2024 Wisconsin Lakes & Rivers Convention Printable Presentation Descriptions

Additional Focus Areas:
In addition to being part of a specific topic, we asked our speakers to let us know if their presentations also highlighted diversity, equity, and/or inclusion, covered any adaptations for or results from climate change, included cutting-edge or innovative practices, or would cover introductory information. These are represented in parentheses below each description if applicable: (Diversity/Equity/Inclusion), (Climate Change), (Innovative), and/or (Introductory).

Wednesday, April 10, 2024 | 9:00am-12:00pm | Morning Workshops

Room	Title	Workshop Details
Expo 2	Clean Water Act Training	The recent Sackett decision by the United States Supreme Court upended the definition of "waters of the United States" and how the Clean Water Act covers wetlands in the nation. But what is the decision's impact on wetland protection and regulation specifically in Wisconsin? Join us as we explore how this decision has impacted both the nation as a whole, and the differences of what it does in Wisconsin. We'll take a deep dive into this and other advanced issues involving the Clean Water Act. This workshop is a follow up to the three-part Clean Water Act introductory series, "Use the Clean Water Act to Protect Your Local Waters" and it is highly recommended attendees attend the webinar, view the recordings, or have prior knowledge of the basics of the Clean Water Act. More information on the webinars can be found at https://wisconsinrivers.org/get-involved/events-home/, and recordings can be found on the Wisconsin Lakes YouTube channel. *Presenters: Rob Lee, Midwest Environmental Advocates, Bill Davis, River Alliance of Wisconsin, and April Ingle, River Network*
Spruce	Harnessing Data for Lake Management Using New Online Tools	Do you ever wonder how the land is used around your lake or how a lake has changed over time? Are you creating a lake or county plan, but don't know how to find information? The Wisconsin Department of Natural Resources developed several online tools to make it easier to find and analyze lake and watershed data. Join our workshop with a lake in mind, and we will teach you how to harness these new tools to learn about the lake and its watershed. You will learn how to gather information about the lake's watershed and its water quality over time, model nutrient loads to lakes and streams, generate reports, map aquatic plants and shoreland habitat, and more. All participants should bring a laptop or tablet so that they can participate as we demonstrate these tools. *Presenters: Katie Hein, Justin Chenevert, Sam Blackburn, and Aaron Fisch, WI Department of Natural Resources*
Evergreen	Wisconsin's Fisheries Management Approach: Roles for Local Groups, Stocking and Beyond	Join Wisconsin Department of Natural Resources (WDNR) Fisheries Management staff and local partners to learn the basics of managing your lake for a healthy fishery. The workshop will cover the three core tools: habitat management, regulations and stocking. We'll talk through how the WDNR fisheries management program is structured, emerging science, and current policies and initiatives (e.g. the Walleye Initiative). Local partners will feature case studies and lessons learned from their experiences. Expect FAQs like, Why can we stock walleye? Are bass eating other gamefish? And how do I go about restoring habitat along my shoreline?, to be answered. Registered participants will also be prompted to share questions in advance of the workshop. *Presenter: Scott Toshner, WI Department of Natural Resources*
Woodland	Working with Land Trusts to Protect Shores and Watersheds	Many Wisconsin lakes, rivers and watersheds are in the fortunate situation of having healthy shorelands and relatively undeveloped watersheds. While things may be good today, we need to always be thinking about the future: land uses can change, properties transition through ownership, and large-scale, long-term economic drivers can undermine the conditions that have protected water quality. Conservation easements and land trusts provide a range of strategies to protect lands from detrimental changes, whether from subdivision and housing development or transformation from forests to agriculture. This workshop will provide water stakeholders with an in-depth understanding of what land trusts are and how they operate. We will also highlight current tools and projects that will help water stakeholders learn more about land trusts that may facilitate future partnerships. *Presenters: Austin Holland and Abby Dremel, Center for Land Use Education, UW-Stevens Point and Mike Carlson, Gathering Waters*
Sands	Effective Digital Communication Strategies for Lake Organizations and Related Groups	Gain insights into developing a comprehensive digital communication strategy tailored for lake organizations. This workshop emphasizes the importance of clarity, consistency, and community engagement in your digital outreach. We'll delve specifically into how to enhance your organization's presence on social media and effectively utilize email communication to connect with and mobilize your community. Learn to leverage these powerful tools to strengthen your messaging and amplify your lake stewardship efforts. *Presenters: Erin Ter Beest, Green Lake Association*

Frontier	New Lake District Commissioner Training	Are you a new member of a Lake District Board of Commissioners? Maybe your lake district recently formed. This workshop is meant to walk you through the basics of Wisconsin's unique lake districts and the important roles that elected and appointed commissioners play in making them work. We'll cover the basics of Chapter 33, the state statute that governs lake districts, and other relevant rules and laws that every commissioner should know. *Presenter: Eric Olson, Extension Lakes, UW-Stevens Point*
Harvest	Working in the Watershed Part 1: Information and Resources to Launch Your Watershed Planning Efforts	This workshop is designed for non-professional staff, including volunteers and stakeholders, early career land and water professionals, and individuals engaged but not deeply experienced in water quality issues. Content will be geared towards those grappling with watershed challenges and will aim to equip attendees with practical tools, funding insights, and the knowledge needed to initiate and build partnerships for effective watershed management. Please bring a laptop with you. Also encouraged for at least two people from each organization to register as a team if possible. *Presenters: Whitney Prestby and Dan Zerr, UW-Madison Division of Extension, Tracy Zemlo, Fox Lake Inland Lake Protection and Rehabilitation District (FLILPRD), and Sarah Kussow, Outagamie County*
Trillium	Aquatic Plant Ecology and Identification	This workshop will include an overview of aquatic plant ecology and plant features that are most useful to distinguish different species from one another. The instructors will use real aquatic plant specimens to teach participants how to identify the common species that occur in Wisconsin lakes and streams, as well as a few uncommon (but interesting) species. *Presenters: Paul Skawinski, Extension Lakes, UW-Stevens Point and Michelle Nault and Mica Kromrey, WI Department of Natural Resources*

Wednesday, April 10, 2024 | 1:00-4:00pm | Afternoon Workshops

Room	Title	Workshop Details
Expo 2	Citizen Lake Monitoring Network (CLMN) Refresher Training	This workshop will review protocols used by Wisconsin Citizen Lake Monitoring Network volunteers. Volunteers can get their questions answered and pick up spring monitoring supplies. Presenters will also provide updates for the 2024 season. This workshop is free and is for current CLMN volunteers only. *Presenters: Chris Kolasinski, Rachel Sabre, and Claire Hetzel, WI Department of Natural Resources and Paul Skawinski, Extension Lakes, UW-Stevens Point*
Spruce	In Case of Emergency	Emergencies on or near lakes and rivers are often overlooked. Lake Districts, Associations and Sanitary Districts may receive unexpected calls for assistance with search and rescue operations, boat fires and accidents, drownings and body recovery, and the effects of severe weather that cause huge amounts of floating debris. This presentation will describe how to plan for these critical events, funding available to recover disaster related costs, and possible programs to reduce these threats to your waterway as well as the skills to coordinate with primary emergency response agencies. *Presenter: Peter R. Jensen, Eagle Spring Lake Management District*
Evergreen	Protecting and Enhancing Your Waterfront Investment with Native Plants: Putting the Tools Together	A healthy shoreline can provide beauty, wildlife habitat, protection against erosion and even improve water quality. Choosing the right native plants for your shoreline can help you both protect AND enhance your waterfront investment for many years to come! Wisconsin has an abundance of great resources for shoreland property owners, but it can be difficult to know what tools are best suited for your project. This workshop will highlight several native plant-related tools and provide guidance on how to select the right plant for the right place. In the spirit of encouraging a do-it-yourself approach to protecting and enhancing your shoreline, we will feature case studies from shoreland property owners who put these tools into practice and discuss the realities of installing your own native shorelines. For those more complicated native plant questions, we will review how to find technical assistance in your area! *Presenters: Jeanne Scherer, UW-Madison Division of Extension, Tracy Arnold, Portage County, and Elizabeth Tanner and Lauren Haydon, WI Department of Natural Resources*
Woodland	Neonicotinoid Pesticides: What We Know and Impacts to Aquatic Ecosystems	This workshop will inform participants on how the group of pesticides known as neonicotinoids or "neonics" can impact aquatic biota and ecosystems, the extent of neonic pesticide use in Wisconsin, and how this issue is being addressed. Information will be presented on neonic monitoring of Wisconsin water bodies, agricultural use of this pesticide, and current research underway. In addition to the presentations, an interactive question and answer panel discussion will follow the presentations after a short break. *Facilitator: Andy Morton, Trout Unlimited* *Presenters: Anya Jeninga, UW-Madison Division of Extension, Carla Romano, Department of Agriculture, Trade, and Consumer Protection, and Shawn Giblin, WI Department of Natural Resources* *Panelists: Anya Jeninga, UW-Madison Division of Extension, Carla Romano, Department of Agriculture, Trade, and Consumer Protection, Shawn Giblin, WI Department of Natural Resources, Sara Walling, Clean Wisconsin, Scott Allen, Wisconsin State Council of Trout Unlimited, and Bill Davis, River Alliance*

Sands	Work Smarter, Not Harder: Using Online Tools to Collaborate with Others and Accomplish Your Group's Tasks	Creating, sharing, and curating documents can absorb a large amount of a water organization's time and energy. Unlock the power of seamless collaboration with online productivity tools. Join us for an immersive learning experience where participants will delve into the vast array of Google's online productivity tools, such as Google Docs, Sheets, Slides, and more. Discover how to harness the full potential of real-time collaboration, making shared document creation and editing a breeze. Your lake, river, or watershed group can effectively use these tools for free. We will share pointers and guidance for setting up your online documents to facilitate transitions as new people join your organization's leadership and others step back. *Presenter: Megan Wecker, UW-Madison Division of Extension*
Frontier	Lake District Treasurer Workshop	This workshop is designed specifically for Lake District Treasurers. Managing a lake district budget is not the same as working with finances for a lake association or other type of organization. This workshop will provide you with the tools and knowledge needed to create and manage your lake district's budget. We will cover specific compliance rules that lake districts need to follow. *Presenters: Eric Olson, Extension Lakes, UW-Stevens Point and Dan Butkus, Squash Lake Management District and Wisconsin Lakes*
Harvest	Working in the Watershed Part 2: Watershed Implementation Toolbox: You Have a Watershed Plan, Now What?	The morning watershed workshop discussed some basic watershed planning principles and how to get started in a watershed planning process. This afternoon workshop will expand into more detail on some of the steps as you move into implementation of your plan. Areas covered will include grants and resources, finding and gathering data, and how interacting with other groups such as producer-led watershed groups, demo farms, and environmental organizations can be beneficial. *Presenters: Whitney Prestby, Dan Zerr, and Anna James, UW-Madison Division of Extension, Tara Daun, Wisconsin Farmer's Union, Twyla Kite and Brandi Richter, NRCS, and Kari Hagenow, The Nature Conservancy*
Trillium	Lake District Chairs and Secretaries: Robert's Rules of Order Procedures	This training will cover some of the major responsibilities of lake district chairs and secretaries. The first part will focus on meetings of the board, board committees, and the annual meeting, including developing agendas and properly planning for and noticing meetings. Most lake districts use Robert's Rule of Order to manage decision-making in a meeting; we will cover the basics of Robert's Rules and answer your questions. The second part of the training will focus on secretary duties, describing how minutes should be developed and managed and what Wisconsin's records retention rules mean (and don't mean) for lake districts. This will also cover open records requests and best practices for ensuring transparency and fostering public trust. *Presenters: Jared Walker Smith, Boardman and Clark, LLP and Daniel Foth, UW-Madison Division of Extension*

Thursday, April 11, 2024 | 8:00-8:50am | Concurrent Sessions

Topic Area (Room)	Title	Presentation Details (Additional Focus Areas)
Lake and River Flora and Fauna (Room: Expo 2) *also available virtually*	The History, Process, and Health Benefits of Wisconsin Maple Syrup!	This presentation will include a short history and overview of Wisconsin maple syrup, as well as feature maple syrup 101 basics. Attendees can learn how to make and bottle real Wisconsin maple syrup and what can cause off flavors in maple syrup. Join me to discover the great health benefits and various uses of Wisconsin maple syrup! *Presenter: Theresa Baroun, Wisconsin Maple Syrup Producers Association*
Managing Recreational Impacts (Room: Spruce/Sands) *also available virtually*	Riparian Rights 101: An Introduction	Wisconsin's naviagable waters are publicly owned but waterfront property owners ("riparians") enjoy their own sets of legal rights to use and enjoyment of their property. It can be confusing how the two fit together. In this intro level presentation, we'll help clear up what your rights as a riparian really are and how they intersect with the rights of the public in Wisconsin. *Presenters: Atty. Jared Walker Smith, Boardman Clark and Michael Engleson, Executive Director, Wisconsin Lakes*

50 Years of Water Science Translated to Action (Room: Evergreen/Frontier)	Two Presentations: Forty Years of Internal Loading Research and Management in Lakes: A Perspective (virtual) Health Benchmarks for Lakes: Our Path to the Present	**Forty Years of Internal Loading Research and Management in Lakes: A Perspective (virtual)** Much scientific research has been devoted to understanding processes of phosphorus (P) recycling from sediments, the importance of internal P loading in driving cyanobacteria blooms, and management of this stubbornly persistent source of phosphorus. Lake ontogeny in the upper Midwest usually progresses toward eutrophic conditions because of anthropogenic activities and accelerated P mobilization in the watershed. Accretion of P-rich sediments over the last hundred years, characteristic post-depositional development of a surface concentration maximum at the sediment-water interface, and subsequent P recycling back to the water column has resulted in feedback that can sustain internal P loading despite efforts to remediate watershed runoff. Since the first use of aluminum salts to bind sediment P in Wisconsin in 1970, much has been learned about alum dosing and application strategies. This presentation will outline some of the recent advances in internal P loading management and discuss knowledge gaps that still need to be addressed. *Presenter: Bill James, Center for Limnological Research and Rehabilitation, UW-Stout* **Health Benchmarks for Lakes: Our Path to the Present** Assessing the health of Wisconsin's lakes is a key component of DNR's monitoring work. This talk will take a look back at how our assessments for lakes have evolved over time, leading to legislation that was just passed in 2023 to establish new lake benchmarks for aquatic plants, chlorophyll a, and coldwater fish habitat. *Presenter: Kristi Minahan, WI Department of Natural Resources*
Human and Critter Health (Room: Stonefield/Harvest)	Update on Surface Water PFAS Results in Wisconsin	Recent perfluoroalkyl and polyfluoroalkyl substances (PFAS) surface water results will be discussed and put into context with previous statewide sampling from both lakes and rivers. Along with statewide trends, findings from areas of focused sampling will be presented such as French Island, the Madison Chain of Lakes, and Rhinelander area, including the Town of Stella. Results from horizontal and vertical sampling of PFAS in lakes will also be presented to verify current PFAS sampling techniques for surface water monitoring. *Presenter: Patrick Gorski, WI Department of Natural Resources*
Watershed Approach to Water Protection (Room: Woodland/Trillium)	An Overview of the Major Determinants of Stream and River Health	There is an intimate relationship between land and water resources. Protecting groundwater, lakes, streams, rivers, and wetlands requires wise land use. Human population growth, climate change, and changes in land use increasingly impact our aquatic environments. This presentation provides an overview of some of the effects that land uses have on the ecological integrity of flowing waters and reports on recent findings of the U.S. EPA's National Rivers and Streams Assessment. *Presenter: Mike Miller, WI Department of Natural Resources* (Introductory)

Thursday, April 11, 2024 | 10:40am-12:00pm | Concurrent Sessions

Topic Area (Room)	Title	Presentation Details (Additional Focus Areas)
Lake and River Flora and Fauna (Room: Expo 2) *also available virtually*	Two Presentations: Wisconsin's Wolf Monitoring Program Volunteer Acoustic Bat Monitoring Project	**Wisconsin's Wolf Monitoring Program** Over the past 45 years, the Wisconsin Department of Natural Resources has monitored the state's dynamic wolf population. We will discuss these monitoring techniques and how the department has incorporated the use of trained citizen scientists to assist in monitoring important wildlife populations, including wolves, since 1995. The volunteer carnivore tracking program was developed to collect wolf presence and count data for use in the state's wolf monitoring program, promote collaboration among agencies and citizens in monitoring wildlife across the state, and collect monitoring data of other carnivore species on the landscape, including the potential existence of rare species such as Canada lynx, cougar, and wolverine. *Presenter: Annie McDonnell, WI Department of Natural Resources* **Volunteer Acoustic Bat Monitoring Project** The acoustic bat monitoring project started as a grassroots effort in 2007 and has evolved into an annual past time for many volunteers that enjoy surveying their favorite waterway. We'll discuss the basics of bat biology and acoustic bat monitoring, while also describing how this information helps the Department of Natural Resources. *Presenters: J. Paul White, WI Department of Natural Resources and Licia Kuckkahn Johnson, North Lakeland Discovery Center* (Innovative)

Managing Recreational Impacts (Room: Spruce/Sands) *also available virtually*	Two Presentations: Wake Assessment at Three Water Bodies in Wisconsin, Illinois, and Missouri Wake Boat Impacts on a Small Southeast Wisconsin Lake	**Wake Assessment at Three Water Bodies in Wisconsin, Illinois, and Missouri** Natural and man-made waves play an important part of managing shorelines in lakes and riverine environments with a high degree of recreational activity. In this presentation, we will present findings of wave and wake activity in Lauderdale Lakes, WI, Fox River, IL, and Lake of the Ozarks, MO. Assessments will introduce the departure and potential difference in magnitude of natural and manmade waves along with mitigation efforts, both programmatic and project related. *Presenter: Brian Valleskey, Geosyntec* (Climate Change) **Wake Boat Impacts on a Small Southeast Wisconsin Lake** During the summer of 2023, the Ashippun Lake Protection and Rehabilitation District, in coordination with Southeast Wisconsin Regional Planning Commission, concluded a study of wake boat impacts on this small Southeast Wisconsin lake. Ashippun Lake is relatively small (<100 acres) and shallow (35 ft), and the lake bottom provides a significantly different bathymetric topography between north and south shores. The study investigated comparative wake heights and shoreline turbidity of a speed boat with those of a wake boat operated in wake boarding and wake surfing modes at various distances from shore. Study methodologies closely mimicked those of a recent study from the University of Minnesota. A NOAA calculator provided an estimated wind speed correlate for the various powerboat derived wakes. Results revealed a significant impact of lake bottom contour on wave height at the shore, differences between wake boarding and wake surfing waves, and a modest affect on near shore turbidity. *Presenter: Paul Gardetto and Geoff Lamb, Ashippun Lake Protection and Rehabilitation District* (Innovative)
50 Years of Water Science Translated to Action (Room: Evergreen/Frontier)	Two Presentations: Future of Agriculture and Water in the Yahara Region Aquatic Plant Management in Wisconsin: Past, Present, and Future	**Future of Agriculture and Water in the Yahara Region** Competing demands for land and water resources challenge decision processes in many urbanizing agricultural areas of the Upper Midwest, including the Yahara watershed of Dane County, Wisconsin. Rising precipitation, increasingly intense storms, and warming winters further stress land and water resources. We organized scientists, artists, storytellers, and local people to co-create alternative scenarios of future development and compared the outcomes of each scenario (https://wsc.limnology.wisc.edu/). Resilience to coming changes depends on expanding the area of natural prairie, savanna, and forest and ongoing conversation, storytelling, art, and scientific modeling of emerging futures. *Presenter: Steve Carpenter, UW-Madison Center for Limnology* **Aquatic Plant Management in Wisconsin: Past, Present, and Future** The way that we view and manage aquatic plants has changed significantly over the last 175 years. This presentation will provide a historical overview of aquatic plant management (APM) in Wisconsin, highlighting key programs, policies, and changes in perspective that have shaped the APM program into what we know it as today. We will also provide an overview of statewide research evaluating the ecology and management of invasive aquatic plants, and discuss how we can use this knowledge to help guide future best management practices and ensure the long-term protection of our water resources. *Presenter: Michelle Nault, WI Department of Natural Resources*

Human and Critter Health (Room: Stonefield/Harvest)	Two Presentations: Climate and Health Impacts in the Great Lakes Region and Wisconsin Perspectives Deep Diving into a Watershed's True Colors: Using Biological Sensitivity to Common Environmental Pollutants to Help Diagnose the WHY in Stream Ecological Conditions	**Climate and Health Impacts in the Great Lakes Region and Wisconsin Perspectives** As the climate continues to change the long-term trends in temperature and precipitation, its impacts on public health are significant in the Great Lakes region. Many of these health impacts result from extreme heat and heavy rainfall events, which happen more frequently compared to the past. This presentation will provide a high-level overview of historical and projected climate trends in the Great Lakes region. In addition to the climate trends, participants will learn of the impacts on human health and the resources available to help practitioners integrate climate information into their work. Participants will have opportunities to ask questions and engage in discussion after the presentation. *Presenters: Omar Gates, University of Michigan and Margaret Thelen, WI Department of Health Services* (Climate Change) **Deep Diving into a Watershed's True Colors: Using Biological Sensitivity to Common Environmental Pollutants to Help Diagnose the WHY in Stream Ecological Conditions** Diatoms and macroinvertebrates have served as a foundation for indicating the ecological condition of freshwater streams for years. Statewide standards for environmental pollutants can serve as an excellent starting point for water quality monitoring, but the complexities and interactions between biological assemblages and environmental stressors warrants a closer look at smaller-scale associations. Despite ongoing water quality monitoring, Wisconsin's streams and lakes are suffering from, or under severe threat of, eutrophic conditions. Significant management efforts to reduce phosphorus loading are required to offset the effects of phosphorus and climate change. Clear and concise information on local stream ecological condition and water quality can help in achieving nutrient reduction goals more effectively and efficiently. This research uses biological sensitivity to common environmental pollutants to explore why individual streams within the Green Lake Watershed are exhibiting certain ecological conditions. Results of this study can help advise and advocate for future nutrient reduction strategies. *Presenter: Laura Bates, UW-Madison* (Introductory, Innovative)
Watershed Approach to Water Protection (Room: Woodland/Trillium)	Two Presentations: Improving Water Quality Through Community-Led Watershed Management Every Drop in a Watershed Matters	**Improving Water Quality Through Community-Led Watershed Management** Valley Stewardship Network addresses a widespread need for nutrient and sediment reduction in Southwest Wisconsin streams by supporting farmer and community leadership initiatives and providing technical assistance and funding resources for conservation practices. Watershed council development in five area watersheds has created opportunities for collaborative management goals, including the beginning development of an EPA "9-key element" watershed plan. Conversion of row crops to conservation practices, such as managed grazing and native vegetation strips, benefit water quality by increasing water infiltration and reducing nutrient and sediment runoff while helping farmers achieve long-term economic viability, improved production, and climate resilience. Through 2023, Valley Stewardship Network has planted 63 acres of prairie and facilitated implementation of 986 managed grazing acres. Initial water quality results indicate a reduction in stream phosphorus concentration following implementation of managed grazing practices. *Presenter: Elizabeth Summers, Valley Stewardship Network* (Climate Change) **Every Drop in a Watershed Matters** We all play a role in watershed management...are you doing your part? Perspectives from agricultural landowners to shoreland property owners are all important in our collective goal to protect our natural resources now and in the future. County Conservation staff will discuss aspects of different perspectives on different scales and how to effectively manage the water as it flows through the watershed in its entirety. *Presenters: Tracy Arnold and Dan O'Connell, Portage County Land and Water Conservation Department* (Introductory, Diversity/Equity/Inclusion)

Thursday, April 11, 2024 | 1:45-2:25pm | Concurrent Sessions		
Topic Area (Room)	**Title**	**Presentation Details (Additional Focus Areas)**
Lake and River Flora and Fauna (Room: Expo 2) *also available virtually*	Meet the Algae!	Have you thanked algae today for all the things they've done for you? Algae support life in our lakes and rivers in their position as the base of aquatic food webs, and they make the oxygen that we breathe. Meet some of the algae that grow in our waterways, from Nostoc "lake plums" to beautifully intricate diatoms and desmids. Catch a glimpse of the tiny underwater worlds which are visible only with a microscope. You will gain a better appreciation for these essential members of our aquatic communities. *Presenter: Gina LaLiberte, WI Department of Natural Resources* (Introductory)
Managing Recreational Impacts (Room: Spruce/Sands) *also available virtually*	The Effects of Wake Boats on Lake Ecosystem Health: A Literature Review	In this session, WI's Green Fire will report out on their recent report and conclusions regarding the science around the impacts of enhanced wakes on lake ecosystems. *Presenter: David Ortiz, Wisconsin's Green Fire*
50 Years of Water Science Translated to Action (Room: Evergreen/Frontier)	Two Presentations: A Primer on the History of Fish Habitat Management in Wisconsin Lakes Fish Community Production Responses to a Large-Scale Coarse-Woody Habitat Addition	**A Primer on the History of Fish Habitat Management in Wisconsin Lakes** The importance of habitat has often been overlooked in fisheries management, yet suitable habitat conditions are imperative for the sustainability of fish populations. Essential fish habitat includes suitable water quality and spawning, juvenile nursery and refuge, and foraging habitat. Early structural fish habitat enhancements for lakes usually included the additions of fish cribs and rock bars. Fish structural habitat enhancements have evolved to simulate more natural processes with the additions of tree drops and "fish sticks". Given that fish productivity has declined in some Wisconsin lakes over time, tree drops and "fish sticks" are a logical fisheries habitat enhancement approach to support littoral-based food webs and fish production, but may not be beneficial to all fish species. Integrated, ecosystem-based habitat management approaches for lakes that include within lake, riparian zone, and watershed scale considerations are likely to provide the broadest benefits to Wisconsin's diverse fish communities and their habitat needs. *Presenter: Greg Sass, WI Department of Natural Resources* (Climate Change) **Fish Community Production Responses to a Large-Scale Coarse-Woody Habitat Addition** Coarse-woody habitat additions are a common management action to restore degraded shoreline habitat and key food-web processes within aquatic ecosystems. However, several questions remain about the ecosystem effects of coarse-woody habitat additions, such as the timeframe to achieve desired results and how fish production responds among different trophic levels. Thus, we aimed to answer these questions by initiating long-term monitoring of fish community and ecosystem responses to a coarse-woody habitat addition in a north-temperate lake. We began monitoring the fish community of Sanford Lake, Vilas Co., WI, in 2015 and performed a large-scale coarse-woody habitat addition in 2018. Preliminary results suggest initial fish production responses occurred several years post-addition, with increases in bluegill (*Lepomis macrochirus)* and rock bass (*Ambloplites rupestris)* production. Continual monitoring until 2030 will provide more insight into higher trophic level responses and will be necessary to understand the timeframe of ecosystem responses to habitat alterations. *Presenter: Max Wilkinson, UW-Stevens Point, Wisconsin Cooperative Fishery Research Unit*

Human and Critter Health (Room: Stonefield/Harvest)	Two Presentations: Diver Assisted Suction Harvesting: Wildlife Safe Method for Manually Removing Invasive Aquatic Plants Effects of Florpyrauxifen-benzyl Herbicide (i.e., ProcellaCOR) Application on Early Life Stages of Fathead Minnows	**Diver Assisted Suction Harvesting: Wildlife Safe Method for Manually Removing Invasive Aquatic Plants** Diver Assisted Suction Harvesting (D.A.S.H.) has long been used as a method to remove non-native nuisance aquatic plants from around boat docks and swimming areas. But what happens to the creatures that are found in these plants when they get removed from the water? See how using a sorting table to look through the plants before bagging them allows for creatures to be pulled and returned safely to the water. This methodology is a win-win for your lake and the native creatures that live there! *Presenter: Lisa Woolford, ILM Environments* (Innovative) **Effects of Florpyrauxifen-benzyl Herbicide (i.e., ProcellaCOR) Application on Early Life Stages of Fathead Minnows** Non-native aquatic species, like Eurasian watermilfoil, are rapidly spreading across the United States. To combat invasive species, herbicides are commonly used, such as Florpyruaxifen-benzyl (FPB). FPB is typically applied in the spring when many freshwater fish are spawning. However, the impacts of FPB on nontarget organisms, such as fish, are poorly understood. Therefore, we investigated the effects of FPB whole-lake treatments on fathead minnows in lakes undergoing treatment using in situ (in lake) exposure systems. Larvae were exposed to either control lakes or lakes undergoing treatment and effects on morphology, survival, and growth were evaluated. Our results demonstrate that exposure of fathead minnow larvae to whole-lake treatments of FPB reduced survival in some of the lakes. Altogether, our results can help inform and improve risk assessment decisions. *Presenter: Gavin Dehnert, Wisconsin Sea Grant* (Innovative)
Watershed Approach to Water Protection (Room: Woodland/Trillium)	Two Presentations: Dam Removal Strategies: Freeing the Kinnickinnic River With Science and Community A Watershed Approach for Water Quality Improvement in Wisconsin's Lakes and Rivers	**Dam Removal Strategies: Freeing the Kinnickinnic River With Science and Community** The Kinnickinnic River is a scenic, well-loved, and productive trout stream, impounded for 100 years by two city-owned electrical generating dams. A five-year discussion led to the city's decision to remove both dams but set a timeline of 2046 for completion. Long-term river monitoring developed solid data on the dams' thermal impacts on the river. Several other studies addressed the potential impacts of dam removal or retention on sediment transport, hydrology, impacts on threatened and endangered species, and the contents of the abundant sediment impounded by the two dams. Arising from the discussion and the city's decision was a conceptual plan for the river corridor once the dams were removed. The U.S. Army Corps of Engineers has proposed a project to remove both dams and ecologically restore the 1.5 mile river corridor. This talk will examine the scientific foundation of the project and how it continues to provide a picture of pre-, intra- and post-removal impacts on the river. *Presenter: Duke Welter, Kinni Corridor Collaborative* (Climate Change, Diversity/Equity/Inclusion) **A Watershed Approach for Water Quality Improvement in Wisconsin's Lakes and Rivers** Water quality is a driving factor for lake and river management throughout Wisconsin and often requires a watershed scale approach to identify the source of impairment and prioritize methods for improvement in our downstream waterbodies. We will present a case study from Waukesha County where landowners, non-profits, municipalities, consultants, and agency partners are collaborating in support of phosphorus reduction in their local watershed. Mason Creek is a tributary to North Lake in central Wisconsin and was historically channelized in support of agricultural production, causing significant downcutting of the stream corridor and increased sediment transport downstream. This presentation will highlight the power of strong partnerships for successful planning and implementation of projects within the Mason Creek watershed. *Presenters: Sarah Majerus, Stantec and Erik Joost, Oconomowoc Watershed Partnership Program* (Climate Change)

Thursday, April 11, 2024 | 2:35-3:15pm | Concurrent Sessions

Topic Area (Room)	Title	Presentation Details (Additional Focus Areas)
Lake and River Flora and Fauna (Room: Expo 2) *also available virtually*	Secrets of Salamanders	Step into the enchanting world of salamanders and uncover their fascinating realm. Shedding their creepy-crawly stereotype, you'll discover the richness and magic these creatures bring to our ecosystems. We'll talk about all of the species you will find here in Wisconsin, but also explore the area with the highest biodiversity of salamanders in the world. *Presenter: Jamie VandenLangenberg, North Lakeland Discovery Center*

Managing Recreational Impacts (Room: Spruce/Sands) *also available virtually*	Making Waves: A Debrief of Enhanced Wake Regulation in 2023. What Happened and What's Ahead?	Statewide standards for enhanced wakes received intense consideration by the Wisconsin legislature in late 2023 and early 2024, but in the end nothing (bad or good) came of it. So what happened, and what does the future hold? In this session, we'll take a deep dive into the issue to see what we can learn from what just happened and how it can instruct us on a path forward. *Michael Engleson, Executive Director, Wisconsin Lakes*
50 Years of Water Science Translated to Action (Room: Evergreen/Frontier)	35 Years of Dam Removal Projects in Southeast Wisconsin: Examples and Lessons	Join this presentation for a recap of Southeast Wisconsin dam removal projects that have occurred over the last 35 years. We'll discuss examples and lessons learned, as well as celebrate the partnerships that lead to these successful projects. *Presenter: Craig Helker, WI Department of Natural Resources* (Introductory)
Human and Critter Health (Room: Stonefield/Harvest)	Two Presentations: What Makes Lakes Vulnerable to Cyanobacteria Blooms? HABs and Health in Wisconsin	**What Makes Lakes Vulnerable to Cyanobacteria Blooms?** Find out what makes lakes vulnerable to cyanobacteria blooms (also known as blue-green algae). Hint – it's not just phosphorus! While excess nutrients support the growth of cyanobacteria blooms, some types of water bodies are more vulnerable, and some aspects of water bodies can help to repeatedly accumulate and concentrate blooms. Discover what physical, chemical, and biological characteristics make lakes more susceptible to blooms. Learn what different bloom types look like and find out what cyanobacteria mean for overall lake health. *Presenter: Gina LaLiberte, WI Department of Natural Resources* (Introductory) **HABs and Health in Wisconsin** Cyanobacteria, also known as blue-green algae, are a natural part of Wisconsin's water bodies. High temperatures and nutrients can promote the growth of cyanobacteria, resulting in what are known as cyanobacterial harmful algal blooms (HABs). HABs are a public health concern because some cyanobacteria can produce toxins that can make people and animals sick. The Wisconsin HAB Surveillance Program exists to prevent and manage blue-green algae related illnesses, with the ultimate goal to protect and promote the health of Wisconsin residents. Since 2009, our program has collected and investigated human and animal HAB-related illness complaints. This presentation will discuss the current state of knowledge regarding health effects associated with HAB toxin exposure, including new research about respiratory illnesses, and review how our program collects and investigates HAB-related health complaints. We'll dive into classic case studies of human illnesses and showcase how we conduct outreach activities to improve awareness, understanding, and reporting of HABs and HAB-related illnesses. *Presenter: Jordan Murray, WI Department of Health Services*
Watershed Approach to Water Protection (Room: Woodland/Trillium)	Why BMPs Alone Are Inadequate to Make Measurable Improvements in One Wisconsin Lake	Are watershed-wide best management practices (BMPs) sufficient in the face of mounting, historic challenges posed by climate change and internal loading on our lakes? Join us to explore why the incremental approach may fall short in achieving measurable improvements in water quality downstream, with a particular focus on Wisconsin's Green Lake. After a research study confirmed that Green Lake needs a 50%-60% reduction in phosphorus loading to meet its water quality criteria and remove the lake from the impaired waters list, the Green Lake Association (GLA) began advocating for the use of technology to intercept phosphorus as a broadened approach to meet those significant phosphorus reductions. In response, the GLA launched a global request for information with The Water Council to identify potential solutions to intercept phosphorus. Additionally, in 2023 they worked with the Green Lake County Land Conservation Department to install a field-scale phosphorus interception pilot project at the outlet of an agricultural retention pond. *Presenter: Stephanie Prellwitz, Green Lake Association* (Innovative)

Thursday, April 11, 2024 | 3:30-4:30pm | Lightning Talks

Room: Expo 2	Title	Presentation Details
	Jump Into Action: New Healthy Lakes & Rivers Partner Organization Toolkit	The Healthy Lakes & Rivers (HLR) program, led by a team including WI DNR, Extension Lakes, Wisconsin Lakes, and county partners, is launching a new toolkit to help partner organizations (lake or river organizations, municipalities, and tribal governments) build a successful HLR program in YOUR community. During this lightning talk, we will highlight some simple action items that your group can use to lead by example, strengthen partnerships, learn more about your lake or river's shoreline health, and encourage the adoption of healthy lakes and rivers best practices to improve water quality! If you are new to the HLR program, this is a great opportunity to learn about the benefits of becoming a formal partner and joining our statewide network of lake and river advocates. *Presenters: Lauren Haydon, WI Department of Natural Resources and Amy Kowalski, Extension Lakes, UW-Stevens Point*
	Reporting Aquatic Invasive Species	Come hear about the aquatic invasive species discoveries and how you can help. *Presenter: Maureen Kalscheur, WI Department of Natural Resources*
	Mobile Conservation Classroom	Engaging our youth and community with water conservation education can be challenging. Bringing hands-on interactive materials and equipment to events poses its own set of challenges. A Mobile Conservation Classroom was the answer WAMSCO found for this issue. Thanks to a wide variety of non-DNR grants and donations, it was able to be completed. Not only does it offer advertising for our sponsors, it also brings awareness to anyone who sees it at events or driving down the road. All engaging supplies in one place allows for fluid programming that the kids and community love! *Presenters: Shanda Hubertus and Grace Eide, WAMSCO (Waterways Association of Menominee and Shawano Counties, Inc)*
	Testing the Waters: Vital Data for Conserving Communities and Watersheds	Imagine a future where we holistically understand our local lakes and rivers, where simple tools empower communities to assess water health and take proactive measures to conserve watersheds. In "Testing the Water," we explore the confluence of observation, lab testing, and data storytelling. Discover how SimpleLab's innovative approach is providing the comprehensive diagnostics necessary to protect our flora, fauna, and human communities. Learn how lakes like Elkhart Lake are benefiting from ongoing water quality data systems, putting this vital information where it matters most – in the hands of those protecting our watersheds. As we celebrate 50 years of water stewardship, join us in recognizing the importance of reliable, accessible data and its role in preserving our most precious resource. *Presenters: Kevin Sofen, SimpleLab*
	Connecting Youth to Their Watershed with GLOBE	Engaging students in science literacy through hands-on programming improves information retention and supports investigative learning. This summer, Welty Environmental Center hosted Muddy Waters STEMinist Camp, its first week-long Girls in STEM camp for middle- and high-school-age girls in the WI-IL stateline region. Campers implemented GLOBE (Global Learning and Observations to Benefit the Environment) hydrosphere protocols to learn more about aquatic sciences and support NASA research. Our goals included introducing campers to their watershed in a memorable way, encouraging them to view themselves as citizen scientists, and welcoming professionals from various sectors to give campers an overview of the field. Campers went away with an improved understanding of the watershed in which they live as well as increased interest in pursuing, and acknowledging the importance of, STEM careers. This camp provides a framework for other organizations to develop similar camps to encourage diversity in STEM fields. *Presenter: Darien Becker, Welty Environmental Center*
	An AIS Outreach Specialist's Evolving Thoughts on Invasive Species	In 2001, I was blissfully unaware of all or most invasive species. As I've learned more about the science of invasive species and communications over the years, my thoughts and the messaging I use now as an AIS Outreach Specialist for UW-Madison Division of Extension and WDNR have evolved. Join me to look at those 'adjusted' ideas. *Presenter: Jeanne Scherer, UW-Madison Division of Extension*
	A Deep Dive into Lake Data	The Wisconsin Department of Natural Resources invites you to check out a variety of new tools developed to enhance the use of our rich data sets on thousands of lakes. The Wisconsin Water Explorer shares watershed-level information on land cover and geology, trends in lake water quality over time, and nutrient loading model results. The Lakes and AIS (Aquatic Invasive Species) Viewer maps a wide variety of data sets, including lake shoreland habitat metrics. The Shoreland Habitat Disturbance Dashboard describes overall shoreland habitat condition on lakes and provides habitat protection and restoration recommendations. The Lake Level Dashboard displays lake level data over time. Finally, the Aquatic Plant Explorer maps aquatic plant data and summarizes lake-wide community statistics. These tools allow users to quickly learn about Wisconsin lakes and watersheds. *Presenter: Katie Hein, WI Department of Natural Resources*

	Unveiling the Giant Water Bug: Masters of Aquatic Stealth and Predatory Prowl	In this presentation, we will explore the remarkable anatomical features of the giant water bug that allow them to be the kings of their aquatic realm. We will also unravel the secrets of their predation strategies and understand how their forelimbs assist them in their hunting techniques. Join us to appreciate the impact they have and discuss their important role in aquatic ecosystems. *Presenter: Grace Hasse, UW-Stevens Point*
	A Collaborative Approach to Water Research	The Freshwater Collaborative is a Universities of Wisconsin initiative built to bring together water education and research at all 13 UW universities. Members of the Freshwater Collaborative create an extensive network of professionals working in the water industry. Dr. Marissa Jablonski will share a brief overview of how the Freshwater Collaborative is tackling water challenges such as phosphorus and watershed management and why engaging all stakeholders is important. *Presenter: Marissa Jablonski, Freshwater Collaborative of Wisconsin*
	Less Water, More Clarity? Impacts of Lake Level Changes	Water levels in lakes fluctuate because of variation in precipitation from season to season and year to year. The changes in water levels have direct impacts on water clarity, which often decreases as water levels increase. The coincident changes in lake level and clarity have ripple effects on lake food webs, from algae to fish. We explored the relationship of lake levels, water clarity, and algae abundance in seven Northwest Wisconsin lakes across five years. The results of our study can inform lake management decisions, which may need to be adapted as lake levels change through time. *Presenter: Peter S. Levi, Burke Center, Northland College*
	"STOP SPINY!" The Science of Invasive Spiny Waterflea Prevention	Learn about the science of invasive spiny waterfleas, and how the STOP SPINY campaign can help you protect your favorite lakes from these tiny predators. *Presenter: Zach Stewart, Douglas County*

Thursday, April 11, 2024 | 4:30-5:30pm | Poster Session

Room: Expo 1	Title	Presentation Details
	Wambold Dam Renovation: Lessons Learned	The Eagle Spring Lake Management District performed a major renovation of one of its water control outlets in 2022-23. Many lessons were learned from this experience that should be noted by anyone who is planning on undertaking one of these construction projects. *Presenter: Peter Jensen, Eagle Spring Lake Management District*
	Eau Claire County Freshwater Mussel Monitoring	In the summer of 2023, the Beaver Creek Reserve Citizen Science Center undertook Phase II of the Mussel Monitoring initiative in Eau Claire County. This comprehensive project focused on the survey of 49 streams that had previously undergone assessment in 2012, with the primary objective of studying the distribution and abundance of Freshwater Mussels. The findings obtained through these surveys serve a vital role in the documentation and analysis of species dynamics, enhancement of public education and awareness, and the advancement of strategies for the conservation of freshwater mussels in the future. *Presenter: Bre Klockzien, Beaver Creek Reserve*
	Mobile Conservation Classroom	Engaging our youth and community with water conservation education can be challenging. Bringing hands-on interactive materials and equipment to events poses its own set of challenges. A Mobile Conservation Classroom was the answer WAMSCO found for this issue. Thanks to a wide variety of non-DNR grants and donations, it was able to be completed. Not only does it offer advertising for our sponsors, it also brings awareness to anyone who sees it at events or driving down the road. All engaging supplies in one place allows for fluid programming that the kids and community love! *Presenter: Grace Eide, WAMSCO (Waterways Association of Menominee and Shawano Counties, Inc.)*
	Connecting Youth to Their Watershed with GLOBE	Engaging students in science literacy through hands-on programming improves information retention and supports investigative learning. This summer, Welty Environmental Center hosted Muddy Waters STEMinist Camp, its first week-long Girls in STEM camp for middle- and high-school-age girls in the WI-IL stateline region. Campers implemented GLOBE (Global Learning and Observations to Benefit the Environment) hydrosphere protocols to learn more about aquatic sciences and support NASA research. Our goals included introducing campers to their watershed in a memorable way, encouraging them to view themselves as citizen scientists, and welcoming professionals from various sectors to give campers an overview of the field. Campers went away with an improved understanding of the watershed in which they live as well as increased interest in pursuing, and acknowledging the importance of, STEM careers. This camp provides a framework for other organizations to develop similar camps to encourage diversity in STEM fields. *Presenter: Darien Becker, Welty Environmental Center*

	Decade-Long Vision for Elkhart Lake	What does the next 10 years look like for the beautiful Elkhart Lake, Wisconsin? This poster will explore the progressive 10-year roadmap for Elkhart Lake - showcasing cutting-edge data and innovative technologies enhancing our approach to aquatic ecosystem management. We dive into the myriad of water technology tools, from environmental water quality lab testing to real-time in-situ data buoy readings, that we leverage to assess the health and vitality of our lakes. By blending traditional wisdom with modern data-driven methodologies, our strategies intend to be holistic and impactful, aiming for cleaner and safer waters for generations to come.
	DNR Lake Data Visualization Tools	The Wisconsin Department of Natural Resources invites you to check out a variety of new tools developed to enhance the use of our rich data sets on thousands of lakes. The Wisconsin Water Explorer shares watershed-level information on land cover and geology, trends in lake water quality over time, and nutrient loading model results. The Lakes and AIS (Aquatic Invasive Species) Viewer maps a wide variety of data sets, including lake shoreland habitat metrics. The Shoreland Habitat Disturbance Dashboard describes overall shoreland habitat condition on lakes and provides habitat protection and restoration recommendations. The Lake Level Dashboard displays lake level data over time. Finally, the Aquatic Plant Explorer maps aquatic plant data and summarizes lake-wide community statistics. These tools allow users to quickly learn about Wisconsin lakes and watersheds. *Presenters: Katie Hein, Sam Blackburn, Justin Chenevert, and Aaron Fisch, WI Department of Natural Resources*
	The Importance of Getting Kids Outside	Outdoor education is something that all school districts should include. It goes above traditional classroom boundaries, offering experimental learning opportunities that cultivate essential life skills. Immersed in nature, students develop a profound connection to the environment, nurturing environmental stewardship and a sense of responsibility towards the planet. Outdoor education promotes teamwork, communication, and leadership skills, as individuals collaborate to overcome challenges in unfamiliar settings. The exposure to diverse environments enhances problem-solving abilities, resilience, and adaptability, preparing individuals for an ever-changing world. It encourages curiosity, creativity, and a love for learning through hands-on experiences. By cultivating a sense of wonder and appreciation for the natural world, outdoor education not only enriches academic knowledge but also instills a lifelong passion for exploration and environmental conservation. *Presenter: Grace Hasse, UW-Stevens Point*
	More is More, Until it isn't: Time to Capture in Electrofishing for Grass Carp in Lake Erie Tributaries	Grass carp control efforts in the Great Lakes Basin use electrofishing to capture and remove adult fish. Original protocols called for 30 minutes of shock time per site. We used a cumulative density function to determine the optimal amount of electrofishing time and found that ~90% of our captures occur within 22 minutes of shock time. This provides justification to shorten shock times in order to improve efficiency. *Presenter: Robert Mapes, University of Toledo*
	Do Your Part: Report These Rare Invasive Species	We work with citizen programs, partners and DNR staff to monitor and report invasive species regulated by Chapter NR 40. We need your help to report regulated species that are not yet established in Wisconsin. This poster includes information on key identifying characteristics, known distribution, and how to report. *Presenter: Maureen Kalscheur, WI Department of Natural Resources*
	Eye of the Beholder: Perceptions of Natural Scenic Beauty of Wisconsin Wetlands	Natural scenic beauty is identified as a wetland water quality standard in Wisconsin Administrative Code (s. NR 103.02) as one of several wetland functional values to be considered in permitting decisions. However, the DNR lacks a calibrated tool to integrate natural scenic beauty into its regulatory process. We developed a decision-support tool to address this gap by quantifying the effects of wetland landscape features on public perceptions of scenic beauty. We compiled a catalogue of 100 photographs encompassing a range of wetland types, and biophysical attributes captured in the images were coded. Online survey participants evaluated a random set of 25 photographs from the catalogue. We standardized responses using the Scenic Beauty Estimation method and applied multivariate linear regression to estimate the effects of coded features. The results offer a consistent and transparent starting point to consider NSB in wetland management. *Presenter: Ben Beardmore, WI Department of Natural Resources*
	Effects of Florpyrauxifen-benzyl Applications on Non-target Biodiversity of Macrophytes and Invertebrates	Florpyrauxifen-benzyl is a chemical used in herbicide applications of aquatic plants such as the invasive species Eurasian watermilfoil. This study examined the effects on non-target organisms from three Florpyrauxifen-benzyl applications to manage Eurasian watermilfoil populations in Wisconsins lakes. The focus was on non-target macrophytes and macroinvertebrates, though target organisms were accounted for. Multiple plant and invertebrate surveys were conducted -- some prior to the herbicide applications as well as afterward. Transect placement for surveys was done via a new method, which was designed to emphasize biodiversity and efficiency, while still maintaining randomness to reduce selection bias. Future research will take place this summer to further examine this transect placement method, as well as the effects of Florpyrauxifen-benzyl on biodiversity within the same lakes. *Presenter: Luke Huffman, University of Wisconsin-Madison*

	Development of Wildlife Habitat Restoration Design Plans for the Tank Farm Marsh in an Urban Setting	GEI partnered with the City of Green Bay and WDNR for planning and design services for fish and wildlife habitat restoration within the Tank Farm Marsh. The purpose of the project is to improve wildlife populations and habitats to address fish and wildlife related BUIs and support long-term Lower Green Bay and Fox River AOC delisting efforts. The project was constrained by several factors associated with urban environments including sediment contamination, access, invasives, and utilities. These conditions jeopardized the project but didn't hinder the team from developing concepts and solutions. Field surveys, desktop reviews, and modelling were conducted to document baseline conditions and support the design. Three concepts were developed to determine how to best improve conditions for priority wildlife populations and habitats while balancing existing site conditions and constraints. The final design will establish diverse wetland types based on fluctuating water levels, making the site more resilient and self-sustaining. *Presenter: Stephanie Cole, GEI Consultants, Inc.*
	Growing Gardeners Invasive Species Prevention Outreach	A healthy landscape is one of the best ways to prevent the introduction and spread of invasive species, including aquatic and wetland species. Since 2019 the UW Madison Extension Aquatic Invasive Species Program has been contracting with Melinda Myers LLC to do outreach to gardeners with "wet feet". With Melinda as our trusted spokesperson, we have reached thousands of people. In 2023, WDNR Organisms in Trade Coordinator Elizabeth Tanner began a new partnership with Melinda and her team. We have shared resources to reach even more gardeners in Wisconsin, the Midwest and beyond. This poster celebrates our success, shares what we are learning and provides tools you can also use to help this eager audience prevent the spread of invasive species. *Presenters: Jeanne Scherer, UW-Madison Division of Extension and Liz Tanner, WI Department of Natural Resources*
	Nothing Good Happens after Midnight: Grass Carp Egg Catches Indicate Late Night Spawning in the Sandusky River	Invasive grass carp spawning was confirmed in 2015 in the Sandusky River, a Lake Erie tributary. Spawning in the Sandusky River is associated with high flows and water temperatures between 17 and 24°C; however, it is not known if grass carp spawning activity varies by time of day. Time of fertilization was back-calculated using the cumulative thermal units (CTU) method (summarized hourly) for 9,040 eggs gathered from 0630-1930 EDT across multiple high-flow events during 2017–2023. Peak spawning occurred from 0100–0200 EDT; however, this estimate could be biased because eggs were only collected during daylight hours. Therefore, spawning simulations are underway for different hydrological scenarios using FluEgg, a Fluvial Egg Drift Simulator used to predict spawn and hatch locations. We will then compare relative egg age composition for virtually sampled eggs from FluEgg simulations to field-observed ages under the same hydrological and environmental conditions. *Presenter: Ryan Brown, University of Toledo*
	Shoreland Improvements or Disturbances? A Hedonic Price Model for Northeastern Wisconsin	Shoreland development, encompassing features such as boat lifts and manicured lawns, yields significant benefits for property owners. Nevertheless, this development is linked to heightened sediment and pollutant loading, which, in turn, adversely affects aesthetics, recreation, and habitat conditions for fish and other aquatic species. In this study, a hedonic property model was employed, analyzing 847 property sales along Wisconsin inland lakes. The model considered various shoreland development features, using data from 62 lakes surveyed comprehensively under the Wisconsin Department of Natural Resources (WDNR) Lake Shoreland and Shallows Habitat Monitoring Program. Results show positive correlations between sales prices and certain development features, including artificial beaches, erosion control measures, and structures in the littoral zone, after controlling for housing characteristics and lake fixed effects. On the other hand, features such as manicured lawns, floating and emergent plants, and structures in the riparian zone showed no significant correlation with prices. *Presenter: Sue Borchardt, School of Freshwater Science, UW-Milwaukee*
	Where Form Meets Function: A Practical Approach to Replicating Streambank Inventories to Reach a Wider Audience	The Lake Winnebago watershed has been a source of significant nutrient loading for decades. WDNR has developed a TMDL targeting nutrient within the watershed. GEI developed new methods to assess streambank erosion and calculate loading intended for replication by future stakeholders. The new methods were developed in collaboration with WDNR and combine principles from NRCS and the Rosgen Stream Classification systems. The goal was to create a series of standard operating procedures that could be easily repeated in any HUC12 watershed by diverse stakeholder groups such as conservation clubs, non-profits or local governments. A series of weighted overlay models were created to classify erosion potential. Model results were used in site selection of ~12% of the total watershed stream miles to then be surveyed. Field efforts mapped streambank erosion, assessed habitat quality, and locations of invasive species. Data collected from these representative stream reaches were then extrapolated across the watershed to determine nutrient loading for each watershed as a whole. *Presenter: Gabe Heindel, GEI Consultants*

	Mussel Relocation and Monitoring in the Wisconsin River, Columbia County	In 2023, GEI Consultants was retained to conduct the second largest freshwater mussel relocation and monitoring project in Wisconsin state history to date. The plan was devised to ensure that as many mussels along approximately 32,000 square meters of the Wisconsin River would not be impacted from in-water construction activities set to start the following year. The project had a focus on locating and moving federal and state listed species out of high impact areas, with post-relocation monitoring occurring after to determine survival rates. With the help of Daguna Consultants, and frequent communication with the client and regulatory agencies, the team was able to locate and move nearly 10,000 mussels over the course of the 2023 field season, including two confirmed federally listed species, and two confirmed WI state listed species. Work is to continue in the spring of 2024, with additional post-relocation monitoring to take place thereafter. *Presenter: Emily Gryga, GEI Consultants*
	Aquatic Microbial Properties by High Resolution Flow Cytometry	Aquatic food webs are commonly based on the concentration of dissolved nutrients. Bacteria and other transthreptic (surface feeding) organisms use the nutrients coupled with energy to produce biomass in aquatic systems. Ambient concentrations are small and hard to resolve. Those based on the Michaelian ansatz can be determined with the help of competitive inhibition by the TIC or “Twin isotope” method described here. *Presenter: Don Button, Wisconsin’s Greenfire*
	Wisconsin's Waters Environmental Watchman	Stewards across Wisconsin monitor Wisconsin’s waters and wetlands for invasive species. These watchmen include citizens, counties, state, and others. In 2023, this Wisconsin Aquatic Invasive Species Monitoring network completed over 1,000 monitoring events across the state. We found that while invasive species remain widespread, they might not be as dominant within waters as once thought. Come see where they looked & highlights on what they found. *Presenters: Maureen Kalscheur, WI Department of Natural Resources, Paul Skawinski, Extension Lakes, UW-Stevens Point, and Emily Heald, UW-Madison Division of Extension*

Friday, April 12, 2024 | 8:00-9:00am | Concurrent Sessions

Topic Area (Room)	Title	Presentation Details (Additional Focus Areas)
Lake and River Flora and Fauna (Room: Expo 2) *also available virtually*	Two Presentations: Walleyes for Tomorrow Wisconsin Walleye: Now and Into the Future	**Walleyes for Tomorrow** Who are Walleyes for Tomorrow? Learn about our history, hatchery operations, and how to start a chapter in your area. Also hear about the groups we work with and support. *Presenter: Ken VanDenPlas, Walleyes for Tomorrow Shawano* **Wisconsin Walleye: Now and Into the Future** Walleye are one of the most popular species of fish in Wisconsin, prized by both anglers and tribal harvesters. The Wisconsin DNR recently completed a statewide planning effort for the future of walleye. Come hear about what is in the plan, the work that has already started, and how partners can help create great walleye resources. *Presenter: Max Wolter, WI Department of Natural Resources*
Capacity Building Strategies for Lake and River Groups (Room: Spruce/Sands) *also available virtually*	Transforming Your Lake Organization: The Power of Program Pillars	In 2016, the Green Lake Association made a bold shift by prioritizing storytelling over securing silent auctions at their annual fundraiser, leading to a transformative program pillar model. Discover how this model has seamlessly integrated into their strategic plan, annual budget, and communication tools to become the backbone of their organization. Join our session to gain invaluable insights into leveraging program pillars for your lake organization. Learn how to align your efforts, boost capacity, and enhance effective communication. We'll provide practical take-away messages, equipping you to implement this game-changing framework in your own initiatives. Uncover the potential of program pillars in driving sustainable and impactful lake conservation efforts. You’ll leave with strategies to elevate your organization's mission and grow your fundraising potential. Join us to learn from the Green Lake Association’s success and steer your lake-focused endeavors toward greater effectiveness. *Presenter: Stephanie Prellwitz, Green Lake Association*

County Successes Over the Last 50 Years (Room: Evergreen/Frontier)	Two Presentations: Burnett County's Shoreland Incentive Program: 25 Years of Protection Modeling Phosphorus Reductions from the Installation of Shoreland Runoff Control Practices	**Burnett County's Shoreland Incentive Program: 25 Years of Protection** In 1999, Burnett County passed a series of shoreland zoning changes to protect the water quality of lakes in Burnett County. One of those changes was to create a program to reward people for following shoreland zoning vegetation requirements to protect water quality. Long-term protection is ensured with a covenant registered with the deed. You will see how the program has worked, lessons that have been learned, and the impressive results of 25 years of protection. *Presenter: Dave Ferris, Burnett County Land Services Department* (Innovative) **Modeling Phosphorus Reductions from the Installation of Shoreland Runoff Control Practices** Increased phosphorus from development on land can decrease water quality. The ability to predict phosphorus transfer is useful for understanding lake changes and for designing mitigation strategies. There continue to be questions on how much phosphorus is reduced from small scale runoff practices such as native/natural buffers. This session will explore some of the methods available for modeling phosphorus transfer from shoreland development and describe an attempt to develop a modeling tool using the EPA storm water management model (SWMM) to provide a reasonably simple way to quantify the phosphorus reductions from runoff control practices. *Presenters: Paul McGinley, UW-Stevens Point and Dave Ferris, Burnett County Land Services Department* (Innovative)
Aquatic Invasive Species (Room: Stonefield/Harvest)	Three Presentations: Grass Carp Removal in Lake Erie: Lessons from a Five-Year Control Plan Grass Carp Egg Sampling in Known Spawning Tributaries and Beyond Impacts of New Zealand Mudsnails on Southern Wisconsin Trout Streams	**Grass Carp Removal in Lake Erie: Lessons from a Five-Year Control Plan** Invasive grass carp (*Ctenopharyngodon idella*) were discovered to be reproducing in Lake Erie tributaries in 2015, prompting management agencies to develop an adaptive control plan. The action plan is aimed at preventing grass carp from attaining densities which could adversely affect Lake Erie ecosystems. Initial control began in 2017 and has increased to form a multiagency, interjurisdictional team of managers and researchers. Since implementation, over 800 adult grass carp have been removed from Lake Erie waters. A modeled abundance estimate for the Sandusky River shows no increase since implementation of control in this important spawning location. Mortality rate has increased over the same time period, suggesting that removal is having an impact. The early success of the program rests on cooperation across participating management and research organizations, allowing for a larger scale response than any one organization could deploy. *Presenter: Robert Mapes, University of Toledo* **Grass Carp Egg Sampling in Known Spawning Tributaries and Beyond** Invasive Grass Carp (*Ctenopharyngodon idella*) have been captured in all the Great Lakes except Lake Superior. The first spawning was confirmed in 2015 in the Sandusky River, a tributary to Lake Erie. We identified other potential Great Lakes spawning tributaries and prioritized sampling rivers with regional fishery managers. Eight tributaries have been monitored for Grass Carp early life stages through 2023. Grass Carp eggs were collected in the Maumee and Huron (OH) rivers (Lake Erie) in 2017 and 2022, respectively. Conversely, no eggs were found as part of expanded sampling in the Cuyahoga, Grand, or Portage rivers (Lake Erie), Tittabawassee River (Lake Huron), or St. Joseph River (Lake Michigan), however, continued monitoring is needed due to imperfect detectability. Information on the timing and location of Grass Carp spawning has improved the ability of management agencies to target removal and control, while maintaining surveillance of other potential spawning tributaries. *Presenter: Ryan Brown, University of Toledo* **Impacts of New Zealand Mudsnails on Southern Wisconsin Trout Streams** New Zealand mudsnails (*Potamopyrgus antipodarum* ; NZMS) are a widespread invasive species with established populations on five continents. There are currently nine known populations in southern Wisconsin and they are predicted to become more widespread due to inadvertent transport by river users. Streams supporting NZMS include economically important trout fisheries, however the impacts to stream food webs in Wisconsin are unknown. We surveyed ten trout streams in southern Wisconsin, six of which were invaded by NZMS. Gastric lavages were performed on a subset of brook trout, brown trout, rainbow trout, and mottled sculpin captured at each site during spring, summer, and winter. Mudsnail densities ranged from around 200 to 55,000 per m2 and increased strongly at two sites over the survey period. Some native invertebrates were negatively associated with increasing NZMS density. NZMS were being consumed by trout and mottled sculpin at all sites where mudsnails were present. *Presenter: Kimberly Kuber, WI Department of Natural Resources and Colorado State University*

Legislative and Policy Updates (Room: Woodland/Trillium)	Wisconsin Water Policy Update: A Review of Recent Legislation and Water Policy Changes in Wisconsin	The Wisconsin Water Policy Update will give you a comprehensive review of surface water legislation and administrative rule changes over the last twelve months. In addition, you'll learn about current trends and where the legislature and state government might be headed in an important election year, as well as the priorities Wisconsin Lakes is working on in 2024 and looking ahead to another state budget campaign in 2025. *Presenter: Mike Engleson, Wisconsin Lakes* (Climate Change)

Friday, April 12, 2024 | 9:15-10:15am | Concurrent Sessions

Topic Area (Room)	Title	Presentation Details (Additional Focus Areas)
Lake and River Flora and Fauna (Room: Expo 2) *also available virtually*	Manoomin: Working to Protect the Sacred	GLIFWC has labeled wild rice as the most vulnerable being to climate change in their recent climate change assessment. Join Kathy Smith (GLIFWC), Peter David (retired wildlife biologist), and Dave Grandmaisson (WI DNR) as they discuss the sacred cultural importance of manoomin; what is happening to steward and protect it; and how you might engage in such efforts as a lake or river organization or group. *Facilitator: Johnson Bridgwater, River Alliance, Presenters: Peter David and Kathleen Smith, Great Lakes Indian Fish & Wildlife Commission (GLIFWC) and Dave Grandmaisson, WI Department of Natural Resources* (Climate Change, Diversity/Equity/Inclusion)
Capacity Building Strategies for Lake and River Groups (Room: Spruce/Sands) *also available virtually*	Two Presentations: WDNR Surface Water Grants: Program Overview and How to Apply Increasing your Lake Organization's Capacity Using the Northern Lakes Toolbox	**WDNR Surface Water Grants: Program Overview and How to Apply** Annually, the WI Department of Natural Resources Surface Water Grant program provides funding to support a wide range of projects that protect and restore lakes, rivers, and wetlands throughout Wisconsin. Program staff will present on the multitude of subprograms, discuss key steps to successful project development, and provide you with the additional resources you need to apply. *Presenters: Jen Jefferson, Laura MacFarland, and Sarah Fanning, WI Department of Natural Resources* (Introductory, Diversity/Equity/Inclusion) **Increasing your Lake Organization's Capacity Using the Northern Lakes Toolbox** Wisconsin's lakes are some of our most valued resources. There are approximately 750 lake associations and districts across the state, representing thousands of lakeshore owners and enthusiasts working on stewardship. While many training opportunities exist, fully engaging in lake management is often beyond the capacity of lake groups. To address this need, in August/September Wisconsin's Green Fire piloted two Northern Lakes Toolbox workshops. The goal was to provide lake leaders with tools to obtain and interpret data about their lake – and to use the information to make lake planning and management decisions. Specific workshop objectives included retrieval and review of available lake information, identification of data gaps, charting a path towards data collection, planning, and lake management, providing an overview of WI Department of Natural Resources Surface Water Grant Program ($6 million granted for lake management annually), and identifying methods for increasing the capacity of lake groups. We will share workshop evaluation results as participants completed pre- and post-workshop surveys describing their experience and post-workshop recommendations. *Presenters: Mike Meyer and Jim Kreitlow, NOVA Ecological Services and Terry Daulton, Wisconsin's Green Fire* (Introductory)

County Successes Over the Last 50 Years (Room: Evergreen/Frontier)	Two Presentations: An Innovative Approach to Watershed Management: The Fenwood Pilot Project Preserving Northwoods Lakes: The Woods and Water Program's 20-Year Journey	**An Innovative Approach to Watershed Management: The Fenwood Pilot Project** Join us to discuss a variety of non-traditional ways that Marathon County Conservation, Planning, and Zoning (CPZ) has utilized to fund and achieve phosphorus and sediment reduction in the Fenwood Creek watershed, a small HUC-12 watershed that flows into the Big Eau Pleine Reservoir, Lake DuBay, and ultimately the Wisconsin River. CPZ has initiated a pilot program in the Fenwood Creek watershed in hopes of implementing this methodology within the larger-scale Big Eau Pleine watershed, which carries at least 30% of the phosphorus load into the Wisconsin River. Through a variety of funding sources and farmer-led initiatives, CPZ is going into its fourth year of implementing a pilot program that has reduced nearly 7,000 pounds of phosphorus. This pilot program is demonstrating a non-traditional method of conservation funding and practice implementation to achieve phosphorus reductions rarely seen through our current, traditional conservation programs. *Presenters: Kirstie Heidenreich and Diane Hanson, Marathon County Conservation, Planning, and Zoning Department* (Innovative) **Preserving Northwoods Lakes: The Woods and Water Program's 20-Year Journey** Join us as we celebrate two decades of dedicated efforts by the North Lakeland Discovery Center in protecting our cherished Northwoods lakes. In alignment with the Convention's theme, our presentation will highlight the practical achievements and invaluable lessons learned through our Woods and Water Program. Explore how collaborative efforts with lake volunteers, lake associations, towns, counties, consultants, and regulatory agencies, including the WI Department of Natural Resources, have been instrumental in the success of our program. Discover how our program has effectively raised awareness about aquatic invasive species (AIS), shoreline protection, and the critical importance of lake conservation through educational initiatives. Learn about the hands-on approach our program takes in removing aquatic and terrestrial invasive species, ensuring the sustained vitality of our cherished lakes. *Presenter: Jamie VandenLangenberg, North Lakeland Discovery Center*
Aquatic Invasive Species (Room: Stonefield/Harvest)	Three Presentations: An Overview of Wisconsin's Organisms in Trade (OIT) Program Empowering Responsible Ownership: Exotic Pet Surrender Events Illegal Trade of AIS	**An Overview of Wisconsin's Organisms in Trade (OIT) Program** Organisms in Trade (OIT) represents a significant pathway for invasive species introductions and movement, and is identified as a priority pathway in Wisconsin. Wisconsin's OIT Program includes educating OIT pathway users, monitoring sub-pathways and seeking compliance with state regulations. Work targets many industries including plant nurseries, pet and aquatic vendors, hobbyist groups, internet retailers, live food markets, commercial fishing, bait dealers, the wholesale pet trade supply, and wholesale fish dealers. This program involves collaborations between invasive species professionals, law enforcement, partners, businesses, and citizens. Find out what we have been working on, and how you can help prevent invasive species introductions through this priority pathway. *Presenters: Liz Tanner and Patrick Siwula, WI Department of Natural Resources* **Empowering Responsible Ownership: Exotic Pet Surrender Events** In this presentation, we will explore the vital role of Exotic Pet Surrender Events in mitigating the ecological impact of exotic pets released into the wild. Emphasizing responsible pet ownership, I'll discuss the dangers of invasive species and the ethical considerations surrounding exotic pets. Practical takeaways will include guidance on alternative rehoming options, the importance of educational outreach, and collaboration with local animal welfare organizations. Attendees will learn about the significance of proper planning, including licensing and documentation, to ensure the welfare of surrendered pets. Together, we aim to foster a community committed to the well-being of both exotic animals and their ecosystems, promoting a sustainable approach to pet ownership. *Presenter: John Moyles, J&R Aquatic Animal Rescue* (Innovative) **Illegal Trade of AIS** In the past few years, WI Department of Natural Resources (WI DNR) law enforcement has conducted numerous investigations into the importation and sale of invasive self-cloning marbled crayfish, red swamp crayfish, bighead/silver/grass carp, swamp eels, and other aquatic invasive species (AIS). Many of these have been found to be widely available as pets, live food, and biological supply industry products in retail pet stores, specialty grocery stores, and through e-commerce. Inevitably, some of these critters escape or get released intentionally. These investigations have resulted in significant convictions and penalties. Wardens and other WI DNR staff continue to educate suppliers, but the more that wardens look into these industries the more sources of illegal AIS they continue to find. This presentation will highlight various investigations and the value of working collaboratively with other agencies due to the limited funding and staffing available to work on this important topic. *Presenter: Lieutenant Robert Stroess, WI Department of Natural Resources*

Legislative and Policy Updates (Room: Woodland/Trillium)	Beyond 50: Chapter 33's Future and a Proposal for Revision	As part of celebrating the 50-year anniversary of Chapter 33, in this session we look to the future. A joint effort of Wisconsin Lakes and Extension Lakes collected suggestions for how Chapter 33 could be revised to work better for lake districts in the future. In this session, we will present our recommended revisions and lead a discussion to collect feedback before we take the package to the legislature in 2025. *Presenters: Eric Olson, Director, Extension Lakes; Dan Butkus, President, Wisconsin Lakes; and Michael Engleson, Executive Director, Wisconsin Lakes*

Friday, April 12, 2024 | 10:45-11:45am | Concurrent Sessions

Topic Area (Room)	Title	Presentation Details (Additional Focus Areas)
Lake and River Flora and Fauna (Room: Expo 2) *also available virtually*	Two Presentations: Fascinating Creatures of Wisconsin Waters Hidden Water Creatures	**Fascinating Creatures of Wisconsin Waters** Wisconsin's waters are full of (and surrounded by) fascinating plants and animals, many of which are easily overlooked due to their size or habitat. This presentation will discuss many of these species so you can recognize and appreciate them! *Presenter: Paul Skawinski, Extension Lakes, UW-Stevens Point* (Introductory) **Hidden Water Creatures** When we hear the word “lake” or "stream/river" we often think of fish, frogs, turtles, and plants. However, did you know there is an entire world within the water that is virtually invisible? Join us to learn about all the critters that play vital roles in lakes and streams that are “hidden” from most eyes. *Presenter: Emily Heald, UW-Madison Division of Extension* (Introductory)
Capacity Building Strategies for Lake and River Groups (Room: Spruce/Sands) *also available virtually*	Navigating Future Waters: A Decade-Long Vision for Elkhart Lake	What does the next 10 years look like for the beautiful Elkhart Lake, Wisconsin? Join us to explore our progressive 10-year roadmap for Elkhart Lake - showcasing cutting-edge data and innovative technologies enhancing our approach to aquatic ecosystem management. We dive into the myriad of water technology tools, from environmental water quality lab testing to real-time in-situ data buoy readings, that we leverage to assess the health and vitality of our lakes. By blending traditional wisdom with modern data-driven methodologies, our strategies intend to be holistic and impactful, aiming for cleaner and safer waters for generations to come. We will reflect on our progressive endeavors over the past 56 years and showcase our plans to elevate our impact in the upcoming decade. Our goal is to share and assimilate invaluable insights from fellow Wisconsin lake associations. Attendees will leave feeling inspired and equipped to develop new partnerships and implement innovative strategies for their own lakes. *Presenters: Sarah Majerus, Stantec and Kevin Sofen, Elkhart Lake Improvement Association Board Member* (Innovative)
County Successes Over the Last 50 Years (Room: Evergreen/Frontier)	Two Presentations: Town Lakes Committees: Another Tool for Success Seepage Lakes in a Time of More Impactful Weather Phenoms: A Look at Mud, Fish, and Crystal Lakes in Dane County	**Town Lakes Committees: Another Tool for Success** Town Lakes Committees can be a tool for lake organizations to access town resources. Ted Ritter, former AIS coordinator with Vilas County Land & Water and currently a town supervisor, will share the value and use of Town Lakes Committees and how he worked with town boards and lake organizations in Vilas County to start up Town Lakes Committees. *Presenter: Ted Ritter, Vilas County* **Seepage Lakes in a Time of More Impactful Weather Phenoms: A Look at Mud, Fish, and Crystal Lakes in Dane County** How do you manage a seepage lake when it floods? This session will provide an overview of the challenges and management of three seepage lakes in Dane County through the years, from carp management to pumping to loss of property, and future solutions. *Presenters: Amy Piaget and Pete Jopke, Dane County Land and Water Resources Department* (Climate Change)

Aquatic Invasive Species (Room: Stonefield/Harvest)	Three Presentations: Controlling Purple Loosestrife in the St. Croix Watershed via Beetle-Raising Volunteers What About Density? Loosestrife Biocontrol Brainstorm Management of Aquatic Invasive Plants in Recreational Lakes Using Herbicide Treatments	**Controlling Purple Loosestrife in the St. Croix Watershed via Beetle-Raising Volunteers** In 2023, Wild Rivers Conservancy began their first year of the Purple Loosestrife Biocontrol Volunteer program, intended to recruit volunteers to raise Galerucella beetles to control invasive purple loosestrife in the St. Croix River watershed. During this session, attendees will learn how all the aspects of this project came together, including purple loosestrife monitoring, partner collaboration, and volunteer recruitment. With this knowledge, attendees will also learn how to develop their own volunteer-led invasive species management program. *Presenter: Maria Young, Wild Rivers Conservancy* (Diversity/Equity/Inclusion) **What About Density? Loosestrife Biocontrol Brainstorm** Wisconsin has been actively conducting biological control for reduction of Purple Loosestrife for more than three decades now! With that much effort to look back on, what should we be thinking about for the future? Water Resources Specialist Dara Fillmore will share her thoughts on some new ways to think about biocontrol after her five-year journey of beetle rearing in the North. Should we be considering plant density and population size as we determine how many biocontrol beetles to raise or release? When should we just dig or treat the plants instead of releasing beetles? Are the biocontrol weevils helping us out like the beetles do (and have you seen any)? How do we figure out beetle density within a loosestrife population? Dara will discuss these questions and ask for audience input, so bring your own biocontrol knowledge to this presentation! *Presenter: Dara Fillmore, WI Department of Natural Resources* **Management of Aquatic Invasive Plants in Recreational Lakes Using Herbicide Treatments** Curly-leaf pondweed (CLP) and Eurasian watermilfoil (EWM) are aquatic invasive plant species commonly found in lakes in the Upper Midwest. Eradication of CLP or EWM is unlikely once established in a lake, and management is often needed to reduce density for water quality and habitat improvements. Historically, CLP and EWM have been managed with herbicides or mechanical removal. We have found significant success with reducing density of CLP and EWM using herbicide treatments applied at a whole-lake or a partial-lake scale, depending on the density and distribution across the lake and presence of desirable native plants. This presentation will show pre- and post-herbicide treatment plant survey data to demonstrate success of treatment on CLP and EWM. We will also describe the pros and cons of commonly used herbicides, determination of treatment strategies and development of long-term vegetation management plans. *Presenters: Dendy Lofton and Katie Kemmitt, Stantec*
Legislative and Policy Updates (Room: Woodland/Trillium)	Yes, You Can Advocate! Tips, Tools, and Rules for Effective Clean Water Advocacy for Organizations	In this interactive session, we'll learn the dos, don'ts, and rules to help you confidently advocate for clean water protections. We'll start by explaining the rules, so you know what you can and cannot do. Then, we'll discuss effective advocacy strategies and help you develop a winning formula to make progress on your clean water policy goals. *Presenter: April Ingle, Advocacy Director, River Network*

Friday, April 12, 2024 | 2:15-4:00pm | Afternoon Workshops

Room	Title	Workshop Details
Expo 2	Swimmer's Itch: Finding Workable Solutions	The goal of this workshop is to identify a cohort of lake organization leaders willing to engage in research and collaboration on actions that can be taken to mitigate the incidents of swimmers itch in our lakes. Swimmer's itch (SI), also called cercarial dermatitis, is an allergic reaction to parasites found in some lakes. The parasites' preferred host is a specific waterfowl species; however, if a parasite comes into contact with a swimmer, it burrows into the skin causing an allergic reaction and rash. Previous contact with the parasites can lead to a more immediate and intense allergic reaction with subsequent exposures. Not all lakes have the habitat needed for the parasites to complete their life cycle; two necessary factors include a specific waterfowl/snail host combination. *Presenters: Sarah Sewall, MD, and Joe Fritsche, North and South Twin Lakes Protection and Rehabilitation District*
Spruce/Sands	Building a Boating Ordinance: From Conception to Enforcement	Local governments, including lake districts in some cases, may enact and enforce boating ordinances regulating certain types of activities. The process to create these local laws is not complicated, but does require some extra steps before passage. A municipality must also consider the enforceability of the ordinance, who is going to do the enforcing, and of course how is it going to be paid for? In this workshop, we'll cover the local boating ordinance process in Wisconsin from beginning to end. First, we'll look at who can pass an ordinance and the process to go about doing so (and how the DNR gets involved along the way) with help from an attorney and a citizen who has gone through the process himself. Then we'll clarify what DNR can enforce and when it needs to be left to local authorities. Finally, we'll talk about a grant program that might be able to help pay for it. *Presenters: Darren Kuhn, WI Department of Natural Resources, Richard Phillips, Last Wilderness Alliance, Bob Schell and Michael Engleson, Wisconsin Lakes; other presenters will be added as they are confirmed*
Evergreen/Frontier	Organizational Capacity Bootcamp: Resources to Boost Your Organization	Join us as we explore what organizational capacity means and how to know where to start increasing your organization's capacity. Staff from Extension Lakes, Wisconsin Lakes, the WI Department of Natural Resources, along with various lake organizations, will share tools and opportunities to increase the ability to get things done. We encourage you to attend with someone else from your organization (or better yet, bring a small team). *Presenters: Jen Jefferson, WI Department of Natural Resources, Sara Windjue and Eric Olson, Extension Lakes, UW-Stevens Point*
Stonefield/Harvest	Beyond the Basics: Macroinvertebrate Ecology and Identification	Whether you are pond peering or stream sampling, aquatic insects are the most diverse and dynamic freshwater organisms you will encounter in Wisconsin's lakes and rivers. After a brief overview of aquatic invertebrate ecology, a review of order-level identification, and a discussion of application to freshwater biomonitoring, we will explore the natural history and diversity of key aquatic insect groups relevant for managers, community science participants, and students. Interactive workshop will include a variety of aquatic invertebrate specimens. *Presenter: Jessica Orlofske, UW-Parkside*