

# Zebra mussels: a true threat



Zebra mussels



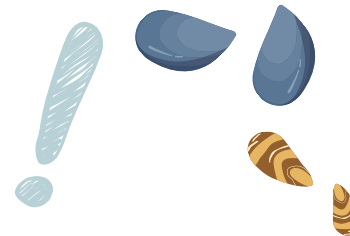
## Zebra mussel

## The impacts

### Primary characteristics:

- Arrived in North America from Europe in 1986
- Freshwater mollusc that can grow to 5cm
- Shell is dark brown with white or beige stripes and in the shape of a D
- Sticks to solid surfaces with byssus threads
- Grows and reproduces very rapidly

### Don't confuse it with native mussels!



Native mussel covered in invasive  
zebra mussels



Zebra mussels  
(attached and  
small)

Native mussel  
(much larger  
and mobile)

Crédit - C. Parks, Province of Manitoba.

### Social and economic impacts:

- Able to block drinking water intakes, drastically affect drinking water production
- Management costs can be in the tens to hundreds of thousands per year for a single lake
- Empty shells can cause cuts and lacerations when stepped on or bumped against on a beach

### Environmental impacts:

- Can change the bottom of a lake through the build up of shells
- Associated with increased frequency and severity of blue-green algae blooms
- Reduce the resources available to native species affecting plankton, small fish, and the food web.



Beach infested with  
zebra mussels

Crédit - Cindy Sawchuk



# Boat wash stations

# Prevention

# Zebra mussel surveillance subtrates



To never miss a wash when moving between lakes, check [Stationdelavage.ca](http://Stationdelavage.ca) to find the nearest wash station.



Contaminated boat



Credit - W. Baldwin.

**Your role**  
If you are in an area with no known zebra mussel presence and you see a mussel:  
**Take pictures and send them and the location to [Estrie.EEE@mffp.gouv.qc.ca](mailto:Estrie.EEE@mffp.gouv.qc.ca)**

**Decontamination methods**  
Decontaminating your boat, trailer, and anything that has touched the water is the best way to prevent the spread of zebra mussels from one waterbody to another.

Method	Exposure time to decontaminate
Cleaning with high pressure hot water vapour	5 to 10 seconds
Hot (60°C) low pressure water	10 minutes
Hot (60°C) high pressure water	5 to 10 seconds
Cold high pressure water	30 seconds
Diluted bleach or chlorine cleaner	10 minutes
White vinegar	20 minutes
Air drying	5 consecutive days
Freezing (-9 °C or colder)	8 hours

**How to detect zebra mussels**  
Homemade zebra mussel surveillance subtrates can be used to detect zebra mussels or monitor an infestation. Water intakes, boats, docks, boat elevators, and rafts are all surfaces that zebra mussels can attach to and can function as artisanal or ad hoc surveillance substrates. These surfaces should be checked in the fall for mussels.

**Checking for mussels**

- Once the equipment has been removed from the water, leave it to dry in the sun. This will kill any mussels that might be present.
- remove dead mussels with a scraper or high pressure water.
- Do not clean the equipment near water that could be contaminated by the derbis.
- For water intakes, normal winterization is generally sufficient to kill mussels.
- Dispose of any zebra mussels in the garbage.