

County: **Skagit County**
Grant No: **SEANWS-2014-SkCoPW-00003**

PROJECT TITLE: **Northwest Straits Project: Skagit County MRC Operations and Projects**

TASK NUMBER: **Task 3: Salish Sea Stewards/Beach Naturalists**

DELIVERABLE: **#3.6 Salish Sea Stewards Summary Report and #3.7 Beach Naturalist Interpretive Program**

PERIOD COVERED: **Oct 1, 2014 – September 30, 2015**

DATE SUBMITTED: **September 15, 2015**



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Summary of the Skagit Marine Resources Committee Salish Sea Stewards & Beach Naturalist Programs Volunteer Training & Coordination

Skagit County Grant No: C20140521

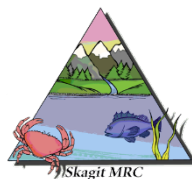
Covering the period of January 1- September 9, 2015

Submitted on September 9, 2015

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Coastal Volunteer Partnership at Padilla Bay



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Accomplishment of Tasks and Deliverables

In 2015, the Skagit Marine Resources Committee Salish Sea Stewards volunteer training and Beach Naturalist programs were coordinated as part of the Coastal Volunteer Partnership at Padilla Bay, henceforth referred to as the CVP. The CVP is a collaborative volunteer program increasing local citizen capacity to protect and restore natural resources along Skagit County's shorelines. The program is administered by the Padilla Bay Foundation, and the Volunteer Programs Coordinator is headquartered out of the Padilla Bay National Estuarine Research Reserve as an employee of the Padilla Bay Foundation. The CVP program was founded in 2014 by concerned citizen volunteers, non-profit entities, county, and state agency partners. The primary goal was to serve as an administrative umbrella for recruiting and managing volunteers for marine or coastal research, restoration, and education projects. Currently the CVP manages more than 100 individual Skagit County resident volunteers, who have collectively provided more than 2,000 hours of volunteer service in 2015 to local and regional organizations that protect, conserve or enhance the Salish Sea ecosystem.

Below is a summary of the 2014-2015 budget. The contract agreement was not in place until January 1, 2015, which significantly affected the number of hours the CVP coordinator could bill. To add to the continued development of the Salish Sea Stewards and Beach Naturalist programs, more money was spent on supplies than will be in future years.

Breakdown of 2015 budget cycle

	MRC	% of Total Budget
Hours	515	
Salaries	\$11,881.06	66%
Supplies	\$4,224.23	23%
Travel	\$112.56	1%
Subtotal	\$16,217.84	90%
Indirect (15%)	\$1,782.15	10%
TOTAL	\$18,000.00	
Total allotted	\$18,000.00	100 %
Amount remaining	\$0.00	

Task 1: Salish Sea Stewards Program Development Summary

Program planning for the 2015 Salish Sea Stewards Program training began in January 2015 due to a delay in the contract approval process. Two Skagit MRC representatives, the Skagit MRC Administrator, and the CVP Volunteer Programs Coordinator made up the program planning committee. Utilizing the evaluations from the Skagit MRC's 2014 Salish Sea Stewards pilot program, the planning committee modified the curriculum and training materials to be consistent with marine science topics relevant to issues impacting the Salish Sea. Topics were reflective of priorities of the Skagit MRC and the Northwest Straits Commission. The training was taught by field specific experts, including 3 Skagit MRC members, and 2 Northwest Straits Foundation employees.

The training program was 30 hours of classroom presentations and 10 hours of field trip and/or hands-on training. Classroom sessions were held at the public meeting room at the Padilla Bay National Estuarine Research Reserve in Mount Vernon. Sessions were every Thursday starting March 5 - April 30, 2015. Each classroom session was 3-6pm with 2 speakers and time for breaks and group mingling. 3-6 PM. Three field trips were conducted to learn about coastal restoration, impacts of ocean acidification on local species, and estuary ecology. MRC project specific field trainings for intertidal monitoring, forage fish sampling, and beach seining were offered by partners including the Northwest Straits Foundation at varying times and locations. A schedule of the field training options was provided to participants as details were made available. Participants were asked to choose trainings based on their personal interests to complete their volunteer service and availability.

The primary goal of Salish Sea Stewards program was to increase participant awareness of the marine environment and the creatures that live there, foster stewardship, and build a strong volunteer base of citizen scientists to support Skagit MRC, and partner projects and increase the visibility of the Skagit MRC providing volunteers with a solid background in citizen science to help meet the needs of the Skagit MRC projects. An evaluation plan was developed by the CVP Coordinator and implemented as appropriate.

Supporting documents:

- 1a. 2015 Salish Sea Stewards Curriculum
- 1b. 2015 Salish Sea Stewards Evaluation Plan
- 1c. 2015 Salish Sea Stewards Class Session Evaluation Form
- 1d. 2015 Salish Sea Stewards Statistics and Class Evaluation Summary
- 1e. 2015 Salish Sea Steward Participant Letter of Support

Task 2: Salish Sea Stewards Recruitment and Training Summary

Recruiting efforts for the 2015 Salish Sea Stewards volunteer training program began in January with the CVP Open House on January 30. Announcements for the Salish Sea Stewards Program went out through local media outlets including, newspaper articles, posters, newsletters, websites, the local college, social media, and word of mouth. Applications were made available on the Skagit MRC website, and in hard copy. The CVP coordinator received and reviewed volunteer 28 individual applications. Of that, 3 individuals had to remove themselves from the program before the first class due to personal scheduling conflicts. The application indicated that the primary way participants learned of the course was word of mouth and advertising in the local papers. Only 2 of the 25 participants in the 2015 training class had previously taken the WSU Beach Watchers training. All 25 individuals who began the program completed the Salish Sea Stewards training program. There were 9 three hour classroom sessions. The average attendance for all classes was 23, with 17 of the 25 participants attending all the classroom session. A potluck and celebration for completion was held on April 30, 2015. Ginny Broadhurst of the Northwest Straits Foundation offered a presentation and congratulations to the participants. All who completed the course received a lapel pin with the Salish Sea Stewards logo.

Supporting documents:

- 2a. 2015 Salish Sea Stewards Poster
- 2b. 2015 Salish Sea Stewards Application
- 2c. 2015 Salish Sea Stewards Roster of Training Participants
- 2d. 2015 Salish Sea Stewards Post-course Participant Survey
- 2e. CVP Open House Announcement in Skagit Valley Herald
- 2f. February Clamdigger Ad
- 2g. My Fidalgo Front Page Column
- 2h. Intertidal Training Story in Anacortes American

Task 3: Volunteer Coordination Summary

Volunteers were asked to commit 50 hours of volunteer services to help with Skagit MRC and other partner projects within one year. Due to the fact that the CVP Coordinator cannot be physically present at all MRC activities, volunteers were asked to utilize Volgistics, an online volunteer database and tracking system. This system allows volunteers to record service hours, be notified of volunteers of needs, sign-up for schedule openings, and send messages to the coordinator from any computer with internet access. Utilizing this system, the CVP Coordinator is also able to track service hours for former Beach Watcher volunteers who transitioned into a Salish Sea Stewards to help with MRC and partner projects. To date, the 2015 training class has given over 800 hours to projects and activities that enhance, protect and restore the Salish Sea Ecosystem. Of those hours, more than 445 hours were specific to supporting project of the Skagit MRC and Northwest Straits Foundation projects*. Despite volunteer training sessions provided during the

Salish Sea Stewards program and in several subsequent sessions in May 2015, many graduates are still unaccustomed to recording their service hours. The CVP Coordinator estimates that the number of service hours for the class of 2015 to be much closer to 700 hours specifically for MRC projects and activities. Ongoing trainings to familiarize volunteers with the online database will be provided, and a plan for improving this process is in discussion with members of the planning committee for 2016.

**Does not include volunteer time for Fidalgo Bay Day*

Supporting documents:

3a. Volgistics Report-Salish Sea Stewards Volunteer Service Hours for CVP and Partner Activities

3b. Volgistics Report- Salish Sea Stewards Volunteer Service Hours for MRC Projects & Activities

Task 4: Beach Naturalist Coordination Summary

The primary goal of the Beach Naturalist program at Washington Park is twofold; to educate visitors about stewardship behaviors that prevent the harm and destruction of intertidal and rocky habitat in the Salish Sea, while also adding value to the visitor experience by offering a unique lens to better appreciate these ecosystems. While the goal remained the same, the overall structure of the Washington Park Beach Naturalist program in 2015 was markedly different than in the previous year. Rather than trying to make connections and coordinate with school groups for field trips at Washington Park, the grant specified hosting 3 interpretive programs before September. There was also a major shift in the training program. In 2014, a comprehensive multi-week training was advertised widely to the public, whereas 2015 specified a singular refresher training. A notice for training and subsequent program opportunities was made available to all volunteers who had graduated from the 2014/2015 Salish Sea Stewards programs, a WSU Beach Watchers training program, the previous MRC Beach Naturalist program, or from another Beach Naturalist program. Despite announcing this program to more than 350 individual volunteers, only 6 people participated in the training. It is worth noting that 5 of them had just completed the 2015 Salish Sea Stewards training. The 6th volunteer participated in the 2014 Washington Park Beach naturalist training. One additional 2014 Beach Naturalist participant volunteered for one of the scheduled programs, but did not attend the training.

The training was comprised of an orientation to Washington Park by Park Manager Bob Vaux. This was followed by a review of the supplies, procedures for filling out the logbook and setting up the station, and a discussion about the role of a volunteer beach naturalist with the CVP Coordinator. Finally, the training offered a guided intertidal exploration of Sunset Beach at Washington Park with Mira Lutz, Community Outreach Specialist with the Shannon Point Marine Center. All volunteers were given a resource packet modified from the materials developed in 2014.

For the 2015 Beach Naturalist program, the coordinator arranged for volunteers to be on-site for 3 hour periods on 10 Saturday's from May-August, during low tides. The 10th program was canceled due to a conflict with Fidalgo Bay Day that did not exist when the schedule of programs was developed. The CVP Coordinator was successful in negotiating with WWU Shannon Point Marine Center to bring their mobile touch tank unit for two special programs on June 20 and July 18. These joint programs yielded the best results in terms of number of visitor contacts. These 6 individual volunteers provided 70 hours of volunteer service to the Beach Naturalist program at Washington Park making over 200 contacts with visitors.

A formal evaluation could not be conducted as 5 of the 6 volunteers were unavailable during the weeks directly following the program. The CVP Coordinator did ask for feedback from both the volunteer and the park manager. All indicated that participating in the program was very beneficial for both visitors and the habitat. The park manager noted that having a presence on the beach seemed to reduce the number of complaints to the park staff about harmful activities on the beach, and creating a meaningful experience for visitors.

Supporting documents:

- 4a. 2015 Beach Naturalist Roster
- 4b. 2015 Beach Naturalist Resource Packet
- 4c. 2015 Beach Naturalist Program Schedule
- 4d. A-Town Beach Naturalist Program Advertisement
- 4e. 2015 Beach Naturalist Evaluation Plan
- 4f. 2015 Beach Naturalist Logbook Sheets

Task 5: Communications

During the 2015 Salish Sea Stewards training, participants received weekly e-mails detailing course content, presentations, additional resources, and special notices. After the completion of the program, the main form of correspondence is through THE WAVE, a bi-monthly bulletin distributed through the CVP. This bulletin now reaches over 280 volunteers, partners, local reporters, and interested community members. The content covers everything from free education and training programs to marine and coastal volunteer opportunities, special events, workshops and more. On more than 1 occasion, reporters have inquired about and written pieces about the work of the Skagit MRC and Salish Sea Stewards from reading THE WAVE. The CVP regularly updates a Facebook Page to post program updates, photos, and announcements, including those of the Skagit MRC and its activities. This page now has more than 50 followers.

The CVP hosts monthly volunteer socials. Volunteer from both Salish Sea Stewards and the Beach Naturalist program are invited to attend. These meetings offer a place for volunteers to provide project updates, give special recognition to volunteers, and create opportunities for the volunteers to get to know one another.

The CVP Coordinator provided quarterly progress reports as requested on January 9, April 9, July 9 and the full summary on September 9 (this document). A final quarterly progress report will be submitted by September 15. The CVP Coordinator attended 3 separate MRC monthly meetings to provide updates to the MRC Coordinator and planning committee. A formal survey to evaluate the Salish Sea Stewards training to assess its overall value to training participants and the MRC, as well as identify possible modifications and present it to the MRC (*see 2d. 2015 Salish Sea Stewards Post-course Participant Survey*), was completed and will be presented to the MRC in October. In June, the CVP Coordinator and MRC planning committee met with the Northwest Straits Commission Director to offer insights on sharing the Salish Sea Stewards training curriculum and supporting program materials with other MRCs at the December MRC conference.

Planning for the 2016 Salish Sea Stewards and Beach Naturalist programs is tentatively scheduled to begin in late October, pending the arrival of funding for the 2015-2016 fiscal year.

Supporting documents:

- 5a. Example of THE WAVE volunteer announcements from the Coastal Volunteer Partnership at Padilla Bay
- 5b. Skagit Valley Herald Article about SSS Volunteers Monitoring at Shannon Point

Lessons Learned & Recommendations

Salish Sea Stewards

There is an absolute benefit to the Skagit MRC and the larger Salish Sea Community from offering a volunteer training program to educate and provide skills to prepare citizens in the stewardship of the Salish Sea. Not only does the program serve as an entry point for citizens to become involved as volunteers, but it creates a web of individuals who can network and advertise MRC projects and events to the larger Skagit County community. In partnering with the Coastal Volunteer Partnership at Padilla Bay, the financial and administrative burden for maintaining a consistent position to coordinate these programs is much reduced. Additionally, by being involved in a centralized hub, MRC volunteers are better able to identify additional training and education resources, and new opportunities to act on their stewardship ethic.

It was agreed by the planning committee that modifications must be made to the curriculum and training schedule to increase the direct benefits to the Skagit MRC. Such changes would include reducing the number of lectures and classroom sessions, and incorporating a “lab” component into the training. For example, a lecture on forage fish would be followed by a volunteer led practicum on the beach to familiarize all volunteers with the procedures in a low risk setting. That way, volunteers would be exposed to the requirements of a given MRC project before having to make commitments to field work they might not enjoy or be physically comfortable with performing. This may require some class sessions to be lengthened, while shortening the duration of the program.

The only other recommendation would be for the MRC to help support the CVP in developing a website to give volunteers access to information about upcoming MRC volunteer trainings and needs. The CVP Coordinator received weekly e-mails and phone calls from confused volunteers who could not find the dates for monitoring events, socials, and training. Many commented that they have accidentally missed activities they would have participated in, simply because there was no central record of information. The most common piece of verbal feedback received during the 2015 Salish Sea Stewards training was that a website would have greatly accelerated the curve for which people learned about, and could engage as a volunteer. While THE WAVE and Facebook page are generally acknowledged as useful, many volunteers have noted that they delete or lose track of e-mails, and can't, or don't want to use Facebook.

Overall, the planning committee felt that the 2015 Salish Sea Stewards program was very successful. The goals of the program were met, and the value of a stewardship based volunteer training meets the larger objectives of the MRC mission.

Beach Naturalists

The planning committee felt that the 2015 Beach Naturalist program was successful, but still needs work. The number of contacts made was not as high as anticipated, especially based on the number of programs offered throughout the summer. Despite the comparatively low number of contacts, it is clear that the beach naturalist program offers an outlet to share the MRC mission and stewardship ethic to an audience that may not normally be reached through workshops or events. Based on several conversations with the park manager, it is felt that offering 2-3 highly structured interpretive programs in partnership with organizations like Shannon Point Marine Center offers the most value to both volunteers and park visitors.

As volunteers cannot be at the beach to educate visitors at all times, the park manager, naturalist volunteers, and CVP Coordinator believe that developing permanent interruptive signage is necessary. Not only would this greatly aid the protection of the nearshore habitat, but it offers the MRC an opportunity to increase its public presence, at a highly visible destination in Skagit County. The planning committee also agrees that incorporating interpretive skills training and invertebrate species identification into the Salish Sea Stewards curriculum will empower volunteers to take on the role of “naturalist”, and increase the overall number of volunteers who would participate in the program.

Contact:

This report submitted on September 9, 2015 by:

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List of Supporting Documents

- 1a. 2015 Salish Sea Stewards Curriculum
- 1b. 2015 Salish Sea Stewards Evaluation Plan
- 1c. 2015 Salish Sea Stewards Class Session Evaluation Form
- 1d. 2015 Salish Sea Stewards Statistics and Class Evaluation Summary
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Images

1-7 Salish Sea Stewards Program
8-10 Beach Naturalist Program

1. 2015 Salish Sea Stewards class graduates from the training program on April 30.



2. Salish Sea Steward graduates and other CVP volunteers monitor for forage fish eggs along Fidalgo Bay.





3. 2015 Salish Sea Steward graduates learn how to seine for juvenile fish from Northwest Straits Foundation staff and veteran volunteers of the Coastal Volunteer Partnership at Padilla Bay.

4. 2015 Salish Sea Steward graduate Anna Hallingstad sets up the Pacific Biodiversity Institute (PBI) display at Fidalgo Bay Day. Anna, a recent graduate, found PBI through her participation in Salish Sea Stewards. She was able to secure part time employment with their organization and continues to volunteer for MRC projects.





5. 2015 Salish Sea Stewards graduate Russ Barger empties a fishing line collection tube to support the Coastal Volunteer Partnership's Skagit Monofilament Recovery & Recycling Program.

6. 2015 Salish Sea Stewards graduate Barbara Lechner utilizes the Trail Tales interpretive display to explain what forage fish are to a group of visiting school children while others conduct pre-restoration monitoring with the Northwest Straits Foundation at Bowman Bay.



7. 2015 Salish Sea Stewards graduates Colleen Ebright and Anna Hallingstad, learn how to identify plankton from Padilla Bay National Estuarine Research Reserve (NERR) staff. Colleen and Anna volunteer to help the NERR sort through samples for their regular monitoring efforts.





8. 2015 Salish Sea Stewards graduate, Jim Gleeson, learns about crab species from Mira Lutz, Community Outreach Specialist as part of the 2015 MRC Beach Naturalist training at Washington Park, Anacortes.



9. The naturalist display table set-up for the first day of the 2015 season at Washington Park, Anacortes.



10. 2015 Salish Sea Stewards graduates and Beach Naturalist volunteers, Maddie Rose and Leon Fisher, volunteering for the Beach Naturalist program at Washington Park in Anacortes.



2015 Salish Sea Stewards Training Schedule

Date	Time	Topic	Presenter	Presenter Affiliation
5-Mar	3:30-4:30	Puget Sound & Salish Sea 101	Rachel Benbrook	Citizen Action Training School & Nooksack Salmon Enhancement Group
5-Mar	4:45-5:45	Introduction to the Skagit MRC & Northwest Straits Commission	Christine Woodward	Northwest Straits Commission & Samish Natural Resources Department
12-Mar	3:15-4:15	Climate Change & Sea Level Rise: Implications for our Future	Eric Grossman	US Geological Survey, Pacific Coastal and Marine Science Center
12-Mar	4:30-5:30	Coastal Geology & Impacts of Hardshore Armoring	Hugh Shipman	Washington Department of Ecology
19-Mar	12:30-2:00	Optional Field Trip: Skagit County Shoreline Restoration- Bowman Bay	Lisa Kaufman	Northwest Straits Foundation
19-Mar	3:15-4:15	Collaborative Restoration & Partnerships in Samish Traditional Territory	Todd Woodard	Samish Natural Resources Department
19-Mar	4:30-5:30	Skagit County Water Quality	Rick Haley	Skagit County Public Works
26-Mar	1:00-2:30	Optional Presentation: <i>Eagles and Otters, Cats and Cars</i>	Shona Aitken	Wolf Hollow Wildlife Rehabilitation
26-Mar	3:15-4:15	Padilla Bay NERR Research & Monitoring Programs	Jude Apple	Padilla Bay National Estuarine Research Reserve
26-Mar	4:30-5:30	Ocean Acidification: Impacts in the Salish Sea	Brooke Love	Western Washington University
2-Apr	11:00-2:00	Optional Presentation: Interpretive Skills 101	Nancy Olsen	Trail Tales
2-Apr	3:15-4:15	Puget Sound Shellfish Restoration & Recovery	Brian Allen	Puget Sound Restoration Fund
2-Apr	4:30-5:30	Shoreline Master Programs & Clean Healthy Waterways	Heather Trim	Futurewise

9-Apr	1:00-3:00	Optional Field Trip <i>Padilla Bay Mudflat Tour (limit 35)</i>	Alex Alexander	Padilla Bay National Estuarine Research Reserve
9-Apr	3:15-4:15	Marine Invertebrates	Brian Bingham	Western Washington University-Shannon Point Marine Center
9-Apr	4:30-5:30	Forage Fish 101	James Selleck	Skagit Marine Resources Committee
16-Apr	3:15-4:15	The Anacortes Baywide Clean-up	Arianne Fernandez	Washington Department of Ecology
16-Apr	4:30-5:30	Estuaries and Salmon	Alison Studley	Skagit Fisheries Enhancement Group
23-Apr	1:00-2:30	Optional Field Trip <i>Visit to Taylor Shellfish (limit 35)</i>	Nicole Gilmore	Taylor Shellfish Company
23-Apr	3:15-4:15	Stormwater 101 & What You Can Do	Lee First	Re-Sources for Sustainable Communities
23-Apr	4:30-5:30	Native and Invasive Nearshore Plants	Sharon Riggs	Padilla Bay National Estuarine Research Reserve
30-Apr	3:15-4:15	Puget Sound Partnership	Alicia Lawver	Puget Sound Partnership
30-Apr	4:30-5:30	Northwest Straits Marine Conservation Initiative	Ginny Broadhurst	Northwest Straits Commission
30-Apr	5:30-6:30	Celebration of course completion!		All welcome to attend

Salish Sea Stewards training consists of 30 hours of classroom presentations and 10 hours of field trip and/or hands-on training. Classroom sessions will be held at Padilla Bay Reserve, 10441 Bayview-Edison Road, Mount Vernon every Thursday, March 5 - April 30, 3-6 PM. Field trainings will be offered at varying times and locations. A schedule of available field training options will be provided in the first weeks of class. Participants will choose trainings based on their personal interests to complete their volunteer service and availability.

Questions may be directed to Catherine Buchalski at cbuchalski@padillabay.gov, or by phone (360) 428-1559.

Salish Sea Stewards Volunteer Training is a project of the Skagit Marine Resources Committee, and coordinated as part of the Coastal Volunteer Partnership at Padilla Bay. This training has been funded in part by the United States Environmental Protection Agency through the Puget Sound Partnership and Northwest Straits Marine Conservation Initiative.

Program Title:**Salish Sea Stewards Volunteer Training**

PROGRAM / CURRICULUM			EVALUATION		
1. GOAL	2. OBJECTIVES	3. DESCRIPTION	4. QUESTIONS	5. SOURCE OF DATA	6. METHODS OF DATA COLLECTION
1. Increase participant awareness of the marine environment 2. Encourage positive environmental stewardship behaviors in participants 3. Engage and support a strong volunteer base to support the Skagit MRC 4. Increase the visibility of the Skagit MRC to the public	1. Recruit and train at least 15 new volunteers by the end of Spring 2015 2. Participants will adopt behavior changes and engage in volunteerism to protect & conserve the Salish Sea 3. Each participant will contribute and document at least 50 hours of service on an MRC or partner project within 1 year from graduation 4. Participants will take action to promote visibility of the Skagit MRC in the public eye	1. Provide 40 hours of free education taught by local and regional experts on priority topics identified by the Skagit MRC and Northwest Straits Commission 2. Encourage course participants to volunteer on Skagit MRC projects through regular and consistent communication 3. Retain participants as volunteers for the Skagit MRC for at least one year	1. Do participants rate themselves as having improved understanding of the course topics? 2. Do participants rate these classes as valuable in terms of: <i>a.</i> Quality of Instruction? <i>b.</i> Relevance of the Content? <i>c.</i> Amount of Instruction? 3. Do participants know how to apply their education to foster behavior change and volunteers? 4. Do participants actively promote the Skagit MRC by wearing their pin, writing articles, or attending events? 5. Do participants stay engaged as with the Coastal Volunteer Partnership for at least one year?	1. Individual course Participants 2. Partner and training committee 3. Coordinator 4. Funder	1. Class Evaluations 2. Field Trip and Class attendance records 3. Number of volunteer hours reported by 2015 class participants on Volgistics database 4. Training committee interviews 5. 6 month online post-course participant survey 6. 1 year post-course participant focus group

2015 Salish Sea Stewards Class Training Evaluation for _____
class date

Please score with a number from 1 (not at all) to 5 (very much so).	Topic/Presenter:	Topic/Presenter:
1. Was instructor prepared and knowledgeable?		
2. Was presentation clear and understand-able?		

3. What was the most valuable information you learned today?

4. What would you have liked to learn more about?

5. How could this session be improved (What could have been covered more quickly, needed more time, and what wasn't covered at all, etc.)

6. Comments

Salish Sea Stewards 2015 Class Statistics and such (5/15)

Overall:

There were **25 class members**. Two (Russ B. and Maddie R.) have taken many parts of similar training in the past. There were 9 class sessions and 5 “extra” sessions. (March 05, 2015 thru April 30.) Some of the extra sessions were held at the classroom, others were field trips. All extra sessions were earlier in the day of a class session.

17 of the 25 attended all the class sessions. Average attendance was 23. 3 people had 1 absence, 4 people had 2 absences, and one person (Russ) had 7. Some of the absences were due to prior commitments. Clearly the class members were motivated to come to class! *(Note: There may have been one or two times when a person just did not sign in – some folks maybe came early to bring snacks or help set up and then got to schmoozing and then the class started!)*

Two of the extra sessions had 16 attendees, two had 13 attendees, and one (Taylor Shellfish) had 9 attendees – not very nice weather. Motivation to come to these was not so high, probably because there was some other specialized training available to meet the overall class requirements. It also made for a long day which could have interfered with prior commitments.

Others attended classes as well – according to the “sign-in” sheet as many as 7 for one class and several with none. The need for “guests” to sign in was not always well understood and no doubt others attended without signing in.

From Evaluations:

General –

Evaluation forms were turned in at the end of each class. A low of 13 and a high of 21 were submitted, with an **average of 17**. (That is about 75% of the attendees.) People wrote many comments. The overall tone and message was extremely positive and encouraging. There were four “last minute fill in” speakers and some of those were noted as not quite as good as most. There was a good balance between “too much” and “wanted more”! There were no comments offered, on the form, about the general class structure or conduct or about refreshments or the facility. So that all must have been “just right”!

Here are some “**nuggets**” that should be addressed next time.

“Too much information – went too fast.” This happened several times and we probably need to do a better job of conveying, to the presenter, the time allotment, the desire to ask questions, and the general level of knowledge the audience has.

“What are the volunteer options?” This was mentioned several times, and at various dates. It would be good to be prepared, for each class, with some discussion, after the talks, about pertinent volunteer opportunities. This will take some front-end work, but will address the issue. It will not necessarily work for the presenters to fully cover that, because some do not know the situation locally.

“Keep the back lights on.” People liked the front lights dimmed, but not the whole room.

“Be sure to put speaker names up on the white board.” Probably forgot once or twice.

“Ask presenters to include local examples and pictures.” This was also mentioned at different times.

“Remind presenters to repeat the questions.” Maybe provide each speaker, before hand, with a short list of things to know and do.

“Want contact information for presenters, they did not always provide it.” Perhaps now is a time to assemble a list of all the presenters, topics, links to any materials, and their contact data.

“Want copies of presentations.” This was noted more than once, but probably everyone does not want them, so a way of posting the materials in the “Cloud” with a reference given to the students would be good.

“Here is a general sense from comments as the class wore on – the class members get more and more interested in getting involved and wanting to be of help on the kinds of issues and topics covered.” We should work hard to be sure many of the possible projects they can join fill that need. We may need to jettison some and/or encourage or find some others.

Class-by-class summary –

3/05: Rachel Benbrook – PS 101, Morty Cohen – Intro to MRC and NW Straits

Both of these seemed to cover too much and go too fast. Need to cut some out. (I think the MRC/NW Straits talk was too dry. It could be made fun with examples and pictures and such.)

People wanted the presenters to get them more involved with the material – maybe by more examples or encourage questions or ... keep these early presentations light and fun. Maybe give Rachel more time and go light on the Intro to MRC/NW Straits.

People wanted to hear some success stories.

3/12: Eric Grossman – Climate Change, Hugh Shipman – Coastal Geology

Eric has too much detail and goes fast. (I think he was fighting a bug too?)

This was a great combination of topics.

3/19: Don Coleman – Monofilament, Rick Haley – Water quality

Don was a last minute fill in and it showed. We should have good “hip pocket” sources at the ready!

3/26: Brooke Love – Ocean Acidification, Jude Apple and Nicole Burnell – PbayNerr Research

Nicole was sometimes hard to hear.

Responses to these were quite varied and probably relate to how much the audience already knew or had heard.

There were volunteered positive comments about the Shona Aitken Wolf Hollow talk from earlier in the day.

4/2: Brian Allen – Oyster Restoration and Heather Trim – Shore armoring

Both had too much material for the allotted time and so hurried.

There are several “Presentations are getting better and better” comments. This probably shows the attendees getting smarter and smarter and better able to dive into the nitty gritty these speakers had.

4/9: Brian Bingham – Invertebrates and Jamie Selleck – Forage Fish

“Brian - More time!” (Interesting how excited some attendees get about critters!) His was chock full of info – maybe too much.

Liked the “Mud Flat” tour.

4/16: Betty Carterette – Baywide Cleanup and Alison Studley – Salmon

Betty was last minute fill in.

There are concerns that both had too much information and went fast without enough encouragement for questions. Overwhelmed.

4/23: Lee First – Stormwater and Sharon Riggs – PBay Native and Invasive plants

Lee's talk not well enough organized – probably not enough detail for the audience.

Liked the hands on opportunity and looking forward to plant walks.

These two topics were not very well related to each other.

4/30: Julie Barber – Swinomish Shellfish and Ginny Broadhurst – NWStraits.

Julie did a good fill-in job! People wanted to now more!

The NWStraits talk helped clear up mystery of how some organizations work together.

To: Skagit Marine Resources Committee
From: Colleen Ebright, Salish Sea Steward
Date: 05/12/2015
RE: Salish Sea Stewards Training

I have recently completed the Salish Sea Stewardship training at Padilla Bay sponsored by the Skagit Marine Resource Committee. This superlatively informative class on marine and coastal environmental issues led me to a rather scary conclusion . . . how UNAWARE most of us are of what is going on around us. We are fortunate to live in such a beautiful place. It is hard to imagine that the world around us is in crisis. And most of it, unintentional or not, is our own doing. Not the corporate "our", the personal "our". This is not about finger pointing. Or thinking, "Someone should do something about that!" This is about taking personal responsibility for *our own* actions. Every one of us knowingly or unknowingly contributes to this crisis on a daily basis!

This class was not only to inform, to show, to educate, but a clarion call to action! Once we are Aware, it then becomes our Responsibility as concerned citizens to make a Commitment to correcting our errors. To bring HOPE into our world by helping regain the vibrant good health of the ocean and land we live on and depend on for our very lives.

We can't brashly do whatever we please anymore and expect someone or something else to fix it. "Out of sight out of mind" doesn't work anymore. We are past the point of the problems "going away" by themselves. If we don't take action Now, by our own desire for resolution and change, we will effectively make ourselves extinct!

Most of the ways we learned to resolve or change things don't even take money from our wallets. It's more a change in lifestyle. It's about thinking what we are doing *before* we act. (Got to admit it. . .for humans this has always been a problem!) It's about putting our own personal worries aside for a small amount of time and volunteering to do something for someone else (family, friends, neighbors) and for our planet. (OK, sometimes we aren't so good at that either!)

Into this picture steps Catherine Buchalski. None of this could happen if it weren't for people who have a passion and a talent for getting all of the right people together to make change happen. Catherine has done an exemplary job of coordinating speakers, schedules, newsletters and volunteers. Her task is prodigious as the people involved and the coordinating of volunteers and ongoing training never ends. And never gets less frustrating. She is a shining star for the ecology restoration movement in Skagit county! Please appreciate her. She gives without thought of reward and you won't find many like her!

Sincerely,

Colleen Ebright



NOW ACCEPTING REGISTRATIONS for the 2015 VOLUNTEER TRAINING!



How is the *Salish Sea* different from *Puget Sound*?

Come learn the answer to this and much more with 40 Hours of FREE classroom & field based training taught by local and regional experts covering topics including Salish Sea ecosystems, human interactions, current issues, ongoing recovery efforts, and how you can make a difference as a volunteer!

Classes are every Thursday from March 5 – April 30, 3-6 PM at Padilla Bay Reserve, 10441 Bayview-Edison Road, Mount Vernon

**Applications available at www.skagitmrc.org
Don't delay, class space is limited to the first 35 participants!**

Questions may be directed to Catherine Buchalski at cbuchalski@padillabay.gov or by phone (360) 428-1559



This training has been funded in part by the United States Environmental Protection Agency



2015 Salish Sea Stewards Training Registration

Name: _____

Email: _____

Address: _____

City: _____ Zip: _____

Primary phone #: _____

Secondary Phone#: _____

Emergency contact name: _____

Emergency Contact Phone: _____

How did you hear about the Salish Sea Stewards training? Please check all that apply

- ☐ Newspaper Ad from: _____
- ☐ Website: _____
- ☐ Word of Mouth from: _____
- ☐ Poster at: _____
- ☐ Other: _____

What do you hope to gain from participating in this training?

Please tell us about any pertinent related degrees, certificates, and/or work experiences.

What are your special interests, recreational activities or hobbies (bird-watching, gardening, native plants, teaching, history buff, computer work, research, event planning, etc.)?

Please tell us about any volunteer work or community service you have been involved in, how long you were involved, and if you held a leadership role (school related, work related, club / service related, Social / religious, other)

Requirements & Commitment

1. Attend 40 hours of training. Training schedule provided on first day of class. We will work with you if you must miss a class but we ask that you seriously consider your availability as class space is limited.
2. Attain the necessary level of knowledge to carry out volunteer commitments, including project-specific trainings.
3. Provide at least 30 hours of service on any of the approved MRC or partner volunteer projects or activities within one year of training completion.
4. Record and report volunteer service to the appropriate project coordinator.
5. Meet the standards of performance defined by the Marine Resources Committee in services performed as a Salish Sea Steward.

**A background check is required for volunteers in service of this program.
Please provide date of birth and any other names you have on record.**

DOB: M/D/Y _____

Alternative name(s) _____

Completed applications must be emailed to cbuchalski@padillabay.gov, OR mailed to:

Catherine Buchalski
Padilla Bay Foundation
10441 Bayview-Edison Road
Mount Vernon, WA 98273-9668

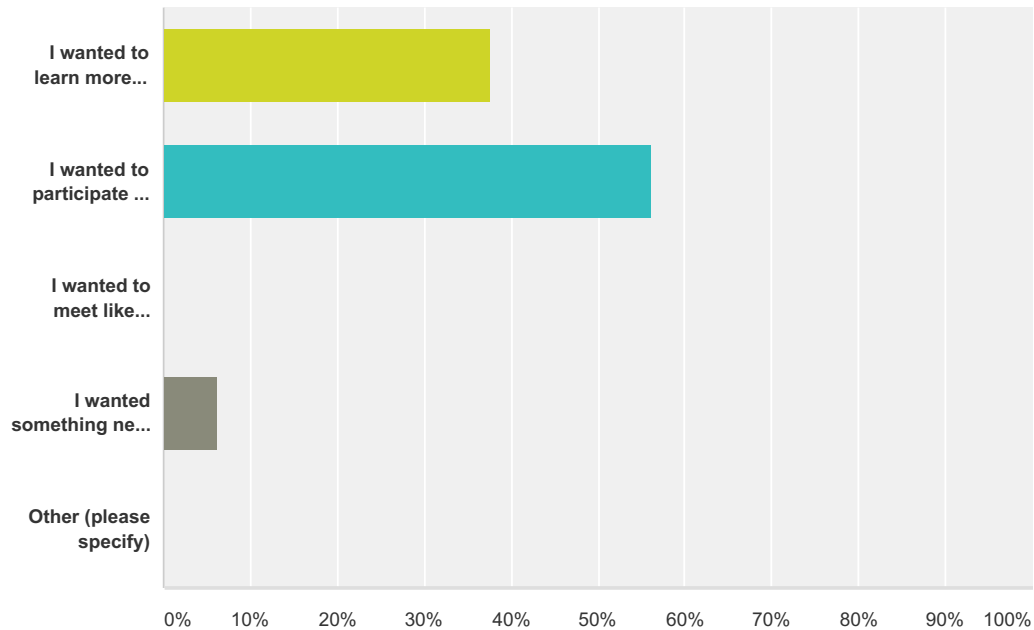
Registrations must be postmarked by 3/2/2015

2015 Salish Sea Stewards Roster

	Last	First	City/Town	Email Address	Phone
1	Alm	Glenda	Mount Vernon	solterratrekker@gmail.com	3607084097
2	Anagnostou	Kay	Bellingham	kea07d@gmail.com	9043162997
3	Barger	Russ	Mount Vernon	kjrichma@hotmail.com	3607089980
4	Busby	Laura	Rockport	fauna46@yahoo.com	3608533408
5	Cregor	Peggy	Anacortes	peggy@cregoradventures.com	3602931992
6	Cregor	Frank	Anacortes	frank@cregoradventures.com	3602931992
7	Ebright	Colleen	Anacortes	colleen.ebright@yahoo.com	4253141520
8	Fisher	Leon	Anacortes	swsfisher@aol.com	3602992178
9	Gleeson	Valerie	Anacortes	gleeson13@icloud.com	3605880585
10	Gleeson	Jim	Anacortes	gleeson13@icloud.com	3605880585
11	Hallingstad	Anna	Anacortes	anniushka89@gmail.com	3604217417
12	Houppermans	Yvonne	Anacortes	yhouppermans@gmail.com	3605889256
13	Kent	Richard	Mount Vernon	padillasolar@gmail.com	3607084097
14	Lechner	Barbara	Anacortes	rb.balechner@gmail.com	3609822839
15	Lechner	Bob	Anacortes	rbl.cetus@gmail.com	3609822839
16	Lee	Hal	Mount Vernon	hhlee@frontier.com	3608485937
17	Lee	Hella	Mount Vernon	hhlee@frontier.com	3608485937
18	Miller	Lisa	Anacortes	lisam@skagitlandtrust.org	3604287878
19	Parent	Dennis	Mount Vernon	Parentease46@gmail.com	3607571189
20	Parent	Lorna	Mount Vernon	lorna#p1@gmail.com	3607571189
21	Rise	Diane	Burlington	riselily@aol.com	2064782974
22	Rose	Madeline	Oak Harbor	ixmystique@comcast.net	3609414324
23	St Pierre	Nurith	Bow	nurithstpierre@hotmail.com	3607666634
24	St. Pierre	Raoul	Bow	raoulstpierre@wavecable.com	3607666634
25	Watson	Rowena	Concrete	pjtrfw@frontier.com	3603334856

Q1 Please select the #1 reason you choose to participate in the Salish Sea Stewards volunteer training program in 2015.

Answered: 16 Skipped: 0

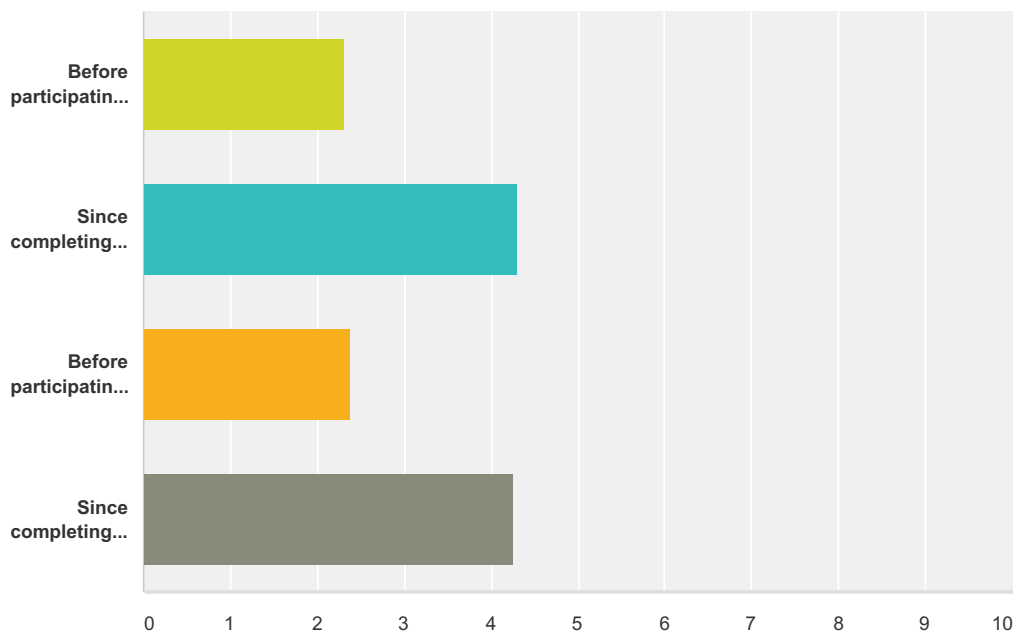


Answer Choices	Responses	
I wanted to learn more about the local environment	37.50%	6
I wanted to participate in something meaningful to my community	56.25%	9
I wanted to meet like minded individuals	0.00%	0
I wanted something new to do	6.25%	1
Other (please specify)	0.00%	0
Total		16

#	Other (please specify)	Date
	There are no responses.	

Q2 Please assess any changes in your knowledge before and after participating in the Salish Sea Stewards volunteer training program.

Answered: 16 Skipped: 0

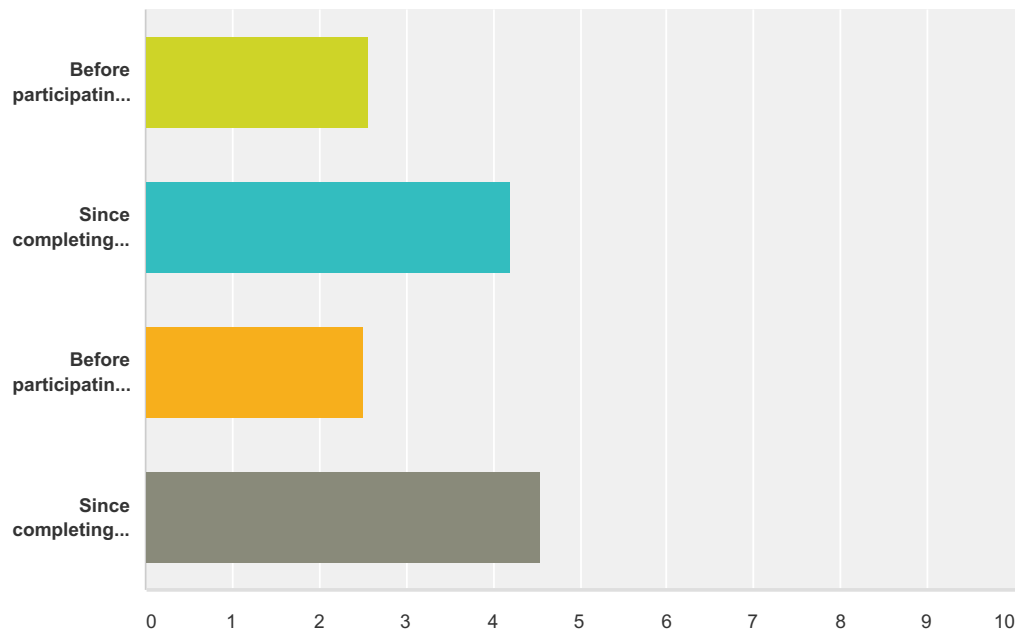


	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total	Weighted Average
Before participating in Salish Sea Stewards, I knew about the Skagit Marine Resources Committee and it's projects.	18.75% 3	50.00% 8	12.50% 2	18.75% 3	0.00% 0	16	2.31
Since completing Salish Sea Stewards, I know about the Skagit Marine Resources Committee and it's projects.	0.00% 0	0.00% 0	0.00% 0	68.75% 11	31.25% 5	16	4.31
Before participating in Salish Sea Stewards, I volunteered at least 25 hours a year to organizations and projects that protect or enhance the Salish Sea.	50.00% 8	18.75% 3	0.00% 0	6.25% 1	25.00% 4	16	2.38
Since completing Salish Sea Stewards, I volunteered at least 25 hours a year to organizations and projects that protect or enhance the Salish Sea.	0.00% 0	18.75% 3	6.25% 1	6.25% 1	68.75% 11	16	4.25

#	Other (please specify)	Date
1	volunteer with Padilla Bay Foundation which sponsors CVP	9/8/2015 10:12 PM
2	Have not contributed as many volunteer hours as I would have liked to date. Still plan to find events that fit my schedule for the next 6 months.	9/8/2015 12:10 PM

Q3 Please assess any changes in your knowledge before and after participating in the Salish Sea Stewards volunteer training program.

Answered: 16 Skipped: 0

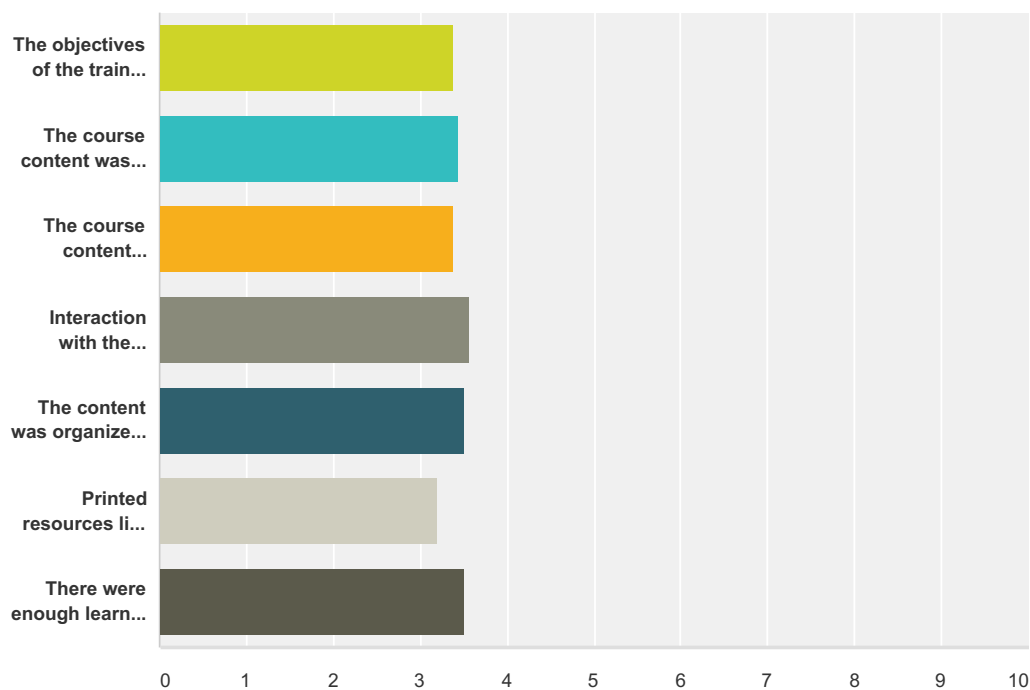


	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total	Weighted Average
Before participating in Salish Sea Stewards, I felt knowledgeable about the health and status of the Salish Sea.	12.50% 2	43.75% 7	18.75% 3	25.00% 4	0.00% 0	16	2.56
Since completing Salish Sea Stewards, I feel knowledgeable about the health and status of the Salish Sea.	0.00% 0	0.00% 0	6.25% 1	68.75% 11	25.00% 4	16	4.19
Before participating in Salish Sea Stewards, I was knowledgeable about where to find information about marine and coastal volunteer opportunities in Skagit County.	12.50% 2	37.50% 6	37.50% 6	12.50% 2	0.00% 0	16	2.50
Since completing Salish Sea Stewards, I am knowledgeable about where to find information about marine and coastal volunteer opportunities in Skagit County.	0.00% 0	0.00% 0	0.00% 0	43.75% 7	56.25% 9	16	4.56

#	Other (please specify)	Date
	There are no responses.	

Q4 Please indicate your level of agreement with the statements listed below.

Answered: 16 Skipped: 0

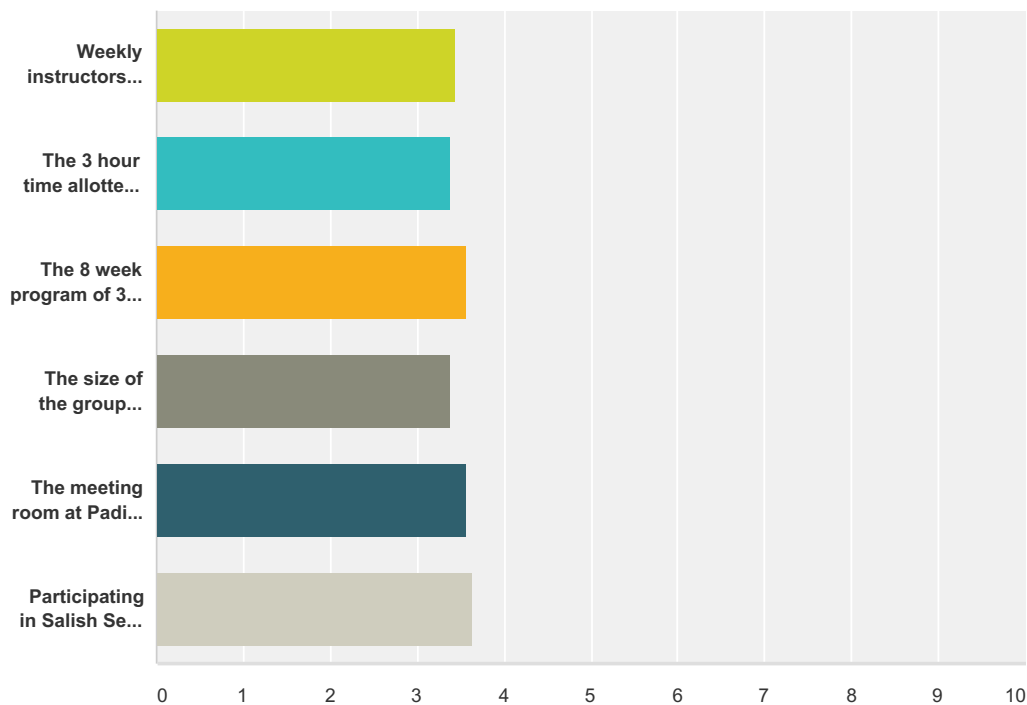


	Strongly Disagree	Disagree	Agree	Strongly Agree	Total	Weighted Average
The objectives of the training were clear to me.	0.00% 0	6.25% 1	50.00% 8	43.75% 7	16	3.38
The course content was relevant to what I wanted to learn about the Salish Sea	0.00% 0	6.25% 1	43.75% 7	50.00% 8	16	3.44
The course content prepared me to volunteer for MRC projects (i.e. intertidal monitoring, forage fish monitoring, beach naturalist, beach seining).	0.00% 0	6.25% 1	50.00% 8	43.75% 7	16	3.38
Interaction with the speakers and classmates was encouraged.	0.00% 0	0.00% 0	43.75% 7	56.25% 9	16	3.56
The content was organized and easy to follow.	0.00% 0	0.00% 0	50.00% 8	50.00% 8	16	3.50
Printed resources like the "commonly used acronyms" and "Salish Sea web resources" were helpful.	0.00% 0	0.00% 0	81.25% 13	18.75% 3	16	3.19
There were enough learning aides, and printed resources made available by the instructors.	0.00% 0	6.25% 1	37.50% 6	56.25% 9	16	3.50

#	Other (please specify)	Date
1	I would have liked to learn more about the organization (relatedness) of MRC earlier in the course.	9/8/2015 12:12 PM

Q5 Please indicate your level of agreement with the statements listed below.

Answered: 16 Skipped: 0



	Strongly Disagree	Disagree	Agree	Strongly Agree	Total	Weighted Average
Weekly instructors were well prepared and knowledge about their topic.	0.00% 0	6.25% 1	43.75% 7	50.00% 8	16	3.44
The 3 hour time allotted for classes was sufficient.	0.00% 0	6.25% 1	50.00% 8	43.75% 7	16	3.38
The 8 week program of 3 hour classes fit my schedule.	0.00% 0	0.00% 0	43.75% 7	56.25% 9	16	3.56
The size of the group taking the class was not too large.	0.00% 0	12.50% 2	37.50% 6	50.00% 8	16	3.38
The meeting room at Padilla Bay was located conveniently.	0.00% 0	0.00% 0	43.75% 7	56.25% 9	16	3.56
Participating in Salish Sea Stewards has motivated me to spend more of my time volunteering with organizations that protect and restore Salish Sea environments.	0.00% 0	0.00% 0	37.50% 6	62.50% 10	16	3.63

#	Other (please specify)	Date
	There are no responses.	

Q6 What did you find most valuable about the Salish Sea Stewards training?

Answered: 15 Skipped: 1

#	Responses	Date
1	I learned more about the work of groups that I had only heard about.	9/8/2015 10:16 PM
2	Resources.	9/8/2015 10:08 PM
3	Breadth of information presented	9/8/2015 6:00 PM
4	The variety of the topics and ways to communicate it with others.	9/8/2015 12:14 PM
5	points of contact to get involved with different programs that interest me and that fit with my physical capabilities	9/6/2015 12:24 PM
6	Awareness of what is happening to the Salish Sea and what is being done to affect change	9/6/2015 12:13 PM
7	Learning about the new environment into which we recently moved and chose to make our retirement home, and what we can do to help protect it.	9/4/2015 8:55 PM
8	Meeting new people and volunteer opportunities	9/4/2015 6:38 PM
9	The lectures by professionals in the field	9/4/2015 5:56 PM
10	introduction to volunteer activities	9/4/2015 3:46 PM
11	knowledge gained	9/4/2015 2:40 PM
12	learning about the local environment and sea life.	9/4/2015 2:28 PM
13	increased awareness of the number and varied programs working on separate aspects of the Salish Sea	9/4/2015 12:24 PM
14	Ability to learn about and try out different volunteer projects to choose the best fit for me for the longer term.	9/4/2015 11:07 AM
15	It enriched my overall understanding of many issues involving the marine environment and presented me with multiple opportunities to get involved	9/4/2015 10:27 AM

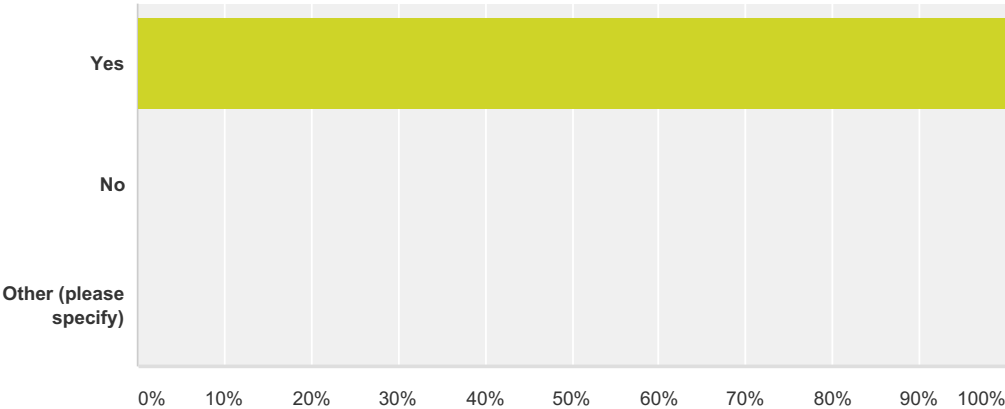
Q7 What aspects of the training should be improved for next year?

Answered: 12 Skipped: 4

#	Responses	Date
1	I wish the back of the room was not so far from the presenters...for hearing and seeing the visuals	9/8/2015 10:16 PM
2	Because we are new to the area, we would have benefited from a basic lesson on the area. Sometimes we were lost with the subject matter. I think some of the presenters made some assumptions, and my knowledge was not at that level (at the time).	9/8/2015 10:08 PM
3	Replace some speakers	9/8/2015 6:00 PM
4	more hands on with microscopes/field studies by different educational entities that are ongoing such as with tribal groups	9/6/2015 12:24 PM
5	Actually participating in volunteer events during the training BEFORE asking people to sign up so there is some foreknowledge of what each event entails, especially physically for seniors.	9/6/2015 12:13 PM
6	I cannot think of anything that would make the training better.	9/4/2015 8:55 PM
7	no ideas here	9/4/2015 5:56 PM
8	None. Program was pretty damn good.	9/4/2015 3:46 PM
9	can't think of any	9/4/2015 2:40 PM
10	more written information.	9/4/2015 2:28 PM
11	Instructors, in general, had more material to present than time allowed, so either need more time or more concise presentations.	9/4/2015 12:24 PM
12	The actual hands-on times were most useful	9/4/2015 10:27 AM

Q8 Did you have fun during the course of the Salish Sea Stewards training?

Answered: 16 Skipped: 0

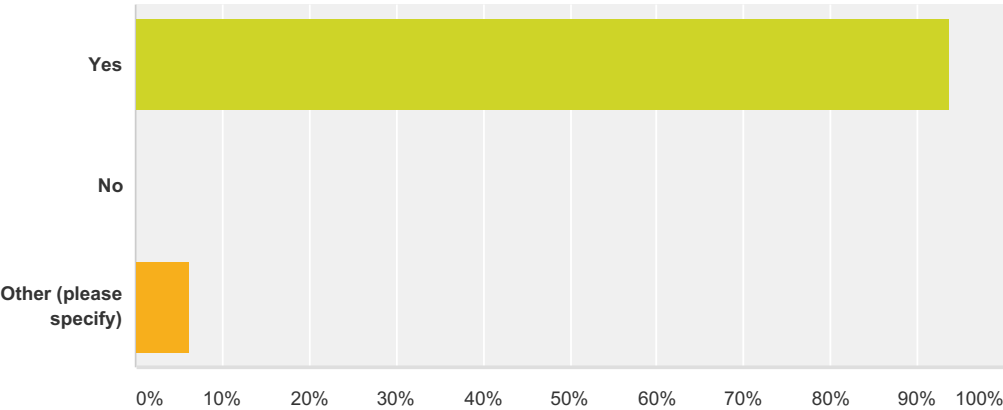


Answer Choices	Responses
Yes	100.00%16
No	0.00%0
Other (please specify)	0.00%0
Total	16

#	Other (please specify)	Date
	There are no responses.	

Q9 Did your experience participating in the Salish Sea Stewards training program fulfill your expectations?

Answered: 16 Skipped: 0

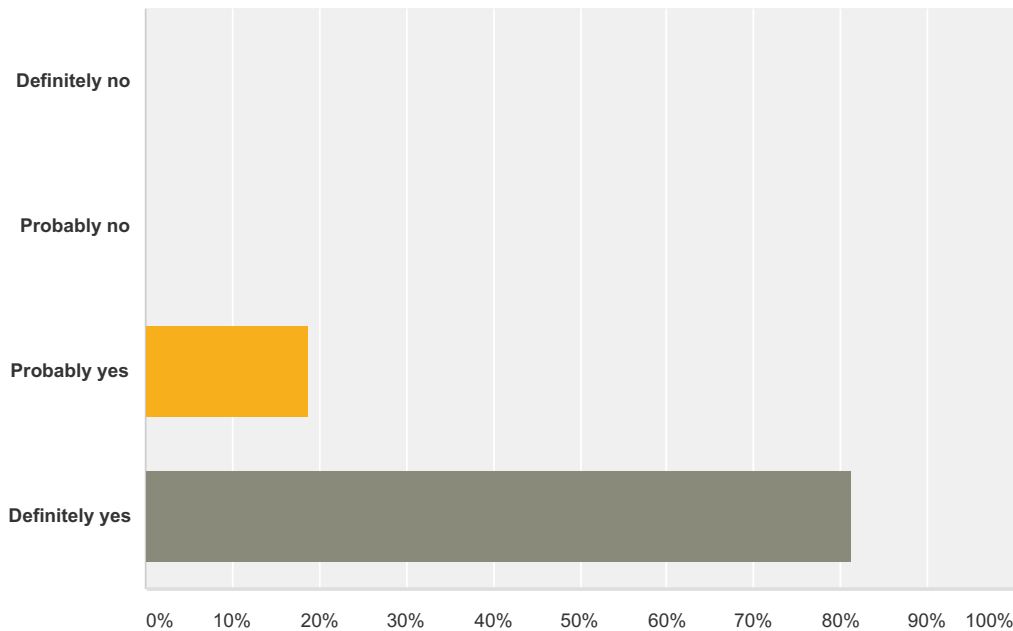


Answer Choices		Responses	
Yes		93.75%	15
No		0.00%	0
Other (please specify)		6.25%	1
Total			16

#	Other (please specify)	Date
1	I would have liked more information on marine mammal programs.	9/8/2015 10:08 PM

Q10 Would you recommend this training program to your friends and family?

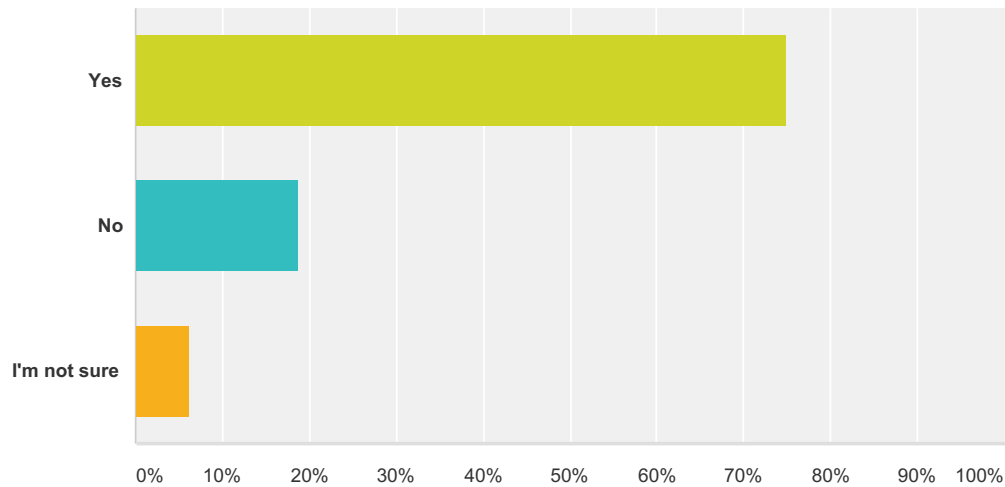
Answered: 16 Skipped: 0



Answer Choices	Responses	
Definitely no	0.00%	0
Probably no	0.00%	0
Probably yes	18.75%	3
Definitely yes	81.25%	13
Total		16

Q11 Have you volunteered on any Skagit Marine Resources Committee projects (i.e. intertidal monitoring, forage fish egg sampling, native oyster monitoring, beach naturalist, Fidalgo Bay Day) since participating in Salish Sea Stewards?

Answered: 16 Skipped: 0

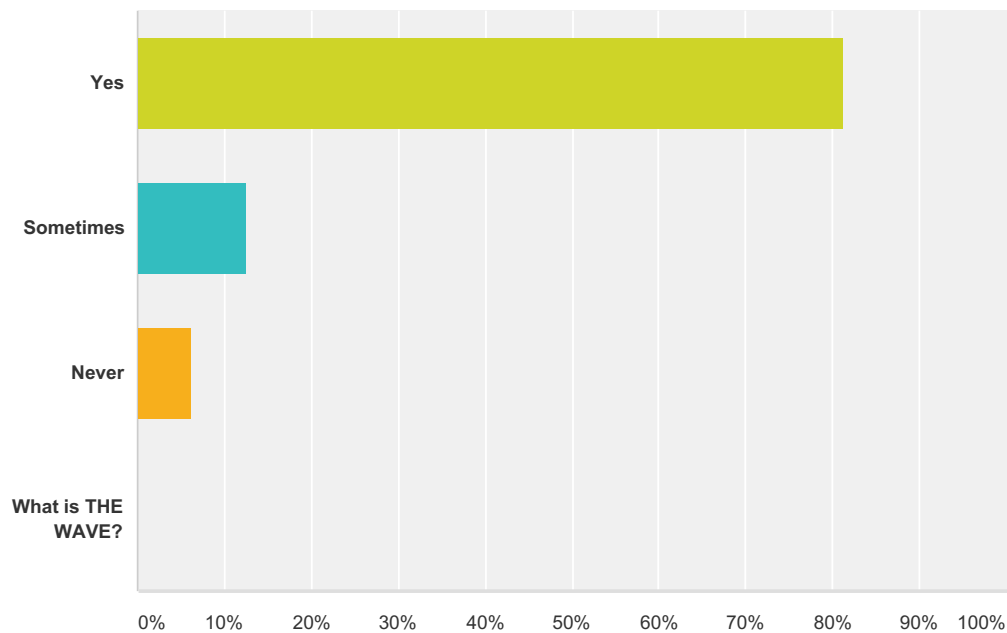


Answer Choices	Responses
Yes	75.00% 12
No	18.75% 3
I'm not sure	6.25% 1
Total	16

#	If you answered "No" or "I'm not sure", please describe why.	Date
1	I volunteer at PB Reserve near where I live	9/8/2015 10:16 PM
2	I am concentrating my efforts on volunteering through the Whale Museum in Friday Harbor.	9/8/2015 10:08 PM
3	Intertidal Monitor Interpretation	9/8/2015 12:14 PM
4	no time in the summer	9/4/2015 2:40 PM

Q12 Do you read THE WAVE?

Answered: 16 Skipped: 0

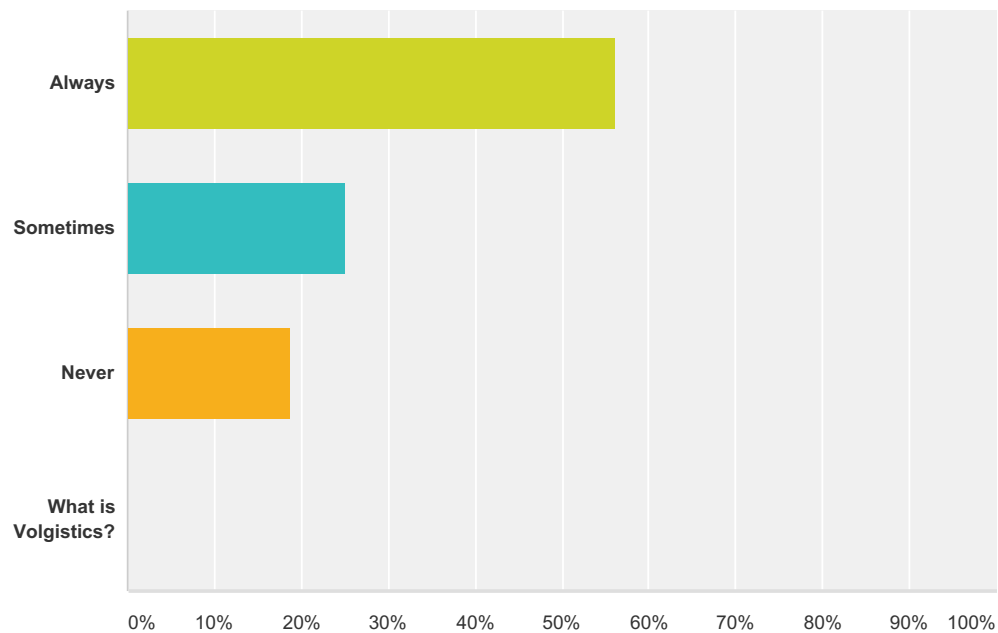


Answer Choices	Responses
Yes	81.25% 13
Sometimes	12.50% 2
Never	6.25% 1
What is THE WAVE?	0.00% 0
Total	16

#	If you chose "sometimes" or "never", please describe why.	Date
1	It's long and I don't always have time to follow up	9/8/2015 6:03 PM
2	Each one has a lot of content. Usually read a majority in a sitting and try to get back to the rest.	9/8/2015 12:18 PM
3	Don't like reading stuff online	9/4/2015 11:11 AM

Q13 Do you regularly record your volunteer service using Volgistics?

Answered: 16 Skipped: 0

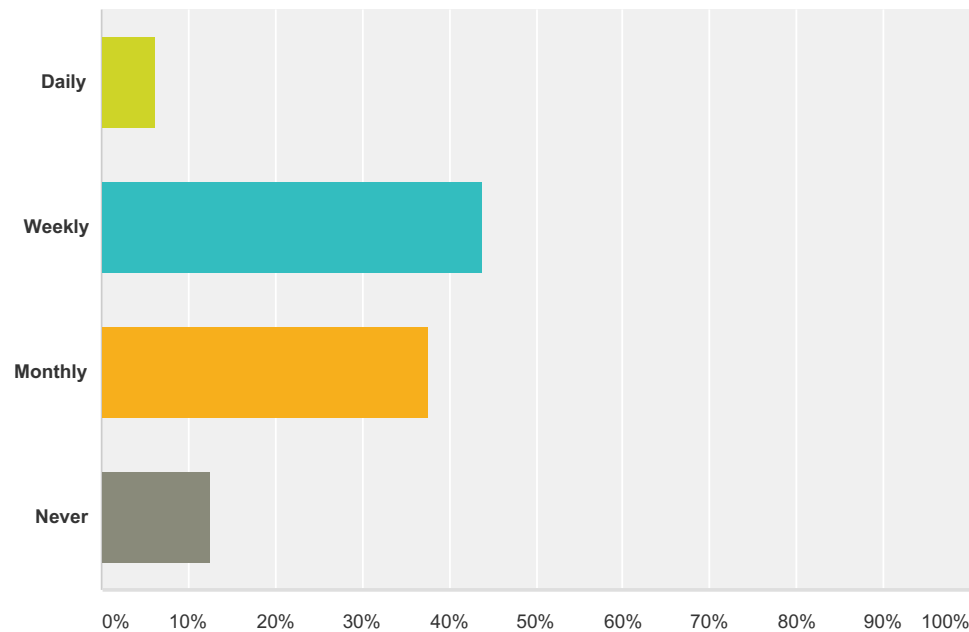


Answer Choices	Responses
Always	56.25% 9
Sometimes	25.00% 4
Never	18.75% 3
What is Volgistics?	0.00% 0
Total	16

#	If you chose "sometimes" or "never", please describe why.	Date
1	I have not been able to until yesterday. But I will now!	9/8/2015 10:09 PM
2	I just need to log in and do it	9/8/2015 6:03 PM
3	Have forgotten once and had to go back.	9/8/2015 12:18 PM
4	I usually remember to enter my hours, but sometimes I forget. I find it frustrating that I can only go back 1 month. Catherine is great about entering missed dates, but I would like to be able to enter those dates myself.	9/4/2015 8:59 PM
5	not vo,unteering	9/4/2015 2:41 PM

Q14 How often would you check a dedicated CVP website with information about training, volunteer needs, and an updated events calendar?

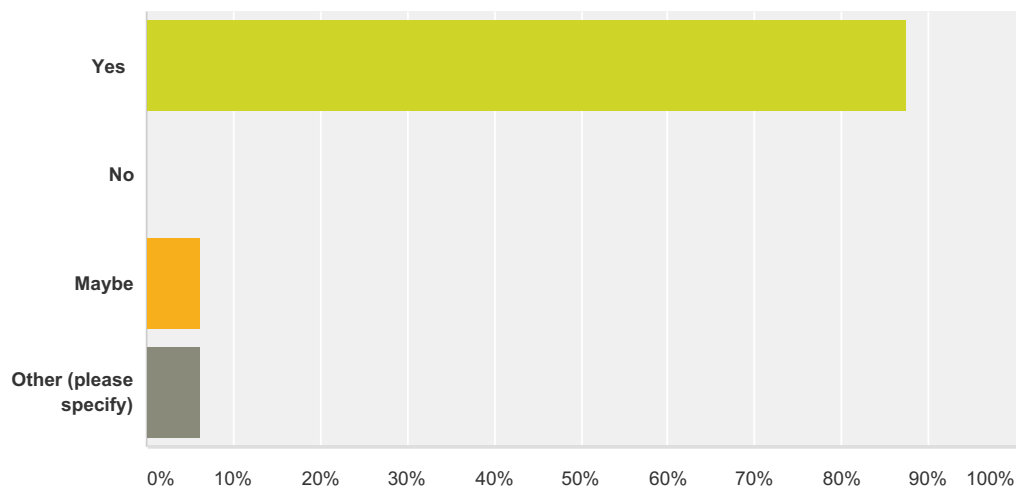
Answered: 16 Skipped: 0



Answer Choices	Responses	
Daily	6.25%	1
Weekly	43.75%	7
Monthly	37.50%	6
Never	12.50%	2
Total		16

Q15 Do you plan to stay engaged with the Coastal Volunteer Partnership at Padilla Bay in the coming year?

Answered: 16 Skipped: 0



Answer Choices	Responses
Yes	87.50% 14
No	0.00% 0
Maybe	6.25% 1
Other (please specify)	6.25% 1
Total	16

#	Other (please specify)	Date
1	what do you mean by engaged? I plan to continue doing forage fish surveys.	9/4/2015 11:11 AM

Q16 If you do not plan to stay engaged with the Coastal Volunteer Partnership at Padilla Bay in the coming year, what is your reason?

Answered: 0 Skipped: 16

#	Responses	Date
	There are no responses.	

Q17 Please use this space to leave any additional feedback about the Salish Sea Stewards training program, or Coastal Volunteer Partnership at Padilla Bay.

Answered: 10 Skipped: 6

#	Responses	Date
1	Well done Catherine!	9/8/2015 10:09 PM
2	I appreciated the flexibility and effort to meet volunteer needs. A better/clearer overview of volunteer needs/opportunities would be helpful.	9/8/2015 6:03 PM
3	A wonderful experience! Would like to continue in an "advanced training" or repeat next year if there are some new topics/speakers.	9/8/2015 12:18 PM
4	will be looking forward to more training—even if it is on a cost basis offering Thank you MRC Skagit for this wonderful program	9/6/2015 12:25 PM
5	I enjoyed the training and feel good about doing research project with the Padilla Bay Research Lab as a "permanent", i.e. not seasonal project. I like being able to focus on one thing rather than just do random volunteering, and be able to work at it all year long. Suits me anyway!	9/6/2015 12:17 PM
6	In addition to finding out about the environment and how to help protect it, I is a great way to meet other environmentally friendly people.	9/4/2015 8:59 PM
7	Great program, keep up the good work!!!	9/4/2015 6:41 PM
8	Catherine is doing a great job	9/4/2015 5:58 PM
9	In the start of the year it wasn't clear to me that you had to record your hours within a month, otherwise it isn't possible anymore. It would be good to let people know that or change the website.	9/4/2015 2:50 PM
10	I intend to stay involved as much as I am able. I am proud to participate and tell my grandchildren especially that I am doing my small part to do something to protect their future	9/4/2015 10:30 AM

Q18 Address

Answered: 15 Skipped: 1

Answer Choices	Responses
Name	100.00% 15
Company	0.00% 0
Address	100.00% 15
Address 2	0.00% 0
City/Town	100.00% 15
State/Province	100.00% 15
ZIP/Postal Code	100.00% 15
Country	0.00% 0
Email Address	100.00% 15
Phone Number	100.00% 15

#	Name	Date
1	glenda alm	9/8/2015 10:19 PM
2	Peggy Cregor	9/8/2015 10:10 PM
3	Lisa Miller	9/8/2015 12:18 PM
4	Diane Rise	9/7/2015 7:34 PM
5	madeline rose	9/6/2015 12:25 PM
6	Colleen Ebright	9/6/2015 12:18 PM
7	Barbara Lechner	9/4/2015 9:00 PM
8	Hal Lee	9/4/2015 6:42 PM
9	Dennis Parent	9/4/2015 5:59 PM
10	ROBERT BRUCE LECHNER	9/4/2015 3:47 PM
11	Y. Houppermans	9/4/2015 2:52 PM
12	nurith st pierre	9/4/2015 2:42 PM
13	Richard Kent	9/4/2015 12:27 PM
14	Hella Lee	9/4/2015 11:12 AM
15	Valerie Gleeson	9/4/2015 10:31 AM

#	Company	Date
	There are no responses.	

#	Address	Date
1	11453 Bayview Edison Rd. #11	9/8/2015 10:19 PM
2	1504 11th Street	9/8/2015 10:10 PM
3	15404 Rosario View Lane #8	9/8/2015 12:18 PM
4	1777 S Burlington Blvd. #255	9/7/2015 7:34 PM
5	399 Boe Road	9/6/2015 12:25 PM

6	6060 Sands Way	9/6/2015 12:18 PM
7	3912 Marine Heights Way	9/4/2015 9:00 PM
8	2500 S. 18th	9/4/2015 6:42 PM
9	11291 Bay View Edison Road	9/4/2015 5:59 PM
10	3912 MARINE HEIGHTS WAY	9/4/2015 3:47 PM
11	3412 K Avenue	9/4/2015 2:52 PM
12	9417 marshall rd	9/4/2015 2:42 PM
13	11453 BayView Edison Road, #11	9/4/2015 12:27 PM
14	2500 S. 18th	9/4/2015 11:12 AM
15	5209 Maritime Court	9/4/2015 10:31 AM
#	Address 2	Date
	There are no responses.	
#	City/Town	Date
1	MV	9/8/2015 10:19 PM
2	Anacortes	9/8/2015 10:10 PM
3	Anacortes	9/8/2015 12:18 PM
4	Burlington	9/7/2015 7:34 PM
5	Oak Harbor	9/6/2015 12:25 PM
6	Anacortes	9/6/2015 12:18 PM
7	Anacortes	9/4/2015 9:00 PM
8	Mount Vernon	9/4/2015 6:42 PM
9	MT Vernon	9/4/2015 5:59 PM
10	ANACORTES	9/4/2015 3:47 PM
11	Anacortes	9/4/2015 2:52 PM
12	bow	9/4/2015 2:42 PM
13	Mount Vernon	9/4/2015 12:27 PM
14	Mount Vernon	9/4/2015 11:12 AM
15	Anacortes	9/4/2015 10:31 AM
#	State/Province	Date
1	WA	9/8/2015 10:19 PM
2	Washington	9/8/2015 10:10 PM
3	WA	9/8/2015 12:18 PM
4	WA	9/7/2015 7:34 PM
5	WA	9/6/2015 12:25 PM
6	WA	9/6/2015 12:18 PM
7	Washington	9/4/2015 9:00 PM
8	WA	9/4/2015 6:42 PM
9	WA	9/4/2015 5:59 PM
10	WA	9/4/2015 3:47 PM
11	WA	9/4/2015 2:52 PM
12	wa	9/4/2015 2:42 PM

13	WA	9/4/2015 12:27 PM
14	WA	9/4/2015 11:12 AM
15	WA	9/4/2015 10:31 AM
#	ZIP/Postal Code	Date
1	98273	9/8/2015 10:19 PM
2	98221	9/8/2015 10:10 PM
3	98221	9/8/2015 12:18 PM
4	98233	9/7/2015 7:34 PM
5	98277	9/6/2015 12:25 PM
6	98221	9/6/2015 12:18 PM
7	98221	9/4/2015 9:00 PM
8	98274	9/4/2015 6:42 PM
9	98273	9/4/2015 5:59 PM
10	98221	9/4/2015 3:47 PM
11	98221	9/4/2015 2:52 PM
12	98232	9/4/2015 2:42 PM
13	98273	9/4/2015 12:27 PM
14	98274	9/4/2015 11:12 AM
15	98221	9/4/2015 10:31 AM
#	Country	Date
	There are no responses.	
#	Email Address	Date
1	solterratrekker@gmail.com	9/8/2015 10:19 PM
2	peggy@cregoradventures.com	9/8/2015 10:10 PM
3	lisam@skagitlandtrust.org	9/8/2015 12:18 PM
4	riseshily@aol.com	9/7/2015 7:34 PM
5	ixmystique@comcast.net	9/6/2015 12:25 PM
6	colleen.ebright@yahoo.com	9/6/2015 12:18 PM
7	rb.balechner@gmail.com	9/4/2015 9:00 PM
8	hhlee@frontier.com	9/4/2015 6:42 PM
9	Parentease46@gmail.com	9/4/2015 5:59 PM
10	rbl.cetus@gmail.com	9/4/2015 3:47 PM
11	yhouppermans@gmail.com	9/4/2015 2:52 PM
12	nurithstpierre@hotmail.com	9/4/2015 2:42 PM
13	padillasolar@gmail.com	9/4/2015 12:27 PM
14	hhlee@frontier.com	9/4/2015 11:12 AM
15	gleeson13@icloud.com	9/4/2015 10:31 AM
#	Phone Number	Date
1	360-708-4097	9/8/2015 10:19 PM
2	360-293-1992	9/8/2015 10:10 PM
3	3604287878	9/8/2015 12:18 PM

4	2064782974	9/7/2015 7:34 PM
5	3609414324	9/6/2015 12:25 PM
6	425-314-1520	9/6/2015 12:18 PM
7	3609822839	9/4/2015 9:00 PM
8	848-5937	9/4/2015 6:42 PM
9	360 757-1189	9/4/2015 5:59 PM
10	3609822839	9/4/2015 3:47 PM
11	360-588-9256	9/4/2015 2:52 PM
12	360-766-6634	9/4/2015 2:42 PM
13	360.708.4097	9/4/2015 12:27 PM
14	360-848-5937	9/4/2015 11:12 AM
15	360-588-0585	9/4/2015 10:31 AM



Brandy Shreve / Skagit Valley Herald

A view of Padilla Bay from Bay View State Park on Tuesday.

Volunteer programs fall under new umbrella

By **KIMBERLY CAUVEL**
@Kimberly_SVH

BAY VIEW — Five Skagit-area organizations have formed the Coastal Volunteer Partnership at Padilla Bay to fill the void left by the discontinuation of the WSU-Skagit County Beach Watchers Program this year.

The Padilla Bay National Estuarine Research Reserve, Padilla Bay Foundation, Skagit County Clean Water Program, Skagit Marine Resources Committee and Friends of Skagit Beaches joined for the new partnership, enlisting former Beach Watchers Program Coordinator Catherine Buchalski to oversee the program.

Representatives from the organizations will accompany Buchalski at an open house Friday, Jan. 30, at the Padilla Bay Reserve. The event is intended to introduce



Buchalski

ecosystems that will propel our communities to lead the effort in protecting the incredibly rich environments of Skagit County," Buchalski said in a prepared statement.

It's essentially the same concept as the Beach Watchers program, but under a different "umbrella" partnership. In her new position, Buchalski will continue volunteer outreach and recruitment.

"The new thing with this coastal partnership is going to be because

the community to her new role and provide information on volunteer opportunities in the area.

"The purpose of this program is to develop a sense of pride for our coastal and marine

there are so many funders, volunteers will be able to engage in so many different ways," she said. "I think it really benefits the volunteers because there's so much diversity in the type of opportunities they will have."

The organizations involved expect to see many familiar faces volunteer this year through the existing Salish Sea Stewards, Beach Naturalists and Padilla Bay volunteer programs. They also hope to invite newcomers with an interest in the Skagit Valley's rich environment.

The open house from 1 to 3:30 p.m. Jan. 30 will follow the Friends of Skagit Beaches annual meeting at 11:30 a.m. at the reserve, 10441 Bayview-Edison Road. Those who plan to attend the Friends meeting and stay for lunch are asked to RSVP to cbuchalski@padillabay.gov by Monday, Jan. 26.

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Dock Rental. For Rent: 50' dock west side of Bay Pl. in Skyline Marina. \$500/month including electricity and water on dock. Prefer annual rental. Contact Ed at 775-721-0718.
4/2

COMMUNITY ANNOUNCEMENTS
Almost Home Dog Rescue WA really needs approved fosters! Are you interested in fostering a small fluffy or scruffy dog? Fosters are a key part in saving shelter dogs! Please call Kim @ 360-969-2014 for more info. Also read about us at: <https://www.pettinder.com/shelters/WA584.html>.
The Skagit Marine Resources Committee is now accepting registrations for the 2015 Salish Sea Stewards FREE volunteer training program. Training will consist of 30 hours of classroom presentation on topics related to Salish Sea ecosystems, human interactions, current issues and recovery, and will be at Padilla Bay Reserve on Thursdays from 3-6PM, March 5-April 30. Applications at www.skagitmrc.org.
2/26

Padilla Bay National Estuarine Research Reserve will be having three volunteer trainings for anyone interested in helping with the education and aquarium programs. Training dates are 2/18, 9AM-12PM for those interested in working at the front desk & interpretive Center, Tuesday 2/24, 10AM-12PM for Aquarium Docents, and Wednesday 2/25, 9AM-12PM for K-12 Educational Program.
Marine Oil Spill Response Volunteers are being sought by the Swinomish Indian Tribal Community. If you are interested in learning how to respond to spilled oil and protect Swinomish Channel and Reservation boundary waters including Shelter Bay Marina please attend Safety & Communication training, Feb. 18, 6:30-8:30 PM, at St. Pauli Spiritual Center on Reservation Road. RSVP Myk Heidi 360-466-1532.
2/19

Anacortes Sailing Team Grades 8-12: Last chance to register for co-ed racing www.AnacortesSailing.com. Mon, Tues, Thurs 2:45-5:30 practices and racing Saturdays, some Sundays, throughout the Pacific Northwest. No experience needed to sail in FJ two person dinghies. Contact Lisa at MusicMom@fidalgo.net.
3/11
Sat., Feb. 14th, 4-6:30pm at the new LG Music Studio, 1004 19th St., Anacortes. **We Love to Sing!** Celebrating a new location. Join us for food, music and fun. Free. www.LGMusic.com.
2/12
INTERESTED IN/OR ALREADY HOMESCHOOLING? Free information meeting at the Anacortes Library, Feb. 19th, 6:30-7:30pm. Find out resources in our area. Call Mishel at 360-420-4492 for info. Free, open to the public.
8

COMMUNITY ANNOUNCEMENTS

HOME SCHOOL SCIENCE FAIR! Open to the public! Monday, February 23rd. Get more information on homeschooling. Meet other families. Call Kamiyo at 293-9339 for time, location and more information. 2/19
Friends of the Forest Annual Membership Meeting: All are invited to attend on Wednesday, February 25th at the Depot located at 611 R Avenue in Anacortes at 7:00pm. This is a great opportunity to get to know more about the Friends of the Forest and our work in service to the Anacortes Community Forest Lands. We will begin with a brief annual report and elections followed by a very special presentation. Discussion and refreshments will follow. For more info go to www.friendsoftheforest.org.
Want to understand the book of Revelation? Is it relevant to today's world? Join us for a Bible Study on the book of Revelation @ the Harvest Center Church of God: 1020 20th St. in Anacortes. (360) 293-6624.
2/12

Transition's Skill Share workshop: February 17, 7pm, at the Anacortes library "Planning Spring and Summer Planting." Certified horticulturalist Rachel Anderson will teach us when to plant cool and warm season vegetables, from peas to tomatoes, whether you're beginning with seeds, starts, or both. Get tips on how to keep your garden producing throughout the season and into fall. Free (donations gratefully accepted); no reservations necessary. See the complete schedule at www.transitionfidalgo.org/skill-share or <http://transitionfidalgo.us9.list-manage.com/track/click?u=26d18abf48c7ca34740fd5c558&id=6860c8899c98&e=97cce2526b>.
No minimum order is required. Get the order form at skagitcd.org or by calling 360-428-4313.
Island Hospital offers free hearing screening - Find out if you are experiencing hearing loss at a free screening on Tuesday, Feb. 17 from 9:30 a.m. to 4:30 p.m. at Island Hospital, 1211 24th St., Anacortes. This screening is provided by Dr. Holly Kennedy of the Anacortes Hearing Center. Appointments are required! Call 299-1367 for an appointment.

Saving Pets One at a Time (SPOT) seeks donation items or sponsors for our 6th Annual Dinner and Auction on February 28th, Saint Joseph Center, 215 N. 15th St. Mount Vernon. Doors open at 5PM. Advance tickets \$35, at the door \$40. All donations are tax deductible. SPOT helps hundreds of homeless and abandoned cats and dogs every year find their "forever" homes. To make a donation or purchase tickets call 360-336-5388. Tickets are also available at Chukanut Valley Veterinary Clinic, 530 N. Burlington Blvd and Doggie Come Play at 530 N. Burlington Blvd. Please visit our web-site at www.savingpetsonlineatime.org.
The American Association of University Women (AAUW) will feature guest speaker Tim Brown, Director of the Anacortes Community Theatre (ACT), at their February 14 meeting at 9:30 am at the Westminster Church Fellowship Hall, 1300 9th Street, Anacortes. The public is invited to attend. Brown has been associated with ACT since 1994 and became Director in 2014. Brown is also the production coordinator for six main stage shows, manages 300+ volunteers and oversees all properties, including the theatre facilities. Brown will share an insiders perspective on all things ACT, including opportunities for community members to combine creative expression with community engagement at ACT.

CONTINUED ON PAGE 11

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Your Fidalgo replaces Fidalgo This Week and gives you more community news that's up to date each week. For more information contact Publisher Jack Darrton at 293.3122 x1040 or jdarrton@goanacortes.com.

Coastal group hosts volunteer trainings

The new Coastal Volunteer Partnership at Padilla Bay is hosting several volunteer training opportunities in the coming months.

- The Skagit Marine Resources Committee is now accepting registrations for the 2015 Salish Sea Stewards free volunteer training program.

Training is 30 hours of classroom presentations on topics related to Salish Sea ecosystems, human interactions, current issues and recovery. Training is at Padilla Bay Reserve 3-6 p.m. Thursdays March 5-April 30. Participants will also choose from a variety of field trips and hands-on training related to the specific volunteer roles or projects they want to pursue.

Participation is free in return for 30 hours of volunteer service.

Applications are at www.skagitmrc.org. Contact volunteer programs coordinator Catherine Buchalski at cbuchalski@padillabay.gov or (360) 428-1559.

- Padilla Bay National Estuarine Research Reserve will have three volunteer trainings for anyone interested in helping at the front desk, interpretive center, and in the education and aquarum programs.

Training dates are 9 a.m. to noon today for those interested in working at the front desk and interpretive center; 10 a.m. to noon Tuesday Feb. 24 for aquarium docents; and 9 a.m. to noon Wednesday, Feb. 25 for K-12 educational program supporters.

RSVP to Buchalski.

- Friends of Skagit Beaches will host the fourth annual Fidalgo Shoreline Academy, A One Day University for Everyone 9 a.m. to 4 p.m. Saturday, April 11 at the Fidalgo Bay Resort.

Attendees can choose from a variety of presentations about current issues facing the marine environment and an array of topics about Salish Sea ecosystems and culture.

Keynote speaker is Joe

A closer look at SCIENCE



KIMBERLY JACOBSON PHOTOS

Colin Conyell, left, and Benjamin Paul look closely at their barnacles before starting the experiment last week at Shannon Point Marine Center. The four-day program allowed elementary school kids to do hands-on science and art activities.

Students visit marine center to learn more about oceanography

BY KIMBERLY JACOBSON
American staff writer

Elie Vorel looks through binoculars at the water.

A bird dives down and pops back up.

"It's looking from side to side," she says.

Gene McKeen, Shannon Point Marine Center lab manager, takes a look to try to identify the bird.

"That's a clue. It went under," he said. "It's probably looking for food."

McKeen says it could be a loon.

Elie was one of more than a dozen kids who explored the beach last week as part of Early Release Enrichment at Western Washington University's Shannon Point Marine Center. During the beach visit, kids turned over rocks, held crabs they found and searched the sky and water with binoculars.

The four-day program allowed elementary school kids to do hands-on science and art activities. The themes were Structures



Train to become a citizen scientist

Posted: Wednesday, April 15, 2015 5:55 am

Several Skagit and Whatcom county organizations are collaborating to host free volunteer citizen science training by expert marine biologists and educators.

They will teach participants to identify and count beach and intertidal plants and animals found on local beaches, as well as what plants and animals live high up on the beach and those that live low and are usually covered by water.

The Skagit County classroom session is 9 a.m. to 3 p.m. Sunday at Fidalgo Bay Resort, 4701 Fidalgo Bay Road. Field training is 9 a.m. to noon Sunday, May 17 at Sunset Beach in Washington Park.

This training leads to volunteer opportunities with a special emphasis on identifying and counting organisms as part of a citizen science initiative.

After training, participants will be considered vetted citizen scientist volunteers eligible to collect data in low-tide intertidal surveys with one of many groups.

In Skagit County, these surveys will gather baseline data at the Fidalgo Bay Aquatic Reserve, and pre-restoration information for the Northwest Straits Foundation and Skagit Marine Resources Committee at Bowman Bay, Shannon Point and March Point.

Surveys will begin in summer 2015 and are sponsored by the Whatcom and Skagit Marine Resources Committees, Cherry Point and Fidalgo Bay Aquatic Reserve Citizen Stewardship Committees, Coastal Volunteer Partnership at Padilla Bay, and Northwest Straits Foundation.

Trainings will be conducted by RE Sources' North Sound Baykeeper program with assistance from volunteer experts and partners. Participants must attend the full classroom and field training sessions to be considered eligible to help with the surveys.

Minors older than 14 are welcome to participate if a guardian is present at all times.



Volunteer citizen science training

The Coastal Volunteer Partnership at Padilla Bay is partnering with several organizations to offer free volunteer citizen science training on April 19 and May 17.

The training leads to volunteer opportunities to identify and count organisms as part of a citizen science initiative as in the photo above.

Assignment Service Details

April 2015 to September 2015

Site	Place	Assignment	Volunteer	Service From Date	Service To Date	Hours
CVP	MRC	Beach Seining	Gleeson, Jim	05-28-2015	05-28-2015	2:00
				06-16-2015	06-16-2015	3:00
				08-21-2015	08-21-2015	3:00
				08-29-2015	08-29-2015	2:00
						10:00
			Hallingstad, Anna	04-23-2015	04-23-2015	1:20
				05-13-2015	05-13-2015	2:00
				06-26-2015	06-26-2015	2:00
						5:20
			Houppermans, Yvonne	04-23-2015	04-23-2015	1:45
				05-13-2015	05-13-2015	2:00
				05-28-2015	05-28-2015	2:00
				06-12-2015	06-12-2015	1:30
				06-26-2015	06-26-2015	2:15
				07-24-2015	07-24-2015	2:20
				08-21-2015	08-21-2015	2:00
						13:50
			Lee, Hal	05-13-2015	05-13-2015	2:00
				05-28-2015	05-28-2015	2:00
				06-12-2015	06-12-2015	1:15
				06-16-2015	06-16-2015	2:30
				06-26-2015	06-26-2015	2:20
				08-21-2015	08-21-2015	2:00
						12:05
		Total				41:15
		Fidalgo Bay Day	Gleeson, Valerie	08-29-2015	08-29-2015	3:00
				08-29-2015	08-29-2015	3:00
						6:00
		Total	Lechner, Barbara	08-29-2015	08-29-2015	5:00
						5:00
						11:00
		Forage Fish Sampling	Gleeson, Jim	04-18-2015	04-18-2015	2:00
				05-06-2015	05-06-2015	2:00
				05-11-2015	05-11-2015	2:30
				06-12-2015	06-12-2015	1:30
						8:00
			Gleeson, Valerie	05-06-2015	05-06-2015	2:00
				07-02-2015	07-02-2015	4:00
				07-24-2015	07-24-2015	2:00
				08-21-2015	08-21-2015	2:00
						10:00
			Hallingstad, Anna	04-07-2015	04-07-2015	2:00
				04-10-2015	04-10-2015	2:00
				04-18-2015	04-18-2015	2:00
				04-26-2015	04-26-2015	3:00
				05-02-2015	05-02-2015	2:00
				05-11-2015	05-11-2015	2:00
				06-08-2015	06-08-2015	1:30
				06-27-2015	06-27-2015	1:30
						16:00
			Houppermans, Yvonne	04-07-2015	04-07-2015	2:15
				04-10-2015	04-10-2015	2:30
				04-18-2015	04-18-2015	2:30
				04-26-2015	04-26-2015	3:00
				05-24-2015	05-24-2015	2:00
				06-08-2015	06-08-2015	1:45
						14:00
			Lechner, Barbara	04-07-2015	04-07-2015	2:00
				04-10-2015	04-10-2015	2:00
						4:00
			Lechner, Robert	04-10-2015	04-10-2015	2:00

Site	Place	Assignment	Volunteer	Service From Date	Service To Date	Hours
				04-18-2015	04-18-2015	2:00
				05-06-2015	05-06-2015	2:00
				05-16-2015	05-16-2015	2:00
				06-08-2015	06-08-2015	2:00
				06-12-2015	06-12-2015	2:00
				06-27-2015	06-27-2015	2:00
				07-11-2015	07-11-2015	2:15
				07-24-2015	07-24-2015	2:00
				08-07-2015	08-07-2015	2:00
				08-21-2015	08-21-2015	1:30
				08-24-2015	08-24-2015	2:00
				09-07-2015	09-07-2015	1:30
						25:15
			Lee, Hal	04-07-2015	04-07-2015	3:00
				04-10-2015	04-10-2015	3:00
				04-12-2015	04-12-2015	4:00
				04-18-2015	04-18-2015	3:30
				05-02-2015	05-02-2015	2:00
				05-11-2015	05-11-2015	2:00
				05-16-2015	05-16-2015	2:00
				05-24-2015	05-24-2015	2:00
				06-08-2015	06-08-2015	1:45
				06-14-2015	06-14-2015	2:00
				06-30-2015	06-30-2015	2:00
				07-11-2015	07-11-2015	2:00
				07-12-2015	07-12-2015	2:30
				07-16-2015	07-16-2015	2:00
				07-26-2015	07-26-2015	2:30
				08-07-2015	08-07-2015	2:00
				08-09-2015	08-09-2015	2:00
						40:15
			Lee, Hella	04-07-2015	04-07-2015	3:00
				04-10-2015	04-10-2015	2:00
				04-12-2015	04-12-2015	4:00
				05-02-2015	05-02-2015	2:00
				06-08-2015	06-08-2015	2:00
				06-12-2015	06-12-2015	1:30
				06-14-2015	06-14-2015	2:00
				07-11-2015	07-11-2015	2:00
				07-12-2015	07-12-2015	2:30
				07-26-2015	07-26-2015	2:30
				08-09-2015	08-09-2015	2:00
				09-07-2015	09-07-2015	1:30
						27:00
			Rise, Diane	04-19-2015	04-19-2015	2:30
				05-11-2015	05-11-2015	2:30
						5:00
			Total			149:30
		Intertidal Monitoring	Alm, Glenda	04-19-2015	04-19-2015	6:00
						6:00
			Barger, Russ	05-17-2015	05-17-2015	3:00
				05-18-2015	05-18-2015	4:00
						7:00
			Gleeson, Jim	04-19-2015	04-19-2015	6:00
				05-17-2015	05-17-2015	2:30
				06-27-2015	06-27-2015	2:00
						10:30
			Gleeson, Valerie	05-17-2015	05-17-2015	2:30
						2:30
			Hallingstad, Anna	05-18-2015	05-18-2015	3:30
				07-01-2015	07-01-2015	2:30
						6:00
			Houppermans, Yvonne	05-18-2015	05-18-2015	4:00
				05-20-2015	05-20-2015	3:00
				06-17-2015	06-17-2015	4:15
						11:15
			Parent, Dennis	06-17-2015	06-17-2015	3:00
						3:00

Site	Place	Assignment	Volunteer	Service From Date	Service To Date	Hours
			Rose, Maddie	04-19-2015 05-17-2015 05-18-2015	04-19-2015 05-17-2015 05-18-2015	8:00 2:00 3:00 13:00
		Total				59:15
		MRC Event/Workshop Support				0
		MRC Meetings				0
		Salish Sea Stewards-Additional Education Hours	Ebright, Colleen	04-30-2015	04-30-2015	1:30 1:30
			Gleeson, Jim	04-10-2015 04-11-2015 04-18-2015 04-27-2015 04-28-2015 04-29-2015 04-30-2015	04-10-2015 04-11-2015 04-18-2015 04-27-2015 04-28-2015 04-29-2015 04-30-2015	2:00 5:00 2:00 3:00 3:00 2:00 2:00 19:00
			Gleeson, Valerie	04-26-2015 04-27-2015 04-28-2015 04-29-2015 04-30-2015	04-26-2015 04-27-2015 04-28-2015 04-29-2015 04-30-2015	2:00 2:00 2:00 2:00 2:00 10:00
			Hallingstad, Anna	04-19-2015 04-25-2015 04-28-2015 05-11-2015 05-17-2015 05-28-2015 06-16-2015	04-19-2015 04-25-2015 04-28-2015 05-11-2015 05-17-2015 05-28-2015 06-16-2015	6:00 2:00 3:00 1:30 2:10 1:30 2:00 18:10
			Houppermans, Yvonne	04-09-2015 04-10-2015 04-11-2015 04-19-2015 04-23-2015 04-28-2015 04-29-2015 04-30-2015 05-02-2015 05-07-2015 05-11-2015 05-17-2015 05-27-2015 06-03-2015 06-11-2015 07-02-2015	04-09-2015 04-10-2015 04-11-2015 04-19-2015 04-23-2015 04-28-2015 04-29-2015 04-30-2015 05-02-2015 05-07-2015 05-11-2015 05-17-2015 05-27-2015 06-03-2015 06-11-2015 07-02-2015	2:00 1:30 7:00 6:00 1:30 3:00 1:30 1:30 1:00 3:00 2:00 3:00 1:00 2:00 1:30 4:00 41:30
			Lechner, Barbara	04-09-2015 04-18-2015 06-03-2015 07-10-2015 08-06-2015	04-09-2015 04-18-2015 06-03-2015 07-10-2015 08-06-2015	2:00 2:00 2:00 2:00 2:00 10:00
			Lechner, Robert	05-21-2015	05-21-2015	5:00 5:00
			Rose, Maddie	04-11-2015 04-14-2015 04-16-2015 04-23-2015 04-28-2015 05-07-2015 06-27-2015 07-01-2015 07-04-2015 07-05-2015	04-11-2015 04-14-2015 04-16-2015 04-23-2015 04-28-2015 05-07-2015 06-27-2015 07-01-2015 07-04-2015 07-05-2015	8:00 2:00 2:00 2:00 2:00 5:00 1:00 5:00 3:00 3:00 33:00

Site	Place	Assignment	Volunteer	Service From Date	Service To Date	Hours
		Washington Park Beach Naturalist	Total			138:10
			Fisher, Leon	05-23-2015	05-23-2015	4:00
				06-13-2015	06-13-2015	4:00
				07-04-2015	07-04-2015	4:00
						12:00
			Gleeson, Jim	05-07-2015	05-07-2015	3:00
				06-20-2015	06-20-2015	3:00
						6:00
			Gleeson, Valerie	05-07-2015	05-07-2015	3:00
				05-30-2015	05-30-2015	3:00
				06-06-2015	06-06-2015	3:00
				06-20-2015	06-20-2015	3:00
				08-15-2015	08-15-2015	3:00
						15:00
			Houppermans, Yvonne	05-30-2015	05-30-2015	3:30
				06-13-2015	06-13-2015	3:30
						7:00
			Rose, Maddie	07-04-2015	07-04-2015	4:00
				07-18-2015	07-18-2015	3:00
						7:00
			Total			47:00
		Woody Debris monitoring				0
	Total					446:10
Total						446:10
Grand total						446:10

Volunteer Service Details

April 2015 to September 2015

Volunteer	Service From Date	Service To Date	Service Assignment	Hours
Alm, Glenda	04-10-2015	04-10-2015	Front Desk Support	3:00
	04-17-2015	04-17-2015	Front Desk Support	3:00
	04-19-2015	04-19-2015	Intertidal Monitoring	6:00
	05-02-2015	05-02-2015	Front Desk Support	3:00
	05-10-2015	05-10-2015	Front Desk Support	3:30
	05-23-2015	05-23-2015	Front Desk Support	3:00
	07-18-2015	07-18-2015	Front Desk Support	2:00
				23:30
Barger, Russ	05-17-2015	05-17-2015	Intertidal Monitoring	3:00
	05-18-2015	05-18-2015	Intertidal Monitoring	4:00
	05-19-2015	05-19-2015	BEACH Water Sampling	6:00
				13:00
Busby, Laura				0
Cregor, Frank				0
Cregor, Peggy				0
Ebright, Colleen	04-30-2015	04-30-2015	Salish Sea Stewards-Additional Education Hours	1:30
	08-02-2015	08-02-2015	PBNERR Research & Lab Support	3:30
	08-04-2015	08-04-2015	PBNERR Research & Lab Support	2:30
	08-10-2015	08-10-2015	PBNERR Research & Lab Support	3:00
	08-18-2015	08-18-2015	PBNERR Research & Lab Support	4:00
				14:30
Fisher, Leon	05-23-2015	05-23-2015	Washington Park Beach Naturalist	4:00
	06-13-2015	06-13-2015	Washington Park Beach Naturalist	4:00
	07-04-2015	07-04-2015	Washington Park Beach Naturalist	4:00
				12:00
Gleeson, Jim	04-10-2015	04-10-2015	Salish Sea Stewards-Additional Education Hours	2:00
	04-11-2015	04-11-2015	Salish Sea Stewards-Additional Education Hours	5:00
	04-18-2015	04-18-2015	Forage Fish Sampling	2:00
	04-18-2015	04-18-2015	Salish Sea Stewards-Additional Education Hours	2:00
	04-19-2015	04-19-2015	Intertidal Monitoring	6:00
	04-27-2015	04-27-2015	Salish Sea Stewards-Additional Education Hours	3:00
	04-28-2015	04-28-2015	Salish Sea Stewards-Additional Education Hours	3:00
	04-29-2015	04-29-2015	Salish Sea Stewards-Additional Education Hours	2:00
	04-30-2015	04-30-2015	Salish Sea Stewards-Additional Education Hours	2:00
	05-06-2015	05-06-2015	Forage Fish Sampling	2:00
	05-07-2015	05-07-2015	Washington Park Beach Naturalist	3:00
	05-11-2015	05-11-2015	Forage Fish Sampling	2:30
	05-17-2015	05-17-2015	Intertidal Monitoring	2:30
	05-18-2015	05-18-2015	Samish/Swinomish Clam surveys	6:00
	05-19-2015	05-19-2015	Samish/Swinomish Clam surveys	6:00
	05-28-2015	05-28-2015	Beach Seining	2:00
	06-12-2015	06-12-2015	Forage Fish Sampling	1:30
	06-16-2015	06-16-2015	Beach Seining	3:00
	06-20-2015	06-20-2015	Washington Park Beach Naturalist	3:00
	06-27-2015	06-27-2015	Intertidal Monitoring	2:00
	08-21-2015	08-21-2015	Beach Seining	3:00
	08-29-2015	08-29-2015	Beach Seining	2:00
				65:30

Volunteer	Service From Date	Service To Date	Service Assignment	Hours
Gleeson, Valerie	04-26-2015	04-26-2015	Salish Sea Stewards-Additional Education Hours	2:00
	04-27-2015	04-27-2015	Salish Sea Stewards-Additional Education Hours	2:00
	04-28-2015	04-28-2015	Salish Sea Stewards-Additional Education Hours	2:00
	04-29-2015	04-29-2015	Salish Sea Stewards-Additional Education Hours	2:00
	04-30-2015	04-30-2015	Salish Sea Stewards-Additional Education Hours	2:00
	05-06-2015	05-06-2015	Forage Fish Sampling	2:00
	05-07-2015	05-07-2015	Washington Park Beach Naturalist	3:00
	05-17-2015	05-17-2015	Intertidal Monitoring	2:30
	05-30-2015	05-30-2015	Washington Park Beach Naturalist	3:00
	06-06-2015	06-06-2015	Washington Park Beach Naturalist	3:00
	06-07-2015	06-07-2015	Anacortes Waterfront Festival	2:00
	06-20-2015	06-20-2015	Washington Park Beach Naturalist	3:00
	07-02-2015	07-02-2015	Forage Fish Sampling	4:00
	07-24-2015	07-24-2015	Forage Fish Sampling	2:00
	08-15-2015	08-15-2015	Washington Park Beach Naturalist	3:00
	08-21-2015	08-21-2015	Forage Fish Sampling	2:00
	08-29-2015	08-29-2015	Fidalgo Bay Day	3:00
	08-29-2015	08-29-2015	Fidalgo Bay Day	3:00
			45:30	
Hallingstad, Anna	04-07-2015	04-07-2015	Forage Fish Sampling	2:00
	04-10-2015	04-10-2015	Forage Fish Sampling	2:00
	04-18-2015	04-18-2015	Forage Fish Sampling	2:00
	04-19-2015	04-19-2015	Salish Sea Stewards-Additional Education Hours	6:00
	04-23-2015	04-23-2015	Beach Seining	1:20
	04-25-2015	04-25-2015	PBI Harbor Porpoise Monitoring	2:00
	04-25-2015	04-25-2015	Salish Sea Stewards-Additional Education Hours	2:00
	04-26-2015	04-26-2015	Forage Fish Sampling	3:00
	04-28-2015	04-28-2015	Salish Sea Stewards-Additional Education Hours	3:00
	05-02-2015	05-02-2015	Forage Fish Sampling	2:00
	05-07-2015	05-07-2015	PBI Harbor Porpoise Monitoring	1:30
	05-08-2015	05-08-2015	Front Desk Support	3:00
	05-11-2015	05-11-2015	Forage Fish Sampling	2:00
	05-11-2015	05-11-2015	Salish Sea Stewards-Additional Education Hours	1:30
	05-13-2015	05-13-2015	Beach Seining	2:00
	05-17-2015	05-17-2015	Salish Sea Stewards-Additional Education Hours	2:10
	05-18-2015	05-18-2015	Intertidal Monitoring	3:30
	05-28-2015	05-28-2015	Salish Sea Stewards-Additional Education Hours	1:30
	06-02-2015	06-02-2015	BEACH Water Sampling	4:00
	06-06-2015	06-06-2015	Anacortes Waterfront Festival	4:30
	06-08-2015	06-08-2015	Forage Fish Sampling	1:30
	06-16-2015	06-16-2015	Salish Sea Stewards-Additional Education Hours	2:00
	06-17-2015	06-17-2015	PBI Harbor Porpoise Monitoring	1:30
	06-26-2015	06-26-2015	Beach Seining	2:00
	06-27-2015	06-27-2015	Forage Fish Sampling	1:30
	06-30-2015	06-30-2015	PBI Harbor Porpoise Monitoring	1:00
	07-01-2015	07-01-2015	Intertidal Monitoring	2:30
			63:00	
Houppermans, Yvonne	04-07-2015	04-07-2015	Forage Fish Sampling	2:15
	04-09-2015	04-09-2015	Salish Sea Stewards-Additional Education Hours	2:00
	04-10-2015	04-10-2015	Forage Fish Sampling	2:30
	04-10-2015	04-10-2015	Salish Sea Stewards-Additional Education Hours	1:30
	04-11-2015	04-11-2015	Salish Sea Stewards-Additional Education Hours	7:00
	04-18-2015	04-18-2015	Forage Fish Sampling	2:30
	04-19-2015	04-19-2015	Salish Sea Stewards-Additional Education Hours	6:00
	04-23-2015	04-23-2015	Beach Seining	1:45
	04-23-2015	04-23-2015	Salish Sea Stewards-Additional Education Hours	1:30
	04-26-2015	04-26-2015	Forage Fish Sampling	3:00
	04-28-2015	04-28-2015	Salish Sea Stewards-Additional Education Hours	3:00

Volunteer	Service From Date	Service To Date	Service Assignment	Hours
	04-29-2015	04-29-2015	Salish Sea Stewards-Additional Education Hours	1:30
	04-30-2015	04-30-2015	Salish Sea Stewards-Additional Education Hours	1:30
	05-02-2015	05-02-2015	Salish Sea Stewards-Additional Education Hours	1:00
	05-07-2015	05-07-2015	Salish Sea Stewards-Additional Education Hours	3:00
	05-11-2015	05-11-2015	Salish Sea Stewards-Additional Education Hours	2:00
	05-13-2015	05-13-2015	Beach Seining	2:00
	05-17-2015	05-17-2015	Salish Sea Stewards-Additional Education Hours	3:00
	05-18-2015	05-18-2015	Intertidal Monitoring	4:00
	05-20-2015	05-20-2015	Intertidal Monitoring	3:00
	05-24-2015	05-24-2015	Forage Fish Sampling	2:00
	05-27-2015	05-27-2015	Salish Sea Stewards-Additional Education Hours	1:00
	05-28-2015	05-28-2015	Beach Seining	2:00
	05-30-2015	05-30-2015	Washington Park Beach Naturalist	3:30
	06-03-2015	06-03-2015	Salish Sea Stewards-Additional Education Hours	2:00
	06-08-2015	06-08-2015	Forage Fish Sampling	1:45
	06-11-2015	06-11-2015	Salish Sea Stewards-Additional Education Hours	1:30
	06-12-2015	06-12-2015	Beach Seining	1:30
	06-13-2015	06-13-2015	Washington Park Beach Naturalist	3:30
	06-17-2015	06-17-2015	Intertidal Monitoring	4:15
	06-26-2015	06-26-2015	Beach Seining	2:15
	07-02-2015	07-02-2015	Salish Sea Stewards-Additional Education Hours	4:00
	07-24-2015	07-24-2015	Beach Seining	2:20
	08-21-2015	08-21-2015	Beach Seining	2:00
			87:35	
Kent, Dick	04-04-2015	04-04-2015	Front Desk Support	3:00
	04-10-2015	04-10-2015	Front Desk Support	3:00
	04-11-2015	04-11-2015	Front Desk Support	6:00
	05-10-2015	05-10-2015	Front Desk Support	4:00
	05-11-2015	05-11-2015	BEACH Water Sampling	2:00
	05-16-2015	05-16-2015	Front Desk Support	4:00
	05-18-2015	05-18-2015	CTP Professional Development Program Support	1:00
	05-19-2015	05-19-2015	CTP Professional Development Program Support	1:00
	08-11-2015	08-11-2015	Heron Observation & Monitoring Team	2:00
	08-21-2015	08-21-2015	Front Desk Support	5:00
			31:00	
Lechner, Barbara	04-02-2015	04-02-2015	Interpretation for Intertidal Monitoring/Forage Fish	3:00
	04-07-2015	04-07-2015	Forage Fish Sampling	2:00
	04-09-2015	04-09-2015	Salish Sea Stewards-Additional Education Hours	2:00
	04-10-2015	04-10-2015	Forage Fish Sampling	2:00
	04-18-2015	04-18-2015	Interpretation for Intertidal Monitoring/Forage Fish	2:00
	04-18-2015	04-18-2015	Salish Sea Stewards-Additional Education Hours	2:00
	04-25-2015	04-25-2015	PBI Harbor Porpoise Monitoring	2:00
	05-06-2015	05-06-2015	Interpretation for Intertidal Monitoring/Forage Fish	2:00
	05-16-2015	05-16-2015	Interpretation for Intertidal Monitoring/Forage Fish	2:00
	05-21-2015	05-21-2015	Interpretation for Intertidal Monitoring/Forage Fish	2:00
	06-03-2015	06-03-2015	Salish Sea Stewards-Additional Education Hours	2:00
	06-06-2015	06-06-2015	Anacortes Waterfront Festival	3:00
	06-08-2015	06-08-2015	Interpretation for Intertidal Monitoring/Forage Fish	2:00
	06-12-2015	06-12-2015	Interpretation for Intertidal Monitoring/Forage Fish	2:00
	06-19-2015	06-19-2015	Monofilament/Fishing Line Recovery & Recycling	0:30
	06-27-2015	06-27-2015	Interpretation for Intertidal Monitoring/Forage Fish	2:00
	07-10-2015	07-10-2015	Salish Sea Stewards-Additional Education Hours	2:00
	07-11-2015	07-11-2015	Interpretation for Intertidal Monitoring/Forage Fish	2:00
	07-24-2015	07-24-2015	Interpretation for Intertidal Monitoring/Forage Fish	2:00
	08-06-2015	08-06-2015	Salish Sea Stewards-Additional Education Hours	2:00
	08-21-2015	08-21-2015	Interpretation for Intertidal Monitoring/Forage Fish	1:30
	08-24-2015	08-24-2015	Interpretation for Intertidal Monitoring/Forage Fish	2:00
	08-29-2015	08-29-2015	Fidalgo Bay Day	5:00

Volunteer	Service From Date	Service To Date	Service Assignment	Hours
Lechner, Robert	09-07-2015	09-07-2015	Interpretation for Intertidal Monitoring/Forage Fish	1:30
				50:30
	04-10-2015	04-10-2015	Forage Fish Sampling	2:00
	04-18-2015	04-18-2015	Forage Fish Sampling	2:00
	05-06-2015	05-06-2015	Forage Fish Sampling	2:00
	05-16-2015	05-16-2015	Forage Fish Sampling	2:00
	05-21-2015	05-21-2015	Salish Sea Stewards-Additional Education Hours	5:00
	06-08-2015	06-08-2015	Forage Fish Sampling	2:00
	06-12-2015	06-12-2015	Forage Fish Sampling	2:00
	06-17-2015	06-17-2015	Monofilament/Fishing Line Recovery & Recycling	0:30
	06-27-2015	06-27-2015	Forage Fish Sampling	2:00
	07-11-2015	07-11-2015	Forage Fish Sampling	2:15
	07-17-2015	07-17-2015	Monofilament/Fishing Line Recovery & Recycling	0:30
	07-24-2015	07-24-2015	Forage Fish Sampling	2:00
	08-07-2015	08-07-2015	Forage Fish Sampling	2:00
	08-17-2015	08-17-2015	Monofilament/Fishing Line Recovery & Recycling	0:30
	08-21-2015	08-21-2015	Forage Fish Sampling	1:30
	08-24-2015	08-24-2015	Forage Fish Sampling	2:00
	09-07-2015	09-07-2015	Forage Fish Sampling	1:30
				31:45
Lee, Hal	04-07-2015	04-07-2015	Forage Fish Sampling	3:00
	04-10-2015	04-10-2015	Forage Fish Sampling	3:00
	04-12-2015	04-12-2015	Forage Fish Sampling	4:00
	04-18-2015	04-18-2015	Forage Fish Sampling	3:30
	04-23-2015	04-23-2015	Interpretation for Intertidal Monitoring/Forage Fish	2:45
	05-02-2015	05-02-2015	Forage Fish Sampling	2:00
	05-10-2015	05-10-2015	Skagit Land Trust	4:00
	05-11-2015	05-11-2015	Forage Fish Sampling	2:00
	05-12-2015	05-12-2015	Skagit Land Trust	5:00
	05-13-2015	05-13-2015	Beach Seining	2:00
	05-15-2015	05-15-2015	Skagit Land Trust	4:00
	05-16-2015	05-16-2015	Forage Fish Sampling	2:00
	05-20-2015	05-20-2015	Skagit Land Trust	7:00
	05-22-2015	05-22-2015	Skagit Land Trust	4:00
	05-24-2015	05-24-2015	Forage Fish Sampling	2:00
	05-25-2015	05-25-2015	Skagit Land Trust	3:00
	05-26-2015	05-26-2015	Skagit Land Trust	4:00
	05-27-2015	05-27-2015	Skagit Land Trust	7:05
	05-28-2015	05-28-2015	Beach Seining	2:00
	05-28-2015	05-28-2015	Skagit Land Trust	3:30
	05-29-2015	05-29-2015	Skagit Land Trust	2:00
	05-30-2015	05-30-2015	Skagit Land Trust	2:00
	06-02-2015	06-02-2015	BEACH Water Sampling	4:30
	06-03-2015	06-03-2015	Skagit Land Trust	5:00
	06-04-2015	06-04-2015	Skagit Land Trust	9:00
	06-05-2015	06-05-2015	Skagit Land Trust	7:30
	06-08-2015	06-08-2015	Forage Fish Sampling	1:45
	06-09-2015	06-09-2015	Skagit Land Trust	9:00
	06-10-2015	06-10-2015	Skagit Land Trust	2:00
	06-12-2015	06-12-2015	Beach Seining	1:15
	06-14-2015	06-14-2015	Forage Fish Sampling	2:00
	06-16-2015	06-16-2015	Beach Seining	2:30
	06-22-2015	06-22-2015	Skagit Land Trust	4:30
	06-23-2015	06-23-2015	BEACH Water Sampling	2:30
	06-26-2015	06-26-2015	Beach Seining	2:20
	06-30-2015	06-30-2015	Forage Fish Sampling	2:00
	07-07-2015	07-07-2015	Skagit Land Trust	7:00
	07-11-2015	07-11-2015	Forage Fish Sampling	2:00

Volunteer	Service From Date	Service To Date	Service Assignment	Hours
	07-12-2015	07-12-2015	Forage Fish Sampling	2:30
	07-12-2015	07-12-2015	Skagit Land Trust	3:30
	07-16-2015	07-16-2015	Forage Fish Sampling	2:00
	07-17-2015	07-17-2015	Skagit Land Trust	3:00
	07-18-2015	07-18-2015	Skagit Land Trust	5:00
	07-26-2015	07-26-2015	Forage Fish Sampling	2:30
	07-27-2015	07-27-2015	Skagit Conservation District	2:30
	07-27-2015	07-27-2015	Skagit Land Trust	4:00
	07-29-2015	07-29-2015	Skagit Land Trust	8:00
	08-03-2015	08-03-2015	Skagit Land Trust	8:00
	08-04-2015	08-04-2015	Skagit Land Trust	8:00
	08-07-2015	08-07-2015	Forage Fish Sampling	2:00
	08-07-2015	08-07-2015	Skagit Land Trust	2:30
	08-09-2015	08-09-2015	Forage Fish Sampling	2:00
	08-21-2015	08-21-2015	Beach Seining	2:00
				196:10
Lee, Hella	04-07-2015	04-07-2015	Forage Fish Sampling	3:00
	04-10-2015	04-10-2015	Forage Fish Sampling	2:00
	04-12-2015	04-12-2015	Forage Fish Sampling	4:00
	05-02-2015	05-02-2015	Forage Fish Sampling	2:00
	06-08-2015	06-08-2015	Forage Fish Sampling	2:00
	06-12-2015	06-12-2015	Forage Fish Sampling	1:30
	06-14-2015	06-14-2015	Forage Fish Sampling	2:00
	07-11-2015	07-11-2015	Forage Fish Sampling	2:00
	07-12-2015	07-12-2015	Forage Fish Sampling	2:30
	07-26-2015	07-26-2015	Forage Fish Sampling	2:30
	07-27-2015	07-27-2015	Skagit Conservation District	2:30
	08-07-2015	08-07-2015	Interpretation for Intertidal Monitoring/Forage Fish	2:00
	08-09-2015	08-09-2015	Forage Fish Sampling	2:00
	09-07-2015	09-07-2015	Forage Fish Sampling	1:30
				31:30
Miller, Lisa	07-31-2015	07-31-2015	Interpretation for Intertidal Monitoring/Forage Fish	2:00
				2:00
Parent, Dennis	04-08-2015	04-08-2015	Skagit Fisheries Enhancement Group	4:00
	05-29-2015	05-29-2015	Heron Observation & Monitoring Team	2:00
	06-17-2015	06-17-2015	Intertidal Monitoring	3:00
	07-01-2015	07-01-2015	Heron Observation & Monitoring Team	2:00
	07-17-2015	07-17-2015	Heron Observation & Monitoring Team	2:00
	07-31-2015	07-31-2015	Heron Observation & Monitoring Team	2:00
	08-10-2015	08-10-2015	Heron Observation & Monitoring Team	3:00
				18:00
Parent, Lorna	07-01-2015	07-01-2015	Front Desk Support	2:30
				2:30
Rise, Diane	04-19-2015	04-19-2015	Forage Fish Sampling	2:30
	05-11-2015	05-11-2015	Forage Fish Sampling	2:30
				5:00
Rose, Maddie	04-11-2015	04-11-2015	Education Program Support	4:00
	04-11-2015	04-11-2015	Salish Sea Stewards-Additional Education Hours	8:00
	04-14-2015	04-14-2015	Salish Sea Stewards-Additional Education Hours	2:00
	04-16-2015	04-16-2015	Salish Sea Stewards-Additional Education Hours	2:00
	04-18-2015	04-18-2015	Front Desk Support	3:00
	04-19-2015	04-19-2015	Intertidal Monitoring	8:00
	04-23-2015	04-23-2015	Salish Sea Stewards-Additional Education Hours	2:00
	04-25-2015	04-25-2015	Front Desk Support	4:00

Volunteer	Service From Date	Service To Date	Service Assignment	Hours
	04-28-2015	04-28-2015	Salish Sea Stewards-Additional Education Hours	2:00
	05-02-2015	05-02-2015	Front Desk Support	3:00
	05-07-2015	05-07-2015	Salish Sea Stewards-Additional Education Hours	5:00
	05-09-2015	05-09-2015	Front Desk Support	3:00
	05-17-2015	05-17-2015	Intertidal Monitoring	2:00
	05-18-2015	05-18-2015	Intertidal Monitoring	3:00
	05-23-2015	05-23-2015	Front Desk Support	4:00
	05-30-2015	05-30-2015	Front Desk Support	6:00
	06-06-2015	06-06-2015	Trail Tales	2:30
	06-07-2015	06-07-2015	Rosario Beach Naturalist	5:00
	06-09-2015	06-09-2015	Rosario Beach Naturalist	4:00
	06-13-2015	06-13-2015	Trail Tales	2:00
	06-21-2015	06-21-2015	Rosario Beach Naturalist	7:00
	06-27-2015	06-27-2015	Salish Sea Stewards-Additional Education Hours	1:00
	07-01-2015	07-01-2015	Salish Sea Stewards-Additional Education Hours	5:00
	07-04-2015	07-04-2015	Salish Sea Stewards-Additional Education Hours	3:00
	07-04-2015	07-04-2015	Washington Park Beach Naturalist	4:00
	07-05-2015	07-05-2015	Rosario Beach Naturalist	2:00
	07-05-2015	07-05-2015	Salish Sea Stewards-Additional Education Hours	3:00
	07-11-2015	07-11-2015	Rosario Beach Naturalist	3:00
	07-12-2015	07-12-2015	Front Desk Support	3:00
	07-18-2015	07-18-2015	Rosario Beach Naturalist	4:00
	07-18-2015	07-18-2015	Washington Park Beach Naturalist	3:00
	07-25-2015	07-25-2015	Rosario Beach Naturalist	3:30
				116:00
St. Pierre, Nurith				0
St. Pierre, Raoul				0
Watson, Rowena				0
Grand total				809:00

2015 Beach Naturalist Roster

	Last	First	City/Town	Email Address	Phone
1	Fisher	Leon	Anacortes	swsfisher@aol.com	3602992178
2	Gleeson	Valerie	Anacortes	gleeson13@icloud.com	3605880585
3	Gleeson	Jim	Anacortes	gleeson13@icloud.com	3605880585
4	Houppermans	Yvonne	Anacortes	yhouppermans@gmail.com	3605889256
5	Rose	Madeline	Oak Harbor	ixmystique@comcast.net	3609414324
6	Sjogren	Gordon	Kirkland	gsjog@hotmail.com	4252417132
7	Weathers	Bob	Anacortes	weathers@spu.ed	3608738277



Skagit MRC Beach Naturalists

Thank you for your time, interest and good energy for the Skagit MRC Beach Naturalist program! This wouldn't be happening without YOU. This hand out is meant to provide you with reference information as you fulfill your role as a naturalist at Washington Park. Please let me know if you have any questions or suggestions for things that are not covered here.

You are a volunteer with the **Skagit Marine Resources Committee** – Beach Naturalist program. The program started in year (2014) and has trained volunteers to provide informal interpretation of the intertidal habitat at Washington Park for school groups in May and June, and to the public on weekends in the summer when the tides are low.

The MRC Beach Naturalists are in partnership with the **Anacortes City Parks** and will be working more with the local schools as the program becomes more established.

Some of the Skagit MRC Beach Naturalists are also volunteers with the Washington State Parks Deception Pass Naturalists at Rosario Beach, but the programs are separate. This program is not connected with the WSU Beach Watchers, although some of the volunteers have been in the Beach Watcher program.

Logistics & supplies

Arrive 10 minutes or so before your scheduled time – especially if you have a planned group, so that you can park (in either of the “day use” lots near the Ranger shop or boat launch). A Beach Naturalist messenger bag will be stored at the Ranger office for you to pick up. If you are with a partner, choose one to carry the bag. (I will work on having a second bag provisioned). If the Ranger office is not open, call the office number (on the door) for a Ranger to come. Bob Vaux (“Vokes”) is the Park manager and will have the Naturalist schedule and will try to have someone at the office around your arrival time on the dates a naturalist is to be there. -360-661-3463

In the Naturalists Messenger bag:

Please be sure to keep all these supplies in the bag available for the next Naturalist (bring a replacement garbage bag if you use one)

- | | |
|--|--|
| <input type="checkbox"/> Algae and Invertebrate ID cards | <input type="checkbox"/> Beach Naturalist schedule |
| <input type="checkbox"/> Binoculars | <input type="checkbox"/> Phone contacts |
| <input type="checkbox"/> Chopsticks | <input type="checkbox"/> Napkins / wet wipes |
| <input type="checkbox"/> Tide table | <input type="checkbox"/> First aid supplies |
| <input type="checkbox"/> Log book | <input type="checkbox"/> Species List (short list) |
| <input type="checkbox"/> Magnifying lens | <input type="checkbox"/> Garbage bag |
| <input type="checkbox"/> Pens | |

Note: field guides (books) are not in the bag, but you may want to bring your favorites. When we have artifacts and supplies for the Interpretive "station" we will have some reference guides.

Log book:

Please be sure to fill in the log book for your time at the beach (one page per day). An example is in the book. Be sure to get the name of schools and teachers who have classes at the beach. When you note the number of contacts:

"minimal" refers to those people you talk to but only to answer general questions about the park or boat launch etc.

"brief" refers to contacts where you actually share some interpretive information or conservation message, but no more than a couple minutes or so.

"engaged interpretation" is for people who take an interest in your interpretation for several minutes and you are able to explore or guide their beach experience.

Note any incidents, special findings of organisms or conditions, questions or other info to share. Put your log page in the back after you have completed it.

When you arrive for a field day – you may want to review the previous day's entry for any messages, neat discoveries or incidents etc.

Personal gear:

Your name badge is your ID so please be sure to wear it. Remember you are representing the Skagit MRC program when you have it on, so only wear it when you are in your Naturalist capacity.

We do **not** have uniforms, but will have naturalist vests for the program. In the meantime, if you have a field vest, please wear it. You can also wear any clothing appropriate for the weather, including your choice of boots or shoes for the cobble beach. A checklist for other items to bring is below.

- | | |
|---|--|
| <input type="checkbox"/> Name tag | <input type="checkbox"/> Field guides |
| <input type="checkbox"/> sunscreen | <input type="checkbox"/> Cell phone |
| <input type="checkbox"/> Water | <input type="checkbox"/> Camera (or on phone) |
| <input type="checkbox"/> Small towel (personal use) | <input type="checkbox"/> Hat |
| | <input type="checkbox"/> Extra garbage bag (for replacement in Naturalist bag) |

Your primary role at Washington Park:

Focus the visitors' attention on experiencing the beach without harming the habitat or organisms. This will take on various forms, depending on the individual, group or activity, the tide and weather, etc. But it generally will be both modeling and interpreting beach

safety and beach etiquette, while subtly enhancing the visitor's appreciation for the shore-life by sharing a fascination for exploration and discovery. Information about ecology and organisms will fit in, but generally support your interpretation – they are not the focus of it.

Since you are not the Park Ranger with enforcement authority (or training) or emergency responsibility, you should feel comfortable that you are **not expected** to perform enforcement or emergency response. However, people will expect you to have some familiarity and information about the beach and you may be in a situation to help keep people safe or call for assistance. Please refer to the Quick Reference pocket card for **“Who To Call”** if you need to provide assistance or share information.

Beach Safety

Walking: Since the rocks are generally wet and slippery – use caution (slow, careful footing) as you explore. Barnacle “patches” can be used for rough traction under foot, but avoid stepping on individual organisms or small patches that can be broken easily.

Touching things: if picking up litter, use gloves or be extremely careful with sharp litter objects such as broken glass or torn metal or jagged plastic. Leave in place questionable items such as containers that may contain hazardous materials or hypodermic needles if you do not have gloves. Do note the location and call the Sheriff's office or County Health.

Beach Etiquette

The behavior you are directing others to follow is also the behavior you are modeling. Assume that if someone is not displaying good stewardship, they are likely uninformed or haven't formed a caring connection with the resource – which is your opportunity to be a Beach Interpreter! Instilling a sense of respect and appreciation for the intertidal life and all life – is both important and rewarding. Remember to enjoy each interaction!

Generally, a long laundry list of does and don'ts will not stick in the heads of beach goers, so focus on 4 specifics when you first engage with a group, and generally incorporate in the others:

- ☐ don't turn over a rock larger than your head
- ☐ use wet, one-fingered touch
- ☐ explore edges and open spots of eelgrass and kelp beds
- ☐ take no live animals off the beach

LEAVE all organisms in their place – collect nothing (alive or dead, whole or partial pieces of plants and animals – are all part of the complex web of the marine ecosystem)

Avoid injuring plants and animals (plants prevent erosion, are food for many other organisms and provide habitat and hiding places for animals and other plants)

Be selective with how many rocks you overturn and turn them with care – ALWAYS set them back in place in their original position (organisms can be crushed or die from exposure or burying if they are not in the specific place that suits their needs)

Explore tidepools with your eyes, not with your hands or feet.

Leave creatures attached to rocks, and observe them in their location. Removing them can kill them or disorient them and compromise their survival

Don't prod the anemones – if poked they could die or lose too much water while they wait for the next tide to come in.

Let visitors know to be careful where they step but if they hear a crunch or feel they've accidentally harmed something explain how that's part of the circle of life and that those creatures will be food for another creature's survival now. It's also an opportunity to point out how each critter has certain adaptations for survival.

General information / FAQ's

You may get asked a lot of questions about the park- so you could familiarize yourself with the Washington Park website www.cityofanacortes.org (select parks and recreation & Washington park) This is also where to direct people who ask about reservations. General information from the site is copied here:

WASHINGTON PARK

Washington Park Manager, Bob Vaux bobv@cityofanacortes.org

Washington Park sits on a peninsula at the west end of Fidalgo Island. The 220-acre city park features camping, a boat launch, day use picnic sites and a group tenting area. A scenic paved 2.2-mile loop road winds through the park's forested hills and meadows with views of the San Juan Islands and Olympic Mountains.

The park is open year round from 6am to 10pm. The loop road is open from 6am to dusk for pedestrians and open from 10am to dusk for vehicular traffic.

In the campground there are 68 campsites, 46 have water and electrical hook-ups. A sewer dump station is located near the park exit. Camping check out time is 1pm daily. The campground is open year round.

The park has three covered picnic shelters. One covered shelter can be reserved by calling the Parks and Recreation Department at (360) 293-1918. There are also ten uncovered picnic tables with fire pits or upright barbeques nearby. These are first come, first served.

The park has a group tenting area available to rent for a fee for small groups of 30 people, 8 tents. No RVs are allowed in this area. Please call the Parks and Recreation Department at (360) 293-1918 to check availability and to reserve.

The boat launch at Washington Park was developed and is maintained for the specific use of recreational boaters. Boat launch parking is \$9/day and boaters may stay a maximum of 14 days. Annual boat launch passes are available through the Parks and Recreation Department at (360) 293-1918.

Items to bring with you to the beach

You will need to have appropriate clothing for the weather. The training field trip will not be cancelled due to rain so come prepared.

Remember:

- ☐ Name tag (*once provided*)
- ☐ Water
- ☐ Hat
- ☐ Packets with learning materials & contact info
- ☐ Small writing pad & pencil
- ☐ Lunch/snacks (**Note: it would be best to eat lunch before class on Saturday, but feel free to bring snacks to get you through the day**)
- ☐ Sturdy boots or shoes that can get wet and muddy (regardless of the weather).
- ☐ Field guides
- ☐ Sun glasses
- ☐ Sun screen
- ☐ Wind breaker

If it's rainy (or has potential), remember:

- ☐ Rain coat (an umbrella will be too tough to juggle)
- ☐ Rain hat (optional)

We will bring (Training):

- ☐ Cell phone
- ☐ First aid kit
- ☐ Extra sun screen
- ☐ Extra water

In your car you should have:

- ☐ Towel
- ☐ Change of shoes
- ☐ Snacks
- ☐ Warm/dry clothes

Optional:

- ☐ Shovel
- ☐ WDFW clam harvest permit
- ☐ Camera
- ☐ Binoculars
- ☐ Hanky or Bandana
- ☐ Other naturalist equipment (hand lens, bucket, etc.)
- ☐ Band aids
- ☐ Litter bag

Beach Safety

The most dangerous creature on the beach: People (from the perspective of the sea life)

General precautions for the rest of us

These are to keep in mind and share with visitors, but not our responsibility to advise and certainly not to enforce. Contact Ranger with concerns. (See also "First Aid" Below)

Step carefully. Barnacles usually provide a firm, non-slip surface (just don't fall on them!)

Avoid stepping on unstable or slippery, algae-covered rocks or logs that may lead to a fall. Keep hands free for balance (not in pockets).

Avoid scrapes on Barnacles and rocks: step carefully and be aware of your surroundings (rising tide or getting bumped might lead to hasty steps)

Sun: Sunscreen is something many people forget to bring to the beach. (In supply box?)

Sunglasses: Important for your eyes, but a barrier when talking to visitors. Use your judgment, but best err on the side of your well-being.

Footwear: Sturdy footwear is important. This may include sturdy sandals (not flip-flops!). Obviously, rubber boots would be most protective, but hot and exhausting when walking in sun a lot.

Water: Stay hydrated. Have a water bottle, drink before you get thirsty. ("If your pee looks like watta, you're drinking like you oughta" - Every two hours or more.) Be sure to wash your hands before eating anything.

Tides and currents: People generally should avoid getting stuck out on a rock or berm when tide is rising. Having to scramble back across submerged algae covered rocks could be a safety concern.

Boot-sucking mud: Some locations have mud that sucks boots. If someone gets stuck -DO NOT RUN IN TO RESCUE - suggest he/she get down and slowly crawl or roll out. If not working, CALL 911 or Ranger for help before rising tide becomes an issue.

Weather: ? Come prepared for rain or sun. (If it's miserable, of course, go home)

Water quality: See beach specific concerns and beach closures by WDOH (Biotoxin "Redtide" Hotline 1-800-562-5632 or website www.doh.wa.gov).

Birds and seals: Do not handle dead or stranded bodies. (Notify park staff or stranding network if removal seems appropriate.) Avian flu among other germs are concerns

Crabs: Avoid the claws of live crabs - especially the large ones! A red rock crab can reportedly clip off fingers.

Jelly stings: A few Puget Sound jellyfish have a nasty sting, even when dead, so *DO NOT TOUCH ANY COLORED jellyfish in the water or washed up on the beach!* Lion's Mane (Sea Blubber, Sea Nettle), page 31, is an example of a colored and dangerous jelly that often washes ashore. Human reactions to the toxins vary from a mild rash to blistering and even death. White or transparent jellyfish try to sting but can't penetrate our skin, so they're safe to touch.

Octopus bites: If you should see an octopus, don't handle it - they can bite and they pack venom! (Read more in "First Aid" below)

FIRST AID

You as volunteers are not obligated to administer first aid.

If responding always make sure the scene is safe for you do so.

If a simple band aid isn't enough: CALL 911. (If you don't have a cell phone, you may need to locate park staff or campground host who may contact Ranger directly)

Before administering first aid **always ask for permission** from the victim and if child, the parent (If parent is not present, permission is implied).

First Aid kits can be accessed in the supply boxes stored at or taken to each site.

Band Aids

For a simple scrape from rock or barnacle (By far the most common injury) you may offer a band aid & have that person put it on himself or herself, or give it to the parent. Again, get a parent's permission even to give a child a band-aid.

Advise cleaning the injured area thoroughly with soap and water to avoid infection. An antiseptic such as Neosporin may help.

JELLYFISH

More info on stings and bites from the Seattle Aquarium

Jelly Stings: Some people will show painful sensitivity to contact with large moon jellies (*Aurelia aurita*) or species such as Lion's Mane (*Cyanea capillata*) or fried egg jelly (*Phacellophora camtschatica*). (Note that jellies can sting whether they are dead or alive and should be avoided at all times.) The best response to a sting is to rinse the skin with seawater and discourage the temptation to rub the area since this will cause more stinging cells (nematocysts) to discharge. Without treatment the symptoms will usually disappear within a few hours. (You can recommend application of ice packs for at least 15 minutes though for the worst spots.)

Octopus Bites: Most people are unaware that all octopus possess a beak and venomous saliva which can create a nasty wound. The most likely species a Beach Naturalist may encounter is the red octopus (*Octopus rubescens*) which at a 6-12" may be found in small tidepools and bottles. (The giant Pacific (*Octopus dofleini*) may exceed a 12' armspan but would be a rare find in the lower intertidal.) BE AWARE - A FIERY PAIN AND SWELLING CAN OCCUR WITHIN MINUTES. THOUGH NOT FATAL, HOSPITAL ATTENTION IS RECOMMENDED. Immediate hot water treatment may be effective in neutralizing the localized effects of the bite (by denaturing the protein of the venom).

The Naturalist's Role

What is interpretation?

- A social art that focuses on mutual teaching and learning, it is a lot more than just talking
 - The bridge between the animals on the beach and the visitor
 - It is spontaneous and at unexpected times
-

Tips for being a Great Interpreter:

Smile and make eye contact as you approach

Introduce yourself

Ask questions to find out what your visitors are interested in.

Try to answer every question as if it were the first time you had heard it.

Try not to give all the answers. Ask questions to facilitate learning on the visitors part.

Be a good listener and try not to dominate the conversation.

Don't talk too long

Save reminders or warnings until the end.

Relevance

Relevance makes interpretation personal and meaningful

Example:

Mussels adhere to rocks using byssell threads

Make it relevant - A mussel is like Spider Man throwing out sticky threads to hold on to the rocks.

Tubeworms extract plankton from the ocean with their plumes.

Make it relevant - A tubeworm looks just like an earthworm with a big head of hair. They stick their mouth parts out of the tube to catch food in the water.

Sea cucumbers remove detritus from the oceans substrate using oral podia, and this aids in recycling of nutrients in our ecosystem.

Make it relevant - A sea cucumber is like a dog that licks up all the leftovers; they use sticky mouth parts to clean the bottom of the ocean. Can you imagine what our oceans might look like if we didn't have sea cucumber to clean up after everybody?

Questions for starting out:

Open-ended questions:

Anyone can answer and every answer is right.

I am a beach naturalist from the Seattle Aquarium; let me know if I can answer any questions you may have.

Hello, are you having a good time at the beach today?

Hello, can I help you find anything?

Hello, what have you found there?

Questions to keep you going:

Focus questions:

I'm not sure what this is but would you like to look it up with me?

Do you think it is an animal or a plant?

Does it look like it's moving?

What is it using to move?

How many legs does it have?

How do these shells look alike?

In what ways do you think Sand Dollars and Sea Urchins may be alike?

How might these animals be able to survive a low tide on the beach?

Release the Visitor:

Thanks for spending time with me, if you have any more questions as you explore the beach find a naturalist in a vest.

Thank you for looking up that animal with me, have a great time checking out the rest of the beach.

Modeling Casual Interpretation

Questions to start a conversation:

- ❖ How are you today?
- ❖ Have you ever been to this beach before?
- ❖ Have you ever touched a _____? Would you like to try it?
- ❖ Why are you interested in the Beach Naturalist Program?

SMILE ☺

Be a good listener, and model the quick message, the quick interaction.

This is a communication process - a simple conversation can engage visitors and help them forge a personal connection with the animals.

To model interpretive technique:

- ❖ rather than immediately naming the animal, describe important features,
 - ❖ tell a story about it,
 - ❖ talk about where it lives,
 - ❖ what kind of "neighborhood" it lives in,
 - ❖ what kind of "neighbor" it is.
 - ❖ features that might help the animal survive
-
- ❖ Be spontaneous
 - ❖ Use props (the critters, artifacts)
 - ❖ You have a non-captive audience
 - ❖ Use an informal approach and interaction
 - ❖ You can pick up your casual interpretation from any point and at any time
 - ❖ ANY amount of time can be effective

It's also important to be aware of and respect different learning styles:

- ❖ act it out!
- ❖ verbally give the information!
- ❖ use drawings to illustrate a point!

We're getting lots of information to file away in our pantries, but will we need it all of it to cook every meal? How much information will you need to share with each beach visitor?

Suggestions for Teaching in the Field

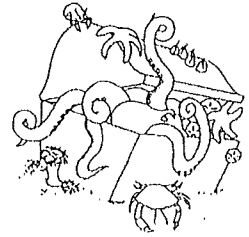
Underlying these principles are basic attitudes of respect for people and reverence for nature.

- ***Be receptive.*** This means listening, and being aware. It is one the most richly rewarding attitudes that you can cultivate while working with people. The outdoors brings out a spontaneous enthusiasm in the person that you can skillfully direct toward learning.
- ***Be sensitive.*** Every question, every comment, every joyful exclamation is an opportunity to communicate. Respond to the person's present mood and feelings. Expand the person's interest by teaching along the grain of his own curiosity. When you respect their thoughts, you'll find your time with them flowing easily and happily.
- ***Be alert.*** What is nature doing around you at the present moment? Something exciting or interesting is almost always happening. Your lessons will be written for you minute by minute if you tune in with sensitive attention.
- ***Focus the person's attention without delay.*** Set the tone of the outing right at the start. Involve everyone as much as you can, by asking questions and pointing out interesting sights and sounds. Some people are not used to watching nature closely, so find things that interest them, and lead them bit by bit into the spirit of keen observation. Let them feel that their findings are interesting to you, too.
- ***Don't worry if you don't know all the names.*** The names of plants and animals are only superficial labels for what those things really are. Just as your own essence isn't captured by your name, or even by your physical and personality traits, there is also much more to a sea star, than a name and list of facts. You can gain a deeper appreciation of a sea star by watching how the animal's mood shifts with changes in lighting at different times of the day. Observe the animal from unusual perspectives. Sit quietly near it and be aware of all the forms of life that live around and depend on it.
- ***A sense of joy should permeate the experience.*** This may come from gaiety or calm attentiveness. People are naturally drawn to learning if you can keep the spirit of the occasion happy and enthusiastic.
- ***REMEMBER THAT YOUR OWN ENTHUSIASM IS CONTAGIOUS, AND THAT IT IS PERHAPS YOUR GREATEST ASSET AS A TEACHER.***

Cornell, Joseph Bharat, Sharing Nature with Children.

Discover
the Treasure

GOALS AND OBJECTIVES



AS BEACH RANGER INTERPRETERS/ENVIRONMENTAL EDUCATORS we want to be creative and individualistic but also follow some guidelines of objectives and goals. Our program will have basic goals adapted to different age groups.

Basically, we want an introduction to the whole new world of marine life. We want children to come away thirsting for more knowledge. We want to encourage a feeling of pride and stewardship, and a feeling of respect and appreciation of other life forms.

We can achieve this by remembering the following **GOALS** as we design our programs:

1. Teach the relationship between the oceans and humans. Whatever we do to the oceans (dumping garbage) runs a full circle back to us (poisoned fish). Introduce students to the food chain and web of life.
2. Teach the biology of marine critters - food, shelter, protection, reproduction.
3. Teach rules and regulations of the beach stressing safety for the visitors and the critters. This is the time to introduce the term MARINE SANCTUARY.....what it means, the need for it and the end result.
4. Teach respect and appreciation for other life forms. Show how one person can make a difference: assisting with beach cleanups, spreading knowledge about the critters, and organizing special events.
5. Teach the children and general public that learning can be FUN.
6. Teach yourself to share your skills as an interpreter and educator: enthusiasm, sense of humor and perspective, self-confidence, warmth, knowledge, articulateness, credibility, and pleasant appearance.

Pre-School, K, 1

This age group has a very short attention span. You must make your program speedy and action-packed. Puppets work well as you introduce the critters and their habitat. The best way for children to know and understand nature is to experience it by seeing, touching, hearing, smelling and sometimes even tasting. Prepare the little people for the beach walk: where we will be looking and who we will find. Talk about safety.

Try to use "cute" phrases - "Moon Muscles cause the tides"; "The garbage collectors are the gulls and crabs"; "Strands of green algae look like mermaid's hair".

If you have stories or songs, use them. This age group will sing and dance along.

Objectives

New vocabulary - sanctuary, habitat, critters names, marine

Pollution - What happens when you dump things in the ocean or leave plastic bags on the beach?

Adaptations - How animals stay alive: flee, coloration, poisonous, etc.

Stay basic but introduce the need for clean water, marine sanctuary, and food, shelter, and protection.

Grades 2, 3, and 4

This age group is ready for more in-depth knowledge. Conservation and stewardship have meaning to them. Introduce them to new words. Don't lecture, be conversational - people like people that like them. Let them know how happy you are to meet them and to be spending time with them. The food chain can be introduced to this age: who eats who (they like sharks, blood and guts). Pollution and plastics should be included in this program. Tides and zonation could be expanded on. Give examples from the web of life - if one species becomes extinct we all suffer. This age group is very bright and eager to learn. Sock it to them...

Objectives

Habitat
Critter I.D.
Conservation and stewardship
Pollution and plastics
Tides and zonation
Food chain and web

Grades 5, 6, and up

This group is in a world of their own, let's try to bring them back.....Reproduction habits of the critters works well. These children are eager for new knowledge. We can introduce plankton, zonation and behaviors. Our throw-away lifestyles are a good topic (what you throw away today your children will have to deal with in the future). Talk about crises in the oceans with pollution and plastics, oil spills, runoff from non-point sources. Producers, consumers, and decomposers can be linked. Give examples of different feeding methods. Safety must be stressed. This age group tends to feel that the rules don't apply to them because they're bigger.

Objectives

Habitat
Critter I.D.
Reproductive behaviors
Zonation and tides
Plankton
Producers, consumers, and decomposers
Predator and prey
Feeding methods
Ocean ecology
Plastics and pollution (oil spills, runoff, dumping)
Endangered animals
Involvement and awareness
Global attitudes and local activities

Remember: Giving a sense of wonder and respect is better than a bag of soon forgotten facts. Awaken the mind but don't overload it.

Vocabulary List

Kindergarten & 1st Grades:

Habitat
Marine
Tides

2nd & 3rd Grades:

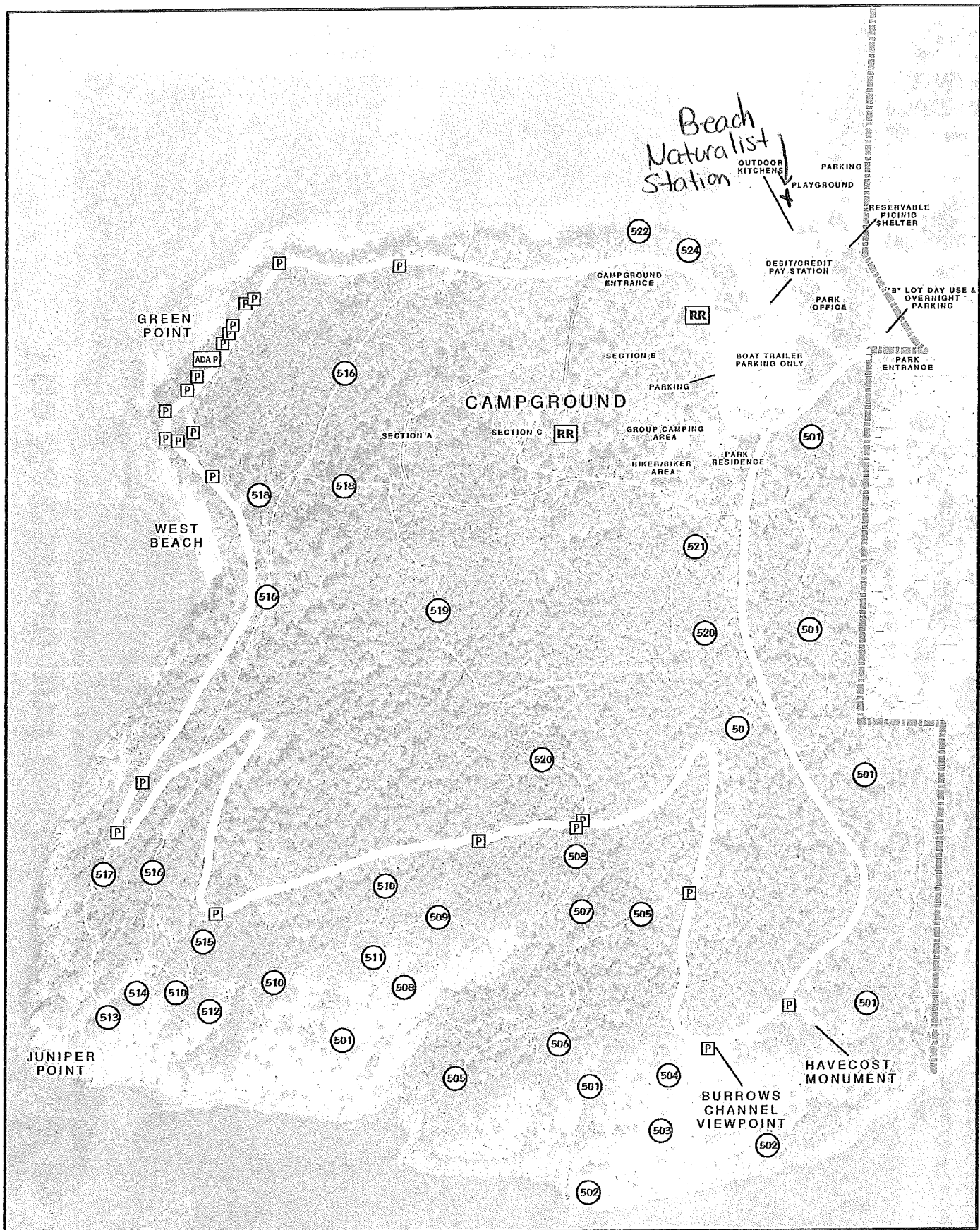
Habitat
Marine
Tides
Adaptations
Plankton
Seaweed
Critters ID (Clam, Snail, Molt, Seastar, Jelly)

3rd & 4th Grades:

Habitat
Marine
Tides
Zonation
Adaptations
Phytoplankton
Zooplankton
Marine Food Pyramid
Food Chain
Algae
Critters ID (Clam, Snail, Molt, Exoskeleton, Seastar, Jelly)

5th & 6th Grades:

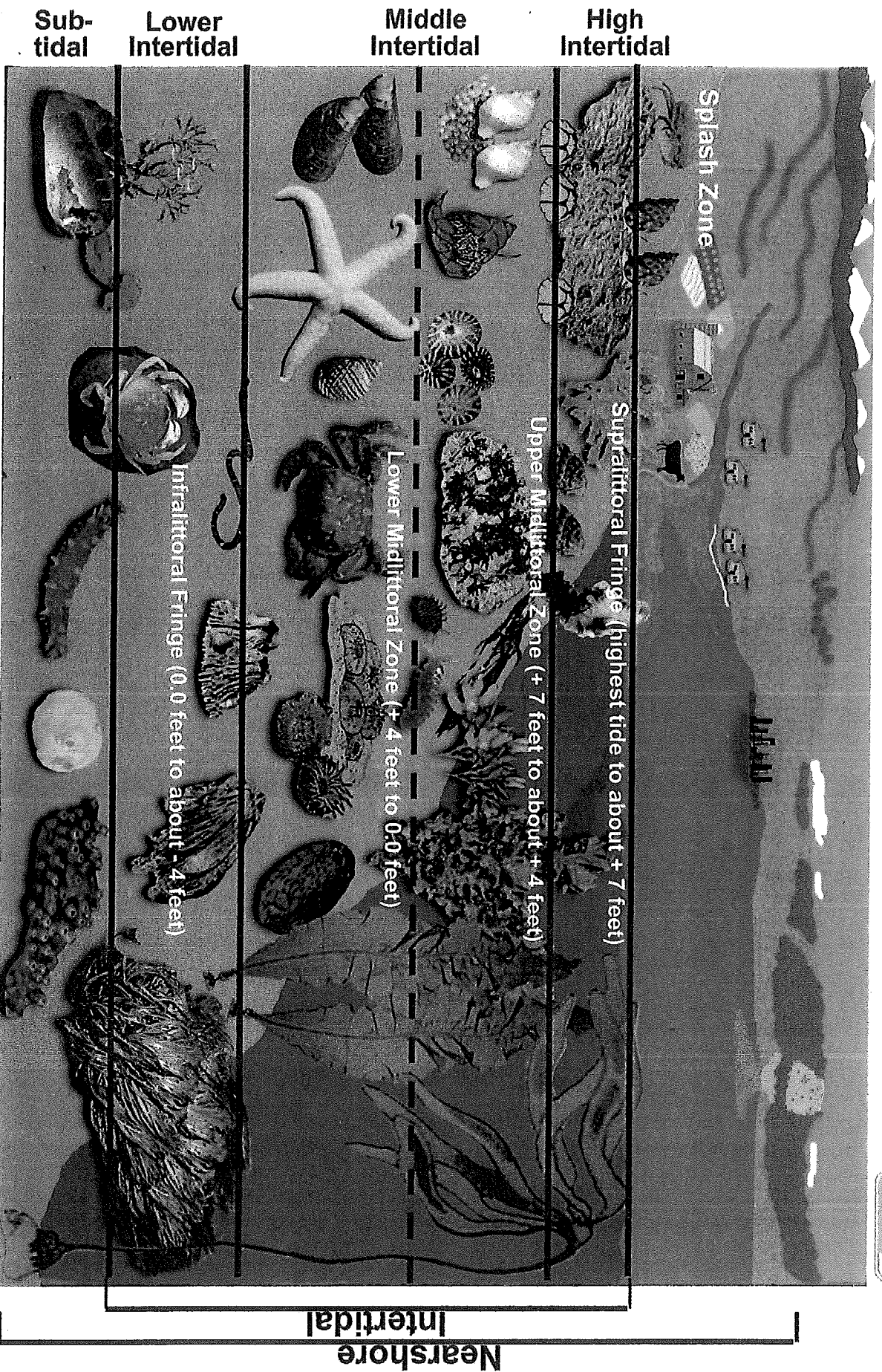
Habitat
Marine
Tides
Zonation
Adaptations
Phytoplankton
Zooplankton
Marine Food Pyramid
Bioaccumulation
Food Chain
Food Web
Feeding Methods (Filter Feeder, Grazer, Scavenger, Predator)
Algae
Critters ID (Bivalves, Gastropod, Molt, Exoskeleton, Seastar, Tube Feet, Jelly)
Invasive



**City of Anacortes
Washington Park**

Loop Road
2.25 miles

The Nearshore and the Intertidal



The **INTERTIDAL AREA** includes that part of the shoreline covered by the highest tides and exposed by the lowest tides. The **NEARSHORE AREA** includes the intertidal, the shallow subtidal (to a depth where the amount of light reaching the ocean floor no longer supports seaweed photosynthesis), and the shoreline immediately adjacent to the highest tide line (about 200 feet inland and also including uplands where activities occur that significantly affect nearshore habitats). Tidally influenced areas of river mouths are also included.

Sunset Beach Organisms List

Intertidal Invertebrates

Sponges – Porifera

- ☐ Red Encrusting Sponge
Ophlitaspongia pennata
- ☐ Bread Crumb Sponge
Halichondria panacea

Anemones- Cnidaria

- ☐ Aggregating Anemone
Anthopleura elegantissima
- ☐ Christmas Anemone
Urticina crassicornis
- ☐ Plumose Anemone
Metridium senile
- ☐ Anthopleura artemesia
Moonglow anemone

Jellies – Cnidaria

- ☐ Lion's mane jelly
Cyanea capillata
- ☐ Moon jelly
Aurelia lablata

Ribbon Worms – Nemertea

- ☐ White ribbon worm
Amphiporus sp.
- ☐ Orange/red ribbon worm
Tubulanus polymorphus
- ☐ Purple ribbon worm
Paranemertes peregrina

Segmented Worms – Annelida

- ☐ Proboscis worm
Glycera sp.
- ☐ Pile worm
Nereis sp.
- ☐ Sand worm
Nephtys sp.
- ☐ Scale worms
Harmothoe sp.
- ☐ Polychaete worm
Armandia brevis
- ☐ Tube worm (Sand tube)
Owenia fusiformis
- ☐ Tube worm (Feather duster)
Sabelaria cementarium
- ☐ Robust Spaghetti-Worm
Neoamphitrite robusta
- ☐ Spaghetti worm
Terebellidae
- ☐ Spaghetti worm
Cirratulidae
- ☐ Calcareous tube worm
Serpulidae
- ☐ Spiral tube worm
Spirobia sp.
- ☐ Iridescent worms
Lumbrinellidae sp.
- ☐ Goddes worms
Nephtycidae

Mollusks - Mollusca

- ☐ Cooper's chiton
Lepidozona sp.

- ☐ Lined chiton
Tonicella lineata
- ☐ Mossy chiton
Mopalia muscosa
- ☐ Swan's Mopalia
Mopalia swanii
- ☐ Gumboot Chiton
Cryptochiton stelleri
- ☐ Blue topsnail
Calliostoma ligatum
- ☐ Lacuna snail
Lacuna sp.
- ☐ Sitka periwinkle
Littorina sitkana
- ☐ Plate limpet
Tectura scutum
- ☐ Shield limpet
Lottia pelta
- ☐ Finger Limpet
Lottia digitalis
- ☐ Dunce-cap Limpet
Acmaea mitra
- ☐ Rough keyhole limpet
Diodora aspera
- ☐ Frilled dogwinkle
Nucella lamellose
- ☐ Barnacle-eating Dorid
Onchidoris bilamellata
- ☐ Orange-spotted Nudibranch
Triopha catalinae
- ☐ Red Nudibranch
Rostanga pulchra
- ☐ Sea Lemon
Anisodoris nobilis
- ☐ Opalescent Nudibranch
Hemissenda crassicornis
- ☐ Pacific blue mussel
Mytilus trossellus
- ☐ Butter clam
Saxidomus giganteus
- ☐ False jingle shell
Pododesmus macrochisma
- ☐ Giant rock scallop
Crassadoma gigantea

Brachiopods - Brachiopoda

- ☐ Common Lampshell
Terebratalia transversa

Arthropods - Arthropoda

- ☐ Little brown barnacle
Chthamalus dalli
- ☐ Thatched barnacle
Semibalanus cariosus
- ☐ Acorn barnacle
Balanus glandula
- ☐ Oregon pill bug (isopod)
Gnoriomphaeroma sp.
- ☐ Rockweed Isopod
Idotea wosnesenskii
- ☐ Shrimp
Heptacarpus sp.
- ☐ Amphipod

Eogammarus sp.

- ☐ Grainyhand hermit crab
Pagurus granosimanus
- ☐ Hairy hermit crab
Pagurus hirsutiusculus
- ☐ Porcelain crab
Petrolisthes eriomerus
- ☐ Decorator crab
Oregonia gracilis
- ☐ Graceful kelp crab
Pugettia gracilis
- ☐ Northern kelp crab
Pugettia producta
- ☐ Red rock crab
Cancer productus
- ☐ Pygmy rock crab
Cancer oregonensis
- ☐ Black-clawed crab
Lophopanopeus bellus
- ☐ Hairy shore crab
Hemigrapsus oregonensis
- ☐ Purple shore crab
Hemigrapsus nudus
- ☐ Helmet crab
Thelmessus cheiragonus
- ☐ Sharp nose crab
Scyra acutifrons
- ☐ Umbrella crab
Cryptolithodes sitchesis

Moss Animals - Bryozoa

- ☐ Kelp Encrusting Bryozoan
Membranipora membranacea
- ☐ Derby hat (or Rosy) Bryozoan
Eurystomella bilabiata

Spiny-Skinned Animals –

Echinodermata

- ☐ Purple star
Pisaster ochraceus
- ☐ Six-rayed star
Leptasterias aequalis
- ☐ Mottled Star
Evasterias troschelii
- ☐ Brittle star (Puget dwarf)
Amphipholis sp.
- ☐ Long-armed Brittle Star
Amphiodia occidentalis
- ☐ Orange sea cucumber
Cucumaria miniata
- ☐ White (Stiff-footed) sea cucumber
Eupentacta quinquesemita

Tunicates - Urochordata

- ☐ Solitary sea squirt
Pyura haustorium
- ☐ Shiny orange sea squirt
Cnemidocarpa finmarkianensis

Sea Spiders - Pycnogonida

- ☐ Achelia nudiuscula

Fishes - Chordata

- ☐ Northern clingfish
Gobiesox maenadicus
- ☐ Saddleback gunnel
Pholis ornata
- ☐ Crescent gunnel
Pholis laeta
- ☐ Penpoint gunnel
Apodichthys flaviscus
- ☐ Black Prickleback
Xiphister atropurpureus
- ☐ Tidepool Sculpin
Oligocottus sp.
- ☐ High Cockscomb
Anoplarchus purpureus
- ☐ War bonnet
Chirolophis sp.
- ☐ Tidepool Snailfish
Liparis florae

Seaweeds and Seagrasses**Green Algae - Chlorophyta**

- ☐ Tangle weed (green rope)
Acrosiphonia coalita
- ☐ Sea moss
Cladophora sp.
- ☐ Sea Hair
Ulva intestinalis
- ☐ Sea Lettuce
Ulva fenestrata or
Ulva lactuca
- ☐ *Urospora sp.*

Red Algae - Rhodophyta

- ☐ Turkish towel
Chondracanthus corymbiferus
- ☐ Nail brush sea weed
Endocladia muricata.
- ☐ Turkish washcloth/black tar spot
Mastocarpus papillatus
- ☐ Turkish towel
Chondracanthus exasperatus
- ☐ Iridescent seaweed
Mazzaella splendens
- ☐ *Microcladia sp.*
- ☐ Black pine
Neorhodomela larix
- ☐ Sea brush
Odonthalia sp.
- ☐ Encrusting coralline algae
Lithothamnion sp.
- ☐ Rusty Rock
Hildenbrandia sp.
- ☐ Laver
Porphyra sp.
- ☐ Filamentous Reds
Polysiphonia sp.
- ☐ *Microcladia sp.*
- ☐ Sugar kelp
Sacchararina latissima

Brown Algae -Phaeophyta

- ☐ Split Kelp
Saccharina Subsimplex
- ☐ Winged Kelp
Alaria marginata
- ☐ Seersucker Kelp
- ☐ Sea cabbage with bullations
Saccharina sessile
- ☐ Rockweed
Fucus distichus
- ☐ Sea cauliflower
Leathersia difformis
- ☐ *Phaeostriphon*
- ☐ Studded sea balloons
- ☐ *Soranthra ulvoidea*
- ☐ Witch's Hair
- ☐ *Desmarestia aculeate*
- ☐ Wireweed
- ☐ *Sargassum muticum*
- ☐ Bottlebrush seaweed
- ☐ *Analipus japonicus*
- ☐ Flattened acid kelp
- ☐ *Desmarestia ligulata*

Sea Grass -

- ☐ Native eelgrass
Zostera marina

Spanish translations courtesy of Carmen Olds, Seattle Aquarium Biologist

Animals

Sea Star	Estrella de mar
Sea urchin	Erizo de mar
Sea Anemone	Anemona de mar
Scallop	Concha del peregrino, veira
Clam	Almeja
Barnacle	Barnacle
Mussel	Pepitona, mejillon
Snail	Caracol
Squid	Calamar
Sea cucumber	Pepino de mar
Chiton	Chiton
Feather duster tube worms	Gusano plumado
Crab	Cangrejo
Hermit crab	Cangrejo hermitano
Sand dollar	Dollar marino
Nudibranch	Babosa de mar

Habitat

Sky	Cielo
Salt	Sal
Water	Agua
Plant	Planta
Rock	Roca
Sand	Arena

Puget Sound words

Tide	Marea
Beach	Playa
Wave	Ola
Home	Hogar
Pool	Piscina
Current	Corriente
Shore	Orilla
Cloud	Nube
Anchor	Ancla

Palabras del Puget Sound

Other salt water creatures

Skate	Raya
Octopus	Pulpo
Lobster	Langosta
Fish	Pescado
Walrus	Walros
Bird	Pajaro
Dolphin	Delfin

Otras criaturas marinas

Body parts

Back
Bone
Skeleton
Eye
Body
Foot
Stomach
Beak
Nose
Face
Arm

Partes del cuerpo

Espalda
Hueso
Esqueleto
Ojo
Cuerpo
Pie
Estomago
Pico
Nariz
Cara
Brazo

Useful words

Territory
Move
Hatch
Sting
Ecology
Slow
Suck

Palabras utiles

Territorio
Mover
Nacer, salir del huevo
Picadura
Ecologia
Lento
Chupar

Courtesy words

Hello
Good
Yes
Look
Listen
Please
Thank you
Wait

Palabras de cortesia

Hola
Bien, bueno
Si
Mira
Oye
Por favor
Gracias
Espera

___ mejillones=mussels

___ caracol luna=moon snail

___ almejas= clams

___ lápades= limpets

___ lapas=barnacles

___ blenias=blennies

___ chitón=chiton

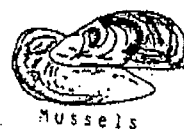
___ anémona=sea anemone

___ erizos=sea urchins

___ pluma marina=sea pen

___ **babosa marina= sea slug

___ **estrella de mar= sea star



Mussels



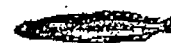
Barnacles



Chitons



Limpet



Blenny



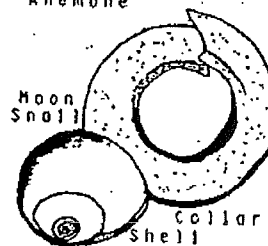
Sea Stars



Clam



Anemone



Moon Snail

Collar Shell



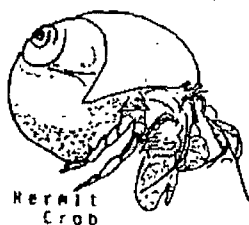
Periwinkles



Cockle



Isopod

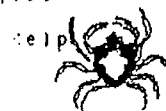


Hermit Crab



Spider

Crabs



Hermit

More Tide Pool Creatures

Things you may see:



Chitons are marine animals. These mollusks use a scraping radula (similar to snails) to graze on bacteria and algae clinging on rocks. They have a muscular foot covered by eight plates (look for these butterfly shaped shells on the beach) and surrounded by a girdle. They suction themselves to rocks during low tide and glide along rocks when covered by water at night.

Sea Cucumbers are *echinoderms*, related to sea stars, sea urchins, and sand dollars. They have a long, soft or leathery body. They feed on detritus using their feathery tentacles. Look for the bright orange or dark maroon color of the orange cucumber at Rosario.



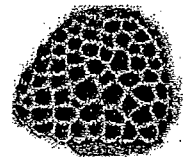
Sea Stars are also echinoderms with five or more rays. They move using their tube feet. Most prey upon mussels, barnacles, and clams, but some are filter-feeders.

Sea Slugs are shell-less gastropods. They breathe through the surface of their body. Many are *omnivores*, eating both meat and plants.



Red Rock Crabs are larger, up to 6" across the back (carapace). They have black-tipped claws and a hard carapace. Look for them hiding under seaweed.

Sponges are primitive, multi-celled organisms. They are filter-feeders, pulling plankton from water that is cycled through pores and holes. They attach to rocks, wood, and shell. Encrusting sponges are most common at Rosario.



Isopods are a marine version of the pill bug. They have seven sets of legs and wide, flattened bodies. Many feed on dead algae.

Amphipods are insect-like critters with a body flattened side-to-side; they often look like miniature shrimp. They typically feed on seaweed and detritus. Look for them near dead seaweed in the water and on land.



Things you rarely see:



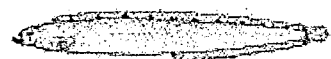
Orcas are the largest dolphins. Resident Orcas travel in larger pods (~20 animals) and eat mostly fish and squid. Transient Orcas travel in smaller groups and hunt marine mammals. Look for the white saddle patch (behind the tall dorsal fin) on a black back.

Sea Urchins are echinoderms with a sphere-shaped shell covered with mobile spines and tube feet. The mouth is found in the center of the lower side, and the anus is in the center of the upper side. They eat detritus and seaweed.



Ascidians are filter feeders, passing water through its body. Many animals will form colonies in a stiff, jelly-like matrix. These are colonial ascidians, while larger solitary ascidians are called sea squirts.

Gunnels are eel-like fish with a tail fin and long dorsal fin. They are omnivores, feeding on isopods, amphipods, and detritus.



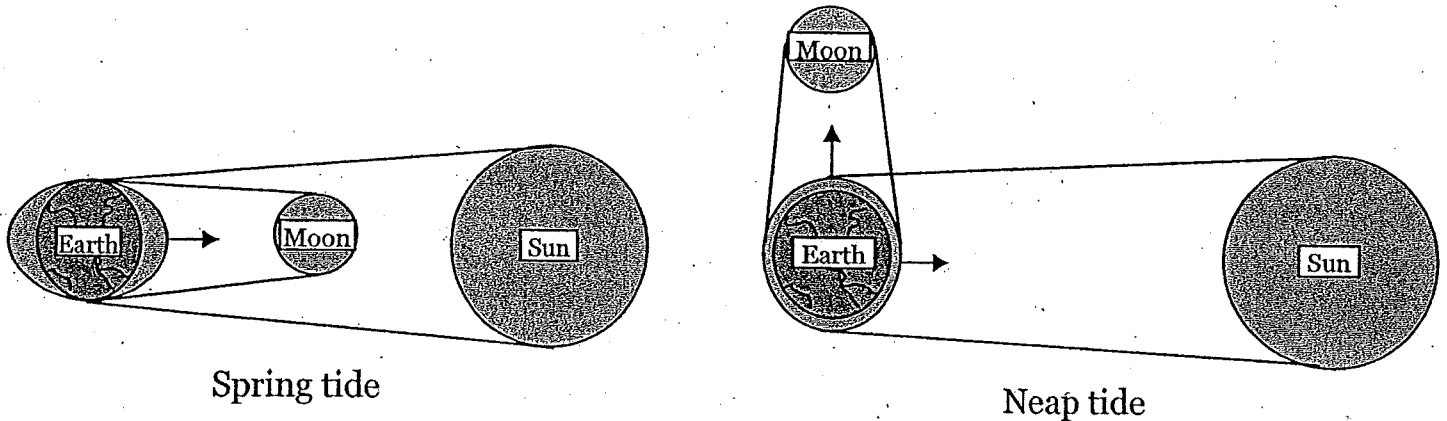
What makes tides and tidepools?

Tides...

Two-thirds of the earth's surface is covered by water. This layer of water is in constant motion.

Tides are the regular rise and fall (flood and ebb) of the ocean water.

Tides at a given beach are determined by many factors, but the greatest influence comes from the gravitational pull of the moon. The sun's pull also affects the tides. Other factors that affect tides include: winds, barometric pressure, freshwater runoff, storms, and the contours of the surrounding land.



Spring tides and neap tides... Tidal ranges are greatest when the sun and moon align, either on the opposite or same side of the Earth, and their pulls combine. This is known as a *spring tide*.

Tidal ranges are least when the sun and moon are at right angles to one another (in relation to the Earth) and their pulls counteract each other. This is a *neap tide*.

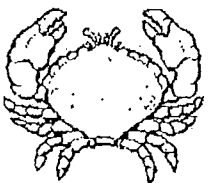
High and low tides occur each day. In Puget Sound we experience two unequal high tides and low tides daily. Look for the high high tide, the low high tide, the high low tide, and the low low tide.

Tidepools...

Tidepools are created when the tide goes out (ebbs) and leaves pools of saltwater behind in depressions on the land in the *intertidal zone*.



Most mobile creatures move offshore when the tide goes out. Creatures that are unable to move offshore take refuge in tidepools. Many immobile creatures, slow moving creatures, and plants become stranded in these pools of water.



Deeper water species can often be observed in tidepools because saltwater is always present; creatures won't **desiccate**, or dry out, during low tide. Look for greater species diversity in tidepools.

Commonly asked questions

Why are there so many dead crabs on the beach? (Sub question will be about pollution)

Answer: These are crab skeletons; the crabs must shed their skeleton each year in order to grow. Our local Dungeness crab shed (molt) once per year in the spring just prior to mating. Other species of crab (and other crustaceans) molt more frequently and at different times.

Are these baby crabs? (This is in reference to finding shore crabs under rocks)

Answer: These are shore crabs and are a much smaller species than most crabs. They live high up in the intertidal and hide under rocks when the tide goes out. They come in a variety of colors even though there are only two main species (the purple spotted shore crab and the green shore crab)

Is this foam from pollution?

Answer: The foam found along the shore is due to wave action mixing bubbles of air into the organic materials floating in the water. The organic material comes from plankton, algae and other bits of critters. It is normally not pollution.

What kinds of eels are these?

Answer: Actually these little fish are not eels, but might be Blennies or Gunnel. They have the same shape as an eel because they need to fit under and around rocks along the shore. There are actually quite a few fish species that resemble eels. We don't have any true eels along the shore.

What are these squirts of water? Where do they come from?

Answer: There are many types of clams living under the surface of mud, sand and gravel. The clams use siphons (like a hose) to bring water into their body and then circulate it back out. When the clam feels threatened they withdraw the siphon into their bodies and must eject the water and so it squirts. Most clams can't actively dig away from us because their shell is round and doesn't travel fast through the sediment. What you are following when digging clams is the retracting siphon. Razor clams can dig quickly and they have the thin elongated shell for that purpose.

Is this animal alive?

Answer: Almost all the animals you see along the shore are alive. During the low tide the animals "shut down" to conserve water, oxygen and food. They are basically aquatic animals that have adapted to short periods of exposure to air.

Do the local Jellyfish sting?

Answer: There are a few species of jellyfish in Puget Sound that can give a painful sting. Do not touch any colored jellyfish you see in the water or washed up on the beach. The white or transparent jellyfish try to sting, but can't penetrate our skin, they are safe to touch.

What is the most dangerous animal on the beach?

Answer: Humans. The most dangerous non-human animal would be barnacles. Slippery algae and barnacle-covered rocks can be a very painful combination.

Are there sharks in Puget Sound?

Answer: Yes, the most common are called Dog Fish. They reach about 4 feet long and feed primarily on herring and other little fish.

Do I need a permit to dig clams/collect animals/ catch crab etc?

Answer: Yes. You need a collecting permit and will need to study the guidelines on collecting. Some local beaches, like Larrabee State Park, are off limits to collecting.

What is Red Tide? How can you tell if clams (shellfish) are infected? What happens when you eat contaminated shellfish?

Answer: Red Tide is better known as Paralytic Shellfish Poisoning, or PSP. It is caused by small planktonic algae in the water (called dinoflagellates) that have a toxin in their cells. If these specific algae bloom into large enough numbers, the filter feeding creatures (shellfish like clams, oysters, mussels) ingest the algae and concentrate the toxin in their tissues. When people eat these contaminated shellfish, the toxin affects our nervous system and we become paralyzed. The only way to tell if shellfish have PSP is to send samples to a lab for analysis. All the tales you hear about rubbing the clam on your lips or eating just one are not accurate and can be dangerous.

Isn't Bellingham Bay so polluted that it is dead?

Answer: No, there are many types of critters that live in and around Bellingham Bay. Bellingham Bay, as all waterways with communities along the shore, face challenges of pollution, but Bellingham Bay has actually become cleaner over the past 25 years. There are still problems to be solved, but we have come a long way in our understanding of pollution and have enacted many laws to help regulate pollution entering the Bay.

Questions from the Beach

Compiled by Marci Greenberg, Karen Kniskern, Leo Shaw and Janice Mathisen

Porifera

Sponges:

Sponges have been around for a one heck of a long time.... Over 500 million years. They are as simple as you can get and still be a multicelled animal.

While they have no organ systems and only a few cell types to carry out all their functions (of course it really only takes one cell) they must be doing something right to have hung around so long.

One likely clue to some sponges' longevity might be found in the skeleton. While commercial sea sponges have excellent tough fiber skeletons made of spongin, many also have tiny needle-like calcareous or glass spicules (these can be used to identify species). In silica poor waters the sponges may have to compete with diatoms for the silica (glass wars) so some sponges show a decreased number of spicules in this situation. In our area the boring sponge (aren't they all boring?), breadcrumb sponge, purple encrusting sponge and some others have glass spicules. Combined with the likelihood that the sponge also contains toxins, these spicules may well help deter potential predators. Alas, it's rather surprising how many critters will eat sponges. They end up as fare for many sea slugs, and some sea stars.... glass, toxins and all.

Cnidaria *COELENTERATE*

Jellies:

Puget Sound is home to the largest jellyfish, the lion's mane, but it's a wimp in the stinging department compared to some others. While the lion's mane can give you a very nasty sting, it is credited with only one possible human kill.

Sea Anemones:

Why do anemones close when you touch them?

Sea anemones catch their prey by shooting harpoon-like nematocysts into creatures, and then dragging said creatures into their internal digestive sack. If you touch the blind anemone, it will shoot its nematocysts into you and then bring its tentacles inside delivering whatever it caught into the digestive sack. Additionally, this works well if you are a predator; the anemone will retract tentacles to protect itself. Sort of a cnidarian fetal position.

What's hanging off the rocks? (Anemones)

Super saggy sea anemones stretching down towards the water. Amazing, gross looking, real live animals! Gravity can be a hardship!

All you'd ever want to know about Aggregate Anemones:

Aggregate anemones are one of three local, intertidal species that harbor symbiotic, single cell zooxanthellae (dinoflagellate) and zoochlorellae (green algae) in their gut lining tissues. Both of these symbionts transfer some of the products of photosynthesis (sugar) to the host anemone. Studies suggest that over 50% of the nutritional needs of the anemone for glycerol (sugar) may come from the single celled boarders.

All this free sugar means the anemones need to work less for a living, but they still capture animal prey to supplement their sugar highs. Tooth rot is not on their minds since they have neither teeth nor minds. In return for the sugar, the anemones provide shelter and a well-lighted habitat . . . the intertidal. Anemones living in darkened caves or under rocks are not hosts to the little candy producers and must work harder for a living.

Aggregate anemone individuals have the can clone themselves . . . happens about once every 2-3 years. After this kind of boring reproduction goes on for a few years, you end up with a colony of clones that are all the same sex (well, they're clones!) and mean. Should another colony try to move in on their territory, an anemone war will break out at the border. Special stinging cells are used to convince the other colony to get back to where they came from. This is no ritual game . . . some may die in the conflict. Meanwhile, the clones just keep splitting in two and a single colony can stretch over 100 yards.

Occasionally the clone colonies will spawn, releasing eggs or sperm (broadcast spawning). Finally; some real sex! This may not be that great, however, as broadcast spawning doesn't seem to be much more than a duty. Fertilized eggs will develop into larvae and later settle down to begin another colony, perhaps far from the parents. The parent colony just keeps splitting . . . for how long nobody knows. They may be immortal, at least until some predator like the leather star makes a meal of them.

There may actually be two species, one that reproduces only sexually (known as the 'right' species) and one that goes both ways (know as the 'kinky' species) But the jury is still out.

Annelida and other worm phyla

Worms

What are the small white tubes laying on the sand?

If they are cream colored and segmented, they are bamboo tube worms.

How long is the worm in the tube?

It depends on the species.

- *Thelepus crispus*, the hairy-gilled worm builds a tube of sand and pebbles. They can be up to 6'' long when full-grown. Their tentacles can be seen on the sand or mud and collect detritus (yum).

- Feather Duster worms or *Eudistylia vancouveri* (parchment-like tube) can be 6" long topped by tentacles used for feeding (filter feeders), though the tube can be much longer (up to 20 cm).
- Bamboo tubeworms or *Nicomache personata*, (very thin, parchment-like tubes emerging from sand or mud) are about 2.3" long. They eat organic material and most likely diatoms and bacteria as well.
- Calcareous tubeworms (*Serpula vermicularis*) are about 3" long, with beautiful red and white plumes emerging from the tube. They are filter feeders.

Who eats bamboo tube worms?

Ratfish will when the tide is in, according to a biologist here. There isn't anything published about this, but we think ribbon worms might, perch might, shrimp might, and other small, intertidal fish might.

What is the worm in the sand with the bright red tentacles?

This sounds like an intertidal gillworm. They are thought to feed on particles of detritus. I would need more of a description to identify this species further.

What does a sand worm eat? How does it reproduce and how long does it stay in the plankton?

Sand worms feed on algae and perhaps some small invertebrates. Eggs and sperm are shed into the water where the fertilized eggs develop into larvae. The young remain in the plankton for one to two weeks.

This varies with species.

Echinodermata

Sea Stars:

Where can we see sea stars?

On rocky shorelines at low tide! Actually it depends what species you are looking for. *Pisaster ochraceus* is our most common sea star in the higher intertidal reaches, and usually clusters in wet rocky areas during exposed (low tide) times.

How do sea stars breathe?

Sea stars have little finger-like papillae on their skin to absorb oxygen from the water. These are known as skin gills and give the sea star a fuzzy appearance. If they are exposed to air for a while or if you touch them, the gills will retract. This gives them a harder look and feel.

How long can sea stars live out of the water?

Depends on the sea star. Sea stars that normally live in the intertidal, like the purple and mottled sea stars, can spend more than 2 hours out of the water as long as the conditions are not hot and dry. They need to retain moisture within their bodies. Other subtidal sea stars may be damaged after a very short period out of the water.

Do sea stars bite?

Probably not the way you're thinking. They don't need to chew their food and hence have no teeth. Brittle stars do have teeth but do not use them for biting people.

Sea stars do, however, have pedicellariae on their dorsal (back) surface to prevent anything from fouling, adhering to, or grazing on them. These pedicellariae are stalked jaws which clamp down on anything they can grab. Try turning a sea star over on your hairy arm, leave it there for a moment, and then pull the star away. I bet some of your arm hair will be yanked out, thanks to pedicellariae.

How do you sex a sea star?

In sea stars the sexes are separate (dioecious). The gonads are located inside the arms (rays) of the sea star, making it difficult to tell the sex of the sea star you are looking at. Most sea stars release eggs (sometimes millions!) and sperm into the water. When they are spawning, you can tell the difference between sexes. When fertilized, the eggs develop into larvae that go through two planktonic stages before developing into the adult form.

Why don't I see baby sea stars?

You need a microscope. When sea stars spawn, they release eggs and sperm into the water, where fertilization takes place. Larvae develop and change (through two stages), eventually settling to the bottom and developing into miniature adult sea stars. The larva can remain in the plankton for days or months, depending on the species. The adult form is tiny (1mm) when it settles out of the plankton but grows quickly.

How long do sea stars live?

Sea stars may live for decades but it depends on the species.

Who introduced sea stars to the beach, and why?

They evolved here, and if they had a head they'd probably be asking the same about us!

Sea Cucumbers:**What do sea cucumbers do?**

Well, they are animals so they eat, excrete, reproduce, attempt to avoid predators and finally die. Sea cucumbers feed using modified tube feet called oral podia. Food is picked from the water or bottom with the feet, which are then placed in the mouth and licked off. Food is mostly plankton and detritus. Some sea cucumbers can expel their internal organs in their defense. They will later grow back the lost organs. Others may absorb their organs seasonally and become dormant for some period until the organs are regenerated.

Are sea cucumbers poisonous?

Most are not, but the little pedal sea cucumber has toxins in its oral podia to deter predators from nipping them off. The California sea cucumber is served in many Chinese restaurants.

What is the purpose of the soft spines of the sea cucumber?

They may be used to deter visual predators that might consider them dangerous. These are not related to the spines of sea urchins or sea stars.

Sea Urchins and Sand Dollars:

Why don't you ever see a sea urchin or sand dollar covered in algae?

Sea Urchins, Sand Dollars and Sea Stars are covered in self-cleaning pinchers called pedicellaria that constantly grab off tiny particles of debris and remove it from the animals' body. Under high magnification the surfaces of these animals become alive with moving tube feet, spines of various sizes, and pedicellaria of various types.

Each pedicellaria likely has a different function but all are used to discourage hitch-hikers and predators. Our local green urchin has 2 different types that are easily viewed under the microscope. There are some fat round ones that look like unopened flowers and some that look like long-nosed pliers. They are known as "globiferous and ophiocephalous" pedecellaria respectively. Ouch!

Some species (not the local ones) carry venom in the pedicellaria and can inflict painful or even fatal pinches to unwary humans...famous last words..."Gee, look at this pretty flower urchin I just found grandma".

Mollusca

Clams:

What is the difference between an oyster and a clam?

While the clam and oyster are both in the Phylum Mollusca, Class Bivalvia, they are in different orders. (Remember taxonomy? Kingdom, Phylum, Class, Order, Family, Genus and species). The oyster is in the order Ostreoida, is a filter feeder, and needs a hard smooth surface to adhere to in order to develop into an adult. Some mature oysters can change their sex from season to season. Clams, order Veneroida, are also filter feeders but burrow into sand or clay. The sexes are separate and the adults release eggs and sperm into the water.

How do clams mate?

Sexes are separate in most species, and they are broadcast spawners (spray and pray). There are a few species of clams that brood fertilized eggs.

How far down do clams burrow?

That depends on the clam species. Each species occupies a different niche, and has special adaptations to exploit a certain food and habitat. Accordingly, some live quite deep (Gaper clam, up to 36"), and have longer siphons for reaching the surface, others live super close to the surface and have stubby little siphons (heart cockles).

Can you collect clams here?

Even if you are legally permitted to, which is unlikely on our beaches, you would be potentially harming this ecosystem by removing an essential piece of it. If everyone took one clam, they'd all be gone in a flash. Furthermore, if you knew how much human waste and pollution this clam has fed on, you may not want to eat it. There are also sometimes accumulations of biotoxins from plankton the clams have been filtering out of the water. These will harm humans.

Are there geoducks at Carkeek?

It's possible but doubtful. There may be some in deeper water. Check out the siphons you see on the beach and look for an absence of tentacles on the inner ring. This is characteristic of geoducks.

Do you recommend any field guides that have detailed information for the serious clam enthusiasts?

For more information on clam ID I can recommend *Shells and Shellfish* by Rick Harbo. We have it in our Education library. It's excellent for those tricky clam and snail species. It has pictures of the different siphons as well

Nudibranchs aka. Sea Slugs:

What is the purpose of slugs in the world?

Every plant and animal (and every other living thing) has its own niche in the world. It eats and/or gets eaten by something else.

Chitons:

Why does a mossy chiton have fuzzy edges?

The fuzzy edges might help with camouflage, help to prevent drying during low tide, and? What else do you think?

Is it true that Chitons have metal teeth?

It turns out that chitons make the most amazing teeth. They contain a coating of magnetite (a type of iron that is harder than steel). This no doubt protects the teeth from excessive wear when they are scraped across rocks to obtain algae on which the chiton feeds. The teeth, however, are renewed as they wear out. Other mollusks that feed in much the same way don't have the iron caps.

It appears from some research that chitons may follow their teeth home. Chitons have great homing instinct. Scientists were at a loss to explain how they found their way home after carousing all night in algal eating binges. The chitons seem to be using their teeth to detect the earth's magnetic field and use it for navigation. Drop a few magnets in a chiton's neighborhood and they get lost. This should not be too surprising since other animals, even bacteria, are known to use iron particles to assist in navigation.

Moon Snails:

What are those antennas on the moon snail?

They are sensory tentacles – touch and likely 'smell' sensors

What makes holes in the shells?

If it is a nice, neat roundish hole, it was made by a mollusk. Many have specialized tongue called a radula they use like a drill. On our beaches, it is usually the moon snail who drills through the hinge end of a clam shell. Occasionally you can find a shell that's been drilled by an octopus. The hole is more oval than a moon snail's.

If it is a jagged, uneven hole, chances are a gull or crow dropped the shell from on high to break it open. Mmmmm, lunch.

Are those plunger thingys? (moon snail egg cases)

Those gray plunger-like objects are actually egg cases, also called sand collars, containing up to ½ million viable moon snail eggs!

What is Moon Snail egg case "glue" made up of?

Moon snail egg case "glue" is mucus secreted by the moon snail. The eggs are laid between two layers of this mucus and sand. The veligers (larval moon snails) don't eat while they are in the egg case. When released after the collar disintegrates (in about 6 weeks), they become part of the plankton for only a day before they settle to the bottom and feed on algae. They become carnivores when their shells reach about 5mm.

How do moon snails fertilize eggs?

Moon snails have internal fertilization – the male is always smaller. The female will lay the eggs in a sand collar, which is made of a layer of eggs sandwiched between two layers of cemented sand grains. The eggs will be incubated within the collar, and the young are released about 6 weeks later when the collar disintegrates. There are some 300 to 500 thousand eggs per sand collar.

How many sand collars will a female moon snail make per season?

Likely only one.

How long do moon snails live?

up to 15 years

Whelks:**What do Whelks eat?**

Our local beaches have a number of predatory snails. Three species are known as whelks or dogwinkles depending on which marine life guide you happen to be reading.

For our purposes here we will stick with emarginate whelk (*Nucella emarginata*), channeled whelk (*Nucella canaliculata*), and the frilled whelk (*Nucella lamellosa*).

All three prey on barnacles and/or mussels.

The frilled whelk is not always successful when attacking mussels. The mussel can use its foot to produce threads with sticky glue on the ends. The mussel will attach threads to the attacking snail's shell then glue the other end to the rock to 'tie' the snail down. This reduces the feeding effectiveness of the snail. If the snail is unlucky enough to lose its grip on the rock, it may dangle from the end of the thread. Unable to feed, it will starve.

Is it true that whelks do not have a planktonic stage?

Yes.

Each species of whelk mentioned above lays multiple eggs in oat or rice shaped capsules attached to the rocks. Each snail produces many capsules. Most of the emarginate and channeled whelks eggs are sterile and are eaten by the few hatching snails in the capsule. The frilled whelk produces much larger, yolky eggs, all of which are fertilized, and the young do not feed on nurse eggs. All three species have non-planktonic young that crawl away from the capsule after a period of development inside. The eggs are prey of isopods and crabs.

General Snail Questions:

What are the cream colored sacs anchored in the sand?

These are bubble snail egg cases. If you are really lucky you may see the cryptic creatures laying these egg cases.

What's the best place to find a bubble snail?

They like eelgrass beds. If you want to find them it's best to search at the periphery of the eelgrass beds rather than tromping through. It's a delicate habitat.

Arthropoda

Barnacles:

Are barnacles alive?

Yes, until they die. Inside those volcano-like shells are living, breathing, eating, pooping, and reproducing animals. They are crustaceans; cousins to lobsters, crabs, pill bugs.

Do barnacles eat flies?

Not on purpose! Barnacles, after completing their larval stage as free swimming members of zooplankton, attach themselves to a hard surface headfirst. They build a calcareous house, and then begin to feed on phytoplankton, using their legs (cirri) to kick water into their mouths. At this point they don't have much control on what goes in. If there were fly larva in the water, I suppose anything could happen, but this is not a sought after part of their diet!

Can you eat barnacles?

I suppose you could, but as they are filter feeders you would have to be concerned about PSP (paralytic shellfish poisoning)

How can you tell the age of a barnacle?

I can't. You may be tempted to count the rings inside the "house" plates as growth rings, but don't! They correlate to some tidal data and not age of the barnacle. If you really want to age a barnacle, you'd have to watch it from birth.

How long do barnacles live?

Some large species may live for a decade or more, others likely only live a few years.

Crabs:

What kind of crab is this?

Pay attention to detail and you will be able to ID that crab! Note the color, texture, habitat, size, hairiness, and most importantly, carapace shape of the crab. Use your crab ID sheet in your training folders and Beach Naturalist box to help you.

Do crabs bite?

Technically no; they pinch, rip, and slice with their pincers. Depending on the species though, their mouthparts can be highly specialized to eat their particular target food. The ridges on the leading edge of the carapace are called "teeth," but crabs don't really bite.

Do people eat kelp crabs?

I suppose you could, but there's not much meat there.

Are these crabs dead?

Maybe. Heavy, stinky? Yep, that's dead. Light, not stinky, hinged carapace? Probably a molt. In order to grow larger, crabs molt their hard exoskeleton just as snakes shed their skin. The gill covers are left in the molt when the crab leaves it behind.

When crabs molt why do they leave their gills behind?

The gill supports are part of the skeleton and regenerated during the molting process.

What crab is bright turquoise?

Porcelain crabs (Petrolisthes sp.) can range in color from brown to bright blue.

What is crab shell made of?

The underlying layer of skin (epidermis) secretes the chitinous exoskeleton. The outer shell is composed of a thin, outer epicuticle and a much thicker procuticle below, which is protein and chitin bound together. In crustaceans this layer is also impregnated with calcium carbonate and calcium phosphate.

How long until a newly molted crabs shell will become hard?

It likely varies with the species and size. Some take only about 3 days but the Dungeness can take several weeks to completely harden.

How often do crabs molt?

This depends on the age of the crab. Young crabs may molt more than once a year, but when older will molt only once or twice per year.

How do crabs breathe?

Water is pumped into the body from pores at the back hinge of the exoskeleton. By moving the legs around the mouth, a current is created that passes water over the gills.

Can you resuscitate crabs?

It depends. If they're molts, there's nothing to resuscitate! If the crab doesn't smell terrible, you can try reviving them by putting them in the water and pressing gently on their backs, expelling the air that may be trapped under their shell and over the gills. Then wait and see if the legs around the mouth start to move. It may take a few minutes.

Hermit crabs seem to respond pretty well. Red Rock crabs may or may not, and Kelp crabs seem to fare poorly once they're out of the water for a while.

Shrimp:

What eats skeleton shrimp?

Small fish and perhaps shrimp and sea stars.

Lobsters:

Why are there no lobsters in Puget Sound?

My first answer was this:

Lobsters prefer warmer water than our frigid Puget Sound. What, you may say, about Maine! They have lobsters, and they're not in the Tropics. True enough. They do, however, have the benefit of the Gulf Stream to warm up their crustaceans.

However, upon further research I learned that there are endemic lobsters off the coast of Norway. That's cold. Nothing like the facts to ruin a perfectly good theory. I don't know why there are no lobsters here.

Isopods and Amphipods:

Do isopods molt?

Yes, being an arthropod, they must molt to grow.

What is the difference between an isopod and amphipod?

Isopod means (equal legs) so all of the legs are equal in shape. Amphipod means two kinds of legs. They have ones for walking and others for swimming and jumping. Isopods are flattened from top to bottom and amphipods are flattened from side to side. Both are crustaceans.

Chordata

Fish:

Is this an electric eel?

Definitely not. Electric eels live in the warm, fresh, muddy water of the Amazon. There are no true eels here in Puget Sound. True eels have snake-like, elongated bodies, no spines in their fins, and no pectoral fins. They all have a strange stage that consists of a transparent, ribbon-like larva. The eel-like critters we see at the beach are true fish!

We have a number of fish on our beaches that look eel-like, such as pricklebacks, gunnels and high cockscombs. Why do you suppose the eel-like shape helps these fish survive in the intertidal zone?

What fish is covered with LOTS of mucus?

After checking with the experts, the word was, it's a really slimy fish! I would guess it's a Snail fish (*Liparis* sp.), which are intertidal and can be very slimy. I'd love to get a better physical description of this fish, so email me!

Do any of the beach animals make noise?

Some species of fish (midshipman) make humming or grunting sounds.

What are the reddish egg-masses on eelgrass and sargassum?

We think the reddish eggs may belong to some sculpin species, while the cream colored eggs are probably herring eggs.

Why are the flounder's eyes on one side of its head?

It's so the flounder can see properly when it is swimming on its side (no fun looking at dirt all day). Flatfish don't look or act much like flatfish when they are born. When a flatfish is born, their eyes are located on either side on their head. Eye migration happens very early in life (at about 7mm fish length). This is a great adaptation for being a bottom dweller who can quickly hide under the sand and still look up to see what's going on. An exception is the halibut, who is often found on rocky bottoms (hard to hide a 8 foot long halibut). Most flatfish are genetically programmed to be either a left-eyed (eyes migrate to the left side of the head) or right-eyed adult (eyes migrate to the right side of the head). The starry flounder is unusual in that it can't seem to make up its mind as to whether it wants to be a left or righteye flatfish. On our coast there are about equal numbers of both, but as you head north you see more left-eyed. By the time you get to Japan it's hard to find anything but lefties. In Puget Sound there are 15 species of flatfish.

If you have any identification questions about local fishes we have the following books in the Education library that are good: Coastal Fish Identification by Paul Humann, Pacific Coast Inshore Fishes by Daniel W. Gotshall, and the Peterson Field Guide, Pacific Coast Fishes. Feel free to use the resources in the library to help answer your questions.

Plankton:**What is plankton?**

The word plankton means "to wander aimlessly". It refers to thousands of species of algae, bacteria, viruses and animals that drift at the mercy of the currents. Most of the animals seen on the beach began their lives as plankton. Other animals spend their entire lives as plankton and remain very small. The most common members of the plankton are bacteria and viruses. There may be ten times as many viruses as there are bacterial cells. Some estimates put the number of viruses at 2 billion per liter of seawater.

What is red tide?

Red tide is caused by a dinoflagellate (type of phytoplankton) which contains toxins. Animals that are filter feeders (like clams) and animals that feed on filter feeders (like moon snails) can accumulate and concentrate the toxin in their bodies. Eating the shellfish passes the toxin on to the eater and can cause illness, permanent neurological damage, and/or death in humans. Cooking shellfish during red tides will not destroy the toxin. Paralytic Shellfish Poisoning (PSP) is the result of eating contaminated shellfish.

The Shellfish hotline is: 1 800 562-5632. It will tell you which beaches are closed to harvesting.

Is the red tide everywhere?

Actually the term "red tide" is no longer used to define this phenomenon. It is now known as HAB or harmful algal blooms. HAB's are usually most common in the spring and summer months but can occur anytime during the year.

The Health Department monitors the conditions on local beaches and reports closures on their website. Before collecting shellfish for consumption one should always consult the Health Department closures.

Marine Biotoxin Hotline: <http://ww4.doh.wa.gov/gis/biotoxin.htm>

Or call: 1-800-562-5632

What is the red stuff in the water?

Could be fish eggs, could be a bloom of Noctiluca; a local dinoflagellate which does not cause "red tide" (PSP), but is otherwise famous for its gorgeous bioluminescence.

What is bioluminescence?

Bioluminescence = living light.

It is the production of chemical light by living organisms. In our area this light is produced in sea pens, some jellyfish and a few other invertebrate species. The greenish glow and tiny sparks seen in the water at night is caused by "Noctiluca" a single-celled organism that produces the cold light, especially when disturbed. The function of this light production is not understood but it may be a way Noctiluca illuminates its predators (fish) that makes them more easily seen at night. There are a great number of species in the deep ocean that are bioluminescent.

What is brown tide?

This could be any number of things. If the weather has been dry and there is lots of light, it might be an algal bloom. If it has been very rainy and there has been some combined sewer overflow, that could be it. If it has been very rainy, erosion could also play a part.

Tides:

What is a neap tide?

A neap tide is when the tidal exchange is at its least. Neap tides occur when the sun, moon, and earth form a right angle and the gravitational pull of the sun counteracts the pull of the moon.

What is a spring tide?

A spring tide is when the tidal exchange is at its highest. Neap tides occur when the sun, moon and earth are in alignment and the gravitational pull of the moon and sun on the earth work together. At spring tide the moon is either in its full- or new-moon stage.

What is a minus tide?

A minus tide is when the edge of the water comes to a spot on the beach that is below the 0.0' tide mark. The 0.0' tide mark is the average low tides (in the USA). See Beachcomber's Guide, P.11

Where does the water go when the tide goes out?

Think of tides as super giant waves. These waves are generated by the pull of the moon mostly with the sun helping (or hindering in the case of neap tides). Now imagine the high tide as Seattle passing through the wave's crest, and low tide as Seattle passing through the wave's trough.

General tide information:

See page 10 in your Beachcomber's Guide to Seashore Life. If you need more, please check out the internet.

General Beach and Hydrology Related Questions:**What's under this rock?**

A dark, wet, safe spot for some creatures to call home! Because of that, be super careful if you choose to tip that rock up. You could frighten the creatures out into the open where they are not sheltered from wind, sun, rain, feet, predation, etc. You could crush said creatures when replacing the rock. Worst of all, you could neglect to put the rock back in its original orientation (top up, bottom down, same place) thereby messing up the living arrangements of all the creatures in, on and under the rock.

Can I take this home?

It is so much better for this ecosystem to leave all of its components here. Some things look dead and/or unimportant to us, yet are crucial for the health of the beach. Additionally, in many cases it is not legal to remove anything from the beach.

It is not safe (for health reasons) to eat anything off the beaches on the eastside of the sound. If people have a license and are not on park property, Federal Fish and Wildlife regulations apply. There is a booklet of the regulations in the beach box.

Is this salt water?

No and Yes!! Puget Sound is an estuary, a mix of fresh and salt water. The salinity of Puget Sound is 28 ppt (parts per thousand). The Pacific Ocean is 32 ppt.

Is the water in the Pacific the same height as the water in the Caribbean?

Sea level is sea level. Depth of the ocean floor is a different story.

Why are oceans salty and lakes aren't?

Lakes do contain salts and minerals which are leached from the rocks, critters and atmosphere they are exposed to. But lakes also have an outlet, allowing them to flush the salts to (where else?) the ocean.

Amusing, Silly, and Sometimes Questionable Questions:**Is there anything alive at the beach?**

Wow! What an awesome naturalist moment you could have with this one! Are you alive? What doesn't look alive to you? Let's explore this rock, this area, etc. and see what living things we might find. A perfect opportunity to marvel at the shape of life!

Where are all the animals?

Sometimes you have to slow down, squat down, and settle down to see the intertidal creatures. But look around, Great Blue Herons, Glaucous-winged Gulls, and Brant are animals, too!

Are we hurting the animals by walking on them?

Some of the animals. Many are soft-bodied, spineless, have exoskeletons, and withstand a bit of pressure. But too much weight, or rough handling can kill anyone.

Can anything here hurt me?

You mean besides the naturalists?

Actually the large jellyfish can sting painfully, crabs can pinch, barnacles can cut with sharp shells if you scrape against them, and small octopuses can bite and produce painful wounds. So don't fool around with jellyfish and octopuses or crabs. Some fish have sharp spines on their gill covers or dorsal fins that can produce punctures or cuts if handled. Rockfish have venom in their spines, and midshipmen have razor sharp gill covers....don't handle fish as it removes their protective slime and can injure them.

What animal makes this poop?

The varieties of poop on our beaches are inspiring. Have fun hunting some up! My personal favorite? Clam poop.

Is peeing in the water OK?

Well if you do, please let me know which pool you swim at.

In a wilderness situation this is likely not a big deal but if you do it here on Seattle beaches you could get arrested. Urination in public is illegal. As far as doing damage to the environment it is unlikely that a small amount of urine would do any damage but it's still better to use the restroom.

(There IS a port-a-potty at Alki, hidden away to the left as you face the wall with the sea creatures mural. No need to suffer!)

Want to go for a drink when you're done at the beach?

Yes!! No!!!

Beach Questions 2002

Thank you, Buzz Shaw!

1. What do sea cucumbers do?
 - a. Well, they are animals so they eat, excrete, reproduce, attempt to avoid predators and finally die. Sea cucumbers feed using modified tube feet called oral podia. Food is picked from the water or bottom with the feet which are then placed in the mouth and licked off. Food is mostly plankton and detritus. Some sea cucumbers can expel their internal organs in their defense. They will later grow back the lost organs. Others may absorb their organs seasonally and become dormant for some period until the organs are regenerated.
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 - a. They may be used to deter visual predators that might consider them dangerous. These are not related to the spines of sea urchins or sea stars.
 4. How do sea stars breathe?
 - a. Sea stars have little finger-like papillae on their skin to absorb oxygen from the water. These are known as skin gills and give the sea star a fuzzy appearance.
 5. How long can sea stars live out of the water?
 - a. Depends on the sea star. Sea stars that normally live in the intertidal like the purple and mottled sea stars can spend more than 2 hours out of the water as long as the conditions are not hot and dry. They need to retain moisture within their bodies. Other subtidal sea stars may be damaged after a very short period out of the water.
 6. How long do barnacles, sea stars, and moon snails live?
 - a. Sea stars may live for decades but it depends on the species.
 - b. Moon snails – up to 15 years
 - c. Barnacles – some large species may live for a decade or more others likely only a few years.
 7. How do moon snails fertilize eggs?
 - a. Moon snails have internal fertilization – the male is always smaller. The female will lay the eggs in a sand collar which is made of a layer of eggs sandwiched between two layers of cemented sand grains. The eggs will be incubated within the collar and young released about 6 weeks later
-

when the collar disintegrates. There are some 300 to 500 thousand eggs per sand collar.

8. How do young moon snails get out of the sand collar?
 - a. They are released when the collar disintegrates.
 9. How many sand collars will a female moon snail make per season?
 - a. Likely only one.
 10. What are those antennas on the moon snail?
 - a. They are sensory tentacles – with touch and likely ‘smell’ sensors.
 11. Do sea stars bite?
 - a. That would be difficult since they have no teeth. However brittle stars do have teeth but do not use them for biting people.
 12. What eats skeleton shrimp?
 - a. small fish and perhaps shrimp and sea stars.
 13. Does an isopod molt?
 - a. Yes, being an arthropod, they must molt to grow.
 14. What is the difference between an isopod and amphipod?
 - a. Isopod means (equal legs) so all of the legs are equal in shape. Amphipod means two kinds of legs and they have ones for walking and others for swimming and jumping. Isopods are flattened from top to bottom and amphipods are flattened from side to side. Both are crustaceans.
 15. How long until a newly molted crabs shell will become hard?
 - a. It likely varies with the species and size. Some take only about 3 days but the Dungeness can take several weeks to completely harden.
 16. How often do crabs molt?
 - a. This depends on the age of the crab. Young crabs may molt more than once a year, but when older will molt only once or twice per year.
 17. When crabs molt why do they leave their gills behind?
 - a. The gill supports are part of the skeleton and regenerated during the molting process.
 18. How do crabs breathe?
 - a. Water is pumped into the body and over the gills.
-

19. What is a neap tide?

- a. neap tide is when the tidal exchange is at its least. Neap tides occur when the sun, moon, and earth form a right angle and the gravitational pull of the sun counteracts the pull of the moon.

20. Can anything here hurt me?

- a. Depends on how many more stupid questions you bother me with!
Actually the large jellyfish can sting painfully, crabs can pinch, barnacles can cut with sharp shells if you scrape against them, small octopus can bite and produce painful wounds. So don't fool around with jellyfish and octopuses or crabs. Some fish have sharp spines on their gill covers or dorsal fins that can produce punctures or cuts if handled. Rockfish have venom in their spines, and midshipmen have razor sharp gill covers....don't handle fish anyways as it removes their protective slime and can injure them.

21. What is plankton? *PLANKTON GREEN LORRD*

- a. The word plankton means "to wander aimlessly". It refers to animals, algae, bacteria, viruses etc. Thousands of species that drift at the mercy of the currents. Most of the animals seen on the beach began their lives as plankton. Other animals spend their entire lives as plankton and remain very small. The most common members of the plankton are bacteria and viruses. There may be ten times as many viruses as there are bacterial cells. Some estimates put the number of viruses at 2 billion per liter of seawater.

22. Is the red tide everywhere?

- a. Actually the term "red tide" is no longer used to define this phenomenon. It is now known as HAB or harmful algal blooms. It is caused by single-celled organisms that contain toxins. These are eaten by shellfish which can concentrate the toxin. Eating the shellfish passes the toxin on to the eater and can cause illness and/or death. HAB's are usually most common in the spring and summer months but can occur anytime during the year. The Health Department monitors the conditions on local beaches and reports closures on their website. Before collecting shellfish for consumption one should always consult the Health Department closures. The red color of the water in our area is usually caused by a bloom of a non-toxic member of the plankton – noctiluca.
Marine Biotoxin Hotline: <http://ww4.doh.wa.gov/gis/biotoxin.htm>
Or call: 1-800-562-5632

23. What is bioluminescence?

- a. Bioluminescence = living light. It is the production of chemical light by living organisms. In our area this light is produced in sea pens, some jellyfish and a few other invertebrate species. The greenish glow and tiny
-

sparks seen in the water at night is caused by "Noctiluca" a single-celled organism that produces the cold light especially when disturbed. The function of this light production is not understood but it may be a way Noctiluca illuminates its predators (fish) that makes them more easily seen at night and captured by their predators. There is a great number of species in the deep ocean that are bioluminescent.

24. Is peeing in the water OK?

- a. Well if you do, please let me know which pool you swim at. In a wilderness situation this is likely not a big deal but if you do it here on Seattle beaches you could get arrested. Urination in public is illegal. As far as doing damage to the environment it is unlikely that a small amount of urine would do any damage but it's still better to use the restroom.

25. What does a sand worm eat? How does it reproduce and how long does it stay in the plankton?

- a. Sand worms feed on algae and perhaps some small invertebrates. Eggs and sperm are shed into the water where the fertilized eggs develop into larvae. The young remain in the plankton for one to two weeks*. This varies with species.

Unusual Questions (and answers!) from the Beach Summer of 2001

Do barnacles eat flies?

Not on purpose! Barnacles, after completing their larval stage as free swimming members of zooplankton, attach themselves to a hard surface headfirst. They build a calcareous house, and then begin to feed on phytoplankton, using their legs (cirri) to kick water into their mouths. At this point they don't have much control on what goes in. If there were fly larva in the water, I suppose anything could happen, but this is not a sought after part of their diet!

Is there anything alive at the beach?

Wow! What an awesome naturalist moment you could have with this one! Are you alive? What doesn't look alive to you? Let's explore this rock, this area, etc. and see what living things we might find. A perfect opportunity to marvel at the shape of life!

What is brown tide?

This could be any number of things. If the weather has been dry and there is lots of light, it might be an algae bloom. If it has been very rainy and there has been some combined sewer overflow, that could be it. If it has been very rainy, erosion could also play a part.

A dinoflagellate member of plankton causes red tide, which is not visible to the naked eye. Animals that are filter feeders (like clams) and animals that feed on filter feeders (like moon snails) can accumulate the toxin produced by the dinoflagellate. This causes PSP (paralytic shellfish poisoning). Cooking doesn't get rid of it, and it can cause permanent neurological damage in humans.

How long is the worm in the tube?

It depends on the species. *Thelepus crispus*, the spaghetti or hairy gilled worm builds a tube of mud (spaghetti worm) or sand and pebbles (hairy gilled worm), can be 6.25". Their tentacles can be seen on the sand or mud and collect detritus (yum).

Feather Duster worms (parchment-like tube) can be 6" long topped by tentacles used for feeding (filter feeders), though the tube can be much longer (up to 20 cm).

Bamboo worms (very thin, parchment-like tubes emerging from sand or mud) are about 2.3" long. They eat organic material and most likely diatoms and bacteria as well.

Calcareous tubeworms (*Serpula vermicularis*) are about 3" long, with beautiful red and white plumes emerging from the tube. They are filter feeders.

Can you eat barnacles?

I suppose you could, but as they are filter feeders you would have to be concerned about PSP.

Is this salt water?

No.

How do you sex a sea star?

In sea stars the sexes are separate (they are dioecious). The gonads are located inside the arm (ray) of the sea star, making it difficult to tell the sex of the sea star you are looking at. Most sea stars release eggs (sometimes millions!) and sperm into the water. When fertilized, the eggs develop into larvae that go through two stages before developing into the adult form.

What is Moon Snail egg case "glue" made up of?

Moon snail egg case "glue" is mucus secreted by the moon snail. The eggs are laid between two layers of this mucus and sand. The veligers (larval moon snails) don't eat while they are in the egg case. When released after the collar disintegrates (in about 6 weeks), they are part of the plankton for only a day before they settle to the bottom and feed on algae. They become carnivores when their shells reach about 5mm.

41

Is the water in the Pacific the same height as the water in the Caribbean?

Sea level is sea level. Depth of the ocean floor is a different story.

Is this an electric eel?

Definitely not. Electric eels live in the warm, fresh, muddy water of the Amazon. We have a number of fish on our beaches that look eel-like, but are not eels. Why do you suppose the eel-like shape helps these fish survive in the intertidal zone? On our beaches we have seen pricklebacks, gunnels, and high cockscombs which all have that eel-like shape.

What is the difference between an oyster and a clam?

While the clam and oyster are both in the Phylum Mollusca, Class Bivalvia, they are in different orders. (Remember taxonomy? Kingdom, Phylum, Class, Order, Family, Genus and species). The oyster is in the order Ostreoida, is a filter feeder and needs a hard smooth surface to adhere to in order to develop into an adult. Some mature oysters can change their sex from season to season.

Clams, order Veneroida, are also filter feeders but burrow into sand or clay. The sexes are separate and the adults release eggs and sperm into the water.

Why does a mossy chiton have fuzzy edges?

The fuzzy edges might help with camouflage, help to prevent drying during low tide, and... What else do you think?

How do clams mate?

Sexes are separate in most species, and they are broadcast spawners (spray and pray). There are a few species of clams that brood fertilized eggs.

Why don't I see baby sea stars?

You need a microscope. When sea stars spawn, they release eggs and sperm into the water, where fertilization takes place. Larvae develop and change (they go through two stages), eventually settling to the bottom and develop into miniature adult sea stars. The larva can remain in the plankton for days or months, depending on the species. The adult form is tiny (1mm) when it settles out of the plankton but grows quickly.

What is the purpose of slugs in the world?

Every plant and animal (and every other living thing) has its own niche in the world. It eats and/or gets eaten by something else.

Do sea stars bite?

No. Their stomach has no teeth!

Why are oceans salty and lakes aren't?

The ocean floor is spreading, releasing salts and minerals from inside the earth into the water.

Where does the water go when the tide goes out?

The water goes out into the ocean, and it forms a bulge where the sun or moon's (or both) gravitational pull is ...pulling at it.

What animal makes this poop?

The varieties of poop on our beaches are inspiring. Have fun hunting some up! My personal favorite? Clam poop.

PLANKTON

What are Plankton???

The word “plankton” is from the Greek word plankos which means to wander.

Plankton are wondering animals and micro-algae that drift near the surface of the water. Some live in the sea and others in freshwater. They usually are microscopic but some such as large jellyfish and the ocean sunfish (mola mola) can be many feet long.

There are two types of plankton:

PHYTOPLANKTON – tiny wandering micro-algae that make their own food using photosynthesis like the multi-cellular plants. They are also known as producers. Common forms in Puget Sound are diatoms and dinoflagellates.

- “Red tides” are episodes of a high concentration of specific dinoflagellates that carry a pigment that can discolor the water. Most of the local colored species are non-toxic. The usually invisible “red tide” that is associated with shellfish contamination should be more properly called “paralytic shellfish poisoning” or PSP.
- The “phosphorescence” people see at night in Puget Sound is caused by another dinoflagellate. It should be called “bioluminescence”.

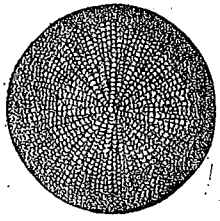
ZOOPLANKTON – usually microscopic wandering animals that live near the surface. Many will sink deeper before sunrise and swim up at sunset to avoid predators, but they are still drifters. They must get their energy from eating phytoplankton or other animals, thus they are also called consumers.

Zooplankton that are drifters for life are called holoplankton. Those that drift just for a few days-weeks as larvae, and then stop drifting, are known as meroplankton.

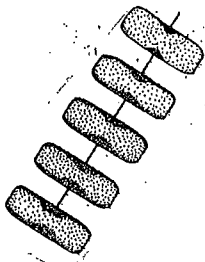
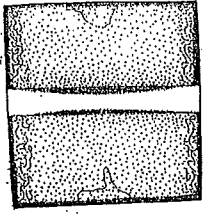
The population of plankton in Puget Sound varies significantly with the amount of sunlight. The best conditions are with increasing sunlight from April-June, and a developing thermocline at this time – a warm surface water layer over cooler subsurface water. We call these events when the plankton population explodes a bloom.

PLEASE SEE REVERSE SIDE FOR DIAGRAMS

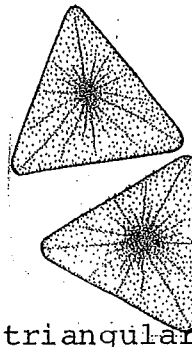
PHYTOPLANKTON



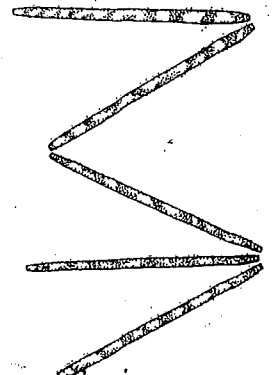
pillbox diatoms



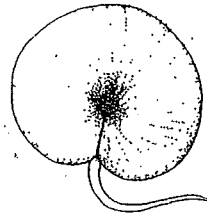
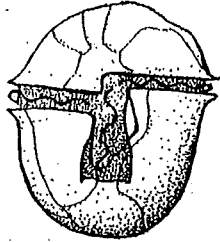
chain diatom



triangular diatoms

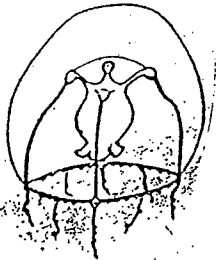


chain diatom

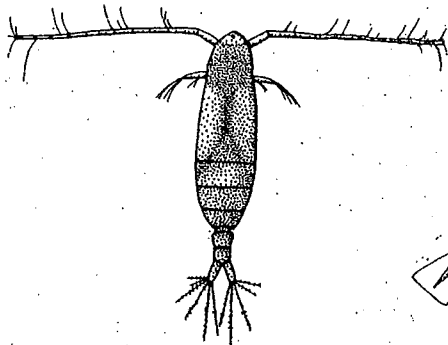


dinoflagellates

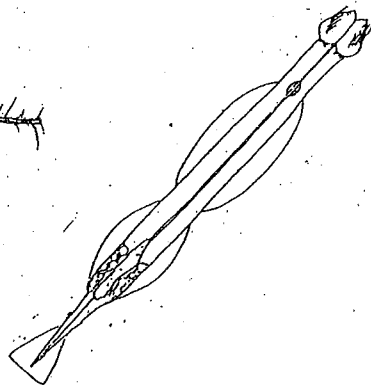
ZOOPLANKTON



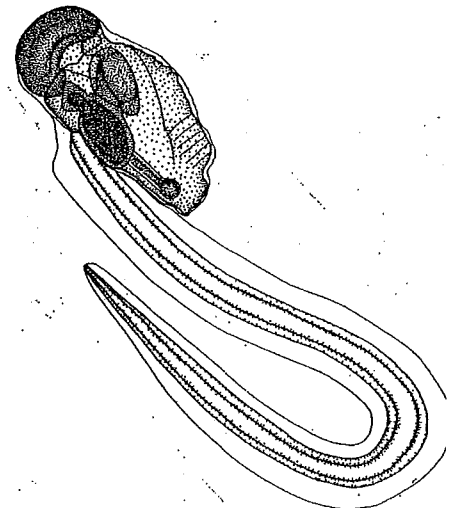
jellyfish



copepod

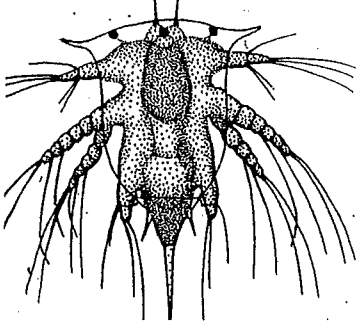


arrow worm

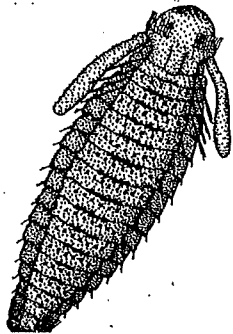


larvacian

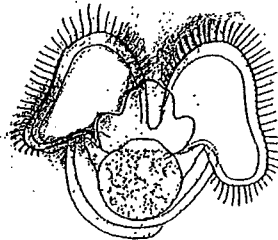
barnacle larvae



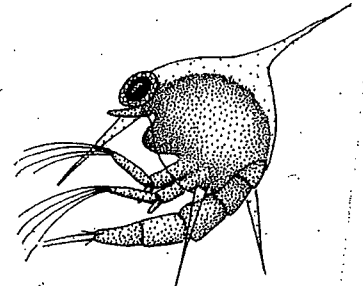
Polychaete larvae



clam larvae



crab larvae (zoea)



Selected References for Beach Naturalists

Books on organisms found in Puget Sound

The Beachcomber's Guide to Seashore Life in the Pacific Northwest by Duane Sept, 1999. Harbor Publishing, Madeira Park, British Columbia CA. - The best guide for beach naturalists, with photos and descriptions for the “274 most common plants and animals” on our shores as well as interesting notes on most species.

Brittle Stars & Mudbugs: An Uncommon Field Guide to Northwest Shorelines and Wetlands by Patricia K. Lichen, 2001. Sasquatch Books, Seattle. A book of short natural history essays on the most common marine and wetland organisms.

Seashore Life of the Northern Pacific Coast by Eugene Kozloff, 1983. University of Washington Press, Seattle. – THE book for marine biologists, organized by beach type with some color photo plate pages. Full of useful information, though heavy on scientific names, many of which have been changed in recent years.

Exploring the Seashore in British Columbia, Washington, and Oregon, A Guide to Shorebirds and Intertidal Plants and Animals by Gloria Snively, 1989. Gourdon Soules Book Publishers, Seattle. -Organized by beach type with some color photo plate pages, organism descriptions often include additional comments

Coastal Fishes of the Pacific Northwest by Andy Lamb and P. Edgell, 1986. Harbor Publishing, Madeira Park, British Columbia CA. – A great book for fish.

Marine Life of the Pacific Northwest: A Photographic Encyclopedia of Invertebrates, Seaweeds and Selected Fishes. by Andy Lamb & Bernard Hanby. - This latest and most comprehensive book is beautiful, but costly and *in many cases* not very helpful for ID (How to tell one cockle from another?) nor informative about life histories.

Whelks to Whales by Rick Harbo, 1999. Harbour Publishing. Madeira Park, British Columbia CA.. Having more species than Sept’s guide, including mammals, this guide helps ID, but lacks additional interesting information.

Shells and Shellfish of the Pacific Northwest by Rick M. Harbo, 1997. Harbour Publishing. Madeira Park, British Columbia CA. THE book for identifying common and rare shells, even a section on siphons (“shows”) so you might ID a clam without digging it up!

A Guide to Marine Mammals of Greater Puget Sound by Richard Osborne, J. Calambokidis, and E.M. Dorsey. 1988. Island Publishers, Anacortes, 98221.

North Pacific Seaweeds by O'Clair & Lindstrom, 2000. Plant Press, Auke Bay, AK. Available through Alaska Sea Grant. A great book on seaweeds for our region – no photos, but great illustrations and useful information.

“EZ-ID” Card: “Intertidal Invertebrates of the Salish Sea and the Pacific Northwest Coast”
Periwinkle Press & Island County Beach Watchers

(continued)

Marine Life Education

Beach Explorations: A curriculum for Grades 5-10 by Gloria Snively. Oregon and Washington Sea Grant Programs. Outstanding reference. I highly recommend for teachers, but has great ideas and info that naturalists could draw from too. Includes the species cards I used for “What am I?” game. Order online: <http://seagrant.uaf.edu/bookstore/pubs/M-08.html>

The Marine Biology Coloring Book. Thomas M Nielsen. Harper & Row, 1982. New York. COLLEGE LEVEL study book great for reference or casual study, coloring optional.

Exploring Tidepools by Philip R. Brown. 1994. Santa Barbara Museum of Natural History. Simple book with info & activities for older children or younguns with teacher/parent help. 47 pp

Novel

The Highest tide (a novel) by Jim Lynch 2005. Bloomsbury publisher, New York, 2005. Wonderful coming-of-age novel with Puget Sound intertidal setting

The History of Puget Sound and Bellingham

(I haven't read these yet – Doug)

The Living (a novel) by Annie Dillard. 1992. Harper Collins Publishers. (Offers a good description of early Bellingham).

The Light On the Island by Helene Glidden (publisher?)... On the history of the Lighthouse and area of Semiahmoo Spit. Jan says “It is a fun, easy read!!”

Walking the Beach to Bellingham by Harvey Manning. 1986. Madrona Publishers, Seattle. haven't read yet)

The Good Rain, Across Time and Terrain in the Pacific Northwest by Timothy Egan. 1990. Knoff Publishers, New York.

DVD/Video

Return of the Plankton: The Seasons Underwater in Puget Sound. Still Hope Productions, Inc. Suquamish WA. 27 min. (The video shown in our class)

Forage Fish: Tiny Tails of Survival. Black Dog Productions/Whatcom County Marine Resources Committee. 29 min.

Two videos esp for kids by Earthwise <http://earthwisevideos.com/Song-ofthe-Salish-Sea.htm>

Life on the Edge: A Guide to Pacific Coastal Habitats.

Song of the Salish Sea: A Natural History of Northwest Waters

Both get good reviews, I haven't seen yet.

Sea Inside (Local underwater TV series): online or DVD's available

<http://www.stillhopeproductions.com/Sea-Inside/EpisodeHtml/EpisodeList.html>

Marine Biotoxin Information

Hotline 1- 800- 562 -5632

Commonly asked questions

How can I tell if shellfish are toxic?

The only foolproof way is through laboratory testing of the shellfish. Paralytic shellfish poison (PSP) and domoic acid poison toxins can be present with no apparent signs. Remember that boiling, cooking, or soaking the live shellfish in water does not remove or destroy the toxin.

What causes the toxin?

When conditions such as sunlight, water temperature, and nutrients are favorable, a microscopic, poison producing plankton can reproduce very rapidly in sea water. When shellfish feed on this plankton, they accumulate the toxin.

Are all shellfish potentially hazardous?

Clams, oysters, mussels, scallops, and moonsnails can become contaminated by the toxins. Crab may accumulate toxin in the gut. It is unknown if or how the toxin accumulates in finfish and other shellfish such as shrimp.

What is paralytic shellfish poisoning?

Paralytic shellfish poisoning (PSP) is a serious illness caused by eating shellfish contaminated with algae that contains a toxin harmful to humans. When this algae increase to high numbers in marine waters, the condition is sometimes (and somewhat erroneously) referred to as a "red tide".

Paralytic Shellfish Poisoning ("red tide")

Symptoms

The *PSP toxin* affects the nervous system. Early physical symptoms include tingling and numbness of the lips and tongue. Depending on how much toxin is consumed, symptoms may progress to tingling of the fingers and toes, difficulty breathing, and loss of control in the arms and legs. Death can occur if the respiratory system becomes paralyzed.

What is domoic acid?

Domoic acid is a naturally occurring toxin produced by microscopic algae, specifically the diatom species *Pseudo-nitzschia*. Shellfish and crab ingest this algae, where the toxin concentrates. Significant amounts of domoic acid can cause Amnesic Shellfish Poisoning ASP is transmitted by eating contaminated molluscan shellfish and crab.

Domoic Acid (Amnesic Shellfish Poisoning)

Symptoms

Domoic acid poisoning starts with gastrointestinal symptoms such as vomiting, nausea, diarrhea, and abdominal cramps within the first 24 hours. In more severe cases, neurological symptoms may develop within 48 hours that include headache, dizziness, confusion, and loss of short term memory.

What is vibriosis?

Vibriosis is an intestinal disease caused by small bacteria called vibrio, which are found in fish and shellfish dwelling in the sea or rivers and streams where they meet the ocean. Although there are several types of vibrio, *V. parahaemolyticus* and related species are the most common in the northwest. Vibrio occurs naturally in marine coastal waters. Because the bacteria are more common in warmer months, fish and shellfish are more likely to be contaminated in the summer.

Vibriosis in Shellfish

Symptoms

Symptoms of Vibriosis include diarrhea, abdominal cramps, nausea, vomiting, headache, fever, and chills. The illness is usually mild or moderate and runs its course in 2-3 days. In severe cases, hospitalization may be required.

Information compiled from: The Office of Food Safety and Shellfish Programs (360) 236-3330, [www. http://www.doh.wa.gov/ehp/sf/BiotoxinProgram.htm](http://www.doh.wa.gov/ehp/sf/BiotoxinProgram.htm)

HOW A BARNACLE BUILDS ITS HOUSE

Barnacles actually have a kind of "duplex" system of housing – their exoskeleton and the calcareous shell in which they live.

Being Crustaceans (like crabs and shrimp), barnacle bodies are covered with an exoskeleton that they must periodically discard in order to grow. This process is called molting. The barnacle's exoskeleton is similar to a shrimp's exoskeleton, but thinner and more flexible. The more rapid the growth of the barnacle, the more times the exoskeleton must be molted in favor of a larger one. In young, newly settled barnacles the first 20 molts can be two or three days apart.

In addition to their exoskeleton, barnacles also have a shell "house" made of calcareous plates. This shell is never molted and stays with the barnacle its entire life. Barnacles in Puget Sound usually have six plates forming the sides of the shell, one plate on the bottom, and two to four plates on top which open for feeding and to throw out the garbage (such as molted exoskeleton), and to close for protection. These plates are held together with interlocking teeth to hold them together.

When the young barnacle settles, it has a glue sac at the back of its head that secretes a "superglue" to anchor it to the substrate. Lying just inside the exoskeleton, the barnacle has a mantle – soft folds of tissue that secrete the shell. The bottom plate is secreted first, followed by the vertical plates that form the sides, and then the top plates that form the doors.

Prior to exoskeleton growth, the mantle chemically dissolves some of the inner wall surface while it then adds material to the outer surface to expand the walls out. The mantle also secretes material to the bottom, and to the upper reaches of the vertical plates. Finally, the top plates are enlarged to match the expanded diameter. The net effect is to make the "house" wider and taller (and thicker) to accommodate the enlarged animal. This process continues throughout the life of the barnacle. If it becomes partially dislodged or damaged it can glue itself back and/or repair the home. The Pacific giant barnacle can grow to an impressive six inch diameter, the largest of all.

Written by Gretchen Frankenstein using Seashore Life of the Northern Pacific Coast by Kozloff and Invertebrate Zoology by Rupert and Barnes.

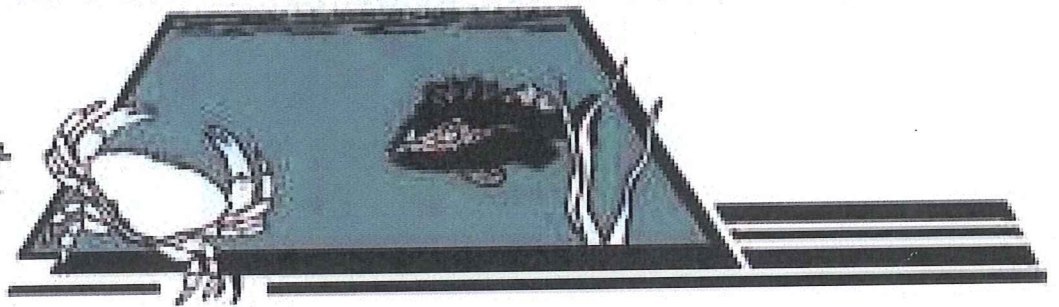
2015

WASHINGTON PARK



Beach Naturalist

***Skagit
MRC***



VISITOR LOG BOOK & GUIDE

DO YOU LIKE EXPLORING BEACHES & TIDEPOOLS? SO DO WE!

Join us at Washington Park this summer to explore the intertidal habitat and marine organisms at Sunset Beach from our team of volunteer beach naturalists. Take a look at our shell display, borrow a species ID card, or even ask for a guided exploration of the beach! Volunteers will be at Washington Park for 3 hour shifts on the following Saturdays during Summer 2015.

May

- May 16, 9 AM-12 PM
- May 23, 1-4 PM
- May 30, 9 AM-12 PM

June

- June 6, 12-3 PM
- June 13, 9 AM-12 PM
- June 20, 12-3 PM

July

- July 4, 11 AM-2 PM
- July 18, 11 AM-2 PM

August

- August 1, 11 AM-2 PM
- August 15, 11 AM-2 PM
- August 29, 9 AM-12 PM



Beach Naturalist

*Skagit
MRC*

These volunteers are here to enhance your enjoyment of this beach and help protect the habitat and organisms.

Make sure to stop by on June 20th & July 18th to see the Shannon Point Marine Center Mobile Touch Tank! The volunteer beach naturalist team at Washington Park is coordinated thorough the Coastal Volunteer Partnership at Padilla Bay, with funding provided by the Skagit Marine Resources Committee. **For more information or to inquire about a group visit, please contact the Volunteer Programs Coordinator, Catherine Buchalski, at cbuchalski@padillabay.gov or call (360) 428-1559.**

Beach Naturalist Announcement from Anacortes Clamdigger

**Image featured is from the July publication, but a full calendar including dates from May and June were published in previous editions.*

COMMUNITY ANNOUNCEMENTS CON'T

will amaze everyone with his incredible tricks. Abracadabra and shazam, Elliott will delight & entertain one and all in the Anacortes Middle School Cafeteria. Thursday, July 23 at 2pm: The Knights of Veritas will be here to show off medieval armor and weapons, talk about chivalry and the honor code, and demonstrate the use of armor and simple weapons. Program takes place in the Council Chambers in City Hall. Thursday, July 30 at 2pm: Sarvey Wildlife Care Center will bring raptors to show the kids and talk about the important work they do to save these majestic creatures. Program held on the east side of the library. All programs are free, registration not required. For more info, call the Children's Library at 293-1910, ext. 28, or visit <http://library.cityofanacortes.org>.

Join us at Washington Park this summer to explore the intertidal habitat and marine organisms at Washington Park from our team of beach naturalists. Volunteers will be at the park on the following Saturdays during Summer 2015: July 4, 11am-2pm, July 18, 11am-2pm, August 1, 11am-2pm, August 15, 11am-2pm, August 29, 9am-12pm. Make sure to stop by on July 18th to see the Shannon Point Mobile Touch Tank. For more info, contact Catherine Buchalski, at cbuchalski@padillabay.gov or call (360) 428-1559.

Friday Summer Cruises - Diver's Dream Charters. Board 3:45pm, cruise 4-6pm. Reservations 360-770-2795. \$25 per person. Starts May 1. (No August) Dock TD-22 Skyline Marina, next to office. Parking \$7 per vehicle. Look for person in red hat by the flagpole. Dress for the weather & bring camera and binoculars. May cancel due to weather. www.lujacsquest.com


Friends of Skagit Beaches Saturday Discovery Stations: Look for Docents at Discovery Points along the trail June 27, July 25 and Aug 15 from 11am-1pm. For details, visit www.skagitbeaches.org.

Swedish Pancake Breakfast, 37th Year, 7am-12pm on the third Saturday of the month. Includes Strawberries, Syrup, Ham, Coffee, Tea or Milk and ALL THE PANCAKES YOU CAN EAT. Adults \$7, Children 7-10 \$4, Children 6 and under FREE. VASA Lodge 1805 Cleveland St. Mt Vernon.



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A-town Anacortes Parks & Recreation Quarterly Publication

Do you like exploring the beaches and tide pools at Washington Park? So do we!

Join us at Washington Park this summer to explore the intertidal habitat and marine organisms at Sunset Beach from our team of volunteer beach naturalists. Take a look at our shell display, borrow a species ID card, or even ask for a guided exploration of the beach! Volunteers will be at Washington Park for 3 hour shifts on the following Saturdays during Summer 2015: Make sure to stop by on July 18 to see the Shannon Point Mobile Touch Tank!

The volunteer beach naturalist team at Washington Park is coordinated through the Coastal Volunteer Partnership at Padilla Bay, with funding provided by the Skagit Marine Resources Committee. For more information or to inquire about a group visit, please contact the Volunteer Programs Coordinator, Catherine Buchalski, atcbuchalski@padillabay.gov or call (360) 428-1559.

MAY

- May 16, 9 AM-12 PM
- May 23, 1-4 PM
- May 30, 9 AM-12 PM

JUNE

- June 6, 12-3 PM
- June 13, 9 AM-12 PM
- June 20, 12-3 PM

JULY

- July 4, 11 AM-2 PM
- July 18, 11 AM-2 PM

AUGUST

- August 1, 11 AM-2 PM
- August 15, 11 AM-2 PM
- August 29, 9 AM-12 PM



Anacortes Senior College Fall Term

Classes meet at Anacortes Middle School, 2200 M Avenue, Anacortes, WA 98221.

We encourage you to look for detailed course information in the Anacortes American, the Anacortes Senior Activity Center newsletter and on our website:

www.seniorcollege.org. For further information, call 360-503-1255, email info@seniorcollege.org.

ANACORTES SENIOR COLLEGE FALL TERM

We invite you to plan ahead for a thought provoking and interesting fall term at Anacortes Senior College. This is our ninth year of operation, with fall classes beginning Oct. 13 and ending Nov. 19.

The class lineup is developing, but here is what we know so far. New classes include Ice Age Floods, The Oregon Trail, Mysteries of Mental Health, and Six Novels of "Earthsea." Popular classes also return. They include Industries of Anacortes, The U.S. Constitution, The Cosmos, Anacortes History, Landscaping and Spanish. In all, about 12 courses will be offered in classrooms at the Anacortes Middle School.

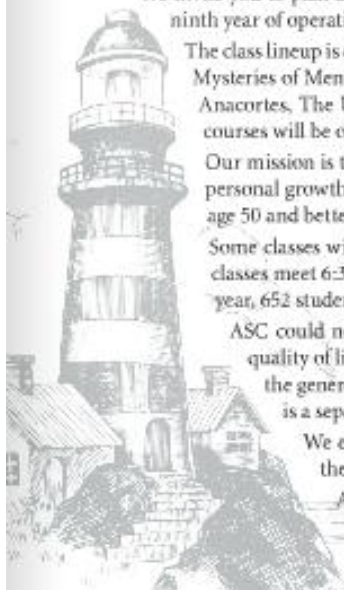
Our mission is to provide an enjoyable learning and social experience. The result is boundless opportunities for personal growth. We offer a stress-free environment with no tests or homework. ASC classes are open to anyone age 50 and better.

Some classes will run three weeks and others for six weeks. Afternoon sessions meet 3:30 to 5:30 p.m. Evening classes meet 6:30 p.m.-8:30 p.m. A six-week course is \$30; a three-week course is \$20. During the past academic year, 652 students attended 31 different classes.

ASC could not operate without its volunteers. All instructors donate their time and energy to enhance the quality of life for their peers. We greatly appreciate the assistance of middle school staff, and we acknowledge the generosity of middle school teachers who loan us their classrooms for two days a week. Although ASC is a separate entity, we could not survive without the cooperation of middle school staff and teachers.

We encourage you to watch for detailed information about fall courses in the Anacortes American, the Senior Activity Center newsletter, A-town is Our Town, and our website: www.seniorcollege.org.

After Labor Day, a flyer containing a course schedule and a registration form will be mailed to every household with occupants over the age of 50 in the 98221 zip code.



Program Title:**Beach Naturalist Volunteer Program**

PROGRAM / CURRICULUM			EVALUATION		
1. GOAL	2. OBJECTIVES	3. DESCRIPTION	4. QUESTIONS	5. SOURCE OF DATA	6. METHODS OF DATA COLLECTION
1. Increase public awareness of the marine invertebrate species and rocky habitat environment 2. Encourage positive stewardship behaviors in volunteers 3. Increase the visibility of the Skagit MRC to the public 4. Visitors will learn about behavior changes and actions they can take to protect and conserve the Salish Sea	1. Train at least 5 new volunteers and as many of last year's beach naturalists by summer 2015 2. Participants will take action to promote visibility of the Skagit MRC to beach visitors by offering interpretive programs at Washington Park and being present on low tide days 3. Participants will demonstrate and communicate good stewardship behaviors and actions that promote conservation of the Salish Sea to visitors	1. Provide a 5 hour training on marine that will cover tide pool ecology, coastal process and environmental interpretation 2. Participants will offer at least 3 scheduled interpretive programs at Washington Park 3. Retain participants as volunteers for the Skagit MRC for at least one year	1. Do participants rate themselves as having improved understanding of the course topics? 2. Do participants actively promote the Skagit MRC by wearing their pin and talking to visitors 3. Do participants know how to apply their education as volunteer beach naturalists? 4. Can participants demonstrate and communicate positive behaviors and actions to visitors?	1. Individual course Participants 2. Visitors/ Public 3. Coordinator 4. Funder	1. Training Evaluation 2. Number of volunteer hours on Volgistics database 3. Volunteer Beach Log to detail a. Number of attendees at organized programs b. Number of interactions with the public c. Demographics of visitors d. Public questions & concerns 4. Optional Visitor Behavior and Action Surveys

BEACH NATURALIST LOG

Date: 5-16-15

Shift time: 9AM - 12 PM

Naturalist(s) on duty: Catherine Buchalski

Weather/ Site Observations: 55°F, light wind, cloudy

Total # of Contacts: _____

- Minimal # 11
- Brief # ||||
- Engaged # ||||

If an organized group visits (school, camp, troop etc.), please record group name, size, approximate age, and where they are from in the notes section below. Please ask all visitors if they would be willing to share their zip code so we can see where everyone is from. Record zip codes on back of sheet with a tally counter.

Organisms Observed: Kelp crab, hairy helmet crab, sucker fish (ID)
hairy shore crab

vertebrate

Questions you were asked: Where are you from / what organization do you represent?
What do you do w/ used fishing line?
What snails are destroying local habitat? Why is there plastic on the beach?
What's going on w/ sea stars?
Are those crabs alive?

Equipment Issues/ Problems: Large stand doesn't work, need better signage.
big rocks f/ paper weights. More labeled shells f/ display

NOTES: 9 AM is probably too early to see tidepool visitors on a Saturday. 10 AM - Noon very busy.

Please be sure to wear a name tag, and return ALL equipment to the shed where you picked it up.

Thank you for being on the beach today!

BEACH NATURALIST LOG

Date: 5/30/15

Shift time: 9 AM - 12 PM

Naturalist(s) on duty: Catherine - Bob - Leon - Yvonne - Val

Weather/ Site Observations: sunny, breezy, cool

Total # of Contacts: 11611

- Minimal #
- Brief # B1
- Engaged # 20, 15
kids parents

If an organized group visits (school, camp, troop etc.), please record group name, size, approximate age, and where they are from in the notes section below. Please ask all visitors if they would be willing to share their zip code so we can see where everyone is from. Record zip codes on back of sheet with a tally counter.

Organisms Observed: anemones, hermit crabs, various algae, gunnels, limpets, sea caviar

Questions you were asked:

differences between seaweeds
what is happening with sea stars

Equipment Issues/ Problems:

Keeping track of magnifying glasses!

NOTES: Cub scout pack from Anacortes 4084

Please be sure to wear a name tag, and return ALL equipment to the shed where you picked it up.

Thank you for being on the beach today!

BEACH NATURALIST LOG

Date: 6/6/15

Shift time: 12-3 pm

Naturalist(s) on duty: Leon Fisher - Val Gleeson

Weather/ Site Observations: Sunny - warm - breezy

Total # of Contacts: ||||

- Minimal # ||||
- Brief #
- Engaged #

If an organized group visits (school, camp, troop etc.), please record group name, size, approximate age, and where they are from in the notes section below. Please ask all visitors if they would be willing to share their zip code so we can see where everyone is from. Record zip codes on back of sheet with a tally counter.

Organisms Observed:

Questions you were asked: do we have abalone here

Equipment Issues/ Problems:

NOTES: New place - up on hill by gravel lot - not as much traffic as we hoped
one person walked off with our sea cucumber card

Please be sure to wear a name tag, and return ALL equipment to the shed where you picked it up.

Thank you for being on the beach today!

BEACH NATURALIST LOG

Date: 6-13-15

Shift time: 9-12-15

Naturalist(s) on duty: V. Vonne

Weather/ Site Observations: Sunny

Total # of Contacts: 11

- Minimal # 1
- Brief # 11 111
- Engaged # 11111

If an organized group visits (school, camp, troop etc.), please record group name, size, approximate age, and where they are from in the notes section below. Please ask all visitors if they would be willing to share their zip code so we can see where everyone is from. Record zip codes on back of sheet with a tally counter.

Organisms Observed:

Christmas Anemone, Aggregating anemone, Sea cauliflower
Turkish Towel, Six-rayed sea star, striped dogwinkle, limpets, seaweed.

Questions you were asked:

- What organisation are you from?
- How much does it cost to park a trailer here?
- Do the little crabs (shore crabs) go out into the deeper sea and get bigger?
- What's the name of this crab? (Hairy Helmet crab)
- Questions about the different kinds of seaweed (Is this Turkish Towel? etc)

Equipment Issues/ Problems:

NOTES:

I found a fishing line with weight and hooks on the beach.
We can add it to the display as an example of marine debris.

Please be sure to wear a name tag, and return ALL equipment to the shed where you picked it up.

Thank you for being on the beach today!

BEACH NATURALIST LOG

Date: 4/20/15

Shift time: 12-3

Naturalist(s) on duty: Bob - Val - Jim

Weather/ Site Observations: Sunny - 31 breeze

Total # of Contacts: |||||

Bob said about 2 doz @ beach tidepools

- Minimal # ||||
- Brief # ||||
- Engaged # ||||

If an organized group visits (school, camp, troop etc.), please record group name, size, approximate age, and where they are from in the notes section below. Please ask all visitors if they would be willing to share their zip code so we can see where everyone is from. Record zip codes on back of sheet with a tally counter.

Organisms Observed: Bob on Beach

Jarred - barnacle eating worms - six ^{footed} stars - christmas anemones - aggregating anemones
 egg from - gunnels - shore crabs - river otter

Questions you were asked:

about different shells we have
 plastics
 are clutons edible

Equipment Issues/ Problems:

NOTES:

Please be sure to wear a name tag, and return ALL equipment to the shed where you picked it up.

Thank you for being on the beach today!

BEACH NATURALIST LOG

July 4, 2015

Shift time: 11:00am - 2:00pm

aturalist(s) on duty: Maddie Rose & Leon Fisher

Weather/ Site Observations: Clear, hot, light breeze, -2.1 tide at 12:41 (good tide pools)
Water was cloudy

Total # of Contacts: _____

- Minimal # _____
- Brief # 9 ~~##~~
- Engaged # 6 ~~##~~

If an organized group visits (school, camp, troop etc.), please record group name, size, approximate age, and where they are from in the notes section below. Please ask all visitors if they would be willing to share their zip code so we can see where everyone is from. Record zip codes on back of sheet with a tally counter.

Organisms Observed: Rusty Rock, Seasacs, Lattica, Rockweed, Feather boa, red-orange & crusting sponge, SeaCumbers②, 6 rayed Seastar, Mottled Seastar, Stubby rose anemone, leather tubeworms, iridescent worm, spaghetti worm, casing of bamboo worm, dogw/kegg casing, smooth shelled lamellosa, 3 kelp crab, blue mussell (small), black Katy Chiton, amphipods, hairy shore crab, purple shore crab, iridescent seaweed

Questions you were asked:

What birds are in area -
Asked about field guides -

Equipment Issues/ Problems:

Some of materials were combined - especially duplicates. Used the new free standing kiosk - worked well. Less materials probably better. Some shells need to be glued

NOTES:

Volunteers observed family with small child and dog off leash. Dog had diarrhea and pooped frequently on beach and in tide pools. Maddie made contact but visitors were indifferent and did not clean up after dog. Park assistants made contact too, but cleanup was not done. Park employees need enforcement authority! Later other children played in tide pools dog crapped in. Busy Park days. Active volleyball game probably kept some people away

Please be sure to wear a name tag, and return ALL equipment to the shed where you picked it up.

Thank you for being on the beach today!

BEACH NATURALIST LOG

Date: July 18, 2015

Shift time: 11⁰⁰ - 2⁰⁰

Naturalist(s) on duty: BOB WEATHERS, MADDIE ROSE, PETE HAASE, WAYNE (stepped by)

Weather/ Site Observations: LITE BREEZE, CLEAR, BEAUTIFUL!! YOUNG (" ")

Total # of Contacts: _____

Booth • Minimal # 3
 Brief # 5, 5, 6, 3, 5, 3, 4
 Shore • Engaged # 17 (Bob) 17 Bob

Shannon Pt Touch Tank -
 crab (var sp) 3 Sea Cukes (Var Sp.)
 arch (var sp) 2 Shrimp; sea urchins
 g. anemone 3 Sea Stars (Var Sp.)
 key hole limpet, oyster, scallop,

If an organized group visits (school, camp, troop etc.), please record group name, size, approximate age, and where they are from in the notes section below. Please ask all visitors if they would be willing to share their zip code so we can see where everyone is from. Record zip codes on back of sheet with a tally counter.

Organisms Observed: Petri dishes w/ Microscopes at Beach Naturalist
Table. comb jelly in petri dish, fish larvae,

Questions you were asked: Gunnels - eels;
Bob sez: I saw - kelp, hairy, hermit, purple, dungeness crabs,
Isopods - gunnels (pink juveniles); 3 ching; dogwinkles,
chitons, black katy; shield limpets; Xmas, stubby rose, aggreg.
anemones; "Hand" Cucumber; egg cases - dogwinkle; Brown
Equipment Issues/ Problems: "Hand" counters for B.N. at shore - Haystack
6 Ray Stars - juveniles; rusty algae; Barnacles;

NOTES: SHANNON POINT TOUCH TANK + 7-8 GRAD STUDENTS + LEADER + CANOPY + SIGN!!
SET UP CYP "TABLE STAND" UMBRELLA

Paper towels - station
Board stationed at Beach Side. Table up at parking
Lot w/ Shannon Pt.

Please be sure to wear a name tag, and return ALL equipment to the shed where you picked it up.

Thank you for being on the beach today!

BEACH NATURALIST LOG

Date: Aug 1st

Shift time: 11:00am - 2:00 pm

Naturalist(s) on duty: Gordon Sjogren

Weather/ Site Observations: Clear, hot

Total # of Contacts: 15

- Minimal # 11 2
- Brief # 1111 4
- Engaged # 111111 9

If an organized group visits (school, camp, troop etc.), please record group name, size, approximate age, and where they are from in the notes section below. Please ask all visitors if they would be willing to share their zip code so we can see where everyone is from. Record zip codes on back of sheet with a tally counter.

Organisms Observed: gurnets, aggregating anemones, tide pool sculpins

Questions you were asked: what are the eels? (gurnets)
when is low tide?
where are the sea stars?

Equipment Issues/ Problems:

NOTES:

Please be sure to wear a name tag, and return ALL equipment to the shed where you picked it up.

Thank you for being on the beach today!

BEACH NATURALIST LOG

Date: August 15 2015

Shift time: 11-2

Naturalist(s) on duty: Catherine Buchalski Val Gleeson

Weather/ Site Observations: Breezy, Cloudy cool

Total # of Contacts: 11

- Minimal # 11
- Brief # 11
- Engaged # 11

If an organized group visits (school, camp, troop etc.), please record group name, size, approximate age, and where they are from in the notes section below. Please ask all visitors if they would be willing to share their zip code so we can see where everyone is from. Record zip codes on back of sheet with a tally counter.

Organisms Observed: juvenile red rock crab, Christmas anemone, aggregating anemone.

Questions you were asked:

Equipment Issues/ Problems: NA

NOTES:

Please be sure to wear a name tag, and return ALL equipment to the shed where you picked it up.

Thank you for being on the beach today!



CVP volunteer Anne Middleton helps some youngsters with fish printing at this year's Fidalgo Bay Day & National Estuaries Day event.



The Coastal Volunteer Partnership at Padilla Bay is a collaborative volunteer program increasing local citizen capacity to protect, educate, and restore natural resources along our shorelines. Headquartered at the Padilla Bay National Estuarine Research Reserve, we work

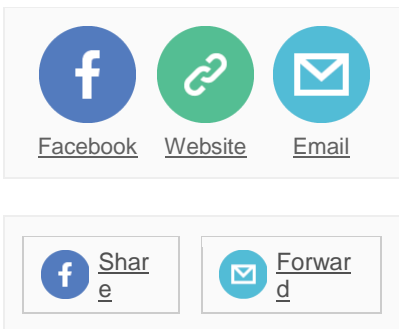
THE WAVE

September 4, 2015

Greetings!

Can you believe it's been almost a week since we celebrated Fidalgo Bay Day & National Estuaries Day? More than 50 volunteers and 15 local and state organizations came together to support this fantastic community day of learning and family fun. Despite the power outage, we had more than 300 visitors! If you haven't already done so, I encourage you to [check out the photos](#) from our event photographers Karen Richman & Pete Haase. Thank you to everyone who was involved in planning and supporting these events. We truly could not do it without you.

*throughout Skagit County
and the Salish Sea to
provide capable, trained
volunteers for
environmental projects and
community outreach
efforts. The program is
currently funded through the
Padilla Bay NERR, Padilla
Bay Foundation, the Skagit
Marine Resources
Committee, Friends of
Skagit Beaches, and the
Skagit County Clean Water
Program*



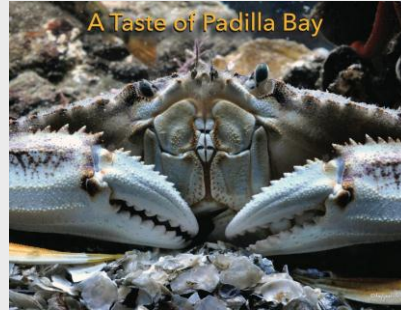
While summer is winding down, it doesn't mean we'll see any shortage of fun activities to keep us all busy as we ease our way into fall. To help you keep track of all that's going on, I encourage you to use the calendar on our CVP website at www.coastalvolunteerpartnership.org. We'll be making updates and adjustments to this site as we go along, so if you have suggestions, ideas or would like to help us maintain the site, please e-mail the lead volunteer on this project, [Pete Haase](mailto:Pete.Haase).

Our next CVP social will be a hike out on the [Kukatli Preserve](#) on Tuesday, September 15. The Kukutali Preserve is the first park in the history of the United States to be co-owned and jointly managed by a federally recognized Indian tribe and a state government. Parking is extremely limited, so please meet us at the March Point Park & Ride at 1:30 pm. We'll carpool over to the small parking lot at the preserve. Don't forget to bring you water bottle and sense of adventure. Hope to see you there!

Cheers~

**If you something to share or announce in this
bulletin, please e-mail me at
cbuchalski@padillabay.gov.**

Thank You!



On behalf of the Padilla Bay Foundation, I wish to extend an enormous thank you to all those who attended, volunteered, donated to, or sent well wishes for the Padilla Bay Reserve's 35th annual bash, "A Taste of Padilla Bay". The event was an absolute success with more than 125 attendees, great music, amazing food, and good times. While the event team is still finalizing the numbers, I can share that goals were beyond met, and everyone is thrilled! We would not be as successful in our mission without our larger Padilla Bay family and your continued support. Thank you!

EVENTS & PROGRAMS

Harbor Porpoise Bluff Days

Are your end-of-summer days starting to feel, well "PORPOISEless?" Join Pacific Biodiversity Institute naturalists for a "Bluff Day." Watch and learn about the elusive harbor porpoise! Drop by a porpoise observation lookout ([see map](#)), pick up tips from our expert porpoise-spotters, and discover why these petite marine mammals are important indicators of the health of local waters. If you have a pair of

favorite binoculars, bring them along, or use ours. The porpoises are invited, too! Bluff Days are scheduled on:

- Sat., Sept. 12, 9 am–3 pm, Rosario Head, Deception Pass State Park (Discover Pass or \$10 day parking fee required)
- Sat., Sept. 19, 12–3 pm, Washington Park
- Sat., Sept. 26, 12–3 pm, Rosario Head, Deception Pass State Park—State Parks FREE admission day

Bluff days are FREE! Questions? Please contact Anna Hallingstad at anna@pacificbio.org, or visit the PBI Harbor Porpoise [website](#).

Skagit Stream Team-September 9

Skagit County is blessed with a myriad of streams, lake, and rivers. Not only are these waterways our source for drinking water, but we also use them for irrigation, agriculture, industry, hydroelectric dams, and recreation. Monitoring on a regular basis is an essential element to help assess the health of our local waterways, to document changes in stream health over time, to detect pollution problems before a crisis occurs, and to track progress towards improvement. You can help protect our legacy of clean water by participating in the Skagit Stream Team Program! More information on training dates, time, and the program can be found [here](#). Contact Kristi Carpenter at (360) 428-4313 or email: kristi@skagitcd.org.

Trail Tales Bike Ride-September 12

Join Trail Tales docents for a guided bicycle ride to learn about the legacy of the "City of Smokestacks". The working waterfront of Anacortes, once the hub of more than a dozen wood mills, today continues to support a thriving ship building and boating industry. Learn more about how these industries are tied to the Anacortes Baywide Cleanup project that is restoring the Fidalgo Island shoreline. Pump up those tires and bring your bike down to the Anacortes Depot for an interpretive ride on level terrain at a leisurely pace. We'll stop at sites

along Guemes Channel, Cap Sante Basin, and the Tommy Thompson Trail to share stories of our working waterfront and today's efforts to restore important shoreline habitat that support our commercial seafood and recreation businesses. Meet at the Preston Snagboat, 703 R Avenue, in Anacortes. Trail Tales interpretive events are free. For complete program details, visit www.skagitbeaches.org.

Skagit River Salmon Festival- September 12

Enjoy live music, great food, cultural activities, arts & crafts, hands-on demonstrations, and lots of fun activities for all ages from 10 am-7 pm at the scenic Waterfront Park next to the Swinomish Casino and Lodge. This free family festival celebrates the return of the salmon and our mighty Skagit River. Event details can be found [here](#).

Sounds of Fall Migration-September 12

Join naturalist, Libby Mills, as we see what's going on in the southbound bird migration. Wear comfortable walking shoes and be prepared to explore Padilla Bay's uplands and the fields of the "west 90" on the Samish flats. Bring water and a snack. Binoculars and field guides are available at the Interpretive Center. [Registration is required](#). This program begins at 8 am at the Padilla Bay National Estuarine Research Reserve parking lot. This class will be repeated on Saturday, October 24.

Watershed Masters Registration Deadline- September 18

The Watershed Masters Volunteer training program is now entering its 23rd session and is supported by over twenty local natural resource agencies and organizations. The program is intended for community residents (age 17 and up) aspiring to increase their knowledge about local watersheds, water quality, and stream ecology (no previous experience required). Participants attend 8 evening sessions (held weekly), and 3 Saturday field excursions. The class fills up rapidly

and is limited to 25- first come basis. More information on training dates, time, and the program can be found [here](#). Contact Kristi Carpenter at (360) 428-4313 or email: kristi@skagitcd.org.

Washington Park Centennial Celebration- September 19

Please join Anacortes Parks & Recreation for an afternoon celebrating all the time and effort our community has put in to Parks and Recreation over the past 100 years. Everyone who's been involved in Anacortes Parks & Rec in any way is welcome. Food and entertainment at the event, but the primary focus is to get together and share memories about all that has gone in to making Washington Park and Parks & Recreation so great. Activities begin at 9:30 am and go until 2 pm.

How BIG is your footprint? Every step towards clean water counts!-September 23

Join the Coastal Volunteer Partnership and [Skagit County Clean Water Program](#) for an update on Skagit County's water quality status. Hear about the results from the summer sampling season, what's happening with the upcoming Padilla Bay watershed study, and how you can prevent pollution from bacteria, stormwater, and endocrine disruptors from impacting our local waters. This 2 hour program will be held at the Sedro-Woolley Community Center from 6-8 pm on Wednesday, September 23. For more information, please contact CVP Programs Coordinator, Catherine Buchalski at (360) 428-1559 or e-mail cbuchalski@padillabay.gov.

Trail Tales Walk: History & Habitat on a Working Waterfront-September 24

From the earliest days of Anacortes, the Guemes Channel waterfront has been at the heart of our working waterfront. Join us for an interpretive walk to learn about the history of the Guemes waterfront and characters central to the story. We'll talk about Anacortes founder Amos Bowman and Melville Curtis, who built the original Curtis Wharf in 1905. Our guest speakers from the Port of

Anacortes and Dept. of Ecology will share information on the redevelopment of the waterfront to support the Dakota Creek Industries' growing ship building business and the environmental mitigation projects that were undertaken as a result. They will also share information on the Port's plans for redeveloping and conducting cleanup work at their Quiet Cove properties. Meet at 1 pm at Quiet Cove, end of O Avenue at the Guemes Channel, Anacortes. The walk route is flat, paved and handicapped accessible. For complete program details, visit the calendar at www.skagitbeaches.org.

Spawner Survey Workshop-October 3

Join Skagit Fisheries ENhancement Group to learn to identify different species of salmon and their redds (nests), and document populations at stream restoration sites. Data collected will be used to measure the effectiveness of restoration projects, and to help WDFW determine escapement goals for future fishing seasons. To ensure accurate data collection, volunteers must be able to do weekly monitoring, October through January. [Email SFEG](#) for more info or to sign up!

Wild Edible and Medicinal Plants-October 3 & 4

Join naturalists Marlee Osterbauer and Terri Wilde as we make our annual fall excursion searching for edible and medicinal plants at Padilla Bay National Estuarine Research Reserve. Terri and Marlee will share extensive knowledge of plant uses and folklore. Weather may be chilly, so dress appropriately. A notebook and pencil are useful. This 2 hour class is offered twice. Saturday, October 3 and Sunday October 4, from 2-4 pm. [Registration is required.](#)

VOLUNTEERS NEEDED

Skagit River Salmon Festival - September 12

Please join the CVP at the annual Skagit River Salmon Festival to be held at the Swinomish Casino & Lodge, 12885 Casino Dr, Anacortes, ([map](#)) from 10

am-7 pm. The Coastal Volunteer Partnership will be bringing displays and games from the Skagit MRC, Padilla Bay Reserve, Skagit County Clean Water Program, and Friends of Skagit Beaches. We'll need volunteers all day to help the kids with the games and stamping passports for the prizes! Pete Haase needs 3-4 helpers from 9-10:30 am & 6:30 - 7:30 pm to help set up and take ZeroWaste materials. If you would like to help, please contact CVP Programs Coordinator, Catherine Buchalski at (360) 428-1559 or e-mail cbuchalski@padillabay.gov.

Padilla Bay Reserve Front Desk-September 20 & 26

Padilla Bay Reserve is always looking for volunteers to staff our front desk on the weekends. We are especially in need of volunteers to help us out on Sunday the 20th & Saturday the 26th . Registered Padilla Bay volunteers can sign-up using Volgistics, or by contacting Catherine at cbuchalski@padillabay.gov. Not a registered Padilla Bay Reserve volunteer yet? We'll host a volunteer training in October, so keep your eyes open for a formal date and time announcement.

Fidalgo Bay Shoreline Clean up-September 26

Did you know that September is [International Coastal Clean-up](#) month? To celebrate, the Coastal Volunteer Partnership and [Fidalgo Bay Aquatic Reserve](#) Citizen Stewardship Committee are partnering up for a Fidalgo Bay shoreline clean-up on Saturday, September 26 from 9-noon. Due to limited parking along the shore, we'll meet at the March Point Park & Ride at 9 am. Snacks, gloves, garbage bags, tools, and safety vests provided. To ensure we have enough supplies, ***please RSVP by September 25*** to CVP Programs Coordinator, Catherine Buchalski at (360) 428-1559 or e-mail cbuchalski@padillabay.gov.

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Our mailing address is:

Coastal Volunteer Partnership at Padilla Bay
10441 Bayview-Edison Road
Mount Vernon, WA 98273-9668

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Group documents sea life for Shannon Point restoration project



Chanel Retasket / Skagit Valley Herald

Michael Kyte (right) inspects the beach for plant and animal life on Wednesday while Pattie Hutchins writes down what he finds. Kyte and Hutchins worked alongside other Northwest Straits Foundation volunteers to document what they found on the beach.

Plan is to return area to a more natural, sandy beach environment

By **KIMBERLY CAUVEL**
@Kimberly_SVH

NACORTES — What is left exposed when the tide rolls out may not look like much more than damp sand and slimy rocks, but an abundance of sea life can be found there.

Within about 2½ square feet of beach at Shannon Point on Wednesday, Michael Kyte and Pattie Hutchins found various types of marine life, including a sea star no more than 2½ inches wide.

Kyte and Hutchins were among a group of nine volunteers who helped document each species they found, gathering data to paint a “before” picture of life on the shoreline, which will be compared to the “after” that is on the horizon for the area. The Skagit Marine Resources Commit-

tee, under the Northwest Straits Foundation, plans to remove the riprap from along the beach. Made of large, granite boulders, the shoreline armoring stands out from the rest of the scenery.

“The question we’re trying to answer is what is changing both geologically and biologically after the riprap is removed,” Northwest Straits Marine Biologist Jason Morgan said.

The riprap is problematic for species that rely on intertidal habitat, Northwest Straits Foundation Programs Director Joan Drinkwin said.

The organization plans to remove the boulders, allowing the beach to convert back to a more natural, sandy environment better suited for fish.

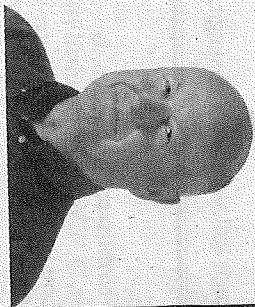
Forage fish, a major source of food for many marine and bird species, need sandy

areas where they can lay their eggs, and young salmon need shoreline vegetation, where they can find bugs to eat during high tide.

The hope is that removing the riprap will allow fish to get close enough to trees and shrubs on the shoreline to eat the bugs there. It will also make the water less turbulent during high tide and give small fish a better chance to evade predators.

“Really what we’re trying to do is create the right opportunity for them (the fish),” Drinkwin said.

Earlier this week, volunteers did a seine survey along the same stretch of beach. In one net they found 15 fish species, Morgan said. Among them were chinook and coho salmon, as well as surf smelt, a forage fish.



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Skagit Valley Herald

THURSDAY
JUNE 18, 2015

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Project

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Those types of fish are a critical part of the food chain, said Kyte, a semi-retired marine biologist from Seattle.

He predicts the riprap removal project will result in physical changes to the beach, but the types of sea creatures that use the habitat will likely remain the same.

"The real benefit is

going to be in the upper shore, turning it into more of a natural shore. It won't look like bedrock over there," Kyte said, while pointing to a section of riprap. "But it will be a soft shoreline."

Northwest Straits received grant money from the state to design the project and initially thought work would begin in 2014.

The organization has decided to slow the design process and work closely with the city of Anacortes and residents near the

beach before moving ahead, Drinkwin said.

The new target is to start removing riprap in the fall of 2016. The work is expected to cost around \$400,000.

Drinkwin said a large part of the cost will go toward securing a barge to take the large rocks from the site, since the area is not accessible by truck.

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