



Questions and Answers:

Shoal Lake Zebra Mussel Veliger Detection

Q) How was the zebra mussel in Shoal Lake found?

A) A zebra mussel larva (called a veliger) was identified in one of six water samples collected August 2018. The water samples were collected by the Ontario Ministry of Natural Resources and Forestry through a program operated by the Ontario Federation of Anglers and Hunters (OFAH). The water samples were analyzed in a lab by a zebra mussel expert who identified and confirmed the presence of a single intact larva.

Q) Where was the zebra mussel found in Shoal Lake?

A) The one sample the zebra mussel veliger was detected in was collected near the Clytie Bay public boat launch on the northeast side of Shoal Lake. Shoal Lake straddles the Manitoba-Ontario border.

Q) Was this monitoring part of an annual monitoring program?

A) No, this was a onetime sampling event by OFAH. On the other hand, the City of Winnipeg has been monitoring for zebra mussels in Shoal Lake for many years. There has been no detection of zebra mussels through their sampling efforts.

Q) Why is this detection being reported now?

A) Although this was a onetime collection from Shoal Lake, a number of water bodies are sampled throughout Ontario. It takes time to analyse the volume of samples, and then get confirmation of the species by an expert.



Q) As Shoal Lake is on the border between Ontario and Manitoba, whose responsibility is the lake and its management?

A) Greater than 90% of Shoal Lake is located in Ontario. As such the government of Ontario takes the lead on management of the lake. Ontario works with Manitoba on issues of mutual interest.

Q) What is a zebra mussel veliger?

A) A veliger is the larva of a zebra mussel. Zebra mussel veligers (or larvae) are planktonic, meaning that they float or drift in the water. As they mature, zebra mussels settle to the lake bottom or other hard surfaces where they attach and grow.

Q) Have zebra mussels been found in the Kenora area?

A) While zebra mussels are present in the Great Lakes basin to the east and in the Red River/Lake Winnipeg drainage basin to the west, they have not been previously detected in this area of northwestern Ontario.

Q) How did the zebra mussel get into Ontario/Shoal Lake?

A) The zebra mussel was introduced to North America in the late 1980s through contaminated ballast water that was discharged into the Lake St. Clair-Detroit River region of the Great Lakes. After this initial introduction, they spread to all of the Great Lakes and have also spread to many inland water bodies in Ontario and westward. This includes water bodies in Manitoba (i.e. Lake Winnipeg, Red River, Cedar Lake) and Minnesota.

The primary pathways for introduction and spread of zebra mussels amongst inland water bodies are linked to human recreational activities, including boating and fishing. However, it is not known how this veliger arrived in Shoal Lake.



Q) Does this mean that zebra mussels have invaded Shoal Lake?

A) The finding of a single larval individual does not necessarily indicate that adult zebra mussels have colonized the lake. The City of Winnipeg has been monitoring Shoal Lake annually for many years and there has been no detection. Additional ongoing monitoring of the lake will be necessary to determine the status of this invasive species.

Q) Can adult zebra mussels survive in Shoal Lake?

A) There are some key water quality parameters that zebra mussels need to survive and grow. Calcium is one of those. The government of Ontario is currently analyzing existing water chemistry data to determine the suitability of the lake for supporting a zebra mussel population.

Q) What are the impacts of zebra mussels?

A) Through their feeding activities, zebra mussels remove large quantities of smaller food items that other aquatic animals rely on, fundamentally changing lake ecosystems.

Invasions of zebra mussels can also have serious social and economic impacts, fouling beaches and watercraft, contributing to the growth of aquatic plants, and clogging industrial and municipal water intake pipes. It is estimated that zebra mussel control and mitigation in the Great Lakes watershed costs the Ontario economy between \$75 and \$91 million per year.

Q) Will this impact drinking water in the City of Winnipeg?

A) The City of Winnipeg draws all its drinking water supply from Shoal Lake and is concerned about how zebra mussels will affect water intakes. The City of Winnipeg has undertaken proactive planning for a possible invasion ever since the arrival of zebra mussels in the Great Lakes.



Q) Can zebra mussels be eradicated from a water body?

A) Many invasive species, including zebra mussels, are very difficult, if not impossible to remove from an ecosystem once they have become established. Some eradication efforts have been successful and others not. Preventing the introduction and spread of invasive species is far more effective and cost effective than managing a population once it is established.

Q) What actions is the government of Ontario considering for managing zebra mussels in Shoal Lake?

A) The Ontario Ministry of Natural Resources and Forestry is working closely with the government of Manitoba's Department of Sustainable Development and the City of Winnipeg to determine the status of zebra mussels in Shoal Lake. Both Provincial governments are working together to determine whether there are additional actions that can help to prevent further introduction of zebra mussels into other water bodies

Q) What can members of the public do to prevent introducing or spreading invasive species?

A) Members of the public must, under Manitoba's Aquatic Invasive Species (AIS) Regulation under The Water Protection Act, undertake specific actions to be free of aquatic invasive species. This includes actions such removing AIS and plants, and draining water from watercraft and water-related equipment before leaving the shore of a water body. For more information visit Manitoba.ca/StopAIS or call (toll-free) 1-87-STOP AIS-0 (1-877-867-2470)

Q) What should members of the public do if they find zebra mussels or other invasive species?

A) The public are required to report an aquatic invasive species from an area where they are not known to exist by calling (toll-free) 1-87-STOP AIS-0 (1-877-867-2470) or visiting Manitoba.ca/StopAIS.