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Skagit County **MARINE RESOURCES COMMITTEE**

2017 Annual Report



Washington Park, Anacortes
Photo Credit : Rick Haley



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In Memoriam of Kit Rawson



Kit Rawson brought a wealth of scientific knowledge, a fresh perspective, enthusiasm and positive energy to the Skagit MRC. He was an inspiration to many who knew him. Even after retiring as a fish biologist with the Tulalip Tribe, Kit continued to devote much of his time to salmon recovery and conservation efforts. In addition to serving on the Skagit MRC, Kit also served on the board of the Skagit Land Trust and the SeaDoc Society. He was a valuable part of our local community and will be greatly missed. Kit passed away on August 16, 2017.

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SKAGIT COUNTY MARINE RESOURCES COMMITTEE



Background:

Established in 1999, the Skagit County Marine Resources Committee (MRC) is one of seven citizen-advisory committees formed under the congressionally authorized Northwest Straits Marine Conservation Initiative (NWSI) as part of a grassroots effort to protect our marine resources.

Goals and Benchmarks:

- 1) Protect and restore marine populations and the health of the local marine waters, habitats, and shorelines to sustainable levels;
- 2) Collect high quality data and promote its use and dissemination; and
- 3) Promote stewardship and understanding of Skagit County marine resources through education and outreach.

To learn more:
www.skagitmrc.org

Skagit MRC Members: MRC members are appointed by the Skagit County Board of Commissioners and represent diverse interest groups including: local government, tribes, Ports, conservation organizations, marine scientists, industry, and sport and commercial fishing.

Administrative Support: Support is provided by the Water Resources Section of the Skagit County Public Works Department and is partly funded through the Clean Water Program.

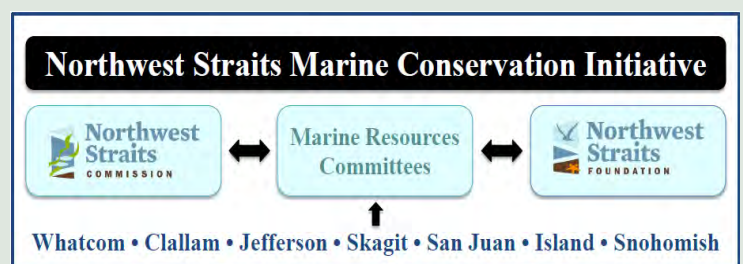
Meetings: MRC meetings occur the second Thursday of each month from 9:00 a.m. to 11:00 a.m. Meetings are open to the public and rotate between Anacortes and Mount Vernon. Guest speakers are invited to present different topics related to the marine environment.

MRC members contributed over 1,346 volunteer hours in 2017!!

MRC Member	Interest Group
Tracy Alker (Staff Support)	Skagit County Public Works
Julie Barber	Swinomish Tribe
Nate Biletnikoff Alt: Rachel Price	Shell Puget Sound Refinery
Phyllis Bravinder	Citizen
Morty Cohen	Citizen
Paul Dinnel	Marine Scientist
Jay Lind	Sports & Commercial Fishing
Matt Reynolds Alt: Erica Pickett	City of Anacortes
Kit Rawson Alt: Tim Manns	Skagit Land Trust
Jamey Selleck (MRC Chair)	Marine Ecologist
Betsy Stevenson	Skagit County Planning Dept
Sarah Tchang (MRC Vice-Chair)	Port of Anacortes
Todd Woodard Alt: Jodi Bluhm	Samish Indian Nation
Pete Haase	Citizen

Northwest Straits Marine Conservation Initiative

The United States Congress authorized the Northwest Straits Marine Conservation Initiative (NWSI) in 1998. The NWSI is a coordinated effort across seven counties that combines sound science with grassroots consensus building to protect and restore marine waters, species, and habitats of the Northwest Straits.



Northwest Straits Commission (NWSC):

The NWSC serves as the “board of directors” and is comprised of five gubernatorial representatives, one tribal representative appointed by the Secretary of the Interior, and one representative from each of the seven Marine Resources Committees (MRCs). The NWSC provides base funding for the operations and action projects of the MRCs. The NWSC also provides technical assistance, tools, resources, training and coordination among MRCs, and integrates work with a regional focus. The NWSC has four full time staff and holds an annual training conference each year for all MRC members. To learn more: www.nwstraits.org.

Northwest Straits Foundation (NWSF):

Serves as the non-profit extension of the Initiative. The NWSF works with the MRCs to identify and pursue additional funding from public and private sources to help leverage support for MRC priority projects and supplement the core federal support for MRCs. The NWSF also manages the state-wide derelict fishing gear removal program, manages large restoration projects, and restoration-related workshops and training in partnership with the MRCs. To learn more: www.nwstraitsfoundation.org.

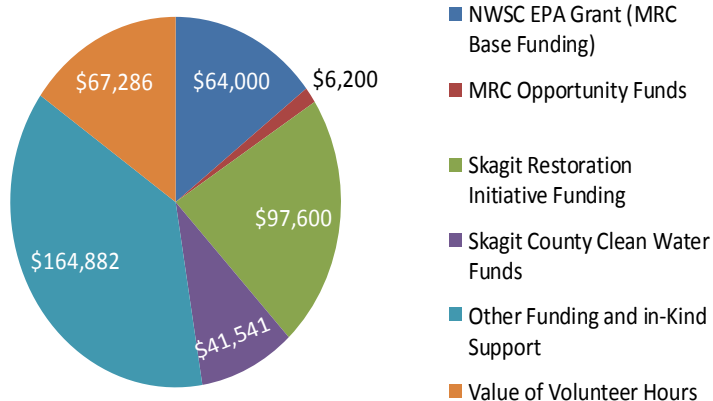
2017 Financial Summary

SKAGIT MRC 2017 FINANCIAL SUMMARY

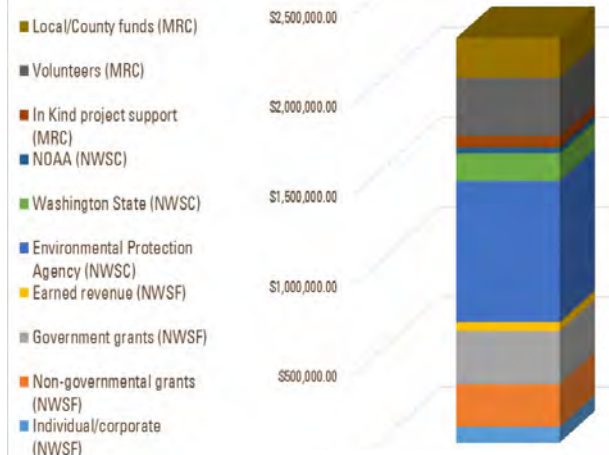


Projects	MRC Project Lead	NWSC Grant (EPA/PSP)	Other Funding and In-Kind Support
MRC Administration and Operations	Tracy Alker	\$21,100	\$41,541 Skagit County Clean Water Funds
Fidalgo Bay Day	Pete Haase	\$3,500	~\$3,363 Donations and in-kind support leveraged from local businesses and organizations
Salish Sea Stewards	Morty Cohen	\$18,000	Partner organizations of the Coastal Volunteer Partnership provided funding to support a full-time Volunteer Program Coordinator (\$43,000) and in-kind services (\$419).
Tide Pool Interpretive Sign	Jay Lind	\$5,000	City of Anacortes installed the sign for free
Crabber Outreach	Gina Johnson	\$0	NWSF received funding from crabbing licenses for outreach materials
Pinto Abalone Restoration	Paul Dinnel	\$16,400	WA Dept of Fish and Wildlife (WDFW) and WA Department of Natural Resources (WDNR) funding for hatchery management and outplanting
Nearshore Restoration Monitoring	Jamey Selleck	\$0	\$5,000 Skagit Restoration Initiative (SRI) funds for monitoring
Forage Fish Index Surveys	Pete Haase	\$0	WDFW funding to process samples for egg identification confirmation and staging
Kelp Surveys and Recovery	Phyllis Bravinder	\$0	\$17,500 NWSI funding for a kelp coordinator
Green Crab Surveys	Paul Dinnel	\$0	\$6,200 NWSF's MRC Opportunity Funds for volunteer coordination, and Shell Puget Sound Refinery provided \$10,000 funding for green crab monitoring supplies and traps
Native Oyster Restoration	Paul Dinnel	\$0	\$2,000 Skagit Restoration Initiative funds and funding from the Puget Sound Restoration Fund
Weaverling Spit Beach Restoration Phase 3	Todd Woodard	\$0	\$90,600 Skagit Restoration Initiative Funds, and Samish Indian Nation Grant and matching Funds \$90,600
Total		\$64,000	\$377,509 (including value of volunteer hours)

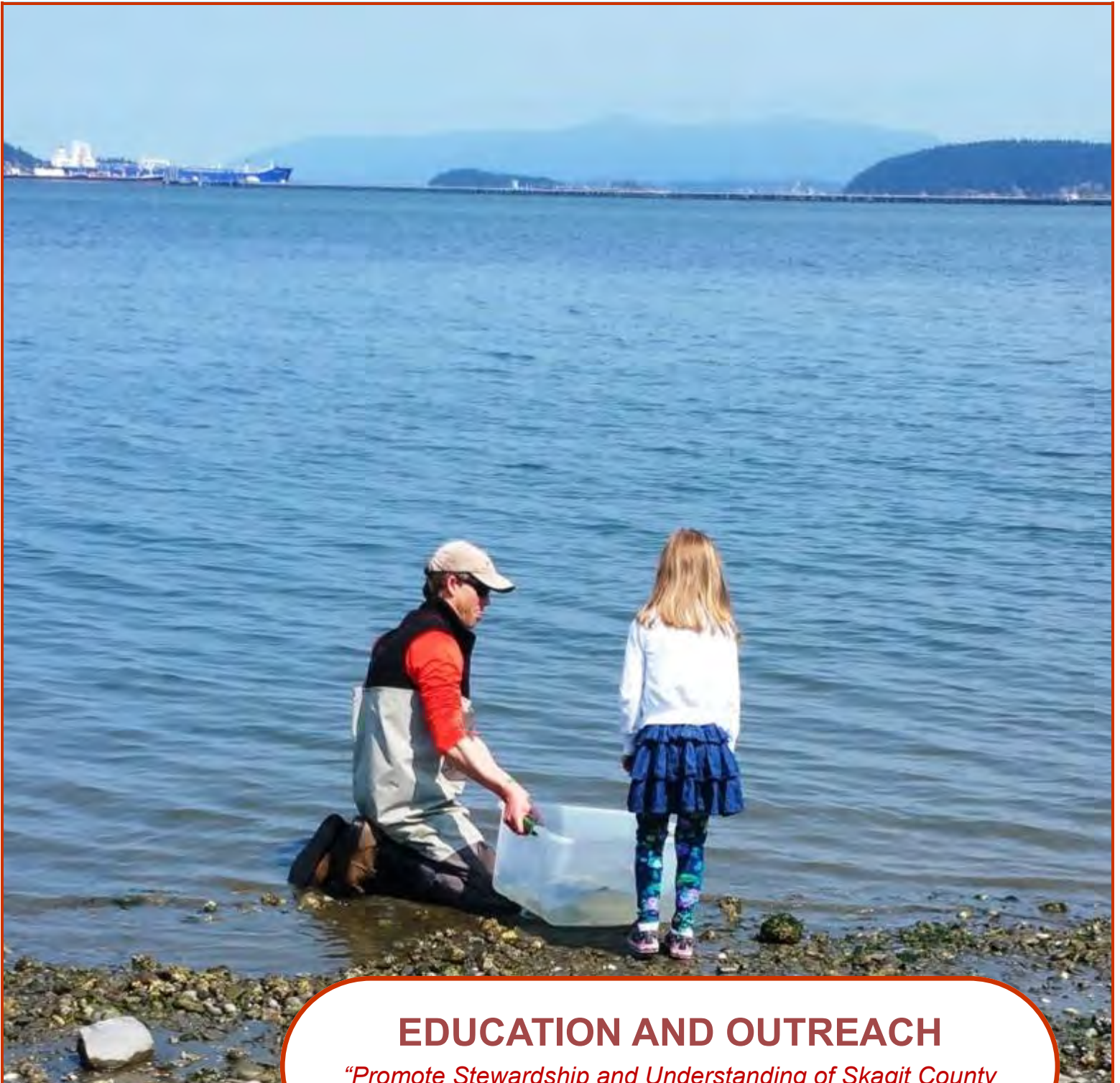
SKAGIT MRC 2017 FINANCIAL SUMMARY



NORTHWEST STRAITS INITIATIVE 2017 FINANCIAL SUMMARY



Source: NWSC 2017 Annual Report



EDUCATION AND OUTREACH

“Promote Stewardship and Understanding of Skagit County Marine Resources Through Education and Outreach”

- Fidalgo Bay Day
- Salish Sea Stewards
- Tide Pool Interpretive Sign
- Crabber Outreach
- MRC Representation at Events, Trainings, Conferences, and Workgroups



Mural colored by event participants



Shannon Point Marine Center's Touch Tanks

Did You know?

*This event is planned, coordinated and carried out almost entirely by volunteers! Thanks to all of the volunteers and the leadership of **MRC member Pete Haase, Event Chair.***

Over 270 Volunteer Hours!!



A special THANK YOU to our partners: Friends of Skagit Beaches, Samish Indian Nation, and Coastal Volunteer Partnership for helping to make this happen. And thanks to the local businesses for the generous contributions: Shell Puget Sound Refinery, Taylor Shellfish, Mary Ann's Kitchen, Johnny Picassos, Adrift, Gere-A-Deli, and the Anacortes Boys & Girls Club

Celebrating Local Estuaries

At the Samish Indian Nation's Fidalgo Bay Resort

Why?

- ♦ To increase public awareness of the marine environment and the creatures that live there
- ♦ To teach citizens how to become good stewards of Fidalgo Bay and the Salish Sea
- ♦ To build partnerships and a strong sense of community

2017 HIGHLIGHTS

- ♦ Over 400 visitors
- ♦ 45 volunteers
- ♦ 22 participating organizations
- ♦ 6 local businesses donated samples of seafood, refreshments, and passport prizes
- ♦ Discovery Passport Activity completed by 203 participants
- ♦ Interactive educational displays and games
- ♦ Kid friendly craft tables and face painting
- ♦ Beach seining activity
- ♦ Aquarium touch tank
- ♦ Forage fish beach walks
- ♦ No host salmon BBQ lunch
- ♦ Samish Indian Nation opening ceremony
- ♦ Zero Waste event

To see the full 2017 Fidalgo Bay Day report go to the Skagit MRC website: www.skagitmrc.org.

SALISH SEA STEWARDS



About

The Salish Sea Stewards program was first established by the Skagit MRC in 2014 to build a strong base of trained volunteers to help support the work of the MRC and the Northwest Straits Initiative. From 2015 to 2017 the MRC's Salish Sea Stewards program was administered under the umbrella of the Coastal Volunteer Partnership (CVP). The CVP was formed by five partner organizations to help support a full-time Volunteer Program Coordinator. The funding partners included: Skagit MRC, Padilla Bay Foundation, Padilla Bay NERR, Friends of Skagit Beaches, and the Skagit County Clean Water Program. The CVP served as a centralized hub for training, recruiting, and coordinating volunteers. It also created a network of individuals who shared information with the larger Skagit County community about becoming better stewards of the marine environment. Unfortunately, the CVP came to an end in October, 2017. The Skagit MRC will be looking at other options for administering the Salish Sea Stewards program in 2018 and beyond.

34 new Salish Sea Stewards in **2017**, totaling

91 Salish Sea Stewards!

Over 16,049 Volunteer Hours!!

Why?

- ♦ To increase public awareness of the marine environment and the creatures that live there
- ♦ To teach citizens how to become good stewards of the Salish Sea
- ♦ To build partnerships and a strong base of citizen scientists to support marine conservation and restoration projects

Program Overview

- ♦ 50 hours of free training consisting of lecture style classes and customizable field training
- ♦ Classes are taught by qualified experts who donate their time
- ♦ Topics include issues impacting the Salish Sea and current actions that are working to restore and protect it
- ♦ Volunteers pledge to contribute at least 50 hours of volunteer services

Did you Know?

A subcommittee of 6 MRC members and 3 volunteers help drive this entire program thanks to the **MRC Project Lead Morty Cohen**



Field training—intertidal monitoring

TIDE POOL SIGN AT WASHINGTON PARK



Project Overview

Washington Park, located in Anacortes WA, has two rocky intertidal areas at Green Point and Sunset Beach that are adversely impacted by beach visitors. Skagit MRC partnered with the City of Anacortes and the Coastal Volunteer Partnership (CVP) to design and install interpretive signage.

Why?

To increase public awareness about the fragile intertidal marine ecosystem, how certain behaviors can be harmful, and tips for proper tide pool etiquette.

Sign Design

Larry Eifert, a local artist from Port Townsend created the design with input from the MRC; Beach Naturalists developed the messaging; the CVP Volunteer Program Coordinator recommended the best location for installation; and the City of Anacortes Parks Department installed the sign.

5 volunteers interviewed 30 beach visitors to evaluate the effectiveness of the sign. Thanks to Jay Lind, MRC Project Lead



Watch Your Step!

Just like you, tide pool organisms are adapted to living in special conditions. Many of the plants and animals that live here are sensitive to impacts by people. Remember, when exploring the tide pools, you're in someone else's home. Please be a good visitor by following these guidelines.

Look - Then Step!

Stay on bare rock. Avoid walking on areas covered with seaweeds or barnacles.

Slow Down

Look closely and quietly watch a pool. This will reveal animals that might otherwise go unnoticed.

No Rock N' Roll

Rolling or throwing rocks crushes animals that live on the sides or underneath. Carefully return rocks to the exact position you found them in.

Be Gentle & Use Wet Fingers to Touch

Many tide pool inhabitants survive the crashing waves by attaching to rocks. Please don't pull anything off rocks, or touch them with dry hands.

Keep It Low & Let It Go

You wouldn't like it if someone moved you from your house to somewhere far away, so please don't do that to those that live here. A drop from only a few feet in the air could do some serious damage to a small snail or crab.

Take Only Pictures

Leave the wildlife and plants for others to enjoy. Many of our beaches are protected by law.

Keep It Clean

Don't leave garbage behind, and pick up any trash you see left by others. The critters will thank you for keeping their homes tidy.

Thank you and have fun!



CRABBER OUTREACH

Northwest Straits Initiative's Regional Program Actions:

- ◆ Since 2002, the NWSI removed more than 4,800 derelict crab pots
- ◆ Completed a study on the effectiveness of escapement mechanisms for faster escapement of crabs trapped in lost pots
- ◆ Created educational rack cards with tips and incentives to prevent losing crab pots
- ◆ Created educational videos for crabbers www.nwstraitsfoundation.org/project/recreational-crabbing-resources/
- ◆ Initiated the #CatchMoreCrab social marketing campaign to share best crabbing strategies



Why?

- ◆ To reduce the number of crab pots and crabs lost each year

MRC Outreach Activities

- ◆ Distributed 800 rack cards to 2 local businesses, 500 to the Samish DNR, and 2,000 to the Port of Anacortes
- ◆ 5 volunteers reached out to 342 crabbers at 3 public boat launches in Skagit County on opening weekend of crabbing season

Did you Know?

12,000 crab pots are lost each year in Puget Sound

These lost pots continue to capture and kill an estimated

180,000 crabs each year!

That means less crabs available to harvest

Thanks to the leadership of Gina Johnson (Salish Sea Steward Class of 2017) and the rest of our amazing volunteers for making this outreach effort happen in Skagit County!

**Over 70
Volunteer Hours!**

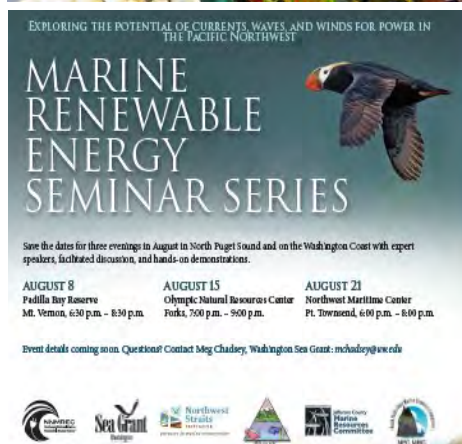


Education and Outreach

SKAGIT MRC REPRESENTATION AT SPECIAL EVENTS

MRC Display

Skagit MRC hosted a display and activities at several local events and the annual MRC conference. Thanks to all of the volunteers who helped!



MRC member Nate Biletnikoff provided the welcoming remarks at the Seminar at Padilla Bay.

2017 Events

MRC members and staff hosted the MRC display and activities at the following events:

- ♦ Skagit MRC's Fidalgo Bay Day
- ♦ Annual MRC Conference
- ♦ Dine and Discover at Bayview State Park
- ♦ Skagit River Salmon Festival

Skagit MRC co-sponsored the following events:

- ♦ Marine Renewable Seminar Series
- ♦ Shoreline Landowner Workshop
- ♦ Two Beach Cleanup Events

Skagit MRC representatives attended several workshops, lectures, and conferences and reported back to the MRC.

Why?

Participating in special events is a great opportunity to share the work of the MRC, build partnerships and learn about other conservation and restoration efforts happening in the community.

The MRC 's interactive display helps to initiate conversations about the issues impacting the Salish Sea, the work of Skagit MRC, and what individuals can do to be good stewards of the marine environment.

Other Outreach

MRC volunteers helped with the San Juan MRC's "Be Whale Wise" outreach campaign by distributing posters and brochures to the Port of Anacortes, local marinas and businesses in Skagit County.

Beach Cleanups

Co-sponsored a beach cleanup at the Swinomish Reservation and at the log yard property on Padilla Bay with the CVP, RE-Sources, Swinomish Tribe and volunteers



Shoreline Landowner Workshop

Co-hosted a shoreline landowner workshop at the Fidalgo Bay Resort with the Northwest Straits Foundation. MRC member Betsy Stevenson provided the welcoming remarks





Photo Credit: Austin Rose

CONSERVATION AND RESTORATION

"Protect and restore marine populations and the health of the local marine waters, habitats, and shorelines to sustainable levels"

- Pinto Abalone Restoration
- Olympia Oyster Restoration
- Forage Fish Index Surveys
- Nearshore Restoration Monitoring
- Kelp Surveys
- European Green Crab Surveys
- Weaverling Spit Beach Restoration, Phase 3

PINTO ABALONE RESTORATION

Background

The pinto (northern) abalone, *Haliotis kamtschatkana*, is the only known species of abalone in Washington State waters. In 2004, pinto abalone was identified as a “Species of Concern”. Their population is severely depleted and are considered to be functionally extinct. It is believed that the remaining population are too few and too widely spaced to facilitate the reproduction necessary for the population to recover on its own.

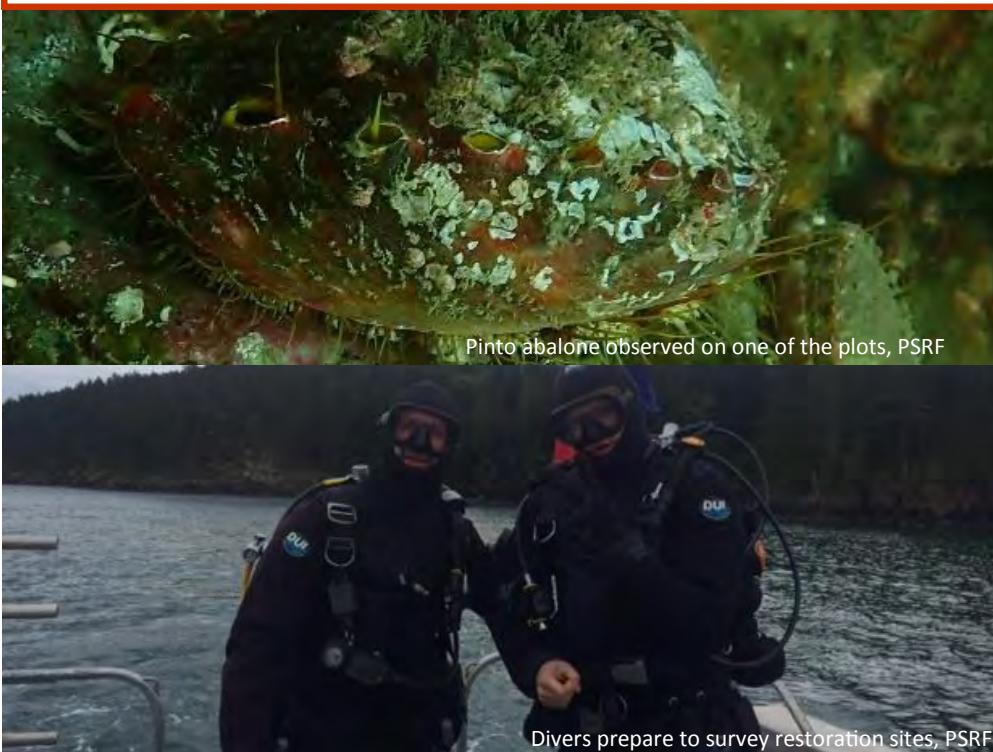
The pinto abalone recovery project is a long-term collaboration between state and federal agencies, Non Government Organizations (NGOs), universities, and tribes lead by the Puget Sound Restoration Fund (PSRF). Since 2009, an estimated 9,200 juvenile pinto abalone have been introduced to 6 outplant sites in Skagit County waters. Skagit MRC has been involved in the abalone recovery effort since 2014. Pinto abalone restoration is one of the main goals identified in the 2011 Washington Shellfish Initiative.



Photo Credit: Josh Bouma

Did you Know?

Harvesting pinto abalone is illegal! *The recreational fishery for abalone has been closed since 1994 due to the severe population decline. Washington State has never had a commercial fishery for abalone. Report Poachers (1-877-933-9847)*



Pinto abalone observed on one of the plots, PSRF

Divers prepare to survey restoration sites, PSRF

2017 Accomplishments

- ♦ Outplanted 1,799 additional juvenile abalone to increase the genetic diversity and build a sustainable abalone population
- ♦ Early-stage abalone outplant experiment to increase production and reduce costs
- ♦ Divers collected monitoring data to measure the success of restoration efforts
- ♦ Preliminary data indicates abalone are growing larger in size and density and are dispersing beyond the outplant sites!

Thanks to **Paul Dinnel, MRC Project Lead**, for contributing **over 30 hours** of volunteer services!

FORAGE FISH INDEX SITE SURVEYS



Ship Harbor—Forage Fish Index Site

Project Overview

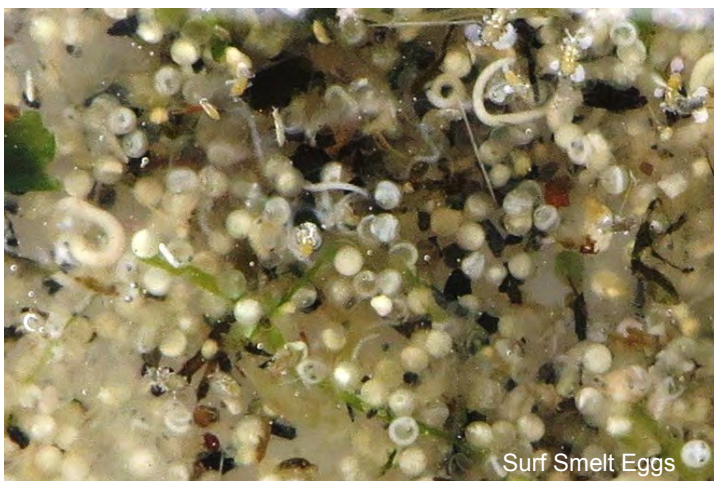
The Forage Fish Index Sites are documented spawning areas in each tidal reference area identified by the Washington Department of Fish and Wildlife (WDFW). Monthly sampling occurs at these sites to look at annual variations in spawning activity of the forage fish population.

All seven MRCs have been collecting monthly data at Forage Fish Index Sites across the northwest straits region since 2016. The samples collected are sent to WDFW for confirmation and staging. The MRC's plan to continue collecting data for the long-term to look for any potential trends.

Skagit MRC collects monthly samples at 3 Forage Fish Index Sites in Skagit County: Ship Harbor (Guemes Channel), NE shoreline of Similk Bay, and the SW part of Samish Island along the shoreline owned by the Padilla Bay Reserve.

2017 Accomplishments

- ♦ 10 volunteers collected monthly samples at 3 Forage Fish Index Sites
- ♦ Volunteers received microscope training to identify and stage the eggs
- ♦ Surf smelt eggs were found at each site in 2017 for the first time after collecting samples for over one year



Surf Smelt Eggs



Samish Island—Forage Fish Index Site



Thanks to the leadership of MRC member Pete Haase, Skagit County Intern, Charlette Turman, and all of our dedicated volunteers for making this project happen!

Similk Bay—Forage Fish Index Site

OLYMPIA OYSTER RESTORATION



Over **111 Volunteer Hours** Contributed !!

2017 Accomplishments

- ♦ Volunteers deployed, collected, and monitored 20 cultch bags in Fidalgo Bay and collected monitoring data at Cap Sante Marina and Cypress Island
- ♦ Established two new shell plots on the west side of Fidalgo Bay at Weaverling Spit to enhance spat settlement
- ♦ Helped test WDFW's spatfall collector alongside the traditional shellstring system
- ♦ Helped Whatcom MRC deploy 40 seed bags in Fidalgo Bay to over-winter before transplanting into Chuckanut Bay in 2018
- ♦ Discovered Olympia oysters thriving in the high channels in south Fidalgo Bay
- ♦ MRC Project Lead Paul Dinnel helped draft a chapter about Olympia oyster restoration for a new Nature Conservancy publication



Volunteer Jack Middleton discovered Olympia oysters in the high channels near Sharps Corner

Background

The Olympia oyster, *Ostrea lurida*, is native to the Pacific Coast of North America and was once abundant in Puget Sound. Over harvesting in the late 1800s, combined with severe pollution in the first half of the 20th century drove many Puget Sound stocks to near extinction.

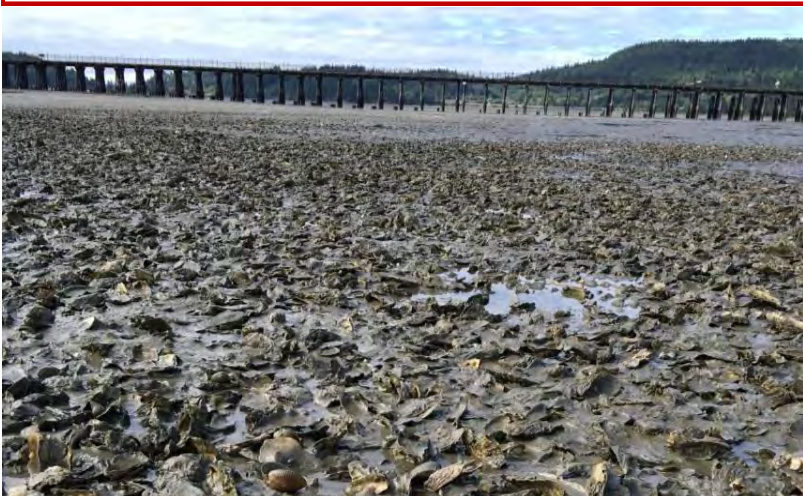
Why Restore Olympia Oysters?

Native oysters are considered valuable to the marine ecosystem because they provide habitat, are an important food source for many marine species, and are culturally significant to indigenous people. In addition, as filter feeders they help improve and maintain water quality in the estuaries in which they are found. One of the goals of the Washington Shellfish Initiative is to enhance 100 acres of native oyster habitat at 19 locations in Puget Sound by 2020. There is also a new coast-wide initiative from California to Washington to start expanding and coordinating native oyster restoration efforts.

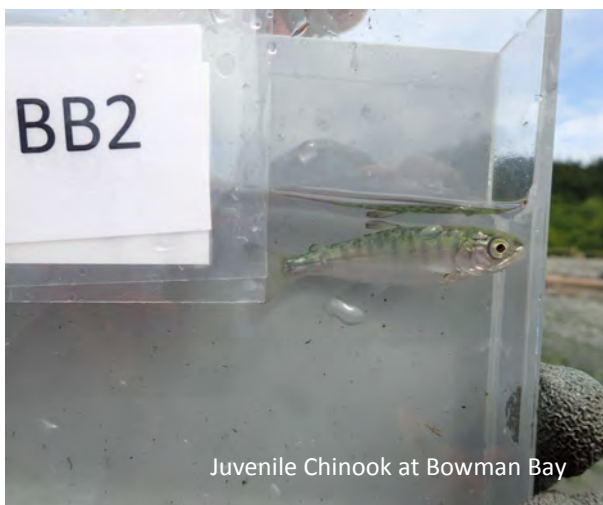
Olympia Oyster Restoration in Skagit County

Since 2002, Skagit MRC has been working collaboratively with many partners and citizen scientists to establish a sustainable Olympia oyster population in Skagit County waters. To date, over 1.5 million Olympia oyster seed has been planted in Fidalgo Bay. It's been a huge success!! There are now several sustainable native oyster beds established on the eastside of Fidalgo Bay. The effort is now being expanded to Skagit Bay, Padilla Bay, and Cap Sante Marina. The Skagit MRC also has an experimental plot in the channels at Cypress Island. This important work couldn't happen without the help of our volunteers!

Over **3 million Olympia oysters** are now thriving in Fidalgo Bay!! Thanks to **MRC Project Lead Paul Dinnel** and our many dedicated volunteers!!



NEARSHORE RESTORATION MONITORING



Juvenile Chinook at Bowman Bay

Background

Nearshore monitoring in Skagit County is a collaborative effort. Skagit MRC and the Northwest Straits Foundation (NWSF) worked in partnership with several other agencies and organizations to develop monitoring protocols, monitoring plans and Quality Assurance Project Plans (QAPP) for the Bowman Bay and March's Point nearshore restoration sites in Skagit County. Trained citizen scientists have played a critical role in helping to collect monitoring data pre- and post-construction. They also help maintain the monitoring equipment, enter data into spreadsheets, and help with outreach during monitoring events. The Friends of Skagit Beaches provided funding for the volunteers to create two great roving displays to help with outreach during forage fish and intertidal monitoring.

Why Monitor?

Monitoring data is collected to determine the effectiveness of the restoration actions and whether or not they improved the physical processes and function of the site as well as the habitat diversity as compared to pre-project conditions. It is also used to fill data gaps in status and trends. The goal is to collect at least 5 years worth of post-construction data.

Monitoring Parameters

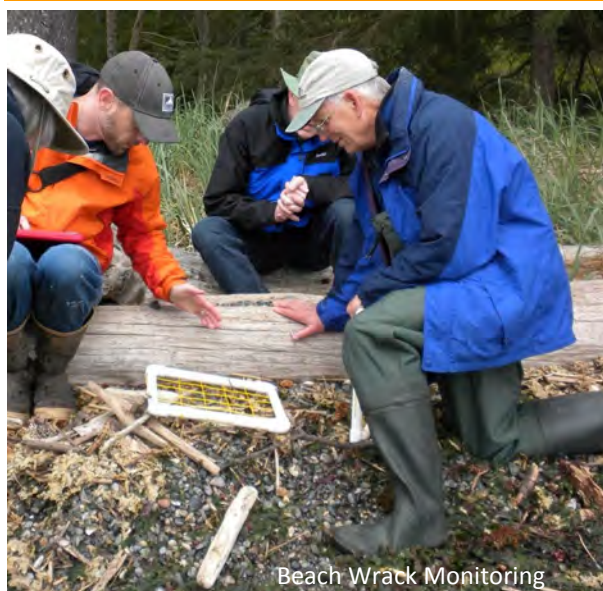
Photo points, beach profile surveys, sediment sampling, beach wrack analysis, large woody debris/insect fallout surveys, vegetation and percent shade calculations, and intertidal surface epifauna/algae surveys all occur once a year. Beach seining for nearshore fish use and forage fish spawning surveys occur monthly and bimonthly.

Where Does the Data Go?

Data is analyzed by the Washington Department of Fish and Wildlife (WDFW) and the NWSF. Results will be posted on the NWSF's Sound IQ online data sharing program at: <http://www.nwstraits.org/our-work/soundiq/>

2017 Accomplishments

- ◆ 51 volunteers contributed over 830 hours of nearshore monitoring
- ◆ Collected 2 years of post-construction monitoring data at Bowman Bay and 3 years of post-construction data at March's Point
- ◆ Surf smelt eggs were found at both restoration sites. They were found at Bowman Bay for the first time since collecting monitoring data at that site
- ◆ Juvenile Chinook salmon have been observed at both restoration sites



Beach Wrack Monitoring



Large Woody Debris Survey



Measuring and Counting Fish

KAYAK KELP SURVEYS



Kelp Survey at Shannon Point
Photo Credit: Samantha Russell



Bob Weathers surveying kelp at Shannon Point

Background

There is evidence that bull kelp has significantly declined in some areas of Puget Sound, but there is a lack of data in the Northwest Straits region.

The Northwest Straits Commission (NWSC) established the Salish Sea International Kelp Alliance and launched a regional bull kelp survey program in 2014 using a kayak-based protocol.

All 7 MRCs are now involved in kayak kelp surveys during the peak of annual growth from June—September. For more information: <http://www.nwstraits.org/our-work/kelp-recovery/>

Where does the data go?

The NWSC is compiling all of the data into a regional kelp database that will be shared with local and regional planners and researchers. To learn more: www.nwstraits.org/our-work/kelp-recovery/

Did you know?

- ◆ Bull kelp is a critical habitat to a wide variety of species
- ◆ Bull kelp can grow up to 2 ft in 1 day and can grow as tall as 80 ft!
- ◆ The bull kelp canopy helps control ocean temperature
- ◆ Bull kelp produces large amounts of oxygen and sequesters carbon dioxide
- ◆ The bulbous float at the end of the kelp is filled with up to 10% carbon monoxide gas
- ◆ Kelp extracts are used as a thickener in ice cream, hand lotion and paint.

2017 Accomplishments

- ◆ 9 kayaker volunteers contributed 82 hours conducting surveys at 3 sites in Skagit County: Coffin Rock, Shannon Point, and Biz point
- ◆ Kelp was a topic covered in the Salish Sea Stewards training in 2017. Additional field-based training was also provided.
- ◆ Initiated a two week long “Northwest Straits Bull Kelp Flash Survey” for volunteers with smart phones to help collect an inventory of kelp beds in Skagit County
- ◆ An article about the kelp surveys and recovery effort was posted in the Skagit Valley Herald

EUROPEAN GREEN CRAB SURVEYS



Background

One of the world's worst invasive species, the European green crab (*Carcinus maenas*), was first observed in the beaches and marshes of the San Juan Islands and Padilla Bay in 2016. The Washington Sea Grant (WSG) Green Crab Team is leading a regional monitoring effort to prevent further spread in Washington's estuaries. They are currently monitoring 52 sites across the region with the help of over 200 volunteers. So far, European green crabs have only been detected at 5 of the sites, including Padilla Bay.

Why should we be concerned?

This crab has a voracious appetite and preys on a wide range of organisms. It can significantly alter the ecosystems it invades. There is concern that it could threaten the Dungeness crab, oyster, and clam fisheries and aquaculture operations in the Pacific Northwest. For more information: <https://wsg.washington.edu/crabteam/greencrab/>

Skagit MRC's Role

In 2017, Skagit MRC received funding from the Northwest Straits Foundation's (NWSF) MRC Opportunity funds to support volunteer coordination through the Coastal Volunteer Partnership and to purchase monitoring supplies and traps. The Skagit MRC worked with Washington Sea Grant to develop the Green Crab Monitoring Plan for Skagit County.

2017 Accomplishments

- ◆ 18 volunteers conducted 384 hours of green crab monitoring in Skagit County waters
- ◆ 10 sites are currently being monitored for green crabs in Skagit County
- ◆ So far, only 3 green crabs have been observed in Skagit County waters. All 3 were found in Padilla Bay.
- ◆ European green crab monitoring training was provided by Washington Sea Grant at Padilla Bay
- ◆ Information about this project was incorporated into the Salish Sea Stewards training agenda

Green Crab Survey Sites in Padilla Bay



Did You Know?

It is illegal to possess a green crab in the State of Washington without a permit. If you think you spotted a green crab or molted shell, email your photos and detailed location information and geographic coordinates to crabteam@uw.edu

Conservation and Restoration

WEAVERLING SPIT BEACH RESTORATION PHASE 3



Phase 3 Pre-Construction



Phase 3 Post-Construction

Did You Know?

- ◇ Beaches with bulkheads eroded 5 times faster than nearby restored shorelines
- ◇ Surf smelt returned to spawn the day after the beach was restored



Phase 3 Post-Construction

Background

Weaverling Spit, located on Fidalgo Bay, is historic tribal property of the Samish Indian Nation and provides important habitat for fish and wildlife. In 2005, the bulkhead was starting to fail, causing the beach to erode. It was determined that it would be most beneficial to remove the bulkhead and restore the shoreline back to its natural state.

The shoreline restoration work was completed in 3 phases which provided an excellent opportunity to compare the restored beach habitat vs. armored shoreline. Phase 1 was completed in 2009, Phase 2 was completed in 2015, and Phase 3 was completed in 2017. A total of 1,760 feet of nearshore habitat has been restored. Restoration work included:

- Bulkhead removal
- Added sediment & graded the beach with a gentle slope
- Stabilized the shoreline with large logs, tree root wads, and native plants

Skagit MRC's Role

Skagit MRC selected the Weaverling Spit beach restoration project (Phases 2 and 3) to receive Skagit Restoration Initiative (SRI) funding. The Samish Indian Nation provided the 1:1 match through other sources and in-kind services. SRI funds are part of a Natural Resources Damages Settlement payment from Kimberly-Clark for the former Scott Paper Mill site in Anacortes. The funding is administered through the Northwest Straits Foundation with project selection and oversight provided by the Skagit MRC.

THANK YOU!!

The Skagit MRC relies heavily on the technical, financial, and administrative support of the Northwest Straits Commission, Northwest Straits Foundation, Puget Sound Partnership, U.S. Environmental Protection Agency, Skagit County Public Works Clean Water program and the Skagit County Board of County Commissioners. The Skagit MRC's work is driven by our dedicated MRC members, the collaboration and shared resources of many partner organizations, and the hard work of our amazing volunteers. Thanks to all of you for making a difference!

