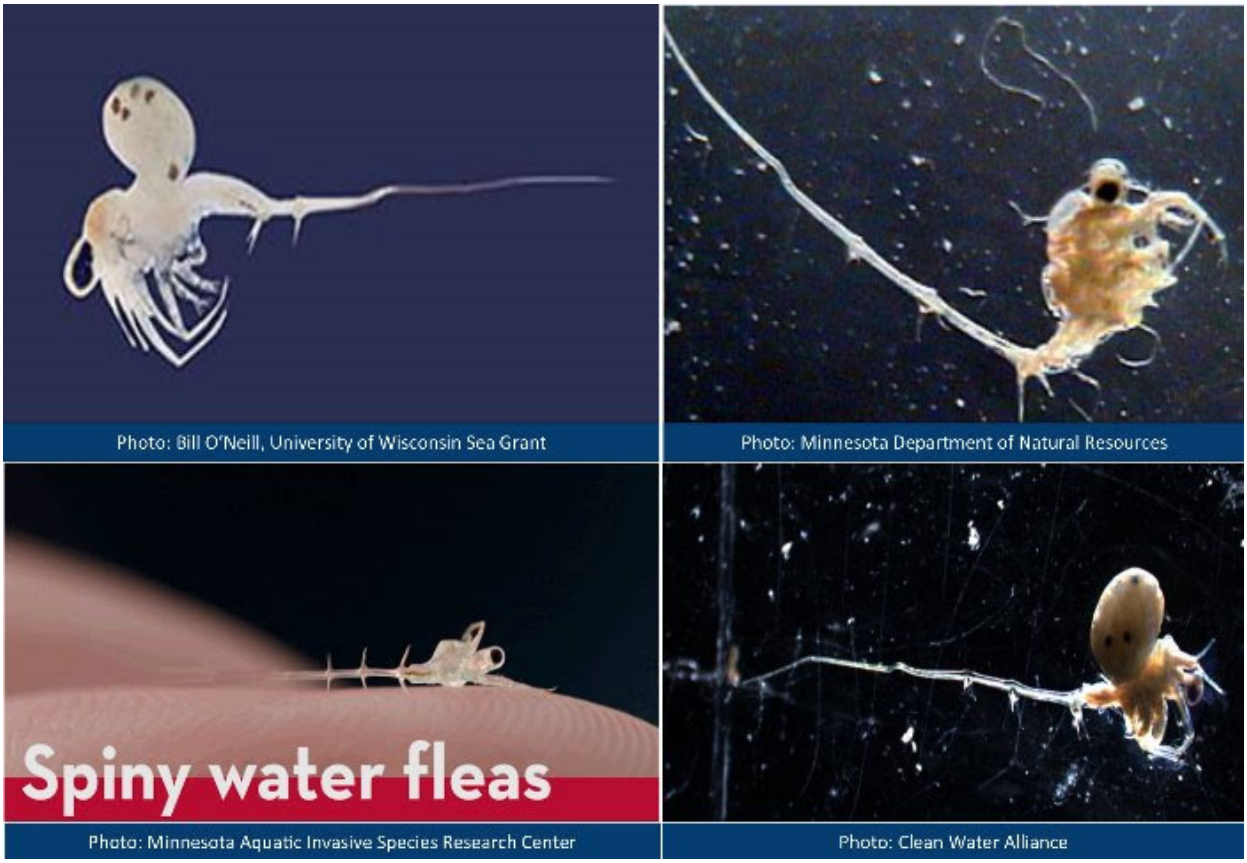
Michigan Waterfront Alliance (MWA) is a 501(c) 4 non-profit corporation formed over twenty years ago in order to effectively advocate for the creation or preservation of state laws, and/or policies designed to protect, preserve, and promote the sustainable and wise use of our state's immense treasure of high quality freshwater resources. Our primary mission will be accomplished by pro-active participation in Michigan's legislative process (lobbying), by participating in court cases whose outcomes may have significant statewide ramifications, and/or by direct involvement with natural resources management, or environment focused state agencies or departments.

facebook



Spreading Throughout the Great Lakes Region, Exotic Invasive Spiny Water Flea Represent a 'Clear and Present' Danger to Michigan's Inland Lakes

by Scott Brown

MWA Board Member

First observed in the waters of Lake Ontario in 1982, the exotic aquatic crustacean known as spiny water flea are a native of Europe and Asia that were first introduced to the freshwaters of North America via the discharge of contaminated ballast water emanating from a trans-oceanic cargo freighter that had entered the Laurentian Great Lakes through the St. Lawrence Seaway. Subsequently detected in Lake Huron in 1984, Lake Erie in 1985, Lake Michigan in 1986, and Lake Superior by 1987, spiny water flea began to appear in a steadily increasing number of inland lakes located throughout the region beginning in 1990. Large inland lakes in the region that now host abundant populations of spiny water flea include Lake George in upstate New York, Minnesota's Lake in the Woods, the Madison Chain of Lakes located in Wisconsin, and Lake Michigamme, one of Michigan's largest inland lakes, that is situated in the Upper Peninsula near Marquette.

Microscopic aquatic animals that are known as zooplankton, spiny water flea - scientific name *Bythotrephes longimanus,* are opaque in color, and are characterized by a single long tail that comprises 70% of their length that on average ranges from one-quarter inch (6 mm) to five-eighths inch (16 mm). The exotic invasive zooplankton species may also be identified by the presence of one to four barbs on their long tail, and by a head whose appearance is dominated by the presence of a large, single black eye.

Capable of exponential population growth, and of rapidly establishing sustainable populations in newly invaded lakes, spiny water fleas have evolved to utilize both asexual and sexual means of reproduction. In warm summer waters, each adult spiny water flea is capable of asexually cloning up to 10 new individuals in as little as two weeks. Responding to the cooler waters of mid-to-late fall, male and female spiny water flea reproduce sexually, and produce large quantities of large, robust eggs that settle in lake sediments where they overwinter until the following spring in a dormant state. Spiny water fleas that are cloned, and/or that are hatched from eggs in response to the arrival of warm waters are capable of reaching maturity, and of reproducing within one week of the time they are born. It is important to note that part of the extraordinary ability of the exotic crustacean to successfully spread from lake-to-lake is enabled by the fact that the eggs of the species that are often eaten by minnows that are later captured by fisherman for use as bait, and then transported via trailered watercraft to a new lake are capable of surviving passage through the minnow's gut, and of later hatching, representing the beginning of a new invasive population.

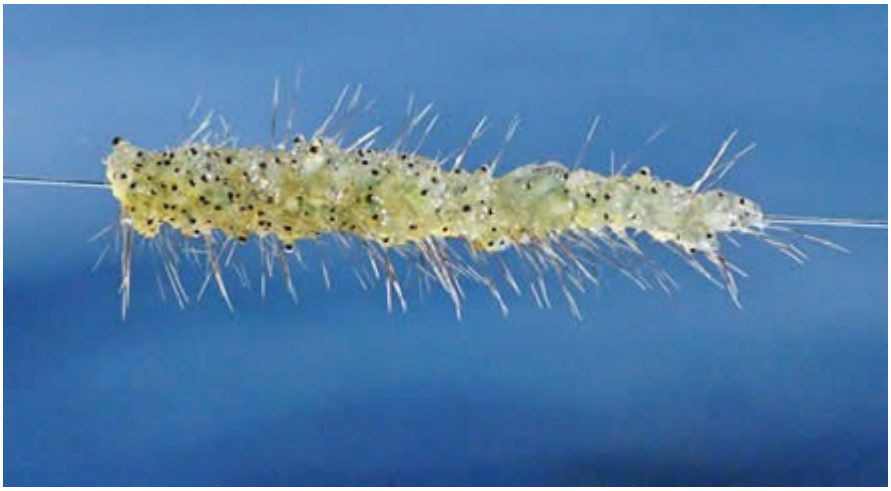
Preferring mesotrophic (moderately productive) and oligotrophic (low bio-productivity) inland lakes found in northern temperate regions of the earth, spiny water fleas regularly migrate from lower layers of the water column hosting deep, dark, dissolved oxygen starved waters to the well-lit, well oxygenated waters of the upper water column. Optimal water temperature for spiny water flea ranges from 14° - 23° C (57° - 73° F). Intolerant of water temperatures that exceed 26° C (78° F), temperature is known to play a major role in determining their sexual and asexual reproductive efficiency, and their overall abundance within in a given aquatic ecosystem. Preferring freshwater ecosystems, it is important to note that within their native geographic distribution range, spiny water flea are capable of tolerating the brackish water ecosystems that are often located near oceanic coastal areas.

The most significant ecological impact rendered by abundant populations of invasive spiny water flea are derived from the fact that the highly predatory

crustacean preys heavily upon native zooplankton, including *Daphnia*, that represent a critical food source for native fish populations in most northern temperate inland lakes. The aggressively foraging invasive zooplankton species is capable of adversely affecting the growth and survival of young fish such as bluegill and yellow perch by reducing or eliminating native zooplankton species that form the "ground floor" of the aquatic food chain in many northern temperate inland lakes. Research indicates that spiny water fleas are capable of consuming 1.5 to 5 times the quantity of native zooplankton than is consumed by juvenile yellow perch. This fact is particularly important in light of the fact that most native juvenile fish are incapable of preying upon the invasive zooplankton species due to their extraordinarily long, barbed tails.

Abundant invasive spiny water flea populations are also capable of dramatically affecting inland lake ecosystems by reducing or eliminating native populations of native zooplankton species such as *Daphnia magna,* that in addition to representing an important native food source for juvenile fish, are also known to make important contributions to helping sustain clear water by aggressively foraging upon, and controlling the density of water clarity depriving single cell green algae species knows as phytoplankton.

Transported to new inland lakes by the 95% of recreational fisherman who tow their watercraft from lake-to-lake, spiny water flea attach their long barbed spines to all types of surfaces – including fishing lines, nets, and anchor ropes—and unless boats, trailers, and fishing gear are thoroughly cleaned between each trip by their owner/operators, transient watercraft are capable of carrying exotic invasive spiny water fleas and their eggs between lakes, infecting one lake after another with a highly aggressive invasive species. Due to their relatively small size, spiny water fleas are often very difficult to discern on an individual basis, and are usually detected by the presence of clusters of thousands of spiny water flea that appear as a "bristly glob of jelly with black spots" on monofilament fishing line.



The significant ecological threat posed by the highly invasive zooplankton species is emphasized by the fact that they are capable of exponential population growth, and possess the capacity to irrevocably alter the aquatic ecosystems they invade, and to ultimately diminish the recreational and economic value of affected inland lakes. Based upon their ability to severely disrupt native aquatic ecosystems, and upon the fact that lake managers currently possess no viable means of eradicating, or of even controlling the abundance of the aggressive crustacean, spiny water flea represent one of the most significant biological invaders to have thus far entered the freshwater ecosystem inundated Great Lakes region.

In the case of steadily expanding abundant populations of the exotic invasive crustacean, the only viable means of limiting the ecological impact of the rapidly reproducing species is to attempt to curtail the number of aquatic ecosystems the species successfully invades by encouraging transient fisherman and recreational boaters to thoroughly "clean, drain, and dry" their watercraft, bait wells, fishing equipment, and trailers before towing their boat to a new lake.

For more information regarding the Michigan Clean Boats, Clean Waters program, visit https://www.canr.msu.edu/clean_boats_clean_waters/ .

>> We Need Your Help!!! <<

Why You Should Join Michigan Waterfront Alliance?

Do you care for your lake, river, or stream? Do you care enough to contact your state senator or representative about issues that affect your waterbody? Do you keep track of the bills that are important to your lake, river, or stream? The good news is that Michigan Waterfront Alliance (MWA) is doing this for you. MWA hires a lobbying firm to keep track of issues and bills which may affect Michigan's waterfronts, and remain in constant contact with senators and representatives. These lobbyists have relationships with those serving in our state legislature, willing to present bills that MWA would support to help protect Michigan's inland waterways, and help to defeat bills that may be detrimental to our waterways. There is an old saying that "you can't fight city hall." This may be true if you do not know how, but with the help of MWA's attorneys, MWA has the experts that know how to deal with legal issues. There have been laws interpreted incorrectly when it comes to our lakes, rivers, and streams. MWA, with its attorneys, has argued these cases when we believe the law has been misinterpreted.

While the MWA Board of Directors is made up of volunteers, it is expensive to hire lobbyists and attorneys. The Michigan Waterfront Alliance membership is

made up of individuals, lake associations, and corporations who care about Michigan's lakes, rivers, and streams. Would you like to be more involved? You can by becoming a member of Michigan Waterfront Alliance and by becoming an active partner in MWA. Membership in MWA is inexpensive:

We rely entirely on membership dues to fund the operating costs of our organization...

TO BECOME A MEMBER OF

MICHIGAN WATERFRONT ALLIANCE VISIT OUR

>>>>>> MEMBERSHIP PAGE <<<<<<

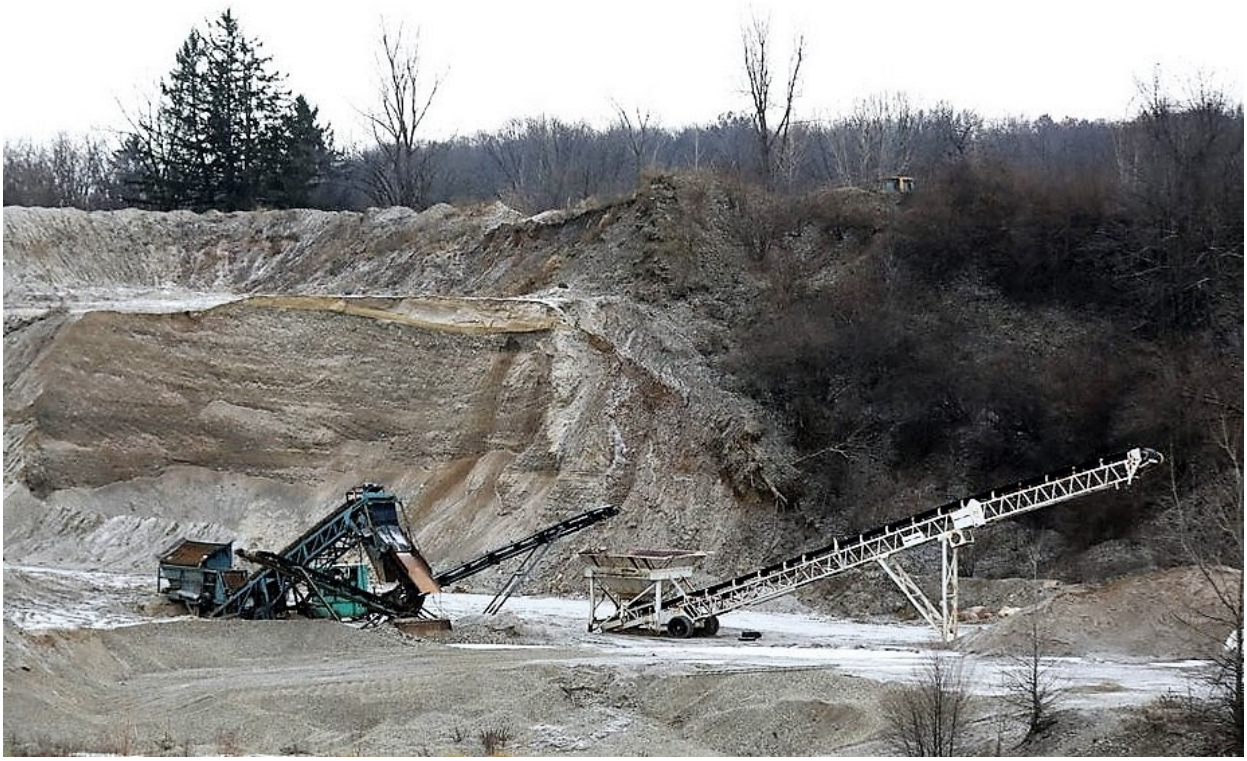
Annual Dues are:

$50 for an individual;

$100 for a lake association; and

$200 for a corporation

With support from individuals like you, lake associations, and corporations, we can continue to work together as a unified voice choosing to protect Michigan's water resources for future generations. Thank you for your consideration!!!



Proposed MI Senate Legislation Would Eliminate the Authority of Local Governments To Approve, and/or Regulate Sand and Gravel Mining Operations

Representing a renewal of an intensive effort that began in 2017, the Michigan Aggregates Association, in consortium with gravel and sand mine operators, and other interested business groups have launched a new push in Lansing to pass legislation that would make it much easier to open and operate a sand and gravel mine near residential communities. If passed into law, the language of Michigan Senate Bills 429, 430, and 431 would act to eliminate the authority of local governments to approve, and void the ability of local zoning officials to regulate mines in a manner that may help to minimize their negative impact upon the quality of life for residents living in surrounding communities. The proposed legislation would also act to move approval authority for aggregate mines from local governments to the Department of Environment, Great Lakes, and Energy (EGLE). It is important to note that language embedded in the package of bills would also effectively prohibit EGLE from denying a permit application based solely upon the potential for the proposed surface mining operation to have a

negative impact on the water quality of surrounding lakes, streams, wetlands, and/or of groundwater.

Those supporting the initiative, including highway construction contractors, and others currently involved in supporting a large number of projects focused on rebuilding and repairing Michigan's highways, roads, bridges, and dams argue that their pro-active support for the legislation stems from the fact that they often have to travel relatively long distances to acquire the large quantities of gravel and sand that are required to complete their work. Supporters of the legislation have also argued that the 325 gravel and sand mines currently operating in Michigan are unevenly distributed throughout the state making it difficult for them to efficiently meet the exceptionally high demand for aggregate on a timely basis.

Those opposing the initiative that is being sponsored by the Michigan Aggregates Association, and their allies within the highway construction industry argue that the legislation would effectively eliminate zoning authority and oversight capability from local governments, and allow sand and gravel mining operations to negatively impact local residents, public schools, businesses, and hospitals. It is important to note that several non-profit organizations, including the Michigan Association of Counties, the Michigan Township Association, the Michigan Municipal League, and the Michigan Association of Planning, and several environmental groups such as the Michigan Chapter of the Sierra Club, and the Metamora Land Preservation Alliance, for example, have joined forces to help ensure that the legislation is not passed into law. Opposition to the controversial legislation also stems from the reality that even though there is a high potential for surface mining operations to contaminate groundwater supplies, and to negatively affect the water quality of surrounding lakes, streams, and wetlands, the proposed legislation would forbid the Department of Environment, Great Lakes, and Energy from denying permit applications based solely on this fact.

Readers should "stay tuned" to future Michigan Waterfront Alliance newsletter updates for information regarding the status of the proposed legislation.

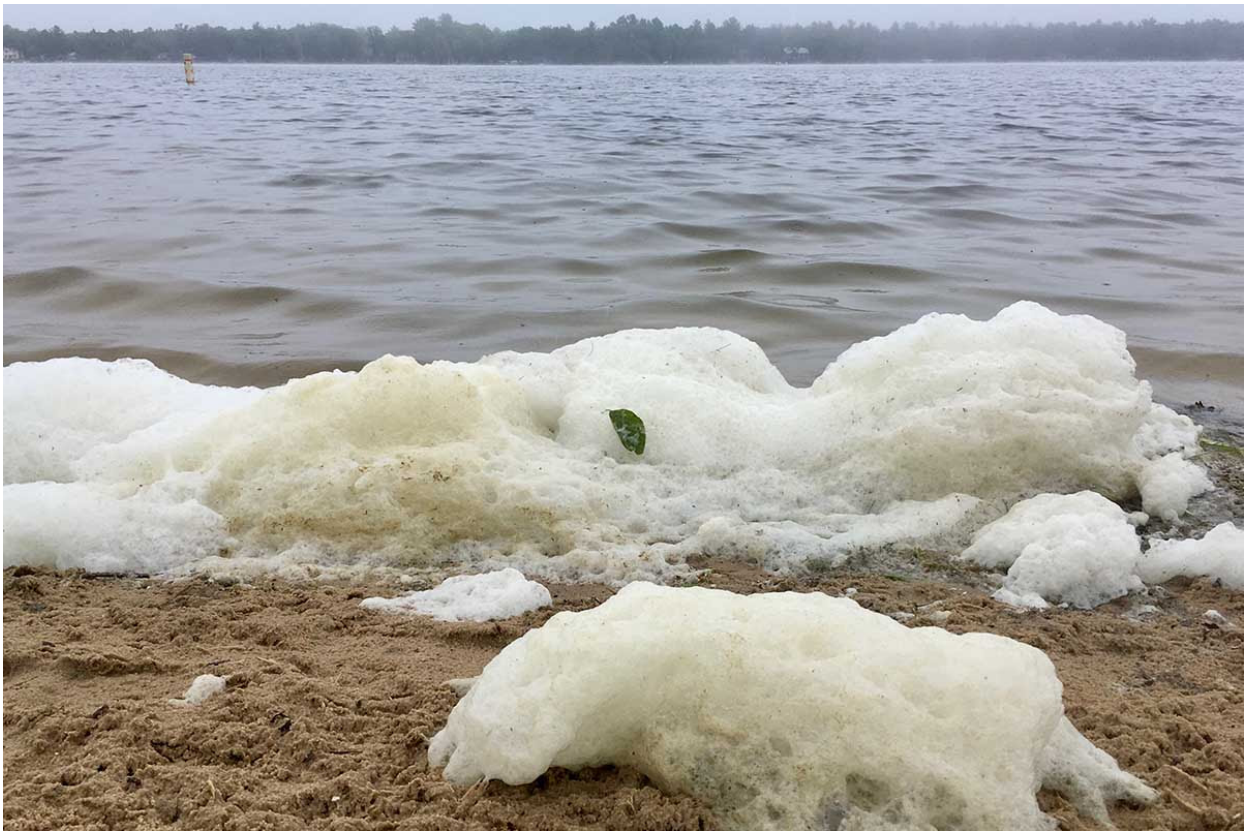


Photo Credit: Glen Lake Association

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

MDHHS recommends Michiganders avoid foam on lakes and rivers

FOR IMMEDIATE RELEASE

May 27, 2021

Contact: Lynn Sutfin, 517-241-2112

LANSING, Mich. - As the summer months approach, the Michigan Department of Health and Human Services (MDHHS) is issuing its annual recommendation that Michiganders should avoid contact with foam they may see on Michigan waterbodies such as lakes, rivers and streams.

The foam may have unknown chemicals or bacteria in them, so it is recommended to avoid contact. Foam can form on any waterbody, but foam on some waterbodies may have high levels of per- and polyfluoroalkyl substances (PFAS). PFAS-containing foam tends to be bright white in color, is often

lightweight and may pile up like shaving cream on shorelines or blow onto beaches.

Naturally occurring foam without PFAS tends to pile up in bays, eddies or at river barriers such as dams. Naturally occurring foam is typically off-white and/or brown in color and often has an earthy or fishy scent.

If contact with foam is made, care should be taken to rinse or wash it off as soon as possible, particularly if PFAS contamination is suspected in the waterbody. The longer that foam remains on the skin, the greater the chance of accidentally swallowing the foam or the foam residue left behind.

"Although current science shows that the risk of PFAS getting into your system from contact with skin is low, you can minimize exposure to PFAS by rinsing or showering after you are done with your recreational activities," said Dr. Joneigh Khaldun, chief medical executive and chief deputy for health at MDHHS. "In general, washing hands and rinsing off after recreating will help to protect people from chemicals and bacteria that may be in waterbodies."

PFAS are emerging contaminants, and the state is working to identify all waterbodies that have been affected. Health advisories have been issued for specific waterbodies where PFAS-containing foam has been found in the past. These specific advisories can be found in the "PFAS Foam on Lakes and Streams" section of Michigan.gov/PFASResponse, under "Testing." MDHHS continues to evaluate surface water and foam data as it is available and will issue future advisories as needed.

MDHHS' recommendation to avoid foam on waterbodies is for people of all ages, including young children. An MDHHS evaluation suggests young children could have PFAS exposure that may increase their risk of negative health effects if they have repeated contact with foam containing high amounts of PFAS for a few hours a day throughout the recreational season. Contact with surface water, including swimming or other recreational activities in waterbodies containing PFAS is not a health concern. PFAS-containing foams typically have a much greater concentration of chemicals than what is found in the water itself.

The Michigan Department of Agriculture and Rural Development also recommends that people do not allow their animals - especially dogs - to come into contact with or swallow the foam. Dogs and other animals are at risk of swallowing foam that has accumulated in their fur when grooming themselves. All animals should be thoroughly rinsed off and bathed with fresh water after

coming into contact with PFAS-containing foam. Pet owners with questions related to their animals and foam ingestion should contact their veterinarian.

More information on PFAS-containing foam can be found under the "PFAS Foam" section at Michigan.gov/PFASResponse. If you have questions about exposures to PFAS and/or foam, call the MDHHS Environmental Health hotline at 800-648-6942.

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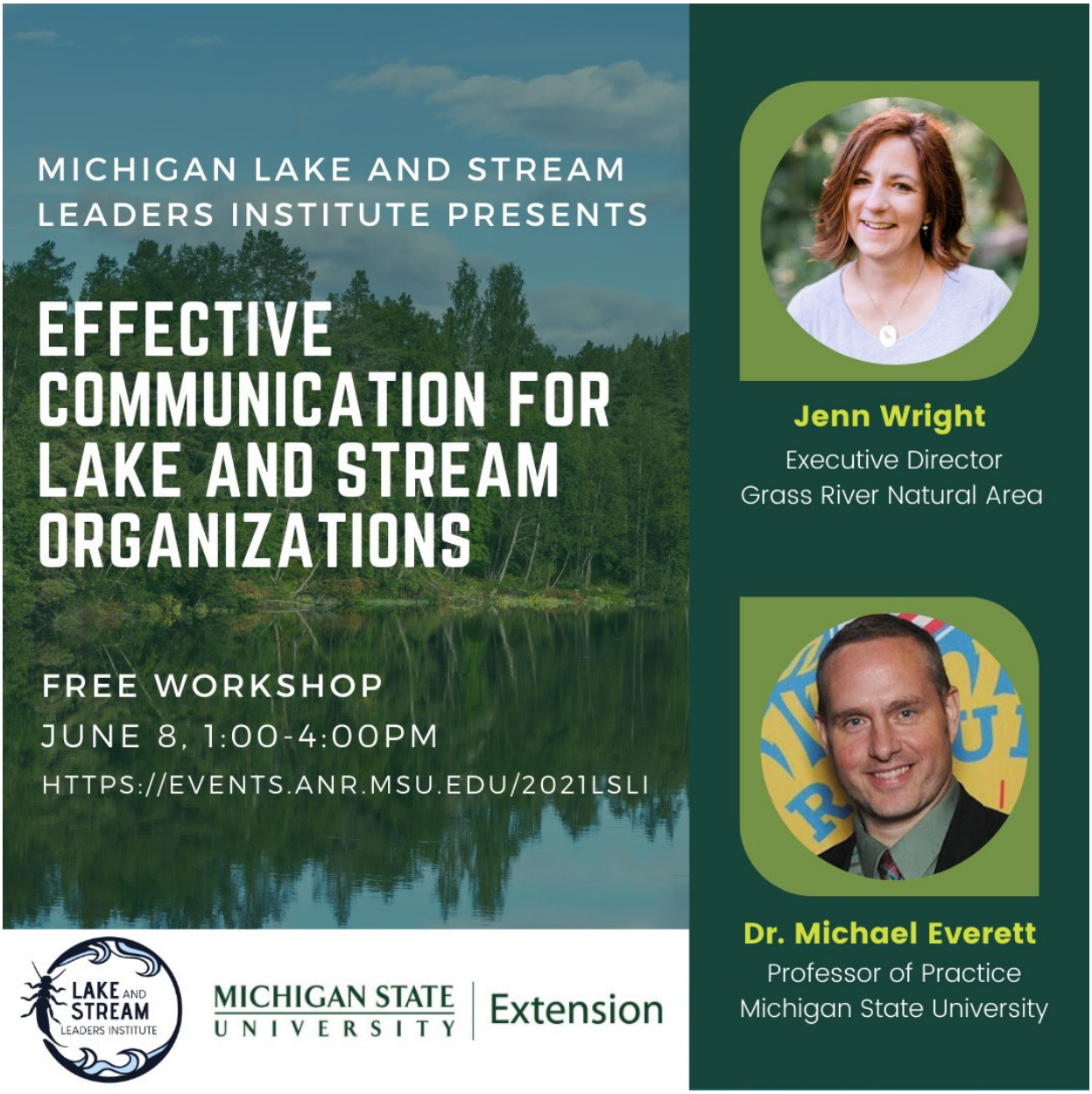

Effective Communication for Lake and Stream Organizations

Tuesday, June 8, 2021 1:00 - 4:00 PM EST Online (Zoom)

In this free, interactive online workshop, we will explore effective communication techniques for advancing lake and stream stewardship and conservation. We'll look at both external communication (how we talk about water resources and our work with outside audiences) and internal communication (how organizations share and discuss goals and values internally). You'll leave with ideas, tools, and inspiration on how to improve communication for your organization. We will be joined by two experts in organizational success for natural resource organizations: Dr. Michael Everett, faculty member in the Department of Community Sustainability at Michigan State University, and Jenn Wright, Executive Director of the Grass River Natural Area in Bellaire, Michigan.

This workshop is presented by the Michigan Lake and Stream Leaders Institute, a leadership development program benefiting Michigan's lakes, streams, and watersheds. The Michigan Lake and Stream Leaders Institute is a cooperative effort of Michigan State University Extension, the MSU Department of Fisheries and Wildlife, the Michigan Lakes and Streams Association, and the Michigan Department of Environment, Great Lakes, and Energy.

Register here: https://events.anr.msu.edu/2021LSLI/

Starry Stonewort COLLABORATIVE

Summer Webinar #2

Next up in our Webinar Series on June 10th at 10:00 AM is Don Fisher from the Little York Lake Preservation Society. Don, along with the Preservation Society, helps manage the Little York Lake in the Finger Lakes region of New York. The title of his presentation is: A lake association's experiences in controlling starry stonewort with algaecide.

He will be discussing his organization's experiences with starry stonewort, and their efforts to manage it. Alongside variable leaf milfoil, starry stonewort has become a nuisance species in their lake, prompting them to begin algaecide

treatments in 2020.This year they intend to expand their treatment to better manage the issue.

Register to attend this webinar by clicking here...

Our Other Upcoming Webinars

July 14, 2021 @ 10:00 AM - Dr. Douglas Pullman, Aquest Corporation

Topic: Researching and applying control methods for starry stonewort.

Click here to register for the July 14, 2021 webinar.

To visit the Starry Stonewort Collaborative website, click here

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Invasive species pose a threat to Michigan's environment, economy, and sometimes even human health. What is at stake? What is being done? This webinar series will explore how agencies, universities and locally led organizations are working together to protect Michigan's natural resources through the Michigan Invasive Species Program. If you are concerned about the impacts of invasive species or interested in the techniques used to control them, join us as we examine species-specific actions, innovations in research and technology, and programs designed to help communities prevent and manage harmful invasive species. A question and answer period will follow each presentation.

Upcoming Webinars in the Series

June 24, 2021, 9:00 a.m. to 10:00 a.m.

Big, hungry fish: What's being done to prevent invasive bighead, silver and black carp from entering the Great Lakes

Silver carp jumping into boats. Fishing nets full of bighead carp. Could this be the fate of the Great Lakes? Currently, there is no evidence of any live bighead, silver, or black carp, commonly called Asian carp, in the Great Lakes. Michigan continues to play an active role in regional collaboration to protect the Great Lakes from this potential invasion. DNR Senior Water Policy Advisor Tammy Newcomb will explain the threat posed by these invasive fish, current monitoring and surveillance programs, and Michigan's partnership with Illinois and the U.S. Army Corps of Engineers to provide a long-term solution to protect the Great Lakes.

July 27, 2021, 9:00 a.m. to 10:00 a.m.

Hey! What's that in your backyard? An introduction to Michigan's Cooperative Invasive Species Management Areas

Wouldn't it be great if there were a local resource you could go to for help with invasive species on your property? Spoiler alert: there is! Michigan is home to 22 Cooperative Invasive Species Management Areas, or CISMAs, that are on the front line for prevention, detection, and control of invasive infestations. Katie Grzesiak, Nick Cassel, and Fallon Chabala, representatives from the Michigan Invasive Species Coalition, will discuss what a CISMA is, how they can help with management of invasives on your property, and the benefits of partnering with your local CISMA.

Michigan Inland Lakes Partnership

Michigan Waterfront Alliance is a proud member of the Michigan Inland Lakes Partnership

A Collaborative Partnership Dedicated to Protecting Michigan's Vast Heritage of High Quality Inland Lakes

The Michigan Inland Lakes Partnership (MILP) is made up of a broad range of organizations and agencies that have a common interest - protecting inland lakes. Explore this site to learn more about Michigan's lakes, the organizations involved with the Partnership, and how you can be a part of the effort. You can also follow us on Facebook and Twitter!

Michigan has more than 11,000 inland lakes. Most are high quality resources highly valued by society for recreation and as places to live. These cultural demands place significant stresses upon these ecosystems, often resulting in undesirable changes. How can these lakes be strategically managed to minimize undesirable changes and protect them for this and future generations?

The purpose of the Michigan Inland Lakes Partnership (Partnership) is to engage state and local agencies, Native American Nations, outreach institutions (universities and other educational institutions), non-governmental organizations (NGOs), businesses, industries and citizens in a collaborative effort to ensure the quality, sustainability and ecological diversity of lakes, while considering society's needs. The Partnership will promote communication and cooperation between partners, communities and citizens interested in the management of Michigan's inland lakes, educating leaders, and strengthening stewardship efforts.

The MILP Coordinating Council is the decision-making body of the Partnership. The Council sets the goals of the Partnership, and all Council Partners have a vote in the activities and policies of the Partnership. The Council currently meets four times per year. Coordinating Council member organizations are listed alphabetically below. Clicking on an organization name will take you to that organization's website.

To learn more about the Michigan Inland Lakes Partnership, and its ensemble of inland lake protection focused collaborative organizations, click here

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MICHIGAN WATERFRONT ALLIANCE

Join Michigan Waterfront Alliance!

- **Are you tired of funding the management of aquatic invasive species on your lake that were introduced by recreational boaters using the local MI Department of Natural Resources public boating access site?**
- **Are you just a bit angry that recreational boaters using your lake are not being asked to contribute their fair share to combat the negative influences of aquatic invasive species?**
- **Are you worried about the fact that your lakefront residential property values are being negatively**

influenced by the steadily increasing presence of aquatic invasive species?

- **Are you concerned about the fact that it is nearly impossible to find an inland lake in Michigan that does not currently host one or more potentially harmful aquatic invasive species?**
- **Are you aware of the fact that inland lakes are Michigan's most valuable natural resource, and that our state legislature has thus far appropriated almost nothing in the way of budget resources to help ensure they remain healthy and viable?**

If your answer is yes to any of these important questions, please help ensure that your voice is heard in Lansing by joining Michigan Waterfront Alliance today.

Click here to Join MWA

Visit the Michigan Waterfront Alliance Web Site by Clicking Here

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