

Welcome to the summarized report for the 2024 season. The goal of the IMDP is to mitigate the risk of introducing zebra and quagga mussels into British Columbia.

Piloted in 2015, the program consists of three main components: watercraft inspections, lake monitoring, and public outreach and education. The program is delivered through the Ministry of Water, Land and Resource Stewardship in collaboration with the Ministry of Environment and Climate Change Strategy's Conservation Officer Service (COS).

The IMDP would like to recognize funding provided by Columbia Basin Trust, Columbia Power Corporation, BC Hydro, and Fortis BC and the new contribution for the 2024 season from the BC Wildlife Federation, Habitat Conservation Trust Foundation and Pacific Salmon Foundation. For more information about the IMDP, please visit [www.gov.bc.ca/invasivemussels](http://www.gov.bc.ca/invasivemussels). Suspected invasive mussels should be reported to the COS Report All Poachers and Polluters (RAPP) hotline at 1-877-952-7277.

## Watercraft Inspection Stations

For the 2024, season inspection crews completed approximately 24,500 inspections and interacted with more than 45,400 people to promote Clean, Drain Dry practices – a preventative step all boaters should take when moving between lakes in B.C.

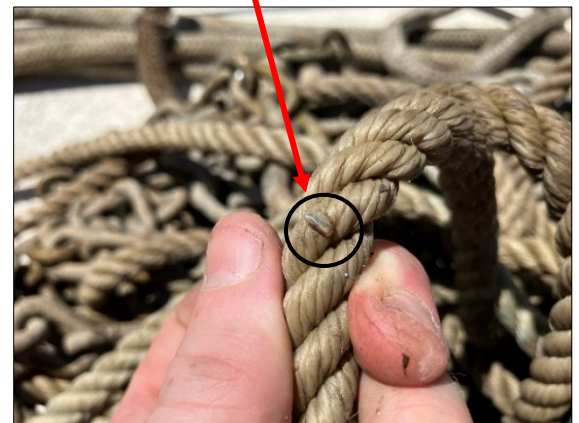
During the inspections, 199 watercraft were identified as high risk, 63 decontamination orders were issued, and 37 watercraft were issued quarantine periods to meet the required drying time. The COS Aquatic Invasive Species inspectors completed 128 decontaminations. Twelve watercraft were confirmed to have invasive mussels. These watercraft came from: Ontario (4), Manitoba (2), Michigan (2), Arizona (2), Utah (1) and Quebec (1). The watercraft were destined for: Lower Mainland (6), Thompson-Okanagan (4), Kootenay–Boundary (1) and Omineca (1) regions.

In addition to the 12 mussel-fouled boats intercepted, another 7 watercraft were identified as being mussel-fouled by another jurisdiction and were decontaminated prior to arrival in B.C. Upon inspection by the IMDP these additional 7 boats were confirmed to be Clean, Drain, Dry. This highlights the effectiveness of the perimeter defence approach through the ongoing collaborations with neighbouring jurisdictions across western Canada and the United States.

Most inspection stations were operational from early April to late October. COS field officers also provided enforcement support throughout the year to address blow-bys at inspection stations and responded to watercraft notifications.



Aquatic invasive species inspector performing a decontamination (top) and a very small zebra mussel found on a sailboat from Manitoba (bottom)



## Program Effectiveness

In 2024 the average compliance rate across all inspection stations was 90.7%, which is an increase from the 2023 season (88%). This represents the largest single year increase in compliance since 2020.

Following the announcement of the new Plug the Plug requirement in May 2024, the IMDP started tracking compliance at the inspection stations. 85% of watercraft with drain plugs were compliant with having the drain plug removed upon arrival at the IMDP inspection station.

## Lake Monitoring

In 2024, grants were administered by the [Habitat Conservation Trust Foundation \(HCTF\)](#) to partner organizations to sample in priority waterbodies across the province.

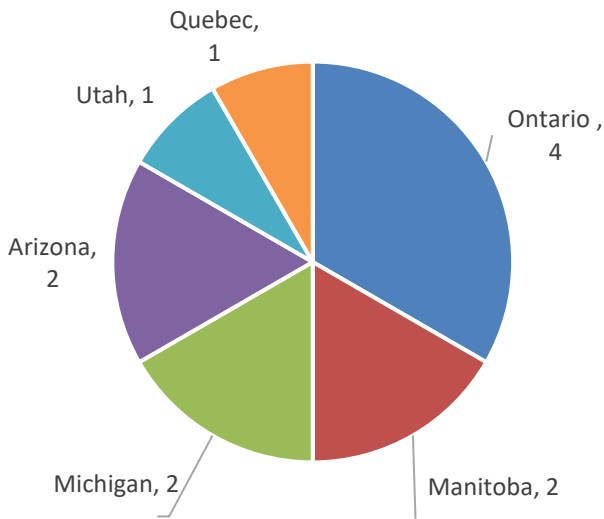
From June to October, partner organizations and ministry staff carried out plankton tow sampling following the [Provincial lake monitoring protocol](#). All samples are analyzed by a Ministry-designated lab to look for invasive mussel larvae.

A total of 869 plankton tow water samples were collected from 87 priority waterbodies across the province. All plankton tow samples tested negative for invasive mussels.

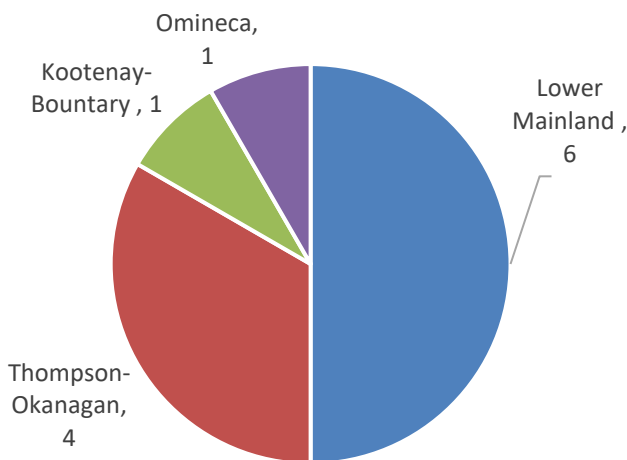
In 2024, the Province piloted using environmental DNA (eDNA) as another detection tool for invasive mussels. The Province has been working closely with other jurisdictions to take a consistent approach on how eDNA should be used for invasive mussel monitoring. The following consensus statement was developed by western provinces and states, “The detection of dreissenid environmental DNA (eDNA) does not, in and of itself, constitute proof of detection that a water body contains live dreissenids, but rather an indicator of likelihood that a water body was exposed to some level of live or dead dreissenid eDNA (biological matter). Detections of dreissenid eDNA, in and of itself, is insufficient to meet detection standards for classifying a water body for the presence of dreissenids.”

For the 2024 eDNA pilot, 27 sites across 6 priority waterbodies were sampled. The eDNA sampling occurred at sites also sampled using the plankton tows. There were no eDNA detections for invasive mussels.

To date, there has been no reported introduction of live zebra or quagga mussels in B.C. waterways.



The source (above) and destination (below) of the 12 mussel fouled boats intercepted during the 2024 season



## Notable Updates

In June 2024, the Program team (WLRS and BC COS) hosted a rapid response tabletop training exercise with our U.S. counterparts in the Columbia River Basin. The exercise was focused on response actions if invasive mussels were to be detected in a shared waterbody between B.C. and Montana. The lessons learned from the exercise have been summarized in the after action report which has been published on the [WesternAIS.org](https://www.westernais.org) website.

The golden mussel is a freshwater-brackish water mussel that is native to China and southeast Asia. The golden mussel is similar in appearance, biology, and impacts to zebra and quagga mussels. Of note, these mussels can establish in waters with considerably lower calcium levels than required by zebra and quagga mussels.

In October 2024 the golden mussel (*Limnoperna fortunei*) was detected in California which represents the first detection of this species in North America. These mussels were likely introduced to California by a ship traveling from an international port. Like zebra and quagga mussels, the golden mussel can attach to solid and semi-solid surfaces.

Initial reviews of the existing watercraft decontamination and lake monitoring protocols for zebra and quagga mussels indicate they will be effective for the golden mussel. The Province will continue to work closely with western provinces and states to assess the risks posed by the golden mussel. For more information on the golden mussel please see the provincial alert sheet:

<https://www2.gov.bc.ca/gov/content?id=C27D5463AFB14258AF96B9089E16F311>



Photo credit: Boltovsky, Wikimedia Commons

Golden mussel (top) and zebra mussel (bottom left) and quagga mussel (bottom right)



Photo credit: Amy Benson - U.S. Geological Survey

BY THE NUMBERS	2023	2024
TOTAL WATERCRAFT INSPECTED	20,900	20,900
NUMBER OF PEOPLE INTERACTED WITH TO PROMOTE CLEAN, DRAIN, DRY	39,200	45,400
HIGH-RISK INSPECTIONS	155	199
DECONTAMINATION ORDERS ISSUED	66	63
QUARANTINE ORDERS ISSUED	36	37
MUSSEL-FOULED WATERCRAFT	14	12