



Padilla Bay Newsletter

A Joint Publication of the Padilla Bay Foundation and Padilla Bay National Estuarine Research Reserve

Summer 2011



Padilla Bay

National Estuarine Research Reserve

Padilla Bay National Estuarine Research Reserve is managed by the Washington State Department of Ecology under the National Estuarine Research Reserve System established by NOAA.

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The Padilla Bay Foundation is a membership-based non-profit organization formed in 1987. Its mission is to help preserve the Padilla Bay estuary in Skagit County, Washington, through support of Padilla Bay National Estuarine Research Reserve.

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Publication No. 11-06-011

A Place to Go and Just Be Free. . .

Edna Breazeale, whose brothers farmed the hillside where the Interpretive Center now sits once said, “There are so few places anymore where children can go and just be free and learn about things. . . The Padilla Bay Reserve is a perfect place to get outside and breathe in the beauties of Northwest Washington. Here are a few options.

The Upland Trail is an 0.8 mile loop through meadow and forest, with a view of Mount Baker at the top. The trail begins at the upper parking lot, with the first half paved for wheelchair access. Walking time is about 20-30 minutes.

Learn more about the natural history of the uplands with a Trail Guide. Several versions are available, including the Botanical Guide and an Activity Guide that accompanies Activity Packs for children. You may also check out binoculars and bird guides at the front counter.



An Observation Deck is a short walk down the sidewalk from the Interpretive Center. A ramp allows wheelchair access and spiral stairs lead to the beach.

The level, 2.25 mile **Padilla Bay Shore Trail** follows the southeastern shore of Padilla Bay. Bicyclists and pedestrians can enjoy the beauty of the bay away from road noise and traffic. You’ll find benches, picnic tables, and interpretive signs along the way. A gate key for wheelchair access can be checked out at the Interpretive Center front counter. Walking time one way is about 40-60 minutes. Happy Trails!



Amazing Volunteers and Rewarding Opportunities

by Susan Wood



Skagit Stream Team



I've been incredibly fortunate the past few years to work with two groups of very talented and dedicated volunteers, the Skagit Stream Team and Skagit Climate Stewards. These folks lead busy lives, with jobs, families, commitments to community organizations, new grandchildren, gardens to tend, ambitious traveling plans. . . These are not quiet, retirees looking for some way to fill their time. They are taking time out of full schedules to contribute to something important. I find myself looking forward to their project meetings and classes because I always leave inspired and energized by their enthusiasm and creative spirit.

You have an opportunity this fall to join these volunteers. The Skagit Stream Team monitors the water quality of local streams and rivers, measuring parameters like temperature, dissolved oxygen, and fecal coliform. The program, operated by the Skagit Conservation District and Padilla Bay Reserve, is now in its 13th year, with over 70 trained volunteers taking monthly samples in 7 watersheds. If you like getting outside or dabbling in a microbiology lab, consider joining a wonderful group of dedicated folks, working for clean and healthy watersheds. This year's training will be held at the Padilla Bay Reserve Wednesday, September 7 and Thursday, September 8 from 6:00-8:30, and Saturday September 10 from 9:00-2:00. Please call the Kristi Carpenter, Skagit Conservation District at (360) 428-4313 for a volunteer application.



Climate Stewards will be holding their annual training five consecutive Thursday evenings beginning October 6, with an additional Saturday field trip. Come learn about climate science, global and local effects of changing climate, sources of greenhouse gasses, and all the many, many things we can do to slow the change. Climate Steward volunteers work in the community on a variety of outreach and education projects around climate change. Projects include helping homeowners reduce energy use in the home, working with schools and youth, and promoting local food/community gardens, waste reduction and recycling, and alternative transportation. For more information or to join this year's class, contact Susan Wood at (360) 428-1066 or swood@padillabay.gov.



Padilla Bay Foundation

How You Can Help

Grassroots involvement is the core of Padilla Bay Foundation's commitment to protect Padilla Bay and support the Padilla Bay Reserve.

Membership in the Foundation means you are contributing directly to environmental education and research right here in Western Washington.

Categories of membership are:

Senior/Student	\$25
Individual	\$35
Family	\$50
School/Organization	\$50+
Supporting	\$75
Sustaining	\$100+
Small Business	\$100+
Sponsor	\$250
Patron	\$500
Steward	\$1000

Send your contribution to:

Padilla Bay Foundation
PO Box 1305
Mount Vernon, WA 98273
(360) 757-3234
a 501(c)(3) organization

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PADILLA BAY FOUNDATION NEWS

Padilla Bay Foundation is a membership-based non-profit organization formed in 1987. Its mission is to help preserve the Padilla Bay estuary through support of the Padilla Bay National Estuarine Research Reserve. Foundation programs include:

Support for Education

- Funding for aquaria and displays at the Breazeale Interpretive Center
- Purchase of educational equipment
- Funding for public programs and presentations
- Scholarships for selected Washington Conservation Corps/Americorps members

Support for Research

- Funding support for students conducting research into the ecology of Padilla Bay
- Purchase of research equipment

Special Projects

- An annual environmental presentation funded by the Smith-Aguero Trust.
- Support of meeting rooms and guesthouse
- Providing match for federal grants
- Yearly Members' Day event and annual meeting

To contact the Padilla Bay Foundation or discuss donations

Kay Reinhardt, Administrative Officer
 Padilla Bay Foundation
 PO Box 1305
 Mount Vernon, WA 98273
 360-757-3234



Name _____

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Common Intertidal Invertebrates of the Salish Sea, Mary Jo Adams & Jan Holmes

Are you eager to explore the low tide beach but worried about getting your good field guides wet? Then here's just the thing for you: Common Intertidal Invertebrates of the Salish Sea by Island County Beach Watchers Mary Jo Adams and Jan Holmes. The eight sides of these four cards, all fastened together, present 300 species living between the tides in our part of the world. They're laminated: water won't hurt them! Spot Beach Watcher volunteers any where around Puget Sound, and they're sure to each have this very useful reference with them. I never visit the beach without mine.

There are many sets of laminated i.d. cards to use at the shore, but this one is the most comprehensive and useful for exploring Puget Sound's beaches. A color photograph illustrates each species. Arranged in scientific order, the Phylum Porifera (sponges) comes first, followed by the anemones and related creatures, then the many types of worms, then barnacles, sea stars, snails, bivalves, chitons, crabs, etc. Just scanning through these eight compact pages is a high speed review of Pacific Northwest biodiversity between the tides.

In addition to a color photograph, each entry includes both the scientific and common name of the species, its average size, key identifying characteristics, and the substrate and depth where the species is usually found. Adams and Holmes take maximum advantage of the available space to enhance the pages with additional aids: silhouettes to help distinguish the limpets, text on the characteristics shared by all chitons, a summary of how to minimize your impacts on the fragile creatures you'll see when exploring the beach, and even a short bibliography.

If you were buying just one guide to help you learn about the low tide beach at first hand, this is the one to get. For your second, consider Common Intertidal Seaweeds and Seagrasses of the Salish Sea on six laminated pages, also by Mary Jo Adams and Jan Holmes. To have these in hand for your next visit to the beach, stop by the Padilla Bay Interpretive Center. (\$16.00)

Review by Tim Manns



Padilla Bay Foundation Membership

Grassroots involvement is the core of Padilla Bay Foundation's commitment to protecting our estuaries and supporting the Padilla Bay National Estuarine Research Reserve.

Members of the Padilla Bay Foundation contribute directly to environmental education and research at Washington State's only Estuarine Research Reserve.

Memberships can be for multiple years. Please consider payment of 2 or 3 years at a time, as this will save the Foundation considerable labor and mailing costs and insure that your dues work harder supporting the programs you care about.

Please fill out the reverse side of this form and join today.

Membership Categories

Senior/Student	\$25
Individual	\$35
Family	\$50
School/Organization	\$50
Supporting	\$75
Sustaining	\$100
Small Business	\$100
Sponsor	\$250
Patron	\$500
Steward	\$1000
Benefactor	\$2000

Hand cast brass critters, mounted at the Interpretive Center, are available to donors of \$1000 and above who would like to be acknowledged in this way.



Presentations for June, July, and August 2011



Wild Edible Plants

Come and experience our annual celebration of late spring's bounty. Join naturalist Marlee Osterbauer in this search for wild edible plants. She will share her extensive knowledge of plant uses and folklore. Weather may be chilly, so dress appropriately. You may want to bring a notebook and pencil. **Saturday, June 4 and Sunday June 5, 2:00-4:00.** Please register online or call the Interpretive Center.

Summer Birds by Sight and Sound

Join naturalist, Libby Mills, listening and looking for summer birds around Padilla Bay. We can expect lots of activity this time of year, with singing, nesting and rearing young in full swing. This excursion involves a **slow** walk around the reserve uplands, so you may want to bring a folding chair. Pack warm clothes, binoculars, field guides, and warm drink or lunch. Meet in the Padilla Bay parking lot. Each class limited to 15 participants. **Friday, June 10 and Saturday, June 11, 8:00-12:00.** Please register online or call the Interpretive Center.



Aquarium Tour and Fish Feeding

Padilla Bay's aquarium inhabitants are always changing. Join Padilla Bay's aquarist, Mark Olson for a behind-the-tanks view of our new system, and a close-up look at the amazing critters in the tanks. From the best camouflaged pipefish and flounder to the flashiest seastars and anemones, aquarium inhabitants have unique habits and stories. **Saturday, July 2, 11:00.** No need to register. Just join us in the aquarium room at 11:00.

Northwest Trees

Padilla Bay's upland trail winds through the Breazeale Farm woodlot, thick with cedar, fir, and big leaf maples. Charlie Huddleston, educator and biologist with a special interest in trees, will lead a gentle walk around the uplands for a close look at forest ecology and the many tree species growing here. **Saturday, August 20, 1:00-2:00.** Please register online or call the Interpretive Center.



Mud Flat Safaris

When the tide goes out at Padilla Bay, it goes all the way out! Come explore this huge expanse of mud, teeming with life.

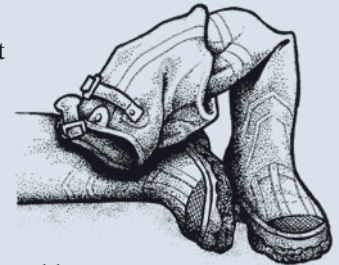
Fearless guides will lead you on a trek into the seldom seen world of the estuary's mud flat. Come with old shoes that tie or snug boots. All ages welcome. The programs begin at the Padilla Bay Interpretive Center, and end at Bay View State Park. Call the Interpretive Center or register online.

Thursday, June 30 from 10:00-12:00

Tuesday, July 12 from 10:00-12:00

Friday, August 12, 10:00-12:00

Saturday, August 27 from 10:00-12:00



Beach Seines

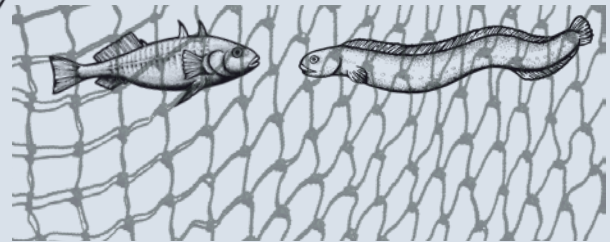
No need to get your feet wet to see what's living out there in the bay. Just meet on the beach at Bay View State Park and watch while we pull a fish net through the water. Come and learn more about our fine finned friends! No registration necessary

Wednesday, July 6 at 12:30

Thursday, July 21 at 2:30

Tuesday, August 9, at 12:00

Thursday, August 25 at 12:00



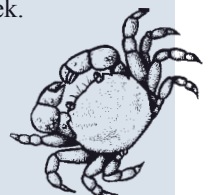
The Breazeale Interpretive Center is open to the public
Wednesday-Sunday, 10:00-5:00.

Staff are available 7 days a week.

Register online or by phone.

www.padillabay.gov

(360) 428-1558



Aquarium Notes

That's no eel! It's a gunnel!

One of Padilla Bay's common resident fishes is having an identity crisis. That curious long and slender fish weaving in and out of the eelgrass in our aquariums is actually not an eel at all! It's a gunnel! Gunnels belong to the family Pholidae and can range from Southern Alaska to California. Unlike eels they have small pectoral fins located behind their gills on their side. These fish are master hidiers spending a lot of time under rocks, shells, eelgrass, and even in their own homemade tunnels. There are three commonly found gunnels in our aquariums and down at



the beach, the Penpoint, Crescent, and Saddleback all of which have distinctive features to help you identify them. The Penpoint can grow to be the largest gunnel; it has a dark bar below each eye and a row of pale spots along its body. The Crescent also has a dark bar along its eye, but it has distinctive black and white crescent shapes along its back. The saddleback tends to be a bit smaller with a series of "saddle" markings along its back. The body of the saddleback has a color pattern similar to camouflage. All three of these gunnels can range in coloration from bright green to muddy brown with orange bellies. So come on over and check out the gunnels and our other fish friends in the aquarium room of the Padilla Bay Interpretive Center.

by Charlie Huddleston

Monthly Youth Programs Offer Fun Learning

Mini Explorers are the 3-5 year old learners. We look at a new topic each month, with stories, games, hands-on observations, art projects, and plenty of action. Call the Interpretive Center to register or register online.

June 22 & 23, 10:00 & 1:00

Crabs! –*From their fierce pinchers to eyes on stalks, crabs are really amazing. Come and meet some face to face.*



July 6 & 7, 10:00 & 1:00

Mud Flat Safari–*Head for the mud to see what lives beneath the tide in Padilla Bay. Come with a jacket and snug boots or old shoes that tie for this trek to the beach.*

August 17 & 18 10:00 & 1:00

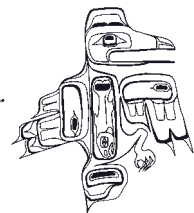
Cnidarians!–*What's that, you say? We will learn about these transparent, pulsating, gelatinous jellies, anemones, and corals. We may even have some to touch!*



Junior Ecologists are 6-9 year olds who have fun exploring the estuary. Excursions to the beach, science experiments, games, art projects, and studying life in the bay–this program is guaranteed fun! Call the Interpretive Center or register online.

June 24 & 25, 10:30-12:00

Native Americans – *For thousands of years, people have been living near our local estuaries. Hear their stories, try their art, and find out how important the coast was to their lives.*



July 29 & 30, 10:30-12:00

Mud Flat Safari–*Head for the mud to see what lives beneath the tide in Padilla Bay. Come with a jacket and snug boots or old shoes that tie for this trek to the beach.*

August 12 & 13, 10:30-12:00

Animal Tracks–*There is nothing like a mud flat to show off signs of animal activity. We'll decipher the clues like detectives and figure out what's happening in the Bay. Bring a jacket and snug boots or old shoes that tie.*





Padilla Bay's Eelgrass

Padilla Bay contains extensive areas covered by eelgrasses, a “submerged aquatic vegetation” or SAV. Native eelgrass, *Zostera marina*, covers the greatest area in Padilla Bay, colonizing the lower intertidal and sub-tidal areas of the bay. The non-native eelgrass, *Z. japonica* tends to inhabit the upper intertidal regions. *Z. japonica* was unintentionally introduced to the Pacific Northwest in the early 1900s and has since spread throughout the region. The total area covered by both species has been estimated at about 7400 -9400 acres and is one of the largest contiguous stands of eelgrasses along the Pacific coast of North America. These eelgrass stands comprise about 25% of the total area of eelgrasses in greater Puget Sound. In Padilla Bay, the eelgrasses occupy a niche near the limits of their distribution. They may be particularly sensitive to the predicted changes in sea level and sea and air temperature due to climate change.



Nighttime Forays and Meticulous Sorting

In January of this year, research and monitoring staff at the Padilla Bay Reserve started an intensive research project focused on gaining a better understanding of the eelgrass in Padilla Bay. If you’ve watched your tide tables, you know that in January, trying to understand eelgrass means heading out over the mudflats at 11:00 at night with wool cap and head lamp on tight. And, don’t forget hip waders, raincoats, transects, packs, and GPS units. This is definitely not a task for the timid or weak.

Once the samples are back in the lab, they are carefully (and tediously) sorted, counted, dried, and weighed. This gives a picture of what grows above and below the mud surface.

The research crew will be out on the mud flats each month during low tides identifying eelgrass species and taking measurements and samples along a 2 ½ mile transect across the flats. Staff will be collecting data on eelgrass growth and distribution throughout the year as well as setting up additional transects to monitor long term changes of these important plants. In July, you may see them trekking out over the tideflats on a sunny afternoon. In December, you’ll miss the action—unless you like adventures in the dark.





Padilla Bay Estuary Camp!

When making your summer plans, consider the fun of Estuary Camp. Children ages 8-11 are invited for four great days of activities.

Mud mucking

marine biology

fish printing

science experiments

microscopes

games and songs

and more. . .



We'll spend time exploring rocky shore habitat at Deception Pass State Park, the mud flats of Padilla Bay, and the open waters of the San Juan Islands, with a special visit to the Whale Museum in Friday Harbor. **Tuesday, June 28-Friday, July 1, 9:00-4:00** with extended day on Friday to accommodate extra travel time and ferry schedules. Registration fee of \$90 covers education programs, transportation, snacks, and museum admission. For more information and a registration form, call (360) 428-1558 or check out our website at www.padillabay.gov.



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