



# OLR RESEARCH REPORT

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## ZEBRA MUSSELS

By: Janet L. Kaminski Leduc, Senior Legislative Attorney

You asked for general information on zebra mussels, including how people can minimize their spread. You also asked if any of the states in the Great Lakes or New England regions have passed legislation relating to zebra mussels.

### SUMMARY

The zebra mussel is an aquatic invasive species that is nonnative to the United States. It was first discovered in U.S. waters in 1988 and since then has spread to the Great Lakes, many inland lakes, and numerous river basins. People can minimize the spread of zebra mussels by inspecting boats and equipment for mussels and aquatic plants before leaving a waterway and properly disposing of any that are found.

In October 2010, the Connecticut Department of Environmental Protection (DEP) announced the discovery of zebra mussels in Connecticut's Lake Zoar and Lake Lillinonah. Before this discovery, DEP had found zebra mussels in Connecticut in 1998 in East Twin Lake and West Twin Lake. DEP recently issued guidance to anglers fishing in any of these waters and western Connecticut in general, telling anglers to use extra care to avoid transporting water, aquatic vegetation, and zebra mussels to new locations. For more information about zebra mussels in Connecticut, see the DEP website at <http://www.ct.gov/dep/cwp/view.asp?Q=467116&A=3847>.

Of the eight states in the Great Lakes region, two have laws (Michigan and New York); four have regulations (Indiana, Ohio, Pennsylvania, and Wisconsin); and one (Minnesota) has laws and regulations relating to

zebra mussels. (Illinois has none.) In New England, Vermont has a law and New Hampshire has regulations concerning zebra mussels. While many of these states make it unlawful to transport or possess zebra mussels, Michigan and Minnesota have extensive civil and criminal penalties for violating laws regarding zebra mussels.

## **ZEBRA MUSSELS**

The zebra mussel (*Dreissena polymorpha*) is a small, nonnative mollusk that was first discovered in North America in 1988. It is believed to have been transported in the ballast tanks of ships from western European ports. It was found in Lake St. Clair, which connects lakes Huron and Erie. In less than 10 years, zebra mussels spread to all five Great Lakes; many inland lakes; and into the Mississippi, Tennessee, Hudson, and Ohio river basins, according to the U.S. Department of the Interior's Great Lakes Science Center (GLSC).

GLSC reports that zebra mussels are prolific breeders with each female producing one million eggs each year. Young zebra mussels are so small (the size of the diameter of a human hair) that they spread easily by water currents. Adult zebra mussels are less than two inches long and attach to hard surfaces, including boats and boat trailers. Adult zebra mussels can spread from lake to lake when a boat carrying them is moved from one body of water to another.

Once zebra mussels are established in a water body, they are impossible to eradicate, according to GLSC. They are so tolerant and tough that the volume of chemicals needed to kill them would severely damage the water's ecosystem. Most commercial water users rely on chlorine, filters, or mechanical scrapping to remove zebra mussels from their intake pipes and facilities.

### ***Minimizing the Spread of Zebra Mussels***

People can minimize the spread of zebra mussels by inspecting boats and equipment for mussels and aquatic plants before leaving a waterway. Any mussels and plants found should be removed and thrown into the trash, not back into the water. Boaters should drain all water from the boat, including bilge, transom well, engine cooling system, motor, and live wells. Other recommendations to reduce the impact of zebra mussels include drying a boat in the sun for at least five days, rinsing the boat in hot water or with a pressure sprayer, and throwing unused bait in the trash rather than into water (Illinois Environmental Protection Agency).

## **GREAT LAKES REGION**

Of the eight states in the Great Lakes region, two have laws relating to zebra mussels (Michigan, and New York); four have regulations relating to them (Indiana, Ohio, Pennsylvania, and Wisconsin); one has laws and regulations (Minnesota); and one has neither (Illinois). Michigan and Minnesota specify civil and criminal penalties for violating laws governing zebra mussels.

### ***Indiana***

In Indiana, it is unlawful to import, possess, or release into public or private waters zebra mussels and other specified invasive species. But a person who takes a zebra mussel does not violate the regulation if the mussel is killed immediately upon capture (Ind. Admin. Code tit. 312, r. 9-9-3(d) and (e)).

### ***Michigan***

Under Michigan law, a zebra mussel is a restricted species (Mich. Comp. Laws § 324.41301). A person cannot knowingly possess a live organism that is a restricted species unless he or she possesses it in conjunction with a lawful activity to identify, eradicate, or control the species (Mich. Comp. Laws § 324.41303). Michigan also prohibits a person from introducing a restricted species unless permitted by the Department of Natural Resources (Mich. Comp. Laws § 324.41305).

State law establishes civil and criminal penalties for violating the laws governing restricted species, as shown in Table 1. In addition to any other civil or criminal sanction, a person who violates the restricted species laws is liable for any damages to natural resources resulting from the violation, including costs incurred to minimize or prevent damages (Mich. Comp. Laws § 324.41309(11)).

By law, the departments of Natural Resources and Agriculture must deposit all fines and fees collected under the laws relating to restricted species into Michigan's Invasive Species Fund (Mich. Comp. Laws § 324.41311). They must use the fund to (1) administer the laws relating to prohibited and restricted species and (2) educate the public about preventing the introduction of, controlling, and eradicating nonnative species.

**Table 1: Michigan Penalties for Violating Restricted Species Laws**

<b>Action</b>	<b>Penalty</b>
Unlawful possession of a live restricted species	Civil fine of up to \$5,000
Possession of a live restricted species that is done knowing that it is unlawful	Misdemeanor subject to a fine of \$1,000 to \$10,000. May be imprisoned for up to one year.
Possession of a restricted species with intent to damage natural resources	Felony subject to a fine of \$1,000 to \$250,000. May be imprisoned for up to two years.
Selling or offering to sell a restricted species	Civil fine of \$1,000 to \$10,000
Introduction of a restricted species without proper permit	Misdemeanor subject to a fine of \$500 to \$5,000. May be imprisoned for up to six months.
Introduction of a restricted species by one who knew or should have known it was nonnative	Misdemeanor subject to a fine of \$1,000 to \$10,000. May be imprisoned for up to one year.
Introduction of a restricted species knowing that it is unlawful	Felony subject to a fine of \$1,000 to \$250,000. May be imprisoned for up to two years.
Introduction of a restricted species with the intent to damage natural resources	Felony subject to a fine of \$1,000 to \$500,000. May be imprisoned for up to three years.

Source: Mich. Comp. Laws § 324.41309(2)-(10)

**Minnesota**

Minnesota law prohibits anyone from placing or attempting to place into state waters a watercraft, trailer, or plant harvesting equipment that has zebra mussels or other prohibited invasive species attached (Minn. Stat. § 84D.10). It permits a conservation officer or other peace officer to order the removal of prohibited invasive species from a trailer or watercraft before it is placed into state waters.

Minnesota requires a person leaving state waters to drain boating-related equipment by removing the drain plug before transporting the watercraft and associated equipment on public roads (Minn. Stat. § 84D.10 and Minn. R. 6216.0500). Drain plugs, bailers, valves, or similar devices used to control draining water from ballast tanks, bilges, and live wells must be removed or opened while transporting a watercraft on a public road. The law also prohibits a person from disposing of bait in state waters.

A person who (1) violates an invasive species law or (2) illegally possesses, transports, or introduces a prohibited invasive species is guilty of a misdemeanor. A person who imports, purchases, sells, or propagates a prohibited invasive species is guilty of a gross misdemeanor. And a person who refuses to obey an officer's order to remove prohibited invasive species is guilty of a gross misdemeanor (Minn. Stat. § 84D.13)

An officer may also issue civil citations and penalties to a person who violates the law (Minn. Stat. § 84D.13). A person is subject to a \$250 civil fine for unlawfully possessing or transporting a prohibited invasive species. A person is subject to a \$500 fine for the first offense of placing equipment into state waters that has a prohibited invasive species attached and a \$1,000 fine for each subsequent offense. A person who fails to drain water from boating-related equipment is subject to a \$50 fine. Fines may be appealed and a hearing requested within 15 days of receipt. If a hearing is not requested, the citation becomes a final order.

In addition to charging a watercraft license fee, Minnesota adds a \$5 surcharge on each licensed watercraft. The collected surcharges must be spent on control, public awareness, law enforcement, monitoring, and research of invasive species, including zebra mussels (Minn. Stat. § 86B.415).

Money received from civil fines and license surcharges are deposited into an invasive species account. In fiscal years 2010 and 2011, \$725,000 must be transferred from the water recreation account to the invasive species account. Money in the invasive species account must be used for managing invasive species (Minn. Stat. § 84D.15).

### ***New York***

New York law prohibits a person from intentionally releasing zebra mussels into state waters (N.Y. Env'tl. Conserv. Law § 11-0507). It requires anyone buying, selling, or intentionally possessing or transporting zebra mussels to be licensed by the New York Department of Environmental Protection (e.g., for scientific or exhibition purposes). The law permits a person to destroy zebra mussels at any time, except those lawfully held by license.

### ***Ohio***

In Ohio, it is unlawful for anyone to possess, import, or sell zebra mussels (Ohio Admin. Code § 1501:31-19-01(K)(4)).

## ***Pennsylvania***

In Pennsylvania, it is unlawful to sell, purchase, offer for sale, or barter zebra mussels (58 Pa. Code § 63.46). It also is unlawful to possess, introduce, import, or transport zebra mussels (58 Pa. Code §§ 71.6 and 73.1).

## ***Wisconsin***

Wisconsin prohibits anyone from transporting, transferring, or introducing restricted invasive species, including zebra mussels (Wis. Admin. Code § NR 40.05). The prohibition does not apply if the (1) action is incidental or unknowing and not due to the person's failure to take reasonable precautions or (2) the person is licensed by the Wisconsin Department of Natural Resources to transport, transfer, or introduce the species for research, public display, or other purposes permitted by the department.

Wisconsin further prohibits anyone from placing aquatic plant management equipment in navigable water if he or she has reason to believe that the equipment has any aquatic plants or zebra mussels attached (Wis. Admin. Code § 109.08).

## **NEW ENGLAND REGION**

Of the six New England states, one has a law related to zebra mussels (Vermont) and one has regulations (New Hampshire). Four have neither (Connecticut, Rhode Island, Maine, and Massachusetts).

## ***New Hampshire***

New Hampshire prohibits anyone from importing or possessing prohibited wildlife, which includes zebra mussels (N.H. Code Admin. R. Ann. Fis 803.04 and 804.03)

In New Hampshire, baitfish can be imported only from areas that have an acceptable monitoring program such that the area is determined to be free of zebra mussels (N.H. Code Admin. R. Ann. Fis 502.09). Further, fish cannot be imported from states known to (1) have waters infested with zebra mussels or (2) import fish from states infested with zebra mussels. But fish can be imported from such states if it can be determined through an acceptable monitoring program that the source of the fish is free of zebra mussels (N.H. Code Admin. R. Ann. Fis 803.08). Regulations outline what constitutes an acceptable monitoring program (N.H. Code Admin. R. Ann. Fis 502.10).

## ***Vermont***

Vermont prohibits a person from transporting zebra mussels and other aquatic nuisance species to or from any Vermont waters on the outside of a vehicle, boat, personal watercraft, trailer, or other equipment (Vt. Stat. Ann. tit. 10 § 1454). The law permits the environmental conservation secretary to grant exceptions to the law for scientific or educational purposes. The law states that it does not restrict proper harvesting or other control activities undertaken to eliminate or control the growth of zebra mussels and other aquatic nuisance species.

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