



# WHATCOM COUNTY MARINE RESOURCES COMMITTEE 2021 FINAL REPORT



Photo credit: Austin Rose. Olympia oyster in pilot restoration plot at North Chuckanut Bay.



This project has been funded wholly or in part by the United States Environmental Protection Agency. The contents of this document do not necessarily reflect the views and policies of the Environmental Protection Agency under Assistance Agreement [CE-01J65401]. The contents of this document do not necessarily reflect the views and policies of the Environmental Protection Agency, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

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## ACCOMPLISHMENTS

Continued to adapt to COVID by hosting monthly MRC meetings virtually. MRC work continued through virtual meetings, conference calls, and safe volunteer participation.

Offered two paid internship positions to help with the North Sound Stewards community science program and the forage fish spawning surveys.

Members donated 701 volunteer hours to the 5 different active MRC projects.

Appointed six new members to the committee, serving in Scientific, Economic, and Conservation/Environmental interest positions.

Assisted Washington Department of Fish and Wildlife with the Drayton Harbor European Green Crab emergency response, including trapping and education to the community.

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## ABOUT THE MARINE RESOURCES COMMITTEE (MRC)

The Whatcom Marine Resources Committee (MRC) is one of seven citizen-based committees in the Northwest Straits Region to address marine issues. The MRC's purpose is to guide local communities, using up-to-date information and scientific expertise, to achieve important goals of marine habitat protection within the Northwest Straits. The Whatcom MRC's mission is to revitalize and preserve Whatcom County marine resources for future generations.

The Whatcom Marine Resources Committee (MRC) works to achieve goals of resource conservation and habitat protection within the Northwest Straits, through implementing priorities of the Puget Sound Action Agenda. The MRC chose to focus on two Action Agenda targets: 1) protecting and restoring marine habitats; and 2) restore and re-open shellfish beds. Community education and outreach lies at the heart of each MRC program area and continues to be a defining characteristic of the Whatcom MRC's impact in the community.

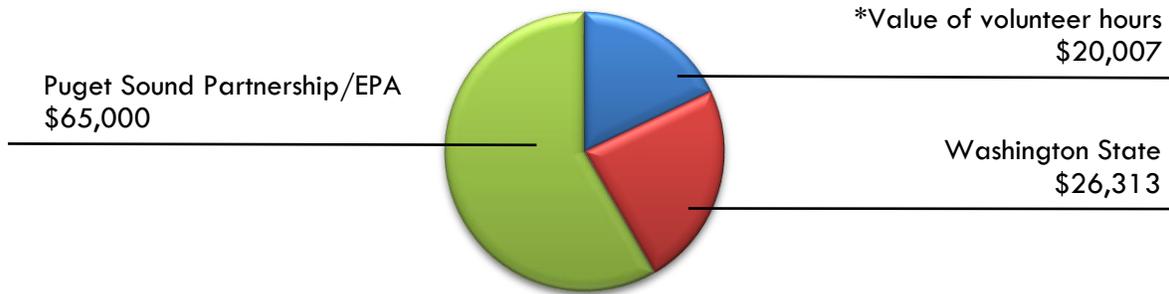
In 2021, Whatcom MRC activities focused on continuing efforts towards water quality monitoring in North Chuckanut Bay, kayak based monitoring of bull kelp, forage fish spawning surveys, a pilot Olympia oyster restoration project, and implementation of community education and outreach projects.

## Operations

Whatcom County Public Works Natural Resources staff provided administrative support for the Whatcom County MRC. General MRC meetings are held on a monthly basis and typically feature a guest speaker as well as discussion on MRC projects and other business topics. The MRC website [www.whatcomcountymrc.org](http://www.whatcomcountymrc.org) is updated regularly with meeting agendas and minutes, as well as project updates and local events related to the MRC.

## Funding Sources

The MRC brings important environmental and economic value to Whatcom County and engages the local community to preserve and protect our local marine environment.

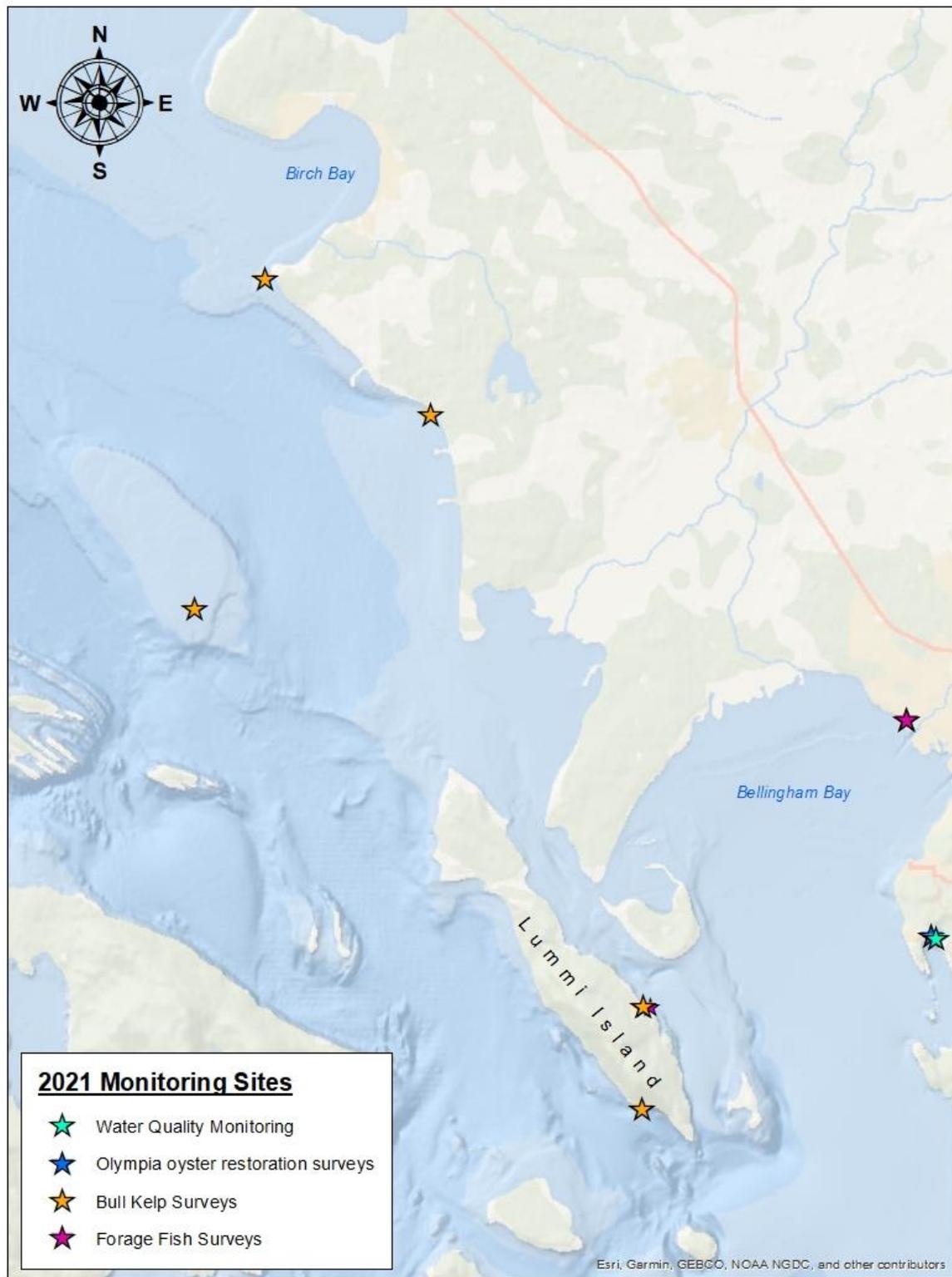


## Committee

<b>Member</b>	<b>Representation</b>
Glen Alexander	Citizen-at-Large
Rachel Arnold	Conservation-Environmental
Elma Burnham	Economic
Bob Cecile (NWSC Rep)	Citizen-at-Large
Andrew Gamble	Economic
Eleanor Hines (Chair)	Scientific
Kathy Ketteridge	Citizen-at-Large
Mike MacKAY	Scientific
Ryan McLaughlin	Conservation-Environmental
Kristin Murray (Vice Chair)	Citizen-at-Large
Bob Seaman	Conservation-Environmental
Petur Sim	Economic
Heather Spore	Scientific
Dan Sulak	Recreational
Paul Troutman	Recreational
Colin Wahl	Conservation-Environmental
<b>Alternates, Ex-Officio*, and Staff**</b>	
Kurt Baumgarten*	Port of Bellingham (Ex-Officio)
Austin Rose**	Whatcom County Public Works – Natural Resources

\*Estimate value of each volunteer hour in 2021 was \$28.54 (independentsector.org)

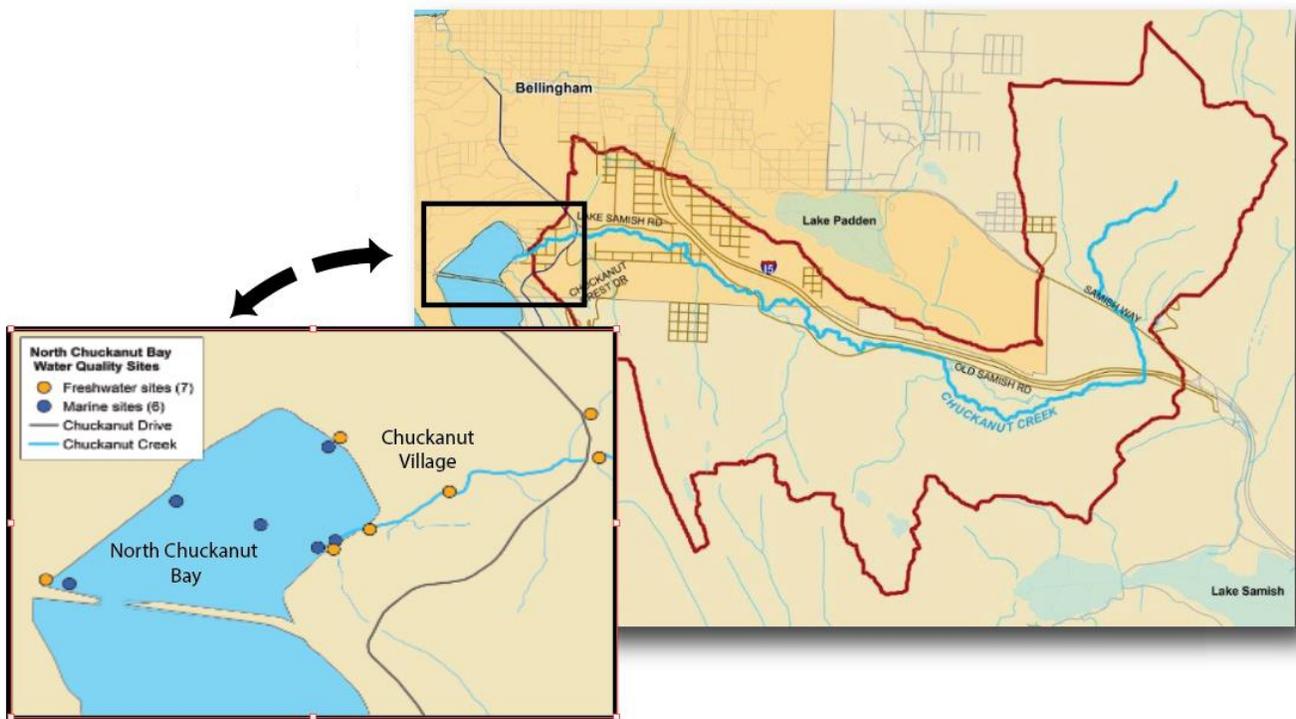
## Monitoring: Where do we monitor?



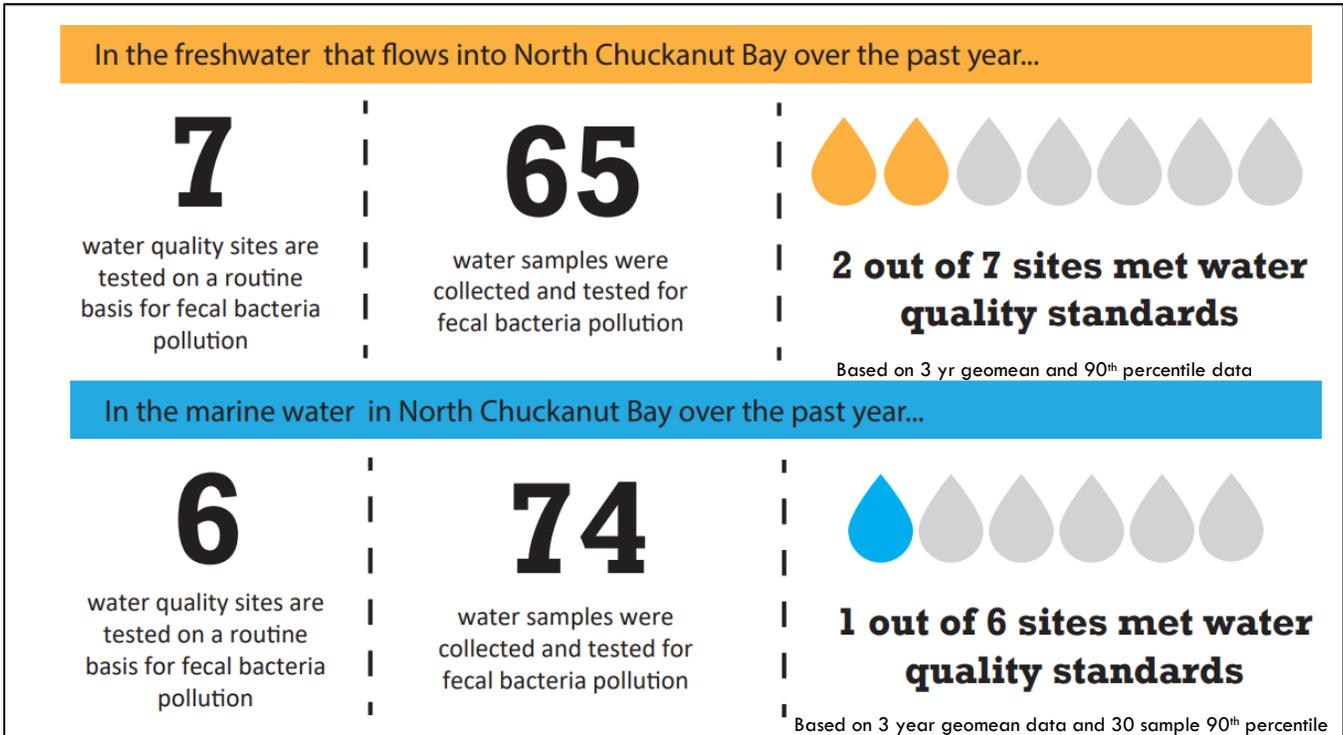
## Monitoring: North Chuckanut Bay Pollution Identification and Correction

North Chuckanut Bay is a recreational shellfish harvesting area that supports many species of clams. There have been concerns about bacteria levels in Northern Chuckanut Bay for over 20 years. However, the area has always been popular for shell fish harvesting despite the health advisory. Monitoring, community outreach and water quality improvement efforts are completed through the MRC's partnership with Whatcom County Public Works, Whatcom County Health, and the Washington Department of Health.

Seven freshwater sites and six marine sites are monitored for fecal coliform bacteria approximately two times per month in the Chuckanut drainage area. Monitoring is completed by MRC members, Whatcom County staff, and includes community volunteers when possible.



The marine water quality is assessed using the last 30-samples based on the Water Quality Standards set by the National Shellfish Sanitation Program. Washington Department of Health uses the 30-sample results to determine if the growing areas (marine waters) are meeting standards to protect public health. For freshwater, the 12 month and 3-year geometric mean and 90th percentile data are used to analyze short-term data trends compared to long-term trends. Using 3-years of data helps with seasonality consistency (ex. a full 3 rainy seasons) and looks at the same time-period of samples across sites. Based on the standards for fecal coliform contamination in both freshwater and marine waters supporting shellfish growing areas, the table below shows the number of monitoring sites meeting those standards in North Chuckanut Bay.



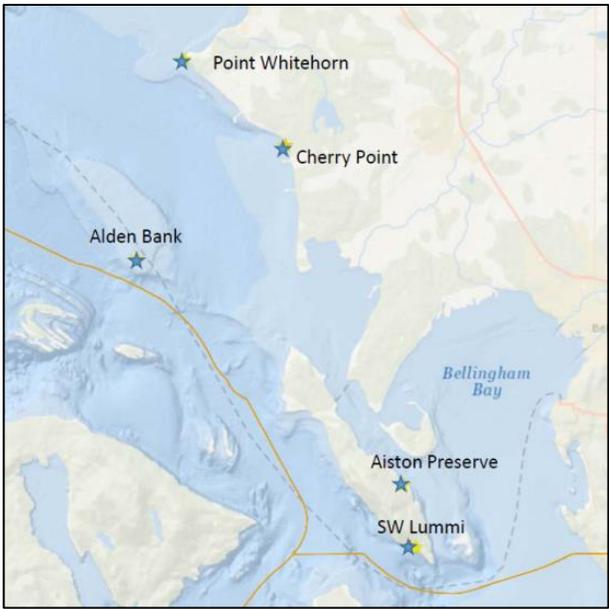
Graphic (above) created by Kate Rice, Whatcom County Public Works

The MRC regularly shares water quality data with the Washington Department of Health to make progress toward getting the prohibited status removed from the shoreline. The MRC also provides annual community outreach about marine life, water quality, and stewardship actions, in order to keep the community connected and informed about their waterway.

**Monitoring: Bull Kelp Surveys**

Working with the [Northwest Straits Initiative](#) and other MRC's, using existing kayak-based monitoring protocols, the Whatcom MRC monitors floating bull kelp beds at five locations in Whatcom County including: SW Lummi Island, Point Whitehorn, Aiston Preserve, Cherry Point/Gulf Rd, and Alden Bank. The monitoring data provides information on the status (presence, size, and health) of floating kelp communities in Whatcom County and contributes to ongoing regional monitoring and long term data sets.

The graphs and plots included in this report were developed by Northwest Straits Commission staff and present data that have been through an initial QA/QC process.

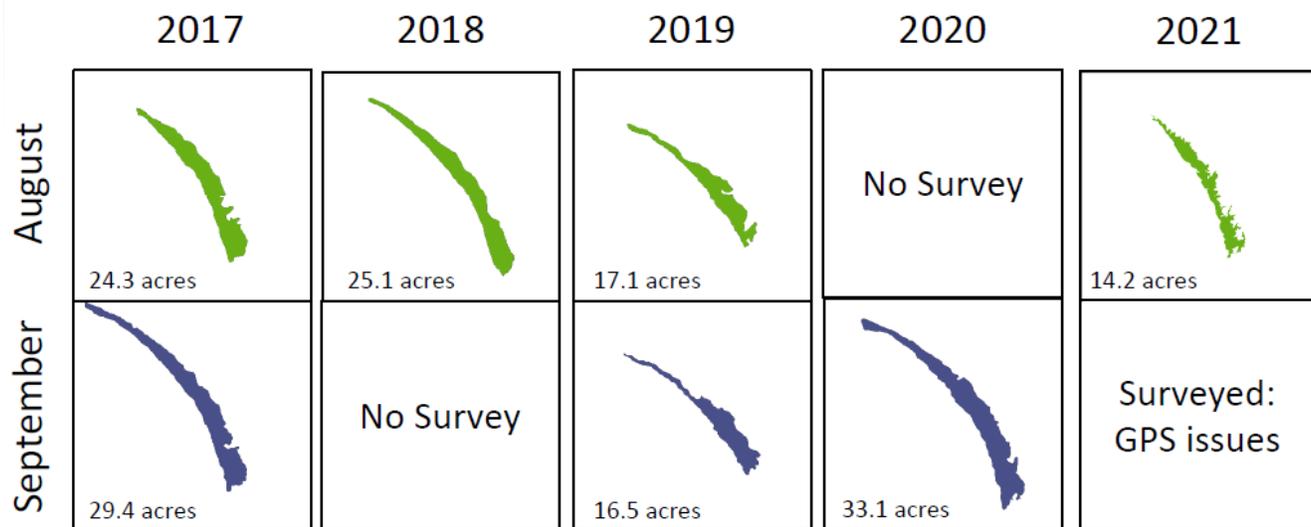


\*Data presented below includes:

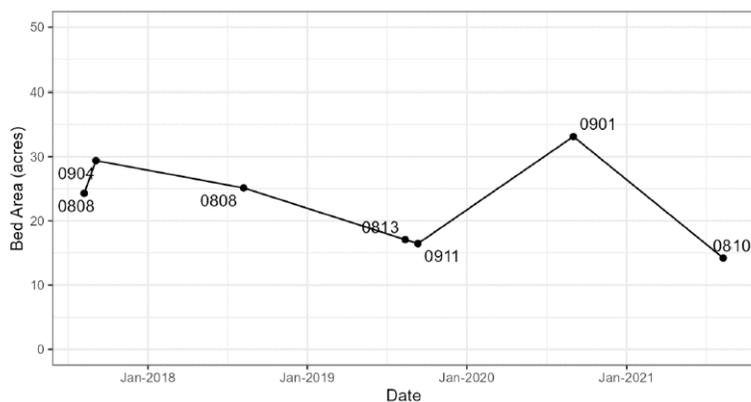
1. Acreage plots—these show the acreage of each kelp bed through time. The points are plotted with the date of each survey indicated as MM/DD.
2. Matrix plots—these grid plots show the filled outline of the kelp bed by month and year to show the seasonal variation and progression by month and year. The plots are scaled and positioned consistently for each site.

Kelp photos by: Eleanor Hines. Graphics by: Northwest Straits Commission staff

*Cherry Point/Gulf Rd. – bed remains relatively stable in area*



1:6000



*Point Whitehorn – bed fluctuates in area*

2016

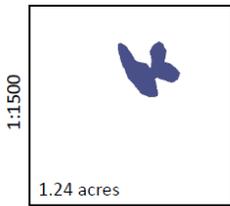
2017

2018

2019

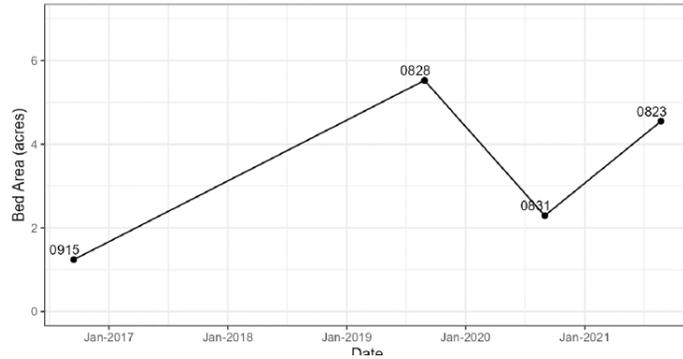
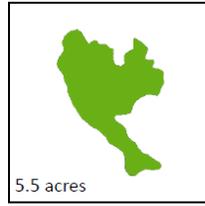
2020

2021



No Survey

No Survey




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*SW Lummi Island – kelp bed remains stable in area*

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2016

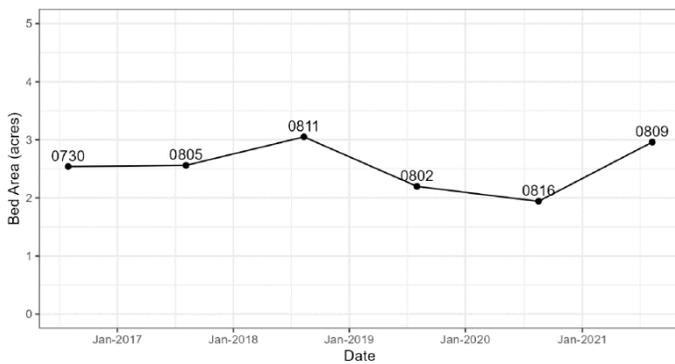
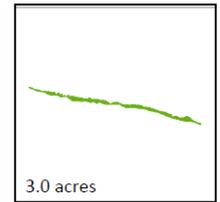
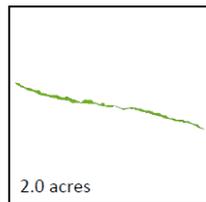
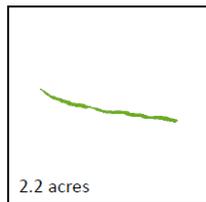
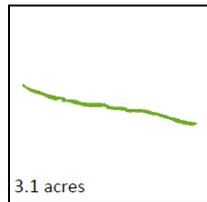
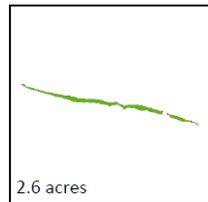
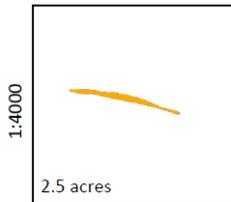
2017

2018

2019

2020

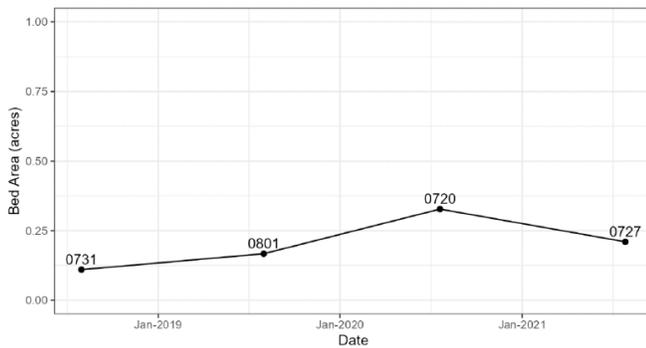
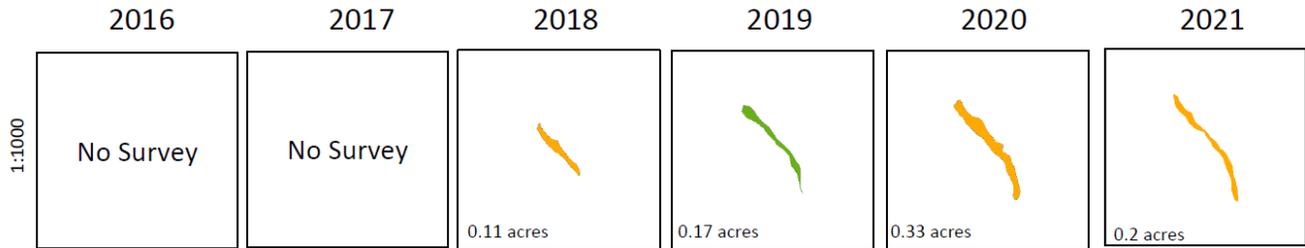
2021



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*Aiston Preserve, Lummi Island – kelp bed generally increased in area from first survey*

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## Monitoring: Forage Fish Surveys

The Whatcom MRC participates in a regional effort to characterize populations of the two species of forage fish that spawn on Puget Sound beaches: Pacific sand lance and surf smelt. The MRC recruits and trains volunteers to conduct spawning surveys at two priority beaches in Bellingham, Marine Park and Little Squalicum Estuary; and the Aiston Preserve restoration site on Lummi Island.



In 2021, the MRC hired a graduate from University of Washington Aquatic and Fisheries Sciences, Maya Garber-Yonts, to work as a part-time temporary intern helping to lead the monthly forage fish surveys. Maya had a background in fish and shellfish biology and ecology, as well as working in the field with all age groups. Her experience working with the MRC furthered her career as a natural resources scientific technician.



Forage fish photos by: Mary Kirkpatrick-Waite

## Monitoring: North Chuckanut Bay Pilot Olympia Oyster Restoration Project

Following a pilot planting of Olympia oyster spat on shell within test plots in 2018, the MRC annually collects physical and biological parameter data from seven pilot restoration plots (Figure 1) to determine the status of Olympia oyster restoration potential in North Chuckanut Bay. Survey protocols have been developed out of discussions with other MRC's conducting Olympia oyster restoration, technical advisors within the Northwest Straits Initiative, and staff from the Washington Department of Fish and Wildlife and the Puget Sound Restoration Fund.

Whatcom MRC Olympia Oyster Test Plots - N. Chuckanut Bay



Figure 1: Whatcom MRC Olympia Oyster Test Plots. Map by Austin Rose, Whatcom County Public Works

In 2021, the MRC was joined with Bellingham Technical College Fisheries and Aquaculture students to conduct their survey. The use of the spat fall collector, aimed to collect biweekly Olympia oyster larval from stacks of five 10.5 x 10.5 ceramic tiles was piloted. No larval recruitment was found. There were significantly more Olympia oysters found (dead or alive) within the test plots Oly 6 and Oly 7. The survival of oysters at Oly 6 is promising. There was no evidence of oysters in Oly 1 or Oly 5 which highlights that area of the bay – muddy, no hard substrate - as unsuitable for oyster survival.



Olympia oyster photos by: Austin Rose, Whatcom County Public Works

## More Community Connections

The MRC partners with community organizations to provide learning opportunities on local marine resources issues and be viewed as a source of education in the community.

### Partnership with the Whatcom Watershed Information Network (WWIN)

- The MRC annually partners with WWIN to organize community speaker events that contribute to informing citizens about marine resources and marine resource issues specifically. The purpose of this program is to provide a forum for exchange of information on marine related topics to the MRC and the broader local community. The MRC hosted four events in 2021 including:
  - **Seabed Mining: “The Dawn of an Industry** – Lee First, Twin Harbors Waterkeeper and Liz Schotman, Washington Regional Manager, Surfrider Foundation
  - **Car Tires Killing Coho (New Research)** – Jenn McIntyre, Washington State University
  - **Tribal Fishing Culture – We’ve gone from honoring salmon to protecting salmon and from sustaining a way of life to preserving a way of life** – Frank Lawrence III, Lummi Nation, George Swanaset Jr. “Yel7qaynem”, Nooksack Indian Tribe.
  - **CoSmoS Modelling for Whatcom County** – Eric Grossman, PhD, Research Geologist, U.S. Geological Survey and Ian Miller, PhD, Coastal Hazards Specialist, Washington SeaGrant.

- The MRC also partners with WWIN to organize Whatcom Water Week – a week-long event that celebrates our local water resources. The MRC joined the Surfrider Foundation and the Ocean Conservancy to host passive beach cleanups during Whatcom Water Week and International Coastal Cleanup Day. Approximately 45 people participated in the cleanups. 490 lbs of trash were removed from three locations on the Whatcom County shoreline: Locust Beach, Marine Park, and the I&J waterway.

### **Work with RE Sources for Sustainable Communities**

- 2021 marked the fifth year of the North Sound Stewards community science program organized by the MRC and RE Sources. Each year this program gains more community interest and more success stories from volunteer boots on the ground efforts. 303 volunteer hours were logged.

## **Thank You**

The MRC receives support from the Northwest Straits Commission, Puget Sound Partnership, Whatcom County Council and Executive Sidhu, the United States Environmental Protection Agency, and the Whatcom County Natural Resources Division.

Thank you to our MRC members. Your work and dedication to protecting and restoring the marine environment is making a difference in Whatcom County.

The accomplishments and activities of the Whatcom County MRC depend on contributions from MRC members, volunteers, Whatcom County staff, and individuals from other organizations.

We acknowledge the lands we're on today are the ancestral and current homelands of Indigenous Nations who have stewarded them since time immemorial. We respect their sovereignty, support their Treaty rights, their right to self-determination, and we honor their sacred spiritual connection with the land and water. These Indigenous Nations include the Lummi Nation and Nooksack Indian Tribe.

