

County: Island
Grant No: SEANWS-2017-IsCoPH-00007

PROJECT TITLE: Island County Marine Resources Committee Operations and Projects

DELIVERABLES FOR TASK NO: 1.12 Annual Report

PROGRESS REPORT: []

FINAL REPORT [X]

PERIOD COVERED: October 2017-September 2018

DATE SUBMITTED: 9/28/2018



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Island County Marine Resources Committee

2018 Annual Report



About the MRC

The Island County Marine Resources Committee (MRC), established in 1999, is an advisory body of volunteers appointed by Island County Commissioners. The members are from the local community, and represent a wide variety of backgrounds, interests, and expertise, all coming together with the unified goal of protecting and restoring the local marine environment.

The MRC's purpose is to **investigate, research, and identify local marine resources**, and marine resource and habitat issues; **recommend remedial actions** to Island County agencies and authorities; **carry out such recommendations** where so approved; and **build local awareness** of the issues and broad-based community support for the remedies. The MRC conducts monitoring, restoration, and outreach projects, and serves as an advisory body to the County Commissioners.

The MRC receives annual funding from US Environmental Protection Agency through the Puget Sound Partnership and Northwest Straits Commission (NWSC). This report represents work conducted from October 2017 through September 2018. The table below shows how the 2017-2018 MRC tasks supported the goals of the Northwest Straits Initiative.

	Northwest Straits Initiative Goals				
MRC Grant Tasks	Goal 1: Shoreline restoration	Goal 2: Water quality	Goal 3: Habitat and species protection and restoration	Goal 4: Education and engagement	Operational Goal 1: MRC support
Operations					❖
Forage Fish	❖		❖		
Bull Kelp	❖		❖		
Eelgrass	❖		❖		
Pigeon Guillemot			❖	❖	
Education and Outreach				❖	

Report prepared September 2018 by Anna Toledo, Island County MRC Coordinator.



PUGET SOUND
PARTNERSHIP



Northwest
Straits
INITIATIVE
partners in marine conservation

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Cover page photo credits, clockwise from top left: Anna Toledo, Anna Toledo, Linda Rhodes, Lucas Hart. Back page photo credit: Linda Rhodes.

Membership

The MRC is comprised of volunteers, and relies on the hard work and dedication of its members and other volunteers to conduct monitoring, restoration, and outreach projects.

In the 2017-2018 year, the MRC recorded 1,690 volunteer hours! These hours demonstrate the level of community engagement and support for the work of the MRC.



Member	MRC Project Lead or Liaison/Group Representation
Current Members: September 2018	
Elsa Schwartz, Chair	Port Susan MSA, Northwest Straits Commission Representative
Barbara Bennett, Vice-Chair	Outreach, Island Local Integrating Organization
Michael Bianchi	
Ed Halloran	Port of South Whidbey
Matt Kukuk	Salmon Recovery Technical and Citizen Committee
Linda Rhodes	Bull kelp, Smith & Minor Islands Aquatic Reserve
Ruth Richards	Forage fish
Mark Stamey	
Kestutis Tautvydas	Eelgrass
Frances Wood	Pigeon guillemot
Kelly Zupich	Sound Water Stewards
Ex-Officio Members	
Lori Clark (ex-officio)	Island County Department of Natural Resources
Jill Johnson (ex-officio)	Board of Island County Commissioners
Tim Lawrence (ex-officio)	WSU Extension
Non-voting Technical Advisors	
Florian Graner	Outreach
Tom Leschine	Science
Todd Zackey	Tribal: Tulalip Tribes

Operations

The MRC meets on the first Tuesday of every month. Meetings are open to the public, and often feature an educational speaker as well as discussion on business topics and project updates.

The MRC website is updated regularly with meeting agendas and minutes, as well as with project updates and local news of interest.

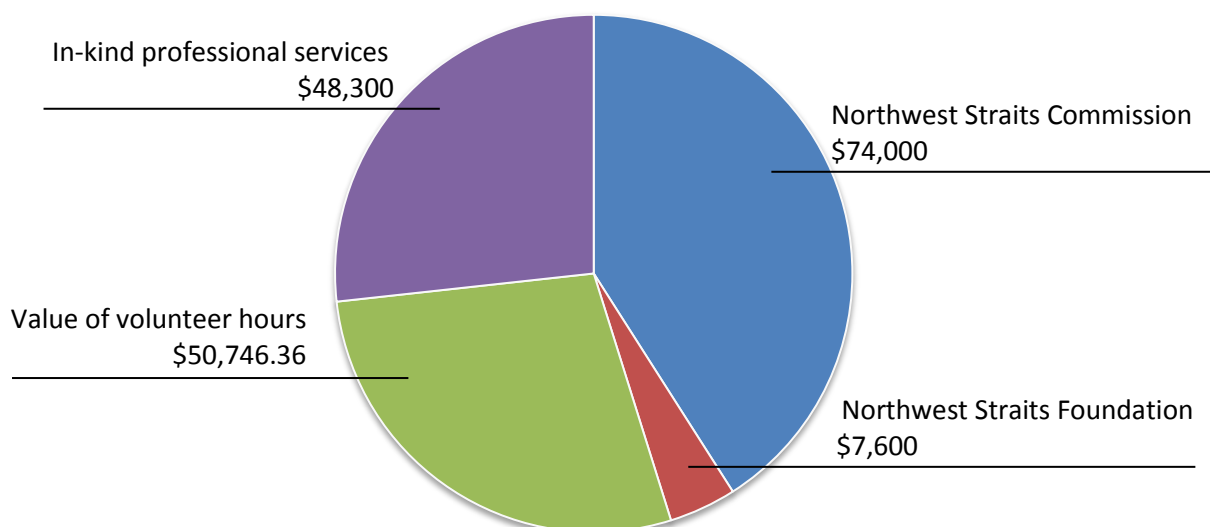
The MRC brings important environmental and economic value to Island County, and engages the local community to preserve and protect our beautiful Island home.

Through grants, volunteer hours, and donated professional services, the MRC has brought a total value of **\$180,646.36** to Island County in 2017-2018.

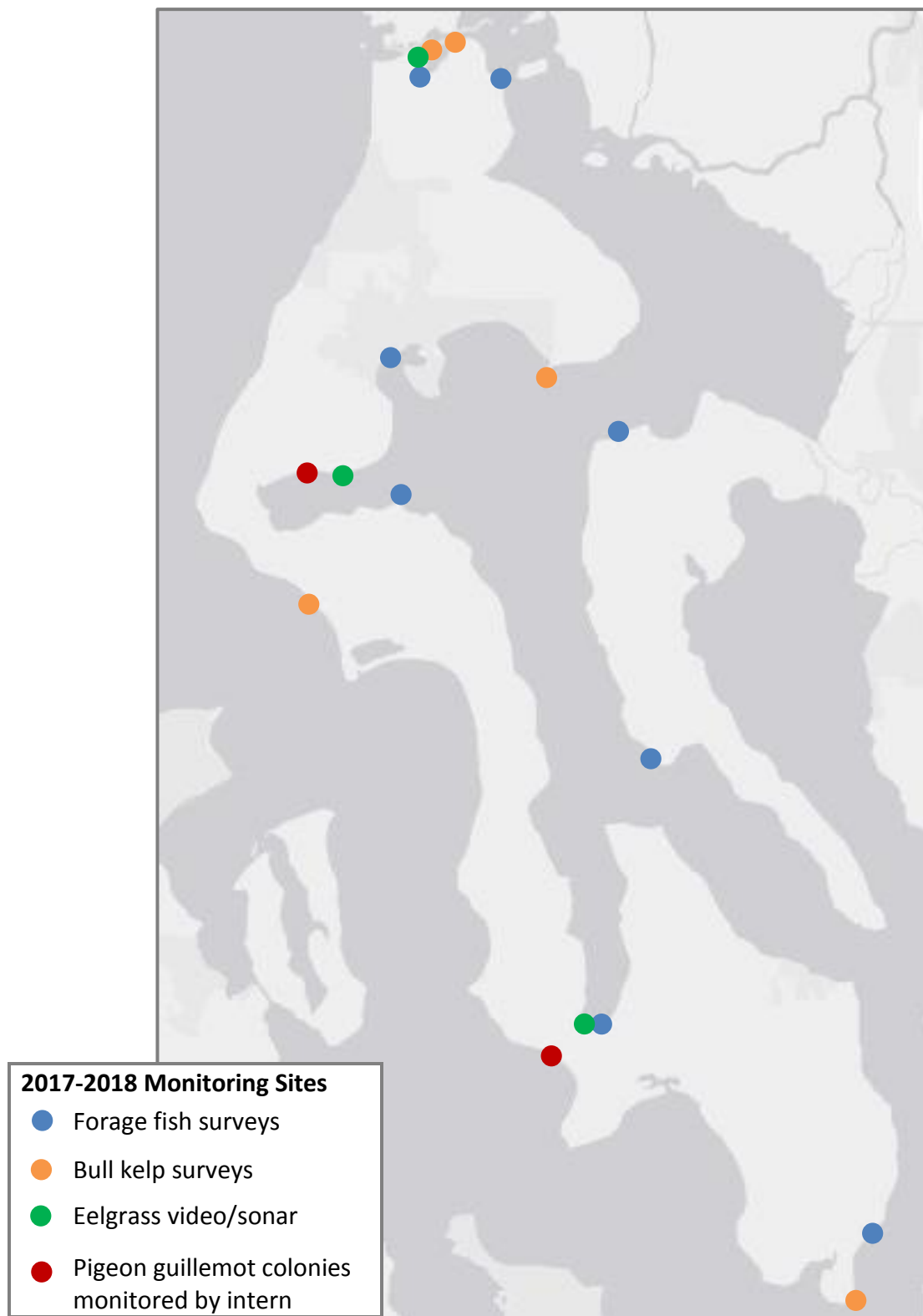
Accomplishments

- Held 12 MRC meetings, including 1 joint meeting with Skagit and Whatcom County MRCs.
- Held planning retreat and developed 2018-2019 work plan and grant proposal.
- Presented proposed MRC projects to the Board of Island County Commissioners.
- Developed and received funding for two applications through the Northwest Straits Foundation MRC Opportunity Fund.
- Attended monthly Northwest Straits Commission meetings.
- Participated in Island Local Integrating Organization technical committee meetings.

Funding Sources



Where We Work



Monitoring: Forage Fish

Forage fish are small schooling fish that are a key component in the marine food web, as a vital food source for salmon, seabirds, and marine mammals. Surf smelt and Pacific sand lance, two species of forage fish, lay their eggs on sandy-gravelly beaches around Puget Sound.

The MRC conducts forage fish spawn surveys at selected beaches in conjunction with completed, planned, and proposed shoreline restoration work. The MRC also partners with Washington Department of Fish and Wildlife to assist in conducting surveys at index sites – locations with public access and a known history of spawning presence.

The table below indicates where eggs were found, and in which months. Due to the timeline for processing these samples, only the first six months of the sampling year are shown below. Updated information can be obtained from the MRC once available.

Accomplishments

- Conducted monthly surveys at three restoration sites: Ala Spit, Cornet Bay, and Camano Island State Park.
- Conducted monthly surveys at five index sites: Freeland Park, Glendale, Long Point, Maple Grove, and Windjammer.
- Trained two new volunteers on Camano Island.
- Forage fish eggs were found at Cornet Bay, Freeland Park, Long Point, and Maple Grove.
- Surf smelt eggs were observed with the unaided eye at Maple Grove.

Site Type	Site	Oct 2017	Nov 2017	Dec 2017	Jan 2018	Feb 2018	Mar 2018
Restoration	Ala Spit						
	Camano Island SP						
	Cornet Bay						
Index	Freeland Park						
	Glendale						
	Long Point						
	Maple Grove						
	Windjammer						

Legend
Surf smelt eggs
Sand lance eggs
Rock sole eggs
Not sampled
No egg presence
Pending analysis

Monitoring: Bull Kelp

Bull kelp forests provide habitat and food to a wide variety of species in the marine environment, including the endangered rockfish, bocaccio.

The MRC initiated boat-based bull kelp surveys in 2015 in coordination with the Northwest Straits Initiative and other MRCs. Volunteers monitor the size of bull kelp beds using GPS units while paddling a kayak around the perimeter of the bed.

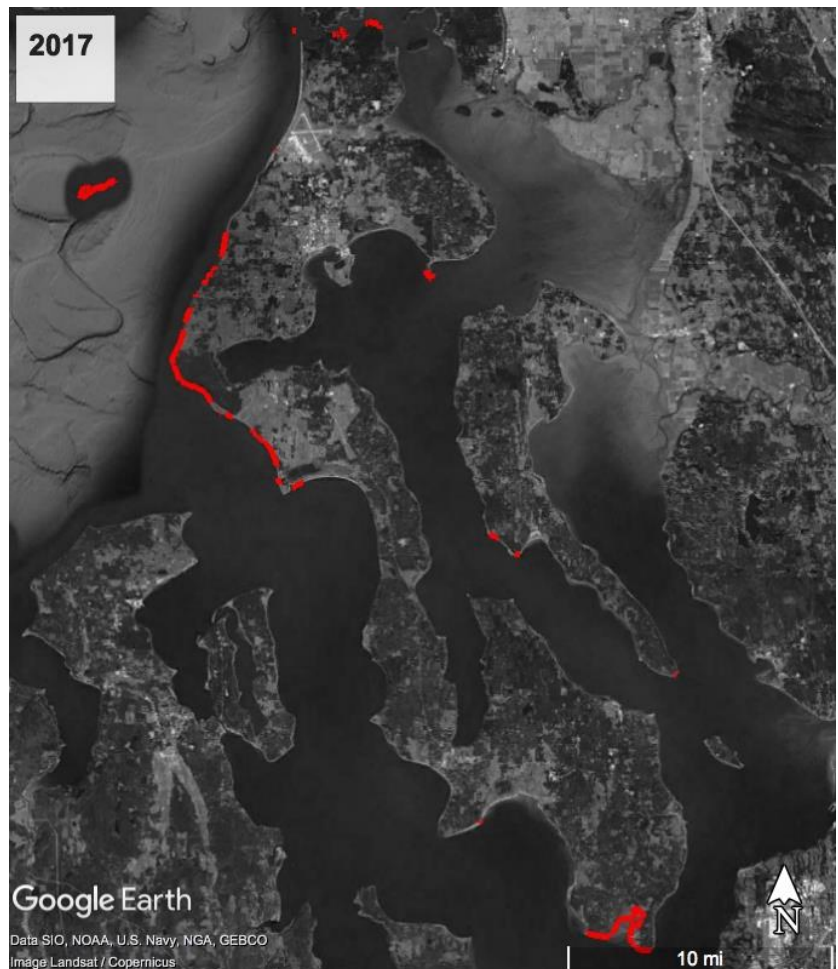
Kelp bed perimeters from GPS data were tracked monthly during the summer months at five sites around Island County: Ben Ure Island, Hoypus Point, Polnell Point, Ebey's Landing, and Possession Point

In addition to the kayak surveys, aerial images in both visible light and near infra-red were captured and georeferenced.

The map on the right displays the amount of shoreline (in red) with associated bull kelp beds. The estimate of the amount of shoreline with associated bull kelp was **21.13 miles** or about **10% of Island County's shoreline**.

Accomplishments

- Conducted kayak surveys at five beds around Island County.
- Collected over 5000 aerial images of Island County shoreline with visible light and near infra-red technology.
- Deployed temperature loggers at two sites to measure demersal temperatures.
- Tested accuracy of field thermometers.
- Collected images of plants and animals within kelp beds.



Monitoring: Eelgrass

Eelgrass plays many important roles in the marine ecosystem, including serving as an essential food source as well as habitat for several marine species.

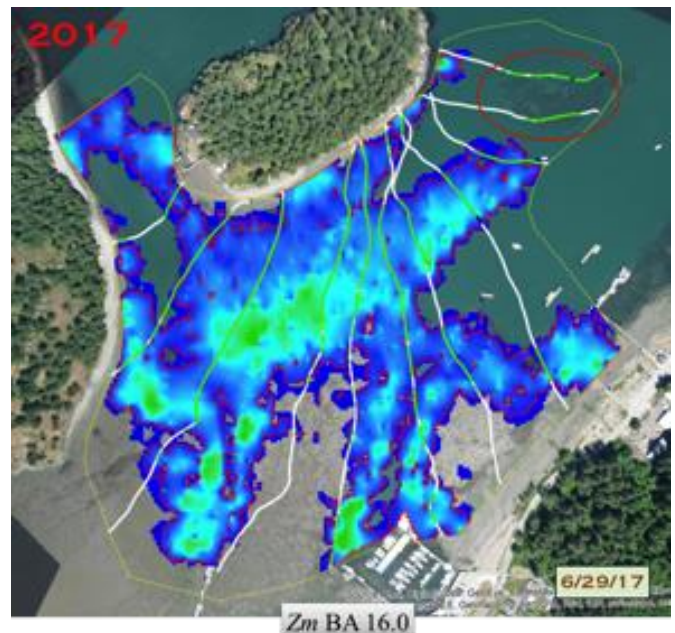
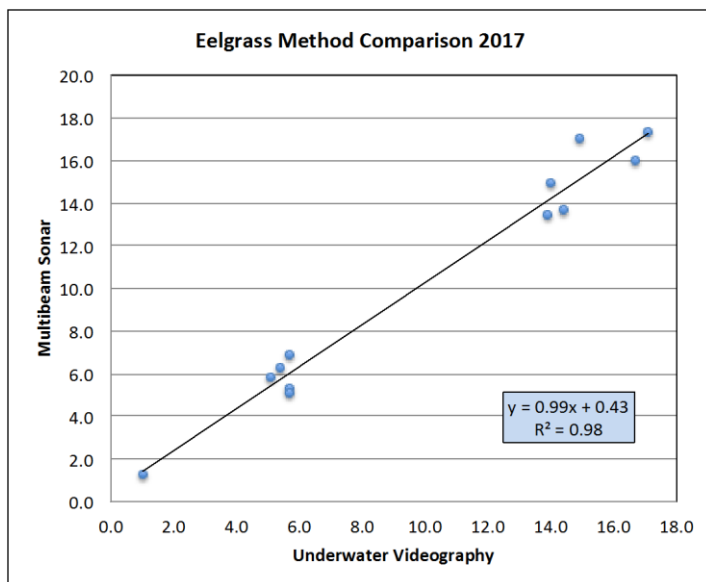
The MRC has been partnering with Sound Water Stewards to monitor eelgrass through aerial photography and underwater videography since 2008. In 2016, volunteers added the use of sonar to track the size of eelgrass beds. The sonar and underwater video methods were compared by assessing the bed areas calculated through both of these processes.

The graph below shows the correlation of bed area estimates using underwater video and sonar mapping.

The map to the right shows the bed area at Cornet Bay measured by sonar and overlaid with transects from the underwater video. The green portions of the transects represent eelgrass. The red outline on the sonar map shows the threshold of the eelgrass boundary. Green indicates high biovolume; blue indicates low biovolume. The red oval in the upper right represents missed sonar sampling.

Accomplishments

- Captured underwater videography and sonar at three sites around Island County: Cornet Bay, Penn Cove, and Holmes Harbor.
- Completed aerial photography for shoreline of Whidbey and Camano Islands.
- Analyzed 2017 monitoring data, including comparison of sonar data to results of aerial photography and underwater videography.



Monitoring: Pigeon Guillemot

Pigeon guillemots are one of the few seabirds regularly breeding in Puget Sound. They nest in bluffs and feed on fish and invertebrates. Monitoring their population numbers, prey type, and breeding success can help indicate changing conditions in the birds' environment.

The MRC, in partnership with the Whidbey Audubon Society, has been studying the populations of pigeon guillemots on Whidbey Island since 2008. A summer intern monitors select colonies to provide in-depth monitoring. In 2018, the intern monitored Rolling Hills on eastern Whidbey Island, and Mutiny Sands on western Whidbey Island.

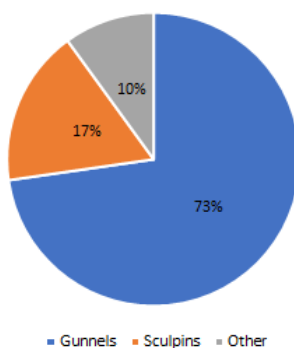
As shown in the charts below, these two sites show variation in the type of prey the adult guillemots deliver to the chicks. This difference may be due to a mix of factors, including prey availability and habitat characteristics, such as shoreline makeup and beach profile.

Accomplishments

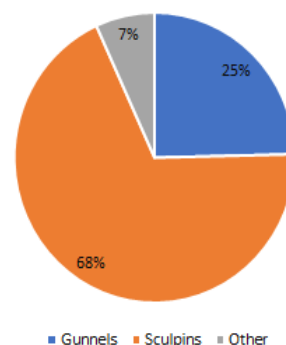
- Volunteers completed surveys at 27 colonies around Whidbey Island
- Intern conducted in-depth monitoring at two colonies.
- Updated field card to match online database.
- Deployed two cameras to track prey delivery and burrow activity at two sites.
- Conducted outreach at elementary schools.



Prey Choice at Rolling Hills 2018



Prey Choices at Mutiny Sands 2018



Education and Outreach: Aging Shoreline Structures Forum

The MRC organized a forum on one of the top-ranked topics in the 2017 Outreach Needs Assessment: aging shoreline structures. The forum was offered on both Whidbey and Camano Islands, and featured Coastal Geologist, Hugh Shipman, as the keynote speaker.

The forums also included presentations from County staff regarding project planning and permitting, and a presentation from a community representative engaged in a local project. Following the presentations, participants were invited to engage in breakout discussions with the presenters and fellow community members to delve into site specific concerns and solutions.



"Thank you for a great wealth of information and good seminar. I would like to come next year with my husband. All good speakers, very good program"

"Better understanding of how dynamic ALL shorelines are"

"Thank you for being available to our community."

In Numbers

2

Number of Forums

79

Number of Attendees

86%

Agreed they had a better understanding of solutions for aging shoreline structures.

95%

Agreed the forum was a valuable use of their time.

61%

Indicated they would make a change at their property after attending the forum.

100%

Would like more educational events like this!

Education and Outreach:

Meetings, Events, and Outreach Tools

The MRC engaged in several outreach events throughout the year. Outreach is an integral component of each MRC project. Helping the community understand what the MRC does and why will increase public interest in learning about and caring for the local marine environment.



In addition to participating in events, the MRC regularly hosted speakers at its monthly meetings.

MRC meeting speaker topics included:

- Salmon recovery plan update
- Pigeon guillemot survey
- Bull kelp monitoring
- Oil spill consequence near-term action
- Kelp recovery plan
- MyCoast application
- Eelgrass monitoring
- Northwest Straits Initiative strategic plan
- Marine debris
- Actions to Impacts project

Accomplishments

- Presented on two topics at Salish Sea Ecosystem Conference: 1) bull kelp monitoring and 2) strategies to strengthen citizen science.
- Distributed 350 crabber outreach materials.
- Participated in outreach events: Sound Waters University, Earth Day Festival, Keep Crescent Clean Event, Family Outdoor Discovery Day.
- Hosted shoreline vegetation workshop for 40 attendees.
- Provided onsite presentation at Cornet Bay restoration site to 20 Sound Water Stewards trainees.
- Provided presentation on bull kelp to Board of Island County Commissioners.
- Placed updated educational materials at Smith & Minor Island Aquatic Reserve kiosk.
- Hosted informational community meeting for a potential restoration project at Hidden Beach.
- Developed film showcasing the marine resources of Island County.
- Initiated inventory of monitoring projects in Island County.



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