



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.



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USEPA Survey Reaffirms that an Extraordinarily Abundant Exotic Invasive Quagga Mussel Population Continues to Dominate Lake Michigan's Aquatic Ecosystem

Scientists Estimate that Lake Michigan Alone Hosts 300 Trillion Quagga Mussels

Reporting that quagga mussels continue to be “major drivers and stressors” within the lake’s aquatic ecosystem, aquatic scientists assigned to the United States Environmental Protection Agency’s (USEPA) 180-foot *Lake Guardian* research vessel who recently completed their once every five-year survey of Lake Michigan have concluded that although the overall population of the exotic invasive mussels appears to have leveled off, the highly adaptive, rapidly reproducing member of the *Dreissena* mussel family is in fact becoming larger, and has colonized deeper areas of the lake’s basin.

Enabled by the capacity to attach themselves to hard surfaces ranging from water intake pipes to the hulls of century old shipwrecks as well as to sand, and other types of soft sediment, the filter feeding mussel, a native of the waters of Eastern Europe, now occupies more than one half of Lake Michigan’s 22, 406 square mile basin. According to scientists working aboard the USEPA Great Lakes research vessel, the recently completed survey of the lake’s basin reaffirms that highly

disruptive exotic invasive quagga mussels (scientific name: *Dreissena bugensis*) have become the dominant factor in Lake Michigan' aquatic ecosystem.

First discovered in the Laurentian Great Lakes region in Lake St. Clair in 1988, quagga mussels represent one of two species of *Dreissena* mussels, the other being the now widespread zebra mussel (*Dreissena polymorpha*), that each entered the region via the ballast water discharges of trans-oceanic freighters navigating into the region through the St. Lawrence Seaway. Since their initial discovery over thirty years ago, quagga mussels have spread rapidly throughout Great Lakes and Mississippi River Basin states, and several other watersheds located throughout the eastern, central, and western United States, including the Colorado River, and Lake Mead, located in Nevada and Arizona. Both quagga and zebra mussels are capable of being introduced to other water bodies via microscopic larvae that are easily transported in ballast water, bilges, live wells, and other on-board equipment that holds water.

Although quagga mussels are capable of tolerating salinities of up to five parts per thousand, they have evolved to prefer the calcium carbonate rich freshwaters found in all of the Laurentian Great Lakes except Lake Superior. Unlike zebra mussels that prefer water temperatures ranging from 68° to 77° F (20° to 25° C), quagga mussels have evolved to prefer significantly cooler water temperatures ranging from 59° to 68° F (15° to 20° C). It is also known that water temperatures of 82° F (28°C), or greater begin to produce high mortality rates in quagga mussels. In contrast to zebra mussels that are more likely to be found thriving in near shore shallow water areas hosting relatively high water temperatures, quagga mussels are more likely to be found occupying off shore areas of the basin hosting water depths of up to 500 feet (152 meters), and inherently colder water temperatures.

Although the long term ecological effects of trillions of quagga mussels feeding upon the microscopic aquatic plants and animals that form the basis of the food chain in most lakes and rivers are not yet well understood, scientists working aboard the R/V Lake Guardian are concerned that an astronomical population of filter feeding quagga mussels are in fact gradually depleting a once abundant aquatic food chain that has a long history of supporting a robust Laurentian Great Lakes fishing industry. Moreover, the economic cost of managing the steadily escalating harmful influences of an extraordinary abundant population of exotic invasive *Dreissena* mussels in the Great Lakes region alone is \$500 million per year. Exotic invasive *Dreissena* mussels reduce the operational efficiency of power and waste water treatment plants by clogging water intake pipes, and are having an increasing negative influence upon the Great Lakes region's lucrative recreational boating and sport fishing industries by completely covering docks, breakwalls,

buoys, boats, and beaches. Littering beaches with millions of sharp edge shells, removing dead mussels from public beaches has also become a significant expense for municipal governments.



The R/V Lake Guardian

The Research Vessel (R/V) Lake Guardian is the largest research vessel in the U.S. EPA fleet, and the largest research vessel operating on the Great Lakes. The R/V Lake Guardian is owned by the USEPA Great Lakes National Program Office (GLNPO). The R/V Lake Guardian assists GLNPO in monitoring and reporting on the status and trends of the Great Lakes ecosystem. Annual surveys that sample water and biological life at designated locations in all five Great Lakes (Superior, Michigan, Huron, Erie and Ontario) are conducted by the R/V Lake Guardian.



Contact: [Joanne Foreman](#), 517-284-5814

NotMISpecies webinars offer help for backyard invasive species problems and more

Register now for upcoming sessions

New sessions in the [NotMISpecies webinar series](#) will offer an abundance of information, resources and field experiences to help identify and manage invasive species in Michigan.

Supported by Michigan's Invasive Species Program, the regular, hourlong webinars are designed to keep participants informed of available programs, current research and emerging issues in the state and the Great Lakes region. Question and answer sessions and links to resources help attendees get the most out of each presentation.

To register for these upcoming events, click on the title of each session below to go to the registration page.

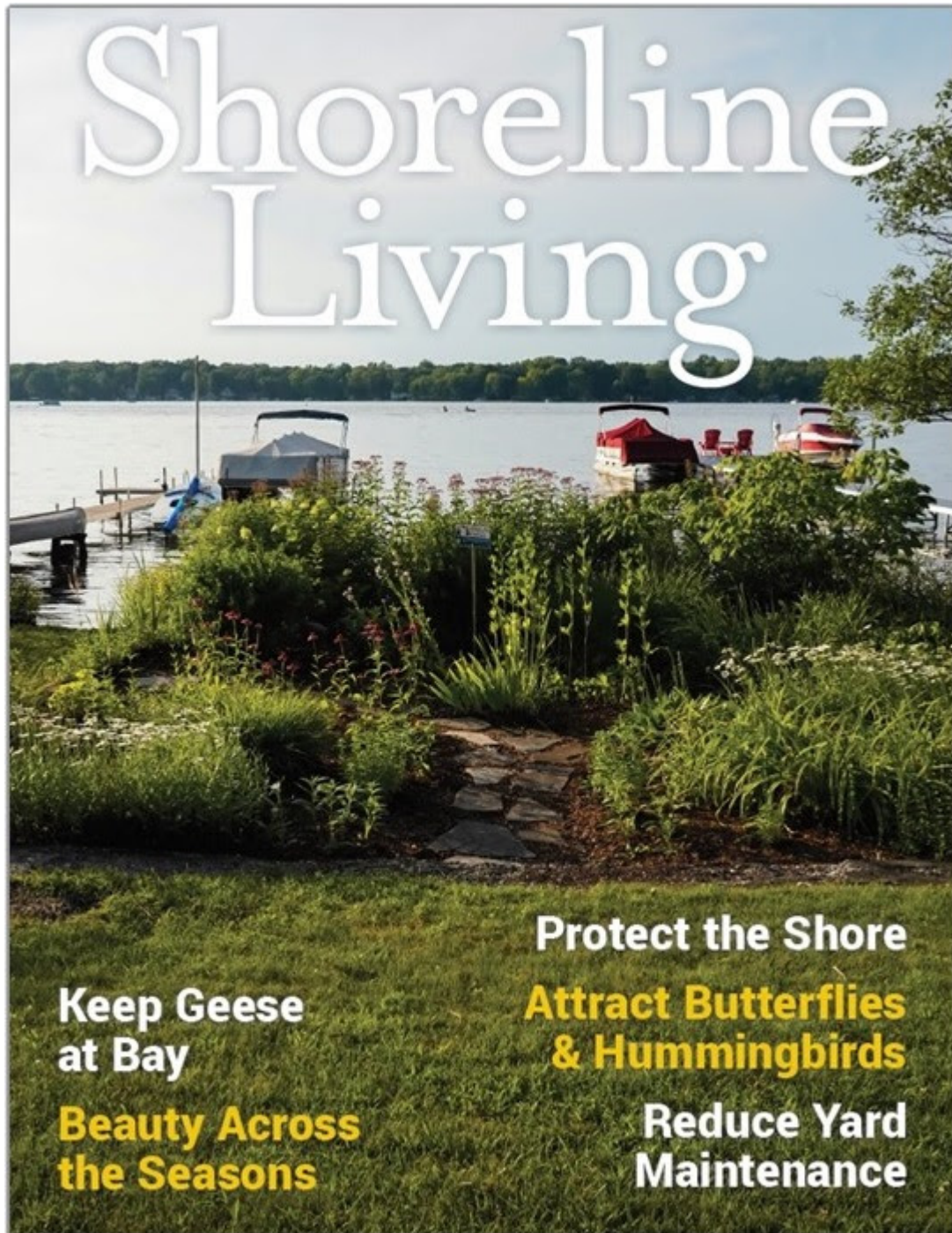
[“Fowl play”](#) (9 a.m. Wednesday, Sept. 15) explores the work of protecting Michigan’s managed waterfowl hunt areas from the threat of invasive species. DNR wildlife biologists Jeremiah Heise from Nayanquing Point State Wildlife Area and Zach Cooley from Pointe Mouillee State Game Area share their experiences and techniques for managing and restoring Michigan’s Wetland Wonders to provide prime habitat for waterfowl viewing and hunting.

Thursday, Oct. 21, at 9 a.m., [“Just do it!”](#) offers an invitation to learn about invasive species management by volunteering for a state park stewardship workday. DNR natural resource stewards Kelsey Dillon and Emily Leslie will share information about the program and its focus on special habitat areas in need of protection. Learn how you can get involved in preserving your favorite places for future generations.

If you are new to the series, it’s easy to catch up on topics including collaborative efforts in invasive carp management, early detection and response for aquatic invasive species, and the threat posed by spotted lanternfly. Recorded versions of all previous [NotMISpecies webinars](#) are available at [Michigan.gov/EGLEEvents](#) under “Featured Webinar Series.”

Michigan’s Invasive Species Program, a collaborative effort of the departments of Natural Resources; Environment, Great Lakes, and Energy; and Agriculture and Rural Development, coordinates and supports invasive species initiatives across

the state and provides support through the [Michigan Invasive Species Grant Program](#).



Receive a Free Copy of the Michigan Glacial Lakes Partnership's Shoreline Living document

Do you want to promote natural shorelines on your lake or in your area? Consider requesting copies of the Midwest Glacial Lakes Partnership's (MGLP) Shoreline Living document to assist you in your efforts. This colorful publication is the perfect conversation starter for encouraging best shoreline management practices to reduce erosion, improve water quality, and conserve fish habitat!

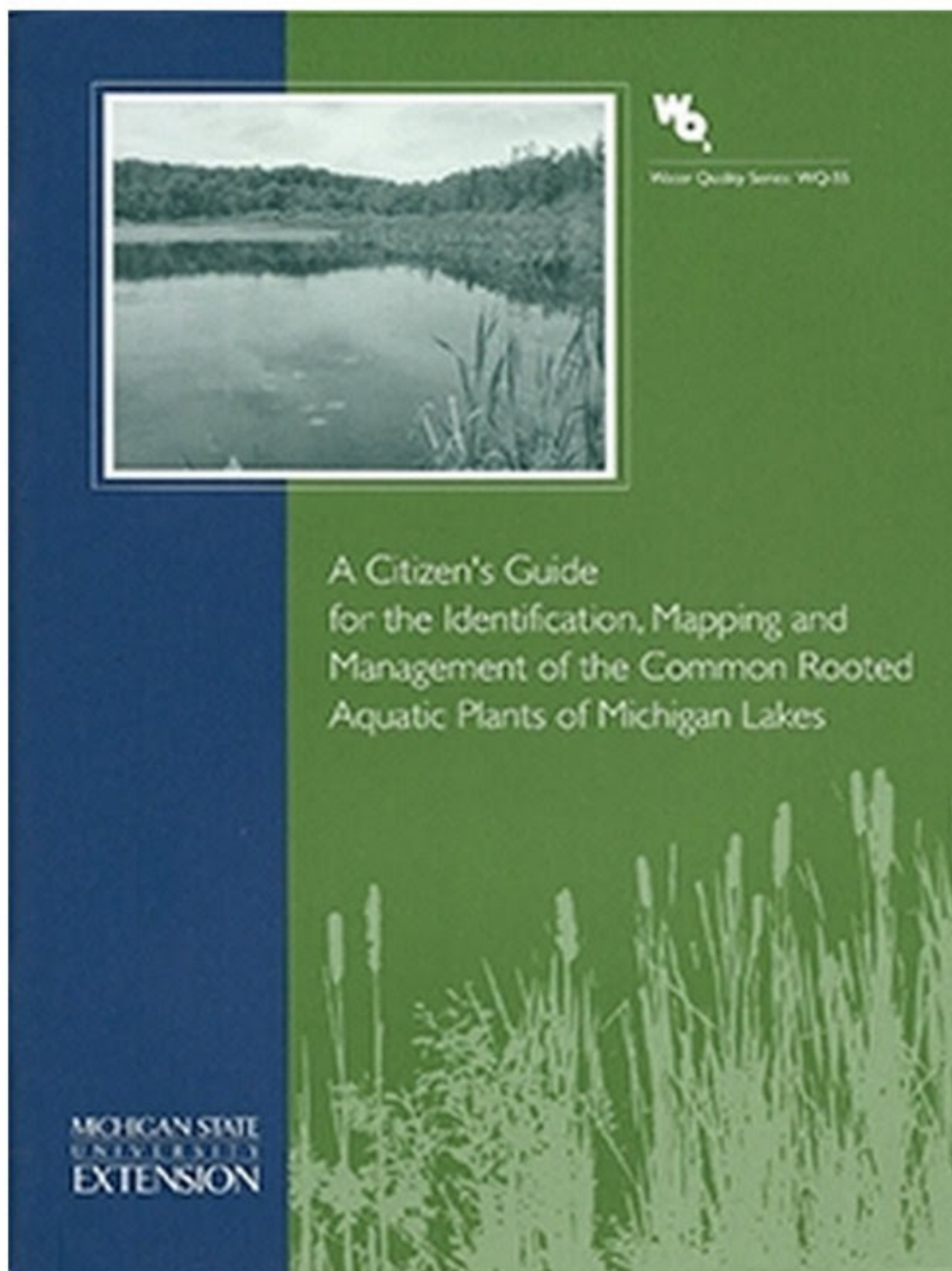
For a limited time, the MGLP is shipping out free boxes of Shoreline Living in bulk. If you or your organization would like to receive copies, please place your request using this form by September 10, 2021. We've received grant funding to distribute over 18,000 copies across the Upper Midwest, so don't be shy in your request!



In Response to Your Lakefront Neighbor Who Incessantly Complains about "Those Damn Weeds": Politely Remind Them that Lakes Hosting Abundant and Diverse Aquatic Plant Communities Enjoy Better Water Quality, Clarity, Fishing, and Higher Residential Property Values

- Native aquatic plants contribute to inland lake water clarity by helping to promote bottom sediment stability, and therefore minimizing the capacity of otherwise easily resuspended sediments to degrade water clarity in response to wind, waves, and boat traffic;
- Aquatic plants effectively store growth stimulating nutrients in their shoots, roots, and rhizoids that would otherwise be available to support water clarity degrading phytoplankton growth;
- Diverse aquatic plant communities provide an effective refuge for zooplankton that feed on phytoplankton, and provide a critical food base for fish;
- Dense aquatic plant communities provide juvenile fish abundant, complex habitat for foraging, and protection against predation by larger fish;
- The shade and cooler water temperatures enabled by floating leaf aquatic plants provide fish, and other aquatic animals a well oxygenated escape from surface water temperatures that peak in mid-to-late summer;
- Inland lakes that are incapable of supporting abundant, diverse aquatic plant communities often suffer from poor water quality, clarity, and often host fish that are considered undesirable...





For more information about aquatic plants, and how they benefit our inland lake ecosystems, download the Michigan State University Extension Publication entitled

Guide for the Identification, Mapping and Management of Aquatic Plants of Michigan (WQ55)

by [clicking here...](#)



>> 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!!!





Webinar – Keith Gray, Integrated Lake Management

August 17, 2021, 10:00 AM ET - Keith Gray, Integrated Lake Management (ILM) Topic – Keith will share his research and new technologies in the world of Diver Assisted Suction Harvesting (DASH) as a tool to combat starry stonewort and other aquatic invasive species infestations. Please register in advance for this meeting:

<https://hws.zoom.us/meeting/register/tJYrfuqvqj8iGtQwKtvGHe33K8QYVM6t79Xs3Y>

Find out more »



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](#)



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

[Unsubscribe](#)

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