

Skagit County MARINE RESOURCES COMMITTEE

2018 Annual Report



"Skagit County Marine Resources Committee acts as a catalyst for the protection and restoration of the marine waters, habitats and species of Skagit County to achieve ecosystem health and sustainable resource use"



The projects in this report have 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.

A Message from the MRC Chair



MRC Chair, Paul Dinnel

As the Skagit County Marine Resources Committee (Skagit MRC) approaches its 20th anniversary in 2019, we can look back on a very long list of projects associated with marine education, restoration and conservation. In 2018 Skagit MRC trained 25 new Salish Sea Stewards to add to the list of 139 trained volunteers since 2014. These volunteers have donated almost 25,000 hours on well over 50 different projects since 2014. Many of these projects are in the educational arena, including Fidalgo Bay Day, beach cleanups, shoreline owner workshops, Kids on the Beach, crabber education and interaction with other partners during special events. On the restoration/conservation side, Skagit MRC has been very active in the successful restoration of Olympia oysters in Fidalgo Bay, the restoration of pinto abalone via juvenile out plants and subsequent monitoring of those out plants, nearshore restoration at Bowman Bay and March's Point, kayak-based kelp surveys, and forage fish spawner surveys. After serving on the MRC for 19 years, I personally look forward to continue working on these many projects in the coming years.

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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: Appointed by the Skagit County Board of Commissioners and represent diverse interest groups including: local government, tribes, Ports, conservation organizations, marine scientists, industry, knowledgeable citizens, and sport and commercial fishing.

Administrative Support: Provided by the Natural Resources Division 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 1,354 volunteer hours in 2018!!

MRC Member	Interest Group
Tracy Alker (Staff Support)	Skagit County Public Works
Jude Apple	Padilla Bay NERR
Julie Barber/ Todd Mitchell	Swinomish Tribe
Rachel Best Alt: Darla G Smith	Citizen
Nate Biletznikoff Alt: Rachel Price	Shell Puget Sound Refinery
Phyllis Bravinder	Citizen
Paul Dinnel (MRC Chair)	Marine Scientist
Pete Haase	Citizen
Lynne Jordan Alt: Kari Odden	Skagit Land Trust
Jay Lind (NWSF Rep)	Sports & Commercial Fishing
Jamey Selleck	Marine Ecologist
Betsy Stevenson	Skagit County Planning Dept.
Sarah Tchang (MRC Vice-Chair)	Port of Anacortes
Todd Woodard Alt: Jodi Bluhm	Samish Indian Nation

Northwest Straits Marine Conservation Initiative



With bipartisan support, 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 county-based Marine Resources Committees (MRCs) including Skagit, Whatcom, Island, Snohomish, San Juan, Jefferson, and Clallam counties. 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 derelict fishing gear removal program, large restoration projects, nearshore restoration monitoring, and shoreline landowner workshops in partnership with the MRCs. To learn more: www.nwstraitsfoundation.org.

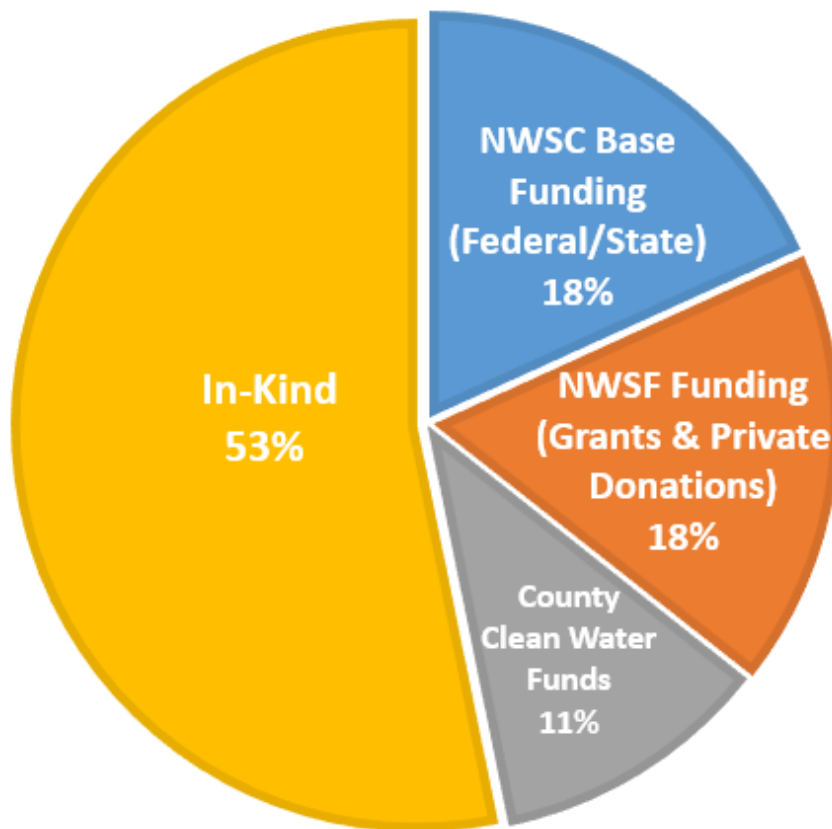


2018 SKAGIT MRC FINANCIAL SUMMARY

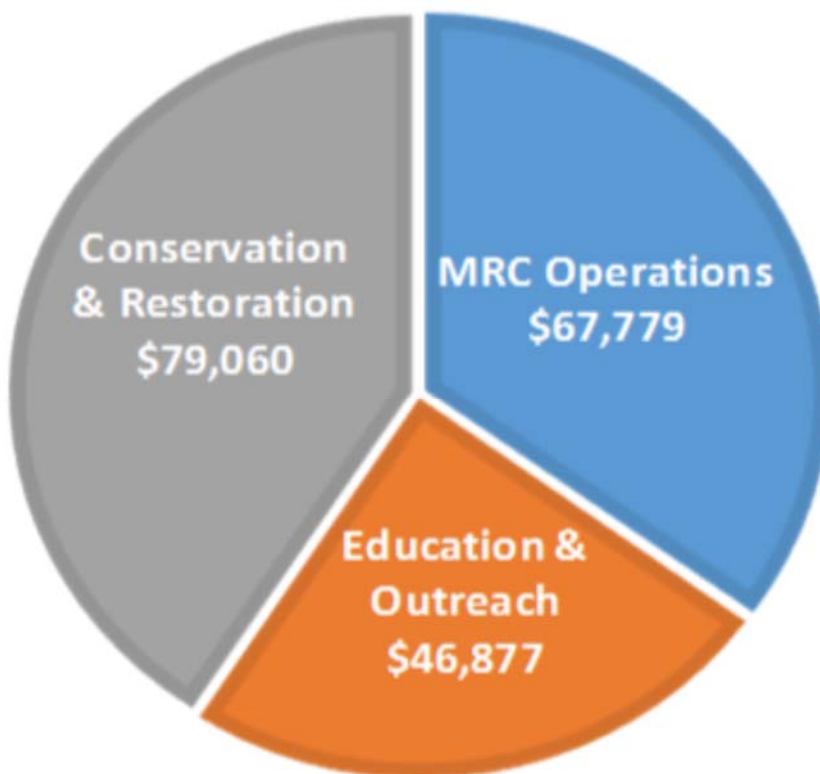
Projects	Skagit MRC Project Leads	NWSC Grant (EPA/PSP)	NWSF (Grants & Private Donations)	County Clean Water Funds	Other Funding Sources & In-Kind Support (Estimated Values)
MRC Operations	Tracy Alker	\$21,500	\$0	\$46,279	\$33,430 (MRC member hours)
Fidalgo Bay Day	Pete Haase	\$3,500	\$2,275 (plastics display, passport activity, and staff support)	\$0	\$2,530 in-kind (Samish Indian Nation's Facility, seafood donations, insurance, etc.)
Salish Sea Stewards	Rachel Best	\$20,500	Staff support to teach classes	\$0	Friends of Skagit Beaches provided \$952 for facility rental, background checks, t-shirts, and speaker gifts. Speakers donated time (\$468). Volunteer hours for all projects(\$183,274)
Kids on the Beach	Pete Haase	\$5,500	Staff support for beach activities	\$0	Samish Indian Nation's facility and staff assistance. Several volunteer hours provided for beach activities
Bowman Bay Restoration	Jay Lind	\$2,000	\$0	\$0	Skagit Fisheries Enhancement Group provided plants for planting in the fall. Volunteers provided many hours maintaining newly planted vegetation
Pinto Abalone Restoration	Paul Dinnel	\$18,500	\$0	\$0	WA Dept of Fish and Wildlife (WDFW) and WA Department of Natural Resources (WDNR) funding for hatchery management and outplanting
Nearshore Restoration Monitoring	Jason Morgan (NWSF)	\$0	\$13,000 Skagit Restoration Initiative (SRI) funds for monitoring	\$0	Volunteers provided many hours monitoring the shorelines
Forage Fish Surveys	Pete Haase	\$0	\$0	\$0	WDFW staff time to process & analyze samples. Volunteers provided many hours conducting surveys
Kelp Surveys and Recovery	Phyllis Bravinder	Staff support equipment	\$0	\$0	Volunteers provided many hours conducting kayak kelp surveys
Crabber Outreach	Maddie Rose (SSS Volunteer)	\$0	\$2,700 from crabbing licenses for outreach materials	\$0	Volunteers provided many hours conducting crabber outreach
Native Oyster Restoration	Paul Dinnel	\$0	\$0	\$0	Puget Sound Restoration Fund provided additional oyster shell and seed. WDFW provided oyster string tiles. Volunteers provided hundreds of hours monitoring oysters
Fidalgo Bay Property —Water Quality Study	Karri Odden/ Lisa Kaufman (NWSF)	\$0	\$860 Skagit Restoration Initiative Funds	\$0	Skagit Land Trust Matching Funds
Kukutali Preserve Restoration/ Monitoring	Lisa Kaufman & Jason Morgan (NWSF)	\$0	\$44,700 from Shannon Point project. Supplements Swinomish funding for restoration	\$0	Volunteers provided many hours conducting nearshore monitoring
Shoreline Landowner Workshop	Betsy Stevenson/ Lisa Kaufman (NWSF)	\$0	\$11,450	\$0	Skagit MRC members provided several volunteer hours towards the workshop
Total		\$71,500	\$74,985	\$46,279	\$220,654

2018 SKAGIT MRC FUNDING CHARTS

**2018
Funding
Sources and
In-Kind
Support**



**2018
Funding for
MRC Projects
and
Operations**



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EDUCATION AND OUTREACH

“Promote Stewardship and Understanding of Skagit County Marine Resources”



Kids on the Beach

Photo Credit– Nicole Jordan

Skagit MRC's education and outreach programs are designed to reach a wide range of demographics from young kids to senior citizens

- Fidalgo Bay Day
- Salish Sea Stewards
- Kids on the Beach
- Recreational Crabber Outreach
- Skagit MRC Participation at Special Events

15th Annual FIDALGO BAY DAY

At the Samish Indian Nation's Fidalgo Bay Resort in Anacortes



Why is it Important?

- ◆ Provides a fun learning experience for young kids and families.
- ◆ Increases public awareness and a sense of connection to the marine environment.
- ◆ Fosters environmental stewardship and volunteerism.
- ◆ Provides an opportunity for like-minded organizations to share information and build strong partnerships.



This event is planned, coordinated and carried out almost entirely by volunteers!

Over 270 Volunteer Hours!

2018 HIGHLIGHTS

- ◆ Over 400 visitors
- ◆ 45 volunteers
- ◆ 22 participating organizations
- ◆ 6 local businesses provided complimentary seafood and refreshments
- ◆ 150 discovery passport activities completed
- ◆ 44 visitor surveys completed
- ◆ 7 coloring contest participants
- ◆ Educational displays and games
- ◆ Kid friendly craft tables and face painting
- ◆ Beach seining
- ◆ Aquarium touch tank
- ◆ Forage fish & birding beach walks
- ◆ No host salmon BBQ lunch
- ◆ Samish Indian Nation opening ceremony
- ◆ MRC and Friends of Skagit Beaches Plastics display
- ◆ Zero Waste event

For the full [2018 Fidalgo Bay Day report](https://www.skagitmrc.org) go to the Skagit MRC website: www.skagitmrc.org.

THANK YOU to the leadership of Pete Haase (Event Chair) and to all of the wonderful volunteers and partner organizations. In particular, thanks to Friends of Skagit Beaches for once again sponsoring the Passport Activity and the Samish Indian Nation for hosting the event at their beautiful facility. A special thanks to the local businesses for their generous contributions: Taylor Shellfish, Mary Ann's Kitchen, Johnny Picassos, Adrift, Gere-A-Deli, and the Anacortes Boys & Girls Club.

SALISH SEA STEWARDS



Salish Sea Stewards Class of 2018

Why is it Important?

- ◆ Teaches citizens how to become good stewards of the Salish Sea.
- ◆ Builds and maintains a solid base of dedicated volunteers to help support marine conservation and restoration projects.
- ◆ Builds strong partnerships with other organizations that rely on volunteers.
- ◆ Trained volunteers help to increase public awareness and community support of the marine environment and the creatures that live there.



Over
23,800
Volunteer
Hours!!
(since 2014)



2018 HIGHLIGHTS

- ◆ 40 hours of free training taught by over 28 professional experts in the classroom and the field.
- ◆ 25 volunteers completed the training in 2018 and logged over 1,167 volunteer hours in the first 4 months.
- ◆ Over 139 volunteers have completed the training since 2014.
- ◆ Salish Sea Stewards support over 35 local programs.
- ◆ 513 subscribers to the Salish Sea Stewards electronic news bulletin "The Wave".
- ◆ 218 Salish Sea Stewards Facebook followers.
- ◆ 25 Salish Sea Stewards participated in the Crandall Beach Cleanup event.
- ◆ 9 newspaper articles about the Salish Sea Stewards in 2018.

To learn more about the [2018 Salish Sea Stewards program](http://www.skagitmrc.org) go to: www.skagitmrc.org.

THANK YOU to Rachel Best, the MRC Project Lead, and the subcommittee of 5 MRC volunteers for overseeing the program and providing guidance to the Volunteer Program Coordinator. A special thanks to the Friends of Skagit Beaches for continued support.

KIDS ON THE BEACH



Over **125**
Volunteer Hours!

Why is it Important?

- ◆ Increases marine science IQ in Skagit County 8th graders that do not have regular access to marine habitats.
- ◆ Offers a hands-on scientific research project to support student prep for first statewide testing on the Next Generation Science Standards (NGSS).
- ◆ Increases student buy-in of science by generating useful scientific data.
- ◆ Nurtures the interest of young students in pursuing a course of study in marine science.
- ◆ Imparts the importance of science communication through a student science symposium.



THANKS to Mira Lutz and Pete Haase (MRC Project Lead), for developing this amazing program and to the volunteers for helping the students on the beach!

2018 HIGHLIGHTS

- ◆ **50 eighth grade students** from Conway Middle School participated in this pilot program.
- ◆ **25 volunteers** assisted with beach activities and the science symposium.
- ◆ Students developed proposals and conducted research using real scientific techniques on the beach.
- ◆ The scientific data generated by the students will be used by the Washington Department of Fish and Wildlife.
- ◆ Students presented their findings to the public at a science symposium.
- ◆ Pre-and post project quiz results indicated the students' knowledge about the marine environment increased after completing the project.
- ◆ 2 newspaper articles about the program.

To see the full [2018 Kids on the Beach report](http://www.skagitmrc.org) go to: www.skagitmrc.org.

DERELICT CRAB POTS & CRABBER OUTREACH



Why is it Important?

- ◆ **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 which equates to fewer crabs available to harvest.
- ◆ Providing education and outreach to recreational crabbers helps reduce the number of crab pots and crabs lost each year.

Over **48** Volunteer Hours!



NORTHWEST STRAITS INITIATIVE'S REGIONAL ACTIONS

- ◆ Since 2002, the NWSI removed more than **5,400 derelict crab pots**.
- ◆ Completed a study on the effectiveness of escapement mechanisms to allow for the crabs trapped in lost pots to escape faster.
- ◆ Created educational rack cards with tips and incentives to prevent losing crab pots and educational videos for crabbers www.nwstraitsfoundation.org/project/recreational-crabbing-resources/.
- ◆ Initiated the #CatchMoreCrab social marketing campaign to share best crabbing strategies www.nwstraits.org/our-work/catch-more-crab/.

2018 LOCAL HIGHLIGHTS

- ◆ Removed and disabled **480 derelict crab pots** in the Guemes Channel and Padilla Bay. 278 Dungeness crabs were recovered (93% live).
- ◆ **5 volunteers** engaged with **58 crabbers** at 2 public boat launches in Skagit County on opening weekend of crabbing season and gave away 28 measuring gauges, 6 rack cards with helpful tips, and 2 biodegradable cotton cords.
- ◆ Crabber rack cards were distributed at the Anacortes Ferry Terminal and to recreational boaters through the Port of Anacortes.

Thanks to Maddie Rose for taking the lead in coordinating this effort and to our many dedicated volunteers!!

PARTICIPATION AT SPECIAL EVENTS



Mount Vernon High School Science Night



Earth Day at Edgewater Park

Why is it Important?

- ◆ Initiates conversations about the issues impacting the Salish Sea, and what individuals can do to be good stewards of the marine environment.
- ◆ Increases public awareness and builds community support of Skagit MRC's work.
- ◆ It's also a great way for the MRC to share information, build partnerships, and learn about other conservation and restoration efforts happening in the community.



Skagit River Salmon Festival

2018 HIGHLIGHTS

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

- ◆ Earth Day at Edgewater Park, Mount Vernon
- ◆ Mount Vernon High School Science Night
- ◆ Fidalgo Bay Day
- ◆ Skagit River Salmon Festival
- ◆ Fidalgo Shoreline Academy
- ◆ Annual MRC Conference

Skagit MRC co-sponsored the following events:

- ◆ Shoreline Landowner Workshop
- ◆ Crandall Spit Beach Cleanup Event

Skagit MRC representatives attended **55** meetings, workshops, lectures, and conferences to share information and stay up to date on the issues impacting the Salish Sea and our marine resources.



Crandall Spit Beach Cleanup – Salish Sea Stewards Lunch Presentation



Crandall Spit Beach Cleanup



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**
- **Bowman Bay Nearshore Restoration**
- **Olympia Oyster Restoration**
- **Forage Fish Index Surveys**
- **Nearshore Restoration Monitoring**
- **Kayak-based Kelp Surveys**

PINTO ABALONE RESTORATION



Why is it Important?

- ♦ The pinto (northern) abalone, *Haliotis kamtschatkana*, is the only known species of abalone in Washington State waters.
- ♦ Pinto abalone are an important part of a healthy marine ecosystem.
- ♦ In 2004, pinto abalone was listed as a state “Species of Concern.” Changing their state status to “Endangered” is currently under consideration.
- ♦ The pinto abalone population is so severely depleted that it cannot recover on its own. Outplanting genetically diverse hatchery-reared juvenile abalone is a primary recovery tool.
- ♦ Pinto abalone restoration is one of the main goals identified in the 2011 Washington Shellfish Initiative.
- ♦ 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).

2018 HIGHLIGHTS

- ♦ An estimated **9,200** juvenile pinto abalone outplanted at 6 sites in Skagit County waters since 2009.
- ♦ Survey results indicate **pinto abalone are growing larger in size and density** and are dispersing beyond the outplant sites!
- ♦ Current abalone densities at 5 of the outplant sites exceed the minimum density needed to sustain successful spawning.
- ♦ **434 abalone observed** at the outplant sites are now **over the 50 mm** minimum size needed for successful spawning.
- ♦ The Allen West site has the highest outplant success rate. Outplant success is defined by the percentage of animals over 50 mm at each site divided by the number of abalone outplanted.
- ♦ Experimenting with earlier life stage outplants to increase recovery efforts and lower costs.



BOWMAN BAY NEARSHORE RESTORATION



Why is it Important?

- ◆ In 2015, Skagit MRC partnered with the NWSF, Deception Pass State Park, and the Skagit Fisheries Enhancement Group (SFEG) to remove rock riprap and restore 540 ft of shoreline at Bowman Bay.
- ◆ This project helped restore natural sediment transport processes and improve approximately 0.6 acres of nearshore habitat for forage fish, juvenile salmon and bull trout.
- ◆ A riparian planting plan was implemented to enhance and protect the marine shoreline.
- ◆ It is anticipated that it will take at least 5 years of planting and plant maintenance to help establish a healthy riparian habitat at the Bowman Bay restoration site.

2018 HIGHLIGHTS

- ◆ **5** plant maintenance **work parties** were held between May and August, 2018.
- ◆ **18** **volunteers** assisted with weeding and watering.
- ◆ A 300 gallon watering truck was used to water the plants.
- ◆ Vegetation monitoring was conducted by trained volunteers through the SFEG Volunteer Monitoring Program.
- ◆ A planting work party was held November 9, 2018 with plants donated by SFEG.
- ◆ A post-season walkthrough was scheduled in November with SFEG, MRC, and NWSF staff to assess the plantings' progress and needs.
- ◆ Shrubs experienced lower survival rates than the dune grass and coastal strawberry at this location. Additional shrubs will need to be planted.



Over **62** Volunteer Hours!

OLYMPIA OYSTER RESTORATION



Just under **3 Million** Olympia Oysters
Now Thriving in Fidalgo Bay!!

Over **119**
Volunteer
Hours!
(in 2018)

Why is it Important?

- ◆ The Olympia oyster, *Ostrea lurida*, is native to the Pacific Coast of North America. 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.
- ◆ Olympia oysters are considered valuable to the marine ecosystem because they provide habitat, are an important food source for many marine species, are culturally significant to indigenous people, and help improve and maintain water quality.
- ◆ Olympia oysters are more resilient to ocean acidification than the larger non-native Pacific oysters and will help make Puget Sound more resilient as conditions continue to change.
- ◆ 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.

THANKS to MRC Project Lead Paul Dinnel and our many dedicated volunteers!!

2018 HIGHLIGHTS

- ◆ 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 and a sustainable oyster population has become established in Fidalgo Bay.
- ◆ Volunteers helped deploy, collect, and monitor cultch bags in Fidalgo Bay, and helped expand the restoration area to Cap Sante Marina, across a half acre along Weaverling Spit, and an experimental plot in the channels at Cypress Island. They also helped test the Washington Department of Fish and Wildlife's (WDFW) spatfall collector alongside the traditional shell string system.
- ◆ 2018 was a very productive season for Olympia oyster settlement in Fidalgo Bay.
- ◆ Skagit MRC hosted a tour of the Fidalgo Bay oyster restoration site with Congressman Rick Larsen.
- ◆ Volunteers helped Whatcom MRC transplant 40 seed bags from Fidalgo Bay into Chuckanut Bay.



Congressman Rick Larsen (left),
Paul Dinnel, MRC Project Lead (right),
Nate Biletznikoff (center)

FORAGE FISH INDEX SITE SURVEYS



Similk Bay—Forage Fish Index Site

Why is it Important?

- ♦ Forage fish such as surf smelt and sand lance spawn on beaches and are an important food source for salmon, marine birds and mammals.
- ♦ Forage Fish Index Sites are tidal reference areas identified by the Washington Department of Fish and Wildlife (WDFW) with historically documented forage fish spawning.
- ♦ Monthly sampling at index sites looks at annual variations in spawning activity of the forage fish population.
- ♦ Collecting data for the long-term identifies potential trends.
- ♦ Six MRCs have been collecting monthly data at Forage Fish Index Sites across the northwest straits region since 2016.

2018 HIGHLIGHTS

- ♦ Monthly sampling at 3 sites: Ship Harbor/Guemes Channel, NE Similk Bay, and SW Samish Island.
- ♦ Volunteers identify and stage the eggs under a microscope.
- ♦ Forage fish egg samples are sent to WDFW for confirmation.
- ♦ Surf smelt eggs were found at the Similk Bay and Guemes Channel sites in 2018.

Over **135**
Volunteer Hours!



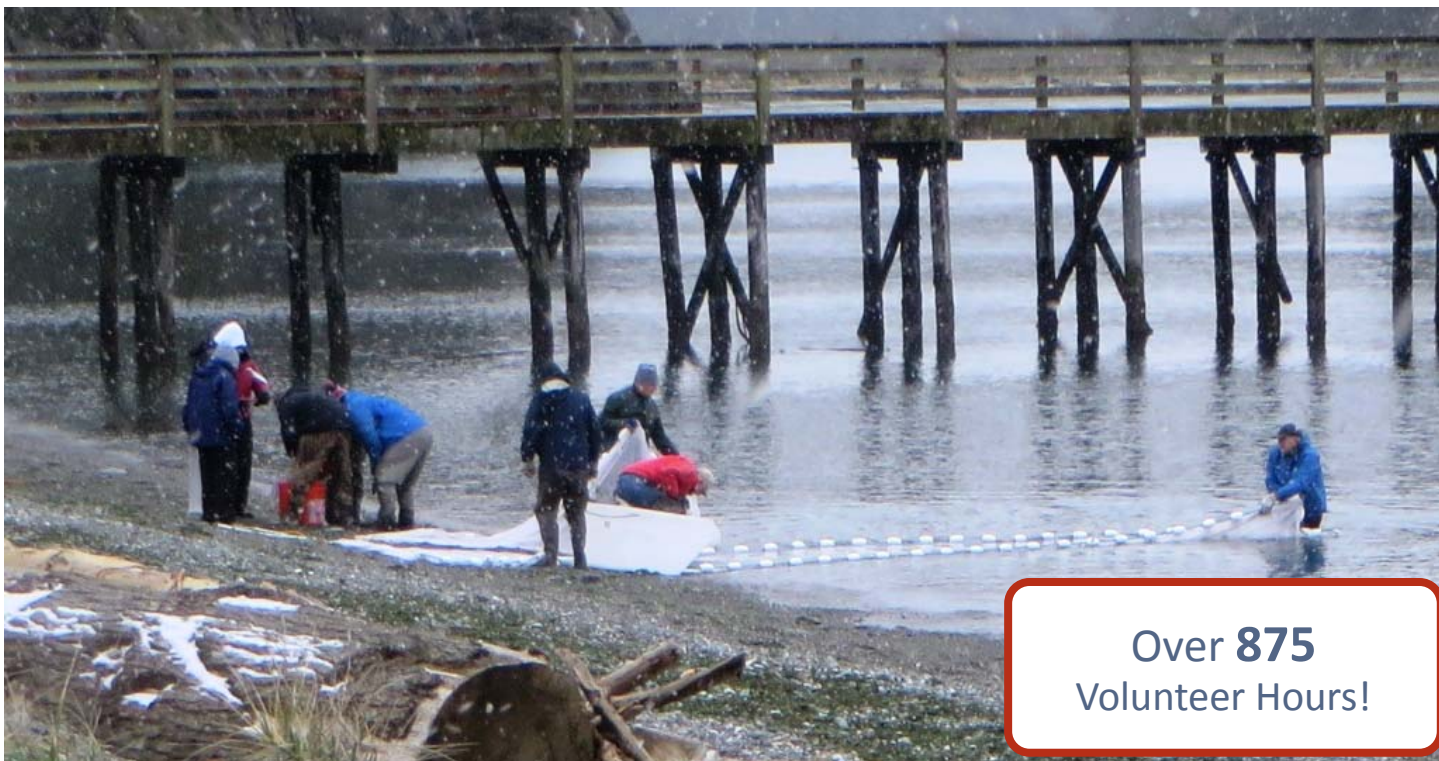
Forage Fish Index Site Sampling Crew

THANKS to the leadership of Charlette Turman, Pete Haase, and our many dedicated volunteers who help with these surveys, rain or shine.



Carrying a Sample to Sort for Forage Fish Eggs

NEARSHORE RESTORATION MONITORING



Over **875**
Volunteer Hours!

Why is it Important?

- ♦ The goal of the MRC is to collect at least 6 years worth of data to measure the effectiveness of the nearshore restoration actions as compared to pre-project conditions and to fill data gaps in status and trends.
- ♦ Trained citizen scientists play a critical role in collecting monitoring data, providing public outreach, and building community support.
- ♦ The Northwest Straits Foundation provides expertise, coordination, and oversight of the nearshore monitoring effort in collaboration with the MRC and other organizations.



2018 HIGHLIGHTS

- ♦ **72 volunteers** collected 3 years of post-construction monitoring data at the Bowman Bay nearshore restoration site and 4 years of post-construction data at the March's Point nearshore restoration sites.
- ♦ Volunteers provide public outreach during monitoring events.
- ♦ Juvenile Chinook salmon have been observed at both restoration sites.
- ♦ Beach seining for nearshore fish use and forage fish spawning surveys occurred monthly and bimonthly.
- ♦ Intertidal monitoring, beach profile surveys, beach wrack and insect fallout surveys, and large woody debris surveys occur once a year.
- ♦ The data will be analyzed by the Washington Department of Fish and Wildlife, the University of Washington, and the NWSF. Results will be posted online in Sound IQ: www.nwstraits.org/our-work/soundiq/ and in a final report.

THANKS to the leadership of Jason Morgan and our many dedicated volunteers who help with these surveys no matter what the weather.

KAYAK-BASED KELP SURVEYS



Over **82**
Volunteer Hours!

Why is it Important?

- ◆ Bull kelp is a critical habitat for a wide variety of species. It also helps control ocean temperature, produces large amounts of oxygen, sequesters carbon dioxide, and is a source of food and nutrients for many creatures, including humans.
- ◆ There is evidence that bull kelp has significantly declined in some areas of Puget Sound. The cause is likely a number of factors including light reduction from overwater structures, stormwater runoff, sedimentation, increase in water temperature, overgrazing by sea urchins and kelp crabs, and competitive interactions with invasive seaweeds. Unfortunately, there is a lack of data regarding these kelp populations in the Northwest Straits region.
- ◆ All 7 MRCs are involved in kayak kelp surveys to monitor changes in local kelp populations, promote citizen science contributions to regional research, and foster awareness about the ecological and cultural importance of kelp.
- ◆ The NWSC is compiling all of the data into a regional kelp database that will be shared with local and regional planners and researchers. The NWSC is also developing a kelp recovery plan in collaboration with other organizations and agencies.
- ◆ To learn more: www.nwstraits.org/our-work/kelp-recovery.

2018 HIGHLIGHTS

- ◆ **9 kayaker volunteers** surveyed **3 kelp beds** (Coffin Rock, Shannon Point, and Biz Point) once a month during the peak annual growing season (July—September) in Skagit County.
- ◆ Data collected was compiled into a regional kelp database to help monitor changes in local kelp populations.
- ◆ Preliminary data indicates the kelp beds at Shannon Point are actually increasing in size. The kelp beds at Coffin Rock and Biz Point appear to be remaining stable.

Kelp Survey Data is available on SoundIQ: <http://bit.ly/2FosoWn>.



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.

THANKS to MRC Project Lead Phyllis Bravinder and our many dedicated volunteers who have taken the initiative to conduct these surveys!!

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!

