Skagit County MARINE RESOURCES COMMITTEE

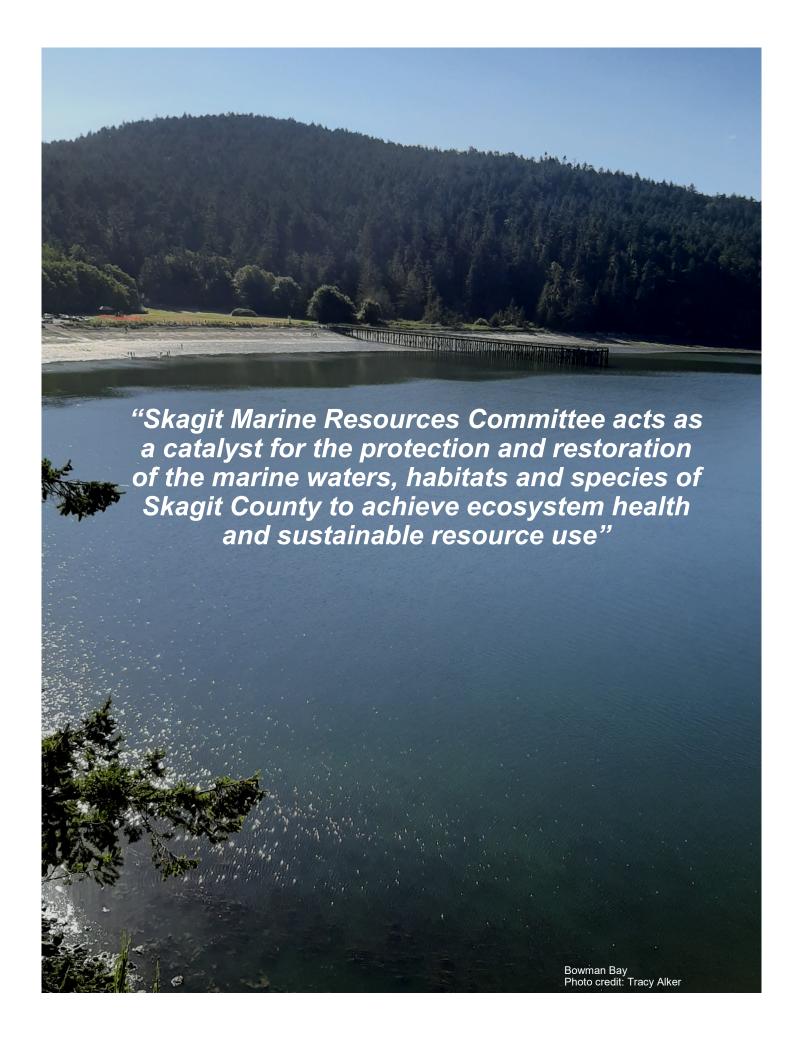
2020 Annual Report

This Report Represents work Accomplished From October 2019—September 2020





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A Message from Skagit Marine Resources Committee (MRC) Chair, Betsy Stevenson

2020 was a challenging year for all of us. Despite the huge obstacles we faced with the global pandemic, we were able to adapt and continue to do our work to protect and restore our marine species and environment. We successfully converted many of our programs to a virtual format including our monthly MRC meetings, Kids on the Beach, Salish Sea Stewards, and Fidalgo Bay Day, which allowed us to reach a broader audience. We were also able to continue collecting important data for kelp, forage fish, pinto abalone, and Olympia oysters while following COVID-19 safety protocols.

This year's annual report highlights our accomplishments which wouldn't have happened without the perseverance of our amazing volunteers, staff, and project partners. Thank you!

Overview





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SKAGIT MARINE RESOURCES COMMITTEE

For over 20 years, we've combined sound science and a community-based approach to implement on-the-ground projects as part of a collaborative grassroots effort to protect and restore our marine resources.

Volunteers are essential to our work. www.skagitmrc.org



MRC Membership

MRC members are appointed by the Board of Skagit County Commissioners and represent a broad spectrum of community interests including tribal, government, economic, recreational, conservation, and scientific. Our meetings occur the second Thursday of each month from 9:00 a.m. to 11:00 a.m.

Tracy Alker (County Staff Support)	Skagit County Public Works
Kevin Anderson	Port of Anacortes
Jude Apple / Suzanne Schull	Padilla Bay NERR
Rachel Best / Darla G Smith	Citizen
Phyllis Bravinder /Lynne Wenberg- Davidson	Citizen
Matt Castle /Jodi Bluhm	Samish Indian Nation
Paul Dinnel	Marine Scientist
Pete Haase (NWSC Rep)	Citizen
Diane Hennebert	City of Anacortes
Todd Mitchell / Nicole Casper	Swinomish Tribe
Jay Lind (MRC Vice-Chair)	Sports & Commercial Fishing
Brian Robson	Shell Puget Sound Refinery
Betsy Stevenson (MRC Chair)	Skagit County Planning Dept.
Kathy Thornburgh / Kari Odden	Skagit Land Trust



















NORTHWEST STRAITS INITIATIVE



Northwest Straits Commission

The Northwest Straits Commission (NWSC) provides funding, training and support to seven county-based Marine Resources Committees. It facilitates regional coordination among the MRCs and connects the MRC work to regional planning efforts. The NWSC is comprised of representatives from each of the 7 MRCs, 5 governor appointees, and 1 tribal representative.

Marine Resources Committees

Marine Resources Committees (MRCs) are the cornerstone of the Initiative, serving as advisors to local government and leading projects that make positive regional impacts. MRCs receive base funding through grant agreements with the NWS Commission to accomplish priority restoration and protection work in their local areas.

Northwest Straits Foundation

The Northwest Straits Foundation is the nonprofit arm of the organization established to leverage additional financial resources to accomplish the work of the Initiative. The Northwest Straits Foundation raises private and public funds and also manages large regional projects such as the removal of derelict fishing gear.

ABOUT: The Northwest Straits Initiative is a congressionally authorized, community -led collaboration working to protect and restore the marine environment in the northwest straits region of our state. The Initiative carries out our work through the seven county-based Marine Resources Committees, the Commission, and the Foundation. It also complements the work of agencies and tribal co-managers, fostering partnerships for greater collective impact. www.nwstraits.org.

NWSI Regional Projects

- Kelp Protection and Recovery
- Derelict Gear Removal
- Forage Fish Surveys
- European Green Crab
- Crabber Outreach
- Olympia Oyster Restoration
- Sound IQ
- MyCoast
- Actions to Impacts
- Education/Stewardship

Northwest Straits Region



MARINE RESOURCES COMMITTEES









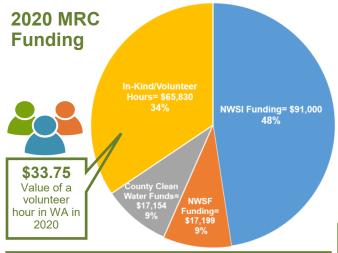




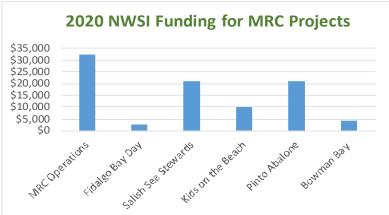




FINANCIAL SUMMARY



MRC base funding is provided by the Northwest Straits Initiative and leveraged through County funding, volunteer hours, in-kind contributions, and the Northwest Straits Foundation. Skagit County Public Works Natural Resources Division provides staff support for MRC operations, with County Clean Water funds.



Northwest Straits Initiative funding supports the operations and projects of the Northwest Straits Commission and MRCs and comes from a variety of sources: National Estuary Program, Environmental Protection Agency, Puget Sound Partnership, and Washington State funds. The Northwest Straits Foundation provides project support to MRCs with a combination of private funding, along with state and federal grants.

Community Connections

A key task of the MRC is to engage and educate the community about issues impacting the Salish Sea and encourage stewardship and sustainable resource use. The MRC does this by hosting a booth at various special events and workshops, providing outreach materials, engaging the public during our monitoring activities, featuring projects in the local paper, and meeting with elected officials. In January 2020, just before the pandemic hit, the MRC cohosted a booth at the Evergreen STEM Night in Sedro-Woolley. Skagit MRC and Padilla Bay co-hosted a project tour with Congressman Rick Larsen to showcase the Kids on the Beach and Salish Sea Stewards projects. Seven articles highlighting our projects were published in the Skagit Valley Herald in 2020. Crabber outreach materials were distributed to recreational crabbers.



Photo Credit: Sasha Horst





FIDALGO BAY DAY

ABOUT: Fidalgo Bay Day is Skagit Marine Resources Committee's signature annual educational event held at the Samish Indian Nation's Fidalgo Bay Resort in Anacortes. This FREE one-day event is typically filled with lots of fun interactive educational activities that focus on the marine environment for kids of all ages. Over 25 organizations and 50 volunteers participate in this event each year and several local restaurants and businesses provide complimentary samples of tasty seafood. In 2020, we quickly adapted to circumstance and converted to a virtual event due to the COVID-19 pandemic. As an alternative to the in-person event, several past participating organizations contributed to the 2020 Fidalgo Bay Day Activity Guide which was filled with a variety of fun educational activities aimed at getting families outside to explore our shorelines.

BENEFITS

- Provides a FREE and fun learning experience for young kids and families.
- Increases awareness and a sense of connection to the marine environment and our local community.
- Fosters stewardship.
- Builds strong partnerships.

Scavenger Hunt Activities

- 1. Marine Shoreline Habitat Scavenger Hunt
- 2. The Maiden of Deception Pass: Learn the Samish Story
- 3. Intertidal Bioblitz Bingo
- 4. iNaturalist-Marine Shoreline Summer Observation Project
- 5. Forage Fish- Unsung Heroes of the Salish Sea
- 6. Meet the Great Blue Heron
- 7. Birds on the Bay Scavenger Hunt
- 8. Reduce Plastics Become a Puffin Protector
- 9. Spot a Marine Mammal!
- 10. Ways to Help the Whales of the Salish Sea
- 11. Letter Box Trail
- 12. Protect Our Beaches
- 13. Low Impact Development Stormwater Scavenger Hunt
- 14. Help Keep our Waterways Clean

Participating Organizations







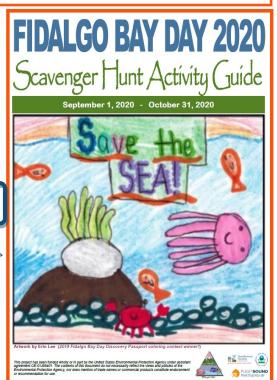








- 15 organizations contributed 14
 activities to the 2020 Fidalgo Bay Day
 Scavenger Hunt Activity Guide.
- The Guide was available on the MRC and event websites:
 www.skagitmrc.org
 www.fidalgobayday.com.
- 385 Event website visits.
- 150 Activity Guide hard copies were distributed.
- 31 Instagram followers.
- 31 Volunteer hours.



SALISIS SEASTEWARDS Photo credit: Pete Haase

ABOUT: The Salish Sea Stewards (SSS) volunteer training program offers approximately **40 hours of training** over a 10 week period to citizens who are interested in learning about the marine environment and the different volunteer opportunities that help make a difference in the community. The classes are taught by many local experts on a variety of topics impacting the Salish Sea. Classes are mostly lecture-style, but also include some hands-on field training. In return for the training, the volunteers are asked to commit to 40 hours of volunteer service to help support Skagit Marine Resources Committee or other partner organization projects. The Skagit MRC partnered with the **Padilla Bay National Estuarine Research Reserve** (Padilla Bay NERR) education team to administer the program in 2019 and 2020.



BENEFITS

- Empowers citizens to become stewards of the marine environment.
- Builds partnerships and maintains a solid base of dedicated volunteers in marine conservation.
- Trained volunteers help carry out projects that otherwise wouldn't happen and have a greater collective impact in our community.



- Partnered with Padilla Bay NERR to administer the program. Classes held every Tuesday, March 10-May 12, 2020. Mostly virtual classes via ZOOM due to the pandemic. The 2020 syllabus is available on the MRC website.
- 21 volunteers completed the 40-hour training program in 2020. 272 trained volunteers since 2014.
- ♦ Over 698 Facebook followers!
- "The WAVE", Salish Sea Steward's electronic news bulletin posts volunteer opportunities with over 547 subscribers!
- There were few volunteer opportunities in 2020 due to the pandemic. 4 new volunteers joined the Salish Sea Stewards Advisory Committee, 2 helped with kelp surveys, and 3 helped with the forage fish surveys.
- Over 35,000 volunteer hours contributed since 2014. That's a value of over *\$1,181,250!
 *The value is based on Washington State's estimated value of a volunteer hour in 2020= \$33.75



ABOUT: The Kids on the Beach (KOTB) program is designed to increase literacy in marine science in Skagit County middle-schools with real, relevant, local experience in marine science and restoration. The goal is to provide school kids with a variety of hands-on authentic marine conservation research in the classroom and on the beach, and build a program that is useful to teachers, which are patterned after and compatible with existing programs. The Skagit MRC partnered with the **Padilla Bay NERR** education team to administer the program in 2019 and 2020.

BENEFITS

- 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.





2020 HIGHLIGHTS

- Partnered with Padilla Bay NERR to administer the program.
- ◆ Fall 2019 Program: 53 8th -grade students From Conway Middle School participated in the classroom and on the beach. The curriculum focused on forage fish with the help of volunteers. Students presented their data at a research symposium.
- Spring 2020 Program:

 The program went virtual in 2020 due to the coronavirus pandemic. The web

based curriculum focused on the invasive mud snail *Batillaria* for elementary and middle school students. **580 students**, **11 teachers**, **and 8 different schools** participated in 2020.





ABOUT: Pinto abalone (*Haliotis kamtschatkana*) is the only known species of abalone indigenous to the Salish Sea. The pinto abalone population is in serious decline and was recently listed as Endangered in Washington State waters in 2019. Pinto abalone restoration and protection is a collaborative effort between multiple partners. Since 2009, more than **13,700** hatchery-reared, genetically diverse, **juvenile abalone** have been introduced to **8 rocky reef sites in Skagit County waters**. An additional 11,300 abalone have also been outplanted at ten sites in San Juan County, creating a recovery network across a significant portion of their geographical range in Washington. The goal is to build a sustainable spawning population. Each year we survey some of the outplant sites to monitor growth, survivorship and movement of the pinto abalone released into the wild and add additional juvenile abalone to increase their densities.

BENEFITS

- Pinto abalone are an important part of a healthy diverse marine ecosystem and a highly valued resource.
- The Salish Sea pinto abalone population is on the brink of extinction and cannot recover without our help!
- Pinto abalone recovery is one of the main goals identified in the 2011 <u>Washington</u> Shellfish Initiative.







- Skagit MRC partnered with Puget Sound Restoration Fund to lead the hatchery and field work in Skagit County waters.
- COVID-19 pandemic restrictions reduced hatchery staffing and inhibited site reconnaissance so we could not conduct a large scale outplant in 2020. An average of 576 abalone were outplanted per site at 6 sites.
- Surveyed 6 of the 8 sites in Skagit County located at Cypress, Burrows, and Allan Islands. Found 314 abalone. 29% of the abalone were outside of plot boundaries.
- 2 new sites established in 2019 at Washington Park were also surveyed in 2020.
- Due to COVID-19 restrictions, the annual broodstock collections were fewer and later in the season than normal.14 new broodstock animals were brought to the Chew Center hatchery in 2020.
- 2020 pinto abalone hatchery spawning production was successful. 28 distinct families were created. This cohort will be ready for outplanting in spring 2021.
- There are now 40 broodstock animals at the Chew Center hatchery.



ABOUT: In 2015, Skagit MRC partnered with the Northwest Straits Foundation, Deception Pass State Park, and Skagit Fisheries Enhancement Group (SFEG) to **remove approximately 540 ft of rock riprap**, add **1,080 tons of beach nourishment** material, regrade the beach to match the natural contour, plant riparian vegetation, and install interpretive signage. Volunteers help plant and maintain the riparian vegetation each year and will continue to do so until it becomes well established and self sustaining. The shoreline vegetation provides good habitat for insects, which are important prey for juvenile salmon. Trained citizen scientists help collect monitoring data to measure the effectiveness of our nearshore restoration efforts. Volunteers detected the presence of surf smelt eggs at the site for the first time in 2019, four years after restoration.

BENEFITS

- Restored natural sediment transport processes and improved 0.6 acres of nearshore habitat for forage fish, juvenile salmon and bull trout.
- Large woody debris accumulations along the beach and native vegetation planted along the upper shoreline provide important habitat and erosion protection.
- Riprap removal improved public access.
- Provides excellent opportunities for education and outreach. Salish Sea Stewards classes are often held here.



- Partnered with SFEG to maintain the riparian vegetation and host small volunteer work parties in compliance with COVID-19 safety guidelines during the summer of 2020.
- 12 volunteers contributed over 97 hours from Dec 2019—September 2020.
- Created a <u>"How To" guide for volunteers</u> to maintain the site on their own.
- Overall, plant mortality has been reduced and the coverage of native plants has increased. However, many of the conifers and shrubs have had low survival rates at this high energy site. A few extra spruce trees from the Cornet Bay restoration site were transplanted to Bowman Bay late last year.
- Puget Sound Partnership featured a video about the Bowman Bay Restoration project in their online magazine, Making Waves: https://makingwaves.psp.wa.gov/index.php/2020/11/09/





ABOUT: The Olympia oyster, *Ostrea lurida*, is the only oyster native to the Pacific Coast of North America. They were driven to near extinction in Puget Sound in the late 1800s from over harvesting and severe water pollution. There is now a coast-wide initiative from California to British Columbia to expand and coordinate native oyster restoration efforts. One of the goals of the <u>Washington Shellfish Initiative</u> is to **enhance 100** acres of native oyster habitat at 19 locations in Puget Sound by 2020. Skagit MRC has been working collaboratively with many partners and citizen scientists since 2002, to establish sustainable Olympia oyster populations. Since then, oyster habitat has been enhanced through the distribution of Pacific oyster shell and several plantings of native oyster seed have occurred. There are now an estimated **three million Olympia** oysters (4.5 acres) in Fidalgo Bay. The native oyster population appears to be self sustaining and spreading to other areas of Fidalgo Bay beyond the restoration site. Some of the oyster seed produced in Fidalgo Bay is being used to help establish oysters in other areas where they were once historically located.

BENEFITS

- Olympia oysters provide valuable habitat and are an important part of the marine ecosystem.
- Olympia oysters are an important food source for many marine species.
- Olympia oysters are culturally significant to indigenous people.
- Olympia oysters help improve and maintain water quality.
 They can each filter up to 50 gallons a day.
- 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.

2020 HIGHLIGHTS

- Due to COVID-19 restrictions, only 2 volunteers were able to assist with Oyster restoration in 2020. Over 42 volunteer hours were contributed.
- Monitoring was reduced in 2020. The more intensive surveys will now only occur every 3-5 years. The next intensive survey will take place in 2022.
- 5 annual recruitment bags were collected and monitored for oyster settlement by 2 volunteers. 5 new annual recruitment bags were distributed in Fidalgo Bay.
- Paul Dinnel (MRC Project Lead) collected stacks of tiles to evaluate post larval recruitment at two week intervals throughout

the summer. Preliminary results indicate good oyster settlement in Fidalgo Bay in 2020.

 An article about the project was published in the <u>Skagit</u> Valley Herald.





ABOUT: Skagit MRC's nearshore restoration monitoring sites include **Bowman Bay, NW March's Point, and the Kukatali Preserve**. The goal of the MRC is to collect at least 6 years worth of data to measure the effectiveness of nearshore restoration actions. The data will be analyzed and shared through public access databases and future reporting. Trained citizen scientists play a critical role in collecting data, providing public education and outreach to educate school groups and build community support. The **Northwest Straits Foundation** provides technical expertise, project management coordination, data management, and volunteer coordination for all of Skagit MRCs nearshore restoration projects. Bimonthly monitoring parameters include beach seining and forage fish spawning surveys. The other monitoring parameters occur only once a year including: intertidal monitoring, beach profile, beach wrack/insect fallout, and large woody debris surveys. The monitoring protocols were developed in collaboration with Washington Department of Fish and Wildlife (WDFW).

BENEFITS

- Collecting nearshore monitoring data helps to measure the effectiveness of the nearshore restoration actions and fill data gaps in status and trends.
- Trained citizen scientists help keep monitoring costs low, provide important public outreach, and help build community support.

2020 HIGHLIGHTS

- 298 volunteer hours were contributed to nearshore monitoring at our restoration sites in 2020.
- Nearshore monitoring was mostly done by NWSF staff due to the COVID-19 pandemic, with the exception of forage fish surveys, which were mostly done by volunteers using COVID-19 safety guidelines. 360 Volunteer Hours were contributed to Forage Fish Surveys and outreach in 2020.
- Monitoring Results: Juvenile Chinook salmon were observed at both sites. Evidence of forage fish spawning at Bowman Bay was documented in 2019 for the first time since 2003!

FORAGE FISH INDEX SITE SURVEYS



MRCs collect forage fish spawning data at WDFW Index Sites to look at annual variations in spawning activity of the forage fish population and to identify potential trends.

- 3 Skagit Index sites: Ship Harbor/ Guemes Channel, NE Similk Bay, and SW Samish Island.
- Volunteers identify and stage the eggs under a microscope and send samples to WDFW for confirmation.
- Surf smelt eggs were found at all of our sampling sites.



ABOUT: It is estimated that 80% of the historic kelp beds in south Puget Sound have disappeared. Kelp beds are now starting to disappear as far north as Snohomish County. Up until a few years ago, very little was known about the status of the kelp beds in the Northwest Straits region. In 2014, the NWSC established the Salish Sea International Kelp Alliance and launched a regional kayak-based bull kelp survey program. Six MRCs are involved in kayak-based kelp surveys to monitor changes in kelp populations, including Skagit MRC. The NWSC compiles all of the data into a kelp database that is shared with local and regional planners and researchers. As part of a collaborative effort, the NWSC also helped develop the Kelp Recovery Plan. To learn more: www.nwstraits.org/our-work/kelp-recovery.

BENEFITS

- Kelp forests are highly productive ecosystems that provide critical habitat and a source of nutrients for a wide variety of species, including humans.
- Kelp controls ocean temperature, reduces wave action, protects shorelines, produces large amounts of oxygen, sequesters carbon dioxide, reduces ocean acidification, absorbs nutrients, and is culturally significant.
- Kelp surveys foster citizen science and awareness.
- Kayak-based surveys are important for ground–truthing aerial and satellite imagery.

<u>Some of the biggest threats to kelp forests:</u> water pollution, shoreline development, climate change, over-grazing, and invasive seaweeds.



2020 LOCAL HIGHLIGHTS

- Our kelp surveys are 100% volunteer driven. Each site is assigned one experienced volunteer to lead the surveys for consistency, accuracy, and safety. 64 Volunteer Hours in 2020!
- 10 kayaker volunteers surveyed 3 kelp bed locations (Coffin Rocks, Shannon Point, and Biz Point) once a month during the peak annual growing season (June—September).
- Data collected since 2017 indicate our kelp beds are remaining stable and possibly increasing in size.

2020 NWSC REGIONAL HIGHLIGHTS

- NWSC staff presented MRC data at the virtual Salish Sea EcoSystem Conference to an audience of 800!
- Released the Kelp Recovery Plan.
- 40 volunteers from 6 MRCs monitored 22 different kelp beds, documented 416 acres of kelp forest and collectively paddled 230 miles!

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 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. The MRC acknowledges that the land and waters where our work resides are the ancestral homelands of the Coast Salish people and have been since time immemorial. We would like to express our deepest gratitude to the Samish Indian Nation and the Swinomish Indian Tribal Community for their partnership and in-kind staff support for our MRC projects. Thanks to all of you for making a difference!!

















































