



Destructive Aquatic Species

Pictured Rocks National Lakeshore contains many pristine lakes and streams that are threatened by unwelcome visitors—invasive aquatic plants and animals. These non-native organisms can negatively impact wildlife habitat, upset the food chain, and out-compete native species. Both Lake Superior and several of the park's inland lakes have already been affected.



Sea lamprey and Eurasian watermilfoil are two aquatic invasives species found in the park.

Invaders on the move!



Zebra mussels have not yet invaded Pictured Rocks, but they are spreading in the region.

Invasive aquatic species, whether tiny invertebrates or large aggressive fish, all share one thing in common: they are non-native pests that do not belong in this ecosystem. They are also notorious *hitchhikers* that spread from lake to lake by boat, fishing equipment, and expelled bilge water.

Some of these species are already infesting park waters and others are moving closer each year. Park staff

work diligently to control known populations of invasive species and prevent the arrival of new ones. Prevention is the key! Once established, invasive species are very hard to eradicate.

Learn about some of these destructive species and how you can help stop them from spreading into the park's precious water resources.

Invasive Fish

The sea lamprey is a parasitic ocean fish that feeds only on the blood and fluids of large game fish such as lake trout. Sea lampreys migrated from the Atlantic Ocean into the upper Great Lakes after completion of the Welland Ship Canal in 1932. Current management includes chemically treating park streams where sea lampreys spawn and using traps to catch adults.



Sea Lamprey
(*Petromyzon marinus*)

Round Goby

(*Neogobius melanostomus*)



This bait-stealing menace arrived as a stowaway aboard European trade ships. Females lay many eggs, which the males guard. These bottom dwellers easily outcompete native species, take over spawning habitat, and alter the food web.



Eurasian Ruffe
(*Gymnocephalus cernua*)

The Eurasian ruffe (rough) was introduced into Lake Superior by ballast water from ocean vessels. This aggressive fish can lay up to 20,000 eggs a year. Watch out for its spiny dorsal fin. Ruffe compete for food and resources with native yellow perch.

Viral Hemorrhagic Septicemia (VHS)

VHS, a virus found in ocean fish, was introduced into the Great Lakes in ballast water from ocean vessels. It affects many species of fish and negatively impacts watersheds. Do not use live bait while fishing, as this spreads the disease. VHS has not yet been found at Pictured Rocks.



Invasive Invertebrates



Asiatic Clams
(*Corbicula fluminea*)



Zebra Mussel
(*Dreissena polymorpha*)

Asiatic clams and zebra and quagga mussels are fast, prolific breeders that fortunately have not yet been found here at the park. Asiatic clams can choke out native species by growing on their shells. Zebra and quagga mussels consume vast amounts of nutrients and alter water clarity. An infestation of these mollusks would have a devastating impact on park aquatic environments.



Spiny Water Flea
(*Bythotrephes longimanus*)

Spiny water fleas have stiff spines that make them unpalatable to fish. They outcompete native invertebrates, leaving less food for fish to eat. Water fleas are transported by contaminated fishing gear and have been found in Beaver Lake and Grand Sable Lake. A cottony mass attached to your fishing line could be these tiny crustaceans.

Invasive Aquatic Plants

Eurasian watermilfoil forms dense mats that choke out native plants and restrict habitat for aquatic wildlife. Small bits of plant (often caught in boat propellers or stuck to trailers) can get transported to new areas. This plant is already growing at Sand Point. **Please take care not to introduce it to inland lakes!**



Eurasian Watermilfoil
(*Myriophyllum spicatum*)

Purple loosestrife is an aggressive wetland invader that displaces native plants. It grows well from both rhizome and seed, and will quickly reduce an open wetland to a dense mat of blooms. A mature plant can produce up to two million seeds a year! A small patch of purple loosestrife was removed from the park ten years ago and has not returned. Help us keep this unwanted visitor OUT!



Purple Loosestrife
(*Lythrum salicaria*)

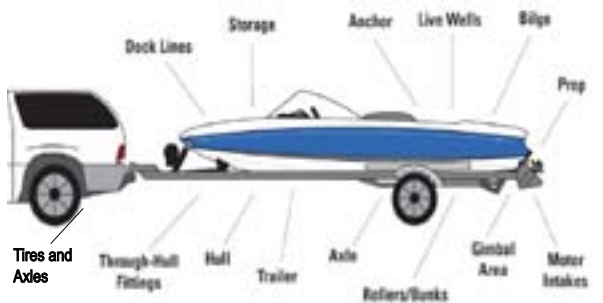
How do aquatic invasive species impact your park experience?

Invasive species are unpleasant. No one wants to catch round gobies while fishing. Or try to reel in a fishing line clogged with spiny water fleas. Or canoe through thick mats of Eurasian watermilfoil on a formerly pristine lake. Or walk on a beach littered with hundreds of sharp zebra mussel shells.

Aquatic invasive species do more than just diminish your enjoyment of the outdoors. They damage ecosystems and cause millions of dollars in economic damage. They threaten fishing and tourism industries. It also costs millions of dollars to attempt to keep invasives species under control—a battle that never ends.

Before launching and before leaving...

Inspect everything!



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What can be done?

In many cases, aquatic invasive species will be with us indefinitely. It is crucial therefore that we all work together to help limit the spread of these species to other, non-invaded bodies of water. **Please:**

- Clean, drain, and dry your boat thoroughly! It's the law.
- Use artificial lures. Minnows, roe, and chum are prohibited in the park to keep out VHS. Leeches and worms are allowed.
- Dispose of aquarium plants and other hobby-related species in the trash. Do not introduce non-native species to your local waters!
- Dry boots and waders between uses or wash with 140 degree water for at least one minute.