



LAKES REU Returns to UW-Stout Summer Research Projects Chip Away at Wicked Water Problems in Western Wisconsin

By Eric Olson, Director and Lakes Specialist, Extension Lakes

While many college undergraduates relish their summers away from the classroom, a growing number of students spend their sunny days doing hands-on research to learn new aspects of science and boost their academic credentials. Known as "Research Experience for Undergraduates" or REU, these seasonal stints partner ambitious students with high-caliber professors to help build the pipeline of future researchers. One such program at UW-Stout is entering its seventh season of applied field research, bringing young minds from across the nation to help tackle lake and watershed questions in and around the Red Cedar River basin.

The Linking Applied Knowledge in Environmental Sustainability (LAKES) REU began in 2014 with a grant from the National Science Foundation (NSF) to fund diverse cohorts of students doing field-based and laboratory research at UW-Stout. As the acronym suggests, the projects in this particular REU revolve around lakes and water. The impetus for the endeavor arose from major water quality challenges in Tainter and Menominee lakes in the city of Menomonie, where the university is located. A group made up largely of early-career UW-Stout professors - Nels Paulson, Mandy Little, Tina Lee, Matt Kutchka, Steve Nold, and Chris Ferguson - developed the NSF funding proposal and helped manage the research projects for the first three summers. Each participating professor brings

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photo: MLC

(LAKES REU, continued)

a unique set of disciplinary and research skills to the overall effort, ranging from anthropology to economics to chemistry and geology.

The LAKES REU is unique in several ways. A major share of NSF funding for such programs is directed towards research universities like UW-Madison and UW-Milwaukee; it is not as common for a comprehensive four-year school like UW-Stout to receive funding for undergraduate research. Many REU programs also focus mostly on laboratory-based research, usually on a fairly narrow set of tractable problems in a single field like chemistry, physics, biology, or engineering. The LAKES program, in contrast, focuses on getting students out on the landscape and into the community to pursue a wide range of questions relating to water quality, land use, community development, and government policy.

This real-world approach has proven to be both challenging and rewarding. The faculty mentors and students experience an intense and meaningful summer season of research, but the time and travel commitment is taxing for everyone involved. After the sixth cohort in 2019, the research team agreed to take a year off to allow everyone to regroup and recalibrate. That turned into a two-year hiatus when the COVID-19 pandemic and related safety protocols interfered with the goals of meeting community members face-to-face and going out into the environment to collect real-time data.

Arthur Kneeland, a senior lecturer in UW-Stout's Biology Department, describes why the team dismissed the alternative of a virtual, distance-based 2021 season: "I had a prospective engineering student a couple of years ago and she called before committing to Stout to ask me 'What is this going to be? I had an REU once before and I sat in a lab. It was the most boring experience, so I want to know what we're going to be doing,' and that year I was looking at nutrient dynamics in wild rice beds, so we spent our whole research time up in northern counties in rivers looking at wild rice. It was completely not what she expected, and she gained so much from it. If the student researchers are not going to get the experience of meeting farmers, and experiencing the ecosystems here in Wisconsin, then I just don't want to do it."

Tina Lee, who, along with Arthur, serves as co-principal investigator for LAKES REU, noted that the additional time off allowed faculty members to think about new directions for the overall project. "COVID gave us some space to think about what else we might be investigating that we hadn't really gone into. This created an exciting opportunity to bring in new mentors. For example, we were able to add an engineer, Devin Berg, who is interested in monitoring water quality and exploring if we can create better devices to make monitoring less labor-intensive and gather better data. We're also adding a psychologist, Sarah Wood, who's going to be working on social norms

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LAKES REU research students help with a shoreline restoration on Lake Menomin in 2018.



LAKES REU - UW-Stout



and investigating the gaps between what people think they are supposed to do and what they think other people are doing.”

There has been a challenge in keeping the community aware of developments at Stout during the pandemic, but both Tina and Arthur expect the 2022 student cohort to quickly reconnect with collaborators. Faculty are also hoping that the community ties developed through the seasonal REU can be sustained throughout

the school year, connecting more of Stout’s students to challenges in the community. A proposed Center for Rural Opportunities and Prosperity at UW-Stout could serve as a clearinghouse for leveraging campus resources to foster sustainable community and agricultural development strategies. Tina notes that UW-Stout has unique strengths to share with the regional community. “We’re not an ag school, so we’re not going to be able to help a farmer figure out a grazing plan, but we have programs like a digital marketing program, a really, really good school of art and design, environmental science, and applied social science. The students learning these skills have to do hands-on projects so we are hoping to use the Center to connect our students with community needs.”

The LAKES REU is also designed to grow opportunities for students from populations that are underrepresented in the field of science. Women and students of color in particular benefit from opportunities to work closely with a research mentor and develop a better understanding of what a career in science might entail. There are 11 students in the 2022 cohort and all but one are women and several are women of color. Tina points out that there are no specific quotas in recruiting: “The



LAKES REU - UW-Stout

The LAKES program focuses on getting students out on the landscape and into the community to pursue a wide range of questions relating to water quality, land use, community development, and government policy. Here, students from the 2022 cohort work with farmer Dan Prestebak on grazing management.

participants are all brilliant students, and we focus first and foremost on getting the best students into the program, and they are often women.”

While some of the participants in LAKES REU are also full-time students at Stout, the majority come from off-campus and many come from outside Wisconsin. Audrey Cho, a 2022 participant, sought out Stout’s program because she could not find other REUs that incorporated environmental policy research. “I learned about LAKES REU through the Center for the Environment at Smith College, and I am passionate about water pollution, water quality, and all of the related issues. I took a

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Freshwater Collaborative of WI

This spring, the legislature approved \$3.4 million for the Freshwater Collaborative of Wisconsin. The money helps support 42 grants across the state to enhance water science programs, internship opportunities, and hands-on field and research experiences. Read the list of recently funded projects at freshwater.wisconsin.edu/funded-projects/.



Partner Up!

Collaborating with a Larger Entity to Increase Access and Effectiveness

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



management plan that encompasses 10 lakes in this water-rich town. We heard directly from one lake that is part of this collaboration, Plum Lake, who said this partnership has been beneficial for lake organizations because they have used the town as a sponsor for grants, which they would have never been able to receive on their own. Being a part of this committee broadens the base for work that needs to be done and is better done as a collective. Learn more about this committee and their new management plan at <http://www.townofplumlake.com/document-types/lakes-committee>.

Regional Organizations

Regional organizations can come in many shapes and sizes. These organizations aren't necessarily affiliated with one specific county or town and may have a larger, more regional reach. Below are a few examples of successful regional organizations.

County-wide Lake and River Associations

Several counties with significant water resources have found that operating at the county scale makes sense for a number of reasons. The county government often has a major role in water resource management, from zoning to the land and water conservation department. The county provides an identity to the area and it's easy to know if the resources being addressed are "in" or "out" of the county.

Fish and Wildlife Groups

Hunters and anglers have a long tradition of organizing at the county or regional scale to advocate and raise money for sound natural resource management. Sand Lake in Rusk County works with their local Wildlife Restoration Association (WRA) group. They hold two fundraisers each year to help pay

We invite you to think about how you might be able to partner with another organization to increase your effectiveness in protecting and restoring lakes.

In many cases, instead of multiple smaller entities working independently on similar projects, it is more impactful to partner with a larger entity which can bring multiple organizations together under one framework or umbrella.

This larger entity can sometimes accomplish tasks that smaller groups aren't able to do on their own, such as access grants and recruit and manage volunteers.

There are various ways lake organizations are already partnering with larger entities. We invite you to think about how you might be able to partner with another organization to increase your effectiveness in protecting and restoring lakes.

Town Lakes Committees

Several town governments across Wisconsin have formally created lake committees to "scale up" lake management and tackle issues common to many lakes in a local town. One example of a successful town lakes committee is the Town of Plum Lake in Vilas County. They have recently completed a lakes



for conservation projects; they communicate with all local lake associations to discuss funding needs and they work with all towns in Rusk County on water and land management projects.



Golden Sands RC&D Council staff, Chris Hamerla, compliments Long Lake Association members on their Clean Boats, Clean Waters program, explains aquatic invasive species, and reports on a recently completed early detection survey on Long Lake in Waushara County.

Resource Conservation & Development Councils (RC&Ds)

The National Resource Conservation & Development Councils program was created by the USDA in 1962. These organizations are set up as 501(c)(3) nonprofits that develop regional goals around land and water care. Each council establishes its own governing policies and develops its own programs to fill local needs. Many have taken on work related to invasive species prevention and management, as well as conservation agriculture, and they typically welcome collaboration with lake groups. You can find links to all four Wisconsin RC&Ds at <https://www.wisconsinrcd.com/>.

Northland College: The summer 2015 issue of *Lake Tides* reported on a new \$10 million endowment at Northland to support the creation of the Mary Griggs Burke Center for Freshwater Innovation. The Burke Center has been collaborating with lake groups in and around Ashland and Bayfield County to study water quality and help develop lake management plans. Learn more at <https://www.northland.edu/centers/mgbc/>.

If your property is on a lake that doesn't have a formalized lake organization, there are many ways to get involved in local waterbody issues.

Higher Education Collaborations

In addition to educating students, many colleges and universities seek to partner with lake groups to co-develop research projects and provide hands-on learning experiences.

UW-Stout and the LAKES REU: This issue of *Lake Tides* includes a cover story describing how UW-Stout faculty have led a nationally-funded applied research project in and around the Red Cedar Basin.

The Wisconsin Freshwater Collaborative: A recent program housed at UW-Milwaukee has been working to foster collaboration among the many university centers and programs in Wisconsin. Learn more at <https://freshwater.wisconsin.edu/>.

Find Your Local Lake Organization

You can visit uwsp.edu/uwexlakes and click on "Lake Organization Search" under *Lake Organizations* in the left hand navigation to get to the Wisconsin Lake List. There are several search options including clicking on the interactive map.

UW-Oshkosh: The Environmental Research & Innovation Center (ERIC) at UW-Oshkosh serves as a research and testing center for campus, the general public, and external partners to work for environmental health. They've collaborated with lake groups on everything from Clean Boats, Clean Waters programs to beach redesigns that improve safety and water quality. Learn more at <https://uwosh.edu/eric/>.

If your property is on a lake that doesn't have a formalized lake organization, there are many ways to get involved in local waterbody issues. Even though your lake may not have an organization, we encourage you to join your regional organization to get involved and stay up-to-date on the latest issues, solutions, and resources. We also encourage you to reach out to the nearest lake that does have a formal organization and ask if you can sit in on meetings to learn more. 💧





WISCONSIN LAKES

Tell Your Story

Helping Lake Organizations with Communication Needs

By Mike Engleson, Executive Director, Wisconsin Lakes

Whether it's a crucial piece of information to get to your lake organization's membership or a major campaign to convince the community to take action, establishing a communications strategy for your organization can determine whether your message is heard and acted on.

Lakekit offers site hosting, general maintenance, and one domain registration for \$100 per year (25% discount for all Wisconsin Lakes organizational members).

Wisconsin Lakes believes a good communications centerpiece can be an informative, user-friendly website. A website carries much more information than an email or a social media post. In fact, stories within those emails and posts can easily link to greater detail on the website. And while print communications like the hard copies of this issue of *Lake Tides* serve an important role as well, websites carry the advantage of being easily updated to cover the most recent developments.

Wisconsin Lakes is proud to offer its Lakekit.net program, which offers low-cost, easy-to-maintain website options for Wisconsin lake associations and districts (see more at <https://www.lakekit.net>).

But just building a website isn't enough to really ensure your message is heard. Here are some tips that will help you tell your story:

Frame Your Message.

Know what you want to say before you say it. Write it for yourself first and then craft it for each audience to remain consistent across all forms of media.

Know Your Audience.

It might be okay to use "AIS" when talking to experienced members, but the general public might not recognize the acronym for "aquatic invasive species." Similarly, social media might be a good way to reach some, but not so for others. Knowing who you are trying to reach can inform how you say something and what platform you use to say it.

Tell a Story.

A compelling, concise narrative that presents a problem and a call to solve it is much more likely to spur action than a bland announcement. Where you can, tell a story using people or real life examples.

For more information on communications strategies and our Lakekit program, watch Lakekit.net and wisconsinlakes.org. We'll be hosting webinars this fall with lots of information and ideas.

Or, request a consultation at Lakekit.net/contact-us/. Lakekit offers site hosting, general maintenance, and one domain registration for \$100 per year (25% discount for all Wisconsin Lakes organizational members). And check out a sample Lakekit site at wisconsinwaterweek.org! 💧



(LAKES REU, continued)

gap year during the first year of the pandemic and I worked with a small non-profit on water quality issues surrounding microplastics, and now I am building on that through my summer in Menomonie.”

Water quality issues in the Red Cedar watershed are an example of what some researchers call “wicked problems.” Such issues are difficult or impossible to solve because of incomplete, contradictory, and changing requirements that are often challenging to recognize or measure. Working to solve one aspect of a wicked problem may reveal or create other new problems, and progress on wicked problems typically comes from a long-term effort that draws on multiple disciplines. Students and faculty at UW-Stout demonstrate this approach with their annual commitment to new and diverse projects.

Provided by Audrey Cho



The participants are all brilliant students, and we focus first and foremost on getting the best students into the program, and they are often women.

~ Tina Lee

Recent examples of REU subjects include:

- Hot Off the Press: Understanding Patterns in Media Consumption and Relationship to the Red Cedar Watershed
- The Effects of the Conservation Reserve Program on Surface Water Quality
- Economic & Environmental Effects of Diversifying Agriculture with Photovoltaics

This year (2022) serves as the first year of the most recent three-year NSF grant. Faculty members will be planning projects for 2023 during the fall and spring semesters. Lake and watershed groups in and around the Red Cedar River Basin with ideas and connections are encouraged to reach out to the LAKES REU faculty by email at lakes@uwstout.edu. What if you are not located in the western region of Wisconsin? You can still tap into university research capacity! Take a look at this issue’s Capacity Corner article for more information (page 4). 💧

More on LAKES REU

Learn more about LAKES REU and browse past research titles on their website: www.uwstout.edu/LAKES. You can also follow them on Facebook to learn about this year’s activities and find updates from past student participants: facebook.com/LAKESREU.



Travel Vlog to Nicaragua

Statewide Lakes Specialist Patrick Goggin, Extension Lakes, and his wife Quita Sheehan, Vilas County Land and Water Conservation Department, share their online travel log to Nicaragua in March 2022. They visited four of the 44 learning centers of the Wisconsin/Nicaragua Partners to discuss clean water solutions, water access and availability, gardening and beekeeping, and water monitoring and conservation strategies for the future.

View the video log here: <https://youtu.be/w0R0SRmex-0>

Learn more about the Wisconsin/Nicaragua Partners of the Americas at <https://wisnic.org/>.

Aerial Insectivores

Barn Swallows and Chimney Swifts - Two of Our Flying Bug Eaters

By Karen Etter Hale, Chair, Wisconsin Bird Conservation Partnership and Bill Mueller,
Ornithologist and Conservation Biologist, Western Great Lakes Bird and Bat Observatory (Retired)

Whenever you're near water, from late spring through fall, you're likely to see some fast-flying birds swooping low (or high) over piers, docks, and water, snapping up insects. What are they? They are likely barn swallows or chimney swifts.

These birds are very different, but are both found throughout Wisconsin and are similar in a few ways. Both are aerial insectivores, which means they capture their insect prey while they are in flight. Not only do they eat “on the wing,” but they also drink and bathe that way, too! They fly low over the water and dip into it without stopping. They both are also experiencing population declines in some parts of their geographic ranges.

Aerial insectivores include swallows (6 species in Wisconsin, including purple martins), swifts, common nighthawks, whip-poor-

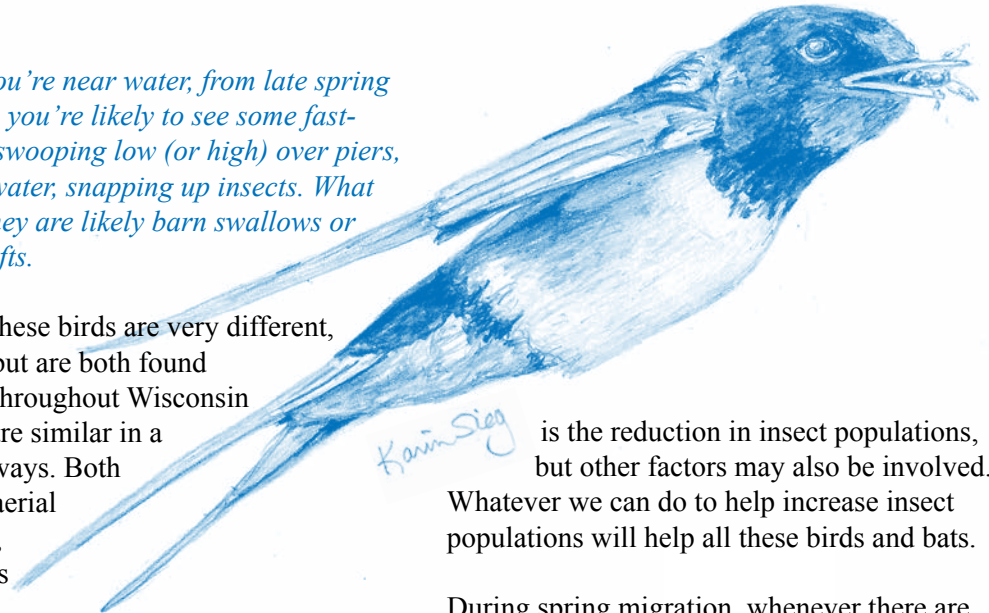
wills, and flycatchers such as phoebes, Eastern kingbirds, great-crested flycatchers, and Eastern woodpeewees - and bats. These flying bug eaters are globally important, but many are declining. The single factor most often implicated in declines of aerial insectivores

is the reduction in insect populations, but other factors may also be involved. Whatever we can do to help increase insect populations will help all these birds and bats.

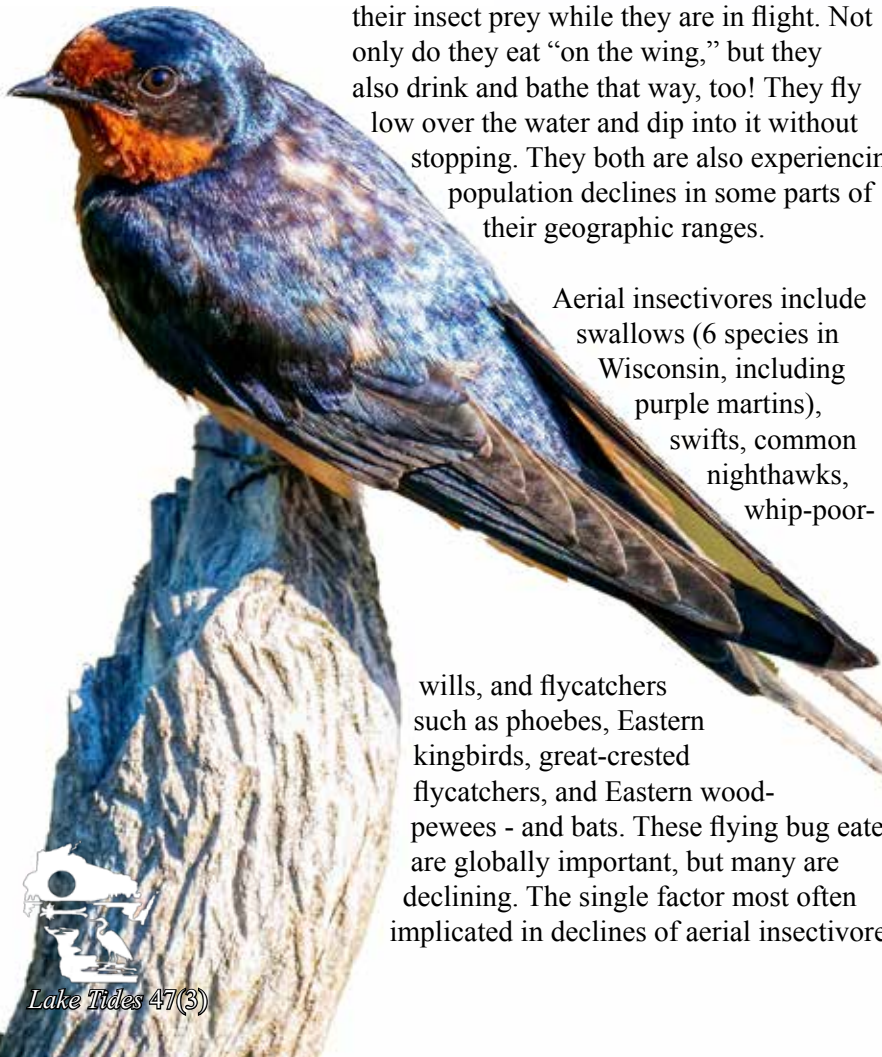
During spring migration, whenever there are days that are cold, windy, or rainy, which forces insects down low, you might experience what some people refer to as “swallow days.” At these times, you could see five species of swallows (cliff, Northern rough-winged, barn, tree, and bank) and chimney swifts, all at one time. These birds are so hungry that they are completely focused on capturing insects and will totally ignore you as they fly by fast, sometimes at eye level. If you stand still, they may fly by so close that you’ll hear their little bills snap shut on the bugs!

Barn swallows are the species you’ll see most often, flying over water and even under boat canopies. They are 6-7 inches long, with a 12-inch wingspan. They have an iridescent blue back and wings, rusty red face and throat, tan or orange undersides, and a long, blue, forked tail. Barn swallows build a half cup nest of mud, placed anywhere that’s “out of the weather,” such as on ledges under bridges, boat canopies, eaves, or under boathouses.

Barn swallows arrive in late April and depart in late summer/early fall. They are found throughout the northern hemisphere and winter in the southern hemisphere.



Skyler Ewing - pexels.com



Gordon Karre

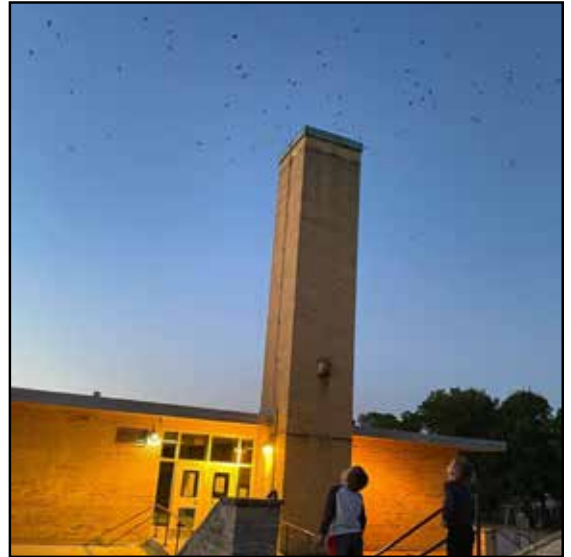


You may see and hear chimney swifts near water as well, but they almost always fly high and chitter, especially when they're dashing past close together in a mad cap courting flight. They're gray-brown all over and about 5 inches long with an 11-inch wingspan. They look like cigars with wings, and

they never perch except on vertical surfaces such as inside a chimney or in an old concrete silo, which is where most of them nest. Historically, swifts nested in large, hollow trees and still do on occasion. They, too, start arriving in late April and start departing in August from northern Wisconsin through October in southern Wisconsin. These small birds migrate all the way to the Amazon basin!

There are several things you can do to help chimney swifts and barn swallows. One is to decrease or stop any use of pesticides, especially near water. Planting native species and mowing less will help increase the insects they need as food. For swifts, if you have a home with an older, brick chimney, please keep it uncapped. The removal of old chimneys and the capping of them in recent years have meant less available habitat for swifts. You can also

help identify chimneys where swifts are nesting or roosting and report this to eBird. Consider attending or conducting a Swift Night Out (<https://www.wiswifts.org/swift-night-out/>). Watching swifts swirl down a chimney at dusk is an amazing phenomenon! If you wish to welcome barn swallows, but don't want the mess, try attaching a nesting platform under an eave or other protected area where it won't matter, and install barriers in places you don't want them.



Above all, be sure to enjoy these acrobatic flyers that inhabit our urban and rural areas. 💧

References:

Wisconsin Chimney Swift Working Group: <https://www.wiswifts.org/>

Midwest Aerial Insectivore Discussion Group on Facebook: <https://www.facebook.com/groups/1581381955435390>

To learn more about the reduction in insect populations, the single factor most often implicated in the declines of aerial insectivores, search for papers by these authors in Google Scholar: Forister et al. 2019, Habel et al. 2019, Hallman et al. 2017, Lebuhn et al. 2012, Petsopoulos et al. 2021, Sanchez-Bayo and Wyckhuys 2019, Samways 2019, and Van der Suijs 2020.

Did you know winter migration isn't just for the birds?

DYK

Swallows and swifts are not alone when it comes to catching and eating their meals in mid-flight and flying south for the winter. You may know that monarch butterflies and painted lady butterflies migrate south for winter, but did you know that some dragonflies do this too? Many of our dragonflies spend their winter in Wisconsin lakes as aquatic larvae, shielded from the cold by living under the ice in the relatively warm water and sediments. Others, like the green darner, fly all the way to Florida or the Gulf of Mexico as adults to escape the cold. They stay there for an entire generation over the winter, and the newly hatched green darners head north again in springtime for the warmer months. A new generation is born in late spring in the North, and flies back to the south in September before the first hard frost. Winter migration isn't just for the birds; certain butterflies and dragonflies...and even some of us humans have realized that winter migration to Florida isn't such a bad idea either.



Lakes 101

Cool Facts about Lake Temps

By Jordyn Kurer, UW-Stevens Point Graduate

Remember that warm summer day when you went swimming in the lake, and you noticed that the water was warmer on the surface of the lake and colder at the bottom near your feet? Have you ever wondered why this phenomenon happens, and how this is possible?

Did you know water is heaviest at 3.98 degrees Celsius? Anything warmer or colder floats.

Lakes that are large enough and deep enough are stratified. Stratification of a lake is simply the layering of different water temperatures within the lake. The three layers that make up the lake are the epilimnion, the metalimnion (also referred to as the thermocline), and the hypolimnion.

The top layer of water is referred to as the epilimnion. This layer is the warmest in the summer because this water is on the

surface of the lake and is heated by the sun throughout the day. The sun's rays only penetrate so deep within the water, which is why the water on the bottom of the lake does not get as warm as the water on the top of the lake.

The middle layer of water is referred to as the thermocline, or the metalimnion. This area of the lake has water that is moderate in temperature. It isn't the warmest spot, but it's not the coldest spot either. This water receives some sunlight, but not enough to warm up the water molecules so that they can become a part of the epilimnion.

The bottom layer of the lake is known as the hypolimnion. This layer consists of the coolest, densest water since the sunlight typically does not reach the bottom of the lake.

These three layers do still exist in the winter, but they are underneath the layer of ice that is formed on top of the water.

These layers change throughout the year during turnover. Turnover is caused by the density of the water particles changing and it allows for the colder water to move to either the top or bottom of the lake, depending on the season. The density of water changes as the temperature of the water changes. For example, cooler water is more dense than warmer water, meaning that in the summertime, the cooler water sinks down to the bottom of the lake. However, once the water reaches a temperature of 0 degrees Celsius (32 degrees Fahrenheit) it freezes. Water in its solid form (ice) is less dense than water in its liquid form, which is why the coldest water is found on the top of the lake in the winter as a sheet of ice. Pretty cool, right? 💧



Jessica Tomaszewski





Let's Make Healthy Lakes & Rivers Together!

The Healthy Lakes & Rivers initiative is a statewide effort providing outreach, technical assistance, and funding for five simple and inexpensive best practices that are appropriate for most lakeshore properties. Pitch your Healthy Lakes & Rivers

feature story to Pamela Toshner (pamela.toshner@wi.gov) or Amy Kowalski (amy.kowalski@uwsp.edu).

Using the Shoreland Evaluation Tool at the Organization Level

Do you belong to a local lake association or district, river group, or municipality? Your group can promote and use the online Shoreland Evaluation Tool to help encourage folks in your area to evaluate and enhance their waterfront properties to help keep our waters healthy. Join us at one of these two online opportunities to learn how to navigate this tool as a “Partner Organization” and get your questions answered. Let’s make healthy lakes and rivers together!

August 11, 2022 - 2:00-3:30 PM (Central Time) Register at <https://bit.ly/3Pkwd2p>

August 18, 2022 - 10:00 AM-Noon (Central Time) Register at <https://bit.ly/3PHhgY0>

You can check out the tool by going to healthylakeswi.com and clicking on “Score My Shore” in the top navigation. 💧

Q&A Lake Districts

We often get phone calls and emails from Lake Tides readers with a variety of questions about lake districts. Do you have a question about lake districts that you would like to see answered in Lake Tides? Send it to uwexlakes@uwsp.edu so we can include it in a future issue.

Q: Can someone get multiple votes at a lake district meeting if they own multiple properties?

A. No. All government elections in Wisconsin are based on the concept of “electors,” who are people representing themselves and are the sovereign of the state in our democracy. In any government election, you only vote once and voting more than once is a crime. Typically, you only get to vote where you live and the question of whether you own property where you live never applies. Outside of lake districts, owning property affords you no additional voting eligibility in Wisconsin. Ownership of property in a Wisconsin lake district makes you eligible to vote on the budget and in lake district elections - it’s your “admission ticket” to an election that you otherwise aren’t eligible to vote in (because you do not live there). If a person is both a resident, a landowner of a parcel, and the assigned representative of a corporation that owns another parcel, they are still only eligible to vote once. Those characteristics are just different paths to obtain eligibility.

Suffrage for lake district landowners represents an expansion of the sovereign concept to include non-resident landowners as members of the lake district electorate. Article III Section 2 (5) of the Wisconsin Constitution provides that: “(Laws may be enacted...) Subject to ratification by the people at a general election, extending the right of suffrage to additional classes.” Wisconsin held a statewide referendum in November of 1980 to determine if this expansion should be allowed; it passed with 1,210,452 voting in favor and only 355,024 voting against.

For more information on lake districts, see *People of the Lakes: A Guide for Wisconsin Lake Organizations*, at <https://www.uwsp.edu/cnr-ap/UWEXLakes/Pages/organizations/guide.aspx>.



3 Cheers for 3 Years!

Celebrating Wisconsin's Invader Crusaders from 2020-2022

The last couple of years may have prevented us from gathering in person to celebrate our annual Invader Crusaders, but you can read about their accomplishments online! (<http://invasivespecies.wi.gov/awareness-month/awards/>) The Wisconsin Invasive Species Council honors individuals and groups for their significant contribution to prevent, control, or eradicate invasive species that harm Wisconsin's lands, waters, and wetlands. Let's give three cheers to the last three years of Invader Crusader Award winners!

The Wisconsin Invasive Species Council honors individuals and groups for their significant contribution to prevent, control, or eradicate invasive species that harm Wisconsin's lands, waters, and wetlands.

2020

Professional Group
Golden Sands Resource Conservation & Development Council

Professional Individual
Bob Wakeman, Statewide AIS Program Coordinator, Wisconsin DNR (retired)
Natalie Dutack, Wisconsin River Alliance
Cisco the Dog & Chris Hamerla, Golden Sands RC&D
Marian Farrior, UW-Madison Arboretum
Michele Jasik

Volunteer Individual
John Eron, Portage and Wood Counties
Margaret Smith, Pierce and St. Croix Counties
Georgia Gomez-Ibanez, Cambridge Elementary School (retired)
John Moyles, Fox Valley and Green Bay



2021

Professional Group
River Revitalization Foundation, Milwaukee River Greenway
Wild Rivers Invasive Species Coalition, Northwest Wisconsin

Professional Individual
Eric Boettcher, Whitewater
Anne Pearce, Wisconsin First Detector Network, UW-Madison Agronomy Dept.
Bret Shaw, UW-Madison Department of Life Science Communications

Volunteer Group
Chiwaukee Prairie Preservation Fund, Wisconsin/Illinois border
Friends of Hackmatack National Wildlife Refuge, Wisconsin & Illinois

Volunteer Individual
Anne Mawicke, Natural Lakes Private Preserve, Boulder Junction to Upper Michigan
Timothy Richert, Humboldt Park Friends, Milwaukee
Jeff Steele, Friends of Starkweather Creek, Madison

Youth
Peter Dargatz and his Nature Kindergarten Class, Woodside Elementary School, Sussex



[Read More Online!](http://invasivespecies.wi.gov/awareness-month/awards/)

You can read about the accomplishments of the 2020 and 2021 Invader Crusader Award winners on the Wisconsin Invasive Species Council website at: <http://invasivespecies.wi.gov/awareness-month/awards/>



2022

Professional Individual

Chris Acy, Volunteer and Member Coordinator of the Fox-Wolf Watershed Alliance, has helped prevent aquatic invasive species (AIS) through multiple programs including Adopt-a-Launch, Purple Loosestrife Biocontrol, and kayaking trips to remove invasives. He supports the AIS program through continued public education and outreach through events, classrooms, and on-site events.

Jeanne Scherer, Statewide Outreach Coordinator for the University of Wisconsin Division of Extension and Wisconsin DNR, has created positive ripples statewide. Jeanne has developed a diverse network of partners across Wisconsin to address AIS issues, manages the State's Purple Loosestrife Biocontrol program, and supports the Lake Monitoring and Protection Network (LMPN).

Bob Stroess, Administrative Warden at the Wisconsin DNR, focuses on the commercial fish and aquatic species issues. Bob developed and implemented an education program for all Conservation Wardens. He is also the lead investigator for ongoing cases related to illegal fish and crayfish sales, and coordinates activities with other states and industries. Bob received the Lifetime Achievement Award.

Volunteer Individual

Raymond "Skip" and Richard "Dick" Hansen have worked with Golden Sands RC&D on invasive species and lake projects for years. Dick has worked with the Central Wisconsin Invasives Partnership to promote invasive species education, and Skip has worked on the Eurasian Water Milfoil Dive Team. The Hansen family has raised Purple Loosestrife Biocontrol beetles, treated upland invasive species, and used prescribed fire to control invasives and promote native plant growth.

Jim Elleson, founder of Quercus Land Stewardship Services, has had an impact across Wisconsin and surrounding states. Jim built his company motivated by a strong land ethic, and is a mentor to his employees. Quercus employs 20 full-time employees who conduct prescribed burns across thousands of acres annually, and work to

control numerous invasive species throughout the year.

Paul Tussler serves as a steward of the Knights Templar Club of Langlade County, which has a 2200-acre private reserve. He created, organized, and spearheaded a monitoring and invasive species management program. As an advocate of the Clean Boats, Clean Waters program, Paul has written protocols for boat launches and led a signage effort for boaters. He continues to provide educational opportunities at presentations and lake excursions.

Professional Group

The Friends of Lapham Peak Unit, Kettle Moraine State Forest, Inc. provide year-round opportunities for volunteers and have been removing a wide variety of invasives from the property. In 2021, they burned more than 15,000 cubic feet of brush, restored prairies, and raised funds for the annual prairie burn. Their activities have helped rare insects and monarch butterflies, and provided opportunities for many regional students.

Paw Print Park Pack, also known as "The Pack," has helped control invasive species across a 16-acre dog park at the Prairie Knoll Park. The Pack has helped control invasive species at the park by securing funding to plant and seed natives, coordinate donations, and collect native seed. Their actions have promoted an increase in bird species and pollinator insects. 💧



Jane Simkins

(L to R): Tom Buechel, Chairman of the WI Invasive Species Council (holding award for Skip and Dick Hansen, who were unable to attend ceremony), John Hillmer (representing Friends of Lapham Peak Unit, Kettle Moraine State Forest, Inc.), Donna Nell (representing Paw Print Park Pack), Bob Stroess, Jim Elleson, Chris Acy, Jeanne Scherer, and Greg Long, WI Invasive Species Council (holding award for Paul Tussler, who was unable to attend ceremony). In back: Tom Bressner, WI Invasive Species Council.

Lakes & Rivers Convention

Building Trust Around Water Together

BUILDING TRUST AROUND WATER



TOGETHER

Navigable waters are held in trust by the state for the benefit of the public.

The theme for your 2023 Lakes and Rivers Convention is “Building Trust Around Water Together.” Trust is an important part of our everyday lives. We usually have trust in our family members, friends, neighbors, health care professionals, teachers, and so many others in our communities. Trust is something that is earned and is also something that can be lost.

During this event, we invite you to build new relationships with individuals, groups, businesses, and organizations. Let’s cultivate trust together so we can better collaborate and cooperate around our lakes, within our watersheds, and across Wisconsin. We also invite you to explore Wisconsin’s unique Public Trust Doctrine, based on our state’s constitutional provision “that navigable waters are held in trust by the state for the benefit of the public.” Read more about this important document by clicking on “Wisconsin Waters Belong to Everyone” under the *Highlights* section of our website at uwsp.edu/uwexlakes.

Similar to the last two years, our 2023 Lakes and Rivers Convention will be held during Wisconsin Water Week. Wisconsin Water Week is a time for everyone and anyone to learn more about what’s happening with our precious water resources and how they can be involved in protecting and restoring them. In addition to the Wisconsin Lakes and Rivers Convention in Stevens Point, Water Week offers additional in-person and online opportunities for people to connect and engage on water-related issues. We invite you to submit your events that are happening during or around Water Week so we can include them as part of the Water Week website at wisconsinwaterweek.org.



Support Attendance through Your Organization

Are you able to support board member attendance through your organization’s budget? Pricing for 2023 will be similar to 2022.

In-Person Convention

Costs for the 2023 Convention will be similar to these 2022 prices. Prices subject to change.

Wednesday

Half-Day Workshops* (AM and/or PM).....	\$40
Full-Day Workshops*.....	\$80
Lunch.....	\$15

*Some workshops may have an additional materials fee.

Thursday

Keynote speaker, 35+ sessions, lunch.....	\$125
Stewardship Banquet/Awards Ceremony.....	\$30

Friday

Keynote speaker, 35+ sessions, lunch.....	\$100
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Virtual Convention

Costs for the 2023 Convention will be similar to these 2022 prices.

Thursday

8 sessions, lightning talks, keynote speaker.....	\$50
---------------------------------------------------	------

Friday

8 sessions including keynote speaker.....	\$50
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WARNING
DUE DATES ARE CLOSER
THAN THEY APPEAR

October 1, 2022: Submit your presentation proposal
October 1, 2022: Submit a 20-second video showing how you enjoy water together
December 1, 2022: Nominate a Lake Steward
April 1, 2023: Submit up to two photos that answer the question: “Why do we need healthy lakes and rivers?” (special monetary award for the best before/after pic)



SNAPSHOT DAY AUGUST 20 2022



JOIN THE SEARCH!
A statewide search for aquatic invasive species

SNAPSHOT DAY



wateractionvolunteers.org/events

C A L E N D A R

August 11, 2022 – LAKES REU 2022 Community Forum, Menomonie, WI
Join student researchers at the Raw Deal coffee shop from 5:00-8:00 PM to learn something new about the Red Cedar Watershed. For more information, see our feature article (page 1) or go to <https://www.facebook.com/events/6042046035812058?ref=newsfeed>.

August 20, 2022 – Aquatic Invasive Species Snapshot Day, Statewide
See ad above for more information.

August 21-25, 2022 – American Fisheries Society Annual Meeting, Spokane, WA
For more information: <https://afsannualmeeting.fisheries.org/>

September 14-16, 2022 – Michigan Inland Lakes Convention, virtual event
For more information: <https://www.canr.msu.edu/michiganlakes/convention/>

September 15, 2022 – Pre-Proposal DEADLINE - Surface Water Grants
For more information: <https://dnr.wisconsin.gov/aid/SurfaceWater.html>

October 6-8, 2022 – Wisconsin Summit for Natural Resources, Waukesha, WI
For more information: <https://wimasternaturalist.org/get-involved/stay-connected/2022-summit/>

October 25-27 2022 – Upper Midwest Invasive Species Conference, Green Bay, WI
For more information: <http://www.umisc.net/>

November 15, 2022 – - Surface Water Grants DEADLINE
For more information: <https://dnr.wisconsin.gov/aid/SurfaceWater.html>

Stay up-to-date with lake events across the state 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!
<https://www.uwsp.edu/cnr-ap/UWEXLakes/Pages/calendar.aspx>



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Reflections

“Do not be hardened by the pain and cruelty of this world. Be strong enough to be gentle, to be soft and supple like running water, gracefully bending around sudden turns, lithely waving in strong winds, freely flowing over sharp rocks, all the while quietly sculpting this hard world into ever deeper beauty, gently eroding rigid rock into silken sand, tenderly transforming human cruelty into human kindness. Remember; true strength is not found in the stone, but in the water that shapes the stone.”

— L.R. Knost

