

## Northwest Straits Marine Conservation Initiative Local People. Local Solutions.

# 2018 Annual Report





#### On the cover

Top: Dungeness Spit in Clallam County, photo: Nicole Jordan.

**Bottom** (left to right): Olympia oyster restoration, photo Cheryl Lowe; Al Bergstein at Wooden Boat Festival, photo Caroline Gibson; Skagit Kids on the Beach students, photo Sasha Horst; Jason Morgan and Lisa Kaufman of the Northwest Straits Foundation, photo Nicole Jordan.

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To our Marine Resources Committees and Partners,

The Northwest Straits Initiative catalyzes and empowers local communities to engage in marine conservation and restoration. This report highlights accomplishments of 2018, a milestone that marked the Initiative's 20<sup>th</sup> year of integrating local perspectives into Salish Sea protection.

All projects and programs featured here are a testament to the dedication of volunteers. Thousands of hours were contributed to develop ideas, collect data, share information, and protect and restore natural shorelines. Whether it be Olympia oyster restoration, recreational crabber outreach, mapping kelp forests, monitoring forage fish spawning activity--or any combination of projects you will see on the following pages, it is the terrific collaborative partnerships that drive the Northwest Straits Initiative's success.

Nonetheless, we cannot ignore the many environmental challenges in our region. Declining salmon runs, loss of habitat, contaminants and changes in seawater chemistry pose significant hurdles in our collective restoration work. We are also faced with a growing regional population that we must engage as stewards to overcome these challenges.

The Northwest Straits Initiative, by design, invites anyone to participate in our mission to protect and restore the marine waters, habitats and species of the Salish Sea – natural resources co-managers, business, academic, environmental and recreational interests and anyone in between. These unique relationships deliver achievements such as those you will see throughout this report.

Thank you to all of our Marine Resources Committees, project partners, staff and funders for your unflagging inspiration and commitment. This work would not be possible without you.

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Lucas Hart, Director Northwest Straits Commission

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Caroline Gibson, Director Northwest Straits Foundation

### 2018 Financial Summary





For every \$1 of federal investment, more than \$3 is leveraged by the Northwest Straits Initiative in financial and volunteer support.

#### **Funding Sources**

Funding for the Northwest Straits Initiative comes from a variety of sources. Base funding from US Environmental Protection Agency is provided to the Commission to support operations of the Commission and Marine Resources Committees (MRCs).

The seven MRCs contribute volunteer hours and secure local county funds and in-kind support for their work. State funding for MRC projects was included in the 2017-2019 biennium.

The Northwest Straits Foundation operates with a combination of private funding from individual, corporate and philanthropic foundation sources, along with state and federal grants and contracts.

# **Northwest Straits Initiative**

Northwest Straits Commission Marine Resources Committees Northwest Straits Foundation

Photo: Nicole Jordan

# Northwest Straits Commission – 2018 Highlights

### Kelp Monitoring

Kelp beds create critical habitat for nearshore species and provide a variety of important ecosystem services in the Salish Sea. Understanding local kelp distribution and trends is one of the highest priority data gaps for researchers, managers, and policy makers alike.

The summer of 2018 marked the fourth consecutive year of bull kelp monitoring by citizen scientists since the pilot-monitoring program began in 2015. In 2018, the MRCs monitored 28 unique kelp beds and documented over 320 acres of kelp during peak growing season in late summer.

Bull kelp monitoring by the MRCs provides invaluable long-term data on kelp abundance and trends in the Northwest Straits region. MRC kelp survey data are incorporated into the 2017 Puget Sound Marine Waters report.

Information about our kelp recovery work can be found at www.nwstraits.org/our-work/kelp-recovery.

67	250+	500+	770+
Number of volunteers who have taken part in survey events since 2015	Monitoring events con- ducted throughout 7 counties	Hours spent on the water	Miles paddled
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SoundIQ is the Northwest Straits Commission's web-based application to share data in an easily-accessible map format. Users can view complementary data from the Commission, MRCs, and other sources, and discover and download data for external use. Learn more and explore SoundIQ at <u>www.nwstraits.org/</u> our-work/soundiq.

#### Puget Sound Kelp Conservation and Recovery Plan

The Northwest Straits Initiative, with support from NOAA and partners, is leading the planning and development of a Puget Sound Kelp Conservation and Recovery Plan. The first year of plan development included two workshops with kelp experts, preparation of a literature review and data gaps assessment.

Two additional workshops are planned for 2019 to discuss actions that will address high priority data gaps, assist in understanding the current management framework, and increase understanding of kelp to conserve and restore habitats in the region.

### Actions to Impacts

A program that began as Net Ecosystem Improvement was expanded and rebranded as Actions to Impacts in 2018. The new name and scope reflect the recognition of the far-reaching effects of MRC projects of MRC projects on ecosystems as well as impacts to the social and economic landscape of our region, all of which contribute to ecosystem health in the Salish Sea.

In 2018, an ecosystem coordinator joined the team to establish important ground work for the development of Actions to Impacts by reviewing literature, researching methods, reviewing individual MRC projects, and presenting the program to MRCs at monthly meetings.

At the November 2018 MRC Conference an expert panel, with diverse Puget Sound restoration and conservation experience, participated in a moderated discussion of the Actions to Impacts program goals and ideas of how to better integrate meaningful metrics into the Initiative's new Strategic Plan's measurable benchmarks.

Keep up to date on the Actions to Impacts program at http://www.nwstraits.org/our-work/actions-to-impacts/.

### Nearshore Restoration Projects

#### Maylor Point

Back in 1978, the U.S. Army Corps installed a variety of hard armor as a 'low cost shore protection' experiment along a feeder bluff on Whidbey Island. Most of this armoring failed in a storm in 1979. In 2018, the Northwest Straits Foundation, Island County Marine Resources Committee and the U.S. Navy collaborated on a restoration project at the site.

Neptune Marine construction crews removed approximately 2,200 tons of imported boulders, tires and concrete pillows to deconstruct the old failed beach armor project. This work resulted in 1,500 feet of shoreline restored to a natural beach that will serve as habitat for forage fish spawning while supplying sediment to adjacent shorelines.

Project funding was provided by the EPA National Estuary Program through the Habitat Strategic Initiative, US Fish & Wildlife service, and Puget Sound Acquisition and Restoration program.



#### Sunlight Shores

The Sunlight Shores restoration opportunity came about when a community member attended a free Shore Friendly workshop hosted by Island County. The Northwest Straits Foundation, Island County Marine Resources Committee, and the Sunlight Shores community partnered to remove over 350 linear feet of riprap, pilings, concrete, and other debris, with funding provided through the Salmon Recovery Funding Board, National Fish and Wildlife Foundation, and the Honda Marine Science Foundation.

Following the restoration, riparian zone planning and large woody debris will provide shade and a source of insects that are critical food for migrating juvenile salmonids. The restoration will reconnect the nearshore to backshore and upland habitats, the large woody debris will provide structure and stability to the shoreline sediments, and the project creates safe access to the beach for the Sunlight Shores community.

## Olympia Oyster Restoration

The Northwest Straits Initiative is a partner in regional efforts to restore Olympia oysters, the only oyster species native to Puget Sound. Oysters are important contributors to three-dimensional habitat and water quality. Through the work of Skagit, Jefferson, Clallam, and Whatcom County MRCs, focused restoration efforts have resulted in self-sustaining beds that continue to increase in size and density of oysters.

This long-term effort includes outplanting and monitoring oysters over time, as well as exploring and testing new sites for future restoration efforts. Learn more about Olympia oyster restoration work at <u>http://www.nwstraits.org/our-work/olympia-oyster-restoration/</u>.



#### Goods and Services of Marine Bivalves

Skagit MRC's Olympia oyster restoration in Fidalgo Bay was included as a case study in the recent book *Goods and Services of Marine Bivalves* (<u>https://bit.ly/2Ya2m2B</u>), Chapter 18, How a single phone call catalyzed the growth of community-based oyster restoration in Puget Sound, WA.

### Derelict Gear

In 2018 the Derelict Fishing Gear Program resulted in the removal of four newly-lost fishing nets and 663 derelict crab pots. Our work was featured in five separate sessions at the 2018 International Marine Debris Conference.

Newly-lost nets reported through our online or call-in system are located and removed before becoming derelict and causing devastating harm to marine mammals, seabirds, fish, invertebrates and marine habitat.

An estimated 12,000 crab pots are abandoned, lost and discarded in Puget Sound every year. These derelict crab pots wreak havoc in the Salish Sea by continuing to catch crab, fouling boat propellers and more. The Northwest Straits Foundation works to eliminate harm from derelict crab pots through removals in high-priority areas.

Side scan sonar surveys around the popular crabbing areas of Port Gardner and Anacortes identified 665 derelict crab pot targets. The Northwest Straits Foundation removed a total of 663 and disabled an additional 28 partially-buried pots.

Learn more about the derelict fishing gear removal program at <u>www.derelictgear.org</u>.



### **Recreational Crabber Outreach**

In 2018, the Foundation worked in partnership with local MRCs, WA Department of Fish and Wildlife, WA Department of Ecology and Santa Monica Seafood's Responsible Sourcing Vendor Program to decrease the number of crab pots lost.

Our "Catch More Crab" outreach campaign is focused on preventing the loss of crab pots in Puget Sound through outreach and education to local crabbers. The Northwest Straits Foundation managed the campaign with the participation of all seven MRCs, who distributed educational materials at various outlets including local docks and marinas, marine supply stores, ferry terminals and vessels and local outreach events.

Northwest Straits Foundation staff provided 11 presentations, reaching over 650 people, arranged media coverage of crab pot removal efforts and managed a social media outreach campaign. Free crab gauges and/or packets containing a rack card, crab gauge, escape cord, and a pamphlet of WA Department of Fish and Wildlife recreational crabbing regulations were available for distribution as well.

Keep your pot when you go out crabbing by using tips and tricks from the Foundation's website at <u>http://</u> <u>bit.ly/2UgdRX8</u>.



## Forage Fish

The Northwest Straits Initiative contributes to research and monitoring efforts led by the Washington Department of Fish and Wildlife (WDFW) to monitor forage fish beach spawning activity and identify forage fish eggs. Through this partnership, the Northwest Straits Initiative and MRCs provide Forage Fish Spawning Survey training for citizens and long-term monitoring at index and restoration sites.

MRCs involved in the Index Site Program sample index sites once a month to provide long-term beach spawning trends to WDFW. The survey data contribute to regional model development and building baseline data.

The Northwest Straits Foundation leads beach seining and forage fish spawning surveys at six restoration sites to document forage fish activities before and following beach restoration. MRCs carry out forage fish monitoring at three additional restoration sites. Survey efforts have documented new forage fish spawning activity since restoration at three sites: Cornet Bay in Island County, Fort Townsend State Park in Jefferson County, and NW March's Point in Skagit County.

Forage fish surveys by citizen scientists contribute important baseline data on spatial and temporal distributions and trends of these critical fish in the food web.

Learn more about our Forage Fish Program at www.nwstraits.org/our-work//forage-fish.



### Education, Communication and Outreach

The Northwest Straits Initiative hosted our 20th annual Marine Resources Committee conference at Fort Worden in Port Townsend. Over 175 attendees from all seven Northwest Straits counties and throughout the region participated in sessions presented by experts and members of Marine Resources Committees. Information, presentations and photos from the event can be found at http://nwstraits.org/2018-mrcconference.

We produced and distributed 12 issues of our electronic newsletter to a growing opt-in mailing list of more than 1,400 people, including MRC members, project partners and other interested individuals. In 2018, newsletter readership hit more than 9,800 views. The newsletter is a resource to share project highlights from the seven MRCs, the Northwest Straits Commission, and the Northwest Straits Foundation.

The Northwest Straits Initiative has a substantial web presence, maintaining websites for the Commission and Foundation, as well as support for the seven MRC sites. An extensive Resource Library of materials is online, along with current information and events, data collected – available in SoundIQ – and local events and volunteer opportunities.

The Northwest Straits Initiative reaches local and regional audiences through media coverage of our work. Newspapers in all seven counties shared stories of projects in their area, averaging three stories each month, covering everything from the installation of rain gardens to the graduation of the Salish Sea Stewards class of 2018.



# 2018 nwstraits.org 6,000 users users 20,000 20,000 page views

#### We're on Social Media

To find out more about the Northwest Straits Foundation please like us on Facebook and follow us on Instagram and Twitter @nwstraitsfnd. You can visit our website at www.nwstraitsfoundation.org.



Find the Northwest Straits Commission on Facebook, Twitter and Instagram @nwstraits or our website at <u>www.nwstraits.org</u>, or subscribe to our newsletter at <u>www.nwstraits.org/getinvolved-join-the-mailing-list</u>.

### Shoreline Landowner Education

In 2018, the Northwest Straits Foundation and Marine Resources Committees hosted over 300 people at 11 workshops and outreach events providing education to shoreline property owners about coastal processes, impacts of shoreline armor, vegetation management for shoreline stability and habitat, and alternatives to hard armor.

Workshops specific to vegetation and that targeted realtors were added to the program in 2018. Individualized technical assistance was provided to 57 landowners to assess their shorelines and provide tools and resources to encourage better stewardship of nearshore habitats.

Design and permitting are underway for armor removal on two sites and in negotiations on another. Funding for this effort came from the WA Department of Fish and Wildlife and Department of Natural Resources Marine and Nearshore Grant Program and the Habitat Strategic Initiative.

Learn more about how to live with the coast while protecting your property at <a href="https://nwstraitsfoundation.org/">https://nwstraitsfoundation.org/</a> <a href="mailto:project/shoreline-armor-reduction-program-2/">project/shoreline-armor-reduction-program-2/</a>



### MyCoast

Northwest Straits and the local MRCs are partners in a statewide system called MyCoast that provides a portal for people who visit the beach to catalog shoreline photos and observations that help guide future restoration and protection efforts.

Using reporting tools developed for the Salish Sea by Snohomish MRC, the statewide expansion was made possible through a collaboration with the Washington Department of Natural Resources and project partners Washington Sea Grant and the US Geological Survey.

Over 750 local users throughout the region are now posting reports, including king tides, storm surge, derelict boats and creosote debris. Another reporting tool allows users to contribute to a time-lapse photo series of selected beaches. To date, 21 beaches are on the list in six Northwest Straits counties.

Before your next trip to the beach, download the app on Google Play or the iPhone app store. Read more about MyCoast at https://mycoast.org/wa, or follow @MyCoastOrg on Twitter to see local reports and photos.





### Making links to other Salish Sea efforts and beyond

The Northwest Straits Initiative brings local perspective to a variety of multi-disciplinary forums. We engage in the Environmental Protection Agency and Environment and Climate Change Canada Statement of Cooperation Working Group that promotes transboundary coordination on issues relevant to the Salish Sea; the Governor's Maritime Blue Initiative aimed at creating innovations in Washington's maritime sector; and Washington's Marine Resources Advisory Council focused on maintaining coordination around Ocean Acidification.

Tribal engagement remains a central theme of the Northwest Straits Initiative through ongoing representation on the Commission, MRCs and project partnerships. In addition, we engage with the Puget Sound Partnership Ecosystem Coordination Board, an advisory body to the Leadership Council and the Puget Sound Ecosystem Monitoring Program, focused on a collaborative approach to monitoring environmental conditions in Puget Sound.

The Northwest Straits Initiative also connects state and federal agency expertise with local enthusiasm through numerous projects with partners at WA Departments of Natural Resources, Fish and Wildlife, Ecology, Washington Sea Grant, the National Oceanic and Atmospheric Administration, and US Geological Survey.

# Marine Resources Committees

Local People. Local Solutions.

















### San Juan Marine Resources Committee

For more information: www.sjcmrc.org

#### Southern Resident Killer Whales

San Juan MRC had a strong focus on Southern Resident Killer Whale recovery efforts in 2018. They hosted a community workshop that resulted in many key actions being directed to the State's Orca Task Force. The MRC initiated a Whale Warning Flag pilot project to influence boater behavior around whales, this included pre- and post-season surveys, as well as vessel data collected by the Soundwatch Boater Education Program to determine the effectiveness of the project. The MRC is poised for a second pilot year and an expansion of their outreach and education efforts through dockside talks, public lectures and collaboration with neighboring MRCs to distribute Be Whale Wise and Whale Warning Flag information. The MRC has also been successful in securing additional grants to further support the MRC's Southern Resident Killer Whale recovery efforts. A great outcome of the 2018 effort has been the invitation to meet with the Northwest Indian Fisheries Commission to invite their fishers to participate in the whale flag program.

#### Whale Warning Flag Pilot Project

Whale warning flags warn boaters about the presence of whales in the area. San Juan MRC adopted a flag already in use around the waters of Northeastern Vancouver Island, strengthening the educational message throughout the Salish Sea transboundary waters. Leveraging private funding support through the Northwest Straits Foundation, the San Juan MRC purchased and distributed hundreds of flags during the 2018 boating season. Recreational boaters, wildlife viewing operators, researchers, and enforcement vessels all accepted flags.







#### **Orcas Landing Experience**

San Juan MRC worked with a local artist to produce two interpretive panels to be displayed at the redeveloped Orcas Landing site. These signs, 'A Rich and Vibrant Home for All' and 'A Connection with Nature' beautifully display the array of species found in the San Juan islands' waters and the value of these marine resources to the islands' inhabitants throughout history. The MRC worked closely with our Coast Salish partners with the help of Patti Gobin, the MRC's Tribal representative to ensure the importance of the San Juan Islands and the use of the Salish Sea was accurately portrayed. The two panels will be installed once county development at the site is complete.

#### Marine Habitat and Species Restoration

The MRC advanced two restoration projects in 2018, leveraging a small amount of funds for consultation services that led to the successful funding of two habitat restoration projects through Salmon Recovery Funding Board grants. These two armor removal projects – at Agate Beach and MacKaye Harbor on Lopez Island - will help to restore beach habitat critical to forage fish recovery in the San Juans.

#### Operations

A successful recruitment drive for the San Juan MRC in 2018 led to the appointment of 8 new members representing a diverse cross section of the community. A retreat in January introduced the new members and outlined the project priorities for the year, followed by the hiring of a new MRC Coordinator in March. In addition to project objectives, the MRCs worked on relationship building with Coast Salish partners, resulting in successful project collaboration. The MRC participated in local, state and international conferences, and hosted meetings of the Northwest Straits Commission and the Puget Sound Partnership's Leadership Council.

### Snohomish Marine Resources Committee

For more information: www.snocomrc.org

#### Ocean Literacy, Awareness and Engagement

Snohomish MRC hosted a series of film events focused on freshwater, ocean and Puget Sound issues. The films were selected to increase understanding of complex issues and empower positive next steps. One next step was to download and use the MyCoast app, which allows beach visitors to share photos and information that guide future restoration and protection efforts. The series of six events reached over 300 individuals.

Snohomish MRC also conducted outreach to local school districts to show films in classrooms, working with filmmaker Florian Graner to create the film *Discover the Salish Sea*, made specifically for Snohomish County K-5 schools and featuring local footage. The MRC provided the film to over 90 Snohomish County School teachers, along with a corresponding curriculum which meets Next Generation Science Standards.

#### **Derelict Vessel Removal**

Snohomish MRC partnered with WA Department of Natural Resources to remove derelict boats in local waters, resulting in the removal of five derelict vessels in 2018 from the Snohomish Estuary and Snohomish County Nearshore. Removing these derelict vessels helps improve water quality by removing toxics and improves habitat by removing physical barriers. Over 16 tons of marine debris was removed as part of this project. All derelict boats were recycled or destroyed following an identification process to work with last known owners according to Washington Administrative Code. Funding was provided by the Snohomish-Stillaguamish Local Integrating Organization, WA Department of Natural Resources, and Snohomish County Surface Water Management.



#### **Nearshore Restoration Project**

The MRC is working on analyzing nearshore restoration project data along 4.5 miles of beach between Mukilteo and Everett, examining the interrelationships between beach sediment grain size and forage fish egg presence both before and after the project was completed. A Story Map is underway to share the results of the restoration project.

#### **Bull Kelp Surveys**

Snohomish MRC kayak-based bull kelp surveys cover the entire southern portion of the Snohomish County Nearshore from the Snohomish/King county border to the Snohomish River Delta and around Hat Island. The Snohomish MRC kelp team completed the 2018 kelp monitoring in July and August, collecting data at Meadowdale, Mukilteo, and Edmonds and contributing to the larger regional database.

#### Port Susan Marine Stewardship Area

The Port Susan Marine Stewardship Area is of shared interest to Snohomish and Island counties, and both previously adopted a Conservation Action Plan to help define a community vision for enhanced stewardship of Port Susan. Snohomish MRC brought new attention to the Marine Stewardship Area in 2018 with a presentation to local Sound Water Stewards on Camano Island. The MRC continues to invest in strategizing with citizen science groups in the region to identify projects that can build on the MyCoast platform to engage and educate the larger Snohomish County community about the benefits of marine stewardship and restoration efforts.

#### **Crabber Outreach**

On opening crabbing weekend and the days that followed, the Snohomish MRC connected with more than 1,900 fishermen and women through in-person and social media outreach. Volunteers provided information and products to support sustainable fishing and crabbing practices in an effort to reduce both marine debris and wildlife loss.



#### Mussel Watch

WA Department of Fish and Wildlife biologists are using cages filled with Penn Cove mussels to track the levels of stormwater pollution entering Puget Sound. The MRC sponsored one location at Edmonds Brackett's Landing, and volunteered to help with cages at Meadowdale Beach Park and the Port of Everett. After the MRC installed cages in December 2017, they were retrieved three months later in February 2018. Samples are being analyzed and data will be available in mid-2019.

#### Forage Fish Spawning Surveys

Snohomish MRC surveyed for forage fish spawning at sites from Meadowdale north to Picnic Point Beach and 14 sites within the City of Everett. The MRC worked with the City of Everett and the Port of Everett on a beach restoration project completed in 2016, and continues supporting monitoring efforts with their Nearshore Restoration project.

Volunteer MRC members collected the samples from 18 sites, then samples were analyzed by a consultant funded by the Northwest Straits Foundation's Opportunity Fund. During the 2018 sampling season, eight of the 18 sites have been positive for forage fish eggs.

#### Operations

Snohomish MRC receives support through the Surface Water Management division of Snohomish County. In 2018, the MRC held regular monthly meetings, maintained a website at <u>www.snocomrc.org</u>, and prepared and presented their annual report to County Council. The MRC hosted tours at Meadowdale Beach Park for Congressman Rick Larsen in July and Senator Maria Cantwell's staff in August. Snohomish MRC participates in the Snohomish-Stillaguamish Local Integrating Organization and Implementation Committee.



### Whatcom Marine Resources Committee

For more information: www.whatcomcountymrc.org

#### Olympia Oyster Restoration

North Chuckanut Bay, with its shell middens indicating past oyster populations, offers a promising opportunity to re-establish a self-sustaining population of Olympia oysters. In 2017, Whatcom MRC began their Olympia oyster pilot restoration efforts in North Chuckanut Bay, and overwintered oyster seed in Fidalgo Bay. In the spring of 2018, those oysters were retrieved and set out in seven test plots. Volunteers, including Bellingham Technical College students, collected baseline data on the number and size of spat found in the test plots. Over the summer, volunteers returned to conduct an intertidal survey on habitat characteristics and elevation profile, replicating a pre-seeding survey conducted a year ago.

#### **Bull Kelp Surveys**

As part of the regional effort, Whatcom MRC volunteers monitored kelp beds at four locations in Whatcom County, to provide information on the status of floating kelp communities. Volunteer kayakers surveyed during low-tide events between July–September at Alden Bank, Cherry Point, South Lummi Island, and Aiston Preserve.

#### North Sound Stewards

A comprehensive volunteer program called North Sound Stewards, a partnership between Whatcom MRC and RE Sources, held its second season of training citizen scientists to understand and protect the Salish Sea. A variety of learning and monitoring opportunities, including intertidal surveys, forage fish surveys, plastics monitoring and sea star wasting syndrome surveys. The program requires 50 hours of volunteer service over a one-year period. Program participation can reflect individual skills, from the actual survey work to photography, data entry or event coordination. Forty two people signed up to participate in the North Sound Stewards program for the 2017-18 year, providing an estimated 356 volunteer hours.



#### North Chuckanut Bay Pollution Identification and Correction

Whatcom MRC continues their efforts to improve water quality in North Chuckanut Bay. Their ongoing, twicemonthly sampling demonstrates water quality improvements at freshwater stations, but parts of the Bay still have elevated bacteria, particularly at the mouth of Chuckanut Creek in the dry season. MRC volunteers and county staff conducted a survey near the mouth of Chuckanut Creek to identify possible sources of bacteria coming into the system, and developed a plan for bracket sampling to help determine the zone impacted by elevated bacteria levels and potential areas with bacteria sources. Sampling information is posted on the Whatcom County Public Works water quality page in addition to the MRC website.

#### Community Outreach

Whatcom MRC serves as a community resource through participation in community events throughout the year. In 2018, events included the Birch Bay Beach Fest and Feast, Beach Naturalist Training, What's the Point at Point Whitehorn Marine Reserve, the Whatcom Watershed Information Network Education and Outreach Expo, a Shoreline Erosion and Drainage Management Education beach walk, Whatcom Water Week and Bellingham SeaFeast. The MRC reached hundreds of residents and shoreline property owners at these events through beach walks, display booth materials, beach cleanup, and volunteer education days.

#### **Public Speaker Series**

The Public Speaker Series is jointly coordinated by the Whatcom MRC and the Whatcom Watershed Information Network, drawing a diverse crowd and providing an opportunity for these organizations to connect with the community about marine resources issues or topics. The MRC hosted three speaker events in 2018 on topics of interest, and community partners hosted additional events throughout the year.

#### Jerry's Journey

Jerry's Journey is a series of interpretive signs at Birch Bay State Park in memory of former MRC member and Birch Bay resident, Gerald Larson. Five signs developed for this program were installed in the spring of 2018, and the final sign in the series, highlighting European explorers and early settlers to the Birch Bay area was developed this past year. An interactive map was developed for the Whatcom MRC webpage, and can be viewed online at <u>https://</u> <u>bit.ly/2CudKgt</u>.

#### **Mussel Watch**

Whatcom MRC is a partner in local sample collection for the regional WA Department of Fish and Wildlife Mussel Watch program, assisting with deployment and retrieval of a predatorresistant cage at a storm water outfall in the



Photo: Whatcom MRC

Whatcom Waterway in Bellingham. The MRC sent mussel tissues for analysis of accumulated contaminants. The stormwater outfall site within the Whatcom Waterway is located in an urban setting near the Bellingham Bay cleanup sites.

#### Forage Fish Surveys

Whatcom MRC is part of a regional effort to characterize populations of the two species of forage fish that spawn on Puget Sound beaches: Pacific sand lance and surf smelt. Whatcom MRC serves as a local partner to support WA Department of Fish and Wildlife efforts to conduct wide scale surveys, focusing MRC efforts at Little Squalicum Beach and Marine Park in Bellingham. Whatcom MRC also conducts forage fish spawning at Aiston Preserve as a part of a nearshore restoration project monitoring plan.

#### Operations

Whatcom MRC held 10 regular monthly meetings, and hosted a joint meeting with Skagit and Island MRCs in July. The MRC maintains a website at www.whatcomcountymrc.org and engages in regional coordination through participation in the Whatcom LIO Steering Committee, and as a partner in the Washington Marine Debris Action Plan.

"People across generations and experiences find it especially rewarding to get outside and quantify the plants and animals that they would see on a casual beach walk. You don't have to come to a beach survey knowing a bunch about mussels, tides or data collection, but you'll leave having learned something of great value."

> Chris Brown, Whatcom MRC member



Photo: Trisha Patterson

### Clallam Marine Resources Committee

For more information: www.clallamcountymrc.org

#### Olympia Oyster Restoration

Clallam MRC has worked on Olympia oyster restoration since 2012, partnering with the Jamestown S'Klallam Tribe and Puget Sound Restoration Fund on a restoration site in Blyn, along Sequim Bay. In 2018, their work focused on population surveys at the site, where results indicate successful restoration efforts and a need for enhanced shell substrate for long-term population stability and oyster reef building.

Clallam MRC explored locations to establish a new Olympia oyster restoration site with test plots of seeded cultch. After investigating several sites and finding none suitable, Jamestown S'Klallam Tribe proposed using a parcel of tidelands leased from WA Department of Natural Resources. The site is located approximately 700 ft. east of the current restoration site and covers an area of approximately 1/2 acre. In late summer 2018, the project team spread more than 100 bags of oyster seed on the new site.



#### **Marine Debris**

Clallam MRC continued their long collaboration on two marine debris removal events: Earth Day Cleanup and the International Coastal Cleanup. For Earth Day, the MRC organized cleanup efforts at beaches along the Strait of Juan de Fuca between Bullman Beach and Dungeness Spit, where 183 volunteers removed an estimated 2,119 pounds of marine debris from 19 beaches. For the International Coastal Cleanup, 66 volunteers removed an estimated 460 pounds of debris from 17 beaches.

#### **Recreational Crabber Outreach**

Clallam MRC engaged two interns during the summer for their second year of recreational crabber outreach to reduce the number of lost crab pots. This effort resulted in 30 site visits to boat ramps, retailers and other high traffic locations, and distribution of over 230 crabber outreach kits. At the boat ramps the interns asked the recreational crabbers a few questions which revealed that more than 75% were long-time crabbers (more than 5 years) and about 7% received an outreach kit in 2017. They also engaged with the local chapter of Puget Sound Anglers and presented at one of their monthly meetings.



#### **Oil Spill Preparedness**

Clallam MRC hosted an annual HAZWOPER training in February, where 33 volunteers received the HAZWOPER certification for volunteer oil spill responders. The Clallam MRC declared March as oil spill preparedness month, which the Clallam County Commission supported through a County-wide proclamation. The MRC also hosted an oil spill webinar with representatives from the Department of Ecology, engaging 18 community residents. Two eight-hour oiled wildlife trainings were held in March, which provided training for 29 volunteers.

#### **Pigeon Guillemot Surveys**

For the third year in a row, Clallam MRC engaged more than 50 volunteers to conduct weekly surveys of 16 pigeon guillemot colonies throughout the summer breeding season. Data collected was contributed to a regional database.

#### Ocean Science Program

Clallam MRC partnered with the Olympic Coast National Marine Sanctuary and Clallam Bay School District to take 30 grade school students and 20 adults on a one-day field and classroom event to explore the intertidal zone during a super low tide at Slip Point in Clallam Bay.

#### Student Intern Program

In 2018, the Clallam MRC expanded their internship program for local students to seven interns, three of which were supported by the Northwest Straits Foundation Opportunity Fund. The summer interns worked on kelp bed monitoring, pigeon guillemot surveys, Elwha Beach stewardship program and educational outreach to recreational crabbers.

The three interns supported by the MRC Opportunity Fund worked on recreational crabber outreach and European green crab monitoring. Two interns were hosted in collaboration with the Jamestown S'Klallam and Makah Tribes. The interns presented their work to more than 40 local residents at a public event.

#### **Bull Kelp Surveys**

Trained volunteers from the Clallam MRC conducted kayak-based surveys of one kelp bed in Clallam Bay and two beds in Freshwater Bay during the summer growing season. The collected data was shared with the Northwest Straits Initiative and compiled into a regional database.

#### Forage Fish Spawning Surveys

Clallam MRC members continued monthly forage fish surveys at three index sites and four restoration sites along the Strait of Juan de Fuca. In July, the Clallam MRC also helped WA Department of Fish and Wildlife with their intensive sampling effort along the Strait, collecting samples at nine beaches. Laboratory analysis identified surf smelt, sand lance and rock sole eggs at different locations along Ediz Hook from February to August, 2018. Volunteers found surf smelt eggs at Cline Spit April through July, and a few surf smelt eggs at Pitship Point and Dungeness Bluff during the intensive summer sampling effort.

#### **Community Festivals**

Clallam MRC hosted a display booth at two local festivals reaching more than 1,500 students and local residents, including a Celebration of Science and Technology and the annual Dungeness River Festival. The MRC display focused on the importance of good habitat and clean water for healthy shellfish populations. A tank with live geoducks, Olympia and Pacific oysters offered a kick start to conversations about water quality and other essentials of marine habitat.

#### Operations

In 2018, Clallam MRC held eleven public meetings, including one hosted by the Makah Tribe at Neah Bay. They actively participated in the Strait Ecosystem Recovery Network and their MRC representative served as vice-chair of the Northwest Straits Commission.



### Skagit Marine Resources Committee

For more information: www.skagitmrc.org

#### **Olympia Oyster Restoration**

For the past 16 years, Skagit MRC has maintained an Olympia oyster restoration effort at Fidalgo Bay, planting and monitoring oysters to establish a self-sustaining population. The population has grown steadily from about 50,000 to an estimated 2.9 million oysters in 2018. While prior years required funding for seed and other resources, the current program is sustained and led by volunteer efforts and partnerships with other organizations. A 2018 Report: Restoration of the Olympia Oyster, Ostrea lurida, in Fidalgo Bay and Cypress Island, is available at <a href="https://bit.ly/2UfYuy2">https://bit.ly/2UfYuy2</a>.

#### Forage Fish Spawning Surveys

Skagit MRC participates in the statewide index site monitoring in partnership with WA Department of Fish and Wildlife. Volunteers conducted monthly surveys at three sites in 2018: Ship Harbor, Similk Bay on the Swinomish Reservation, and Samish Island. Volunteers analyze samples under microscopes and complete analysis data sheets. Samples and data are sent to the WA Department of Fish and Wildlife for analysis. Results show lots of spawning happening at Similk Bay, but not much at the other sites, though eggs were detected at the Ship Harbor site, which is rare.

#### Fidalgo Bay Day

Fidalgo Bay Day is a fun, free, educational event to increase awareness of the marine environment and encourage stewardship of Fidalgo Bay and the Salish Sea. In 2018, Skagit MRC hosted the 15th annual Fidalgo Bay Day, a zero-waste event co-hosted by the Samish Indian Nation with educational games and activities, crafts and samples of local seafood, a beach seining demonstration and guided forage fish walks.

A discovery passport activity, supported with additional funds from the Northwest Straits Foundation's Opportunity Fund, encouraged participants to visit educational stations and fill in the stamps to earn a prize. Opportunity Funds were also used to create a display about the effects of plastic in our oceans at the event and to bring Shannon Point Marine Center's touch tank of marine critters – a huge hit with families!



#### Salish Sea Stewards

Salish Sea Stewards is a program of the Skagit MRC to train and coordinate volunteers in citizen science and marine stewardship, providing over 40 hours of free training to support local education, restoration and monitoring projects. Participants pledge to complete 50 hours of volunteer services in return. This year, 25 volunteers graduated and already logged nearly 1,200 hours of volunteer time. In the last year, new and former program graduates contributed over 7,400 hours toward local projects and programs. Since the program was established four years ago, Salish Sea Stewards have contributed more than 23,800 volunteer hours! A monthly newsletter and a Facebook page are maintained to share volunteer opportunities.

#### **Bull Kelp Surveys**

Skagit MRC participates in the regional kayak-based kelp surveys, with volunteers surveying sites monthly at Coffin Rocks, Biz Point, and Shannon Point during the peak growing season from July through September. Results are shared and compiled with other Northwest Straits county MRC surveys.

#### **Bowman Bay restoration**

During the 2018 growing season, Skagit MRC partnered with the Skagit Fisheries Enhancement Group to recruit volunteer stewards to weed and water the nearshore vegetation at the previously-completed Bowman Bay restoration site. The volunteer efforts helped establish a healthy habitat at the Bowman Bay location. At the five volunteer work parties, 18 volunteers contributed more than 60 hours to maintain plantings.



#### **Pinto Abalone Recovery**

Skagit MRC works in collaboration with Puget Sound Restoration Fund and other partners on pinto abalone recovery, planting more than 9,000 juvenile pinto abalone at six different rocky reef locations in Skagit County since the project started. Current pinto abalone densities at five of the six Skagit County sites exceed what researchers think is needed to sustain successful spawning and egg fertilization, so it is highly likely there is successful spawning occurring at those sites.

In 2017, project partners started experimentally outplanting early-stage juvenile abalone, and in 2018 they checked back on those juvenile abalone. Survey results indicating a 9.7% survival for the youngest outplanted abalone (9 months) and 12.3% survival for the abalone 14 months old when outplanted. Pinto abalone are sneaky – repetitive studies may reveal up to 60% more hidden in their rocky habitat. These younger outplant-ings may save time and resources for future restoration efforts, and reduce hatchery acclimation and selection for better survival in the wild.

#### Kids on the Beach

In 2018, Skagit MRC launched the Kids on the Beach pilot program. The program engaged 50 eighth grade students from Conway Middle School in hands-on science activities on the beach and in the classroom. Kids on the Beach was supported by 25 hardworking volunteers. Using Next Generation Science Standards, students developed proposals and conducted research to assess the effects of beach restoration on surf smelt egg mortality and nearshore fish populations and biodiversity, and then presented their research at a science symposium. Using WDFW beach seining protocol and surf smelt survey protocol, they generated real data about restoration effort efficacy that will be incorporated into the WA Department of Fish and Wildlife surf smelt monitoring database. A pre- and post-project Salish Sea food web quiz indicated their knowledge about the marine environment increased after completing the project.



#### Operations

Skagit County MRC receives staff support to administer MRC Operations through the Natural Resources Division of Skagit County Public Works. In 2018, two new members were appointed and the MRC held regular monthly meetings. The MRC maintains a website at <u>www.skagitmrc.org</u>, updated their display for use at community events, and prepared and presented their annual report to the Board of County Commissioners. The MRC hosted a tour of the Olympia Oyster Restoration Project in Fidalgo Bay with Congressman Rick Larsen, and co-hosted a beach cleanup at Crandall Spit.

### Island Marine Resources Committee

For more information: www.islandcountymrc.org

#### **Education and outreach**

Following an extensive outreach needs assessment they conducted in 2017, Island MRC emphasized four strategies for targeted outreach in 2018: presentations, displays, workshops/forums and events/meetings.

- Presentations included two topics shared at the Salish Sea Ecosystem Conference (citizen science and bull kelp), a presentation to the Board of Island County Commissioners on their bull kelp monitoring work and an onsite presentation at the Cornet Bay restoration site to 20 Sound Water Stewards trainees.
- New displays included placing updated educational materials at the Smith and Minor Island Aquatic Reserve kiosk about sustainable kelp harvest and the importance of bull kelp habitat. The MRC worked with filmmaker Florian Graner to create a film (<u>https://bit.ly/2JGiqpR</u>) showcasing the marine resources of Island County for display in county offices and at outreach events.
- The MRC hosted two successful shoreline stewardship forums attended by 43 people on Whidbey and 36 people at a Camano Island forum. In a post-event survey, 95% of respondents indicated it was a valuable use of their time. Island MRC partnered with the Northwest Straits Foundation on a shoreline vegetation management workshop attended by 40 participants, and hosted an informational community meeting for a potential restoration project at Hidden Beach.
- Island MRC volunteers participated in the regional Catch More Crab campaign, distributing outreach materials to 350 recreational crabbers. The MRC participated in a number of local community events, including Sound Waters University, Earth Day Festival, Keep Crescent Clean Event, and Family Outdoor Discovery Day, and co-hosted Pigeon Guillemot Appreciation Days with Whidbey Audubon and the Northwest Straits Foundation.



#### **Bull Kelp Surveys**

Trained volunteers conducted kayak-based surveys of bull kelp at five beds in Island County in the spring and summer growing season. A volunteer pilot also captured over 5,000 aerial images of county shorelines to detect kelp beds using a paired near infra-red camera. The MRC also deployed temperature loggers at two sites to collect temperatures near the bottom to learn more about kelp habitat. The MRC calculated that approximately 10% of Island County's shoreline has associated bull kelp beds.

#### Pigeon Guillemot Surveys

Island MRC updated their materials and trained and supported volunteers to conduct surveys at 27 pigeon guillemot colonies around Whidbey Island. An intern completed additional in-depth monitoring at two sites, and cameras were deployed to track prey delivery and burrow activity at two sites. An analysis of the internmonitored sites concluded pigeon guillemots continue to breed successfully at those colonies.

#### Forage Fish Spawning Surveys

Island MRC participates in regional forage fish surveys with WA Department of Fish and Wildlife. Volunteers conduct monthly surveys at five index sites, and also continue monitoring at three local restoration sites (Ala Spit, Cornet Bay and Camano Island State Park). The MRC recruited two new volunteers on Camano Island for this ongoing project. The MRC continues to find surf smelt eggs annually at the Cornet Bay restoration site, since the first finding there in 2016.

#### **Eelgrass Monitoring**

To monitor the health of eelgrass beds, volunteers in Island MRC have collected a significant amount of eelgrass data through aerial photography, underwater videography, and sonar. In 2018 the MRC focused on data analysis of the six sites monitored in 2017 – sites with known human activity or environmental stressors. Analysis included a comparison of sonar data to the results of aerial photography and underwater videography, which showed good correlation, though the identity of the vegetation needs to be confirmed with visual methods.

#### Operations

Island MRC hosted 12 MRC meetings, including a joint meeting with Skagit and Whatcom County MRCs, maintained their website at www.islandcountymrc.org, and kicked off a new quarterly newsletter. Island MRC maintains connections with related local and regional work through integration with partner organizations, including representation on the Island Local Integrating Organization and Island County Salmon Recovery Technical and Citizen Committee, and the Puget Sound Ecosystem Monitoring Program (PSEMP) nearshore, forage fish, seabird, and diseases workgroups.



### Jefferson Marine Resources Committee

For more information: www.jeffersonmrc.org

#### Rain Gardens

Jefferson MRC installed two new rain gardens in uptown Port Townsend in 2018. Working in partnership with the City of Port Townsend and WSU Extension to leverage resources, the MRC engaged community volunteers – including local students – who contributed nearly 140 hours of volunteer time. This work brings the Jefferson MRC rain garden total to eight gardens, covering over 6,500 square feet.

Additional support from the Northwest Straits Foundation allowed the MRC to hire a program assistant to bring stormwater-related educational programs and activities to three local target communities. The program assistant focused on contributing to neighborhood newsletters and reaching out to community associations, was able to help identify potential rain garden locations, and helped develop resources that both the MRC and WSU Extension can use in the future.

#### Eelgrass and Shellfish Voluntary No Anchor Zones

At Jefferson MRC's established voluntary no anchor zones at Port Townsend, Port Hadlock and Mystery Bay, volunteers monitored buoy conditions throughout the year and also checked boater compliance along the Port Townsend waterfront during the annual Wooden Boat Festival, where an estimated 300 boats anchor along the waterfront. Only two small boats anchored inside the voluntary no anchor zone during random checks along the waterfront on all three days of the festival. Those boats had moved by the following day, maintaining a better than 95% compliance rate.

#### **Digging for Dinner**

Jefferson MRC hosted two family-oriented programs on safe and sustainable clam harvesting, in partnership with WA Department of Fish and Wildlife. These popular events reached capacity with 84 participants at two events. Very few of the participants had ever harvested clams before, and the MRC emphasizes the connection between safe shellfish harvesting and individual water quality actions.

#### Forage Fish Surveys

Jefferson MRC volunteers conduct surveys for forage fish spawning at Fort Townsend State Park and Adelma Beach, in partnership with WA Department of Fish and Wildlife and Point No Point Treaty Council. The MRC engaged new community volunteers in 2018 and found forage fish eggs at both sites during the winter months.

#### **Bull Kelp Surveys**

Jefferson MRC participates in the regional kayak-based kelp surveys, with volunteers surveying kelp beds near North Beach Park during the peak growing season from July through September. Results are shared and compiled with other Northwest Straits county MRC surveys.

# **Outreach by the numbers**



921 direct contacts

37 new volunteers





#### **Outreach and Education**

Jefferson MRC hosted a Crabbing 101 program, drawing in 37 recreational crabbers just before the start of the crabbing season. The MRC also increased efforts to reduce lost crab pots in local bays by inserting information about best crabbing practices in new crab pots at retail outlets.

The MRC collaborated with the Northwest Straits Foundation on a vegetation management workshop for shoreline landowners and a realtor training. Additional outreach and education efforts included participating in a Maritime Discovery Program to train teachers about ocean acidification, engaging students in rain garden projects, and hosting informational tables about stormwater and protecting eelgrass at events throughout the year.

#### Olympia Oyster Restoration

In Discovery Bay, Jefferson MRC continues to monitor their Olympia oyster habitat enhancement project, where their 2018 data shows larvae continuing to settle and grow on the shell they distributed. At another Olympia oyster site in Quilcene Bay, the MRC worked with the WA Department of Fish and Wildlife and tribal co -managers to monitor test plots for future restoration.



#### Operations

Jefferson MRC hosted 11 MRC meetings in 2018, maintained their website at www.jeffersonmrc.org, and presented their work to the Board of County Commissioners. Jefferson MRC maintains connections with related local and regional work through integration with partner organizations, including representation on Strait Local Integrating Organization and participation in Chumsortium, a local coalition focused on recovery of summer chum and restoring salmon habitat.



partners in marine conservation