MRC
Whatcom County

# Whatcom County
# Marine Resources Committee
# 2023 Annual Report

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Northwest Straits INITIATIVE

NOAA NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION U.S. DEPARTMENT OF COMMERCE

WHATCOM COUNTY WASHINGTON

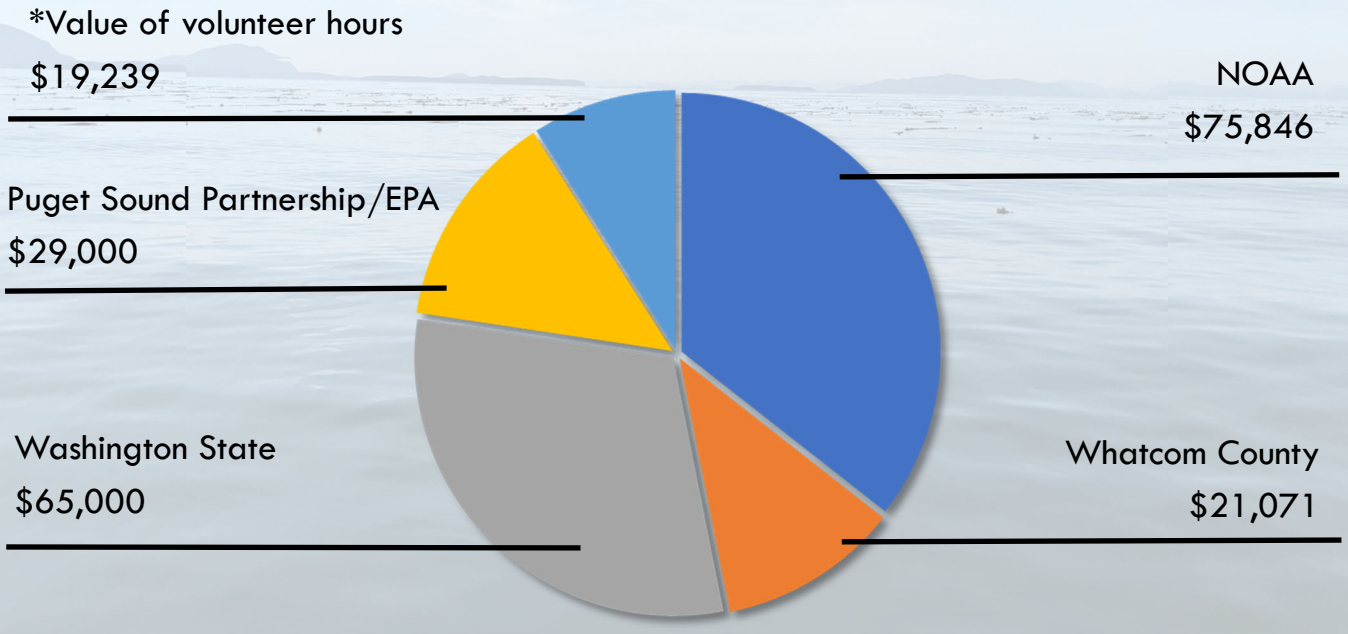
PUGETSOUND PARTNERSHIP

# About

## 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's purpose is to utilize up-to-date information and scientific expertise to guide local communities in achieving important goals for marine habitat protection within the Northwest Straits. The Whatcom MRC's mission is to revitalize and preserve Whatcom County's marine resources for future generations.

In 2023, the Whatcom MRC received funding from Washington State, the U.S. Environmental Protection Agency (EPA), and the National Oceanic and Atmospheric Administration (NOAA) through grants administered by the Northwest Straits Commission. Whatcom County supplemented funding to support administrative duties and lab analysis of water quality samples.




In 2023, Whatcom MRC members and community volunteers contributed **605** volunteer hours.

**Estimated value of each volunteer hour in 2023 was $31.80 (independentsector.org).*

| The Committee | |
|---|---|
| **Member** | **Representation** |
| Glen (Alex) Alexander | Citizen-at-Large |
| Rick Beauregard | Scientific Expertise |
| Jim Boyle | Conservation/Environmental |
| Elma Burnham | Economic |
| Bob Cecile | Citizen-at-Large |
| Jackie Dexter | Economic |
| Andrew Gamble | Economic |
| Kathy Ketteridge | Citizen-at-Large |
| Elizabeth Lorence | Conservation/Environmental |
| Mike MacKay | Scientific Expertise |
| Heather Spore | Scientific Expertise |
| Dan Sulak | Recreational |
| Paul Troutman | Recreational |
| Colin Wahl | Conservation/Environmental |
| **Alternates, Ex-Officio*, and Staff**** | |
| Kurt Baumgarten* | Port of Bellingham |
| Kaylee Galloway* | Whatcom County Council |
| Austin Rose** | Whatcom County Public Works-Natural Resources |
| Dana Flerchinger** | Whatcom County Public Works-Natural Resources |

# 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.

## MAIN ACTIVITIES

- Applications were sent to 4th grade classrooms in the Bellingham School District and in the Lummi Nation School. Three schools, including Lummi Nation School, Happy Valley Elementary, and Roosevelt Elementary, were chosen to participate based on the program's relevance to the existing educational goals for the students. **158 students participated!**
- 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. Prior to and following each field event, an MRC member visited the classrooms of participating students to provide information on beach seining, the Bellingham shoreline, and the importance of intertidal habitats.
- Because of the large class sizes, the groups at each field event were split into two teams. Half of the group played an educational activity led by Salish Sea Conservation Corps (SSCC) interns, while the other half observed the beach seine. The groups then switched activities.
- Catch data were shared with the Lummi Tribe and the Washington Department of Fish and Wildlife at the end of the project period.

**Lummi Nation School**
April 14, 2023

**Students:** 22 (1 class)
**Catch:** 18 chum, 2 sculpin

**Happy Valley Elementary**
April 28, 2023

**Students:** 68 (3 classes)
**Catch:** 2 chinook, 1 coho, 16 chum, 31 shiner perch

**Roosevelt Elementary**
May 15, 2023

**Students:** 68 (3 classes)
**Catch:** 42 chum, 1 chinook

*"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, Whatcom MRC Member*


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

# 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.

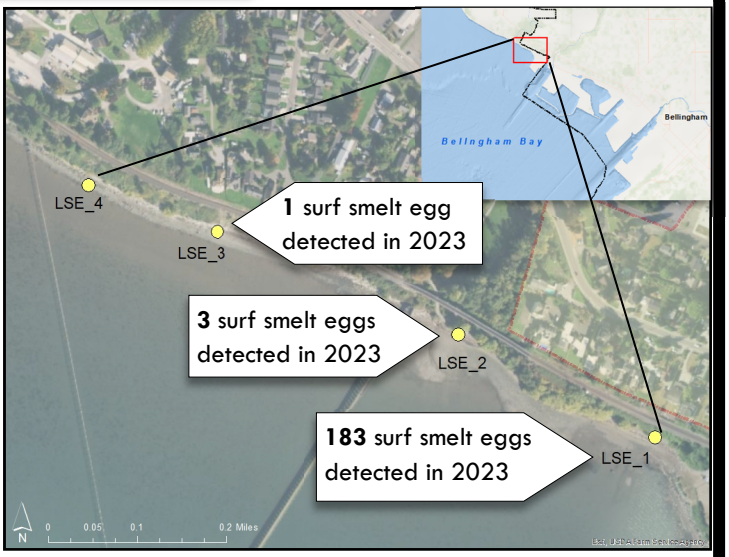
## MAIN ACTIVITIES

- 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.
- The MRC hires and trains an intern annually to lead the surveys. The intern coordinates volunteers, processes samples, and communicates with WDFW.

Forage fish intern, Hannah Pittman, collecting sediment samples along a transect at Little Squalicum Beach.

Vortex method for separation of eggs from beach sediment.

Condensed sediment sample in preservative, ready for analysis.




**Since this project began in 1972:**

- The Washington Department of Fish and Wildlife have 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*

# Clayton Beach Restoration

In partnership with the Northwest Straits Foundation (NWSF), the Department of Natural Resources (DNR), Washington State Parks, and the Skagit MRC, the Whatcom MRC is working to improve the nearshore environment at Clayton Beach for marine species and the public.

## Project Description

- In 2023, DNR and the NWSF conducted a feasibility study to assess the potential of removing 1,300 linear feet of armoring rock and remnant wood pilings from the nearshore at Clayton Beach. During this study, a large unvegetated offshore dredge hole was also assessed for restoration potential. Much of the nearshore debris and the dredge hole resulted from construction of an interurban electric trolley that has since been removed.
- The goals of this proposed restoration are to restore native eelgrass vegetation and the nearshore environment, contributing to more suitable habitat for marine and shoreline species as well as improved public accessibility.
- In August of 2023, a site visit to Clayton Beach was conducted with Congressman Rick Larsen, Skagit and Whatcom MRC members, NW Straits staff, State Parks staff, Herrera consultants, WA Department of Fish and Wildlife staff, and Sinclair representatives to discuss the scope of the proposed restoration project.
- In preparation for the proposed restoration, the Whatcom and Skagit MRCs have partnered to conduct pre restoration forage fish surveys at the site. The forage fish surveys began in October of 2023.

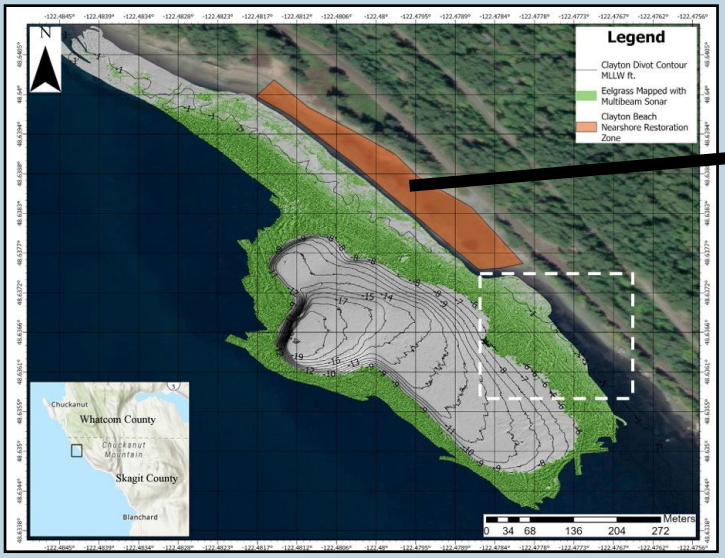



Figure from DNR's 2023 Clayton Beach Eelgrass and Dredge Hole Investigation report showing bathymetry of the offshore dredge hole (gray), eelgrass presence (green), and the location of the nearshore restoration zone (orange) at Clayton Beach.

Photo of the proposed nearshore restoration site.

August 2023 Clayton Beach Site Visit.

# Bull Kelp Surveys

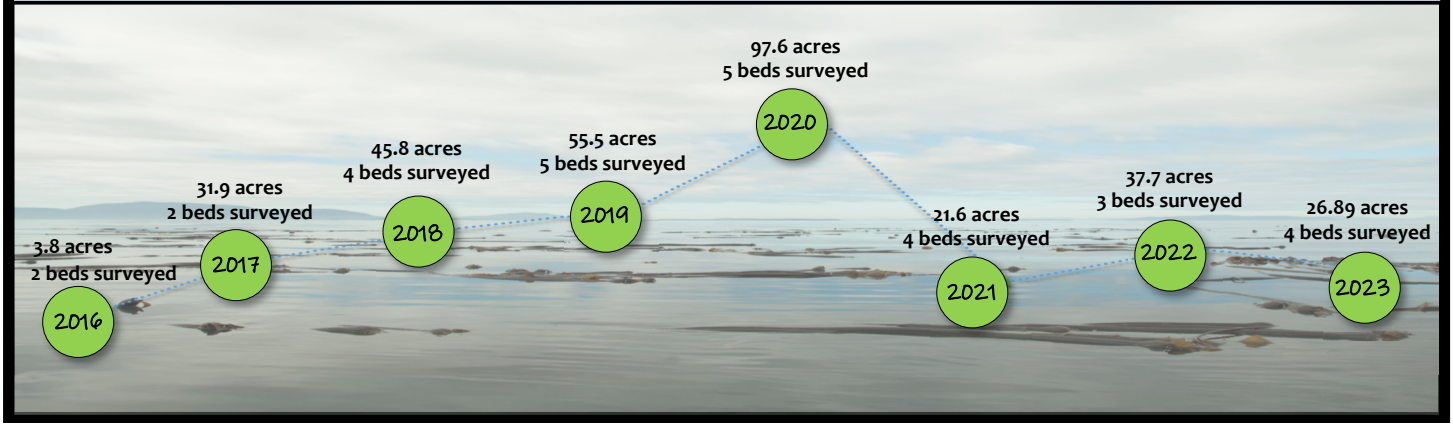
The MRC supports a regional kelp monitoring program to provide a better understanding of kelp distribution, bed sizes, speciation, and health within the Salish Sea.

## MAIN ACTIVITIES

- 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.
- 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.

## RESULTS/IMPACTS

- In 2023, the kelp beds surveyed appeared healthy, but were slightly narrower in perimeter as compared to previous survey years.
- 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.



# Pilot Olympia Oyster Restoration

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.

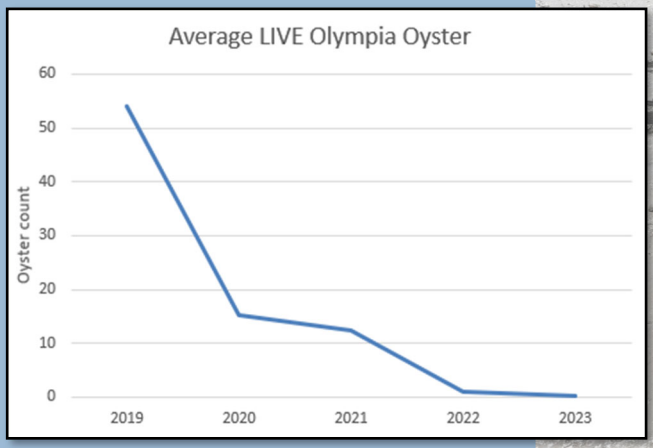
## HISTORY

- In 2016, staff from the Washington Department of Fish and Wildlife identified seven pilot plots (including one reference plot) as suitable to plant seeded cultch in North Chuckanut Bay.
- In 2018, approximately 95,000 Olympia oyster cultch on Pacific oyster shell were spread within the identified test plots.

## MAIN ACTIVITIES

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

- Each year, the MRC places two bags of seasoned Pacific oyster shell (approximately 50 shells/ plot), donated by Taylor Shellfish, within the test plots to monitor natural recruitment of larvae against shell substrate. The MRC also monitors monthly larval settlement during the summer using ceramic tiles.



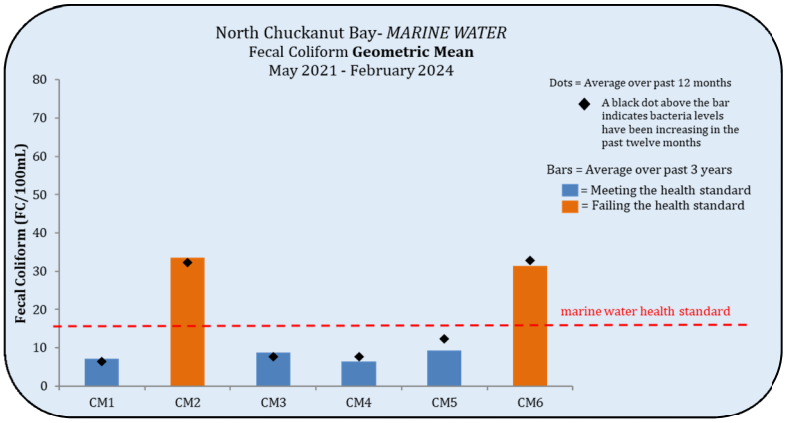

**There is a clear decline in Olympia oyster population growth and retention within the established pilot restoration plots. The fine sediments that comprise North Chuckanut Bay may not provide ideal Olympia oyster habitat. However, the MRC will continue to find adequate substrate and pile shells more densely to increase retention and survival.**

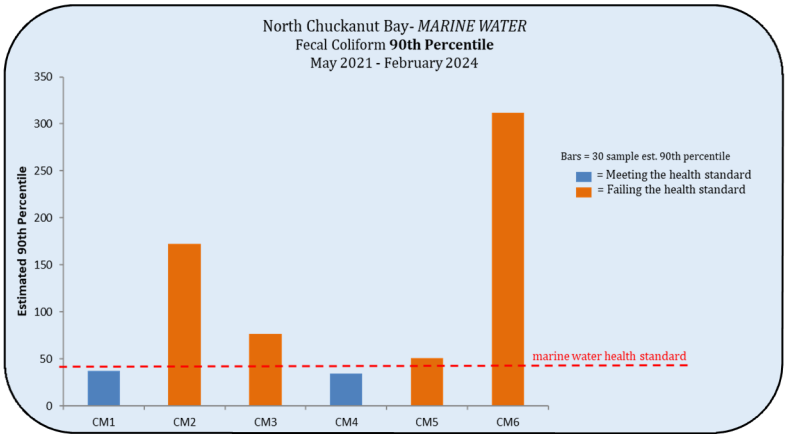
# Chuckanut Pollution Identification and Correction (PIC) Program

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 harvesting 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

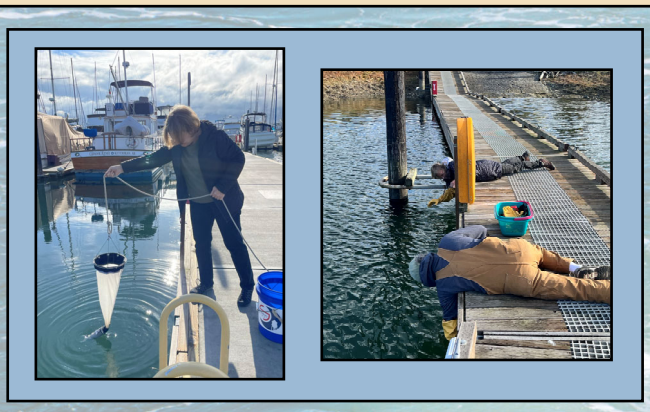
- For the shellfish standard in marine waters, two water quality criteria must be met; A geometric mean of less than 14 fecal coliform (FC) organisms per 100 mL and an estimated 90th percentile of less than 43 FC organisms per 100 mL. The geomean demonstrates the central tendency of the water quality distribution while the 90th percentile demonstrates variability within the water quality distribution. The graphs show that the majority of marine sites meet the geomean standard, but do not meet 90th percentile standard.
- Based on sampling and analysis from 2023, 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.

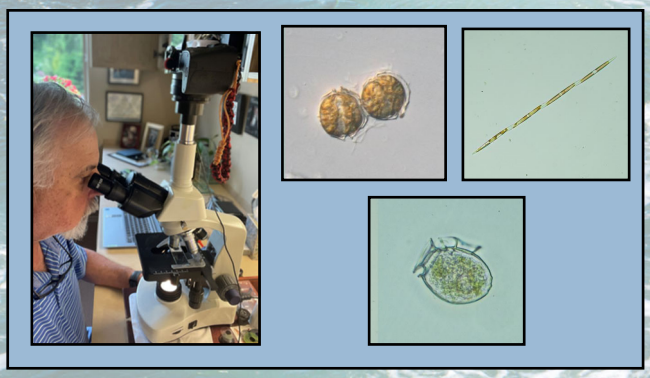
# Harmful Algal Bloom Monitoring (HABs) Program

The MRC began supporting a new project that involves 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 HABs events and to provide early detection alerts to the Washington State Department of Heath (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 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 HABs monitoring data to more effectively manage shellfish resources in north Whatcom County.






## 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 HABs species.
- All environmental and HABs 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.

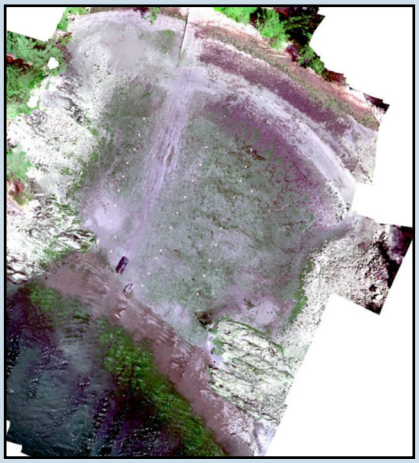
# Eelgrass Surveys at Wildcat Cove, Larrabee State Park

Wildcat Cove is located in Larrabee State Park and includes a popular public boat launch that is heavily used during the open crabbing season. When boaters utilize the boat launch at low tide, their vehicles and boat trailers drive over eelgrass beds within the cove, damaging the fragile habitat. Eelgrass is a sensitive and important keystone species in the Salish Sea that provides habitat for important fishery species and helps prevent shoreline erosion by stabilizing sediments with its roots.

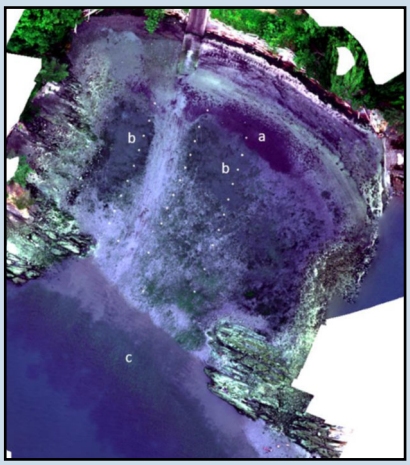
## Eelgrass Surveys

- The MRC led an assessment of eelgrass extent and condition to inform subsequent potential actions to protect the eelgrass in Wildcat Cove.
- The Washington Department of Natural Resources (DNR) conducted boat-based surveys to determine eelgrass extent and bathymetry within Wildcat Cove. Data were collected at 10 m transects within the cove, with a focus zone of 3 m transects near the boat launch to better determine eelgrass extent surrounding the most heavily utilized portion of the cove.
- Western Washington University conducted four drone flights from July-August to capture aerial imagery of eelgrass extent throughout Wildcat Cove prior to and throughout the crabbing season. Comparison of eelgrass extent throughout the survey period demonstrated that boat launch activities within Wildcat Cove reduced eelgrass cover in and around the boat launch.

Color imagery for Wildcat Cove at ~10:15 on July 14, the day before the opening of crabbing season. Note denuded area through eelgrass created by boat launch activity.



Color imagery for Wildcat Cove at ~noon on July 17, two days after the opening of crabbing season. Note wider denuded track through eelgrass created by boat launch activity as well as tracks through the subtidal eelgrass.



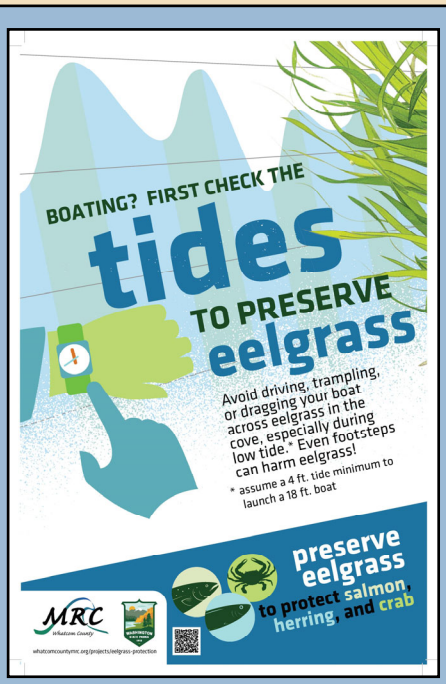

Color imagery for Wildcat Cove at ~10:00 on July 31. Note wider denuded track through eelgrass created by boat launch activity.

# Eelgrass Preservation at Wildcat Cove, Larrabee State Park

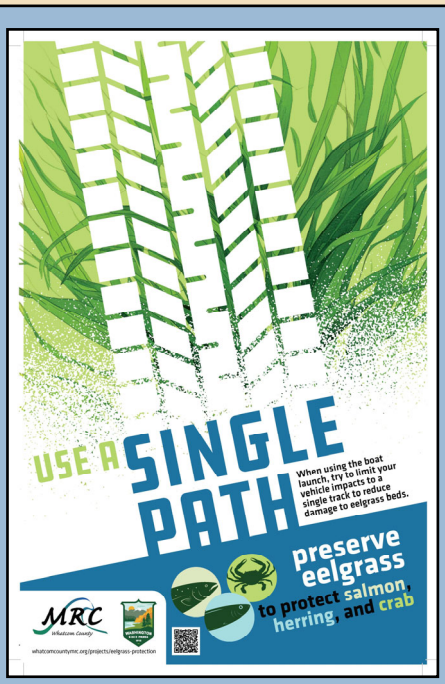
The MRC worked with the Washington State Parks and Recreation Commission and Peak Sustainability, a social marketing consultant, to develop a social marketing campaign to help boaters reduce and avoid damage caused to eelgrass beds during boat launching activities. Education about the importance of eelgrass to the local ecosystem was used to frame the development of the social marketing campaign.

## Main Activities

- Through observations of, interviews with, and surveys of boat launch users, Peak Sustainability determined key messaging strategies that could foster a voluntary reduction of boat launch users driving onto eelgrass beds within Wildcat Cove.
- The data collected by Peak Sustainability demonstrated that "messages centered around an actionable step, in this case, checking tide charts, supplemented by appeals to conserving eelgrass and thereby local wildlife (like herring, salmon, and crab), is a compelling campaign that resonates with boaters."
- These messages were utilized by a subcontractor, Shew Design, to construct simple, accessible, and visually engaging messages to encourage boaters to make choices to benefit themselves and the habitat.
- The social marketing materials, including those shown below, will be implemented in Wildcat Cove during 2024.







# Derelict Boat Removal

In 2023, the Northwest Straits Commission formed a working group made up of MRC members and tribal partners to guide a collaborative effort to prioritize the removal of abandoned and/or derelict vessels of concern within MRC counties. This workgroup partnered with the Washington Department of Natural Resources (DNR) Derelict Vessel Removal Program (DVRP) to target derelict vessels impacting the nearshore environment, cultural and treaty rights, and recreational resources.

## *Wander Lust*

40 ft. fiberglass vessel (1979)

**History:** The United States Coast Guard documented a vessel that washed up on the beach of private property during the winter storms of 2018.

**Location:** The vessel was sitting upright on shoreline vegetation on the Nooksack River Delta, Bellingham Bay in Whatcom County, Aquatic/ Conservancy shoreline jurisdiction. It was reported that the vessel was not leaking fluids.

**Vessel Removal:** A land based removal plan was submitted by the contractor.

- The area was covered with 20 mil pond liner and geo textile for small debris and was cordoned off 50' in all directions for safety.
- The staging area was provided by Smith gardens.
- The vessel was dismantled and removed from the beach via an excavator and tracked dump truck.
- The tracked removal vehicle traveled to and from the vessel site to the staging area for removal with dumpsters for disposal.
- The engine and all other hazardous fluids or materials found were separated and disposed of in separate containers.
- All Best Management Practices (BMPs) were observed and followed.


# 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, Taylor Shellfish, Washington Department of Fish and Wildlife, RE Sources, Bellingham Technical College, the Whatcom Watershed Information Network, Smith Gardens, 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:**

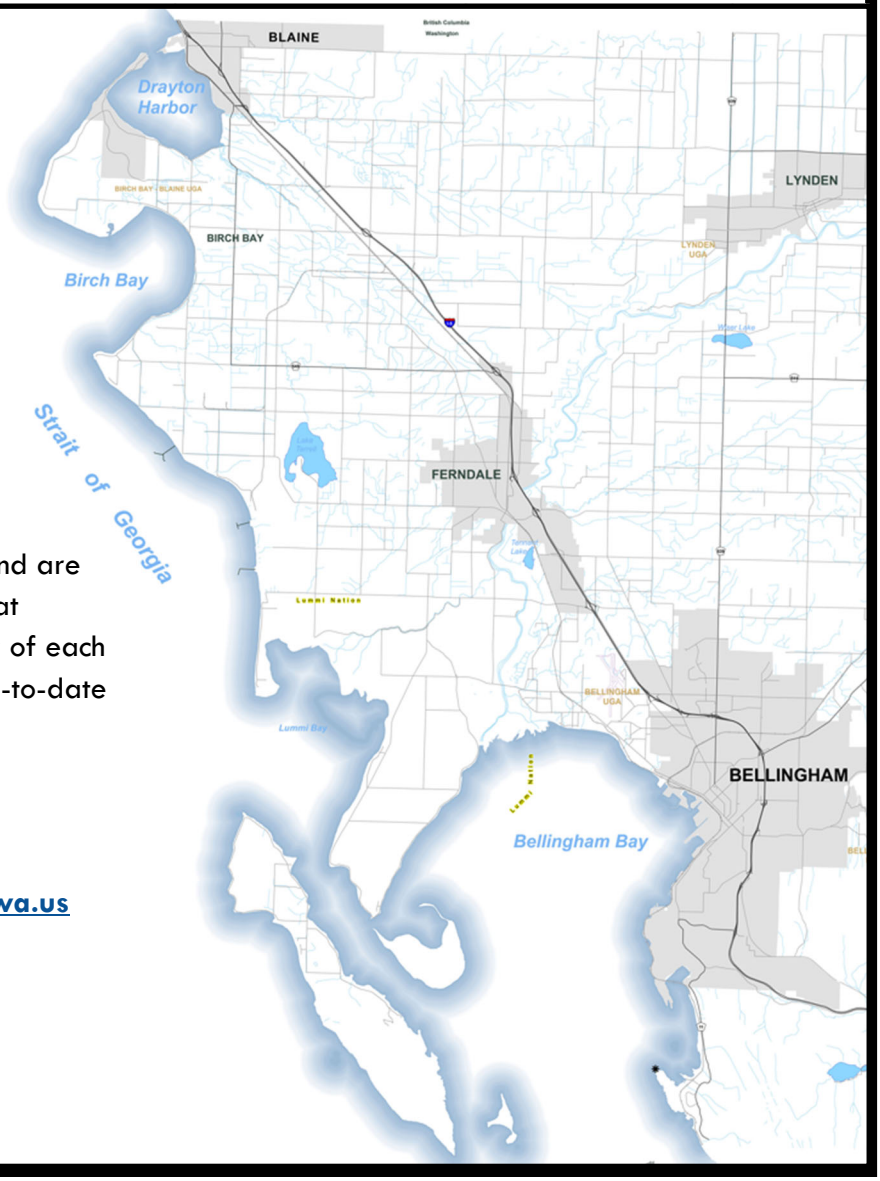
- Attend monthly MRC **meetings**.
- Volunteer on local **projects**.
- **Sign up** for the Northwest Straits Commission newsletter.

**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