



2007 Series

NEWS from the DUNES

A Foreign Pest in Lake Ontario's Waters

Program Held Summer 2007

By 2007 Dune Steward Danielle Lichtenstein

How can a fish that is only four to 10 inches long possibly harm Lake Ontario economically and ecologically? Although small, the round goby is a highly aggressive invasive species that feeds on the eggs and offspring of lake trout and logperch, a food source for important game fish such as rock bass, largemouth bass, northern pike, walleye, and lake trout.

Round gobies negatively impact the aquatic ecosystem by decreasing native fish populations, and reducing the availability of food and shelter to more desired fish. The gobies' vigorous ability to survive gives them a competitive advantage over native species.

Native to the Black and Caspian Seas, round gobies were discovered in US waters (St Clair River, Michigan) by Dr. David Jude in 1990. They were first sighted in Lake Ontario in 1997. New York Sea Grant Senior Extension Associate Chuck O'Neill says the original introduction was most likely through ships' ballast discharge and that natural dispersal downstream could have brought the round gobies to Lake Ontario.

The round goby has a distinctive single scallop-shaped pelvic (bottom) fin that looks like a suction cup and a black spot on its front dorsal (top) fin. It can be confused with the native slimy sculpin, so the single pelvic fin is an important characteristic to note because Lake Ontario has no native fish with a single pelvic fin.

You may think the round goby is beneficial because it eats zebra and quagga mussels - other Lake Ontario invaders. However, theory says that when the round gobies eat the mussels which accumulate toxins in their bodies through insatiable filter feeding, they work as bioaccumulators moving the toxins up the food chain when the gobies themselves are eaten by game fish, such as small and largemouth bass, and by birds, including Black-backed and Ring-billed Gulls, Common and Caspian terns, and loons.



Round goby photo courtesy of Dr. David J. Jude,
Great Lakes Fishery Lab, Ann Arbor, MI

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Round Goby May Be a Vector for Botulism and VHSV

New York Sea Grant Fisheries Specialist David B. MacNeill says, "There is no hard economic data on the round goby impacts, however, the goby may also be a vector of botulism and the Viral Hemorrhagic Septicemia Virus (VHSV) causing additional but yet-unknown negative impacts on aquatic ecosystems, sport fishing and other recreational pursuits, and the related economies."



Round goby die off Eastern Lake Ontario summer 2007.
Photo Mary Penney, New York Sea Grant.

Eastern Lake Ontario Dune Stewards Mike Slattery, Ben Robedee, and Tyler Kukko have recently reported thousands of dead round gobies at Black Pond, Deer Creek, and Sandy Pond. NYS Department of Environmental Conservation Cape Vincent Fisheries Station Manager Steve LaPan explains, "These die-offs have not yet been linked with botulism E, but there is a high possibility that test results will show these fish do have the botulinum toxin. The public should know that if a dog rolls in a dead fish on the beach, then licks its fur, the dog can potentially get sick if that fish has botulism E. There have been documented cases where dogs have died in this manner."

You Can Help Diminish the Negative Effects of Round Gobies

Lake Ontario watershed residents and visitors can help diminish the negative effects of round gobies. First, learn how to identify the round goby. Round gobies should not be transported to other water bodies. LaPan says to prevent the transfer of unwanted invasive "hitchhikers" from Lake Ontario to other waters, boaters should rinse live wells, bilges, bait buckets, etc. with a solution of 1 3/4 cups bleach in 1 gallon of water immediately after leaving the water, making sure discarded solution does not enter a local waterway. People enjoying the beaches should keep pets away from any dead fish and birds.

Dune Steward Danielle Lichtenstein held a program in June 2007 on the round goby. For more information about the Steward Program please contact New York Sea Grant, 315-312-3042; or visit us on the web at <http://www.nysgextension.org>.

The Eastern Lake Ontario Dune Steward & Salmon River Steward Program is managed by New York Sea Grant in partnership with the New York State Department of Environmental Conservation, New York State Parks, and The Nature Conservancy.

