

Zebra Mussel

Dreissena polymorpha

Iowa Aquatic Invasive Species Fact Sheet

Description: Zebra mussels look like small, fingernail-sized clams. The D-shaped shells have alternating light and dark bands, and the inside of the shell is white. Zebra mussels grow up to two inches long, but most are less than one inch. They are the only freshwater mollusc that can attach to solid underwater surfaces using glue-like fibers called byssal threads.



Distribution: Zebra mussels are native to the Caspian Sea region of Asia and are believed to have been introduced into the Great Lakes from ballast water of transatlantic ships. They were first discovered in Lake St. Clair in 1988, and have spread to all the Great Lakes, the Mississippi River, and other inland rivers and lakes twenty-three states. Barge traffic facilitated the rapid dispersal of zebra mussels throughout the Mississippi River. Zebra mussels were first documented in Iowa in 1992 from the Mississippi River near Burlington. One year later, they were reported from the entire length of the Mississippi River bordering Iowa. The first zebra mussels reported in interior waters were from Clear Lake in 2005 and Lake Delhi in 2006. There are no known zebra mussel infestations in the Missouri River bordering Iowa.

Threats: Zebra mussels are able to spread rapidly because of their reproductive cycle. Females can produce up to one million eggs per summer. The fertilized eggs develop into microscopic larvae (veligers) that travel with water currents before attaching to hard surfaces. Veligers can travel great distances on their own or be transported from one waterbody to another in livewells, bilge water, or bait buckets. Adult zebra mussels can also attach to boats or other equipment and be transported to uninfested waters. Zebra mussels tolerate a wide range of conditions and can significantly alter the ecosystem of waterbodies where they become established. Areas with large densities can have up to 6,000 zebra mussels per square foot. In addition to competing with other aquatic organisms for food and covering beaches with dead shells, zebra mussels kill native mussels by colonizing on their shells. They have severely reduced native mussel populations in some areas. Zebra mussels also attach to water intakes and pipes of power plants and water supply facilities. Millions of dollars are spent each year for cleanup and repair of these structures.

Control: Zebra mussels have few natural controls to limit their growth and spread in Iowa. Diving ducks, freshwater drum, and other fish eat zebra mussels but cannot control population densities. Control efforts therefore focus on preventing the introduction of zebra mussels into new waterbodies. Zebra mussels can cling to boats, trailers, vegetation, boating equipment (anchors, centerboards, fishing lines, bait buckets), and hunting equipment (decoy anchors, waders). If not removed, these

Control (continued): mussels can start new populations when introduced into another waterbody. Veligers can also be transported in water; therefore, it is imperative to drain water from the livewell, bilge, transom well, and impeller before leaving water accesses. Empty bait buckets in the trash, and never release live bait into a waterbody or transfer aquatic animals or plants from one waterbody to another. Wash and dry boats, trailers, and other equipment after use to kill any zebra mussels that were not visible at the water access. Once established, there are no selective molluscides to eradicate zebra mussel populations. Power plants and water utilities use chlorine, ozone, water drawdown, electric currents, ultraviolet radiation, heat, filters, and other methods to clean or prevent zebra mussels from colonizing inside water pipes.

Laws: Iowa law makes it illegal to 1) possess, introduce, purchase, sell, propagate, or transport aquatic invasive species in Iowa, 2) place a trailer or launch a watercraft with aquatic invasive species attached in public waters, and 3) operate a watercraft in a marked aquatic invasive species infestation. The scheduled fine is \$500 for violating any of the above regulations. The law also requires the DNR to identify waterbodies infested with aquatic invasive species and post signs alerting boaters. The DNR may restrict boating, fishing, swimming, and trapping in infested waters.

