



WHATCOM 2023 BOAT INSPECTIONS ANNUAL REPORT

Aquatic Invasive Species
Prevention Program



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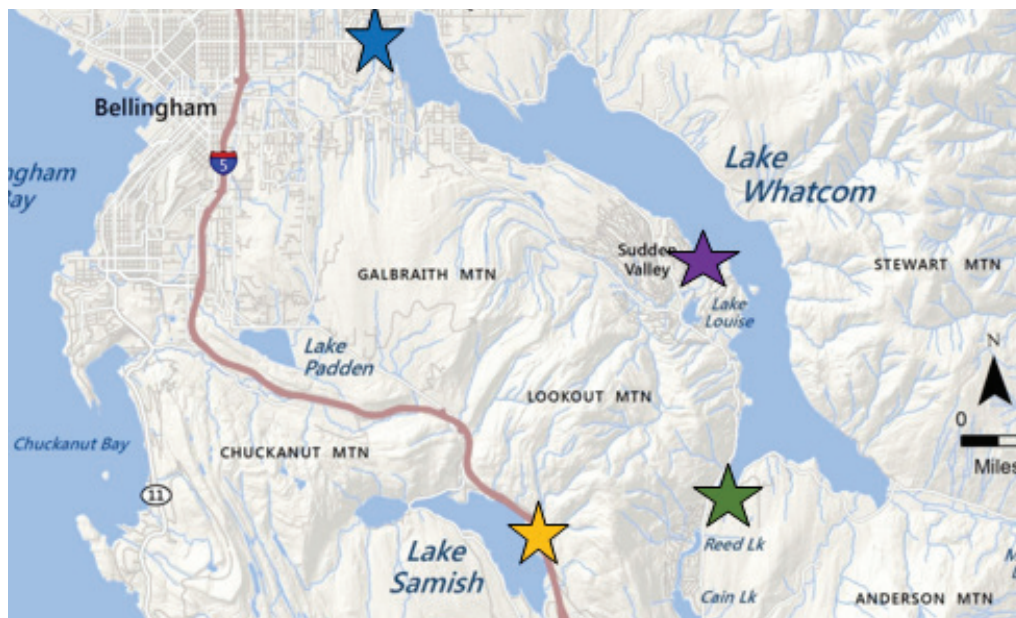
Lake Whatcom Management Program
lakewhatcom.whatcomcounty.org



The Lake Whatcom Management Program is a joint effort of the City of Bellingham, Whatcom County, and the Lake Whatcom Water and Sewer District to protect Lake Whatcom as a source of drinking water for over 100,000 residents. The Whatcom Boat Inspection Program is one of many programs sponsored by this coordinated effort.

PROGRAM SUMMARY

The Aquatic Invasive Species (AIS) Boat Inspection Program was created in 2012 immediately after the discovery of Asian Clams in Lake Whatcom. The Lake Whatcom Management Program (LWMP), a partnership between the City of Bellingham, Whatcom County, and the Lake Whatcom Water and Sewer District, focused the AIS program on inspection of vessels launching on Lake Whatcom and Lake Samish to protect the drinking water supply for over 120,000 people. Coordinated by the City of Bellingham, the AIS program employs seasonal inspectors to operate at four boat launches. The AIS program prevents invasive species that can be harmful to infrastructure, human health, and recreation. Species of particular concern include Zebra and Quagga Mussels (ZQM), which pose the highest risk to local water bodies. The program includes additional efforts to prevent those species from entering the lakes including training, vessel decontamination and monitoring. This document serves as a summary of the 2023 season.



Four Boat Launches staffed by City of Bellingham Aquatic Invasive Species Staff from April to September.

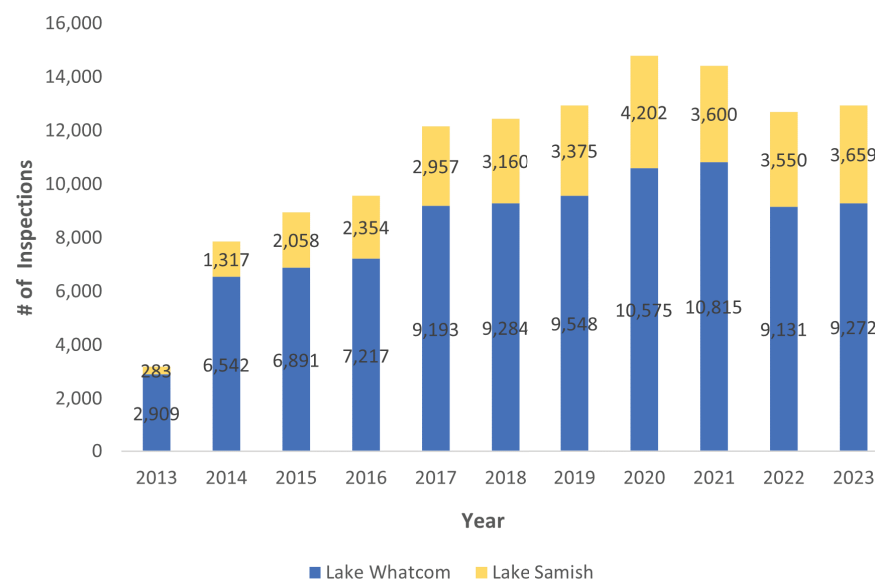


Figure 2: Annual total reported inspections during the boating season (April-September) by year from 2013-2023

PROGRAM SUMMARY

In 2023 the AIS program hired and trained 22 seasonal inspectors to cover four sites: Bloedel Donovan, Sudden Valley, South Bay, and Lake Samish Boat Launch (Figure 1). Two 9-month seasonal lead inspectors worked from mid-February to mid-November, seventeen 6-month seasonal inspectors began April 22nd, and three 3-month seasonals began June 19th. The 6 and 3-month inspectors worked through the end of the boating season at the end of September. Due to an exceptionally sunny and warm spring, the busiest day at all four locations occurred long before usual holiday traffic peaks, on May 13th. AIS staff conducted 14,233 inspections in 2023. The total number of inspections conducted annually has remained relatively stable since 2017 (Figure 2), yet the proportion of inspections occurring at Bloedel relative to the other three launches decreased in 2023, indicating a potential change in site preference (Figures 4-7).

About 10% of those 14,233 boats were determined to be high risk and thus required additional attention from inspectors. Because of their history these vessels required water to be drained, pumped, or towel dried or plants to be removed before being permitted to launch. Water containing invasive species can be transported in engine components, bilges, wells, or ballast systems. Standing water in wet compartments means further actions are required before a permit can be issued.

CLEAN, DRAIN, AND DRY

In 2023, forty-five vessels had last launched in a high-risk (ZQM positive) waterbody. Boats inspected in 2023 had last visited 341 individual waterbodies in 25 different states or provinces before inspection at Lake Whatcom or Lake Samish (Figure 3). Since program inception 565 vessels had previously launched in or near a ZQM positive waterbody.

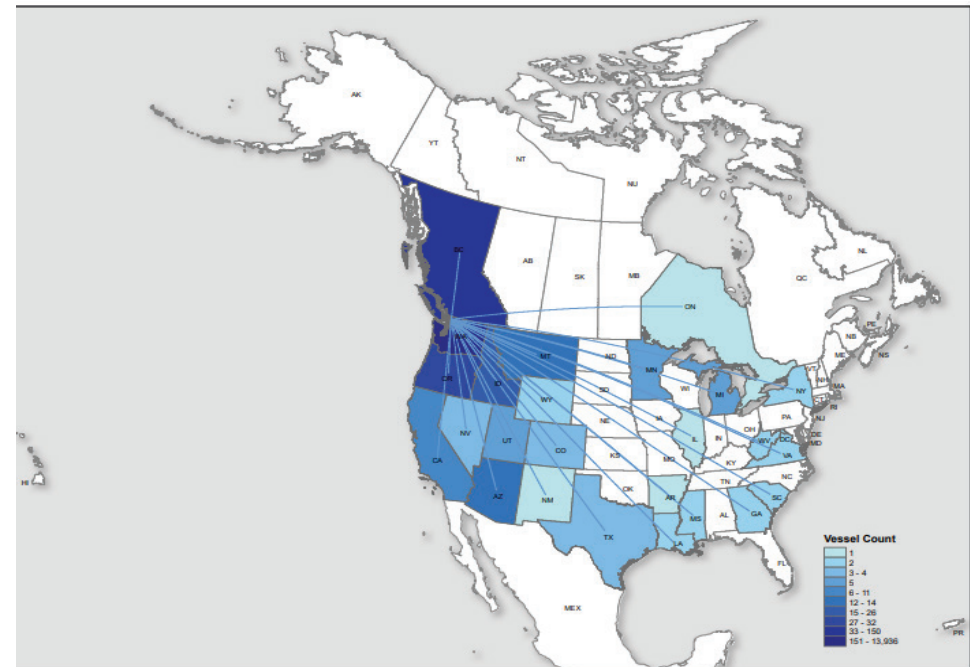


Figure 3: Waterbody history map for vessels launching at Lake Whatcom and Lake Samish in 2023. Jesse Herrick, COB GIS Department.

PROGRAM SUMMARY

BLOEDEL DONOVAN remained the most frequently visited launch and was staffed 7 days a week from 5am to 9pm during peak summer months. When inspection data from 2019- 2022 are averaged, about half as many boats came through Samish, South Bay, and Sudden Valley combined as came through Bloedel Donovan on any given summer day. This season, a sizeable increase in South Bay and Sudden Valley (referred to internally as “remote sites”) was observed, especially in July (Figures 4-6). Reasons may have included parking shortages, wait time, or other conditions associated with the popularity of Bloedel Donovan Park. If inspection data trend toward more equal distribution among the four launches, increased AIS coverage at remote sites on weekdays may become warranted.

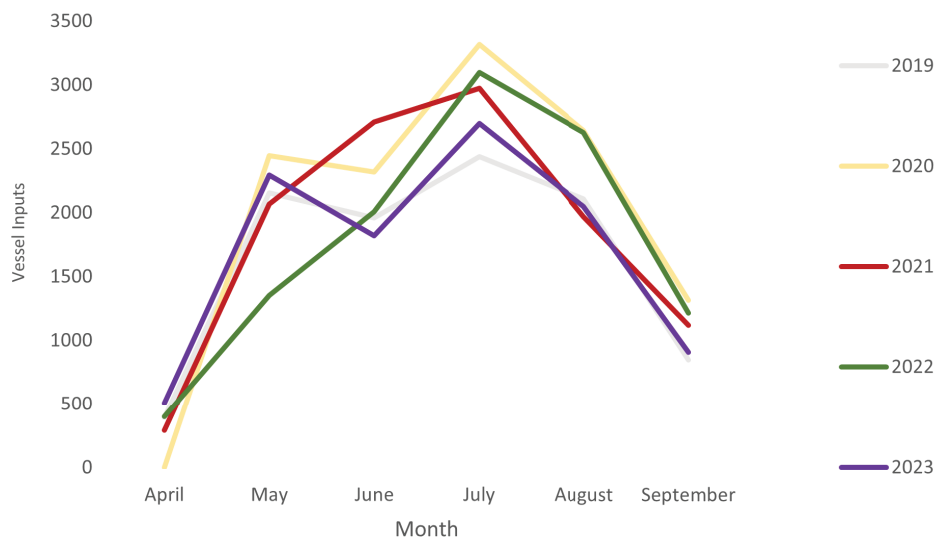


Figure 4: Total vessel inputs (inspections and seal removals) at Bloedel Donovan by month from April-September.

SUDDEN VALLEY is a privately-owned marina staffed most weekends and holidays during peak summer months from 8am to 5:30pm. Staff coordinated with Sudden Valley Parks and Recreation for permission to set up a check station at the ramp. 2023 data demonstrated an increase in Sudden Valley launches compared to previous years.

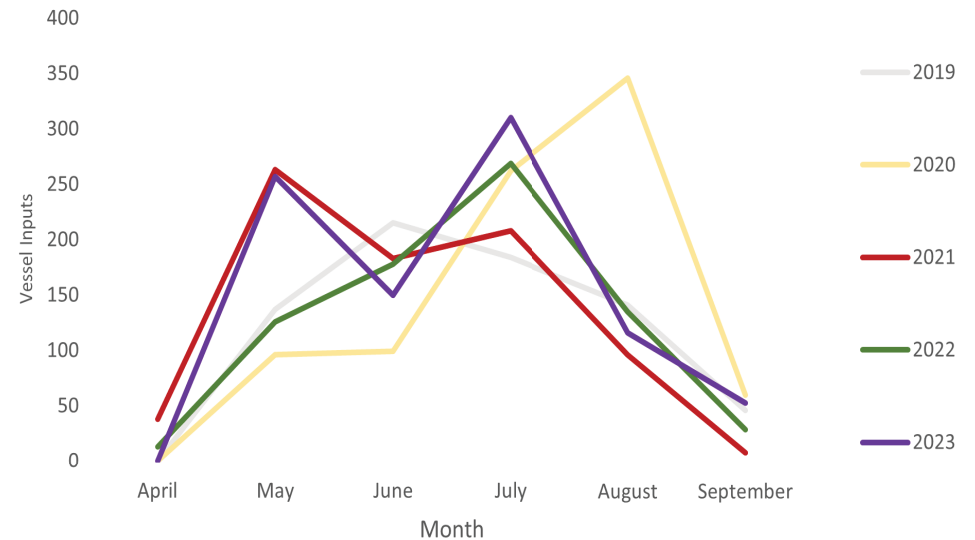


Figure 5: Total vessel inputs (inspections and seal removals) at the Sudden Valley Marina by month from April-September.

PROGRAM SUMMARY

SOUTH BAY (WDFW) was staffed most weekends and holidays during peak summer months from 9am to 6:30pm. South Bay was closed from August 21-September 30th by WDFW for construction of a new outhouse and a new paved ramp. The new ramp increased access for larger vessels that previously couldn't launch on the gravel ramp. These improvements, paired with the increase in preference for remote sites, (Figure 6), will require monitoring next season to determine if more AIS coverage will be necessary going forward.

THE LAKE SAMISH BOAT LAUNCH (WDFW) was staffed 7 days a week from 5:30am to 8:30pm. Lake Samish boat traffic was largely made up of sport fishers for Kokanee or Bass. A temporary use permit (TUP) was acquired from Fish and Wildlife to use the public boat ramp for boat inspections.

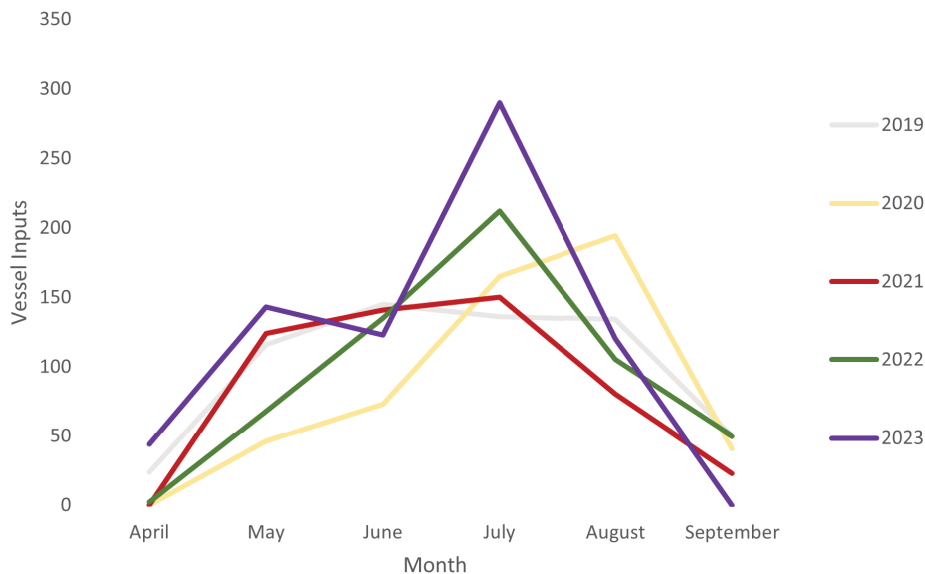


Figure 6: Total vessel inputs (inspections and seal removals) at the South Bay boat launch by month from April-September.

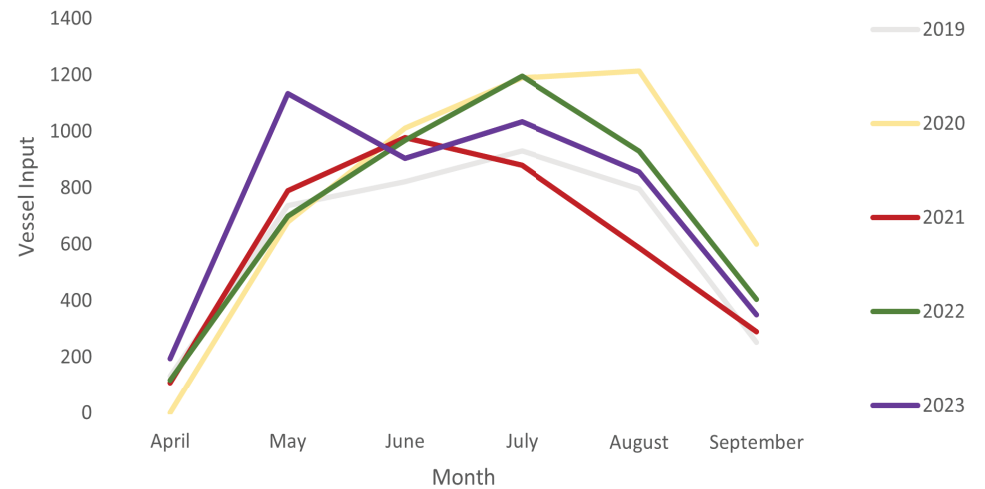
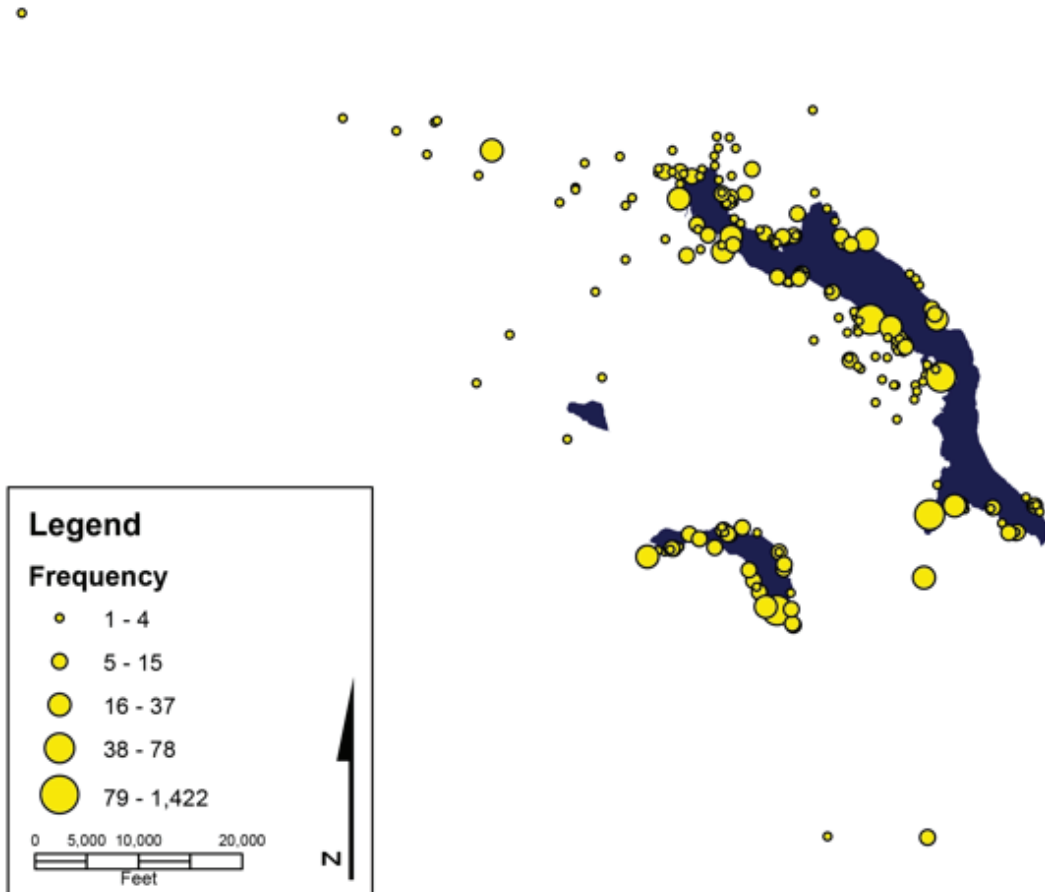


Figure 7: Total vessel inputs (inspections and seal removals) at the Lake Samish boat launch by month from April-September.

WIRE SEALS AND OFF SITE APPOINTMENTS

WIRE SEALS

The wire seal program serves as an express pass for local boaters who primarily boat on Lake Whatcom or Lake Samish. Wire is threaded through a plastic plunger and attaches the vessel to the trailer. If the wire seal is still intact when the vessel returns to the check station, inspectors know that the boat hasn't been elsewhere, so the inspection can be skipped. The wire seal program expedites the inspection process for both boaters and inspectors. The wire seal program provided an additional 8,305 opportunities to engage with boaters in 2023. With over 50% of seal interactions occurring at Bloedel Donovan, it is the preferred site for most returning boaters.



OFF SITE APPOINTMENTS

Vessel owners can schedule appointments at their home or other location for inspection and permitting by calling the AIS Boat Inspection hotline. These appointments typically occur when an owner is unable to transport their vessel to the launch or if they have multiple vessels. This service increases permit compliance and reduces boat volume at boat launches during the busy summer months. Program staff permitted 1,422 vessels at 276 off-site appointments.

Figure 8: Off-site appointment frequency map from 2023 season. Jesse Herrick, COB GIS Department.

EVENTS AND DECONTAMINATIONS

EVENTS

When an organized event was scheduled in either Lake Whatcom or Lake Samish, the AIS program often attended to inspect vessels. During summer 2023 staff attended local weeknight paddler club events, bass tournaments, tribal war canoe races, and seaplane fly-ins. These types of events attract boaters from far and wide, so it is important to inspect every watercraft. AIS program staff attended events like Jr. Ski to Sea and the Padden Triathlon to provide outreach to recreationists and increase awareness. Additionally, 25 canoes were inspected at Bloedel Donovan before the annual Sea to Ski clinic, providing racers an opportunity to take the online course for a discounted permit fee while participating in an event that celebrates Whatcom County's waterways.

DECONTAMINATIONS

In 2023 the AIS program decontaminated 12 vessels, marking a 50% decrease from 2022. These vessels were considered high risk due to a combination of waterbody history, vessel features, and inspection results. Vessel decontaminations consist of hot, high-pressure water without the use of soaps or chemicals. High temperatures kill specimens that may be present on the vessel or trailer while the high pressure provides mechanical removal. Most of the vessels decontaminated by the program are wakeboard boats, which have the potential to transport hundreds of gallons of water in their ballast systems. However, staff decontaminated a wide variety of vessel types in 2023 (including a kayak!) at no charge to the vessel owners.

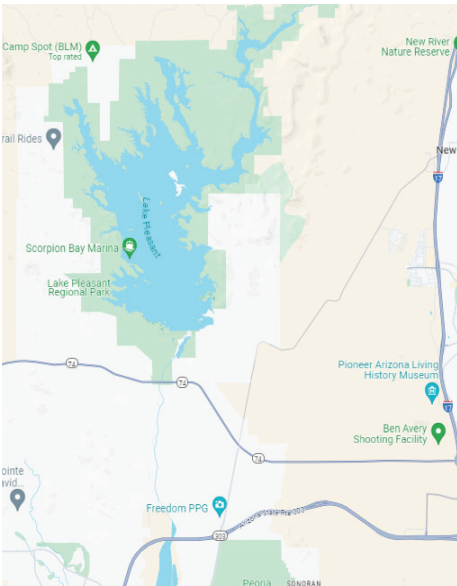


Volunteers decontaminating race participants shoes with diluted vinegar solution to prevent the spread of New Zealand Mudsnaills.

DECONTAMINATIONS

LAKE PLEASANT, AZ

The 2023 season began with an off-season decontamination on March 24th, shortly after the hotline received a call about a pontoon boat coming from Arizona. While the owner made their appointment, they also disclosed the boat had come from a water body positive for Quagga Mussels. Upon inspection, Quagga Mussel shell fragments were found at the stern on the portside pontoon (pictured). The decontamination unit was de-winterized, and the exterior and motor were flushed with 140-degree water.



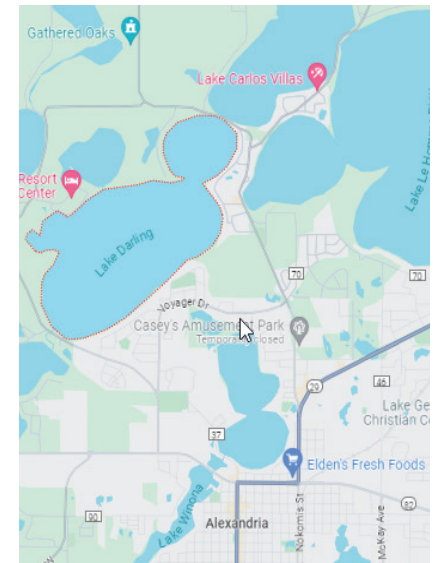
Quagga mussel found on stern, portside pontoon of watercraft from Arizona.

LAKE DARLING, MN

On July 9th, 2023 staff decontaminated a bass boat that had last launched in Lake Darling, Minnesota. Two Zebra Mussels were attached to the motor area and sand was discovered in the live wells and in the carpeted trailer bunks. The vessel had been inspected three times at highway check stations on its way to Lake Whatcom and was deemed high-risk for not being clean, drained, and dry after last launching in a positive water body. The vessel was not decontaminated until arrival, whereupon the live wells and outdrive motor were flushed with 120-degree and 140-degree water respectively and an exterior hot wash was completed.



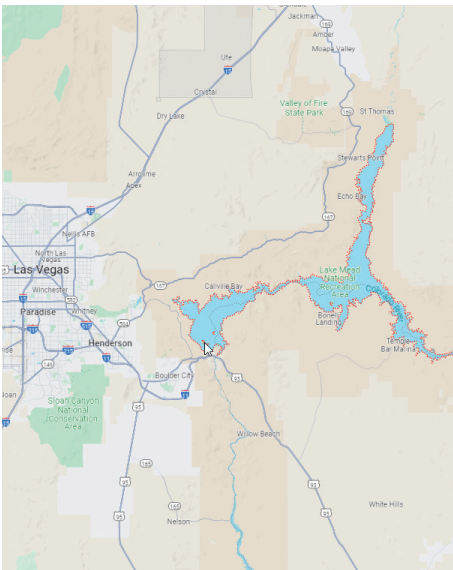
AIS program staff using hot, high-pressure water to decontaminate the hull and trailer of a watercraft.



DECONTAMINATIONS

LAKE MEAD, NV

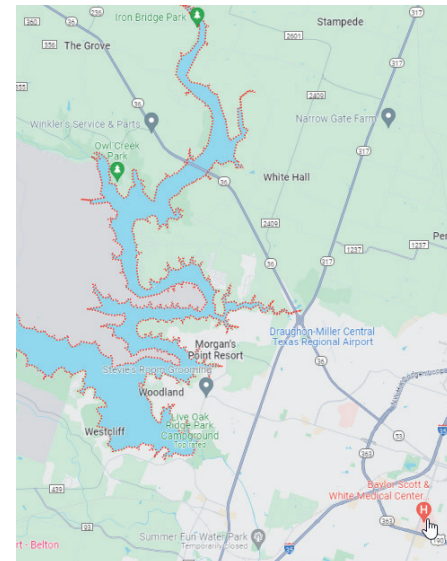
Not all vessels that are decontaminated have mussels visible on them. On July 13th a personal watercraft (PWC) from Lake Mead, Nevada came through the launch at Bloedel Donovan. Lake Mead is one of the first waterbodies inspectors are trained about, as it is positive for Quagga Mussels and is very popular with tourists. The jet engine was flushed with 140-degree water, the bilge was washed with low flow water at 120-degrees, and the exterior was hot washed at high pressure.



AIS program staff flushing the jet engine intake of a Personal Watercraft last used in Lake Mead, Nevada.

BELTON LAKE, TX

This wakeboard vessel last launched in ZQM positive Belton Lake, Texas. The hull of the vessel had mooring lines which indicates it had been sitting in infested water long enough for juveniles or adults to settle on it. An Asian Clam (an invasive species already present in Lake Whatcom) was found in the vessel. Damp safety gear indicated that the vessel was not clean, drained, or dry so the hull was hot washed at high pressure (pictured), the ballast tanks and bilge were flushed with low flow 120-degree water, and the line and safety gear were submerged in buckets of hot water.



AIS program staff pressure washing the exterior of a Texas wakeboard boat.

MONITORING

The AIS program conducts annual monitoring for invasive species at sites around Lake Whatcom, Lake Samish, and Lake Padden. The goal is to detect new infestations and track known infestations. The monitoring program detected the first Asian Clam in Lake Samish in 2019 and discovered New Zealand Mud Snails in Lake Padden in 2018.

ASIAN CLAMS AT ANDERSON CREEK

Asian Clams had historically been absent from this southern point on Lake Whatcom. In September 2023 the monitoring team found several adult shells, as well as a thriving population of juvenile clams. Many of these were only the size of a pinhead! This is illustrative of how mobile aquatic invasive species can be and we should expect ZQM would be equally as mobile.

EUROPEAN GREEN CRABS IN POST POINT LAGOON AND CHUCKANUT BAY

A marine species of concern, the European Green Crab has also been spotted nearby. It was first seen within city limits at Post Point lagoon which is a property managed by the City of Bellingham's Public Works department, and then later in Chuckanut Bay. WDFW is the lead agency on invasive species in the state and is conducting monitoring throughout the area. AIS staff put some signs out at Post Point Lagoon to inform visitors to report any sightings of this species.



Monitoring at South Lake Whatcom Park



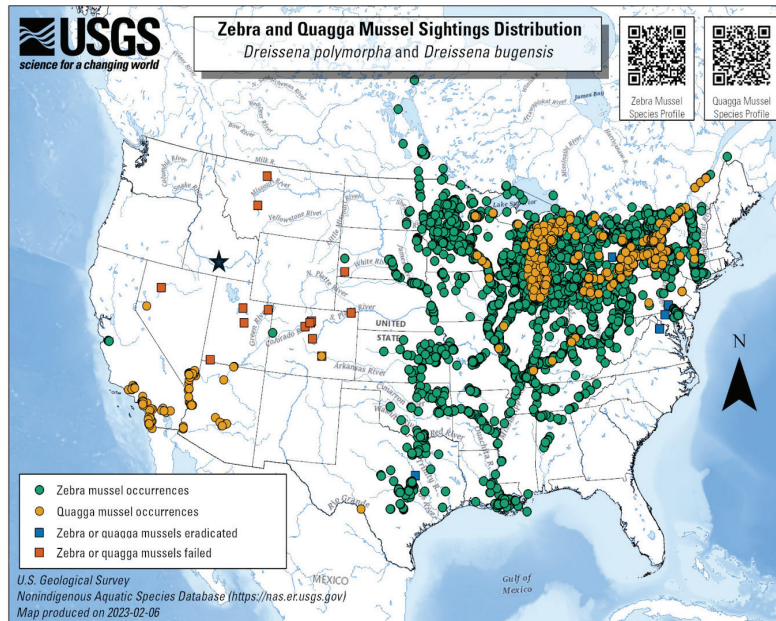
Monitoring at Bloedel Donovan



Monitoring at Lake Samish County Park.

REGIONAL AIS NEWS: QUAGGA MUSSEL DETECTION IN THE SNAKE RIVER

In September 2023 Quagga Mussels were detected in the mid-Snake River during routine early detection and monitoring efforts. This was the first detection in a bordering state and in river systems that flow into Washington State waters - the Snake and Columbia Rivers. Washington State has been a “safety pocket” with no waterbodies (or bordering states’ waterbodies) testing positive for Zebra or Quagga Mussels (ZQM). The Idaho State Department of Agriculture (ISDA) is the lead agency for invasive species in Idaho. ISDA took an aggressive approach by applying the copper-based molluscicide Natrix, a product meant to eradicate Quagga Mussels at all life stages to a 16-mile long section of the Snake River. They were able to do so because Idaho had an approved plan in place for rapid response to aquatic invasive species. **In 2024 the AIS Program will collaborate with WDFW to create a Lake Whatcom specific appendix to the Washington State Rapid Response Plan, as well as bolster the City’s local early detection and monitoring efforts so the LWMP will be well prepared if ZQM are detected nearby.** Early detection of veligers (juvenile mussels) through laboratory analysis of collected water samples could give agencies a 2–3-year head start on possible eradication when compared to on-site detection of already settled adult populations.



A map of zebra and quagga mussel detections in the United States with a star where the most recent quagga mussel veligers were detected in the Snake River near Twin Falls, Idaho. Adapted from USGS.



Close up of closed portion of the mid-Snake River in response to positive detection near Twin Falls, Idaho.

2023 PROGRAM EXPENDITURES AND REVENUES

Fee revenues collected by AIS permit sales are used to fund the AIS Program. This funding is supplemented by funding provided by Whatcom County, the City of Bellingham, and the Lake Whatcom Water and Sewer District. The tables below outline program expenditures and revenues collected from fees in 2023.

Program Characteristic	Expenditures for 2023 (\$)
AIS Program Staff	619,490
Supplies, Materials, Equipment, Consultant Fees	79,884
Total	699,374

FEE REVENUES COLLECTED IN 2023

Type of Permit/Pass	Fee (\$)	# Passes/Permits Sold	Total Revenue (\$)
Annual Registered Permit (COVID-Discount)	50*/60	2,914	163,440
Small Vessel Permit (COVID-Discount)	20/30	331	8,710
3-Day Pass	20	78	1,560
1-Day Pass	10	782	7,820
Non-Motorized Permit	0/10	3,502	6,220
Total		7,574	187,750**

*\$10 discount applied for successfully taking online course. 2,920 Successfully completed online courses in 2023 (Discount codes can be used for multiple vessels).

**does not include square fees

CONTRIBUTION BY JURISDICTION

Jurisdiction	Contribution (\$)
City of Bellingham	287,392
Whatcom County	162,691
Lake Whatcom Water and Sewer District	66,134
Permit Fees	183,157
Total	699,374