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WHATCOM COUNTY MARINE RESOURCES COMMITTEE (MRC)

2016-17 ANNUAL REPORT

Prepared by Austin Rose, Whatcom County MRC Coordinator

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WHATCOM COUNTY MARINE RESOURCES COMMITTEE (MRC)

2016-17 ANNUAL REPORT

The Whatcom Marine Resources Committee (MRC) works to achieve important 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 2017, Whatcom MRC activities focused on grant and committee administration, continuing efforts towards water quality monitoring in North Chuckanut Bay, kayak based monitoring of bull kelp, forage fish spawning surveys, assessing feasability of Olympia oyster restoration, and implementation of community education and outreach projects.

PROJECT ADMINISTRATION AND MANAGEMENT

Whatcom County Public Works – Natural Resources staff (MRC staff) provided administrative support for the Whatcom County MRC. The MRC grant funds a 0.7 FTE for MRC activities. Whatcom County Public Works also provides an additional 6 hours/month administrative support role for note-taking and summary preparation for monthly MRC meetings. Duties have included: compilation of agendas; meeting preparation; responding to requests from agency officials, community members, and MRC members for information; preparing grant deliverables; tracking of subcommittee activities; and other administrative functions required to support the Whatcom County MRC.

General MRC meetings are held on a monthly basis. Agendas are prepared by Whatcom County staff with input from the Executive Subcommittee. The Executive Subcommittee meets monthly to discuss upcoming agendas, member recruitment, general MRC

ABOUT THE 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 habitat protection within the Northwest Straits. The Whatcom MRC's mission is to revitalize and preserve Whatcom County marine resources for future generations.

whatcomcountymrc.org

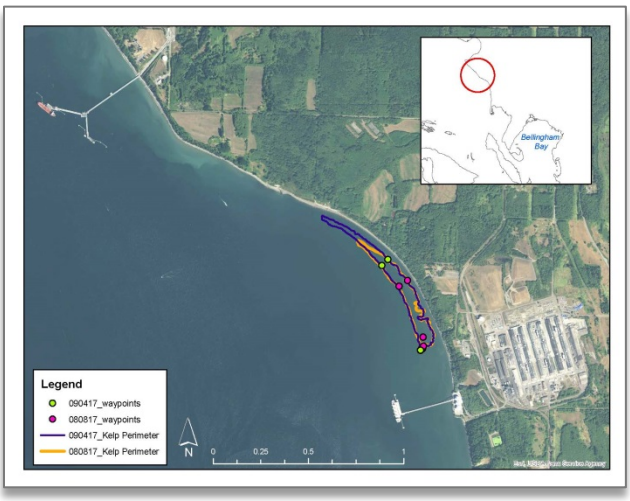
MRC Whatcom County

business, and budgets. The public are invited to attend meetings through advertisements on the MRC website, an e-mail listserv, and through the local newspaper. The Northwest Straits Commission (NWSC) representative provides a summary of recent activities to share at NWSC meetings and in turn reports to the MRC on NWSC activities and business. The subcommittees meeting regularly include: Executive, Project Development, and Public Speaker Series. Other project-specific groups meet as needed.

MONITORING

BULL KELP

The MRC conducts citizen science monitoring of bull kelp using the boat-based protocols developed by the Northwest Straits Commission. MRC project champions and four additional volunteers monitored four sites during July – September 2017: 1) Cherry Point Gulf Rd.; 2) South Lummi Island; and 3) the Aiston Preserve, Lummi Island; and 4) Alden Bank (recon mission conducted in June). A goal was to gather and prepare data for upload to SoundIQ – a web based mapping application to share data collected by MRC's. Eleanor Hines (MRC project champion) presented this project information and the role citizen science can play to help collect data on floating bull kelp at the Cherry Point Aquatic Reserve Citizen Stewardship Committee's annual Cherry Point Forum. *Photo and map credits: Austin Rose.*



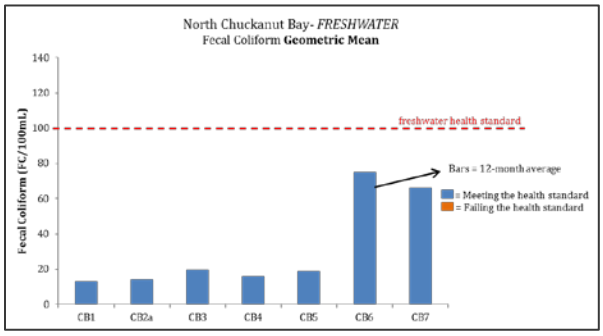
CHUCKANUT POLLUTION IDENTIFICATION AND CORRECTION (PIC)

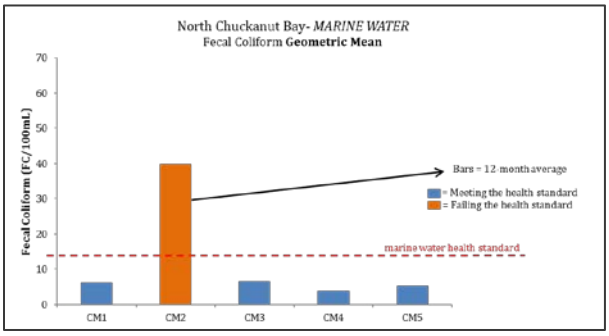
North Chuckanut Bay is a recreational shellfish harvesting area with elevated bacteria levels and has been closed to recreational shellfish harvest since 1997. This area is a small embayment in south Bellingham with a railroad trestle crossing the mouth and restricting tidal circulation. The primary freshwater discharge to this bay is Chuckanut Creek with a seven square mile watershed. There are also smaller drainages from the residential area on the northwest side of the bay and a seasonal creek that runs through the City of Bellingham's Woodstock Farm.

Bacteria criteria are set to protect public health. Department of Ecology water quality standards use fecal coliform as indicator bacteria and the presence of fecal coliform bacteria indicates the presence of fecal material from human or other warm-blooded animals in the waterbody. The MRC has been working with the Whatcom County Health Department, Whatcom County Public Works – Natural Resources, Washington Department of Health, citizen volunteers, and the local community to conduct intensive water quality sampling (in both the freshwater and marine water), establish a Pollution Identification and Correction Program, and ultimately have the recreational shellfish area reclassified. The goal of this project is to characterize fecal coliform levels within the Chuckanut watershed and seasonal variation of

those bacteria levels to identify sources of pollutants, suggest water quality improvement projects, attain water quality standards, and protect beneficial uses (including recreational shellfish harvesting). Seven freshwater sites and five marine sites are sampled on either a monthly or bi-monthly basis, simultaneously – unless weather prevents marine sampling (see map above).

Water Quality summaries (graphs below) are shared monthly on the Whatcom County Public Works website and the MRC website and provide a clear idea of water quality at specific sites. Overall, higher bacteria counts are being found at the marine site at the mouth of Chuckanut Creek.





In 2017, the MRC added 4 bracket sites in effort to narrow down potential sources causing higher bacteria counts near the mouth of Chuckanut Creek. Those bracket sites were sampled 5 times during this grant year, with a goal of sampling those sites during both the wet and dry season. No significant high bacteria counts were found (see Table 1 for results). The MRC will continue to assess what is coming into the system in this area.

Table 1.

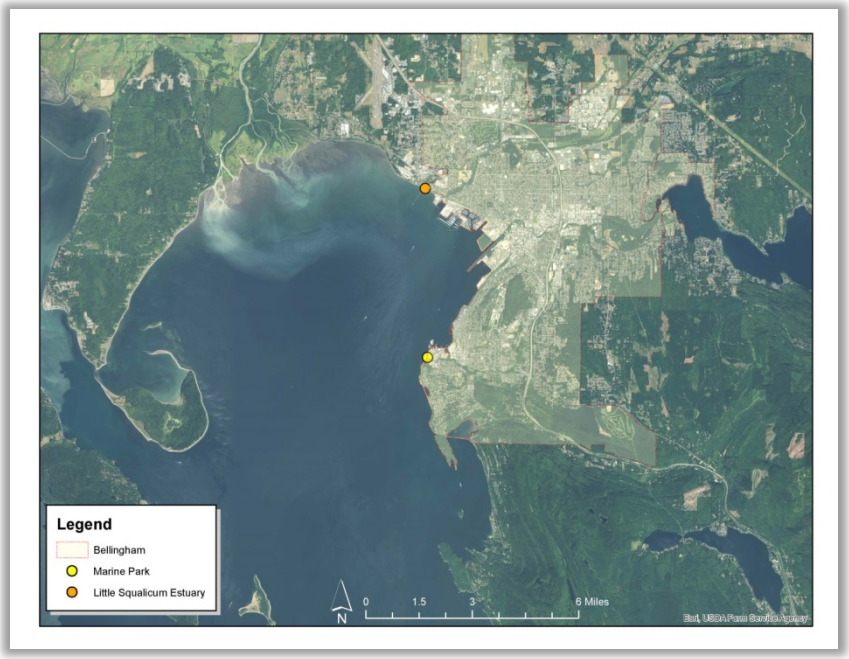
Date	24-Hour	72-Hour	AC1	OC1	CC1	WF1	Entered By:	Date Entered:	QA/QC'ed By:	Date QA/QC'ed:
11/30/2016	NR	0.21	2	80	50	14	TP	12/13/2016	TP	12/13/2016
1/31/2017	0	0.02	9	15	ND	ND	AV	2/6/2017	AV	2/6/2017
4/24/2017	trace	trace	4	4	5	4	TP	5/8/2017	TP	5/8/2017
5/9/2017	0	trace	4	19	4	9	TP	5/17/2017	TP	5/17/2017
6/29/2017	0	0	40	D	15	86	AB	7/5/2017	AB	7/5/2017

As of early February 2017, 27 of the 40 parcels with on-site-sewage systems (OSS) had evaluations completed by Whatcom County Health. Of the remaining 13 OSS, 3 have had an evaluation in the last 3 years completed by an Operation and Maintenance Specialist

In June 2017, the MRC and County Health hosted an open house meeting on the shoreline of N. Chuckanut Bay for residents of Chuckanut Village to discuss water quality in the bay, the recent septic survey and to show appreciation to the community for their participation. Approximately 25 homeowners attended the event. It was a positive turnout and residents were thankful for the work that is being done to protect water quality, and the information that was shared.

The MRC will continue sampling on a bi-monthly basis at the sample sites established, to continue building on the water quality data set DOH will use to reclassify the bay to open harvest. New bracket sites could be established during the 2017/18 grant year and sediment sampling around the mouth of Chuckanut Creek may occur depending on funding availability. There continues to be support from Whatcom County Public Works to pursue work in this area as part of the greater Whatcom County PIC program. The Chuckanut Village community is also supportive of water quality being monitored in the bay and the MRC will continue to share project data and provide opportunities for the neighborhood to share their observations.

FORAGE FISH SPAWNING SURVEYS



The Washington Department of Fish and Wildlife is currently conducting wide-scale forage fish spawning surveys and need local partners to support their efforts and expand the impact of their study. The MRC assists with this effort utilizing recommended protocols available through WDFW, including: Bulk Sediment Sampling (Moulton and Penttila, 2006) and the vortex methodology for separating eggs from sediment. The goal is to survey two local beaches in Whatcom, on a monthly basis, to support statewide sampling and inform future shoreline restoration projects. MRC member Eleanor Hines was the project champion for these surveys in 2017, and led surveys at the Little Squalicum Estuary and Marine Park in Bellingham. The spreadsheet below shows is the raw data from 2017.

SurveyDate	Location	BeachStation	Sample	FieldSheet	LabSheet_Sample	Photos	DFW_QAQC	SurfSmelt	SandLance	RockSole	x_factor	DFWdatabase
2/15/2017	Marine Park	1	1	Y	Y	Y	Y	0	0	0	1	Y
2/15/2017	Marine Park	1	2	Y	Y	Y	Y	0	0	0	1	Y
3/30/2017	Marine Park	1	1	Y	Y	Y	Y	1	0	0	1	Y
3/30/2017	Little Squalicum	1	1	Y	Y	Y	Y	0	0	0	1	Y
4/21/2017	Little Squalicum	1	1	Y	Y	Y	Y	0	0	0	1	Y
4/21/2017	Marine Park	1	1	Y	Y	Y	Y	0	0	0	1	Y
5/22/2017	Marine Park	1	1	Y	Y	Y	Y	0	0	0	1	Y
5/22/2017	Little Squalicum	1	1	Y	Y	N	Y	0	0	0	1	Y
6/4/2017	Marine Park	1	1	Y	Y	Y	Y	4	0	0	0	Y
6/4/2017	Little Squalicum	1	1	Y	Y	Y	Y	95	0	0	1	Y
7/9/2017	Marine Park	1	1	Y	Y	Y	Y	0	0	0	1	P
7/9/2017	Little Squalicum	1	1	Y	Y	Y	Y	13	0	0	1	P
8/3/2017	Marine Park	1	1	Y	Y	Y	Y	0	0	0	1	P
8/3/2017	Little Squalicum	1	1	Y	Y	Y	Y	15	0	0	1	P
10/15/2017	Marine Park	1	1	Y	Y	Y	Y	0	0	0	1	Y
10/15/2017	Little Squalicum	1	1	Y	Y	Y	Y	24	0	0	1	Y
11/3/2017	Marine Park	1	1	Y	Y	Y	Y	0	0	0	1	Y
11/3/2017	Little Squalicum	1	1	N	Y	Y	P					P
1/26/2018	Marine Park	1	1	Y	N	Y	P					P
1/26/2018	Little Squalicum	1	1	Y	N	Y	P					P
2/22/2018	Marine Park	1	1	Y	N	Y	P					P
2/22/2018	Little Squalicum	1	1	Y	N	Y	P					P

Eleanor Hines and Bob Seaman completing field sheet at Little Squalicum. Photo credit: Austin Rose

Volunteers grabbing sample. Photo credit: Austin Rose

Processing sample with blue bowl method. Photo credit: Austin Rose

EDUCATION AND OUTREACH

SPEAKER SERIES

The Whatcom MRC jointly hosts a public speaker series with the Whatcom Watershed Information Network (WWIN) to provide learning opportunities on topical marine resources issues and provide a source of education to the community. The MRC and WWIN hosted eight speaker series events between October 2016 and September 2017. Four of those events were hosted at general monthly MRC meetings. Attendance at these events varied. On November 16, the MRC hosted Eric Beamer, Research Director of the Skagit River System Cooperative who presented his research on juvenile chinook salmon populations in the Nooksack Estuary and Bellingham Bay shoreline. This recently

completed study fills knowledge gaps on juvenile Chinook salmon population structure, origin, and performance within the Nooksack tidal delta and Bellingham Bay nearshore habitats. On December 2, a half day workshop was held at the Small Fruit Conference that provided some of the latest information on water supply issues, actions, and opportunities in our region. The December MRC meeting featured a presentation by Rebecca Rettmer, Executive Director of the Lummi Island Heritage Trust, who shared information about the Trust's purchase of 105 acres of forest land and a rock quarry on Lummi Island and the progress to restore the mined area to a more natural state. Rebecca discussed plans for public access to this area, as well as opportunities for the public to get involved in environmental monitoring. On March 2, the MRC hosted Emily Grayson, Washington Sea Grant, University of Washington, who provided information on green crab sightings in our area, what steps are being taken in response to sightings, and volunteer opportunities to help with monitoring. On June 1, the MRC hosted staff from the Port of Bellingham who provided information on updates to the Bellingham waterfront. On June 10, a speaker series event was held out on Lummi Island to provide an overview of water resources on Lummi Island, legal access to water, and drinking water systems and challenges. On September 7, the MRC hosted Jennifer Lanksbury, WDFW, who provided an overview of the regional Mussel Watch program and shared results from the 2015/16 study that the MRC participated in.

In addition to these presentations, the MRC and WWIN hosted two large symposiums. The Baker to Bay Symposium occurred Sept 20-21, with an overarching goal/message to support and inform ecosystem recovery actions in Whatcom County in a manner that combines and coordinates data, research, community interests and needs. This two day event brought together stakeholders, managers, governments, businesses, community members, and scientists to share information. Day 1 was designed for a general audience and featured talks on “Who We Are”, “What is Our Effect on the Ecosystem”, and “What are We Doing to Reconcile Human and Ecosystem Needs”. Posters and exhibitors supplemented the presentations followed by a special evening networking event showcasing short local films and appetizers. Day 2 was formatted to share information on science, research, and the application of knowledge that will help reconcile human and ecosystem needs and strategies for resource management and ecosystem recovery. A website was set up for this event, and was advertised on the MRC website http://www.mrc.whatcomcounty.org/upcoming-events/baker-to-bay-symposium/. A weblink to the presentations can be found here http://whatcom.wsu.edu/nr/btb/presentations.html.

Evaluations were handed out with registration packets on each day of the symposium. An evaluation summary can be found on the MRC website here: http://www.whatcomcountymrc.org/projects/public-speaker-series/

The Water Supply Symposium was an all-day event held on December 13 in Bellingham, WA. This event focused on water supply topics including; legal access to water, where our water comes from, how it is used, factors for the future, current strategies, actions for solving some of our challenges, and next steps in moving forward. An evaluation summary can be found on the MRC website here: http://www.whatcomcountymrc.org/projects/public-speaker-series/

NORTH SOUND STEWARDS – A CITIZEN SCIENCE PROGRAM

The Whatcom MRC and RE Sources for Sustainable Communities launched a citizen science program similar to the Salish Sea Stewards Program existing in Skagit County. 2017 was the pilot year to discover the feasibility of the program and what future funding needs might be - or what the program should really look like to be a success. A good number of citizen science programs were lined up for volunteers to participate in, including many that the Whatcom MRC is undertaking. The program requires 50 hours of volunteer hours throughout a one year period and was set up to be conducive to a wide range of individual skills, from field work, data entry, or event coordination.

A press released was distributed on April 7. Intertidal survey trainings were offered in late April at Birch Bay State Park. The menu of programs was shared online, at community events, an introductory presentation was given at RE Sources in late May to community members that signed up (approximately 40 people had signed up at that time) and a hard copy of the menu of programs was shared.

The program generated a lot of interest and seems to provide valuable partnerships and citizen science opportunities. Managing the program takes a considerable amount of time and it is clear that program coordination support is needed.

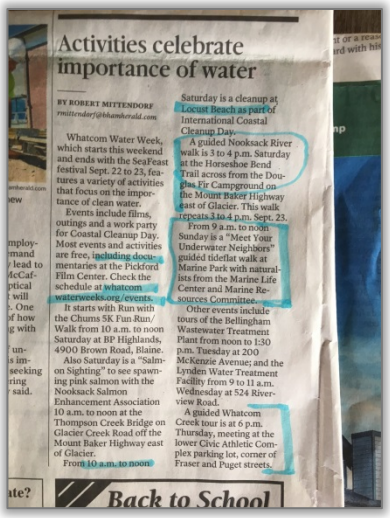
GENERAL COMMUNITY OUTREACH

In January, the MRC co-hosted the film "A Plastic Ocean" which was screen at the Regal Cinema theater. Tickets for this film were sold out. Approximately 200 tickets were purchased to view the film. The MRC and WWIN focused advertising on local and regional stakeholder groups and did not do press releases or any broader advertising. It is suspected many more people might have been interested in attending if we had advertised more broadly.

On June 10 Doug Stark led two tide flat tours at Birch Bay Beach Fest. On June 24, the MRC hosted a booth at the "What's the Point" event at the Point Whitehorn Marine Reserve. The MRC hosted a booth at Discover Birch Bay Days September 2-3. Photos below were taken by MRC member Bob Seaman showing Doug Stark and volunteer with MRC tanks showing intertidal critters.

Whatcom Water Week occurred September 16-23. The MRC hosted two events during Water Week; 1) September 16 - a beach clean-up at Locust Beach in Bellingham, in partnership with the NWS Surfrider Foundation. This cleanup was one that participation in the International Coastal Cleanup, put on by the Ocean Conservancy, in which volunteers log/ track the trash they collect on the beach. This data is put into a large database to help track the issue of marine debris word wide; and 2) September 17 - an event titled “Meet your Underwater Neighbors” which was led by MRC member Doug Stark in partnership with a SCUBA team with Bellingham Gone Diving and the Bellingham Marine Life Center. Visitors at this event got the chance to view the critters that live in the nearshore of their local beaches. The MRC hosted a booth at Bellingham SeaFeast on Sept. 23, the culminating event of Water Week. The MRC booth showed how clams and oysters clean water – through a live tank display. Approx. 550 people visited the MRC booth at this event.

Photos below: left – Bellingham Herald, photo by Doug Stark; right – Chris Brown with intertidal critters, photo by Doug Stark; bottom – Doug Stark and Bob Seaman at SeaFeast, photo by Nicole Jordan.



Activities celebrate importance of water

BY ROBERT MITTENDORF
rmittendorf@bhamherald.com

Whatcom Water Week, which starts this weekend and ends with the SeaFeast festival Sept. 22 to 23, features a variety of activities that focus on the importance of clean water.

Events include films, outings and a work party for Coastal Cleanup Day. Most events and activities are free, including documentaries at the Pickford Film Center. Check the schedule at whatcomwaterweeks.org/events.

It starts with Run with the Chums 5K Fun Run/Walk from 10 a.m. to noon Saturday at BP Highlands, 4900 Brown Road, Blaine.

Also Saturday is a "Salmon Sighting" to see spawning pink salmon with the Nooksack Salmon Enhancement Association 10 a.m. to noon at the Thompson Creek Bridge on Glacier Creek Road off the Mount Baker Highway east of Glacier.

From 10 a.m. to noon Saturday is a cleanup at Locust Beach as part of International Coastal Cleanup Day.

A guided Nooksack River walk is 3 to 4 p.m. Saturday at the Horseshoe Bend Trail across from the Douglas Fir Campground on the Mount Baker Highway east of Glacier. This walk repeats 3 to 4 p.m. Sept. 23.

From 9 a.m. to noon Sunday is a "Meet Your Underwater Neighbors" guided tideflat walk at Marine Park with naturalists from the Marine Life Center and Marine Resources Committee.

Other events include tours of the Bellingham Wastewater Treatment Plant from noon to 1:30 p.m. Tuesday at 200 McKenzie Avenue; and the Lynden Water Treatment Facility from 9 to 11 a.m. Wednesday at 524 Riverview Road.

A guided Whatcom Creek tour is at 6 p.m. Thursday, meeting at the lower Civic Athletic Complex parking lot, corner of Fraser and Puget streets.

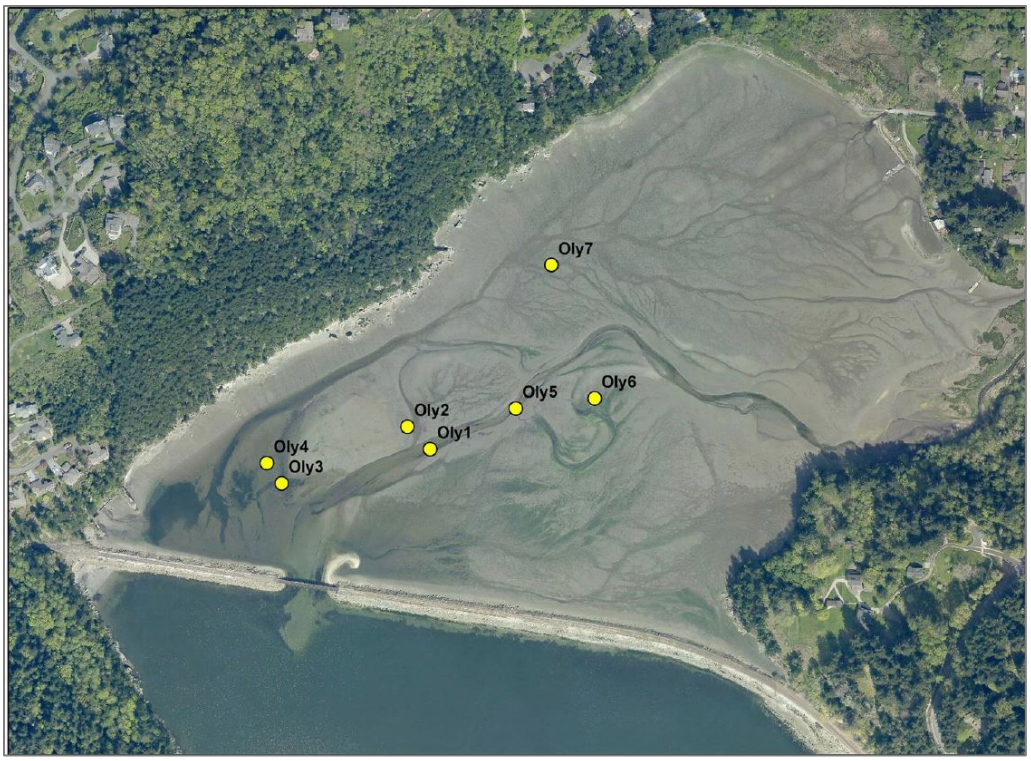
Back to School

PILOT OLYMPIA OYSTER RESTORATION

TEST PLOTS

Brady Blake, Shellfish Biologist with WDFW identified North Chuckanut Bay as a potential site for Olympia oyster restoration. The initial step required a field evaluation of the tidelands to identify optimal locations for one or more seed plots. A field evaluation of Chuckanut Bay was conducted on June 6, 2016 at 11am with the low tide at -2.9 feet MLLW at 12:18pm. Seven test plots were identified (see map below) and it was determined that overall Chuckanut Bay provides a very good opportunity for establishing a population of native oysters given the existing habitat conditions.

The test plots are not intended as restoration themselves but only to provide information on the feasibility of restoration in the seven habitat patches identified. The seed used for the test plots will be on Pacific oyster shell and will be fairly robust from over-wintering both of which provides protection from trampling. The actual restoration design if pursued would address any factors identified from the test plot results that may limit success.



BABY OYSTERS

The MRC purchase five bags of seed on shell for each plot, thus 35 total. Each bag of seed should have a minimum of 250 shells per bag and 3-5 spat or seed per shell. The seed will be overwintered at a secure location prior to placement in the test plots. Once the seed has been placed the plots (spring 2018) it will need monitoring annually for several metrics that will be outlined in a restoration plan.






PRE-SEEDING TIDAL SURVEY

Data needed to be collected for tidal elevations, eel grass/macroalgal presence, and substrate characteristics. This information will be used by the MRC for developing a restoration plan and

acquisition of all necessary permits. Four MRC members and one volunteer completed a tidal survey on August 6. The MRC adapted the protocol from the Intertidal Monitoring QAPP (Steffensen and Joyce 2013: https://www.aquaticreserves.org/wp-content/uploads/PC-00J29801-0-QAPP-Intertidal-Biota-13-06-21-FINAL.pdf). Volunteers completed one transect per site and 3 elevation profile lines. Core samples were also collected beside each quadrat down to 30 cm, or as close as possible. Elevation profiles were taken from 3 start points along the shoreline and aimed to capture at least 3 clusters of site locations in profile elevation. The objective of these surveys was to see if there is a measurable difference in species present over time, as well as any changes in elevation as Olympia oysters are reintroduced.



SUMMARY

There continues to be a consensus that the MRC should be a catalyst to ensure projects get completed to understand, protect, and restore the marine ecosystem to its maximum potential. Building partnerships with other community organizations that have a capacity to implement work the MRC wants to get done and building a volunteer database will continue to play an important role in accomplishing marine related projects. The MRC has seen substantial growth this past year, with the addition of three enthusiastic new members who have the time capacity and motivation for certain projects. The MRC ends 2017 with one vacancy, and members are reaching out to community members for recruitment. The group continues to keep the interests of the marine environment at the front of all decisions, while looking at efficiency and effectiveness of supported projects.