

## SPECIES AT A GLANCE

# Zebra and Quagga Mussels

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**Zebra mussel**  
(Actual size is 1.5 cm)



**Quagga mussel**  
(Actual size is 2 cm)

### REPORT THESE SPECIES!

**Oregon:** 1-866-INVADER or [OregonInvasivesHotline.org](http://OregonInvasivesHotline.org)  
**Washington:** 1-888-WDFW-AIS  
**California:** 1-916-651-8797 or email [invasives@dfg.ca.gov](mailto:invasives@dfg.ca.gov)  
**Other states:** 1-877-STOP-ANS

Two tiny mussels, the **zebra mussel** (*Dreissena polymorpha*) and the **quagga mussel** (*Dreissena rostriformis bugensis*), are causing big problems for the economy and the environment in North America. Colonies of millions of mussels can clog underwater infrastructure, costing taxpayers millions of dollars, and can strip nutrients from nearly all the water in a lake in a single day, turning entire ecosystems upside down. Zebra and quagga mussels are already well established in the Great Lakes and Mississippi Basin and are beginning to invade Western states. It takes only one contaminated boat and the right conditions for zebra and quagga mussels to infest a new watershed; once they have been introduced and start to flourish, they are virtually impossible to control.

### Species in the news

Oregon Public Broadcasting's coverage of quagga mussels (2007):  
<http://www.opb.org/television/programs/ofg/segment/quagga-mussels/>

### Learning extensions

How Long Can Zebra Mussels Survive Out of Water? A Math Model!  
Zebra and quagga mussel impact on food webs

### Resources

Invasion of the Quagga Mussels! slide show: [waterbase.uwm.edu/media/cruise/invasion\\_files/frame.html](http://waterbase.uwm.edu/media/cruise/invasion_files/frame.html) (Only viewable with Microsoft Internet Explorer)

### Why you should care

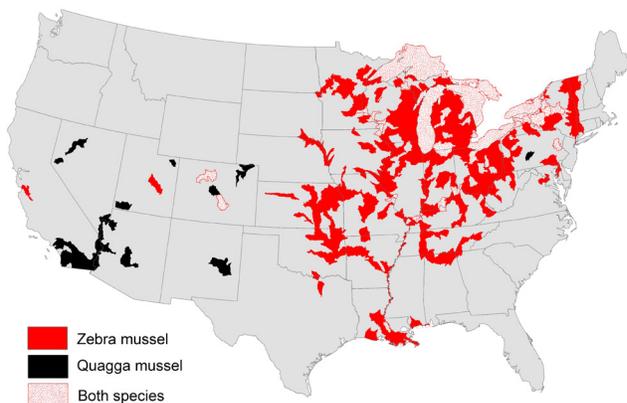
These tiny invaders have dramatically changed entire ecosystems, and they cost taxpayers billions of dollars every year. They foul and clog pipes, water treatment plants, and dam turbines and give a competitive boost to toxic algae. By accumulating toxins in their flesh, they can become poisonous to animals that eat them. (They have killed thousands of birds in the Great Lakes.) Zebra and quagga mussels are just starting to invade the West Coast, threatening ecosystems, economies, and our way of life.

### How they got here and spread

Zebra and quagga mussels were introduced to the Great Lakes from the Caspian and Black Sea region in the 1990s through ship ballast water. Since their introduction, they have spread by attaching to boat hulls, motors, and engine cooling intake lines or pipes, or by surviving as larvae in boats' water-holding areas.

### What you can do

It is not too late to stop the spread. Every citizen can help. Boaters and anglers should clean and dry gear before leaving or entering a water body. Tell your friends and neighbors about aquatic invasive species, their dramatic impacts, and what we can all do to prevent their spread.



Data on map represents established population and species occurrence data. Map produced by the U.S. Geological Survey, *Nonindigenous Aquatic Species Database*, April 15, 2015.

### COOL FACTS

Researchers estimate that a large (18,000/m<sup>2</sup>) population of mussels could filter the entire volume of Lake Dardanelle in Arkansas (13,600 ha/5,300 m<sup>3</sup>) 20 times in a day.

Quagga and zebra mussels can stay alive out of water for up to 30 days, depending on moisture and temperature.

Zebra and quagga mussels are the only freshwater mussels in North America that can attach to things using byssal threads.