Invasive quagga mussels found in Duluth harbor

● This exotic mussel has been spreading through the Great Lakes, competing with other species and fish for food — and winning.

By TOM MEERSMAN
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Aquatic critters in the Duluth-Superior harbor may face some crowding in the near future: Federal officials confirmed Wednesday that they have found an invasive species called the quagga mussel for the first time in Lake Superior.

The prolific mussel has disrupted the ecosystem of other waters by competing with native species and small fish for food — and winning.

The quagga mussel resembles another invader, the zebra mussel, which has spread rapidly in North America over the past two decades and cost billions of dollars.

Carl Richards, director of the Environmental Protection Agency's Mid-Continent Ecology Lab in Duluth, said the quagga mussels were collected last summer from the bottom of the harbor as part of a broader sampling program, and verified recently with new DNA testing techniques.

Richards said that the discovery was not entirely unexpected.

"These [quagga] mussels are quite abundant in the lower Great Lakes and it just means that they've made the hop to Lake Superior," he said. "We don't know exactly how they got here, but there are many opportunities," Richards said, including ships that move regularly between ports.

Lake continues: The mussels came from Eastern Europe. **B5** ►

Quagga mussels originally came from the Black and Caspian seas of Eastern Europe, and were almost certainly carried into the Great Lakes in the ballast water and sludge of transoceanic ships. They were first noticed in Lake Erie in the late 1980s, and have spread widely through Lakes Ontario, Huron and Michigan.

Tom Nalepa, a biologist for the National Oceanic and Atmospheric Administration, said that quaggas exploded in Lakes Huron and Michigan between 2000 and 2005, and have consumed food that's essential for small fish. "Alewives, smelt and bloater populations have crashed in Lake Huron coincident with the expansion of quaggas," Nalepa said. The effect "trickles up," he said, so that with fewer small fish in the lakes, there's a significant shortage of food for larger fish. "As a result, Michigan has cut its stocking rates for coho and chinook salmon by 50 percent," he said.

Nalepa, who works at the Great Lakes Research Lab in Ann Arbor, Mich., said that quagga mussels can live in deeper water than zebra mussels, but they are not likely to spread too far beyond the Duluth harbor. The mussels need calcium to thrive, he said, and most of Lake Superior outside the harbor has relatively low levels of it. As a result, Nalepa does not expect the quaggas to overtake large areas of lake bottom as they have in Lake Erie and other lakes with more calcium.

In addition to ecological problems, quagga and zebra mussels have grown dense enough in some areas to clog intake pipes for industrial uses, power plants and drinking water systems, and to spoil traditional fishing and swimming areas.

Doug Jensen, aquatic invasive species coordinator for the University of Minnesota's Sea Grant program, said that the discovery of quaggas "doesn't bode well" for the Duluth harbor. Jensen said that he will continue to work with state and federal authorities on boater education programs to prevent the mussels and other invaders from spreading to Minnesota's interior lakes and watersheds. "It's not the best news, but we need to remain vigilant," he said.

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QUAGGA MUSSELS NOW IN SUPERIOR

Federal scientists collected invasive quagga mussels in Duluth harbor in the summer of 2006 and now have confirmed their presence, using DNA analysis.

A QUICK LOOK AT THE QUAGGA MUSSEL

Typical size: 0.5 to 1.5 inches

Native range: Black and Caspian seas

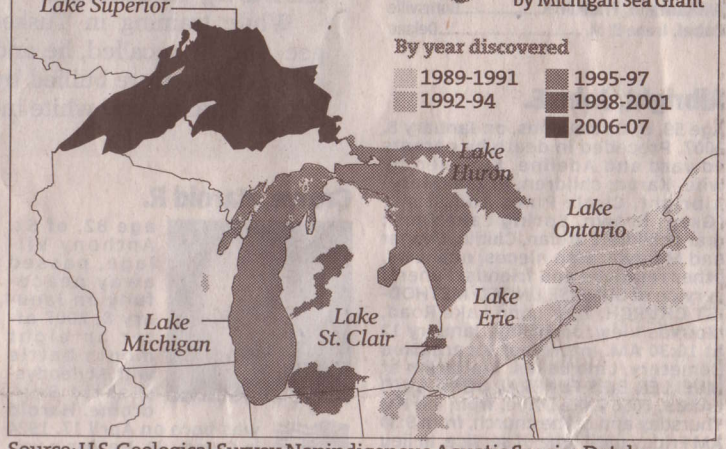
Pathway: Ballast water from oceangoing ships

Habitat: Hard and soft spots at the bottom of lakes and rivers

Spread: First sighted in Lake Erie in 1989. Now found in all Great Lakes. Also in St. Lawrence Seaway, inland lakes and rivers in a few states, and in the Mississippi River just north of St. Louis.

Impact: Clogs intake pipes and screens at power plants and other facilities. Competes for same food as native mussels and small fish. Leaves water clearer, promoting aquatic plant growth. May contribute to oxygen-deprived dead zones. Expels material that fouls environment. May pass on pollutants to creatures that prey on it.

Photo provided by Michigan Sea Grant



Source: U.S. Geological Survey Nonindigenous Aquatic Species Database

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