

# Aquatic Invasive Species Update Washington & Waukesha Counties



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[Washington County Website](#)

[Waukesha County Website](#)

## Invasive Mussel Collaborative

Invasive Zebra & Quagga mussels have caused significant ecological and economic impacts across North America since first appearing in the Great Lakes region in the 1980s. Due to the increasing spread of these invasive mussels throughout the continent, the need for effective control and management has also increased.

The Invasive Mussel Collaborative, an international group consisting of 36 different federal, state, provincial and tribal agencies, non-government groups, research institutions, and private industries, aims to "produce measurable ecologic and economic benefits through advancement of scientifically sound technologies designed to control invasive Zebra and Quagga mussels".

The Invasive Mussel Collaborative's website offers several excellent tools for the general public as well as fellow researchers and invasive species managers. These include the [Dreissena Project Coordination Mapper](#), which maps out research and applied control projects across North America.

The screenshot shows the 'Dreissena Project Coordination Mapper' interface. At the top left is the 'Invasive Mussel Collaborative' logo. The main title is 'Dreissena Project Coordination Mapper' with a 'How to Use' button. Below the title is a search bar with the placeholder 'Find address or place'. To the right of the search bar are two tabs: 'Research Projects' (selected) and 'Applied Control Projects'. A 'How to Filter' dropdown menu is also present. The central part of the interface is a map of North America with numerous brown and blue dots representing project locations. A legend at the bottom left of the map indicates that brown dots represent 'Research project' and blue dots represent 'Applied control project/response'. Below the map are two buttons: '+ Research Project' and '+ Applied Control Project'. On the right side, there is a list of project entries, each with a logo, a title, and a 'Details' button with a right-pointing arrow. The projects listed are: 'Furthering Restoration Via A New Approach To Invasive Mussel Control' (Watershed Council), 'NOAA Great Lakes Mussel Watch Program' (NCCOS), 'Wisconsin Department of Natural Resources Boat, Gear, and Equipment' (DNR), 'Utah "STD" of the Sea Outreach Program' (Utah DNR), 'Estimating Economic Impact of Invasive Mussel Establishment in the Northwestern' (Northwest Power and Conservation Council), 'Field Prevention Protocols in Minnesota' (Department of Natural Resources), 'Lake Champlain Boat Steward Program' (NE IW PCC), 'New York State Watercraft Inspection Steward Program' (Sea Grant New York), 'Lake George Aquatic Invasive Species Prevention Plan and Boat Inspection' (Lake George Park Commission), and 'Michigan State University Mobile Boat Wash Program' (Michigan State).

Another tool on the IMC website is the [Dreissena Toxicity Testing Methods library](#). This tool features a collection of recent and historic invasive mussel control research papers which the viewer is able to sort by date, life stage (adult or veliger), control agent, non-target species, etc. These research papers cover laboratory settings as well as open water projects.

Show  entriesSearch: 

Authors	Date	Title	Life stage	Control agent	Response measure	Nontarget species	Journal
Addis, Caroline	2016	<a href="#">Development Of A Dreissena Bioassay To Assess The Toxicity Of Contaminants Across Two Life History Stages</a>	Adult, Pre-settlement	3 surfactant mixtures (Chemgaurd first class, Phoschek first response, Phoschek WD881)	Mortality	NA	Wayne State University
Afanasyev, Sergey; Shcherbak; Pavel; Gusak; Stanley; Ross; Julia; Gromova	2015	<a href="#">Technology for Eliminating Dreissena Biofouling in Hydrofacilities</a>	Adult	High pressure, high temp water jet pulse	Oxygen consumption, Growth	NA	Water Quality Research Journal of Canada

For more information, visit the Invasive Mussel Collaborative's website at <https://invasivemusselcollaborative.net/>

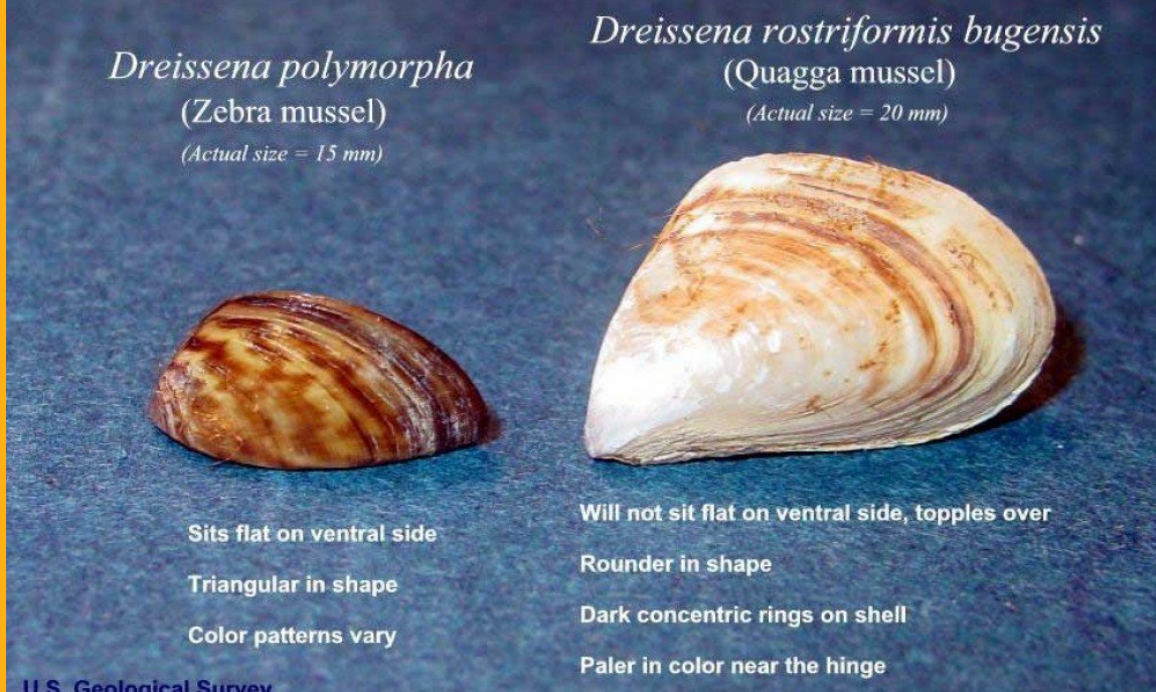
## Zebra Mussel vs Quagga Mussel: What's the Difference?

### Similarities

Both invasive Zebra & Quagga mussels negatively impact aquatic ecosystems by filter-feeding on native phytoplankton. The drastic reduction in phytoplankton greatly reduces primary productivity and contributes to basin-wide population crashes of species which are fundamental to the food web. The removal of phytoplankton can also lead to increased water clarity, which increases the risk of toxic algal blooms.

Dense colonies of both Zebra & Quagga mussels can clog water intake pipes, reducing pumping capacity and causing economic impacts to industries as well as the communities they serve.

Recreation can be impacted by dense shells littering beaches and water access points. These shells can also be considerably sharp, cutting hands and feet that come into contact with them.



## Differences

**Morphological:** The main difference between Zebra and Quagga mussels is in their morphology (pictured above). Zebra mussels have a flat bottom that allows them to lay flat against surfaces. Quaggas have a rounded bottom and do not lay flat. Zebra mussels also tend to be smaller (although the size range can vary in both species depending on age) with dark brown zig-zag lines across the shell. Quaggas can be larger and are mostly white in color with brown banding around the shell.

**Substrates:** Zebra mussels tend to be limited to harder surfaces such as rocks, docks, and aquatic plants. Quagga mussels can colonize hard surfaces as well as softer surfaces such as sandy lake bottoms. Zebra mussels tend to be successful in lake and riverine systems while Quaggas prefer lakes.

**Temperature:** Zebra mussels' optimal temperature for reproduction is 14-16°C while Quagga mussels' optimal temperature is around 9°C. This difference gives Quagga mussels an advantage in the Great Lakes as they are able to survive in deeper, cooler waters, as well as reproduce more often throughout the year (including winter months).

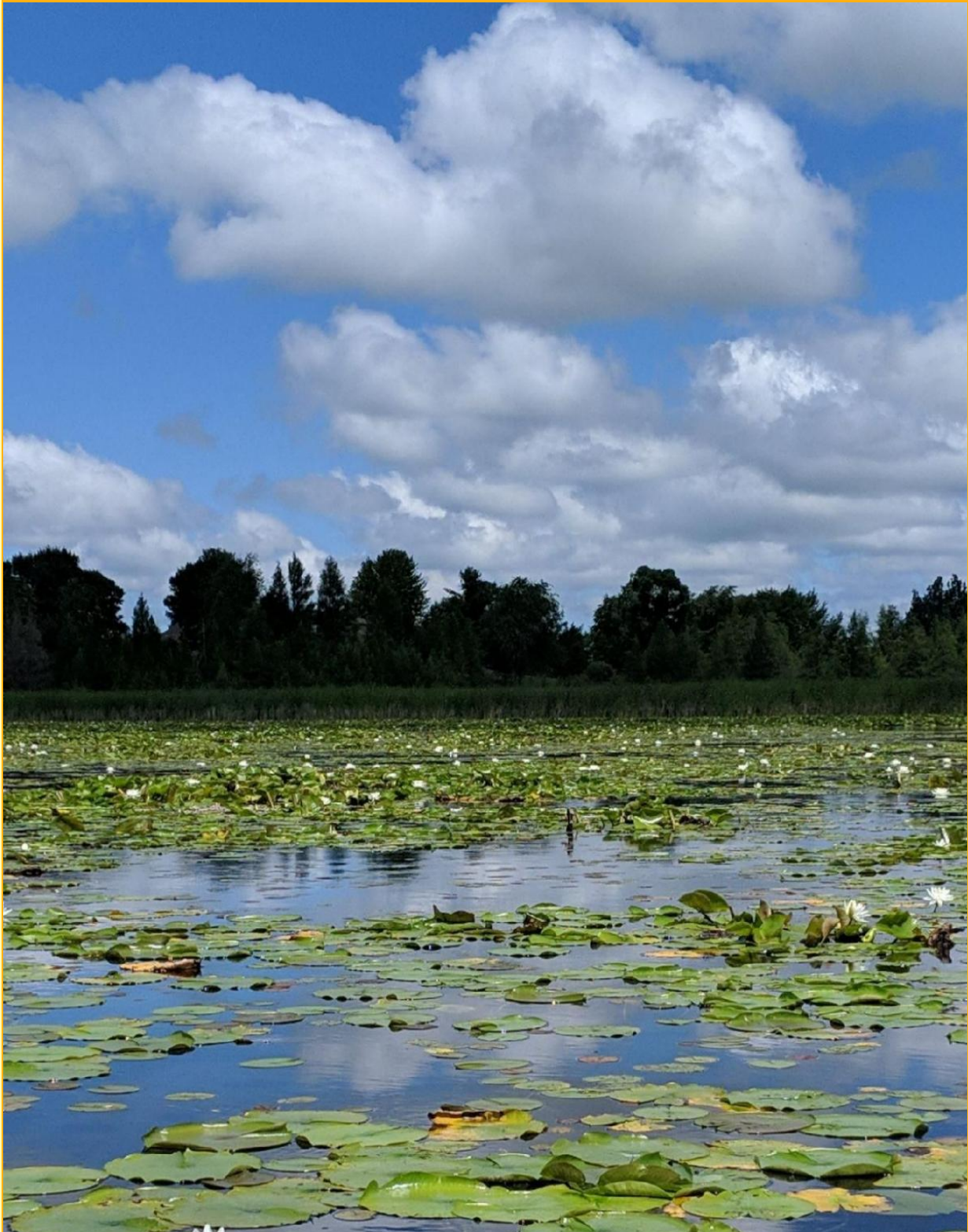
Quagga Mussels are **not known to be present** on inland lakes in Wisconsin. If you think you have found a Quagga Mussel, please [contact Amanda Schmitz](#) for further identification.

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Remember to practice these steps to prevent the spread of exotic mussels and other aquatic invasive species:

- **Inspect** boats, trailers, and equipment

- **Remove** all attached aquatic plants, animals, and mud
- **Drain** all water from boats, vehicles, and equipment
- **Never move** plants or live fish away from a water body





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*The Aquatic Invasive Species Program is a cooperative effort between Washington & Waukesha Counties, supported by grant funds from Wisconsin Department of Natural Resources and a number of generous local lake groups working to control the spread of AIS. Thank you for your support!*

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