Zebra mussel (*Dreissena polymorpha*)


Ron Dermott; http://www.fs.fed.us/

What do zebra mussels look like?
Zebra mussels look like small (<1 1/2" long) clams with a "D"-shaped shell having alternating light and dark stripes (hence the name "zebra").

Where do zebra mussels live?
Zebra mussels thrive in slow-moving rivers and lakes. They attach to hard surfaces and usually grow in clusters of many individuals in shallow waters (6-30 feet).

How did zebra mussels arrive here?
Zebra mussels are native to the Black and Caspian Sea region of Europe. They were introduced to the U.S. in the ballast water of ocean-going ships and were first found in 1988 in Lake St. Clair near Detroit, Michigan. They spread throughout the Great Lakes and by 1999 had expanded their range all the way to the Gulf of Mexico. In Kentucky, zebra mussels have been reported in the Ohio River, Barkley Lake, Dewey Lake, and Kentucky Lake.

How do zebra mussels spread?
Zebra mussels have a microscopic planktonic larva called a veliger. Veligers are invisible to the naked eye and can float in the water for three weeks to three months depending on water temperature, allowing them to move downstream in currents and to be carried in water transported by boaters and anglers. Zebra mussels can reproduce from spring to late fall and their larvae can be present in the water well into winter. They may also spread as juveniles and adults attached to hard substrate such as plants, boat hulls, motors, anchors or any submerged object.

Why are zebra mussels a problem?
Zebra mussels attach to hard surfaces, including rocks, stumps, boats, weeds, other mussels, motors, piers and the inside of water intake pipes. Once attached, they can form layer upon layer of living mussels. Great Lakes' water treatment plants and electricity generating plants spend millions of dollars annually to keep their intake pipes clear of zebra mussels. This same colonizing and clogging ability can also be a problem for boaters if they leave their boat in the water all summer. Zebra mussels colonize water intake grids and sea lockers on boats too. Fire suppression and cooling systems may become inefficient or inoperable once clogged with the mussels.

Zebra mussels compete with native fish and mussel species. They are filter feeders and pump water over their gills, filtering out small animals and plants (plankton) for food. A single adult zebra mussel can filter a liter (~1.2 qts.) of water per day, removing food sources which native species depend upon for their own survival. They are also prolific breeders, resulting in direct competition with native mussels for available habitat. This ability to outcompete native mussels for food and space is of particular concern in Kentucky because of the state's diverse, native mussel community, many of which are threatened or endangered.

Filter feeding also can make the water clearer. As the water clears, light can penetrate deeper. Light sensitive fish such as walleye may move to deeper waters than traditionally found. Greater light penetration can also allow weed beds to increase both in density and depth. At the extreme this can interfere with boating and other recreational activities.

What can I do to help prevent the spread of zebra mussels?

- Remove any visible plants from boat, trailer, truck, and other equipment (anchors, centerboards, rollers, axles, propellers, waders, etc.) before leaving any water body.
- Drain any water from boat, motor, bilge, live wells, and bait containers BEFORE leaving water body;
- Disinfect live wells, bilges, anchors, bait buckets, boat trailers, and nets with a saltwater solution (1.25 cups of salt per 10 gallons of water) or hot (105 °F) water. Don't drain this solution into lakes or streams. It can harm aquatic life.
- Dry boats and equipment thoroughly in the hot sun before using again.
- Do not release any plants from the aquarium or water garden into or near a body of water or storm drain.
- Teach others about zebra mussels and their threat to native fish and mussels.