Frequently Asked Questions about Invasive Mussels

WHAT ARE THEY?

The term invasive mussels refers to zebra, quagga and golden mussels. They are freshwater mollusks that live for up to 5 years. Females can reproduce at six weeks of age. They are classified as invasive species in North America.

Q: Can the mussels live in salt water?
A: Not long term. They can go dormant and survive for a short period of time. However, invasive mussels can survive in brackish water, or water that has slightly higher salinity than freshwater, but slightly lower salinity than ocean water.

Q: How big do invasive mussels get?
A: Mussel larvae (babies) are microscopic. Adult mussels average one inch in length, but two inches long is the maximum size.

Q: Can the mussels live outside of water?
A: Yes. They can live up to one week in hot, arid conditions by closing their shells very tight. If the weather is cool and humid, the mussels can live up to 30 days outside of water.

Q: Where do invasive mussels grow?
A: They are freshwater mussels that attach to hard surfaces such as rocks, boats, docks, piers, bridges, shipwrecks and pipes. The mussels especially like pipes because of the constant flow of water bringing them food. Zebra and golden mussels are often found at depths of 2-12 m, while quagga mussels can inhabit deeper depths.

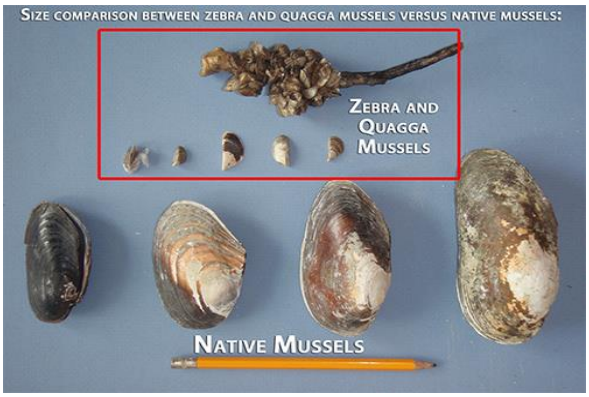
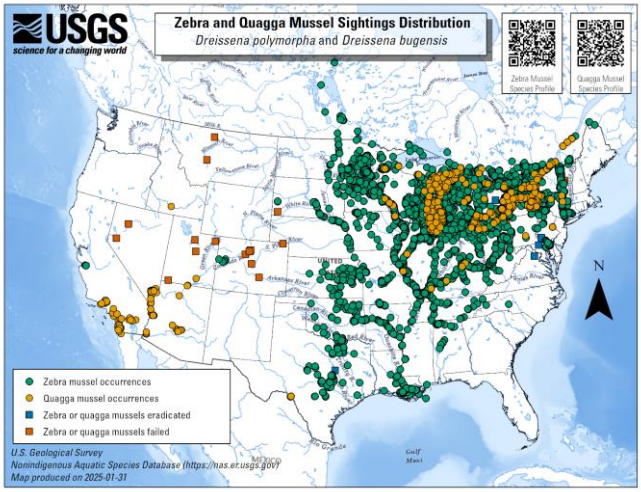


Photo credit: Government of BC

FACT: Female zebra and quagga mussels can produce up to **one million** eggs each spawning season. Only about 2% of these eggs will mature, which is a whopping 20,000 adults!

FACT: In one location of the Great Lakes, researchers found that a population of zebra mussels jumped from 1000 to 700,000 in six months!



WHERE ARE THEY FOUND?

Zebra and quagga mussels have invaded many lakes and rivers throughout Canada and the USA, while golden mussels have only been detected in California. Invasive mussels are not yet in British Columbia, Alberta, Saskatchewan or Washington. The closest locations to the Okanagan - Similkameen are the Snake River in Idaho and Lake Winnipeg in Manitoba.

Q: How and when did invasive mussels arrive in North America?
A: Zebra and quagga mussels were introduced by international shipping from the Baltic Sea to Canada (the Great Lakes region) and the United States in the 1980s. Golden mussels were introduced to the Sacramento – San Joaquin Delta in California the same way and detected in 2024.

Q: How far have the mussels spread since their introduction?
A: Invasive mussels have spread in Manitoba, Ontario and Quebec. They are also found in over 24 American states as far west as California.

REPORT ANY SUSPECT INVASIVE MUSSELS TO THE BC R.A.P.P. HOTLINE
1-877-952-7277

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WHAT DAMAGE DO THEY CAUSE?

Invasive mussels represent a serious threat to B.C.'s aquatic ecosystems, salmon populations, hydropower stations and other infrastructure facilities.

Invasive mussels can significantly change aquatic food webs. Such changes could mean the collapse of valuable native fish populations in B.C., such as sockeye salmon. Invasive mussel infestations can replace native aquatic plants and wildlife, worsen the environment and reduce drinking water quality. These mussels have been recognized as a threat to B.C.'s endangered Rocky Mountain Ridged Mussel.

FACT: Invasive mussels can filter one liter of water per day. They will consume the good algae in the lakes. This will increase the clarity of the water while reducing food for native species. In addition, the light can penetrate further into the waterbody, creating algal blooms and plant overgrowth.

They can clog pipes, water intake systems (hydropower facilities, agriculture irrigation systems), and municipal water supplies. This can increase maintenance costs for operators. These mussels are also a problem for recreation and tourism, as mussel shells can injure swimmers near the shore or docks, damage boat propellers and potentially dirty our drinking water.

Photo credit: Lisa Scott

Q: What is the economic impact?
A: Invasive mussels pose significant economic risks due to their impacts on infrastructure and waterbodies. The **annual** cost estimates if invasive mussels were to be introduced into B.C. range from $64 to $129 million.

Q: How will this affect me as a boat owner?
A: Invasive mussels can result in clogged and corroded motor cooling systems, fouled hulls, and jammed centerboard wells under sailboats. The estimated cost to repair these damages, and the subsequent loss of boat and equipment sales, and increased maintenance at marinas and docks is $3.7 million every year. For individual boat owners, the annual cost to fix damages caused by invasive mussels is between $1,000 and $2,500.

WHY SHOULD I CARE IF THEY AREN'T HERE YET?

Q: Can we get rid of them once they are here?
A: Once invasive mussels arrive, eradication is not usually possible, and the only option is to manage the problem. Divers can pick them off hard surfaces, they can be smothered, reservoirs can be dewatered, and various substances can be added to the water (such as molluscicides) to target mussels and their larvae.

PULL THE PLUG! IT'S THE LAW!

Effective May 17, 2024 in B.C. it is now illegal to transport your watercraft with the drain plug still in place. Before transporting a boat or other watercraft, owners/operators must remove the drain plug and drain all water on dry land including all internal compartments such as ballasts, bilges, and live wells.

FACT: If you are transporting a watercraft in B.C., you MUST stop and report to all invasive mussel watercraft inspection stations along your travel route. Watercraft includes sailboats, motorboats, car toppers, kayaks, canoes, and paddle boards being transported in B.C.

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REGIONAL DISTRICT RDOS OKANAGAN-SIMILKAMEEN

Okanagan and Similkameen Invasive Species Society

Okanagan Basin WATER BOARD

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