

# Invasive mussels

## What they are

Two invasive mussel species threaten Montana waters: zebra and quagga. These small freshwater mollusks have been steadily moving west since arriving in the Great Lakes from Europe in the ballast water of oceangoing ships during the 1980s.

## How to spot them

The D-shaped mussels are ¼ inch to 1½ inches long and have brown or dark brown striped shells. They attach to rocks, boat docks, and boat engines in the water of lakes and rivers and can completely blanket these hard surfaces.

## Where they are found

Currently, there are no known infestations in Montana. But each year, dozens of boats traveling through Montana from other states have been found, at mandatory FWP check stations, to be carrying invasive mussels.

## Why we hate them

Invasive mussels reproduce like crazy, rapidly producing local populations in the billions. The filter feeders consume microscopic plants and animals, robbing food

from native clams, underwater insects, and baby fish. When the mussels die and wash up on shore, they stink up beaches and cover sandy areas in sharp shells. Invasive mussels also clog and damage irrigation pipes and intake valves and can ruin boat and factory motors.

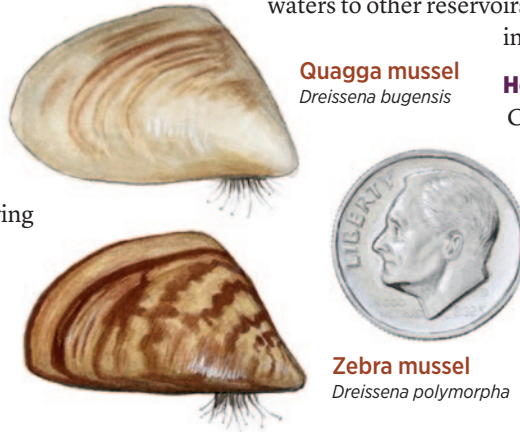
## How they spread

Invasive mussels and their microscopic larvae, known as veligers, survive in water or wet areas of boats, engines, wading boots, and other fishing gear. When these items are moved from infested waters to other reservoirs, lakes, or rivers, they can transport the invasive mussels.

## How to control them

Clean, drain, and dry watercraft and irrigation equipment before use in other water bodies. Thoroughly wash and decontaminate fishing gear, waders, and boots.

*Report any suspected infestations at [nas.er.usgs.gov/SightingReport](https://www.fws.gov/er/er-usgs.gov/SightingReport).*



**Quagga mussel**  
*Dreissena bugensis*



**Zebra mussel**  
*Dreissena polymorpha*

Illustration by Liz Bradford

*A quick look at a concept or term commonly used in fisheries, wildlife, or state parks management.*

## “Instream flow”

It may seem obvious, but streams need a healthy water flow to support trout and other fish. Unfortunately, hundreds of streams across Montana lack adequate “instream flow” (water moving through their channels).

Many trout in Montana’s premier rivers like the Madison, Big Hole, and Gallatin spawn not in the main channel but in tributary streams. Adult trout need enough water to reach upstream spawning areas. After hatching, baby trout need a certain amount of water to survive the next several months. Then, as young trout, they need adequate water to swim downstream to the main river, where in a few years they grow to catchable size.

Yet portions of more than 300 streams across Montana, many of them trout spawning tributaries, drop dangerously low or even dry up each summer. Baby trout are trapped in the shallow pools, where they die outright or become easy prey for birds.

The main causes are inadequate snowpack, natural leakage into gravel substrate, diversions for municipal water supplies, and, especially, diversions for crop irrigation.

To provide roughly 60 previously dewatered streams with adequate instream flow, especially in late summer, FWP and groups like

## THE MICRO MANAGER

Trout Unlimited and the Clark Fork Coalition pay willing landowners to temporarily lease all or some of their water rights. And some landowners generously donate the lease value. These instream flow leases are critical for maintaining enough water for trout to move from the upstream reaches of tributaries where they hatch to the mainstream rivers where they live most of their lives.

To date, only 15 percent of Montana’s chronically dewatered streams are protected with instream flow leases. ■



The Big Hole River near Wisdom in 2021. Trout can’t survive in flows like this.