

Whatcom County Marine Resources Committee

2024 Annual Report



**Northwest
Straits**
INITIATIVE



PUGET SOUND
PARTNERSHIP

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The Whatcom Marine Resources Committee (MRC)

The Whatcom Marine Resources Committee (MRC) is one of seven citizen-based committees in the Northwest Straits Region that exist to protect, preserve, and restore the marine environment. The MRC utilizes up-to-date information and scientific expertise to guide local communities in achieving important goals for marine habitat protection within the Northwest Straits.

The Committee

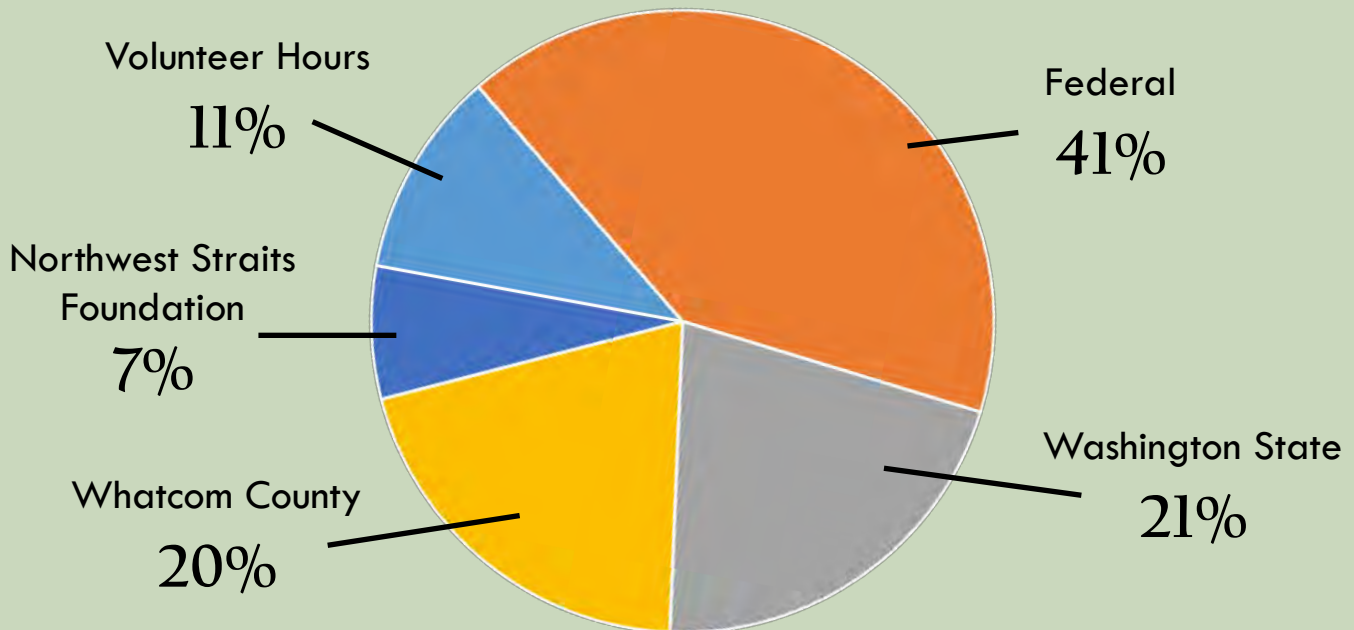
<u>Member</u>	<u>Representation</u>
Glen (Alex) Alexander	Citizen-at-Large
Rick Beauregard	Scientific Expertise
Jackie Dexter	Economic
Mark Fairhart	Citizen-at-Large
Thomas (Joe) Hoats	Economic
Kathy Ketteridge	Citizen-at-Large
Elizabeth Lorence	Conservation/Environmental
Mike MacKay	Scientific Expertise
Avery Maverick	Recreational
Andrew Shelton	Economic
Heather Spore	Scientific Expertise
Dan Sulak	Recreational
Colin Wahl	Conservation/Environmental

Alternates, Ex-Officio*, and Staff**

Kurt Baumgarten*	Port of Bellingham
Jace Cotton*	City of Bellingham
Kaylee Galloway*	Whatcom County Council
Mary Lou Steward*	City of Blaine (Mayor)
Austin Rose**	Whatcom County Public Works- Natural Resources
Dana Flerchinger**	Whatcom County Public Works- Natural Resources

Funding

The MRC receives funding through a grant administered by the [Northwest Straits Commission](#). This grant is comprised of state and federal dollars that fund basic MRC operations and targeted projects. In addition to these funds, the MRC receives support from Whatcom County and often partners with the County to seek external grants. Additionally, the [Northwest Straits Foundation](#) funds additional projects and resources to assist the MRC.



\$33.49

Estimated value of
a volunteer hour in
2024

(independentsector.org)



994

Volunteer hours
donated in
2024

\$33,289

Total value to
Whatcom County

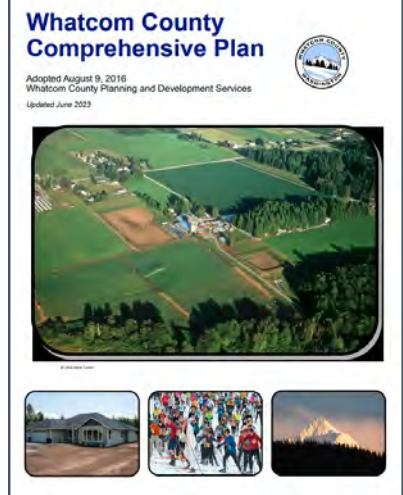


Broad public engagement in marine issues through volunteering time, expertise, and resources is a key component of the Northwest Straits Initiative. In 2024, MRC members and volunteers contributed nearly 1000 hours towards MRC projects and interests. This included participating in monthly public meetings, providing input on the Whatcom County Comprehensive Plan update, volunteering for monitoring efforts, and participating in community outreach and education.

Operational Strategies

ADVISORY ROLE

A key role of the MRC is to work with Whatcom County leadership and other key constituencies to help protect marine and nearshore habitat through local regulatory plans. In 2024, the MRC provided recommendations on the Environment and Climate chapters for the 2025 update of the Whatcom County Comprehensive Plan. This plan is a centerpiece of local long-range planning intended to guide decisions by elected officials and local government staff.



The MRC also participated in the Whatcom County Compound Flood Vulnerability Assessment, which identifies coastal and lower Nooksack Riverine areas of the county that may be most vulnerable to climate change driven impacts and outlines strategies that may be applicable to addressing these risks.



EDUCATION AND OUTREACH

Education and outreach lie at the heart of MRC projects. The MRC focuses on work that builds community education and involvement, increases coordination with partners, and advances dialogue with policy makers.

Photo: MRC members, Glen "Alex" Alexander and Joe Hoats tabling at the 2024 SeaFeast event. Credit: Jessica Owens.

MONITORING

The MRC leads local monitoring projects that collect data over an identified time period, using established protocols in order to answer a scientific or management-based question.

Photo: MRC volunteer measuring bull kelp depth at Cherry Pt/ Gulf Rd. site. Credit: Dana Flerchinger





Projects

Beach Seine with Kids

The MRC continued the Beach Seine with Kids program that provides elementary students with an opportunity to observe juvenile salmon utilizing intertidal habitat along the shoreline, improving students' understanding of the importance of these migratory corridors.

Applications were sent to 4th grade classrooms throughout Whatcom County, including Tribal schools. Schools were chosen to participate based on the program's relevance to the existing educational goals for the students.



Photo: Google Earth. Boulevard Park, Bellingham: Beach Seine Sites



Prior to and following each field event, MRC staff and members visited the classrooms of participating students to provide information on beach seining, the Bellingham shoreline, and the importance of intertidal habitats.

Photo: MRC staff conducting a classroom lesson prior to the field event. Credit: Mike MacKay

Each field event was preceded by a short talk by a Tribal Elder or marine scientist, who discussed the ecological and cultural importance of salmon.

Photo: Tribal Elder, Frank Lawrence III talking with students from Lowell Elementary School. Credit: Mike MacKay



Beach Seine with Kids: Event Summaries

"It's important to know that the intertidal habitat is being utilized. Here, in Boulevard Park, in the middle of the city, we have beaches that are being utilized by small salmon."
- Mike MacKay, MRC Project Lead

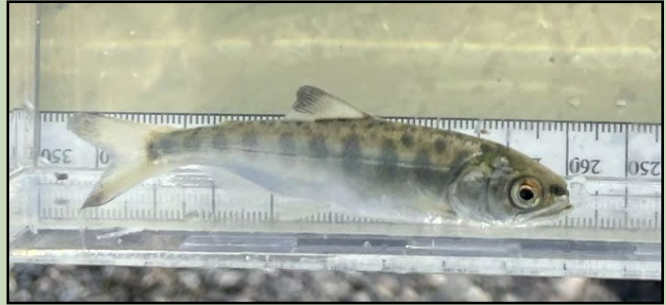


Photo: Juvenile chinook salmon in a photoaquarium. Credit: Dana Flerchinger

Lummi Nation and Beach Elementary April 19, 2024



Photo: Students observe juvenile salmon. Credit: Heather Spore

Students: 61 (4 classes)
Catch: 5 pink, 8 chum, 2 sculpins, 1 pipefish

Lowell Elementary May 3, 2024



Photo: Students observe a beach seine. Credit: Brigid Wills

Students: 58 (2 classes)
Catch: 1 coho, 4 chum, 32 shiner perch

Eagleridge Elementary May 15, 2024



Photo: Students observe the catch from the beach seine. Credit: Dana Flerchinger

Students: 70 (3 classes)
Catch: 68 chum, 2 pink, 13 chinook, 2 sculpins

Since the project began in 2022:

9

Beach Seine with Kids events have taken place

9

Schools have participated in the program

450

Total students have participated

300

Hours of volunteer time have been contributed

Forage Fish Surveys

The MRC participates in a regional effort to characterize populations of two species of forage fish that spawn on beaches in the Salish Sea: Pacific sand lance and surf smelt. Gathering data on forage fish spawning grounds can result in legal protections of spawning beaches, can inform potential soft shore restoration projects for Whatcom County, and can be used to assess the effectiveness of local restoration projects.

MAIN ACTIVITIES

Following protocols developed by the Washington Department of Fish and Wildlife (WDFW), surveys are conducted monthly when the tide is below 5 ft. A bulk sediment sample is collected and condensed to concentrate the fish eggs. WDFW conducts lab analysis and egg identification.



Bulk sediment samples are collected from sites monthly.



A sieving process and vortex method are used to separate eggs from the beach sediment.



The condensed sediment samples are preserved and transported to WDFW for analysis.

RESULTS/IMPACTS

Since this project began in 1972:

- WDFW has conducted 33,000 forage fish surveys.
- MRCs and partners have conducted over 11,000 more.

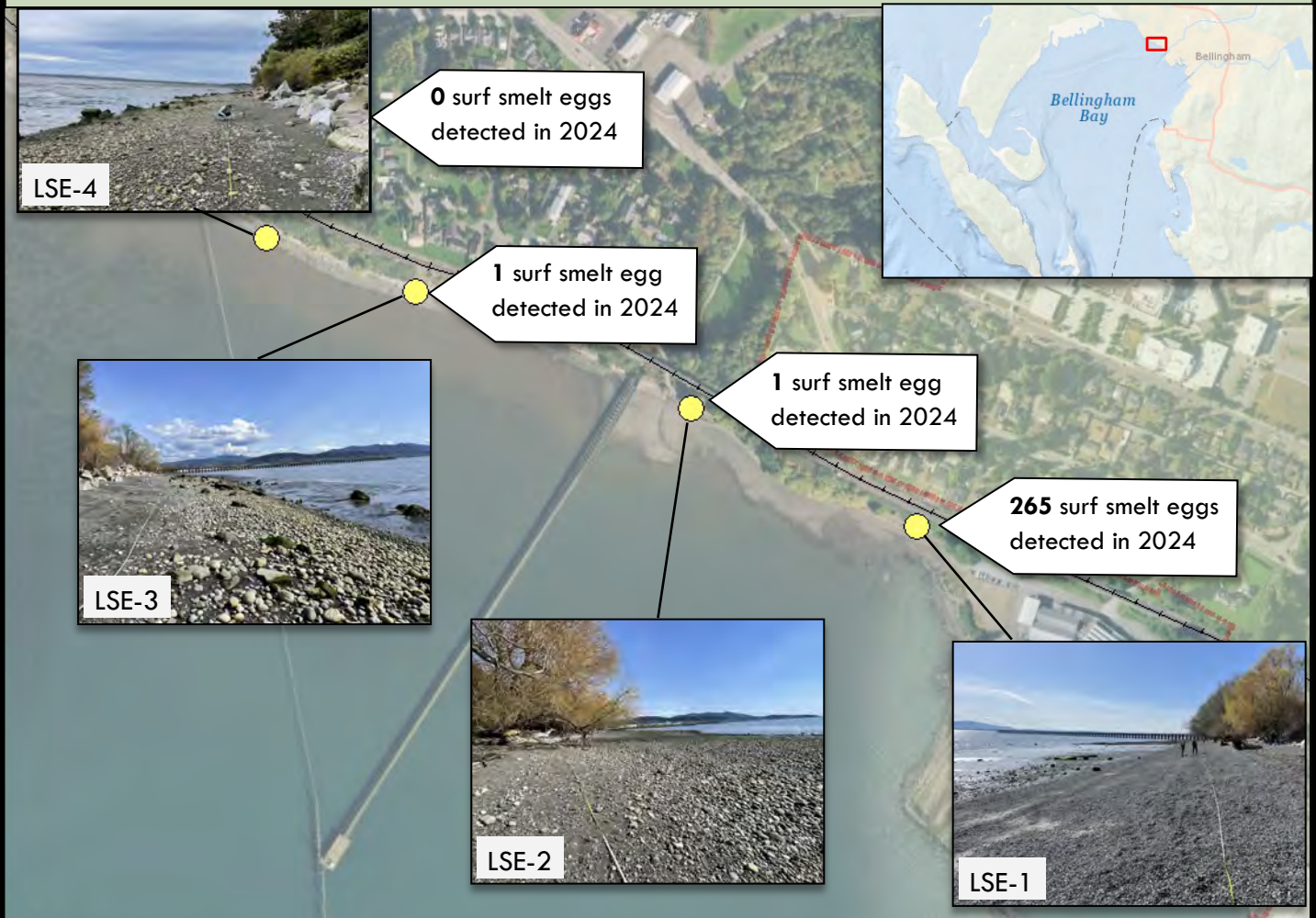
Combined efforts have identified over:

- 714.57 miles of surf smelt spawning habitat.
- 135.25 miles of sand lance spawning habitat.

“A dataset this large that goes back 50 years is rare and incredibly valuable. This project is part of one of the longest running, continuous datasets in the state and is used daily by regulators and environmental planners.”

- Kate Olson, Forage Fish Biologist, Washington Department of Fish and Wildlife

The MRC collects bulk sediment samples from 4 locations along **Little Squalicum Beach**, within the beach nourishment areas of two recent restoration projects completed by the City of Bellingham and the Port of Bellingham.



In partnership with the Northwest Straits Foundation and the Skagit MRC, the Whatcom MRC also conducts forage fish surveys at 2 sites at **Clayton Beach** every other month. These surveys are conducted in anticipation for a proposed nearshore restoration project at Clayton Beach.



Bull Kelp Monitoring

Bull kelp (*Nereocystis lueketeana*) is the largest species of brown algae native to our region. This fast growing seaweed can grow up to 100 feet in a single year and is an important component of the rocky intertidal ecosystem of the Salish Sea.



Benefits of Bull Kelp

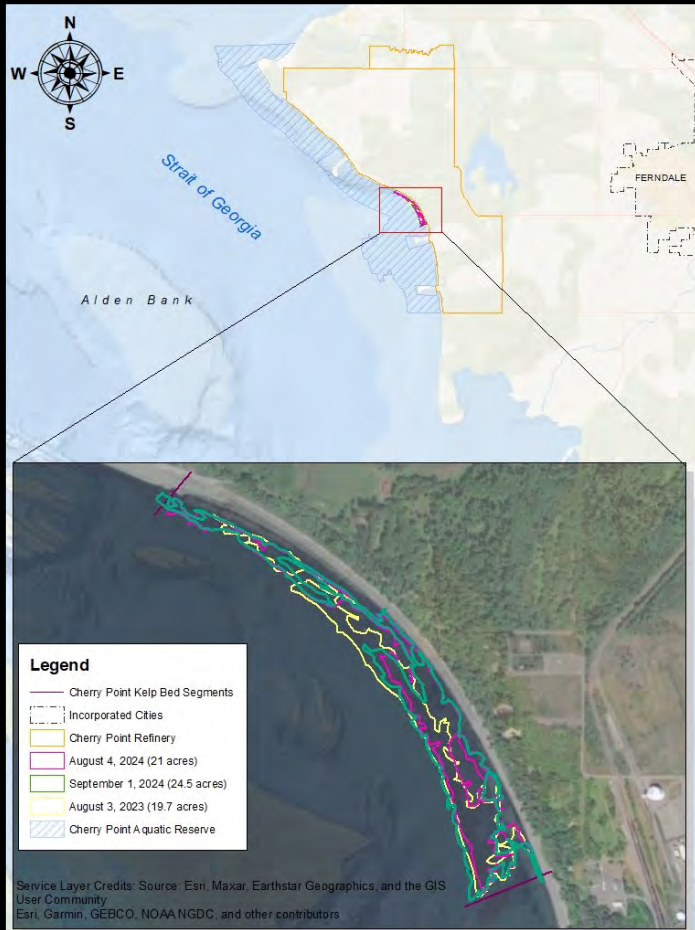
Sequesters carbon	Protects against storm surge and shoreline erosion
Provides oxygen to the marine environment	Provides critical nutrients and habitat for several species in the Salish Sea.

MAIN ACTIVITIES

- Bull kelp beds are monitored at least once annually during the July-September growing season at four locations throughout Whatcom County including Aiston Preserve, Southwest Lummi Island, Cherry Point/Gulf Rd, and Point Whitehorn (see map below).
- Volunteers use GPS units to track the perimeter of the beds, the start/end points, and the outer/shoreline edge points. Volunteers also collect temperature and depth data. Data are collected within specific spatial locations that are returned to each year for the surveys.



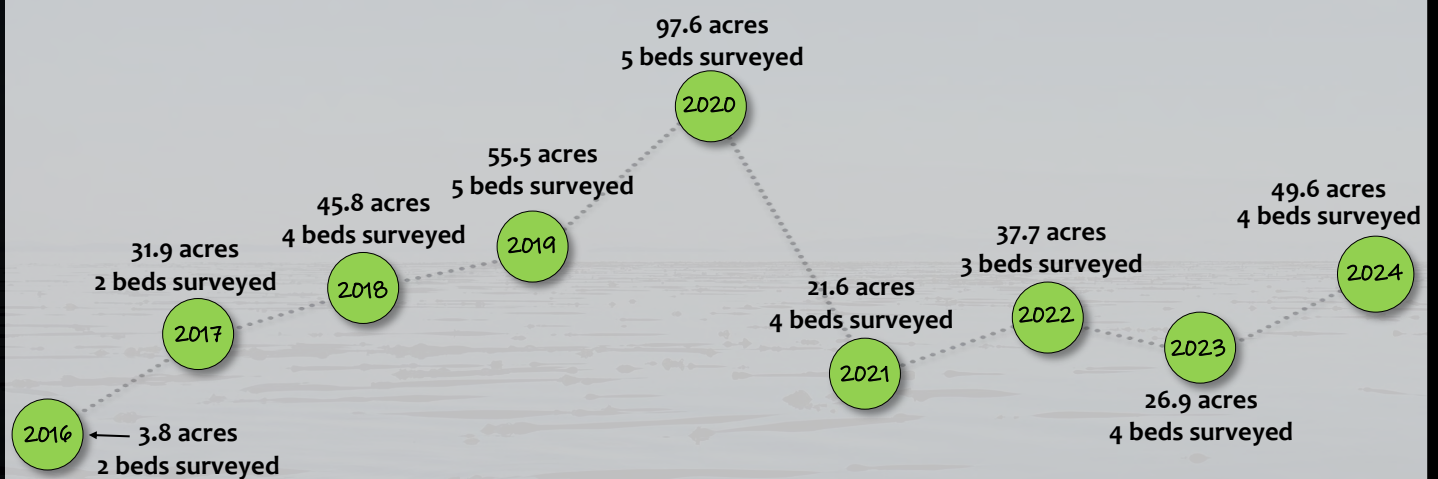
Top: Cherry Point/Gulf Road survey. Bottom: Aiston Preserve survey. Credit: Dana Flerchinger



RESULTS/IMPACTS

- In 2024, four bull kelp surveys were completed in Whatcom County including two surveys at Cherry Point/Gulf Road, one survey at Aiston Preserve, and one survey at Southwest Lummi Island. The MRC was not able to conduct the yearly survey at Point Whitehorn due to windy conditions.
- All of the kelp beds either remained similar in size to previous years or increased slightly.
- Kelp data collected during these surveys are a key part of the [Washington State floating kelp indicator](#) and synthesis of floating kelp in our region.

Left: Cherry Point/Gulf Road bull kelp survey perimeter tracks. The area of the bed increased in 2024 (pink and green tracks) as compared to 2023 (yellow track).



Above: MRC kelp survey data from 2016-2024 including the number of surveys completed and the total kelp bed acreage surveyed per year. Below: Kelp survey photos from the 2024 season. Credit: Dana Flerchinger and Eleanor Hines

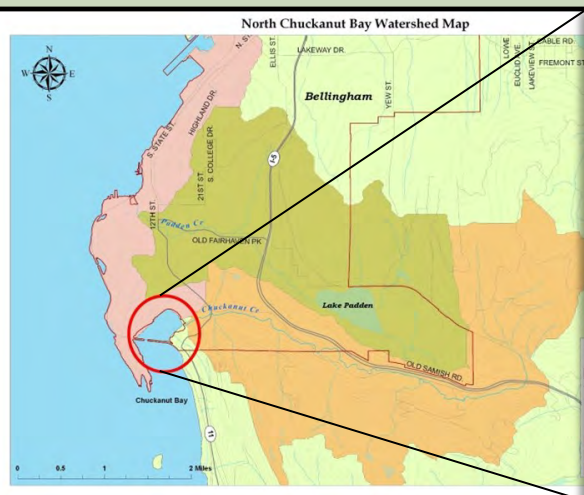


Pilot Olympia Oyster Restoration—North Chuckanut Bay

The MRC is working to establish a self-sustaining population of Olympia oysters to enhance habitat complexity and diversity. Physical and biological data are gathered annually to determine the status of restoration potential in North Chuckanut Bay.

HISTORY

- North Chuckanut Bay (see map below), is a small embayment in south Bellingham that is separated from the rest of Chuckanut Bay by a railroad trestle. Due to suitable habitat characteristics and evidence of historical populations of Olympia oysters within the bay, the Washington Department of Fish and Wildlife (WDFW) identified North Chuckanut Bay as an ideal location for Olympia oyster restoration.
- In 2016, staff from WDFW identified seven pilot plots (including one reference plot) as suitable to plant seeded cultch in North Chuckanut Bay (see map at bottom of page).
- In 2018, the Whatcom MRC spread approximately 95,000 Olympia oyster cultch (on Pacific oyster shell) within the identified test plots.



Aerial view of North Chuckanut Bay. Credit: Dana Flerchinger

MAIN ACTIVITIES

Annual monitoring events occur in May to evaluate oyster retention and habitat changes in the plots. Monitoring is conducted with help from Bellingham Technical College (BTC) Fisheries and Aquaculture Program students.

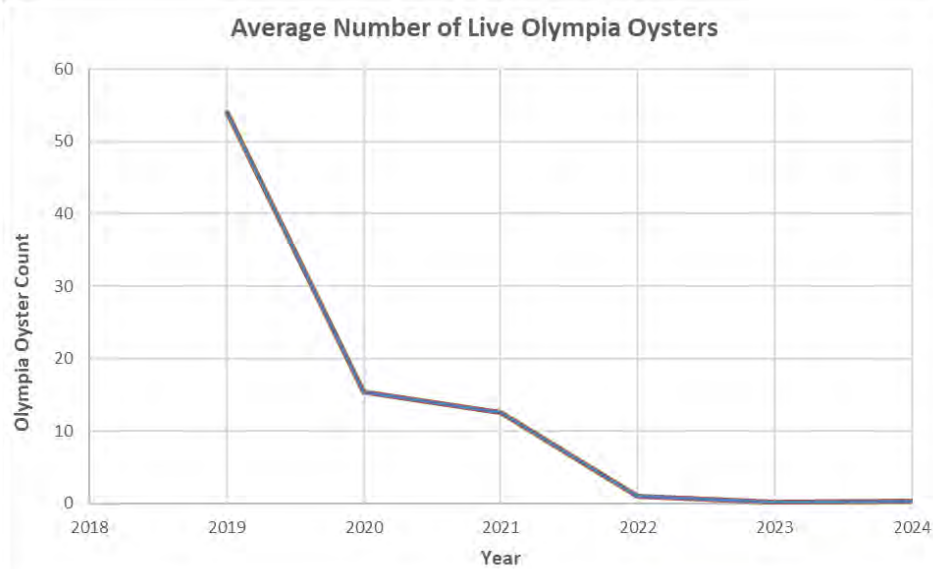
The MRC also adds seasoned Pacific oyster shell to the test plots to monitor natural recruitment of larvae against shell substrate and to improve the habitat substrate.

Whatcom MRC Olympia Oyster Test Plots - N. Chuckanut Bay



RESULTS/IMPACTS

- In 2024, the MRC completed their 6th annual survey of the Olympia oyster pilot plots in North Chuckanut Bay. Participants included 16 students and 1 instructor from the BTC Fisheries and Aquaculture Program, MRC staff, and the MRC project lead.
- The Olympia oyster surveys in North Chuckanut Bay have demonstrated a clear decline in Olympia oyster population growth and retention within the established pilot restoration plots (see graph below). Some potential reasons for this decline could be the fine sediments that comprise North Chuckanut Bay, resulting in the oysters sinking into the sediments and becoming buried over time, or the presence of the railroad trestle that greatly restricts tidal circulation throughout the bay. Because of this decline, the MRC is exploring other locations that may show greater promise for Olympia oyster restoration.



Left: Number of live Olympia oysters averaged across all 7 plots from 2018-2024. Right photo: MRC project lead, Jackie Dexter, teaches BTC students how to conduct an Olympia oyster population survey. Credit: Shelby Tomtan



Students from BTC conduct the 2024 Olympia oyster population survey in North Chuckanut Bay. Credit: Dana Flerchinger

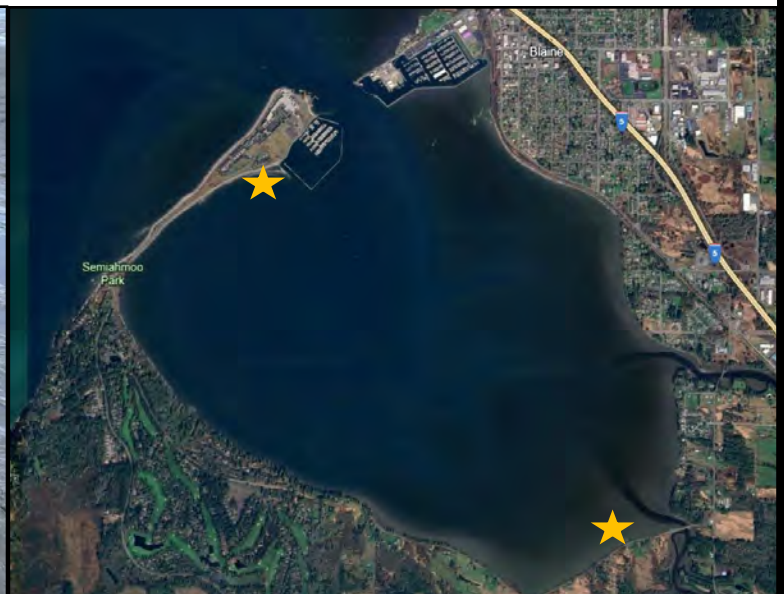
Pilot Olympia Oyster Restoration—Drayton Harbor

HISTORY

- The Washington Department of Fish and Wildlife conducted an extensive review of historical records to identify locations where large, natural Olympia oyster beds were present in the Puget Sound prior to exploitation. A primary goal of this review was to identify locations of historical Olympia oyster beds to inform future restoration priority sites for Olympia oysters. Two of the locations in Whatcom County that were identified from this report were North Chuckanut Bay and Drayton Harbor.
- Because the efforts in North Chuckanut Bay have not yielded promising results, the MRC is investigating the potential of establishing pilot restoration sites in Drayton Harbor.

MAIN ACTIVITIES

- In 2024, the MRC began discussions with the Puget Sound Restoration Fund (PSRF) about Olympia Oyster restoration in Drayton Harbor.
- The MRC surveyed PSRF's historical Olympia oyster restoration site in Drayton Harbor to assess if the site showed promise for expansion. Although many live adult Olympia oysters were found, no larval recruitment was observed, indicating that this location may not be ideal for continued efforts as larvae are likely being flushed from this area.
- Based on aerial imagery and circulation studies that have been conducted in Drayton Harbor, PSRF suggested that the MRC explore locations either in the southwest corner of Drayton Harbor near California Creek or along the inside of Semiahmoo Spit.
- Site visits to better characterize the habitat in those locations will be completed in 2025.



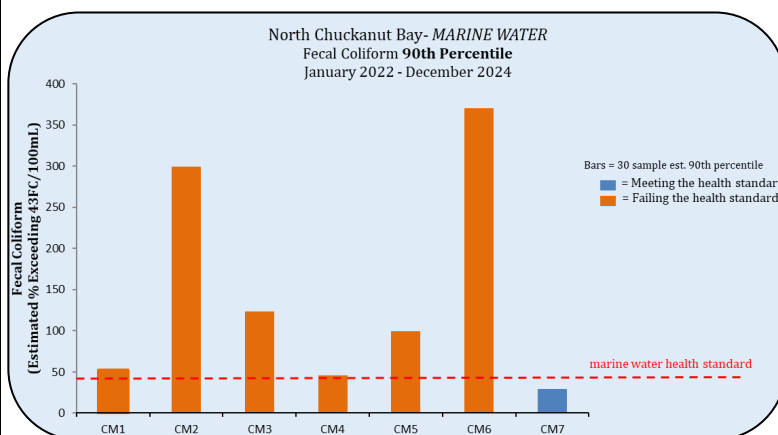
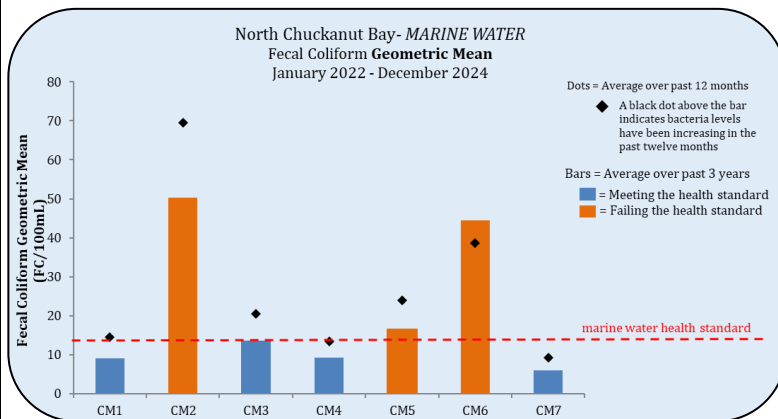
Left: MRC project lead assessing Olympia oysters at PSRF's historical restoration site in Drayton Harbor. Credit: Dana Flerchinger
Right: Map showing proposed locations for Olympia oyster restoration in Drayton Harbor.

Chuckanut Pollution Identification and Correction (PIC) Program

In partnership with local and state agencies, the MRC continued their PIC project in North Chuckanut Bay by participating in education and outreach to promote healthy water quality and by conducting water quality monitoring and data reporting on a monthly basis.

HISTORY

- North Chuckanut Bay is a recreational shellfish harvest area that supports many species of clams. Due to concerns about bacterial contamination, the bay has been closed to shellfish harvest for 30 years.
- In 2014, the MRC began working with Whatcom County Public Works, Whatcom County Health and Community Services, and the Washington Department of Health (DOH) to begin a PIC project in the area.
- To protect water quality, WA state has criteria for bacteria levels in both fresh and marine waters. The MRC conducts monthly water quality monitoring in the marine water and in the freshwater systems flowing into the bay.



RESULTS/IMPACTS

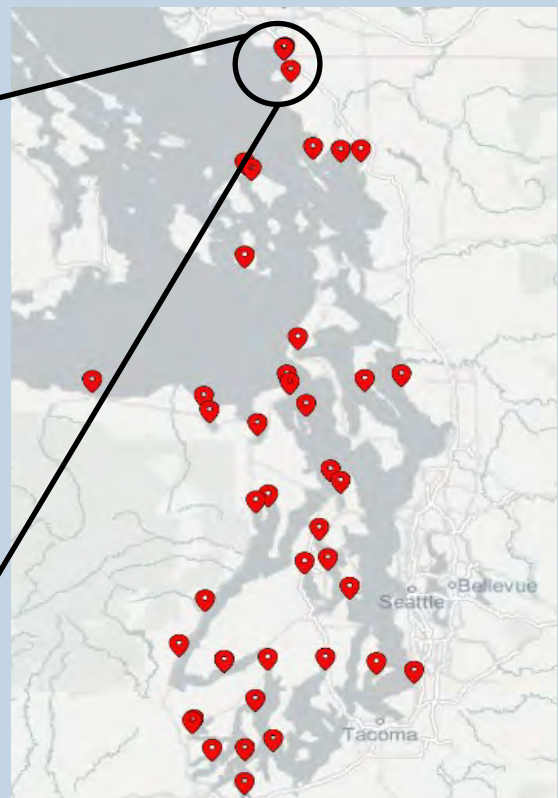
- For the shellfish standard in marine waters, two water quality criteria must be met; a geometric mean of less than 14 fecal coliform (FC) organisms per 100mL and an estimated 90th percentile of less than 43 FC organisms per 100mL. The geomean demonstrates the central tendency of the water quality distribution while the 90th percentile demonstrates variability within the water quality distribution. The graphs show that just over half of the marine sites meet the geomean standard, but most do not meet 90th percentile standard.
- Based on sampling and analysis from 2024, the MRC plans to focus efforts on reopening the northwest shoreline of the bay for shellfish harvest. Water quality in this area continues to show improvements and provides more suitable substrate for shellfish than other areas of the bay.

Harmful Algal Bloom Monitoring (HABs) Program

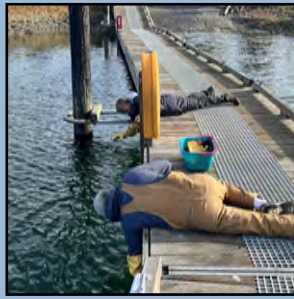
The MRC continued monitoring for harmful algal blooms (HABs) in north Whatcom County. This data provides important information to management agencies and scientists to effectively manage shellfish closures for public safety.

HISTORY

- Harmful algae threaten water quality, shellfish, and fisheries throughout Washington State. Damaging effects have been seen on local communities, ecosystems, and economies, with impacts occurring earlier and extending later into the year. In 2006, an organization called SoundToxins was created to monitor phytoplankton throughout the Salish Sea to better predict HAB events and to provide early detection alerts to the Washington State Department of Health (WA DOH) to better manage marine resources.
- The SoundToxins monitoring network, managed by Washington Sea Grant, monitors over 3 dozen sites for HABs throughout the Salish Sea, but until 2023, lacked data for north Whatcom County where high levels of paralytic shellfish toxin have been observed in the past. This project fills that data gap by providing HAB monitoring data to more effectively manage shellfish resources in north Whatcom County.



Map showing all of the SoundToxins HAB monitoring sites throughout the Puget Sound. The two northernmost sites, including Drayton Harbor/Semiahmoo Marina and Birch Bay Village Marina, are sampled by the Whatcom MRC.



Main Activities

Phytoplankton samples and environmental conditions are collected from Semiahmoo Marina and Birch Bay Village Marina biweekly from November through February and weekly from March through October. Concurrently, mussel samples are collected and sent to the WA DOH for biotoxin analysis.

Phytoplankton samples are analyzed microscopically for HAB species.

All environmental and HAB data are reported to SoundToxins. The biotoxin analysis conducted by the WA DOH is used to inform shellfish closure maps. Together, these programs help to ensure safe and effective management of shellfish resources in the Salish Sea.

Results/Impacts

The HAB monitoring data from Drayton Harbor/Semiahmoo Marina and Birch Bay Village Marina filled the HAB data gap for the north Puget Sound, allowing for better management of shellfish resources within Whatcom County. Whatcom County beaches were closed for recreational shellfish harvest from late May through the October of 2024.

“In Whatcom County, there have been several occasions when WA DOH was considering upgrading an area closed to shellfish harvest based on declining toxin levels in shellfish, but the early warning phytoplankton data suggested the toxic bloom was not over. In these cases, we kept the closure in place and the next shellfish sample was over the closure level once again. Opening and closing an area to shellfish harvest has a significant cost to the commercial shellfish companies, tribes, local health jurisdictions, and recreational shellfish harvesters. WA DOH relies on the early warning phytoplankton data that the Whatcom County phytoplankton samplers provide to make the most confident public health changes in shellfish harvesting opportunities and to minimize the economic burden to all shellfish harvesters.”

-Jerry Borchert, Marine Biotoxin Lead at WA DOH

Eelgrass Preservation at Wildcat Cove, Larrabee State Park

HISTORY

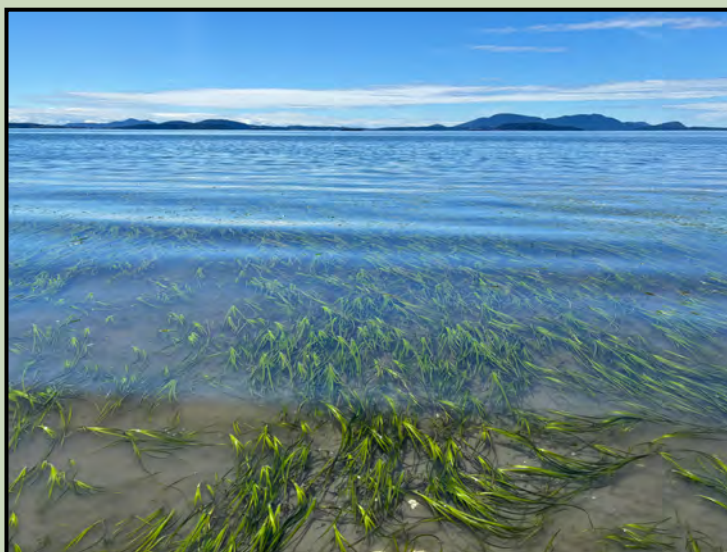
- Wildcat Cove, located in Larrabee State Park just south of Bellingham, WA includes a publicly accessible boat launch that is heavily used, particularly during the summer crabbing season. Due to the shallow nature of the cove and ideal water access, it is common for recreators to utilize the launch at low tide to reach the water's edge, despite the presence of eelgrass meadows covering the tide flats.
- Eelgrass is a sensitive and important keystone species in the Salish Sea that provides habitat for important fishery species including salmon, herring, and Dungeness crab.
- In 2023, the MRC conducted eelgrass surveys in Wildcat Cove to demonstrate the extent of eelgrass and to document the damage caused by launch activities.
- In 2023, the MRC also worked with Washington State Parks and Peak Sustainability, a social marketing consultant, to develop a social marketing campaign to help boaters reduce and avoid damage caused to eelgrass beds during boat launching activities.



Left: Map showing the location of Wildcat Cove. Bottom right: Aerial photo of Wildcat Cove. Credit: Dana Flerchinger
Top right: Vehicles using the boat launch in Wildcat Cove at low tide. Credit: Former MRC member

MAIN ACTIVITIES

- During the summer of 2024, the MRC worked with interns with the Northwest Straits Foundation (NWSF) who directly engaged with cove users, educating the public about eelgrass habitat functions and encouraging less impactful launching behaviors such as checking the tide charts, limiting impacts to a single lane, carrying gear (including kayaks, paddle boards, crabbing gear, etc) rather than dragging it, and avoiding trampling on the eelgrass when walking across the tide flats.
- In partnership with State Parks, the interns also set up cones to direct the launch traffic to a single lane.
- The interns collected data about boat launch usage to assess the effectiveness of the social marketing materials and to inform potential future work in Wildcat Cove.



Left: NWSF interns directing boat launch use to a single lane. Credit: Dana Flerchinger. Right: Eelgrass meadow in Wildcat Cove at high tide. Credit: Alex Haase, NWSF Intern

RESULTS/IMPACTS

Data from 215 observations over 16 low tide events showed:

- **99.5%** of users did not drive over the eelgrass meadows
- **91.4%** of users stuck to a single lane
- **83%** of the vessels launched at the cove were non-motorized (kayaks and paddle boards)
- **78%** of users checked the tide charts before coming to the cove
- **63.2%** of users were familiar with eelgrass habitats

“Perhaps our most profound finding was the shift in culture and increase in community investment from local crabbers. Many recreators and their families expressed appreciation for our efforts and actively worked to spread the word.”

- Alex Haase and Dylan Trainer, NWSF Interns

Thank You

Thank you to our Whatcom County Marine Resources Committee members and community volunteers—your dedication to protecting and restoring the marine and nearshore environment is making a difference in Whatcom County. We would also like to recognize the ongoing support from our partners, including Whatcom County Council and Whatcom County Executive Sidhu, Port of Bellingham, City of Bellingham, Lummi Nation, Washington Department of Fish and Wildlife, RE Sources, Bellingham Technical College, the Whatcom Watershed Information Network, and many others. These contributions include staff time, guidance, materials, and general support for MRC projects. The MRC is also grateful for funding and support from the Northwest Straits Commission, Northwest Straits Foundation, Puget Sound Partnership, the United States Environmental Protection Agency (EPA), and the National Oceanic and Atmospheric Administration (NOAA).

How you can get involved:

- Attend monthly MRC [meetings](#).
- Volunteer on local [projects](#).
- [Sign up](#) for the Northwest Straits Commission newsletter.

When/where are meetings held:

Regular meetings are open to the public and are currently being held virtually (hybrid format quarterly), 5:00-7:00PM the first Thursday of each month. Visit the website to find the most up-to-date details: www.whatcomcountymrc.org

How to reach us:

Contact Austin Rose arose@co.whatcom.wa.us

Map created by: Peter Gill, Whatcom County

