

Clallam County Marine Resources Committee

2022 Annual Report



Prepared by:
Clallam County Marine Resources Committee



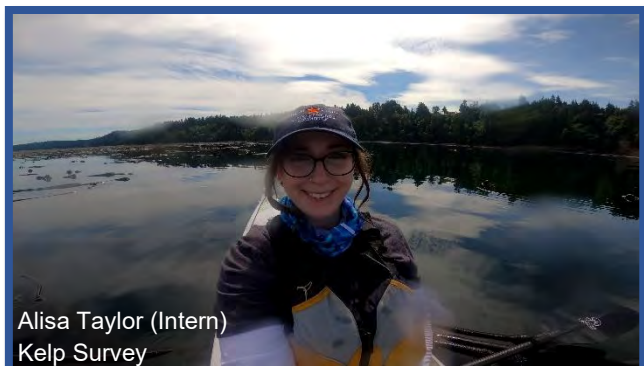
Education and Outreach:

- **Goal:** Successful engagement of the public, students, and citizen scientists in emerging issues including climate change, toxins including marine debris, fossil fuel transportation, and shoreline development within Clallam County, which have the potential to adversely affect marine life.

Internship & Fellowship Program

Clallam MRC has provided paid internships to high school and college students since 2010, bringing them together to work with scientists and other professionals on current environmental projects. Internships are tied in to the four major categories of Clallam MRC's projects: nearshore conservation & restoration, water quality, marine species, and education/outreach.

In 2022 Clallam MRC sponsored an intern focusing on the kelp monitoring project. Duties included planning for and conducting kayak based surveys, recording and processing data and photos, and assisting with summarizing, submitting, and reporting information from this season. Additional internship duties



Community Events:

2022 community events included:

- Forever Streamfest.
- Port Angeles Earth Day Festival.
- West Elwha Beach stewardship.
- Educational Outreach cards prepared by an intern were printed and distributed to local businesses.



included assisting with forage fish surveys, maintaining the dog waste bags at West Elwha Beach, as well as administrative assistance, including processing and reporting or entering data from other projects, updating the MRC website, taking notes for meetings, creating visual aids, and assisting the coordinator as needed.

Educational cards designed by intern and distributed by MRC members.



West Elwha Beach Stewardship

The stewardship program of West Elwha Beach was initiated in summer 2015, and it quickly became apparent that the main issue was dog and human waste. In winter of 2017 Clallam MRC funded a Sanikan as well as a dog waste disposal bin and a dog waste bag dispenser, to encourage visitors to use the facilities instead of leaving waste on the beach and trailside.



Clallam MRC continued to maintain the Sanikan and dog waste facilities through 2022. Twice monthly, or as needed throughout seasonal usage fluctuations, the bag dispenser was checked and refilled with bags. Responsibility for upkeeping the dog bag dispenser was shared by the 2022 Clallam MRC Intern. In 2022, four thousand bags were dispensed.

Online Outreach

Clallam MRC continued to maintain and update the website and Facebook throughout 2022, with information about local marine resources and ecosystem health, to spread awareness of environmental concerns, and information about events, webinars, and educational opportunities. The website received over 2200 views throughout the year,

Crabber Education & Outreach:

- **Goal:** To educate recreational crabbers about the impacts of lost crab pots, strategies to reduce the incidence of derelict crab pots, and how to catch more crabs correctly and effectively.

Catch More Crab

In 2017, as part of the “Catch More Crab” program led by Snohomish MRC, the Clallam MRC started conducting educational outreach to recreational crabbers about how to correctly set your crab pot so as not to lose it.

In 2022 Clallam MRC performed outreach to local crabbers starting on opening day of crabbing season at Ediz Hook boat launch, Freshwater Bay boat launch, and John Wayne Marina, by posting rack cards providing information about proper crab pot use, how to catch more crabs and lose less pots, as well as engaging local crabbers in conversation. The information was also posted on the website and Facebook page.



Invasive European Green Crab

In 2022 Clallam MRC posted material along with the crabber education information, promoting awareness of the invasive European Green Crab, including identification of the species and resources for reporting sightings of Green Crab when found. Crabbers were engaged in conversation about Green Crab, and the information was posted on the website and Facebook page.



➤ **What's Next?**

Clallam MRC will continue educational outreach to recreational crabbers. Clallam MRC will continue to provide information to the public through the website and social media. The MRC also will participate in Green Crab molt surveys on local beaches using the MyCoast app, targeting beaches most likely to contain molts and not already being surveyed. This will be in partnership with Washington Sea Grant, WSU, and the Jamestown and Makah Tribes.

Forage Fish Monitoring

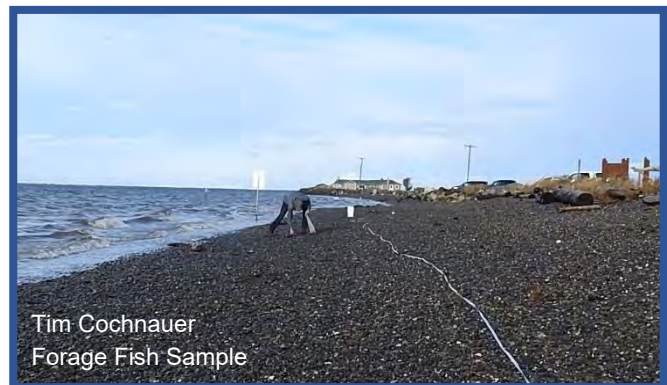
- **Goal:** To provide a better understanding of the forage fish populations within the Salish Sea by performing citizen science monitoring and raising awareness about the ecological importance of forage fish.

In 2022 Clallam MRC continued collaborating with WDFW (Washington Department of Fish and Wildlife) on the forage fish spawning project. Monthly samples were collected at each of four sites: the index site Cline Spit, the restoration site at Ediz Hook, and on East and West Elwha River mouth beaches.

Throughout the 2022 survey season, a total of 890 surf smelt eggs were found at Cline Spit, as well as 1 sand lance egg. At Ediz Hook, 3 sand lance eggs and 1 rock sole egg were found. At West Elwha beach 2 surf smelt eggs were found, as well as another 2 surf smelt eggs found at East Elwha beach.

Accomplishments:

- Conducted 11 monthly surveys at Cline Spit, a WDFW index site.
- Conducted 11 monthly surveys at restoration site on Ediz Hook.
- Conducted 11 monthly surveys at East and West Elwha beaches.



WDFW is the lead agency analyzing the data to improve the understanding of the ecology of forage



fish and their importance in the food web. All the forage fish data collected by WDFW, the MRCs, and other organizations is available [online](#).

Olympia Oyster Restoration

- **Goal:** To contribute to the Puget Sound wide effort to restore sustainable Olympia oyster populations in Puget Sound.

The 2022 Olympia oyster population survey was completed at 1.5-acre restoration site as well as the 0.3-acre restoration site by Alan Clark, Nancy Stephanz, and Rebecca Mahan (members of the Clallam MRC) and members of Jamestown’s Natural Resources Department on May 31. The purpose of this survey was to produce a 2022 population estimate, including estimated population abundance, density, area, and size distribution

Accomplishments:

- Collaborated with Jamestown S’Klallam Tribe to conduct surveys at the two restoration sites, to assess population abundance and size distribution of Olympia oysters.



of the Olympia

oyster bed associated with the 1.5-acre restoration site located on Jamestown’s tribal tidelands.

For consistency with population surveys from previous years, the 2022 survey was conducted within the bounds of the 1.5-acre restoration site which resulted in a population estimate of 17,612 ($\pm 8,338$) viable oysters and an average oyster density of 3 oysters per m^2 . Olympia oysters at this site exhibit a high-level of patchiness, resulting in the relatively low oyster density due to a large number “zero” observations.

In 2022 the size range of the 79 subsampled live oysters at the 0.3-acre restoration site was 12– 55 mm. An average density of 9 oysters per m^2 was calculated for the site, with a population estimate of 10,496 ($\pm 6,842$) oysters. The large amount of uncertainty (i.e., wide confidence intervals) around the population estimate is due to the high degree of patchiness, and hence, large number of “zero” observations.



What's Next?

Clallam MRC and its partners will continue to monitor and enhance the two Olympia oyster restoration sites in Sequim Bay, with plans to add additional shell in 2023.



Kelp Monitoring



Alan Clark & Alisa Taylor
Freshwater Bay Kelp Survey

In 2015 Clallam MRC joined the NWSC kelp monitoring project, and the effort was continued in 2022 by conducting three kayak based surveys, of one bed in Clallam Bay and two beds in Freshwater Bay.



Alisa Taylor
Freshwater Bay Kelp Survey

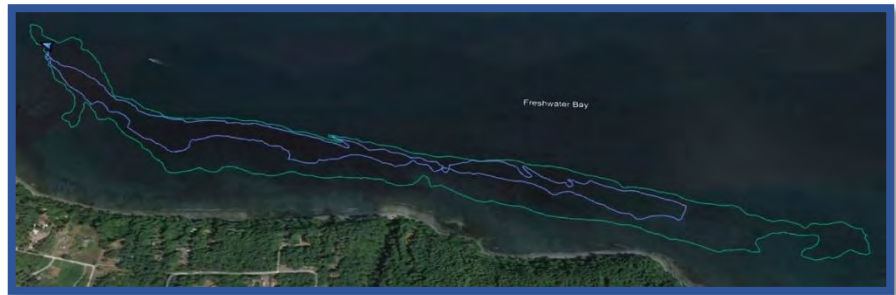
➤ **Goal:** To monitor the size and density of kelp canopies during low-tide events between July and September, and develop a georeferenced database of kelp abundance and distribution that can be incorporated into the SoundIQ database and used by WDNR (Washington State Department of Natural Resources).

Accomplishments:

- Conducted surveys of the three kelp beds in Freshwater and Clallam Bay.
- Submitted three maps to NWSC to be incorporated into SoundIQ.

In 2022 kelp bed 1 at Freshwater Bay, the largest bed, was present and healthy, although compared to previous years the bed has notably decreased in both size and density. The population distribution has shifted as well; while this site

normally includes thick central patches of *Macrocystis pyrifera*, in 2022 it was all but absent. *Nereocystis leutkeana* was present as usual and healthy, though the spread of the bulbs was more sparse than in previous years. The kelp bed also sported several gaps and donut holes. There were some isolated patches of *Macrocystis* near the main kelp bed, close to shore and not directly connected to the main bed. Presence of marine life including seabirds, forage fishes, jellies, seals, and river otters were abundant and comparable to prior years' surveys.



Freshwater Bay 1 2022 (blue) vs 2021 (green)

Kelp bed 2 at

Freshwater bay, the smaller bed, was present and healthy, comparable in size and distribution to preceding annual surveys. The area of the main bed shows slight narrowing compared to 2021, although this shift is not outside of the ordinary range of fluctuations year-to-year. In 2022, the main part of the kelp bed which is consistently



Freshwater Bay 2 2022 (blue) vs 2021 (green)

surveyed, was well connected around the seaward side of Bachelor Rock, making it one with the kelp bed in the bay North of Bachelor Rock. This region of kelp is not always surveyed annually, either due to being disconnected from the main bed, or due to unsafe weather and wave action. The southernmost main bed's canopy kelp was composed exclusively of *Nereocystis*, while the kelp in the bay was composed of a mixture of *Nereocystis* and *Macrocystis*. Marine life in the kelp bed was abundant and healthy.

The kelp bed in Clallam Bay showed a slight decrease in area in 2022, especially along the Northern, or seaward perimeter. This border of the kelp bed was composed of *Neurocystis* as usual, though the density of the border was so sparse and patchy, it presented a challenge with determining where exactly to kayak along to record the perimeter. The central and shoreward regions of the bed were thick and healthy as usual, extending densely shoreward, and composed of a mixture of *Nereocystis* and *Macrocystis*, consistent with previous years. Marine life in the Clallam Bay bed was healthy and abundant.



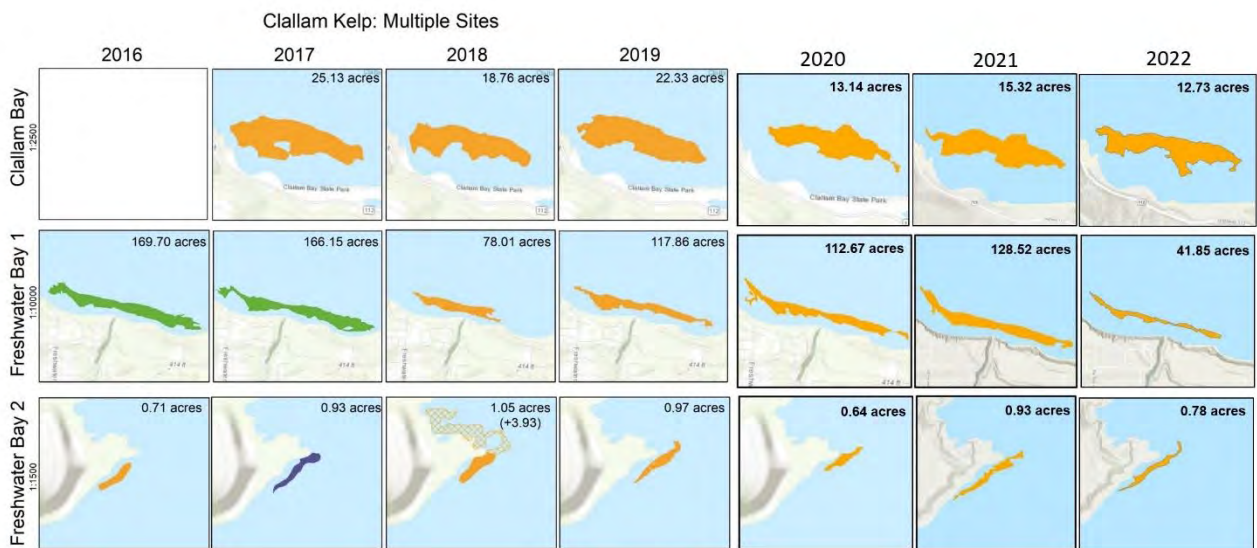
Clallam Bay 2022 (blue) vs 2021 (green)



Photo by Jeff Ward
Freshwater Bay Kelp Survey

The survey data will be incorporated into the NWSC SoundIQ database and used to track the size and extent of the kelp beds in the Strait of Juan de Fuca. The information will also be shared with WDNR.

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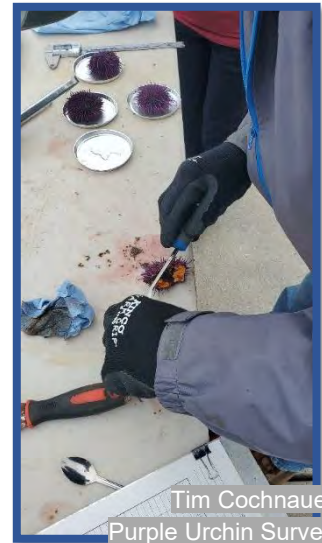


Purple Urchin Survey

In 2022 Clallam MRC continued the effort which began in 2021 to assist WDFW (Washington Department of Fish and Wildlife) in their purple sea urchin survey. A WDFW dive team collected urchins from kelp beds in the Straits of Juan de Fuca, and with the help of CMRC volunteers, the urchins were measured for weight, test diameter, and gonad size. The data recorded is used to supplement study of the vitality, density, and species distribution of selected kelp beds, in order to document population dynamics over time, and to inform scientists about the well being of important marine resources



Purple sea urchins are herbivorous seafloor dwellers which feed on vegetative debris as well as on living kelp, and in many parts of the Western coast where kelp population declines are occurring, an increase in purple urchin populations has been observed. This coincides with both declining sea star and sea otter populations, and canopy kelp



loss. Sea stars and otters are natural predators of urchins, and with a decreased presence of predation is often observed high-density aggregations of urchins, and as this impacts kelp forests it can contribute to what are known as “urchin barrens.” Booming urchin populations in places where kelp have declined coincide with less healthy urchins, due to much interspecies competition and a lesser available food supply, which can be interrelated with the size and vibrancy of the urchins’ gonads. Studying the urchin population in relation to the population of kelp, sea stars, and other members of the nearshore marine food web, can help researchers to predict areas where kelp forests may be at risk of decline, as well as to identify regions where conservation efforts may be targeted. .

➤ What’s Next?

In 2023 Clallam MRC will continue monitoring the kelp beds in Freshwater Bay and Clallam Bay, along the Strait of Juan de Fuca. CMRC also intends to pursue the possibility of conducting a motorized boat survey along the Northern coast of the Olympic Peninsula, to determine the presence/absence of floating canopy kelp along the shoreline. CMRC will deploy HOBOT temperature monitors in Freshwater Bay Bed and will continue to assist WDFW in their purple urchin survey efforts.

Pigeon Guillemot Survey

- **Goal:** to monitor pigeon guillemots nesting success and foraging behavior in Clallam County.

The pigeon guillemot is considered an indicator species of nearshore health, since it feeds primarily on forage fish such as gunnels and pricklebacks, and other small marine creatures which it catches by diving beneath the surface.



Clallam MRC initiated pigeon guillemot breeding surveys in the county in 2016, in collaboration with Island MRC and Olympic Peninsula Audubon Society. Pigeon

guillemots lay eggs in the early summer, and by the end of June the birds are busy providing fish for the juveniles in the burrows. In 2022, volunteers surveyed 16 separate colonies between Freshwater Bay and Mussel Beach. Over 40 volunteers surveyed the colonies once a week for one hour, between June and September.

Accomplishments:

- Partnered with Olympic Peninsula Audubon Society.
- Organized a team of 40+ volunteers.



- **What's Next?**

Clallam MRC will continue monitoring pigeon guillemot colonies in Clallam County. The number of colonies surveyed each year will depend on the number of volunteers, as well as the presence or absence of birds at a given monitoring site.

Shellfish Biotoxin Monitoring

- **Goal:** To monitor for shellfish biotoxin and sanitary conditions at Pillar Point Park and additional locations as needed.

Biotoxins intermittently present at beaches can be impossible to detect without lab testing, and is a serious issue as the toxins can accumulate to dangerous levels within shellfish, which can make people ill if consumed, and has even been a cause of death in the past. Because of deaths in 1942, WDFW (Washington Department of Fish and Wildlife) closed the strait to recreational shellfish harvest from April – October.



Accomplishments:

- Partnered with WA Dept of Health and Clallam County Environmental Health.
- Collected shellfish samples at Pillar Point and Freshwater Bay for biotoxin analysis every two weeks between April – September.
- Biotoxin data was made available to the public at: <https://fortress.wa.gov/doh/biotoxin/biotoxin.html>

This measure was replaced in 2002 by WDFW in partnership with DOH (Department of Health), using a management system based on gathered biotoxin data. Clallam MRC collected shellfish samples every two weeks from several locations, helping to enable the re-opening of recreational shellfish harvest.

Clallam MRC has monitored Pillar Point for shellfish biotoxin since 2017, contributing to reopening 27 acres of commercial shellfish harvest area, and this effort continued in 2022 by reporting the sanitary conditions, and collecting shellfish for biotoxin analysis every two weeks. Clallam MRC added to the monitoring rotation another site at Freshwater Bay, to be surveyed every two weeks, helping to generate data informing commercial and recreational shellfish harvest safety in the area.

Clallam MRC volunteers assisted WDFW with a mussel biotoxin monitoring survey in April 2022 in Port Angeles Harbor. The mussels were deployed in cages anchored by rebar at a zero tide. The mussels were left retrieved after two months and sent to the WDFW lab for analysis.



Ed Bowlby and Mary Sue Brancato
Mussel Biotoxin Survey



➤ What's Next?

Clallam MRC will continue collecting shellfish and monitoring the sanitary conditions at Pillar Point Park and Freshwater Bay in 2023, between April and September. Clallam MRC will conduct additional surveys at other sites as needed. The MRC will also continue to assist WDFW on further mussel biotoxin monitoring.

Oil Spill Response

- Goal: To partner with federal, state, and non-profit organizations to offer annual oil spill response trainings to local citizens.

In 2022 Clallam MRC reached out to National HAZWOPER (Hazardous Waste Operations & Emergency Response) foundation, and US Fish & Wildlife, to coordinate planning of future HAZWOPER and oiled bird & mammal training workshops. The workshops being planned will come into fruition in the coming year.

Annual HAZWOPER certification is a requirement for participation in an oil spill response. Participants learn about safety & health, use of personal protective equipment, site characterization, animal handling, and the organization of an oiled wildlife response.

Clallam MRC continued efforts through 2022 to update the Geographic Response Plan, in order to identify marine resources of high value and concern, and to help support and coordinate future oil spill response efforts.

- What's Next?

In 2023 Clallam MRC will collaborate with International Bird Rescue, to offer 24-hour HAZWOPER training, oiled bird and mammal trainings.



On the Horizon

In addition to the continuation and development of existing projects as highlighted throughout this report, Clallam MRC is looking forward to focusing on the following efforts in 2023:

Work and planning will continue with meetings being held in a hybrid format, with both in-person and zoom options for attendance available. This will be a useful asset as it will allow people to attend meetings even if they are not well or are unable to make it in-person to a meeting. CMRC will continue to help protect and preserve our important marine resources. The committee members, alternates, and volunteers will continue collection of field data and interaction with the local community.

As the committee continues with ongoing projects, we anticipate developing additional programs addressing derelict vessels, community education and outreach regarding issues including the impacts of climate change on nearshore communities, and expanding development of educational materials.

- **Climate Change / Sea Level Rise**
 - Homeowner workshops.
- **Derelict Vessel removal**
 - Implement along with WDFW and Makah Tribe the removal of derelict vessels in Clallam County.
- **Outreach Cards (Coasters)**
 - Expand and create a set of varying marine critters/issues cards, print and distribute to local businesses and events.
- **Shore Friendly**
 - Homeowner workshops.
- **Noxious Weed Control**
 - CMRC hopes to collaborate with Feiro Marine Life Center and the Lower Elwha Klallam Tribe to coordinate planting vegetation at Valley Creek in Port Angeles Harbor.
- **Pinto Abalone Study**
 - CMRC intends to collaborate with Puget Sound Restoration Fund to begin initial surveys to determine the presence/absence of Pinto Abalone in Clallam County.

About Clallam MRC



The Clallam County Marine Resources Committee (Clallam MRC) was established by a resolution of Clallam County as a result of the 1998 Northwest Straits Marine Conservation Initiative. The Initiative combines data driven science with grassroots involvement by citizens, in an effort to promote local solutions that protect and restore marine resources in Clallam County.

We work to discover collaborative ways to improve shellfish harvest areas, protect marine habitat, support salmon and forage fish recovery and explore resource management alternatives to reduce impacts on marine resources. We also provide input

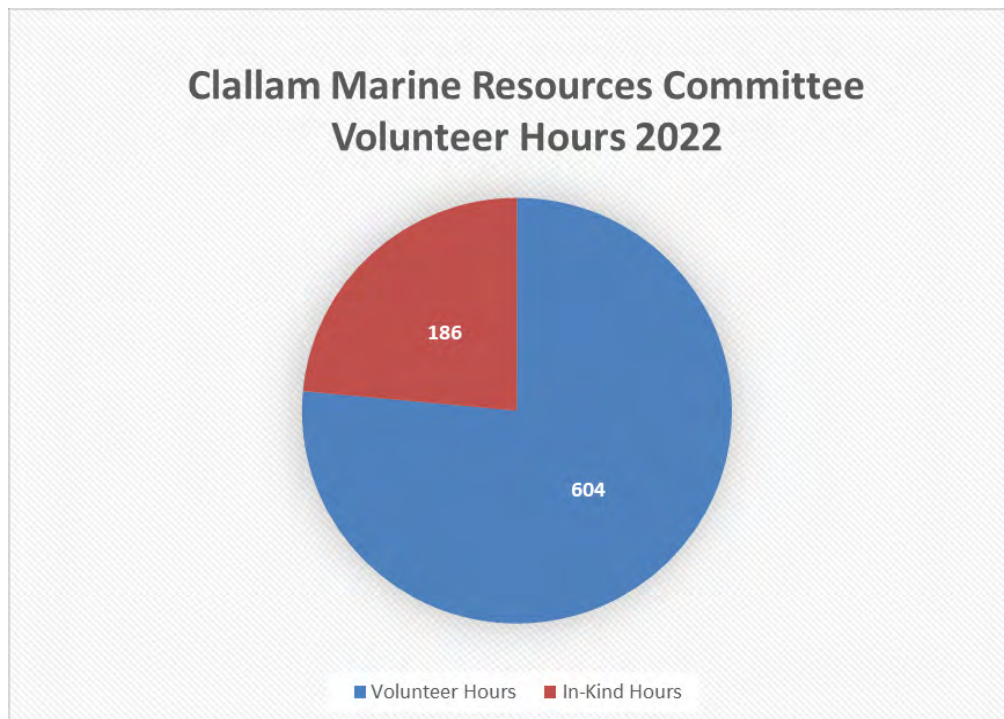


to the Clallam County Board of Commissioners, when appropriate, to ensure the protection and restoration of marine resources. In addition to participating in a variety of environmental monitoring programs, we manage and support projects focused on removing marine debris and derelict fishing gear, training citizens to safely respond to an oil spill, restoring Olympia oysters, and educating the community on emerging environmental issues. We also sponsor student interns to work on Clallam MRC Projects to foster their interest in natural resource careers. Early on the Northwest Straits Commission (NWSC) developed several benchmarks for the initiative including marine habitats, marine life, water quality, and engagement of the local community through citizen science and educational outreach. In 2019 the members added climate change as a benchmark.

Funding and Support

In 2022 Clallam MRC received a majority of its funding from Washington State and US Environmental Protection Agency (EPA) through a grant administered by the Northwest Straits Commission (NWSC).

The Clallam MRC depends on its members and community volunteers. During the 2021-2022 grant year, Clallam County MRC members and community volunteers contributed 604 hours for a total value of \$21,061.48 (@ 34.87/hr). The MRC also received 186 hours of in-kind contributions from community and project partners totaling \$ 6,485.82.



Operations

- **Goal:** To carry out administrative functions in support of the mission, including work plan preparation, developing and preparing grant proposals, programmatic staff support, project monitoring and performance tracking, coordinating education and internship programs, planning, and participating in training opportunities.

Clallam MRC Meetings and Communication -The Clallam MRC met monthly to discuss project items and listen to informative presentations from various invited guests. Meetings earlier in the year were held online, and later transitioned to hybrid meetings. Clallam MRC staff prepared and distributed meeting agendas and minutes.

Grant Administration - Clallam MRC staff wrote regular progress reports, tracked and administered the budget, and ensured projects were supported and reaching their stated goals.

Website Maintenance -The Clallam MRC maintained its website containing information on past and upcoming meetings, and current and completed projects (<http://www.clallamcountymrc.org/>). The website was regularly updated with meeting agendas and approved minutes, as well as current news. In February of 2020, Clallam MRC initiated their Facebook page to post weekly information about MRC projects and activities. By end of 2023, the Facebook page had 355 followers.

Annual Workplan Development - The Clallam MRC developed a work plan to guide the work and priorities of the Clallam MRC for the 2022-2023 grant year.

Strategic Plan - The Clallam MRC adhered to the [2019-24 Strategic Plan](#).

Training - Clallam MRC members and staff were encouraged to participate in trainings relevant to the Clallam MRC's goals and projects. Ed Bowlby led the online pigeon guillemot survey training.

Representation at NWSC Meetings - Alan Clark served as the Clallam MRC representative to the NWSC. The Representative attended the monthly meetings, which were held online.

Presentations to Local Government Officials: There were not any in person meetings with our local Board of County Commissioners in 2022.

Participation in Local Integrating Organization Meetings - As a member of the steering group Rebecca Mahan, Clallam MRC Coordinator, attended the quarterly steering group meetings and the ERN/LIO quarterly meetings.

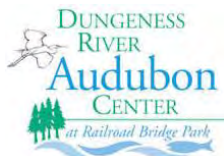
Membership

The Clallam MRC is a balanced team of members comprised of local citizens representing academia, the development community, conservation and environmental interests, as well as Makah, Lower Elwha Klallam, and Jamestown S’Klallam Tribes, City of Port Angeles and City of Sequim, the Port of Port Angeles, and the county districts.

Member	Interest/Representation
Tim Cochnauer, Chair	At-Large
Robert Knapp	Jamestown S'Klallam Tribe
Alan Clark, NWSC Representative	At-Large
LaTrisha Suggs	Port Angeles City Council
Lyn Muench	Commissioner District II
Mike Doherty	Commissioner District III
Jesse Waknitz	Port of Port Angeles
Ann Stafford	Marine Related Recreation & Tourism
Meggan Uecker	Sequim City Council
Arnold Schouten	Development Community
Bob Vreeland	Conservation/ Environmental
Jeff Ward	Commissioner District I
Ed Bowlby	Academia
Justin Stapleton	Lower Elwha Klallam Tribe
Open position	Makah Tribe
Chris Burns	Jamestown S'Klallam Tribe
Navarra Carr	Port Angeles City Council
open	Commissioner District III
Ioana Bociu	Academia
Lance Vail	District I Alternate
Ann Soule	District II Alternate
Nancy Stephanz	Conservation/Environmental Issues Alternate
Ray Kirk	At-Large Alternate
Lisa Law	Development Community Alternate
Mary Sue Brancato	At-Large Alternate
Allyce Miller	Makah Tribal Alternate
Helle Andersen	Marine Related Recreation and Tourism Alternate
Kathy Downer	Sequim City Council
Ex-Officio Members	
Bruce Emery	Director, Clallam County Dept. Community Development
Cathy Lear	Habitat Biologist Clallam County
Rebecca Mahan	CMRC Coordinator/ Habitat Biologist

Partners

Through the years Clallam MRC has collaborated with numerous partners. The logos below list the organizations and agencies Clallam MRC partnered with in 2022:



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