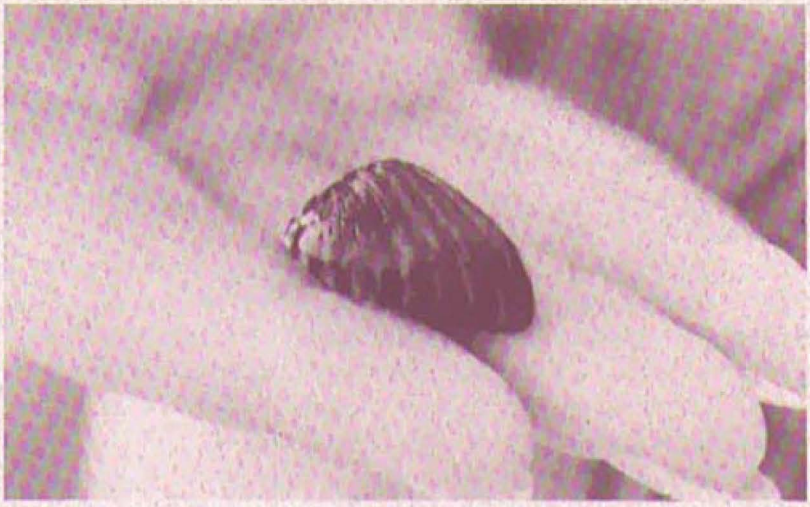
BOATER'S ALERT

Zebra Mussels

A Threat to Maryland Waters



What You Can Do

The Zebra Mussel Invasion

Zebra mussels—which have already caused millions of dollars of environmental and economic damage in the Great Lakes region—have entered the headwaters of the Susquehanna River. Expectations are that these molluscs will spread into the Chesapeake Bay within the year.

First observed in the Great Lakes in 1988, the mussels may have been introduced when one or more transoceanic ships discharged ballast water into Lake St. Clair near Detroit, Michigan. The mussels have spread throughout the Great Lakes, causing major problems in power plants and water treatment facilities, where they clog intake and outflow pipes. One estimate puts the cost of scraping mussels from pipes in the Great Lakes region at $50 to $100 million a year.

The rapid spread of the zebra mussel is primarily a result of its reproductive capacity: females can produce more than 30,000 eggs per season. The fertilized eggs develop into free-swimming larvae, called veligers, that stay afloat for several weeks before settling onto stable surfaces. Once settled, the mussel will likely live from three to five years.

Adult zebra mussels look like small clams with yellowish or brown D-shaped shells, usually with alternating dark and light bands. Most are under an inch long, though they can grow as large as two inches. In the larval stage, they are so small they are essentially invisible to the naked eye.

Potential Damage

Because the zebra mussel threatens every industry that depends on water, it has the potential to cause problems for many industries and municipal services, and may indirectly affect virtually every citizen in Maryland and the Chesapeake region if it becomes established. Power generating facilities on the Susquehanna, like the Conowingo Dam, and municipal water supplies that depend on the Susquehanna may be threatened soon. It is not clear at present how much of the Chesapeake and its tributaries are at risk, but it could well be that many of Maryland's surface waters may be threatened—including reservoirs supplying water to the metropolitan areas of Baltimore and Washington D.C., waters supporting diverse agricultural activities, and waters used for recreation.

Stop the Spread of Zebra Mussels

Zebra mussels in the free-swimming larval stage often attach to boat hulls and find their way into hoses, bilges and almost anywhere water will go. Your boat could easily become a ferry for moving mussels from one body of water to another. The Great Lakes Sea Grant Network has recommended the following precautions to boat owners to help prevent further spread of the zebra mussel:

▶ When transporting a boat, drain all bilge water, live wells, and bait buckets before leaving infested areas. Do not transport leftover bait from infested waterways to other waters.

▶ Thoroughly inspect your boat's hull, outdrive, trim plates, trolling plates, prop guards, transducers, trailers, and other parts exposed to infested waters. If surfaces feel grainy, tiny zebra mussels may be attached. These "hitchhiking" mussels should be scraped off.

▶ Thoroughly flush hulls, outdrive units, live wells (and pumping systems), bilge, trailer frames, anchors and anchor ropes, bait buckets, raw water engine cooling systems, and other boat parts and accessories that typically get wet—use hot (140°F [60°C] or hotter) water. A pressurized steam cleaner or high pressure power washer is also effective and requires less time.

▶ Thoroughly dry boats and trailers in the sun before transporting them to other waterways.

▶ On boats that remain in the water, avoid leaving outdrives in the down position. Hulls and drive units should be inspected. Mussels can attach to outdrives and cover or enter water intakes; this leads to clogging, engine overheating, and damage to cooling system parts.

▶ Antifouling paints may be effective in preventing attachment of zebra mussels to boat hulls, outdrive units, propellers, and other underwater boat components and accessories. Consult your local marine dealer or manufacturer for applicability and local use or environmental restrictions. Hull waxes do not appear to be effective.

To Find Out More

For further information on the zebra mussel in Maryland, contact the following Sea Grant Area Agents:

Upper Chesapeake
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Eastern Shore
Donald W. Webster
Talbot Extension Office
P.O. Box 519
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Tel: 410-822-1244
Fax: 410-822-5627

Or contact the Maryland Department of Natural Resources:

Maryland Department of Natural Resources
Eric May
Fish Health Disease Unit
Oxford Cooperative Laboratory
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This brochure was prepared by the Maryland Sea Grant Extension Program; it is part of a coordinated effort by the mid-Atlantic Sea Grant Network and the Maryland Department of Natural Resources.

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Photo of zebra mussel by Charles Ramcharan, University of Wisconsin Sea Grant; drawing of zebra mussel by M. Van Bolt.

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