Michigan Waterfront Alliance Update for Thursday, December 15, 2022
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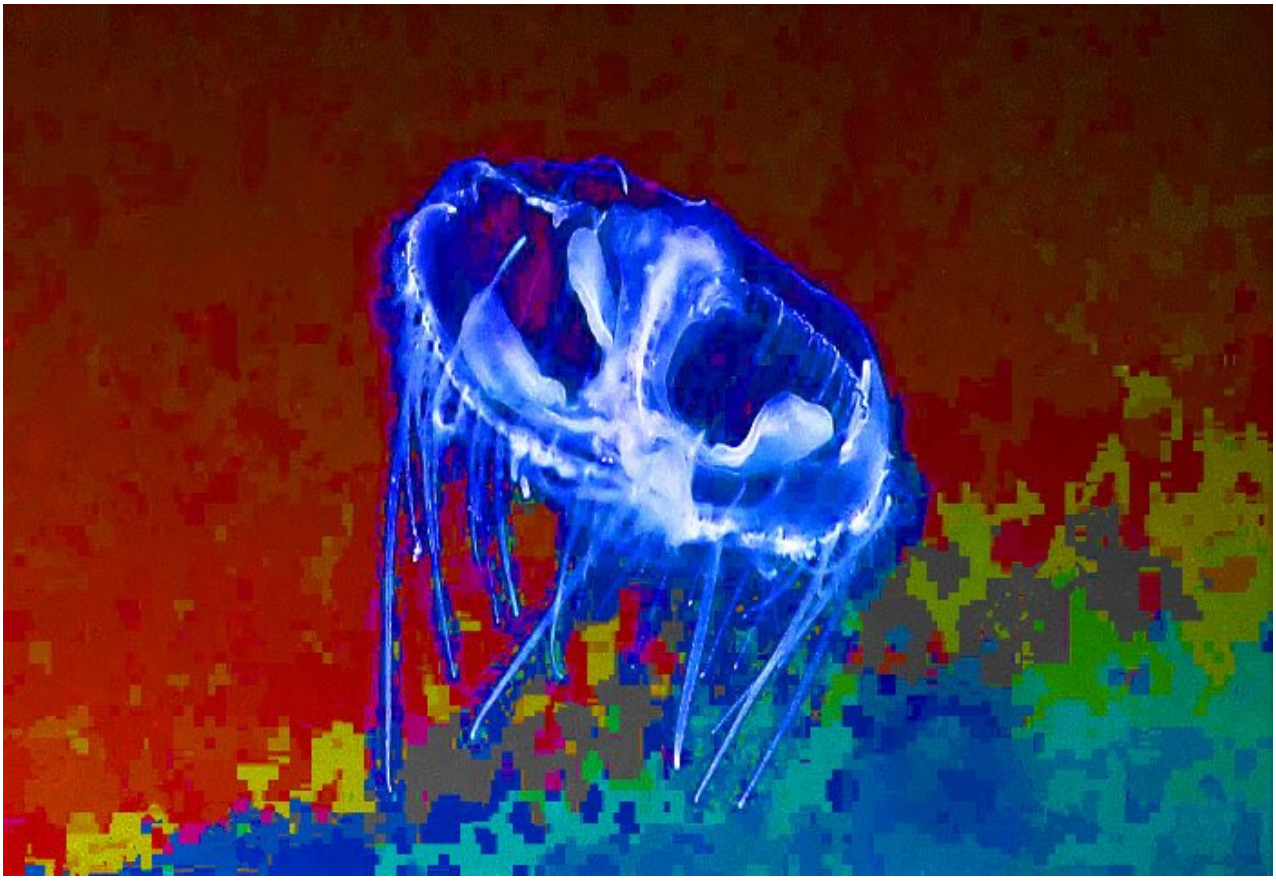


Photo by Scott Brown

Welcome to the Michigan Waterfront Alliance Update for Thursday, December 15th, 2022

MICHIGAN WATERFRONT ALLIANCE

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.

Elegant, and a Bit Exotic, The Only Sporadically Occurring

C. sowerbii Adds A Bit of Mystery and Delight to Michigan's Waters

Story and Photos by Scott Brown

(Editor's Note: We are pleased to re-run this freshwater jellyfish focused article in response to several e-mails we have received from our readers over the course of the past few months regarding exotic "peach blossom fish". As many of our readers know, if present in your particular lake, exotic freshwater jellyfish are most likely to appear in late August or early September in response to the onset of peak summer water temperatures.)

Evoking expressions of surprise and delight, the initial experience of observing an only sporadically occurring swarm of ancient undulating freshwater jellyfish gracefully propelling themselves through the late summer warm waters of one of our wonderful inland lakes always seems to be a joyful one. Commonly referred to as "peach blossom fish" in their native China, words such as exotic, elegant,

fascinating, graceful, and mysterious are often used by authors to aptly describe the ethereal freshwater jellyfish species known as *Craspedacusta sowerbii* that occasionally appears in the inland lakes and ponds of the Laurentian Great Lakes region.

A native of China's Upper Yangtze River basin, the exponentially increasing pace of international trade that has occurred over the course of the past century has inadvertently led to the fact that *C. sowerbii* has now been observed on every continent on earth except Antarctica, and has become the most widely distributed freshwater jellyfish on earth. *C. sowerbii* and the nineteen other species of freshwater jellyfish are classified as hydrozoans, a class of small colonial or solitary predatory animals that are related to sea anemones and corals. Catalogued in England by naturalists in the 1880's, *C. sowerbii* was first observed in Michigan waters in the 1930's. *C. sowerbii* belongs to the Cnidaria, a diverse phylum of hydrozoans that contains over 11,000 marine and freshwater species whose exotic physical appearance is primarily defined by an umbrella-like radial symmetry.

Representing an extremely delicate and highly elastic gelatinous creature that is intolerant of intense wave action and fast-moving waters, the freshwater jellyfish species known as *C. sowerbii* that inhabits the waters of our inland lakes is most often observed floating or gracefully swimming near the surface in ponds, reservoirs, quarries, the slow-moving backwaters of rivers, and quiet wind-sheltered areas of inland lakes. Lacking a brain, heart, respiratory system, skeleton, and even blood, the relatively simple, delicate anatomy of *C. sowerbii* is comprised of a translucent bell-shaped outer layer known as the epidermis; a middle layer consisting of a thick, highly elastic, grayish-blue in color gelatinous substance that is referred to as the mesoglea; and, representing a simple digestive system that acts as both a stomach and intestine with just one opening that serves as both mouth and anus, an inner layer that is referred to as the gastrodermis which includes a crude stomach-like structure that is referred to as the manubrium. Circulation of nutrients within the ancient organism is facilitated by the existence of four radial canals that originate along the edges of the manubrium.

Freshwater jellyfish are known to possess a sense of smell, are able to detect light, and are capable of sensing and responding to near-by stimuli such as motion due to the existence of an elementary network of nerve cells that are widely distributed throughout their gelatinous body. The rim of their translucent bell-shaped epidermis is adorned with up to 400 relatively long tentacles that each possess thousands specialized cells called cnidocytes that are deployed by the organism to capture and pass prey consisting of tiny zooplankton to the opening of their gastrodermis. Drifting in the water column with its tentacles fully extended, jellyfish waits for suitable prey such as a tiny daphnia to come into contact with a tentacle. Once contact is made, nematocyst cells within the tentacle fire into the prey, injecting a tiny quantity of a powerful toxin that acts to paralyzes the animal, with the tentacle then acting to secure the prey by wrapping itself around the immobilized animal. It is important to note that stings by small freshwater jellyfish such as *C. sowerbii* produce only minor pain and often go unnoticed by swimmers due the miniscule amount of toxin that is injected as a result of contact with a tentacle. Mature *C.*

sowerbii **are capable of growing to a diameter of approximately three quarters of an inch, responding to the detection of stimuli such as near-by motion, however, the highly elastic gelatinous species is capable of instantaneously expanding its translucent epidermis to three times its normal diameter.**

Beginning life as a tiny polyp attached to aquatic vegetation, rocks, or coarse woody debris, *C. sowerbii* and other species within the Cnidaria phylum possess a complex life cycle that allows them to expeditiously take advantage of the return of environmental conditions that are favorable to their survival and sustainability. In rare populations of *C. sowerbii* that possess both female and male individuals, the species is capable of achieving sustainability by alternating with each generation between reproducing sexually, with free floating sperm cells fertilizing eggs, and reproducing asexually by cloning themselves. Freshwater jellyfish are dimorphic, depending upon conditions, such as water temperature, the amount of light penetrating the surface, and/or food availability, freshwater jellyfish such as *C. sowerbii* are known to alternate between a polyp phase, a larval phase, and a relatively brief life in late summer as a sexually mature free-swimming male or female hydro-medusa. Freshwater jellyfish such as *C. sowerbii* are known to spend much more time in existence as microscopic podocysts, frustules (larvae produced asexually by budding), planulae (larvae produced sexually by mature male and female hydromedusae), or as sessile polyps that attach themselves to stable submerged surfaces such as coarse woody debris and rocks. It is important to note that the vast majority of *C. sowerbii* colonies are comprised of all-male or all-female individuals, therefore rendering the species almost completely dependent upon asexual reproductive processes for long-term survival.

Intolerant of the cold-water temperatures that are present in northern temperate waters in late fall, winter, spring, and early summer, the most abundant colonies of mature hydro-medusa phase *C. sowerbii* are observed as late summer water temperatures reach their maximum in August and September. Most often observed floating or swimming near the surface on bright sunny days, the mature hydro-medusa phase of *C. sowerbii* comes to an end with the gradual emergence of cold-water temperatures. During the winter months when northern temperate water bodies are frozen over, *C. sowerbii* contracts and enters a long period of dormancy as resting bodies called podocysts. Once environmental conditions become favorable, they again enter the polyp phase that with the gradual emergence of warm water that occurs in late summer or early fall leads to the formation of a mature hydro-medusa.

Register today for the Environmental Emergency Preparedness and Response Webinar Series

Large-scale environmental incidents and emergency events such as fires, floods, dam failures, and oil spills can and do occur in Michigan and have the potential to cause devastating impacts to human health and the environment. However, the damage caused by these disasters can be mitigated with proper preparedness and response. This webinar series is focused on helping business, industry, government, and the spill response community understand the complexities of preparing for and responding to large-scale environmental incidents and will provide an understanding of the various associated roles, responsibilities, regulations, and response technologies. A question-and-answer period will follow each presentation. Recordings of each webinar will be available on the Series webpage.

Upcoming Webinar in the Series

Thursday, December 15th, 1:00 - 2:00 PM

To register for this on-line event, click on the link below:

> U.S. EPA and EGLE: Partners in Environmental Emergency Response <

As the primary state and federal agencies tasked with environmental protection and environmental emergency response, the Michigan Department of Environment, Great Lakes, and Energy (EGLE) and the U.S. Environmental Protection Agency (EPA) often work in tandem and collaborate with other agencies in response to large scale emergency events. This presentation will describe how EGLE and U.S. EPA work together in response to environmental emergencies and will provide several real-world examples of how this is accomplished. An introduction of EGLE and U.S. EPA response staff will also be part of the presentation.

PROGRAM QUESTIONS:

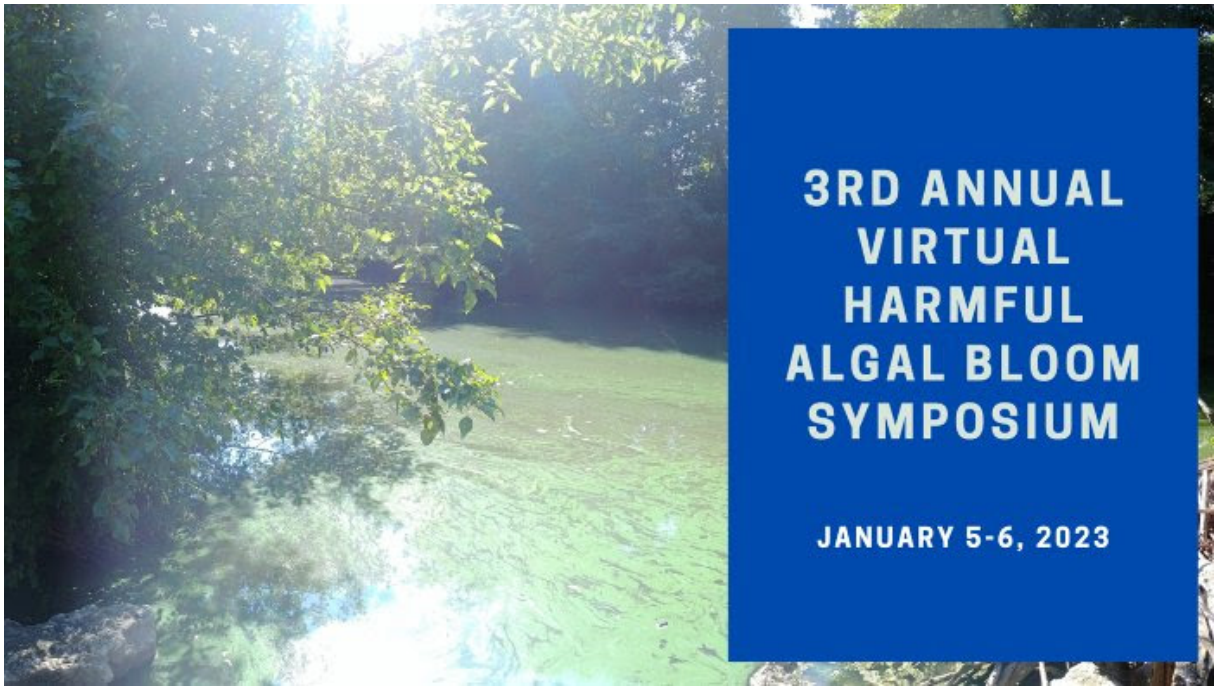
Ryan Blazic: BlazicR@Michigan.gov

REGISTRATION QUESTIONS:

Alana Berthold: BertholdA@Michigan.gov

Joel Roseberry: RoseberryJ@Michigan.gov

Photo by Scott Brown



The Algal Bloom Action Team's popular Harmful Algal Bloom Research Symposium will return for it's third year this on Thursday and Friday, January 5 & 6, 2023.

The symposium is free and will be held entirely virtually. Tune in to hear the latest harmful algal bloom research, discuss examples of effective bloom management, and learn about the latest technologies being used to tackle this global issue.

Register for this event by clicking here

The Algal Bloom Action Team is a collaboration of water professionals, researchers, and educators from the national network of Water Resources Research Institutes, the

North Central Region Water Network, and Cooperative Extensions from the 12 states in the North Central Region of the United States. More information at northcentralwater.org/habs/.

Learn about Michigan's inland lakes online from MSU Extension

Registration for the award-winning Michigan State University Extension Introduction to Lakes Online course is now open! This six-week online course kicks-off January 10th and is designed for anyone interested in inland lakes, including concerned citizens, decision makers, local leaders, resource professionals, and lakefront property owners. Course topics include lake ecology, watershed management, shoreline protection, aquatic plants, Michigan water law, and community engagement.

These topics are explored via video lectures, interactive activities, and discussion forums. Additional resources are also provided for those looking to dive deeper into a topic. Participants communicate with each other and instructors through lively discussion forums and biweekly Ask-an-Expert webinars.

Registration is open now through January 8, 2023. The cost of the course is $115 per person. Register by December 19, 2022 for an early bird price of $95 per person.

A certificate of completion is awarded to those who complete the course. Participants can also receive 16 Michigan Department of Agriculture and Rural Development Pesticide Applicator Re-Certification credits and credits in the MSU Extension Master Citizen Planner, Master Gardener, and Master Naturalist programs.

Click here to learn more about Michigan State University Extension Introduction to Lakes On-line

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Virtual Lake Learning Opportunities

January 10 - March 8: Introduction to Lakes Online. (*6-week online course about inland lake ecology, management, and protection*.) Host: Michigan State University Extension. More details. $

April 24-28, 2023: 13th National Monitoring Conference. (*hybrid conference with limited virtual format*) Host: National Water Quality Monitoring Council. More details. $

We have been thrilled seeing all the great final projects from the 2022 Clean Boats, Clean Waters grant season come in! Our groups this year have completed projects ranging from educational boat tours to installing several decontamination tool signs at boat launches. While our final report is still wrapping up, we are ecstatic to see the final impact numbers as well as the new applications for next year's grantee cohort!

As a reminder, applications for the 2023 grant season are due by December 16th.

Photo by Friends of the Rouge

Michigan Clean Boats, Clean Waters Grants

Clean Boats, Clean Waters grants supply up to $3,000 to organizations communicating aquatic invasive species prevention information through outreach materials and in-person educational events to boaters. This funding opportunity is competitive, and applications will be subject to a review process and ranked based on program eligibility, project significance, and overall strategy. Examples of previous grant funded projects can be found at the bottom of this webpage.

Applicants are highly encouraged to partner with other conservation organizations and to conduct boater outreach on a regional scale. Organizations qualified for the Michigan Invasive Species Grant Program (MISGP) (e.g., CISMAs) should pursue MISGP funds to perform boater outreach activities. CISMAs can provide support to organizations in their area that are applying for this funding.

CBCW is a joint effort between Michigan State University Extension and the Michigan Department of Environment, Great Lakes, and Energy (EGLE). Funding for CBCW and this grant opportunity is provided by a short-term grant through the Great Lakes Restoration Initiative in partnership with EGLE.

2023 Grant Opportunity

The grant application period is now open. Applications will be accepted until > Friday, December 16, 2022 <

Applicants will be informed by March 2023 of grant award.

Eligible organizations

- **Local or tribal units of government**
- **Lake associations/watershed protection groups**
- **Non-profit 501(c)(3) organizations**

Funding amount

- **The grant request amount should range from $1,000 to $3,000 per grantee.**
- **There is no match or cost sharing requirement.**
- **Funds will be distributed via a one-time reimbursement of eligible expenses.**
- **Any budget or project changes after a grant has been awarded must be approved in writing.**

Required grant activities

Grantees must complete all of the following activities:

- **Grantee agrees to host a minimum of three outreach events with CBCW approved outreach materials.**
- **Grantee and/or volunteers will review required CBCW training materials (approximately 1 hour of educational instruction).**
- **Grantee and/or volunteers will collect and report data on the number of people contacted, volunteer hours (if applicable), number of outreach materials distributed, and latitude/longitude of locations (minimum of waterbody name, county, and township) for all events and signage.**
- **Grantee will submit one narrative report of all grant funded activities and expenditures to MSU Extension. A template will be provided to assist with narrative report creation.**
- **The narrative report must contain a minimum of five photos of products and/or outreach conducted. Narrative report is due October 31, 2023, or at the time of reimbursement request.**
- **Grantee will submit all receipts/invoices for reimbursement by October 31, 2023. MSU Extension will not issue payment to the grantee until all receipts have been submitted. One-time payment will be issued within 60 days of receiving receipts and report of grantee activities.**

For more information regarding MI Clean Boats, Clean Waters Aquatic Invasive Species Grants, click here

Click here to download the 2023 MI Invasive Species Grant Program application.

Note: The grant application will download as a Microsoft Word file. If you have accessibility issues, please contact Kelsey Bockelman at bockelm4@msu.edu

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www.mishorelinepartnership.org

To learn more about the mission, goals, and lakefront homeowner education focused programs of the inland lakes stewardship dedicated non-profit organization known as the Michigan Natural Shoreline Partnership, click here

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Photo by Scott Brown

Michigan Clean Water Corps

Greetings MiCorps!

We're pleased to announce that the recordings from the 2022 MiCorps Volunteer Lake and Stream Monitoring Conference are now available at:

https://micorps.net/events/2022-annual-micorps-conference/

Because we had to switch to Zoom due to inclement weather, we were able to record all sessions and make them available to you.

The sessions include:

- **Welcome and MiCorps Program Updates**
- **Awards, Volunteer Recognition, and Grantee Presentation**
- **An Introduction to Freshwater Mussels**
- **Local Use of MiCorps Volunteer Monitoring Data (panel discussion)**
- **Stream Macroinvertebrate Identification**
- **Lake Data Interpretation: Total Phosphorus, Exotic Aquatic Plant Watch, and Dissolved Oxygen/Temperature**
- **Volunteer Monitoring to Protect Michigan Waters: Benefits, Strategies, and Opportunities**

ATTENTION READERS!!!

In order to add your friends, neighbors, and/or fellow lake or watershed conservation focused association

member e-mails to our growing list of water resource conservation minded people who would like to receive this Michigan freshwater resources focused twice monthly newsletter, contact Editor Scott Brown at scottb1952@gmail.com

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MICHIGAN WATERFRONT ALLIANCE

>> 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!!!

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