

# Zebra Mussels and Round Goby: a dangerous combination

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It's amazing to study the mechanisms that keep each species under control in our aquatic ecosystems. Nature is so complex, yet fish, plants, crustaceans, and different types of plankton belonging to a lake coexist, and depend upon one another to maintain the population of each species.

When the complex system is disturbed however, we see the effects carried up the food chain. Even seemingly harmless species, when introduced outside their native range, can stress an entire ecosystem this way. As one example, let's consider the impact of two invasive species found in Lake Huron: Zebra Mussels and the Round Goby. We are now getting into a more complete story, the "bigger picture", with respect to invasive species.

Many of us are aware of the direct impacts that Zebra Mussels have in our waters, filtering the water of food particles and cutting the feet of swimmers. Zebra Mussels are also known to have high levels of contaminants in their tissues.

Round Goby, which are dreaded for their extremely aggressive behaviour, covering the bottom of the lake, and feeding on fish eggs and fry, v make a meal out of Zebra Mussels. Isn't this a good thing?

Unfortunately, the answer is no. It is unlikely that round goby can successfully control the mussel population.

Research has found that Type E botulism, caused by a bacterial infection, is observed in the goby populations that feed on the mussels.

The contaminants accumulating in these round gobies make their way higher up the food chain. Sport-fish, including walleye, experience toxic effects when they eat the infected goby.

The toxins can even make their way out of the aquatic ecosystem and onto land when predatory birds consume contaminated the fish as well.

This is a hot topic for research for several agencies in the Great Lakes region. As studies are conducted, we will learn more about the impact these toxins have on each of our predatory bird and fish species.

This is just one example of how invasive species can throw an ecosystem into turmoil.

So, what can we do to prevent these aquatic invaders from threatening our lakes? Since invasive species are by nature very difficult to control once introduced, our efforts are focussed on prevention.

Here are some precautions you can take when you are on or around the water:

- \* drain all the water from your motor, remove plants and debris from your trailer and hull
- \* pressure wash your boat as you exit the launch ramp or towel dry before you enter a new lake.
- \* allowing your boat to dry in the sun for five days is also effective against invaders.
- \* dump your live bait bucket at least 30 metres from a water body.
- \* do not release aquarium species or other fish into the lake without a licence.

Talk to your friends, family, neighbours, and colleagues about invasive species and help spread the message. One person can make a world difference with respect to invasive species prevention.

(Editor's note: this is the second in a series of articles looking at invasive species in the Great Lakes-North Shore area.)