworks, so we sent a follow up survey to the 23 groups who indicated their lake group organizes a fireworks show. We asked more questions about who organizes the show, how much it costs, etc. Only five groups responded to the follow-up survey with additional information resulting in these takeaways:

- \* These lake groups have been organizing fireworks shows for decades.
- \* There are multiple partners who work together to make the experience happen, including lake districts, lake associations, campgrounds, yacht clubs, fire departments, and municipalities.
- \* Costs range from \$5,000 to \$50,000.
- \* Most of the funds come from donations and fundraising.
- \* Most feedback from these large-scale events is positive; the negative feedback is minimal.

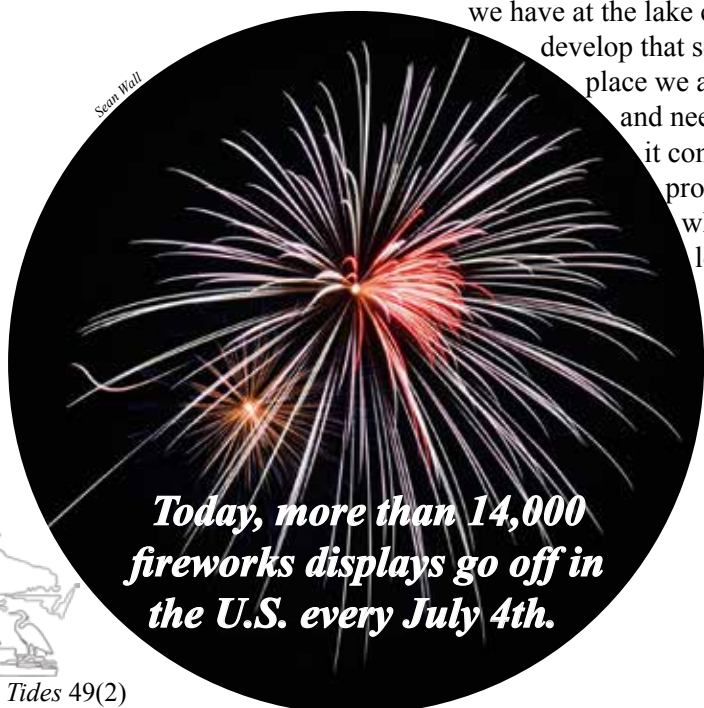
We realize that not everyone enjoys these large-scale celebrations; however, we would like to look at these events from multiple perspectives.

- \* **Generational:** Since these events have been happening for decades, families build experiences at the lake with their loved ones across generations. The experiences we have at the lake can help develop that sense of place we all have and need when it comes to protecting what we love.

### Volunteer to Collect Water Samples Before and After Fireworks Displays

The North American Lake Management Society is partnering with researchers from across the country investigating the occurrence of perchlorate (used as a propellant in fireworks) in lakes and reservoirs following fireworks displays. As part of this \$2.5 million EPA grant, led by Andrew Jackson at Texas Tech University, volunteers will be asked to collect samples three times; once in the month/week before the Fourth of July, once between the 5th and the 7th of July, and once between the 16th and 25th of July. For more information, go to <https://www.nalms.org/perchlorate-fireworks/>.

- \* **Community-building:** These community events bring together a variety of partners, which we view as extremely beneficial when it comes to building organizational capacity. These external relationships are part of relational capacity which focuses outward towards groups and individuals who can be of assistance to a lake group and/or benefit from collaborating with a lake group. These external relationships can be a source for board members, volunteers to help with lake-related projects, and emergency services if the need should ever arise.
- \* **Cost:** Although it does cost a lot to put on these one-time shows, you cannot put a price tag on the benefits these celebrations bring: building community, making memories, and developing a sense of place around our lakes. The 4th of July holiday and fireworks shows also bring in visitors who spend money at local restaurants, hotels, and shops that benefit our communities overall.



*Today, more than 14,000 fireworks displays go off in the U.S. every July 4th.*



## Small-scale, Individual Fireworks Displays

Because Wisconsin has thousands of lakes and only a small percentage have organized, large-scale celebrations, we can safely assume that the rest of the lakes that are inhabited have people around them that purchase their own fireworks. Even though these are smaller in scale, they are much more widespread and can stretch out longer than a single day. Fireworks that explode late into the night and over the course of many nights (sometimes weeks) can be very disruptive to neighbors, pets, and wildlife.

- \* **Fireworks can cause localized contamination of surface water for a short period of time.** The effects of fireworks on surface waters have only been monitored in a few locations, but this research indicates that annual displays do not pose a large, persistent human health or environmental risk.
- \* **The 4th of July occurs at a time when loon chicks are very young or possibly still hatching.** Little is currently known about the impacts of fireworks displays on loons. According to the Loon Preservation Committee in New Hampshire, “Reports and observations find that loons respond to fireworks displays with calls (tremolos, wails, territorial yodels) that demonstrate some stress, in some cases. As with other disturbances, the response of individual loons varies.” Find out more at <https://loon.org/about-the-common-loon/threats-to-loons/>.
- \* **Fireworks can injure birds.** Reports from the Raptor Education Group, Inc. include adult loons with singed feathers from being hit by fireworks while flying, baby eagles with their beaks melted and burns on other birds from the heat of nearby fireworks explosions, and broken bones or internal injuries from falls out of nests after being disoriented from the loud explosions.

Raptor Education Group, Inc.



- \* **Fireworks are restricted in Wisconsin and permits may be required.** It's best to check with local officials before purchasing and lighting fireworks. A city, village, town, or county may also enact an ordinance more strictly limiting fireworks sales or possession.
- \* **The DNR does prohibit the use of all fireworks on state lands.** This includes state parks, state forests, and state-owned public hunting and fishing properties.
- \* **Fireworks can cause forest fires.** If there are drought conditions or high winds, the risk increases. The Wisconsin Department of Natural Resources reports that exploding fireworks such as firecrackers, m-70s, bottle rockets, and roman candles cause the most fireworks-caused wildfires.
- \* **Fireworks can cause injuries.** According to the Consumer Product Safety Commission, fireworks were involved with an estimated 10,200 injuries treated in U.S. hospital emergency departments during calendar year 2022. There were an estimated 1,300 emergency department-treated injuries associated with firecrackers and 600 with sparklers.

(Continued on page 4)

## Share Your Thoughts

Share your thoughts or reactions about fireworks on and around Wisconsin lakes. Have an experience to share; how about a recommended reading? We want to hear from you!



Just use this QR code or go to <https://forms.gle/Rr13VGcRjoWD6ewU8> to share your reactions and experiences.



*This loon was found 15 miles away from water on the 4th of July last year and quickly transported to the Raptor Education Group, Inc. (REGI). He arrived disoriented with a lump on his head telling of an impact injury and embers from fireworks in his feathers. After spending a couple of days recovering at REGI, he was released back onto a large lake.*

*Follow REGI on Facebook for individual stories and more information: <https://www.facebook.com/RaptorEducationGroupInc>*



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## Best Practices in Communications

If you already have an effective way of getting information out to residents, it would be helpful to start the communications early and provide multiple ways to share concerns.

For all lake communities regarding individual fireworks usage:

- \* Provide information on where large-scale community fireworks displays are scheduled in the area and encourage people to attend those instead of shooting off their own.
- \* Encourage people to talk with their neighbors about their plans (i.e. if they are planning a party with a lot of people and plan to shoot off fireworks). Knowing your neighbors helps you know if there are pets or people with sensitivities who might react to explosions.
  - \* Provide information about the wildlife that reside in or around the lake. If there are nesting loons, be sure people are aware of this, the location of the nest(s), and how fireworks might impact their survival.
  - \* Encourage people to not shoot fireworks over the water as the debris will sink to the bottom.
- \* Encourage people to clean up the debris afterwards for the safety of people, pets, wildlife, and our water.
- \* Provide statistics on hazards of fireworks to people as well as fire dangers.



If you have a large-scale community fireworks display:

- \* Provide a way for people who live around the lake to express their feedback. This allows organizers to know if there are concerns.
- \* Provide educational material ahead of time to waterfront property owners and include:
  - \* The day and time of the event. Pets should be moved inside or put somewhere else for the evening so they don't get spooked. People who have sensitivities to loud noises or flashing lights can also be prepared to go elsewhere during the event.
  - \* The partners involved in providing this event and how it benefits the lake and community as a whole.
  - \* A link to a survey or another way of providing feedback (anonymous would be ideal).
  - \* Information about the impacts to water quality and wildlife.

*No matter how we celebrate, being considerate and communicating with our neighbors (including those who call our lakes home) is always a good practice. 💧*



# Feelings or Facts?

## Negative Emotions Drive Preference for Herbicide Treatments for Aquatic Invasive Species in Wisconsin Lakes

By Bret Shaw, Environmental Communications Specialist, UW-Madison Division of Extension and Tim Campbell, AIS Program Manager, Wisconsin Sea Grant

A new study published by University of Wisconsin-Madison researchers is the first to explore what drives lakeshore property owners' preferences for herbicide treatments of aquatic invasive plants over other management options. The study found that negative emotions about aquatic invasive species (AIS) and believing that they are present in the lake where a property owner lives (whether true or not) were the strongest predictors for preferring herbicide treatments. Surprisingly, neither perceived impacts of AIS nor the impact of herbicides on native plants and animals affected lakeshore property owner preferences for herbicidal treatment of AIS.

These results provide an opportunity for natural resource managers to educate lakeshore property owners about alternative methods for managing aquatic invasive plants while still leaving options open for herbicide treatment, if needed. Other management options include manual and mechanical removal as well as simply monitoring, since non-native plants can often co-exist with other native plants in a lake without taking over and becoming a nuisance.

"People can develop negative emotions about a subject either through lived experiences or through communications about the subject," said Bret Shaw, lead author and a UW-Madison Division of Extension environmental communications specialist and Department of Life Science Communication professor. "Given that the perceived impact of invasive species is not driving preference for using herbicides, it is possible that fear-based aquatic invasive species prevention messages may influence higher risk perceptions that cause property owners to seek herbicidal

treatment first. Considering other approaches and messaging strategies, too, may help lake organizations achieve better outcomes with their management efforts."

Aquatic invasive plants in Wisconsin lakes can negatively impact recreation and property values. Many organizations offer education and outreach programs for boaters and anglers to prevent invasive species spread. However, some lakes already have non-native species that can become invasive, and new introductions can occur despite widespread prevention efforts. While there are many ways to manage aquatic invasive plants, lakeshore property owners and lake associations often seek permits to use chemical herbicides even though herbicides themselves can carry a potential risk of ecological harm to the treated lake, which is why herbicides may not necessarily be appropriate as a first course of action in some waterbodies.

AIS are a concern both globally and in Wisconsin, with the Great Lakes on Wisconsin's borders and another 15,000 inland lakes within them. While the most problematic invasive species aren't present in the majority of lakes, when they are present they can reach high densities that can impede boating, negatively affect fishing, and alter the ecological functions of a lake. More than \$5 million is spent each year in Wisconsin on AIS management. However, even with this annual investment and the negative impacts of AIS, very little effort has been spent understanding how waterfront property owners feel and think about invasive species management.

"This research is among the first to understand the opinions and beliefs of waterfront property

*"The results of this research will help us create invasive species management education tools and programs that balance efforts to reduce the unwanted impacts of invasive species while protecting the ecological integrity of our lakes."*

~ Tim Campbell



# Empowerment

## Get New Board/Committee Members Engaged in the Work of Your Organization

By Eric Olson, Director and Lakes Specialist and Sara Windjue, Leadership and Capacity Development Specialist, Extension Lakes

Capacity  
or June  
2024  
ener



In each issue of *Lake Tides*, we'd like to introduce you to different ideas and resources to help you increase your organization's capacity to care for lakes. In this issue, we're focusing once again on the internal functions of an organization, which primarily concerns a group's inner workings. Researchers and other writers have long explored the question of what makes a good group tick. One practice to help groups accomplish more through

volunteers is to make sure there are defined roles and expectations. This article will focus on how individuals new to the organization can become more engaged in the work of the organization.

### Empowering People to Get Involved

In the Spring/Summer 2021 issue of *Lake Tides* (Vol. 46, No. 2), we explored the topic of "Enhancing Board Member Participation." We encourage you to go back to that article and explore different opportunities we laid out that might enhance board member participation. In this article, we'd like to focus more on introducing new individuals to the organization's initiatives and how to empower them to get involved so they feel a part of the organization's successes.

### Empowerment

Before getting into some ways that organizations could operate better, it might be helpful to unpack and explore the concept

of empowerment. People generally have capabilities and interests in helping to get things done (power), but they might not feel like they have authority or permission to actually get involved or shape the direction that an organization is headed (empowerment). An organization can "empower" its members and volunteers by establishing a culture that welcomes and rewards those willing to step up to help out. Alternatively, members are "disempowered" if they are kept out of the loop of decisions and not given authentic opportunities to help out. If a group is led by people who are uncomfortable or unwilling to share the reins and enlarge the circle of who can be involved, it will struggle to attract new members and accomplish major goals.

### Volunteering

Volunteering is a great way for people to get their feet wet without diving in all the way. Volunteering for a work day or an event will introduce individuals to the organization as well as to the people who are part of the organization. Volunteering for a specific project is a way to give back without committing to anything long term. The key is that someone has to "make the ask" to specific individuals to participate. Think of times when you've agreed



Individual contributions to an organization will have a lasting impact.

"The strength of the team is each individual member and the strength of each member is the team."

~ Phil Jackson



to help out with a project. Usually, it's easier to say, "Yes," if you're asked well in advance, if you have a good sense of what you're being asked to do, and if the task or project fits your own skillset.

## Celebrating Involvement and Accomplishments

As a board member, you have an obligation to make volunteers feel welcome and valued. You can do this by writing thank you cards after an event, providing certificates of appreciation, or thanking volunteers publicly at the next meeting or in the next newsletter. It can also be something as extravagant as a special lunch where volunteers are widely recognized or where they might receive a gift. Volunteers who feel valued are more likely to continue helping in other ways. Be sure you invite them to participate again or ask them to take a larger role in the next event. If you have committees as part of your organization, volunteering to be part of a committee is a way to warm people up to taking on a more involved role in the future.

## Getting Input and Feedback

Creating opportunities for members, property owners, and board members to provide feedback regarding how they feel things are going related to the organization's activities and impact is a good way for individuals to feel valued. You may learn that the perception of your group isn't what you had expected and you have to be ready to accept criticism and possibly make changes. Providing opportunities for feedback can also



introduce your organization to new ideas and perspectives about what your community would like to see in the future and how they might want to be involved. One easy way to do this is to provide an anonymous survey to volunteers (and others) with a few short questions. This survey can remain open so people can continue to respond and provide ideas as they think of them. Respondents often prefer anonymous surveys as they are "safer" than sending an email or having a conversation at a meeting. The downside is that the anonymous feedback from survey responses could be misinterpreted or require further discussion to understand.

*Volunteers who feel valued are more likely to continue helping in other ways.*

Has your group taken active steps to empower and support board members and volunteers? We'd love to hear about it. Reach out to us with your examples at [uwexplakes@uwsp.edu](mailto:uwexplakes@uwsp.edu).

If you are interested in reading more, check out this Mobilize blog titled "Volunteer Management: The Complete Guide for Nonprofits" at <https://join.mobilize.us/blog/volunteer-management>. 💧

*(Feelings or Facts?, continued)*

owners about aquatic invasive species management," said Tim Campbell, the AIS program manager for Wisconsin Sea Grant and co-author of the study. "The results of this research will help us create invasive species management education tools and programs that balance efforts to reduce the unwanted impacts of invasive species while protecting the ecological integrity of our lakes."

Other co-authors include Dominique Brossard, Professor in the Department of Life Sciences Communication (LSC) as well as recent LSC graduate students, Richard Heinrich (LSC Ph.D. '23) and Theresa Vander Woude (LSC and Nelson Institute for Environmental Studies, M.S. '21). The full study can be found in the journal *Biological Invasions* here (<https://rdu.be/dvWb9>). Alternatively, email [tim.campbell@wisc.edu](mailto:tim.campbell@wisc.edu) for a copy of the study. 💧



# Microbes in Mary Lake

## Helping Us Understand Our Freshwater Lakes

By Kryz Kibler, PhD Candidate, UW-Madison

Wisconsin DNR



Wind passing over Mary Lake's small surface is not enough to mix the stratified layers of water that reaches 67 feet at its deepest.

**Humic acids are macromolecules that comprise humic substances, which are organic matter distributed in terrestrial soil, natural water, and sediment.**

**M**ary Lake, in Vilas County, Wisconsin, is a relatively unremarkable lake compared to some of the more well-known lakes in the state, at least to most of us.

What sets it apart is that it is one of the few so-called “meromictic” lakes in Wisconsin (read more in the *DYK* article on page 10). Being a small lake (three-acre surface area), it is disproportionately very deep with a maximum depth of 67 feet. It is also sheltered from wind by dense surrounding upland forest. This all results in a meromictic lake that never experiences complete vertical mixing and is permanently stratified into layers with distinct physicochemical properties. Additionally, the dense forest surrounding it gives Mary Lake a mostly brown, tea-colored appearance from humic acid runoff. While not ideal for recreational fishing or scenic hiking and biking trips, it is teeming with a safe and unique microbial world. Due to this permanent stratification that creates stable physicochemical conditions, these layers of inhabiting microbes remain undisturbed and easier to study than other environments.

Mary Lake is essentially a perfect mesocosm for scientists, like Dr. Shaomei He and Dr. Katherine McMahon, to understand varied microbial metabolisms and interactions and how they are connected to different aspects of the biogeochemical cycle, which is informative for other lake systems. From the surface to the bottom, there is a chain of different resources that the varied microbes can use as energy or food. For example, *Chlorobi*, a green-sulfur bacterium, flourishes around 13 feet below the water's surface where there is still light but no oxygen. This bacterium can harvest sunlight and synthesize organic carbon, or sugars, from carbon dioxide (i.e. “fixing carbon”)

anaerobically without creating oxygen as a by-product, while using available sulfur or ferrous iron compounds in the process. In turn, there are other bacteria, such as *Geothrix*, that can consume these sugars by “breathing” oxidized forms of sulfur or iron, taking the full advantage of metabolic products from

*(Continued on page 10)*

Ty Krajewski





# Lakes 101

## Mixing it Up, Lake Style

By Susan Knight, retired, Trout Lake Station, UW-Madison Center for Limnology and Sandy Wickman, Wisconsin DNR

Most lakes in Wisconsin turn over twice a year – once in fall and again in spring. These are dimictic lakes, allowing all strata to circulate vertically. During turnover, water throughout the water column mixes completely. Turnover happens because lake water of different temperatures has different densities and density of water depends on temperature: water is most dense (heaviest) at about 39°F, and less dense (lighter) at temperatures warmer and colder than 39°F. This is why warm water is at the surface of a lake in the summer and why ice rises to the surface in the winter.

**W**hen we have layers of water of different temperatures, we say the lake is stratified. Stratified lakes typically show three distinct layers: the epilimnion (the top warm layer), the metalimnion or thermocline, and the colder hypolimnion, extending to the floor of the lake.

These layers persist until fall when the autumn air cools the lake's surface. As the surface water cools, it becomes heavier (denser) and sinks to the bottom. When the temperature of the lake is the same from top to bottom, a slight wind can easily mix the entire water column.

Meromictic lakes like Mary Lake do not mix – ever. Why is that? While there are a couple different types of meromictic lakes, in Wisconsin these lakes are unusually deep relative to their surface area, sheltered from the wind, and typically experience severe winters.

*This birds-eye view of Mary Lake shows a lush cover of trees along the shoreline of its small, three-acre, frozen surface.*



Ty Krajewski

In meromictic lakes, the resistance to mixing isn't because of a difference in temperatures, though.

It is a bit of a chicken and egg situation; if the lake does not turn over for a period of time, chemicals and compounds start accumulating in the bottom waters. These compounds – mostly the products of decomposition of dead algae and other small organisms that have drifted to the bottom – accumulate down deep. Between the establishment of this chemical gradient and the small surface area, the lake is highly resistant to mixing. Once the chemical gradient is set up, the lake is now (and likely will forever be) meromictic.

Carl Watras, a researcher from University of Wisconsin-Madison's Center for Limnology at Trout Lake Station, has sampled Mary Lake several times and said that “plankton stack up in layers at the top of the thermocline (about two meters) where the oxic/anoxic boundary is located. Below that it is permanently anoxic.”

*Lake Rose, a typical dimictic lake, and Mary Lake are the first and second in a chain of five interconnected lakes: Rose, Mary, Adelaide, Helen, and Yolanda (not pictured). You can find out more about a particular lake by visiting the DNR lakes page at <https://dnr.wisconsin.gov/topic/Lakes> and clicking on the “Find a Lake” box.*

***A family that used to live on Lake Rose donated their property to the Nature Conservancy and now all the shoreline of Rose and most of the shoreline of Mary is a State Natural Area.***

***Oxic – containing oxygen***

***Anoxic – A condition in which the aquatic environment does not contain dissolved oxygen***





*A microbial consortium or microbial community, is two or more bacterial or microbial groups living symbiotically.*

Chlorobi. Together, they form a microbial consortium, with each partner benefiting from the relationship to thrive. Near the bottom of Mary Lake are methanogens, microbes that make a living by producing methane, (a more potent greenhouse gas than carbon dioxide) like those found in cows, with the most abundant being Methanoregula. Fortunately, there are methanotrophs that consume this methane higher up in the water column, ensuring that most, if not all, of the methane

gets consumed before making it out of the water.

Mary Lake is teeming with microbial consortia that depend on each other at all depths by cycling different forms of carbon, nitrogen, sulfur, iron, and other elements. With Mary Lake staying relatively undisturbed compared to other lakes in Wisconsin, it makes these microbes readily sampled to better understand how these complex interactions occur between different groups and how they are tied into the biogeochemical cycle. Most importantly, we can then

make inferences to how other microbes in other lakes operate to better understand possible consequences if these microbial communities are disturbed. If you would like to learn more about microbial interactions in freshwater ecosystems, like in Mary Lake, the McMahan Lab (<https://mcmahanlab.wisc.edu/research>) at University of Wisconsin-Madison is dedicated to understanding different microbial groups in both freshwater and wastewater systems. 💧

## Did you know Wisconsin is home to several rare meromictic lakes?

*By Mitchel Block, UW-Stevens Point Graduate*

# DYK

Meromictic lakes are a unique type of lake in which the upper and lower layers of water do not mix. These lakes can remain unmixed for years, decades, or even centuries, which leads to some drastic differences between the environments of the upper and lower layers of the lake (read more in the *Lakes 101* article on page 9).

Due to the lack of mixing, the lower layer of a meromictic lake has very little oxygen. This means that the bottom of the lake is mostly devoid of life. Oftentimes, the only life that can be found here are a few species of bacteria and other single-celled organisms that are capable of persisting without oxygen.

In addition to Mary Lake in Vilas County, Little Beaver Lake in Chippewa County (only 6 acres in size with a maximum depth of 49 feet) is also one of Wisconsin's meromictic lakes.

It is unknown just how many meromictic lakes exist in Wisconsin, but worldwide trends show that the ratio of meromictic lakes to non-meromictic lakes is nearly 1:1000! To put that into perspective, the odds of a lake being meromictic are nearly the same as the odds of you being the lucky fan to catch a foul ball at a Major League Baseball game!



# Comings and Goings

## You Say Goodbye, and I Say Hello

*Recent retirements in the Wisconsin DNR and Extension Lakes are both a cause to celebrate long, meaningful careers and a chance to welcome new people in leadership positions.*

**T**his past fall, Carroll Schaal retired as the DNR's Lakes and Rivers Section Manager, a post he held since 2014 when he was hired to replace his longtime colleague Jeff Bode. Carroll was originally hired by the state in 1994 as a lake planner at the DNR and over his career he connected with hundreds of volunteers and professionals looking to solve lake problems. Retirement will afford him more time with his grandchildren and at the family cabin in northern Minnesota.



This spring, Patrick Goggin retired from his role as a Lakes Outreach Specialist at Extension Lakes. Patrick joined the Lakes team in 2008 and had worked for over 20 years before that in a range of natural resource-related positions including County Conservationist in Vilas County. Patrick's deep passion for Wisconsin's native ecosystems was clearly visible anytime he was called on to give an educational presentation about plants or critters. He plans to spend time in retirement rearing and selling native plants from his home in northern Vilas County.



Sandy Wickman, another part of the Extension Lakes team, has also retired this spring from her University role, though she will be active this summer working with the DNR in the northern region to help ensure that Citizen Lake Monitoring Network activities carry forward in 2024. Sandy began working with

the DNR in 1997 as a limited-term employee (LTE) and was brought on board with Extension Lakes as an Outreach Specialist in 2008. The Lakes and Rivers Partnership recognized her excellence in public service with a Lake Stewardship Award in 2018; in the words of one of her colleagues, "Sandy makes aquatic plants come to life for the citizens she trains. Her enthusiasm for native plants and their preservation is contagious."



Maud LaMarche has also retired from Extension Lakes where she was "all things database and IT" for our campus-based program. She joined the team as a half-time staffer in spring of 2008 after working in the corporate world. Maud single-handedly revised and updated the Lake List directory of lake organizations and businesses, as well as creating and managing versions of our online storefront, our convention registration system, and our *Lake Tides* subscription platform. Her coding skills and analytical approach helped Extension Lakes manage several web platform transitions over her 16 years and we are already missing her as UWSP is moving to yet another framework for designing and hosting websites.



Michelle Nault was hired this spring into the Lakes and Rivers Section Manager role, becoming only the third person to hold the position in 34 years. Michelle started working for the DNR in 2006 as a lakes research scientist and for the last five years she has served as Wisconsin's statewide lakes and reservoir ecologist. In 2013, Michelle was recognized for a Lake Stewardship Award along with several UW and WI DNR researchers for their work advancing our understanding of Eurasian watermilfoil and other aquatic plants. In 2023, she was recognized again by the Wisconsin Lakes and Rivers Partnership for her work educating professionals and volunteers about lake ecology and aquatic plants. 💧





# Snapshot Day

## Engaging Communities in Aquatic Invasive Species Monitoring

By Lily Butler and Emily Heald, University of Wisconsin-Madison – Division of Extension

On August 10th, 2024, water lovers of all ages will gather for a one-day statewide aquatic invasive species (AIS) scavenger hunt as a part of the 11th annual AIS Snapshot Day.

This event is coordinated by University of Wisconsin-Madison – Division of Extension in partnership with the Wisconsin Department of Natural Resources (WDNR) and Extension Lakes. Volunteers meet at different local rendezvous sites across the state to learn how to identify AIS such as Eurasian watermilfoil, purple loosestrife, and New Zealand mudsnails, and then search for them in the field at pre-selected locations. Findings from Snapshot Day are uploaded to the statewide water quality database, SWIMS, where they can be used to track the spread of invasive species and inform management decisions.

*“The whole day was a very good opportunity to get out into nature and see our local parks in ways I hadn’t before.”*

*~ 2023 Snapshot Day Volunteer*

Laura MacFarland



Every year, Snapshot Day provides a vast amount of AIS data to the WDNR to assist in management decisions. Last year alone, 145 participants gathered at 22 meeting locations and monitored 131 sites across 102 different waterbodies in Wisconsin. At 83 of those sites, volunteers located 15 different AIS species, including purple loosestrife, curly-leaf pondweed, and faucet snails.

Snapshot Day’s community-based science approach maximizes the number of sites being checked across the state,

and the free event allows volunteers to learn about their local waters and how to keep them

healthy. As one volunteer stated, “I enjoyed the hands-on learning approach. It was helpful to have well-informed guides and samples of the invasive species to get a close look at. Once we had a good understanding of what to look for, it was fun to go out and collect samples of what we were finding.” Another said, “The whole day was a very good opportunity to get out into nature and see our local parks in ways I hadn’t before.”

More and more people want to know how they can help protect the local lakes, rivers, and streams they love. “Snapshot Day makes taking action a fun, efficient, and community-building event,” explained Maureen Kalscheur, statewide AIS coordinator for the WDNR. “We’ve seen nature lovers, paddlers, and anglers take part. We’ve also had families, troops of Scouts, and retirees come out. Everyone enjoys the hands-on opportunity to learn more about the waters near them, and by providing a venue and some training we can help them become stewards of their waters,” Kalscheur continued.

Snapshot Day is not just an event; it’s a movement that thrives on collaboration and collective action. Whether you’re a nature enthusiast, a student seeking field experience, a community leader, or someone simply looking to make a positive impact, there’s a place for you in this endeavor. By joining Snapshot Day, you become part of a statewide network of volunteers united in their commitment to preserving Wisconsin’s freshwater ecosystems for generations to come. As we gear up for another year of Snapshot Day, let’s harness the power of community and collective action to search for invasive species!

For more information on Snapshot Day, please visit: <https://wateractionvolunteers.org/events/>



# WI Lakes Partnership

## Scholarships



College of Natural Resources  
University of Wisconsin - Stevens Point

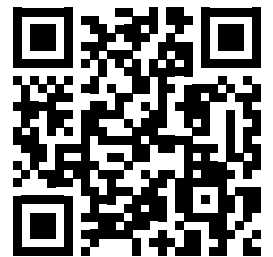
## Working Toward an Endowment Fellowship

The UW-Stevens Point College of Natural Resources has selected Madeline Hetland and Trystan Altensey for the Wisconsin Lakes Partnership Scholarships! Madeline, from Rhinelander, Wisconsin, is pursuing a degree in Water Resources with a Conservation Biology minor along with a Wetland Science certificate. Trystan Altensey is from Port Byron, Illinois, pursuing a degree in Fisheries and Aquatic Sciences. These scholarships are funded by the generosity of donors like you who contribute to the Wisconsin Lakes Partnership endowment at the UW-Stevens Point (UWSP) Foundation. In addition to these annual scholarships, we have a goal of providing an undergraduate student fellowship at UWSP (mentored by Extension Lakes staff) to assist us in the ongoing production of this *Lake Tides* newsletter. Through this fellowship, students would be exposed to a range of lake management concepts and challenged to

help us communicate with a broad, statewide audience. The benchmark endowment required to fund an undergraduate fellowship is about \$250,000, which would yield on average about \$10,000 annually to support a talented student.

To contribute to this endowment account, please go to <https://give.uwsp.edu/give-now>

1. Type "Lakes" into the search bar and when "No Results" comes up, scroll down and
2. Enter Fund Name: "Wisconsin Lakes Partnership Program"
3. Enter amount and proceed to fill out your personal details and billing information, then confirm your donation



If you would like to give a more substantial gift or have additional ideas for sustaining the Partnership for the very long term, reach out to Eric Olson, Director of Extension Lakes, at 715-346-2192. 💧

provided by Madeline Hetland



*"Your support inspires me to keep learning, researching, and working towards protecting Wisconsin's lakes and rivers."*

~ Madeline

provided by Trystan Altensey



*"This will help me stay focused on my goal of graduating...and finding a job that I can positively impact the environment and the fisheries that come with it."*

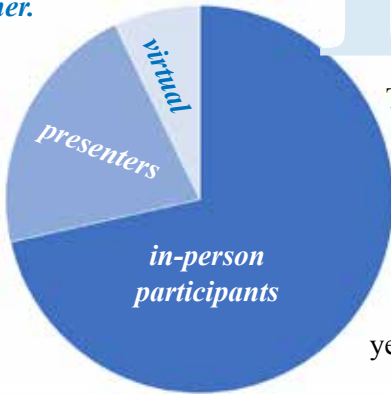
~ Trystan



# 2024 Convention Recap

## Chapter 33 Golden Jubilee: 50 Years of Partnering for Our Waters

Over 600 participants joined us this past April to learn from and engage with each other.



The 2024 Wisconsin Lakes and Rivers Convention attracted a total of 610 individuals including 130 presenters and 44 virtual attendees. The convention center was abuzz with excitement as this truly is a lake and river “family reunion” that brings together volunteers and professionals who may only see each other once a year at this event.



2024 Lake Stewardship Award winners (L to R): Kerry Romsa and the Pelican Lake Association for Excellence in Building Partnerships, Jeff Meessmann for Excellence in Public Engagement\*, Peggy Sherman and Jay Gutenkauf representing Big Doctor Lake Association for Programmatic Excellence for Lake Health\*, and Tracy Arnold for Excellence in Professional Service

\* The winner of these awards are nominated to the North American Lake Management Society’s corresponding award for national recognition.

Did you attend the Convention? Please provide your feedback by filling out this survey:



Or contact us at [uwexplakes@uwsp.edu](mailto:uwexplakes@uwsp.edu)

### Sponsors and Exhibitors

We’d like to thank the 11 sponsors, 20 non-profit/educational exhibitors, and 19 for-profit/business exhibitors for sharing their products, services, and passion. Some sponsors and exhibitors have been attending for decades and are stalwart supporters of the Wisconsin Lakes and Rivers Partnership, while others joined us for the first time this year. We hope you all benefited from attending and we hope to see you all again next year.

### Convention Presentations

You can access videos of recorded sessions and presentation materials at [uwsp.edu/uwexplakes](http://uwsp.edu/uwexplakes) by clicking *Convention Collection* under *Resources* in the navigation menu. Our searchable directory of presentations, recordings, and other Convention materials is combined with over 2,000 articles from this quarterly newsletter (*Lake Tides*). All you have to do is choose the “collection” and “year” you’re interested in. You can also choose a specific “category” or type in a keyword(s) in the “text search” box. The more parameters you use, the more you will refine your search.

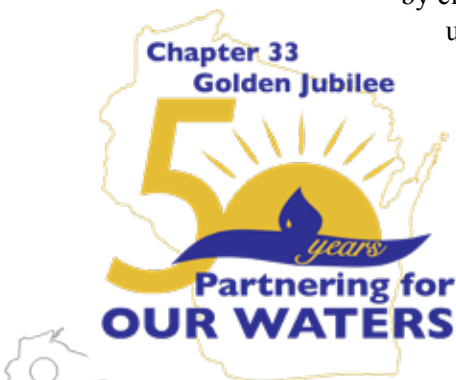
### Lake Stewardship Award Winners

The Wisconsin Lakes and Rivers Partnership presented the Wisconsin Lake Stewardship awards again this year to celebrate the extraordinary volunteer and professional efforts made to protect and improve lakes in Wisconsin. The Lake Stewardship Awards represent our best collective effort to honor and celebrate all the incredible work that goes into ensuring the future of our state’s legacy of lakes. You can nominate a lake steward for 2025 by going to the [wisconsinwaterweek.org](http://wisconsinwaterweek.org) website, clicking on “Lakes and Rivers Convention” and finding “Lake Stewardship Awards.”

Some of the positive feedback from this year’s Lakes and Rivers Convention participants:

*“Great job to all that organized this event. It is extremely important for the health of our lakes and rivers to keep this event going.”*

*“Once again I left the event with wind in my sails.”*



*“I leave this conference with my battery charged. The multitude of positive conversations are so inspiring to me, I return to my lake filled with inspiration to continue to keep the beat going. A wonderful conference complete with so many opportunities to learn.”*

### Photo Contest Winners


Congratulations to this year’s Lakes & Rivers Digital Photo Contest winners! You can view the top three in each category at <https://wisconsinwaterweek.org/home/lakes-and-rivers-convention/photo-contest/> or check out the Wisconsin Lakes and Rivers Partnership Facebook album with all the 2024 submissions at <https://www.facebook.com/media/set/?set=a.972860241515475&type=3>



*“Splash Landing” took 1st place in the People Enjoying Lakes and Rivers category of the 2024 Wisconsin Lakes and Rivers Digital Photo Contest. This photo was taken by Martin Peters on Beaver Dam Lake in Barron County.*

### 2025 Lakes and Rivers Convention

Save the date for the 2025 Lakes and Rivers Convention taking place March 26-28, 2025 in Stevens Point. Next year’s theme is, “The Power of Words: Working for Our Waters.” Stay tuned for more information at <https://wisconsinwaterweek.org>.

 2025 Wisconsin Lakes and Rivers Convention

**the POWER of WORDS**  
**Working for Our Waters**

March 26-28 ~ Stevens Point

CALENDAR

Check out our Online Calendar at [uwsp.edu/uwexplakes](http://uwsp.edu/uwexplakes)

Stay up-to-date with lake and river events across the state, region, and beyond with our online calendar. Don’t see your event listed? Let us know by clicking “Add an Event” at the top of the page and fill out the short form!

## Get Involved this Summer!

Are you familiar with the Wisconsin Citizen Lake Monitoring Network (CLMN)? We have one of the largest and longest-running volunteer lake monitoring programs in the country! You can learn all about CLMN and what volunteers monitor by perusing the quick CLMN training video series under *Resources* on our website.

Want to get involved in monitoring your lake? Scroll down to the Regional CLMN Coordinators list at the bottom of the CLMN homepage to contact your local coordinator and get started!

Clean Boats, Clean Waters (CBCW) watercraft inspectors play a vital role in preventing and containing the spread of aquatic invasive species in Wisconsin. Learn more about CBCW and how to join the outreach effort by visiting our website.

You’ll also find videos demonstrating how to talk with boat landing visitors, instructions on how to enter CBCW data, links for ordering CBCW gear, and more! Contact Statewide CBCW Educator, Erin McFarlane ([erin.mcfarlane@uwsp.edu](mailto:erin.mcfarlane@uwsp.edu)), to let her know how she can help.



Find out more by going to the Extension Lakes website and clicking on the corresponding program logo:

[uwsp.edu/uwexplakes](http://uwsp.edu/uwexplakes)



## Lake Tides -- AAM1598

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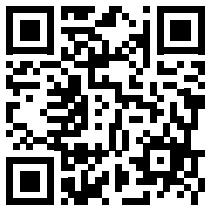
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Extension Lakes  
College of Natural Resources  
University of Wisconsin-Stevens Point

### Save Water, Paper, Money!

Switch your mailed paper copy of this *Lake Tides* newsletter to an online version - with FULL COLOR photos! Just scan this QR code and fill out the short form, or call or email us (see below).



#### A quarterly publication of the Wisconsin Lakes & Rivers Partnership

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## Reflections

*“We, the People, recognize that we have responsibilities as well as rights; that our destinies are bound together; that a freedom which only asks what’s in it for me, a freedom without a commitment to others, a freedom without love or charity or duty or patriotism, is unworthy of our founding ideals, and those who died in their defense.”*

— Barack Obama

