



Developing Responsibly A Modern Day Balancing Act Between Urban Development and Healthy Watersheds

By Kirsten James, Water Resource Specialist, Hey and Associates, Inc.

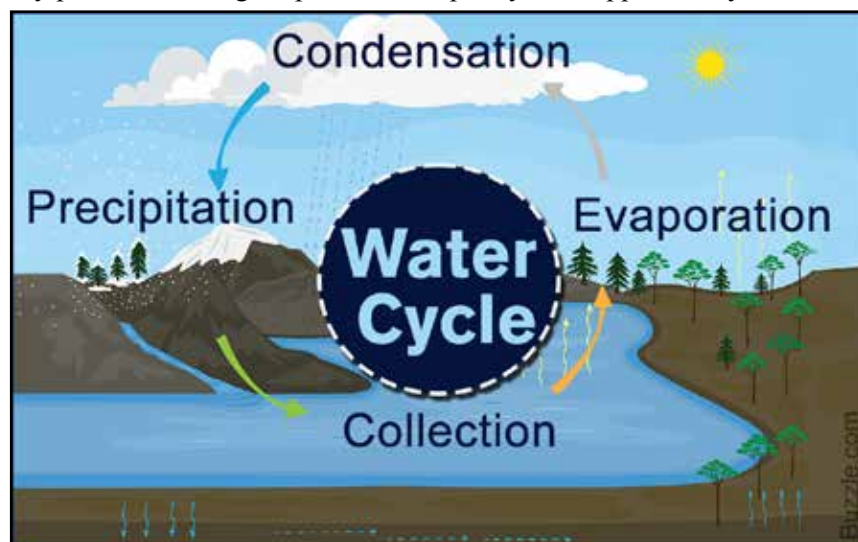
As a child, I was always fascinated with water's sheer power to alter the landscape, and soon heeded the call to take responsibility for protecting our water systems. Following graduation from UW-Stevens Point in 2016, I began my professional career working with an environmental services firm out of northern Illinois. I hope this article provides some insight into my perspective of our ever-changing water systems.

Our landscape provides us with crucial ecosystem services, including filtering pollutants, providing wildlife habitat, soil health, food, renewable resources, and recreation. The water cycle plays a large role in these fundamental systems. In this article, I'll discuss and give examples of the collection phase of the water cycle. Arguably, this component is where humans and development have most affected and continue to impact the water cycle.

In a natural, undisturbed ecosystem, water would fall on the landscape, and water within a watershed would either run off the land surface or infiltrate into the soil to become groundwater, ultimately collecting in a lake or river. Over time, relic water courses mold the watershed around them, creating wetland complexes, cutting expansive channels and providing niche habitats. These historic watercourses develop into unique natural systems that function to primarily store water, clean water and provide habitat. These functions are important to our waterbodies themselves and watershed residents because they prevent flooding, improve water quality and support ecosystems.

As humans have settled around waterbodies, we've altered the natural landscape and subsequently altered the natural collection systems of the water cycle. We've put more stress on the landscape by cutting through hills and filling valleys, constructing buildings and roads and redirecting natural channel

(Continued on page 2)



<https://sciencestruck.com/water-cycle-for-kids>

“The practice of conservation must spring from a conviction of what is ethically and aesthetically right, as well as what is economically expedient. A thing is right only when it tends to preserve the integrity, stability, and beauty of the community, and the community includes the soil, waters, fauna, and flora, as well as people.”

~ Aldo Leopold

systems. Because of this development, we’ve put more pressure on our watersheds to provide more storage, treat greater quantities of pollutants and become more resilient.

Wisconsin has been experiencing more frequent and intense storm events with destructive flooding. Is it possible to help our watercourses adapt to our ever-growing urbanization and withstand the pressures we put on them? Generally, we have three main options: 1) Enhance existing watercourses; 2) Create new artificial watercourses; and 3) A hybrid between the two, or “opportunity” watercourses.

Enhancing Existing Watercourses

To illustrate our first option, let’s pay a visit to George Lake, situated in Kenosha County just north of the Illinois border. The lake’s approximately 3.3 square mile watershed is about half agricultural land. Snowmelt and storm runoff flows from these fields, through a historic

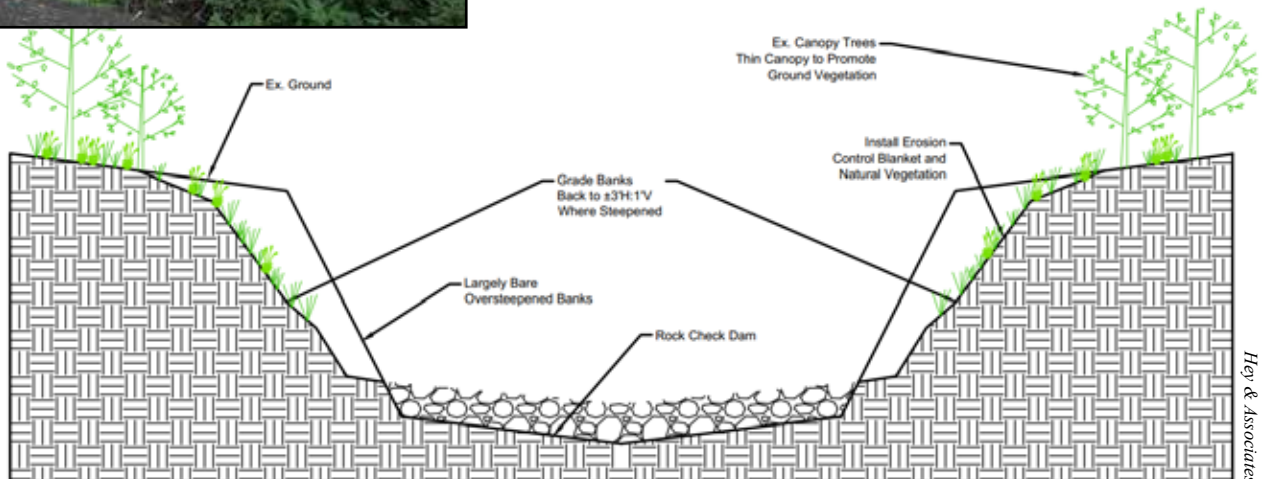
wetland complex, and into the lake through three main inlets. The George Lake Protection and Rehabilitation District was interested in improving water quality, specifically targeting nitrogen and phosphorus.

After analyzing data about the lake and conducting a field assessment, our team identified a few key opportunities to improve the existing ecosystem services. We felt stabilizing channels that were eroding into the waterway and enhancing the surrounding wetlands could make the most positive impact on water quality. The District secured grant funding through the Wisconsin Department of Natural Resources’ Surface Water Grant Program to complete final design and construction of projects that will improve the watershed’s ability to provide ecosystem services to the lake and the surrounding community.

Hey & Associates



Stabilizing this channel into George Lake included decreasing the grade of the banks and adding natural vegetation to help the wetland complex “clean” the water running into the lake.



Artificial Watercourses

Our second option is illustrated primarily by traditional civil engineering. Structures like detention ponds, storm sewer systems, levees, dams and pump stations are all examples of engineered watercourses. Recently, more unique solutions, like permeable pavement and engineered underground storage, have grown in popularity as they work to mimic nature by allowing water to infiltrate into the ground. Traditional civil engineering strategies have proved very effective to manage stormwater, but individuals, communities and businesses must always make a trade-off between the engineered solution that they can afford and that solution's ability to handle unpredictably large stormwater events in the future.

Hey & Associates



"Opportunity" Watercourses

Our third option, and my personal favorite, requires some creative problem solving to keep costs down but still utilizes some aspects of engineered solutions. To illustrate an example, let's travel just southeast of Madison to Fort Atkinson. The city straddles the Rock River, about 5 miles upstream of Lake Koshkonong. A portion of the city drains through a storm sewer to a series of channelized wetlands and then to the Rock River. A relic settling pond, previously used for industrial processing, was donated to the city and happens to be situated next to the outlet of the storm sewer system. We've worked with the city to retrofit the settling pond to provide additional water quality treatment for the city's storm sewer.

Taking advantage of existing infrastructure allows the city to provide water storage and improve water quality without extensive natural restoration or engineering.

As Aldo Leopold once said, "The practice of conservation must spring from a conviction of what is ethically and aesthetically right, as well as what is economically expedient. A thing is right only when it tends to preserve the integrity, stability, and beauty of the community, and the

Hey & Associates



community includes the soil, waters, fauna, and flora, as well as people."

We're constantly altering our watersheds due to development

and urbanization. More frequent, more intense storm events seem to be on the horizon (in some parts of Wisconsin, that horizon may have already arrived). Through better designed, more responsible development, society can hopefully continue to reap the benefits of ecosystem services and keep our lakes, rivers and watersheds healthy. You can get involved by supporting your local lake, river or watershed organization. You can also discuss innovative stormwater ideas with your local government. 💧

These two photos show examples of engineered watercourses. An overflow (left) is a portion of an embankment built to guide detention pond overflow, and this dam outlet (above) provides controlled releases from a reservoir.

About the author: Kirsten James worked for UWEX Lakes while completing her undergraduate degree; she helped wrangle lake associations and lake districts into updating their information on the Lake List. You can always share updates about your lake group by sending an email to uwexlakes@uwsp.edu. To read more about some of the projects included in this article, please visit: <http://heyassoc.com/projects/>



Show Us Your Mussels

Wisconsin DNR seeks Native Mussel Observations in Your Lake

By Lisie Kitchel, Conservation Biologist/Aquatic Ecologist, Wisconsin DNR

Lisie Kitchel



We're not talking about invasive zebra mussels, but rather our 52 species of native mussels. The Mussel Monitoring Program is interested in getting more information on what mussel species occur in our lakes and would like your help. This is a great activity for the whole family! It's a treasure hunt for the kids and is not strenuous, so folks of all ages and abilities can do it. You can wade, snorkel or paddle around to find these amazing native creatures.

To this end a "Mussel Blitz" was recently conducted in the Three Lakes/Eagle River Chain in Oneida and Vilas Counties by citizen volunteers and DNR mussel biologists. In 2014, a new Wisconsin mussel species was discovered in Medicine Lake, the Eastern Pondmussel (*Ligumia nasuta*). This species is mostly found in lakes along the East Coast with some found in eastern Michigan. The Eastern Pondmussel is not invasive or endangered. How the Eastern Pondmussel found its way to the lakes of northern Wisconsin is a mystery, but may have been introduced in its larval stage attached to the gills of its host fish. The focus of this Blitz was to determine where else this new species occurred in the Chain of Lakes, as well as document the other mussel species that occur in these lakes.

Wisconsin's native mussels, commonly known as clams, are important filters, keeping our lakes clean and providing food for wildlife. So, the Mussel Monitoring Program biologists with Wisconsin's Department of Natural Resources (DNR) are wading into the water and encouraging lake associations to do the same to help document where these beneficial animals live.

Lisie Kitchel



Volunteers waded and snorkeled in the shallow edges of the lakes, knee to waist deep. They picked up dead shells and live mussels. Piles of dead shells are often left behind by muskrats or raccoons, often near docks.



Live mussels were photographed and returned to the water, and dead shells were thrown back or saved if the volunteers wanted them for future reference. This effort helped confirm the presence of the Eastern Pondmussel in four “new” lakes, bringing the total to 10 lakes containing Eastern Pondmussels in the Three Lakes Chain.

The Eastern Pondmussel was also verified in the Eagle River Chain just below the Burnt Rollways Dam, but it is still unknown if this particular mussel is in more of the lakes in that chain. We encourage anyone living on any of those lakes to look for this and other mussel species and report them to the Mussel Monitoring Program.

DNR mussel biologists are hoping the Three Lakes and Eagle Lakes Chain, which are currently free of zebra mussels, can serve as refugia for the Eastern Pondmussel as it declines elsewhere. We certainly observed healthy populations of this mussel in the lakes where we found it and are curious to see in what other lakes it occurs.

refugia

noun, plural [ri-fyoo-jee-uh]
areas in which a population of organisms can survive through a period of unfavorable conditions

In addition to the Eastern Pondmussel, 10 other native mussel species were found, with such interesting names as Fat Mucket, White Heelsplitter and Fragile Papershell. The lakes appear to have a healthy and diverse population of mussels.

What can you do?

You can go out and look for these beneficial mussels in your lake! They commonly occur in shallow water just beyond the wave zone. We observed them in open sandy areas, or sometimes amongst sparse aquatic vegetation. The dead shells are easy to spot, but the live ones are obvious once you have seen them sticking part way out of the sand. Once you have shells or live mussels you can take a picture to document what you found. The best way to take a photo is to hold them so

the whole side of the shell is visible. If you have dead shells, you can take a picture of both the inside and outside, which helps with identification. Remember to put the live ones back! Just lay them on their side and they will dig in.

You can post the pictures on *iNaturalist*, a free app that you can get on your phone or go to the *iNaturalist* website and look for the Wisconsin Mussel Monitoring Program. You can also e-mail your photos to Lisie.Kitchel@wi.gov or

Jesse.Weinzinger@wi.gov, and we will let you know what you collected. You can keep the dead shells if you wish, just be sure to clean them thoroughly to get rid of the algae and other lake bacteria. It is amazing how quickly you can learn your mussels by reporting them!

If you are interested, please check out our website and the video at www.wiatri.net/inventory/mussels, or e-mail us if you have questions. We look forward to hearing from you! 💧



This is a great activity for the whole family! It's a treasure hunt for the kids and is not strenuous, so folks of all ages and abilities can do it.



Grow Your Money

Lake Districts Eligible for Unique State of Wisconsin Banking Option

By Eric Olson, Director and Lake Specialist, UW-Extension Lakes

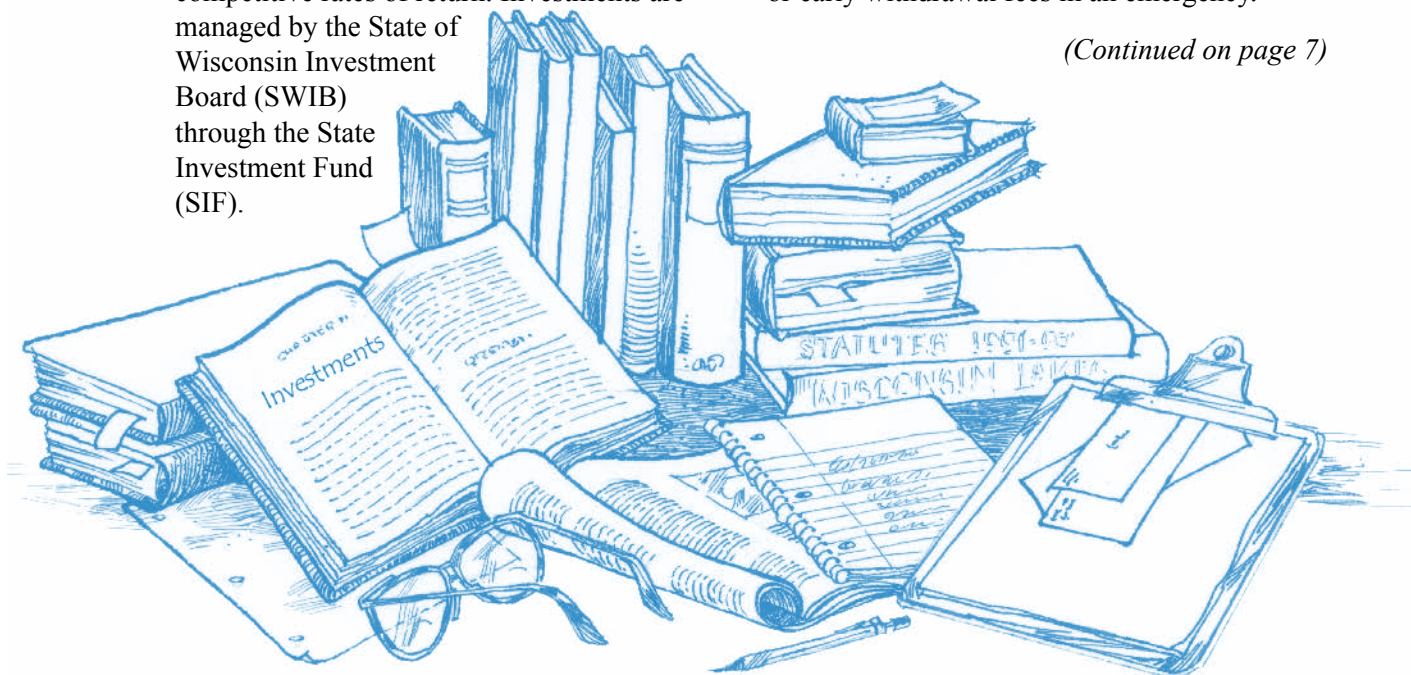
Wisconsin lake districts are special purpose units of local government. This allows lake districts to participate in many state programs that most people associate with municipal governments or school districts. An example is the ability to use the Local Government Investment Pool to handle their regular banking needs.

The SIF functions as the state's cash management fund. By pooling idle cash balances of state agencies and a large number of municipalities, the SIF is able to provide safety of principal, liquidity, and competitive rates of return, which are its objectives. The SIF is invested primarily in obligations of the U.S. Government and its agencies, high quality commercial bank and corporate debt obligations.

Dan Butkus, treasurer of the recently-formed Squash Lake District, reached out to the LGIP to see if their services would meet the district's banking needs. He learned that the program could provide over 1.7% in return on the district's short-term cash holdings: "Doing some calculations, I figure we can generate about \$200-\$300 annually in interest revenue at current rates. For a small lake district, every penny counts and helps keep mil rates in check. Even if interest rates fall, something is better than the nothing we receive if we hold our accounts in checking, or next to nothing if we use a certificate of deposit (CD). This way we do not have to depend on CDs coming due or early withdrawal fees in an emergency."

(Continued on page 7)

Created in 1975, the Local Government Investment Pool (LGIP) gives all local governments in Wisconsin the opportunity to combine their idle cash to make short-term investments. The LGIP has been designed to maintain the integrity of local funds within a diversified and low-risk portfolio, provide liquidity and offer competitive rates of return. Investments are managed by the State of Wisconsin Investment Board (SWIB) through the State Investment Fund (SIF).



Flickr Creative Commons
CheapFullCoverageAutoInsurance.com



Dan also noted that the LGIP allows a participating government up to 15 sub-accounts, online transfers across accounts, and next-day wire transfer, automated clearing house (ACH), or check issue. "I think this will be a no-brainer when I review this with the District Commissioners," Dan concluded. "I'm planning on asking them to vote on a resolution so we can open an account this year for our temporarily restricted funds, which we use for DNR grant work. This will give us a place to hold the monies in the off-season and earn interest."

Shawn Nelson is the LGIP Administrator, working from the State Controller's Office in the Wisconsin Department of Administration. She reports that Dan's experience is typical of the local governments she works with: "Many of the participants tell me that the LGIP program is user-friendly in depositing,

withdrawing and overall monitoring of their funds. The LGIP provides local governments with the best of both worlds - overnight availability and improved earnings."

The pool's earnings are possible because of the state's long tradition of responsibly managing fiscal assets through SWIB. At the end of 2017, SWIB was responsible for over \$117 billion in total assets. The bulk of the funds they invest come from the Wisconsin Retirement System, but the short-term cash from state and local governments, typically about \$10 billion in total, also benefit from SWIB's investment acumen. You can view the monthly performance outcomes for the LGIP on their webpage: <https://doa.wi.gov/Pages/StateFinances/LGIP.aspx>. If you would like to participate in the pool, or if you have questions, reach out to Shawn Nelson at (608) 266-3711 or by email at lgip@wisconsin.gov. 🌊

In April 2018, money held through LGIP was earning an annualized rate of return of 1.73%, which was higher than most 6-month CD rates available at that time.

Did you know that wood ticks don't like wood chips (and some plants)?

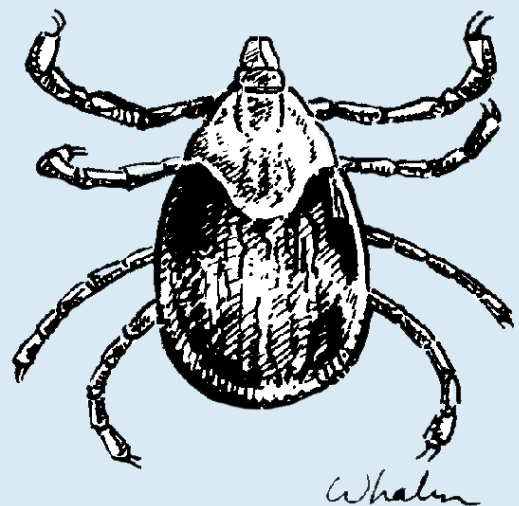
By Mitchel Block, UW-Stevens Point Student

The weather might be cooling off a bit as kids go back to school: Halloween items start appearing on the shelves of stores, and you start thinking about making chili and that pumpkin spice latte. But beware, the weather is still plenty warm for an atrocious arachnid waiting right outside your door, ready to suck your blood...the tick!

These tiny pests are hosts to all sorts of bad bacteria and diseases, including Lyme's disease. Since 1980, over 38,000 cases of Lyme's disease have been reported in Wisconsin, and an estimated 75% of those cases were contracted right in residential backyards. Ticks aren't easy to stop either. They can easily survive through the frigid Wisconsin winters and can even survive underwater for over two weeks!

So, what can stop these pesky parasites from finding their way into your backyard? Well, it turns out simple wood chips are able to do the trick. Amazingly, ticks are afraid of getting lost in the wood chips and dehydrating, so they avoid them altogether! A strip of wood chips just a few feet wide is enough to create an impassable barrier that stops ticks in their tracks. Wood chips aren't the only strange way of stopping the bothersome blood suckers. Plants like lavender, sage, or chrysanthemum, or strips of cedar mulch with cedar oil have also all been suggested to prevent the spread of ticks.

DYK



To Save a Butterfly

By Paul Skawinski, Statewide Coordinator, Citizen Lake Monitoring Network, UW-Extension Lakes

We've all been there – that moment when you're outside and your eyes are pulled away to follow a streak of orange and black floating through the air. A monarch butterfly! A beautiful symbol of freedom and happiness. As it lifts skyward, this delicate creature can lift your spirits and the corners of your mouth to form a smile.

In the last 20 years, our central U.S. population of monarchs has declined by nearly 90%!

The monarch butterfly lives throughout the United States, feeding on nectar from hundreds of species of plants, but laying its eggs on only one group of plants – the milkweeds (*Asclepias* species). The caterpillars feed on milkweed for about two weeks, until they are ready to transform into a chrysalis, during which time they develop into the wonderful butterfly that we all know and love. The monarchs that are here in September and October will migrate to the mountains of Central Mexico to spend the winter. The following spring, they lay eggs on milkweeds in the Southern U.S. before dying, and leave it all up to those little eggs to hatch, feed, and fly northward to keep the species going.



Paul Skawinski



Paul Skawinski

*Monarch butterflies will only lay eggs on one group of plants - the milkweeds (*Asclepias* species).*

We don't know the full importance of this iconic insect to our world. Consider the rosy periwinkle, a small plant native to Madagascar. This relative of milkweed is easily walked past without a second thought, but when scientists studied its chemical makeup, they found that it produces several anti-cancer chemicals. In fact, the use of drug compounds found in the rosy periwinkle has increased childhood leukemia survival rates from approximately 10% to 90%!

Do you remember watching monarchs as a kid? Do you feel like you don't see as many monarchs as you used to? You're not alone. In the last 20 years, our central U.S. population of monarchs has declined by nearly 90%, due primarily to loss of milkweeds for breeding,



loss of healthy flowers for the adult butterflies to drink nectar, and careless use of pesticides, which can kill or sicken the butterflies and their caterpillars.

But there is hope for monarchs. Wisconsin and other states throughout the central U.S. are collaborating on a strategic plan for monarch recovery, called the Mid-America Monarch Conservation Strategy. It recognizes an all-hands-on-deck approach that can propel monarchs back to a time when they were a common sight, ready to captivate the curious mind of a child, right here in your backyard.

One person creating one small change can make a world of difference. A phenomenon coincidentally known as the “butterfly effect” declares that a very small, seemingly inconsequential change to a natural system now, can induce major changes later. A few milkweeds or native flowering plants installed this fall could be the first step to start the recovery of this amazing insect. In fact, a favorite plant of the monarch in Wisconsin is our moisture-loving red milkweed (*Asclepias incarnata*), which grows naturally along lakeshores and streambanks. It also makes a striking addition to a rain garden or lakeshore planting, displaying large clusters of pink-red flowers for several weeks.

It is easy to let a few milkweeds grow next to your house, or add some native plants to your landscaping to feed the adult butterflies. It is also easy to avoid careless use of pesticides. All of these things will not only help monarchs, but help a nearly infinite number of other creatures, including people. A pesticide-free landscape with a diversity of plants and animals creates a healthy place for children and pets to play, gatherings to be held and life to flourish.

I will plant some milkweed today. Will you join me? 🌱



Robert Korth



Let's Make Healthy Lakes Together!

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

Grant Application Assistance

So, you've talked with some neighbors and are seriously thinking about applying for a Healthy Lakes grant. Well, we have the resource that will make applying that much easier! Check out the *Resources* tab on the Healthy Lakes website and scroll down to find the Grant Application Tutorial. This tutorial will walk the grant applicant step-by-step through the application process, including finalizing the budget. Remember, you have to be an eligible grant applicant in order to move forward with this step. Qualified lake organization, lake district, municipality or tribal government can apply for Healthy Lakes grant funding on behalf of multiple lakeshore property owners.

**Grant
Deadline
Feb. 1, 2019**



healthylakeswi.com

Capacity Corner

Focus: Relational Capacity

By Eric Olson, Director and Lake Specialist, UW-Extension Lakes

Amy Kowalski



Bryan Pierce, Executive Director of Northwoods Land Trust and Patrick Goggin, Lakes Specialist at UW-Extension Lakes know how to collaborate!

The Wisconsin Lakes Partnership is delving deeper into issues surrounding lake organization capacity as part of a renewed effort to strengthen the ability of lake associations and lake districts to reach their goals. Our conception of lake organization capacity is built around four related parts: *membership*, *organization*, *relationships*, and *programs*. *Membership* is the basis for the other three: a group needs members who provide financial and volunteer support that fuels all other efforts.

Organizational capacity is mostly about how a lake association or lake district conducts its internal affairs. Organizations develop *relational capacity* by collaborating and networking with external people and groups. Lake groups leverage these first three types of capacity to boost their ability to get things done: *programmatic capacity*.

These four dimensions of capacity serve as quarterly guideposts for our efforts to share ideas, tips and stories about capacity development in *Lake Tides*. In previous issues of *Lake Tides*, we explored membership and organizational capacity. This time around, we are looking more closely at *relational capacity*.

Relational Capacity



Formal and informal networking and collaboration is one way to bring new resources and ideas into your lake management

challenges. Meaningful relationships with people and groups are usually two-way affairs: they provide an avenue for a lake organization to learn more about their surrounding community and discover issues that they may be able to help address. Many people who get involved in lake organizations are, by their nature, drawn to all sorts of groups. Some are just social, and others may be involved in community problem solving. By institutionalizing these networks and relationships, a lake group can better embed its efforts in a larger-scale community. The interactions can also help foster a broader consensus on lake and watershed issues.

“As individuals develop relationships with one another through repeated positive interactions; they exchange information about important experiences, about problems they face, and maybe even about broader community issues. This exchange of values, beliefs, and attitudes leads to increased member awareness, access to community assets and can even serve to establish social norms by maintaining social pressures on member behavior.”

- Mae Davenport



Drawing on the research of Mae Davenport and Erin Seekamp, Aaron Thompson at the UW-Stevens Point College of Natural Resources identified five facets of relational capacity that lake organizations would ideally employ to better carry out their efforts:

1. **Identify Allied Organizations:** Communicate with other groups whose work overlaps with the mission of your organization.
2. **Partner:** Co-host events with other groups that are intended to generate dialogue about the common purpose of the organizations, complete a specific task, or raise funds to support a shared goal.
3. **Share Networks:** Encourage opportunities for volunteering with other organizations, such as the recruitment of a shared board member.
4. **Identify Community Consensus:** Conduct a gap analysis, such as a community survey, to identify how your organization's mission meets a broadly shared community need.
5. **Approach Decision-makers:** Solicit input from local, state, or other elected officials about their priorities and what governmental resources may exist to support your organization's mission.

Though some lake organizations may be regularly doing all five of these practices, it's more likely that they are doing some of them some of the time. Through discussions at the Wisconsin Lake Leaders Institute and at the Wisconsin Lakes Partnership Convention, we've been trying to collect examples and ideas from lake groups that are actively building their relational capacity. The example below highlights our discussions around partnering, number two on the list above.

One of our Lake Leaders suggested that a good partnering event would be something along the lines of a fun-run or a low-key 5 kilometer race. A lake group would partner with another group in the community looking to raise money, such as a volunteer fire department. The fire department might also bring equipment and volunteers to the event for "show and tell" and to explain the need



for funding. In the process, two community groups would gain more visibility in the community and begin building trust to serve as a foundation for future collaborations.

Lake leaders also brainstormed some "best practices" to use while getting started on a partnering event. First, do your homework and have background on the group or individual you are trying to partner with: What do they do? What is their mission statement? Second, try to identify a "need" to come together (shared interests) which may possibly be based on a financial need of one or more partnering groups. Third, through communication and listening, decide on common goals and potential outcomes. Fourth, make sure all parties understand the language being discussed and don't use acronyms or jargon. Finally, reciprocity is important – try to view the world from the partner's perspective and suggest new ways that your group can help them meet their needs.

We'd love to hear examples of how your lake organization has partnered with other groups to work on shared projects! Send us an email at uwexlakes@uwsp.edu and put "Capacity Corner" in the subject line. We will share examples online and in future issues of *Lake Tides*. 💧

"There is a lot of power to an unconventional partnership."

~ Stephanie Prellwitz,
Executive Director,
Green Lake
Association



Getting Everyone Involved in Invasive Species Awareness

Dealing with invasive species can be a daunting task, but don't give up! There are so many great paid staff and volunteers out there working with you to educate others about the importance of prevention and early detection. Catching an invasive species early can save a lot of money and time - not to mention the health of our natural resources. Check out some of the ways the Wisconsin Invasive Species Council and others are highlighting efforts across the state!



Congratulations to the 2018 Invader Crusader Award Winners!

Invader Crusader Awards

The Invader Crusader Awards honor professionals, volunteers and organizations that have made a difference in preventing the spread of invasive species across our state. Recipients of the 2018 awards were recognized at an awards ceremony at Olbrich Botanical Gardens in Madison, WI this summer.

Professional Individual

Katelin Anderson
Tim Gerber
Brad Herrick

Professional Group

Johnson's Nursery - Menomonee Falls

Volunteer Individual

Ruth Marshall
Milly Thissen
Jim Reinartz and Jill Hapner

Volunteer Group

Friends of Festge Park



2018 Video Challenge

With the theme "Protect the Places Where You Play: Keep Invasives Out," the Wisconsin Invasive Species Council

challenged folks again this year to create a two-minute video that would increase awareness of invasive species and prevent their spread. Congratulations to Brad Steckart and the Washington and Waukesha County AIS Teams for their winning video, "Boatbusters!" You can see past winners at <http://invasivespecies.wi.gov/awareness-month/video-contest/>.

Northwoods' Invasive Species Poster Contest

The Oneida County Land & Water Conservation Department (OCLWCD) and the Lumberjack Resource Conservation & Development Council (RC&D) hold an annual poster contest with the intent of educating students about aquatic and terrestrial invasive species in Wisconsin's Northwoods' counties. Michele Sadauskas, Oneida County's Conservationist, began this contest in 2012 to engage students in grades 4-8, County Land Conservation staff and teachers to think about invasive species and how to get the word out to community members. In 2012, there were 82 invasive species posters submitted to the contest, but this year's judges had their work cut out for them with a total of 586 invasive species posters! The walls of the second floor of the Oneida County courthouse were covered with these posters. The Best in Show for 2018 was this poster about the White Nose Syndrome facing our native bats, created by 8th grader Hannah Rumney.



Hannah Rumney

Brad [Steckart] demonstrates a mature and positive approach to an otherwise difficult situation, invasive species. We truly value his dedication and levelheadedness.

~ Hunters Lake Association



Lakes 101

Lakes 101 is a new section of Lake Tides that will explain the basics on lake related topics. If you are curious about a lake issue or water related topic, let us know and we will explore it in a future issue (uwexlakes@uwsp.edu or 715-346-4744). You can also connect with us on Facebook by typing "Wisconsin Lakes Partnership" into the search box at <http://www.facebook.com>.

By Kim Becken, Outreach Specialist, UWEX Lakes

Topic: Watersheds

In the Fall/Winter 2017 Lakes 101 segment, we discussed the different types of lakes: Drainage, Seepage, Spring, Drained, and Artificial (man-made).

But what happens when we think about the broader landscape and include all the rivers, streams, wetlands and even the groundwater?

A watershed is the area of land where all the water that is under it or drains off of it is collected in the same place, like a lake or a river. In Wisconsin there are 330 defined watersheds. These watersheds vary in size from the smallest: Wind Point, in the Root Pike Basin in eastern Racine county, encompassing 18 square miles, to the largest: White River, in the Superior Basin in Ashland and Bayfield counties, at 366 square miles.

Let's take a look at the watershed I live in, the Waupaca River Watershed in the Wolf River Basin. This watershed is 292 square miles in Portage and Waupaca counties. It is comprised of 238 miles of rivers/streams some of which are classified as exceptional and Class 1 trout streams! The watershed has 2,456 acres of lakes – the three largest being Rainbow Lake,

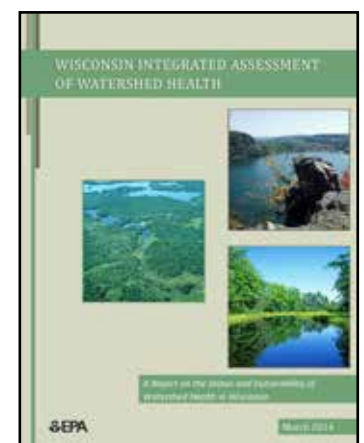
Long Lake, and Lake Emily. Our watershed also includes the famous Chain O'Lakes, a prominent recreational and residential area of 22 interconnected lakes, in addition to over 14,000 acres of wetlands! The watershed falls in a forest transition and central sand hills landscape, and although historically this is where the oak savannah/prairie met the glacial moraine, 60% of the area is now deforested and in irrigated/agricultural production. The groundwater is considered poor due to high nitrate and pesticides, and groundwater consumption has increased due to irrigation and industrial use. The water in the Waupaca River Watershed is highly valued and used by many for recreational, residential, agricultural and industrial demands.



To learn about the watershed you live in, visit <https://dnr.wi.gov/topic/watersheds/> and click on the Gateway to basins tab.

Watershed boundaries often cross political boundaries such as city, county and even state lines. Watersheds include forests, cities, pastures and residential areas. All the activities in the watershed, natural and man-made, affect the water quality within that watershed. Considering the demand and varied water use, it is important to have a good rapport with everyone in your watershed and beyond. This approach fosters all of us to be pro-active in protecting our water resources that are literally under our feet and all around us.

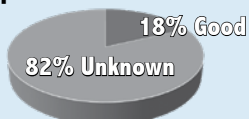
If you'd like to dig deeper into this topic, visit Wisconsin's Watershed Health at this link: <https://dnr.wi.gov/topic/Watersheds/documents/HWA/WiHWreport.pdf>



Waupaca River Watershed At-A-Glance

Watershed Size: 291 mi²
Stream Miles: 231 mi
Lake Acres: 2,456 ac
Wetland Acres: 14,125 ac
Outstanding/Exceptional Miles: 96.7 mi
Trout Waters: 110 mi
Impaired Streams: 0 mi
Impaired Lakes: 75 ac

Fish and Aquatic Life Rivers and Streams



Paying it Forward

2019 Wisconsin Lakes Partnership Convention and WAV Symposium

**Save
the
Date!**

**April 10-12
2019**

**Wisconsin
Lakes
Partnership
Convention**

Stevens Point, WI

The 41st Annual Wisconsin Lakes Partnership Convention and Water Action Volunteer Symposium will be held April 10-12, 2019 in Stevens Point, WI.

This year's theme, "Paying it Forward," is a popular concept. When someone does something for you, instead of paying that person back directly, you pass it on to another person in an effort to share positivity and good will. This practice can certainly be seen with lake and stream volunteers, professionals in natural resource management, and all those who value our precious water resources. Many of us automatically do this type of activity every day. At the 2019 Convention, we will share some of these inspiring stories of *paying it forward*. 💧

Wisconsin Lakes Partnership Photo Contest

Fall is the perfect time to get out on (or near) the lake (or river) with your camera! We would love to see the water like you do, so think about entering our Wisconsin Lakes Partnership Photo Contest. All of the information is up on our convention website at www.uwsp.edu/uwexplakes (just click on *Convention 2019* under *Events* in the left navigation column). Need some inspiration? Check out our article "Discovering Lakes Through a Lens" in the Summer 2011 edition of *Lake Tides* (Vol. 36, No. 3) for a few tips on how to take great pictures.



2018 Wisconsin Lakes Photo Contest Entry: *Fall at the Lake*, was taken at Lake of the Clouds by Molly Andreae

Call for Presenters

Presentation submissions should address the broad theme of "Paying it Forward." What benefits have you received that you can now pay forward? What efforts have you or your lake organization done to help our lakes and the people of future generations to enjoy them, as we have? What are some action items that we can do to *pay it forward* as we learn about our water resources? As you prepare your description, please include how this discussion can be applied to the overall watershed area - not just lakes. Specific topics within the broad theme include:

- ◆ Blending the Arts & Sciences
- ◆ Ecology (Plants & Animals)
- ◆ Education/Outreach
- ◆ People/Policy (Legislative Action)
- ◆ Research (Case Studies)
- ◆ Restoration Projects
- ◆ Success Stories
- ◆ Water Resources Updates/Developments

Go to <http://www.uwsp.edu/uwexplakes> for more information and to submit a proposal.

**Deadline:
Sept. 26, 2018**



www.uwsp.edu/uwexplakes



September 15, 2018 - Central Sands Water Walk, Town of Rome, Adams County

This is year three for the Central Sands Water Walk, which will begin at the lake's edge with a sunrise ceremony led by a Native American Medicine Woman. Join Ojibwe and Ho-Chunk Nations, along with other water lovers, for this free event to celebrate the gifts that water gives us.

For more information: <https://cwnfwi.org/central-sands-water-walk>

September 15, 2018 - Ocean Conservancy's International Coastal Cleanup

Today, plastic has been found in 62% of all sea birds and in 100% of sea turtle species! Join millions of water lovers to help keep our coasts clean by volunteering your time or donating to the cause. Ocean Conservancy even has an app called CleanSwell to record the trash you collect.

For more information: <https://oceanconservancy.org/trash-free-seas/international-coastal-cleanup/>

September 23-25, 2018 - Wisconsin Counties Association Annual Conference, LaCrosse

This unique opportunity allows county officials to come together and learn from one another, as well as receive updates on county issues.

For more information: <https://www.wicounties.org/events/#conference>

September 29, 2018 - Invasive Plant Management Techniques Workshop, Saukville, WI

This hands-on class, offered by UW-Milwaukee's Natural History Field Station, will discuss, demonstrate and practice all applicable control methods for five plant types. Learn about the most appropriate, efficient, up-to-date and least environmentally-damaging methods of control.

For more information: <http://uwm.edu/field-station/workshops/fall-workshops/>

October 9-12, 2018 - State of Lake Superior Conference, Houghton, MI

Keynote speaker Peter Annin, Director of the Mary Griggs Burke Center for Freshwater Innovation, will talk about new Great Lakes water tensions from Waukesha to Foxconn to Chicago, and Nancy Langston, Author and Professor in the Department of Social Sciences at Michigan Technological University will explore how communities can help sustain the health of Lake Superior in the face of climate change, invasive species and other concerns. For more information: <http://iaglr.org/sol/>

October 15-18, 2018 - Upper Midwest Invasive Species Conference, Rochester, MN

This Conference will be held jointly with the North American Invasive Species Management Association Conference. For more information: <https://www.umisc.net/>

October 15-19, 2018 - World Lake Conference, Ibaraki Prefecture, Japan

This Conference is globally recognized as a place for multi-sectoral participants (i.e., academia, government, citizens, NGOs and enterprises) to exchange their views and experiences on the sustainable management of lakes and their basins. For more information: <http://www.ilec.or.jp/en/wlc/new>

October 17-18, 2018 - Great Lakes Restoration Conference, Detroit, MI

Join us to hear from Great Lakes advocates and experts as they discuss the latest science, emerging issues, policy solutions, and environmental justice concerns relevant to the region.

For more information: <http://www.healthylakes.org/great-lakes-restoration-conference-2018/>

October 30-November 2, 2018 - 38th NALMS International Symposium, Cincinnati, OH

The Ohio Lake Management and Indiana Lakes Management societies are excited to welcome NALMS to the Midwest's "Queen City," Cincinnati, Ohio. The theme this year is *Now Trending: Innovations in Lake Management*. For more information: <http://www.nalms.org>

November 4-8, 2018 - Annual AWRA Conference, Baltimore, MD

Join water resource professionals and students for this 53rd Annual Water Resources Conference in the heart of Baltimore. For more information: <https://www.awra.org/meetings/Baltimore2018/index.html>



Lake Tides -- PRJ85HY

College of Natural Resources
University of Wisconsin-Stevens Point
800 Reserve Street
Stevens Point, WI 54481

NON-PROFIT ORG
U.S. POSTAGE
PAID
MILWAUKEE, WI
PERMIT NO. 530

Volume 43, No. 3
Summer/Fall 2018



College of Natural Resources
University of Wisconsin-Stevens Point

IN THIS ISSUE

Developing Responsibly.....	1
Show Us Your Mussels!.....	4
Grow Your Money.....	6
DYK about wood ticks?.....	7
To Save a Butterfly.....	8
Let's Make Healthy Lakes Together!.....	9
2019 Lakes Partnership Convention... 11	
Capacity Corner	
Focus: Relational Capacity.....	10
Invasive Species Awareness.....	12
Lakes 101 - Topic: Watersheds.....	13
2019 Lakes Convention.....	14
Calendar.....	15

A quarterly publication of the Wisconsin Lakes Partnership

Editor/Designer: Amy Kowalski

Regular Contributors:

Patrick Goggin and Eric Olson,
UWEX Lakes

Contributing Editors: Erin McFarlane and
Paul Skawinski, UWEX Lakes

Illustrations: Carol Watkins and Chris
Whalen

The contents of *Lake Tides* do not necessarily reflect the views and policies of UW-Extension, UWSP-CNR, the Wisconsin DNR or Wisconsin Lakes. Mention of trade names, commercial products, private businesses or publicly financed programs does not constitute endorsement. *Lake Tides* welcomes articles, letters or other news items for publication. Articles in *Lake Tides* may be reprinted or reproduced for further distribution with acknowledgment to the author, *Lake Tides* (including volume and number of edition) and the Wisconsin Lakes Partnership. If you need this material in an alternate format, please contact our office.



www.uwsp.edu/uwexlakes
uwexlakes@uwsp.edu
715-346-2116

Printed on recycled paper with vegetable-based ink.

Reflections

*Water does not resist. Water flows.
When you plunge your hand into it,
all you feel is a caress. Water is not
a solid wall, it will not stop you. But
water always goes where it wants to
go, and nothing in the end can stand
against it. Water is patient. Dripping
water wears away a stone. Remember
that, my child. Remember you are
half water. If you can't go through an
obstacle, go around it. Water does."*

~ Margaret Atwood
The Penelopiad

