Aquatic Invasive Species and our Northern Michigan Waterways

**PURPLE LOOSESTRIFE**

Purple loosestrife has gained a strong foothold in many North American wetlands, rivers, and lakes, including many in Northern Michigan. Purple loosestrife can be identified by its purple flowers which bloom from June to September. Purple loosestrife threatens native species by crowding them out and competing for water and sunlight. Thick stands of loosestrife block access to water, replace native plants, and destroy the habitats of the animals and insects that depend on native species for food and shelter. *Glycerum* beetles, a natural predator of purple loosestrife that feed on the loosestrife plant, have been effective at reducing its ability to reproduce and spread.

**EURASIAN WATERMILFOIL (EWM)**

Although first documented in the United States in the 1940s, EWM did not reach Michigan waters until the 1960s. EWM is a non-native species that tends to proliferate in lakes where introduced, causing ecosystem disruptions and creating a recreational nuisance. EWM is a feathery submerged plant that quickly forms into thick mats in shallow areas of lakes and rivers. Fortunately, a safe biological treatment method is available that entails stocking large numbers of aquatic weevils that preferentially feed upon EWM. The weevil is native to Michigan lakes and will not disrupt the ecosystem.

**QUAGGA MUSSELS**

Quagga mussels, a cousin of the infamous zebra mussel, are now the dominant invasive mussels in the Great Lakes. While zebras primarily live in warm, shallow water, the quagga also lives in deep, cold water, as well as everything in between. Whereas the zebra can only colonize on hard surfaces, the quagga has the ability to colonize on both hard and soft substrates including sand, silt, and pebbles. Additionally, quagga mussels feed all year round, even in the winter when its cousin the zebra mussel is dormant. Just like the zebra mussel, quagga mussels easily attach to boats and trailers and their microscopic larvae can be unintentionally transported in the live wells or the bilge water of recreational boats.

**BLOODY RED SHRIMP**

Believed to have been introduced via ballast tanks, the bloody red shrimp was first discovered in the Great Lakes in 2006. Bloody red shrimp are a relative of the native Great Lakes opossum shrimp but are slightly smaller and more reddish in color. They eat a variety of smaller animals and algae and may compete with young fish, while providing food for larger fish. The bloody red shrimp has a unique swarming behavior unlikely to be confused with anything else in the Great Lakes. During daylight hours, especially in late summer, it may be observed forming reddish swarms in the shadows of piers, boats, or water. If you see what you believe to be a swarm, report it to NOAA Great Lakes Environmental Research Laboratory *Hemimysis* Survey and Monitoring Network at [www.glerl.noaa.gov/hemimysis](http://www.glerl.noaa.gov/hemimysis). While long-term impacts on the Great Lakes are not yet known, the bloody red shrimp is considered a high-risk invader to inland lakes in the Great Lakes region.

**PHRAGMITES**

*Phragmites (Phragmites australis)*, also known as the common reed, is an aggressive wetland invader that grows along the shorelines of water bodies or in water several feet deep. It is characterized by its towering height of up to 14 feet and its stiff wide leaves and hollow stem. Its feathery and drooping inflorescences (clusters of tiny flowers) are purplish when flowered and turn whitish, grayish, or brownish in fruit. Eventually, *Phragmites* become the sole dominant plant in many of these wetlands at the expense of native flora and animals dependent on these native habitats.

**VIRAL HEMORRHAGIC SEPTICEMIA (VHS)**

VHS is an infectious viral disease that causes fish to bleed internally resulting in massive fish kills. VHS has the potential to devastate entire fish populations. There is no known cure or vaccination. VHS is not a native disease and like so many other aquatic invaders, is suspected to have been delivered to our waters in the ballast of ocean-going vessels. Recently confirmed in Lake Michigan, state authorities hope to keep it out of Lake Superior and Michigan’s inland lakes and streams as long as possible. New regulations will require people who catch fish on a list of affected species to release them only into the water body in which they were caught. The transport of bait is also prohibited.
PROTECT NORTHERN MICHIGAN WATERS FROM FUTURE AQUATIC INVASIONS

The Watershed Council works on many fronts when it comes to invasive species. We monitor the spread of invasive species and work with many lake associations throughout Northern Michigan to control Eurasian watermilfoil and purple loosestrife infestations. Beyond monitoring and management, the Watershed Council is reaching out to boaters to inform them of the critical role they play in the inadvertent spread of invasive species in freshwater systems. We also work to combat the aquatic invasive species problem on the policy front; encouraging and supporting legislation that addresses prevention of the spread of invasive species.

Invasive species are entering the Great Lakes at an average of one every 6 to 8 months. What will be the next organism to destroy the Great Lakes fishery or disrupt the food chain? We need your help to be successful in preventing and managing invasive species in Northern Michigan.

CLEAN BOATING

Recreational boating practices have spread invasive species over a broad geographic range before the invader is even recognized and acknowledged as a problem.

What you can do:
- Remove visible mud, plants, fish, or animals from your boat, trailer, or other equipment (anchor, centerboards, props, etc.) before leaving the water body.
- Drain all water from live wells, bilges, motor, transom, and other containers before leaving launch area.
- Wash your boat, trailer, and equipment thoroughly with hot tap water (104 degrees or higher) to remove plants and organisms that were not visible at the boat launch.
- Allow your boat to dry for a minimum of 5 days in a sunny location before transferring into a new body of water.
- Do not release live bait or aquarium pets into any waters.
- Discard fish waste in the trash.

CONGRESS MUST ACT NOW

Comprehensive legislation is needed to combat the future wave of invasions from occurring. If we are going to maintain the proud heritage of the Great Lakes, now is the time to shut the door on aquatic invasive species.

Ballast water from ocean-going vessels entering the Great Lakes ecosystem is the primary vector for introduction of aquatic invasive species. Ballast water discharge has been the pathway of entry for over 77% of non-native species and more than 1/3 of invasive species have been introduced since the St. Lawrence Seaway opened up.

Federal lawmakers need to enact legislation that will set up a much needed national approach to managing ballast water to prevent and control the invasion of our nation’s waters. The Watershed Council will continue to work with Great Lakes partners to urge Congress to quickly pass federal legislation to address the serious and ongoing threat of invasive species.

Congress should pass strong ballast water legislation to stem the tide of invasive species into the Great Lakes. Contact your member of Congress and let them know that you want to see ballast water legislation enacted now to ensure our Great Lakes heritage and way of life is protected for future generations to enjoy.

AQUATIC INVASSIVE SPECIES PATROL

The Aquatic Invasive Species Patrol is a team of volunteers in our service area who identify and locate the presence of invasive species, such as purple loosestrife, Eurasian watermilfoil, zebra mussels, and round goby. Locations of these and other invasive species are posted on the Watershed Council’s website to track the spread.

You can help by joining the Aquatic Invasive Species Patrol to report the presence of Aquatic Invasive Species (AIS) and locate infestations early. The information you provide will be entered into a database to document the status of AIS within the Watershed Council’s service area and outlying areas in Northern Michigan in order to facilitate support for a communication network of management efforts. Locations of reported AIS are also mapped using GIS and are available on the Watershed Council’s website for the public to view.

For more information:
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