

## Zebra mussels and their look alike: How to tell what bivalve you found.

Zebra mussels (*Dreissena polymorpha*), a small, invasive bivalve has recently spread into the lower Susquehanna River and upper Chesapeake Bay. To increase the public's awareness of this nuisance species and the potential economic and ecological harm that could come from their accidental spread to other water bodies, DNR has used various types of information. As a result, DNR often receives phone calls or emails from alert citizens who believe they have found zebra mussels attached to their dock pilings or boat bottoms in tidal creeks throughout the Chesapeake Bay. So far, only one of these sightings was confirmed to be a zebra mussel. It is believed that particular case was not the indication of an invasive population because just one small mussel was found in an area typically too salty (> 5 ppt) for their survival.

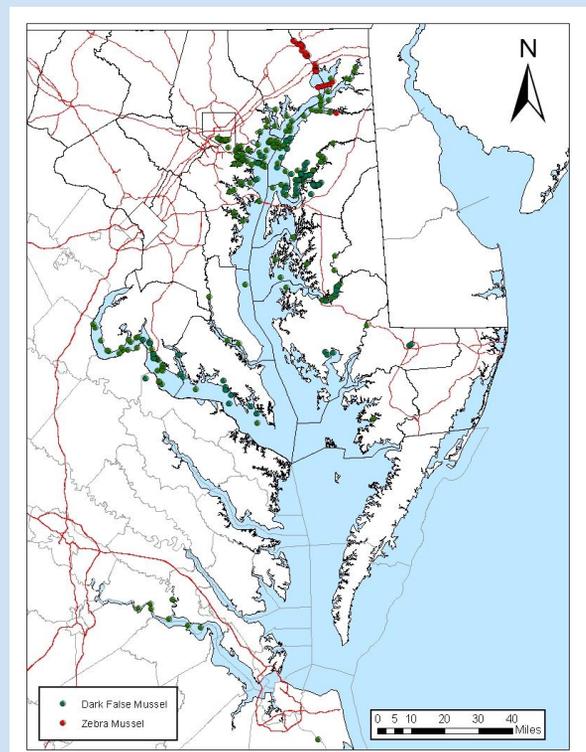


Zebra mussels pose an ecological threat because their dense clusters can filter plankton that is vital to the forage of valuable fish species like shad and striped bass. Zebra mussels pose an economic threat because they cover hard surfaces like boats, docks, buoys, and pipes.

Photo courtesy of MD Sea Grant.

**If not zebra mussels, then what is being reported to DNR?** So far, all of these sightings by citizens have been another small bivalve that lives in the Chesapeake Bay known as the dark false mussel (*Mytilopsis leucophaeta*). Dark false mussels are similar in size (up to the size of a thumb nail), they attach to hard surfaces in dense clumps like zebra mussels, are yellowish to dark brown in color, and can have a striped shell. The salinity tolerances of dark false mussel and zebra mussel also overlap between 0.2 and 3.0 ppt, with dark false mussel being more abundant in saltier waters and zebra mussel preferring freshwater.

The map at right illustrates the locations of zebra mussel records (red) and dark false mussel records (green) from a variety of monitoring and sampling programs.



The similarities between zebra mussels and dark false mussels are not just restricted to their looks. Like zebra mussels, dark false filter tremendous amounts of water, altering its clarity and the quality of the surrounding environment. Both species form dense clusters that can cause considerable damage to shorelines, docks, boat hulls, and pipes. Their sharp shells can be a hazard for swimmers and fishing line too. While zebra mussels are the classic non-native invasive species, dark false mussels are considered native to the Chesapeake Bay.

**How can you tell a zebra mussel from a dark false mussel?** First, if you find what looks like a zebra mussel in tidal waters where the salinity is typically more than 3 ppt (south of the Susquehanna Flats), odds are high that you have found dark false mussels. If the area is usually freshwater, you could have either species. If you are in non-tidal areas the habitat may be suitable for zebra mussels.

There are a few key characteristics to tell the two apart. Zebra mussels are more pointed at their narrowest end (1b), while dark false mussels are more rounded (1a). Zebra mussels are also taller and triangular in shape. The most reliable feature is inside the shell. After separating the two halves of the shell and removing the tissue, look closely at the inside of the shell at the narrow end. If you see a small triangle tooth (an apophysis) that extends down you are holding a dark false mussel (2a). Zebra mussels do not have an apophysis inside their shell (2b).



External and internal view of dark false mussel shell.



External and internal view of zebra mussel shell. Photos by Walter Butler, Maryland Department of Natural Resources.

We appreciate receiving information from keen observers and follow-up on each and everyone as quickly as possible. If you think you have found a zebra mussel, put them in a zip lock bag and freeze them or in a small glass jar with rubbing alcohol. Then call the Maryland Department of Natural Resources at 1-877-620-8DNR or 1-410-260-8604. TTY via Maryland Relay.

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Secretary

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