N®RTH SOUND STEWARDS





Introduction and Community Science Opportunities





Every little bit helps keep our shorelines the best in the world, and I hope that even during difficult times, **the shared love for the sea can keep people together.**

-Cameron, NSS volunteer, 2021

Dear community scientist,

Welcome to North Sound Stewards!



You're here because you care about our oceans, beaches, and the life that depends on them. The work you'll do with North Sound Stewards will help inform policy critical to protecting salmon, local fisheries, endangered orca whales, important scenic and recreational areas, and more to help fill data gaps that wouldn't otherwise be filled by natural resource agencies. We quite literally couldn't do it without you. Thank you.

This program aims to serve our community as a hub for community science, pairing you up with the best fit for you while recognizing your dedication! There are opportunities for every skill set, from kayaking to data entry to photography.

Through this program, we hope to match you with the level of involvement you are looking for — whether you prefer being a social butterfly and checking out a little of each program, or taking on a leadership role to ensure monthly data is collected and managed. Each participant should try to reach the goal of 25 hours over the next year. You may participate in as many skill-building opportunities and monitoring events as you would like and continue to log your hours. You may participate in as many trainings as you want, but need to balance trainings with field work or other active participation. There is no minimum for training hours.

As we continue to grow our program, we appreciate your help along the way with any feedback. See you on the beach soon!

Sincerely,

Eleanor Hines, North Sound Waterkeeper / Lead Scientist, RE Sources **Glen "Alex" Alexander**, Member, Whatcom Marine Resources Committee

RE Sources and the Whatcom Marine Resources Committee are proud to support the North Sound Stewards Program along with our partners, Northwest Straits Initiative, the Cherry Point and Fidalgo Bay Aquatic Reserve Citizen Stewardship Committees, and the Northwest Straits Chapter of the Surfrider Foundation.

Locations: Beaches in Whatcom and Skagit counties.
Expected Hours: Varies, generally about 5 hours per survey.
Trainings: 4.5 hour trainings around April or May each year.
Dates: Two per Aquatic Reserve (Cherry Point and Fidalgo Bay) each summer between May and August.
Description: Since 2013, intertidal monitoring surveys have collected data on beach elevation profiles along with species presence/

absence and abundance. Volunteers mostly help with species percent covers and counts in the quadrats. Lead naturalists are present to help answer any questions. This is part of a long-term monitoring project.

Tasks: Photography of surveys and/or for quality control purposes, scribes to record data, identification of species including counts and percent cover estimates, elevation profiles, survey set up and break down, data entry.

Partners: Cherry Point and Fidalgo Bay Aquatic Reserves Citizen Stewardship Committees, RE Sources, Whatcom Marine Resources Committee, Northwest Straits Foundation, Washington Department of Natural Resources, and funding support

FORAGE FISH MONITORING



Location: Little Squalicum Beach, Bellingham.

Expected Hours: 2.5 hours per month.

Trainings: 8-hour training with WDFW required to lead a site; may show up and learn alongside trained and approved site lead.

Dates: Variable once per month, at below +5ft tide heights once per month.

Description: Help us collect scoops of substrate from sites, then process them to find out how many forage fish eggs there are at our local beaches.

Tasks: Scribes, scoopers, photographers, winnowers, and more.

Partners: Whatcom Marine Resources Committee, Washington Department of Fish and Wildlife and funding support.



Location: Wildcat Cove at Larrabee State Park.

Expected Hours: Various.

Trainings: Learn as you go with the help of monitoring leads. **Dates:** May through September.

Equipment or skills needed: None!

Description: The Whatcom Marine Resources Committee is developing education and outreach materials to raise awareness of the impacts of propeller damage and low-tide launching activities to eelgrass meadows, and is seeking volunteers to help with outreach at the park. They aim to be active in the area to share education and outreach materials to boaters using the boat ramp at low tide as well as collect park usage information to help understand the extent of the issue as well as potential solutions.

Partners: Whatcom Marine Resources Committee, RE Sources and others.

PLASTICS MONITORING



Locations: Beaches, lakes, rivers, and streets near you! **Expected Hours:** About 1-5 hours per survey, or whatever works for you on your own.

Trainings: None needed for some apps; provided as available. **Dates:** Variable, once per month.

Equipment or skills needed: Use NOAA Marine Debris App, Clean Swell App, or Water Reporter App to log observed marine debris issues on your own or at cleanups; COASST Marine Debris training will also be offered to conduct monthly monitoring at designated beach location; EPA Escaped Trash Assessment (ETAP) protocols may be conducted at beach cleanups.

Description: When you go to your local beach, take out your smartphone and log what marine debris you find. This will help NOAA assess what and where marine debris is accumulating to help better understand how we can start tackling this issue better. We're using a variety of other protocols, which will help determine policy actions that can better manage plastics entering our waterways.

Partners: RE Sources and various others depending on project.

BACTERIA POLLUTION



Locations: Various places around Whatcom County.

Expected Hours: Varies; monthly sampling takes about 1-3 hours. **Trainings:** Learn as you go with the help of monitoring leads or get trained to monitor your own site with a volunteer buddy.

Dates: Year-round, usually once per month.

Equipment or skills needed: Will be wading up to knees in ocean water, so waders or tall boots are helpful.

Description: Various projects need water samplers like you! The Whatcom MRC needs help collecting samples with the hopes of safely reopening Chuckanut Bay for shellfish harvest, as part of the <u>Chuckanut Pollution Identification and Correction Program</u>. Work is split between collecting samples via kayak and wading into streams. <u>Surfrider's Blue Water Task Force</u> is seeking volunteers who can adopt a site to sample monthly. Volunteers will wade to collect samples and analyze them in the lab. Surfrider will follow up with any identified bacteria problems. The <u>Ecology BEACH Program</u> needs weekly samplers at wadable beaches in the summer to make sure beaches are safe for recreation.

Partners: Whatcom Marine Resources Committee, Whatcom County, Surfrider, WA Dept. of Ecology and others

SEA STAR MONITORING



Locations: Neptune Beach/Cherry Point and Clayton Beach. **Expected Hours:** About 2 hours per survey.

Trainings: Train on-site with other experienced people.

Dates: Generally monitored once in summer and once in winter. **Equipment or skills needed:** Will learn to identify, categorize, and measure sea stars.

Description: At a selected site, identify and measure all sea stars on the surface that are visible. Each sea star is assessed for degree of sea star wasting syndrome. These happen at low tide, which often mean they'll be done alongside Intertidal Monitoring in the summer during the day, but will be a night time at low tide sometime between November and January under a full moon. Data goes into a larger database to compare sea stars up and down the west coast to help scientists figure out sea star wasting syndrome patterns and whether or not populations are recovering.

Tasks: Identify, count, measure, and assess health of sea stars, photography, scribes.

Partners: RE Sources, Cherry Point Aquatic Reserve Citizen Stewardship Committee, Mt. Baker Sierra Club, Multi-Agency Rocky Intertidal Network, UC Santa Cruz, and funding support



Locations: North Chuckanut Bay, Marine Park, Drayton Harbor. **Expected Hours:** 2.5 hours for two consecutive days each month (or 5 hours total/month).

Trainings: 8-hour training provided by WA Sea Grant, or refresher course for those returning.

Dates: TBD two consecutive days per month at low tide for about 2 hours each day. Monitoring occurs April–September.

Equipment or skills needed: Boots or waders, learn species identification and percent cover estimations.

Description: Help out with early detection of these invasive crabs. Traps are set out once per month at a low tide. The next day, participants identify and count species found in the traps and report back to WA Sea Grant. If a green crab is found, further action will be taken. Surveys also include wrack and carapace surveys.

Tasks: Scribe, identification of species, quadrat work, photography, and more.

Partners: WA Sea Grant, Whatcom Marine Resources Committee, RE Sources and funding support

MARINE BIRD MONITORING



Locations: Cherry Point and Fidalgo Bay.

Expected Hours: 3 hours per survey each month.

Trainings: 5x3-hour classes with a test to be a counter offered in August; other tasks available to those not able to do or pass the training **Dates:** TBD once per month September through May.

Equipment or skills needed: Bird identification and counting skills appreciated, though there are tasks for everyone.

Description: Bird populations have been changing throughout Puget Sound since the 1970s. Help us replicate the MESA studies to compare current marine bird populations and see how they may be changing over time. These studies can also help us compare trends on the regional level to other Puget Sound studies.

Tasks: Scribe, counter (ID and count bird species), spotter (assists counter).

Partners: Cherry Point and Fidalgo Bay Aquatic Reserves Citizen Stewardship Committees, RE Sources, Washington Department of Natural Resources, and funding support

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Locations: Stormwater outfalls around Bellingham Bay.

Expected Hours: About 2-5 hours per month.

Trainings: Learn as you go with the help of monitoring leads. **Dates:** Year round, on weekdays.

Description: Because no one else was, RE Sources started sampling several stormwater outfalls around Bellingham Bay in 2021 for several water quality measurements, such as temperature, dissolved oxygen, conductivity, and bacteria. Data is made available in the Water Reporter App. Some outfalls are sampled by land while others are sampled by water and are dependent on lower tides. **Tasks:** Help collect samples, take photos, or scribe. Bring your own

boat or join us in a canoe on the bay, or just join us on land.

Partners: RE Sources



Locations: Throughout Whatcom County.

Expected Hours: About 5 hours per cleanup and sorting **Trainings:** Learn as you go with the help of monitoring leads. **Dates:** Year-round.

Description: Plastics and other trash escape into the landscape and end up in our waterways, creating pollution problems and hazards to humans, animals, and environmental health. These protocols developed by the EPA help collect data that can inform policy and regulation to better address the trash pollution issues we witness. **Tasks:** Help pickup trash from a designated area, sort trash, count and weigh trash, photography, scribe.

Partners: RE Sources, Zero Waste Washington, and others.

BULL KELP MONITORING



Locations: Lummi Island, Cherry Point, Alden Bank. **Expected Hours:** 4 hours or up to 1 weekend for surveys. **Trainings:** TBD in June or July.

Dates: End of July through September.

Equipment or skills needed: Must be a competent kayaker and have your own boat for these surveys.

Description: There is little kelp data that exists, especially for Puget Sound. These surveys entail visiting the same kelp beds annually to take the perimeter by GPS, temperature, depth, photos, and a number of other measurements to compare how our local kelp beds are changing year to year in different parts of Puget Sound. These surveys are also being compared with drone surveys and other surveys to better understand strengths and weaknesses of survey methods. **Tasks:** GPS tracking, scribe, photographer, and more.

Partners: Whatcom Marine Resources Committee, Northwest Straits Commission, and funding support



Locations: Cherry Point Aquatic Reserve/Birch Bay in Whatcom and Fidalgo Bay in Skagit.

Expected Hours: 2 hours once every 1- 3 months September through May; 2 hours per week June through August.

Trainings: 5 hours with Department of Natural Resources as scheduled or tag along with someone already trained.

Dates: TBD, dependent on tides.

Equipment or skills needed: Boots or waders, possibly a kayak to swap sensors at higher tides.

Description: Swap out sensors from the Cherry Point/Birch Bay site every few months, clean sensors, and help collect data during the summer months on eelgrass, spat recruitment, oyster growth, and more. Department of Natural Resources has ocean acidification sensors at several sites around Washington State and needs your help with getting to all of the sites. These sensors collect continuous data on pH, temperature, chlorophyll, and other important parameters to better understand how ocean acidification may be impacting our nearshore marine environments and if/how eelgrass beds may be able to provide important refuge for organisms like shellfish larvae. **Tasks:** Kayaking/paddling, GPS/location skills for finding the sensors in open water, count eelgrass, deploy spat tiles, scribe, and more.

Partners: Cherry Point and Fidalgo Bay Aquatic Reserves Citizen Stewardship Committees, RE Sources, Washington Department of Natural Resources, and funding support

OLYMPIA OYSTER RESTORATION INTERTIDAL MONITORING



Locations: North Chuckanut Bay. Expected Hours: 5 hours; only one survey per year. Trainings: TBD Dates: Low tides in May. Equipment or skills needed: Boots

Description: Help us assess and monitor our Olympia Oyster restoration project. There will be opportunities to help collect data to monitor this project to determine the success of re-introducing Olympia Oysters to North Chuckanut Bay where they once grew. There's a shell midden at Woodstock Farm full of Olympia Oyster shells from times past.

Tasks: Intertidal surveys, elevation profiles, and assessing oyster recruitment.

Partners: Whatcom Marine Resources Committee and funding support.