NORTH SOUND **STEWARDS**

Introduction and Community Science Opportunities

MRC Whatcom County

RE SOURCES

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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 Baykeeper and Lead Scientist, RE Sources*
Glen "Alex" Alexander, *North Sound Steward Project Champion, 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.

INTERTIDAL MONITORING

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: May through August. Make sure to read the monthly email newsletter for dates and details.
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

Locations: Little Squalicum Beach, Marine Park, Aiston Preserve on Lummi Island.
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.

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, trainings provided as available.
Dates: Variable, once per month.
Equipment or skills needed: NOAA Marine Debris App or Clean Swell App to ID marine debris and enter into app on beach, or training will be provided as available for other projects such as COASST, EPA ETAP, and microplastics.
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 partners depending on project.

BLUE WATER TASK FORCE

Locations: Larrabee State Park, North Chuckanut Bay, Mouth of Padden Creek, Squalicum Beach, Locust Beach, Nooksack Delta.
Expected Hours: 2 hours day 1 and 30 minutes the following day once per month.
Trainings: Field training and lab training.
Dates: TBD, once per month.
Equipment or skills needed: Will be wading up to knees in ocean water; water quality sampling and lab skills will be gained.
Description: Sample at one of the sites once per month. Participants can take a lead role on a site or help as needed. Each site has two people who sample monthly for enterococcus bacteria, an indicator of whether the water is safe for recreation. When high counts occur, action will be taken to identify sources of pollution. This water quality program includes everything from collecting samples in the field, doing all of the lab work, and posting the results online.
Tasks: Field sampling, lab work, data entry, pollution identification and control.

Partners: Northwest Straits Surfrider Chapter

CHUCKANUT POLLUTION IDENTIFICATION AND CONTROL (PIC) PROGRAM

Location: North Chuckanut Bay.
Expected Hours: 2 hours per sampling event, once or twice per month.
Trainings: Train as you sample with someone experienced
Dates: TBD once or twice per month dependent on tides.
Equipment or skills needed: kayak, paddle gear, and paddling skills; may help out with land-based samples from freshwater; learn to take water quality samples for fecal coliform bacteria and take salinity and temperature measurements.
Description: North Chuckanut Bay has been closed to shellfish harvest for decades due to high bacteria levels. Help collect data to determine what the sources of pollution may be in order to possibly open up the area to recreational shellfish harvest.
Tasks: Water sampling, scribe.

Partners: Whatcom Marine Resources Committee, Whatcom County, and funding support

SEA STAR MONITORING

Locations: Neptune Beach and Clayton Beach, Cherry Point.
Expected Hours: About 2 hours per survey.
Trainings: Train on-site with other experienced people.
Dates: Each site 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

GREEN CRAB MONITORING

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.
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

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 Initiative, and funding support

OCEAN ACIDIFICATION MONITORING

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 tide in August.
Equipment or skills needed: Boots
Description: Help us assess and monitor our Olympia Oyster restoration project. We are still compiling the monitoring plan, but there will be plenty of opportunities to help us 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.

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