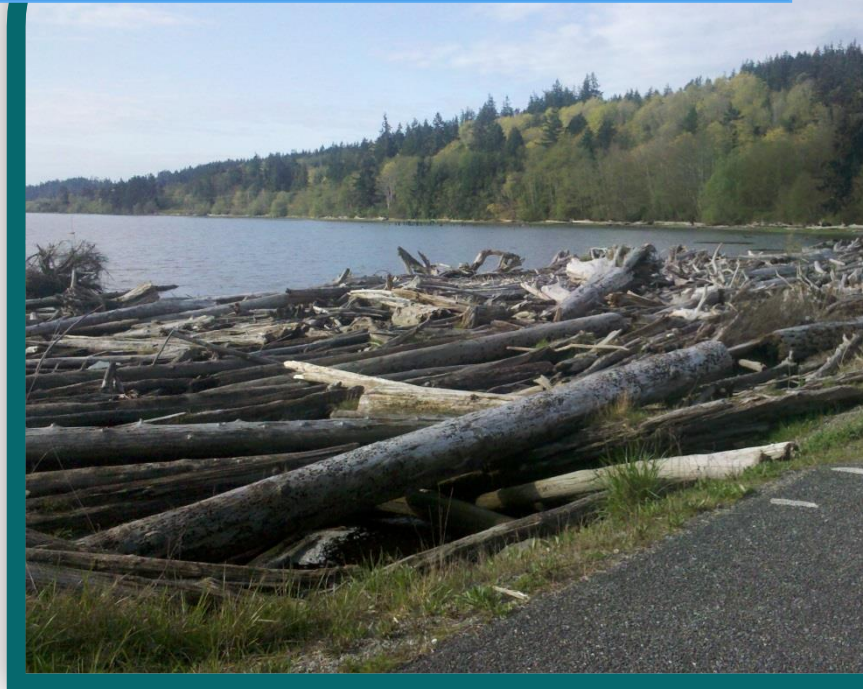


Island County Marine Resources Committee 2015 Annual Report



ISLAND COUNTY
MARINE RESOURCES
COMMITTEE



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Island County Department of Natural Resources

October 2014 – September 2015



PUGET SOUND
PARTNERSHIP



**Northwest
Straits**
INITIATIVE

This project has been funded wholly or in part by the United States Environmental Protection Agency. The contents of this document do not necessarily reflect the views and policies of the Environmental Protection Agency, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

About the MRC

The Island County Marine Resources Committee (IC MRC), established in 1999, is an advisory body of volunteers appointed by 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 fulfills its purpose through conducting monitoring and restoration projects, leading education and outreach efforts, and serving an advisory role to the county commissioners.

The MRC receives funding from US EPA through the Puget Sound Partnership and Northwest Straits Commission (NWSC). The table below shows how the 2014-2015 MRC tasks supported the NWSC Benchmarks.

Advisory Accomplishments

The MRC responded to a request from the Island County Department of Planning and Community Development to provide scientific information regarding finfish net pens to help inform their report to the Board of Island County Commissioners regarding the net pen prohibition in the Shoreline Master Program (SMP).

The MRC's work aided in a larger discussion including input from Island County Department of Natural Resources, Planning Department, Board of Island County Commissioners, and Department of Ecology to address concerns regarding net pens in the SMP. This demonstrates how the MRC is optimally placed and equipped to coordinate with departments within Island County and provide sound scientific information to inform decision-makers.

MRC Grant Tasks	NWSC Benchmarks				
	Marine Habitats	Marine Life	Marine Water Quality	Science	Education and Outreach
Operations					
Forage Fish	❖	❖		❖	
Phytoremediation			❖	❖	
Seining		❖		❖	
Pigeon Guillemot				❖	❖
Eelgrass	❖			❖	

Membership

The MRC is a group comprised of volunteers, and depends on the hard work and dedication of its members as well as many other volunteers to carry out its mission and conduct monitoring, restoration, and outreach projects.

In the 2014-2015 year, the MRC recorded over 2,100 volunteer hours! These hours demonstrate the level of community interest and support for the work of the MRC.

Member	Interest/Representation
Current Members: September 2015	
Frances Wood, Chair	Whidbey Audubon
Linda Rhodes, Vice-Chair	Marine Science
Ed Adams, NWSC Rep (July 2015-current)	Agriculture, Conservation, Recreational Fishing
John Carr	Port of Coupeville
Lenny Corin, Former NWSC Rep (through July 2015)	Recreation, Conservation
Leal Dickson	Marine Science, Marine Plants, University of Washington
Ed Halloran	Port of South Whidbey
Dan Matlock	Marine Science, Forage Fish, Salmon TAG
Ruth Richards	At-Large
Elsa Schwartz	At-Large
Stan Walsh	Tribal: Swinomish, Skagit, Skagit River System Cooperative
Todd Zackey	Tribal: Tulalip Tribes
Ex-Officio Members	
Lori Clark (ex-officio)	Island County Department of Natural Resources
Tim Lawrence (ex-officio)	WSU Extension
Helen Price Johnson (ex-officio)	Island County Commissioners
Former Members: Served in 2014	
Christine Goodwin	At-Large
Joe Hillers	Agriculture
Bill Larsen	Port of Coupeville
Dick Toft	Navy
Ken Urstad	Sports Fishing
Keith Higman (ex-officio)	Island County Department of Natural Resources
Jill Johnson (ex-officio)	Island County Commissioners

Education and Outreach

The MRC supports the value of educating the public on the importance of protecting and restoring the local marine environment.

The MRC meets twice per month except during the summer when meetings are held monthly. One meeting each month is dedicated to an educational presentation. In the 2014-2015 year, these presentations have covered a wide range of local and regional topics. The meetings are open to the public, and designed to encourage the local community to learn more about the marine environment and matters affecting the area where they live. The MRC also participated in local events and festivals, including SoundWaters, Greenbank Farm Earth Day Festival, and MusselFest.

The MRC partnered with the Northwest Straits Commission to host a community forum on Ocean Health. Local experts presented on the science of ocean acidification, the involvement of the local shellfish industry, and how to get engaged. The event drew around 70 people, many of whom gave positive feedback and indicated an increase in understanding about the presentation topics.

The MRC partnered with the Northwest Straits Foundation (NWSF) to host an Oil Spill Preparedness workshop for elected officials and emergency managers. Around 20 key local figures attended the workshop to learn about roles, responsibilities, and communication protocols during spill incidents.



The MRC also partnered with the NWSF on their Shoreline Armoring Reduction Project (SHARP). The MRC worked with the NWSF to hold a workshop for landowners on protecting shoreline properties. Over 40 people attended the workshop, which included information on coastal processes, slope stability, alternatives to hard armoring, how to manage erosion, and a site visit to demonstrate these ideas in practice.

Educational Presentations

2014-2015 meeting topics included:

- Pigeon Guillemot Survey Report
- Stewardship for the Smith and Minor Aquatic Reserve
- South Holmes Harbor Shellfish Harvesting
- Nearshore Habitat Recovery: Progress in 2015
- 2014 Eelgrass Report
- Monitoring for Possible Effects of Ocean Acidification and Temperature Stress on Farmed Mussels in Penn Cove
- The New SoundIQ
- Kelp: Why it Matters, Why it Matters to Island County and the MRC
- Sea Star Wasting at Port Townsend Marine Science Center
- Salmon Recovery in Island County

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, education programs and grant writing, travel, planning, and participating in training opportunities.

MRC Meetings and Communication – The MRC met regularly to discuss business items as well as invite educational presenters. MRC staff prepared and distributed meeting agendas and minutes.

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

Website – The MRC has maintained a website (www.islandcountymrc.org) containing information on past and upcoming meetings, and current and completed projects. The website was regularly updated with meeting agendas and approved minutes, as well as current news and announcements.



Annual Workplan – The MRC developed a work plan to guide the work and priorities of the MRC for the 2015-2016 year.

Training – MRC members and staff were encouraged to participate in trainings relevant to the MRC's goals and projects. 9 members attended the annual MRC conference. 3 members attended Sound Waters. 5 members attended a forage fish survey training. MRC staff developed an orientation presentation and manual for new members. 3 new members received the orientation presentation and manual.

Representation at NWSC Meetings – Lenny Corin served as the Island MRC representative to the NWSC through July 2015. Ed Adams was appointed as the new representative in July. The Representative or Alternate attended monthly meetings with the NWSC to maintain connection and collaboration with the NWSC and other MRCs.

Local Integrating Organization – MRC member Joe Hillers and MRC staff participated in Island LIO meetings, and regularly provided updates on the ILIO to the MRC.

Eelgrass

Goal: ✧ Monitor eelgrass in Island County for changes, disease, and destruction.



Photo credit: Gregg Ridder

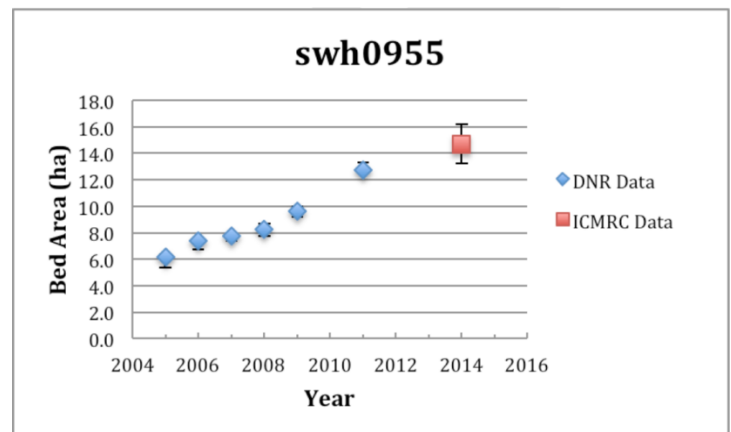
The MRC has been monitoring eelgrass through aerial photography and underwater videography since 2007. Monitoring locations include 3 core sites: Cornet Bay, Penn Cove, and Holmes Harbor. Each year the remaining sites are chosen in consultation with WA DNR.

The Puget Sound Partnership has identified eelgrass as a vital sign, and its recovery as a 2020 Target. The raw data the MRC gathers is shared with WA DNR for processing and comparison with DNR eelgrass monitoring programs.

Several sites identified by WA DNR to have increasing eelgrass bed areas were confirmed by MRC data, as shown in the figure below of a site west of downtown Langley.

Accomplishments

- ✧ Conducted submerged video monitoring at 10 locations
- ✧ Completed aerial photography of entire Whidbey Island coast and portions of Camano Island
- ✧ Analyzed data from 2014 monitoring sites and shared with WA DNR



What's Next?

2016 sites will be chosen in consultation with the MRC and WA DNR. Aerial photography of bull kelp beds will be added as a new focus for aerial photography in collaboration with the MRC's planned kelp monitoring project.

Forage Fish

- Goals:** ✧ Develop a monitoring strategy and sampling plan to contribute to a comprehensive understanding of where and when forage fish spawning occurs in WRIA 6.
- ✧ Integrate forage fish beach spawning assessments into shoreline protection and restoration projects in Island County.



Photo credit: Caroline Gibson

The MRC has been involved in forage fish spawning studies since its inception in 1999. This year marks the start of training and equipping volunteers to conduct forage fish surveys on their own. This will allow the MRC to work towards its goal of documenting and understanding forage fish use of Island County beaches, and to respond to needs for forage fish surveys in relation to shoreline protection and restoration projects. Volunteers are now prepared to conduct surveys using the traditional winnowing method as well as a new vortex method. A survey plan including monitoring schedule and locations is being developed in consultation with Dan Penttila.

Forage fish spawn surveys conducted at Cornet Bay during June through August found that while the restoration site exhibited suitable surf smelt spawning habitat in multiple locations, no eggs were found this summer.

Accomplishments

- ✧ 8 volunteers received training by WDFW on conducting forage fish surveys
- ✧ Acquired equipment to conduct surveys with the vortex method and winnowing method
- ✧ Developed initial framework for survey plan
- ✧ Contracted forage fish surveys at Cornet Bay
- ✧ Developed Quality Assurance Project Plan

What's Next?

With a group of trained volunteers and initial information gathered for the development of a forage fish survey plan in Island County, the MRC is now ready to start using citizen scientists to document forage fish spawning in Island County.

Pigeon Guillemot

- Goals:**
- ✧ Monitor pigeon guillemots for population numbers, type of prey delivered to young, and breeding success.
 - ✧ Educate volunteers and public on pigeon guillemots, and the importance of nearshore habitat, including bluffs and marine waters.

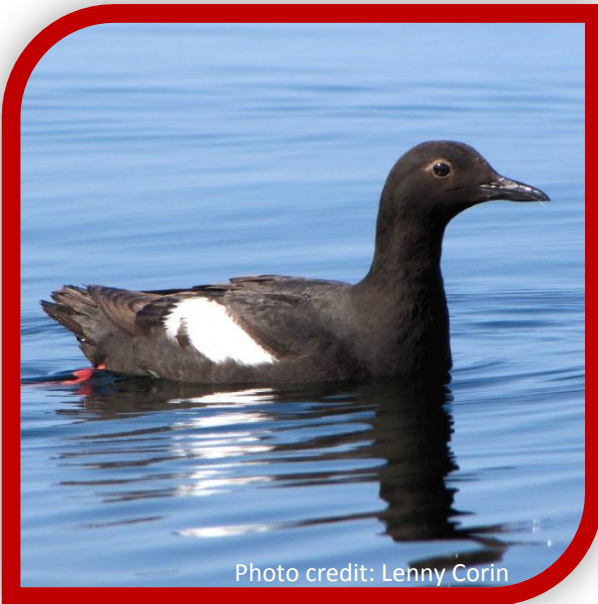
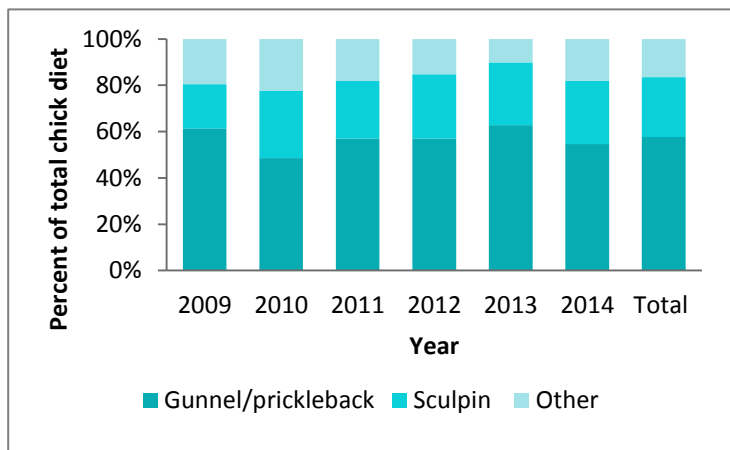


Photo credit: Lenny Corin

The MRC, in partnership with the Whidbey Audubon Society, has been studying the populations of pigeon guillemots on Whidbey Island since 2008. Pigeon guillemots are one of the few seabirds regularly breeding in Puget Sound. Monitoring their population numbers, selection of breeding sites, and prey selection can help indicate changing conditions in the birds' environment. Pigeon guillemots breed in tall erosional bluffs. Educating the public about these colony nesting birds highlights the importance of caring for our marine habitat.

The chart below shows the annual composition of prey type delivered to pigeon guillemot chick burrows.



Accomplishments

- ✧ Conducted in-depth surveys of 2 pigeon guillemot communities
- ✧ Updated and printed educational brochure
- ✧ Revised article summarizing project for publication in peer-reviewed journal

What's Next?

The work of the summer researcher allows us to explore individual pigeon guillemot communities in-depth. For the upcoming year, the colonies to study in greater detail will be chosen in consultation with the 2015 results. Future in-depth surveys are planned to provide data for analyzing the chick fledging trends at the selected sites.

Seining

Goal: ✧ Monitor for juvenile salmon and other species' use of nearshore habitat in Cornet Bay through beach seining.



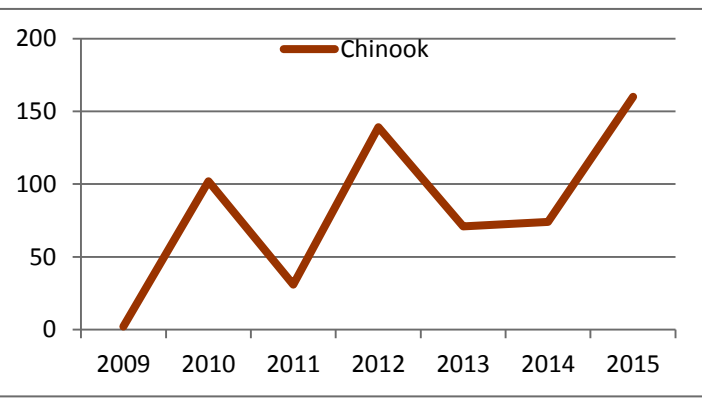
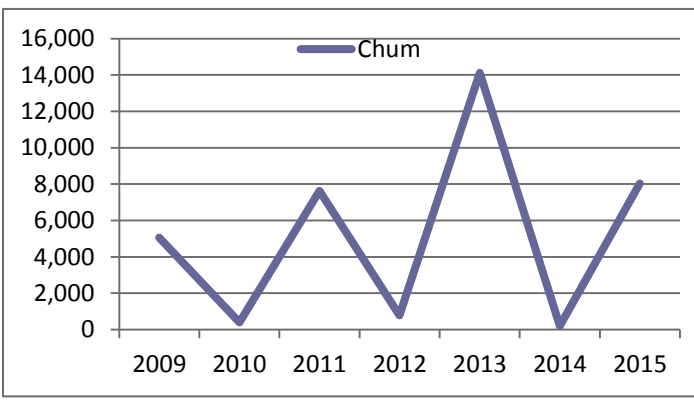
The MRC, in partnership with WSU Beach Watchers, has been seining at Cornet Bay since 2009 to track the progress of the restoration project being completed there. Seining is planned to continue for 3 years after the completion of the restoration work.

Seining volunteers received a training in February, and conducted beach seines every 2 weeks from late February to early June for a total of 8 seines. Beach seine sets were conducted at 10 established locations for a total of 79 beach seine sets during the 2015 monitoring season.

The charts below show the total count of juvenile chum and Chinook salmon tallied during beach seines at Cornet Bay from 2009-2015.

Accomplishments

- ✧ 50 volunteers received training
- ✧ Conducted 8 beach seines at Cornet Bay
- ✧ 2014 and 2015 data were analyzed and compiled into reports



What's Next?

Seining will continue at Cornet Bay in 2016 to monitor the use of this area by salmonids and other species in response to restoration efforts. We will also conduct beach seines at Ala Spit, where a restoration project is underway.

Phytoremediation

Goal: ✧ Evaluate phytoremediation system for its effectiveness at removing contaminants from the Coupeville Treatment Plant output.



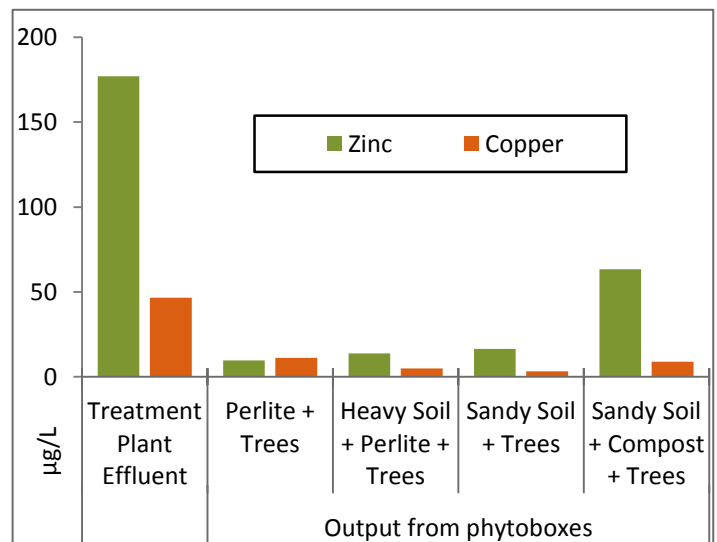
Photo credit: Joe Hillers

The MRC tested the effectiveness of phytoremediation – the use of plants and soils to remove contaminants from water – to remove heavy metals from treatment plant effluent. Trees were planted in boxes along with one of four different soil types. These “phytoboxes” were watered with effluent from the Coupeville Treatment Plant. The outflow from the phytoboxes was compared with the treatment plant effluent.

The results indicated a decrease in copper, lead, tin, and zinc in the phytobox outflow. The chart below shows the levels for zinc and copper in the treatment plant effluent compared to the output from the four types of phytoboxes.

Accomplishments

- ✧ Collected and tested samples of treatment plant effluent and outflow water from phytoboxes for metals content
- ✧ Presented results to Town of Coupeville Mayor and Council members
- ✧ Wrote report summarizing 5 studies on the effectiveness of phytoremediation to remove contaminants from water



What's Next?

The MRC plans to partner with Whidbey Island Conservation District (WICD) on a project designed to put knowledge gained from monitoring and phytoremediation studies into practice. WICD will develop preliminary designs for systems to improve the quality of the water discharging from Ebey's Prairie into Puget Sound. The MRC will partner to conduct before and after monitoring, and provide comment on the preliminary designs.

On the Horizon

In addition to the continuation and development of existing projects as highlighted throughout this report, the MRC is looking forward to focusing on the following monitoring, outreach, and restoration projects in the 2015-2016 year.

Kelp Monitoring

The MRC will monitor presence and density of bull kelp at selected sites using the boat-based survey methods developed by Emily Bishop for the NWSC. This is a new project coordinated across four MRCs by the NWSC, with a long-range goal of building capacity to assess and monitor kelp beds.

The MRC conducted initial field trials in two-person teams at three sites. Teams shared data, observations, and suggestions for protocol modifications. These will be shared with the NWSC in an assessment meeting.



Photo credit: Linda Rhodes

Kelp Outreach

The MRC will engage in outreach to kelp harvesters and the general public on the importance of and techniques for sustainable kelp harvesting, as well as general information about kelp forests, why we study them, how kelp forests are being studied around Whidbey Island, and why they are important ecologically.

This project is tied to a kelp and macroalgal harvest assessment project that Whidbey Watershed Stewards and WA DNR are leading. Intertidal belt transect surveys were conducted to estimate the abundance and biomass of target harvestable species, and the impact of sustainable vs unsustainable harvest practices. Additionally, an interviewer conducted outreach and education efforts with the harvesters while the intertidal surveys were underway. A total of five sampling and survey days were held in 2015. The results from this project will help inform the messaging and methodology for the MRC's outreach efforts.



Photo credit: NWSE

Cornet Bay

Cornet Bay was identified by the MRC as a priority restoration project in 2006, and has progressed in a phased approach with several partner organizations to restore the shoreline to a natural beach condition. The MRC's role in this phase of the project is focused on native planting and maintenance and ongoing monitoring. A monitoring plan will be developed to include the work the MRC has already been conducting at Cornet Bay as well as assessment of beach characteristics.