Padilla Bay Newsletter

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

Spring 2013

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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(360) 428-1558

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.

Padilla Bay Foundation
PO Box 1305
Mount Vernon, WA 98273
(360) 757-3234

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Publication No. 13-06-001

Padilla Bay Researchers in Action

Though the research staff at Padilla Bay may mention how many hours they spend in a chair, entering data into spreadsheets or interpreting graphs, their jobs also offer good, hard work and occasional excitement. Here are a few scenes from the real life of Padilla Bay scientists.

WCC member Monte Richardson "hangs out" while measuring water quality

Research divers gear-up for monitoring sub-tidal eelgrass beds.

How to measure mud? Sediment elevation change is measured at one of Padilla Bay's Surface Elevation Tables.

Beached by the falling tide; timing is everything when working in such a dynamic ecosystem.

Research staff, gear in tow, head out with the tide to take measurements on eelgrass abundance and distribution.

Second Padilla Bay Research Symposium

Plans are underway for what may become a popular annual event. Organized by the Padilla Bay Foundation and Padilla Bay National Estuarine Research Reserve, with generous support from Shell Puget Sound Refinery, the Padilla Bay Research Symposium focuses on current research in Padilla Bay and surrounding waters. This year's symposium, slated for Wednesday, May 1, will focus on Citizen Science in our region. If you'd like to receive an email notice with details on date, time, agenda, and registration information, subscribe to our online newsletter at www.padillabay.gov.

Skagit Community Foundation Presents Skagit Day of Giving—Strengthen Your Community. Double Your Impact

The Padilla Bay Foundation, along with six other local non-profits join with The Skagit Community Foundation for a fun & educational evening of giving. Saturday, May 9, 4:00-8:00pm, St. Joseph's Center.

This exciting event will cap a day-long online donation program. The giving will take place online throughout the day and at the culminating event. The Skagit Community Foundation is challenging each of 7 non-profits to raise $15,000. The SCF will match up to $15,000 for each non-profit. The Skagit Day of Giving is designed to encourage community members to contribute whatever is comfortable for them. By day's end on May 9th, each organization of the 7 would net $30,000 or more to use for the good things they do in Skagit County that make life here so special. So please mark your calendars and save the date for not only attendance at a really fun casual event, but for online donating at your convenience.

Here are the 7 participating Skagit County non-profits: Boys & Girls Club, Skagit Symphony, Museum of Northwest Art, Friendship House, North Cascades Institute, Skagit Land Trust, and Padilla Bay Foundation. Consider; if you could double the impact of your donation. . .wouldn't you? Be looking for upcoming promotional information to help you learn about how you can effectively participate and see the rewards right here in Skagit County.

Join us Thursday, May 9 at St. Joseph's Center for this fun, casual event.

Wanted:

The Reserve is in need of a good, used flat-panel television size 27" or larger. This will replace old equipment in the Guesthouse, allow for group training, and will be used for videoconferencing. If you've upgraded to a bigger, newer TV and were wondering what to do with your older model, please consider donating it (tax deductible) to the Reserve. Contact Terry at 360-428-1045 or at tstevens@padillabay.gov for more information. We can pick up the TV at your home if you prefer. Thank you!

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

Choose our Online Newsletter

Please help us save energy, resources, and money. You can receive this newsletter online. Just go to Padilla Bay's website at www.padillabay.gov and select "Newsletter" from the list of related links. You can also call us at (360) 428-1558 and we'll make the change for you. (You'll get the news earlier, with color photos to boot.) Thanks!

Name _____

Address _____

City/State/Zip _____

E-mail address _____

Membership Category _____

(see reverse)

Membership Amount $ _____

Extra Donation $_____

☐ Check enclosed

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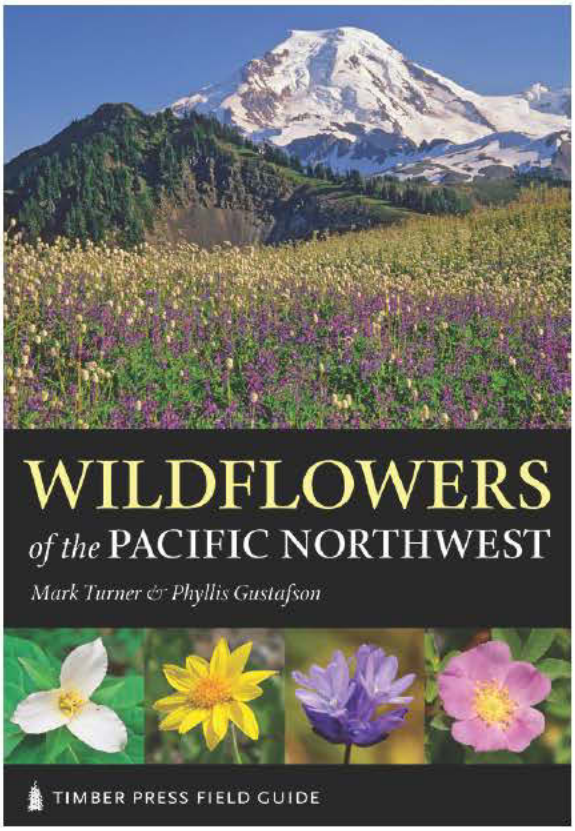
mail to:
Padilla Bay Foundation
P. O. Box 1305
Mount Vernon, WA 98273

Wildflowers of the Pacific Northwest by Mark Turner and Phyllis Gustafson

We live in an area of extraordinary plant diversity. Just within Skagit County, elevations range from sea level to over 9,000 feet and precipitation varies drastically east and west of the mountain crest. This creates the wide range of habitats that generates such diversity. Anyone interested in nature in this diverse Northwest needs a good, handy plant guide. We're fortunate to have several from which to choose. Wildflowers of the Pacific Northwest by Mark Turner & Phyllis Gustafson is one of the newer ones and has a lot to recommend it.

Turner and Gustafson present native wildflowers growing anywhere from Northern California to Southern British Columbia. No 100% complete book would be light enough for your day pack, but this one probably comes closer than any other popular guide. Turner is a professional photographer, and his expertise shows in the quality of the photos illustrating every species presented. Beside each photo, a small map indicates which counties host the plant, so that at a glance you can further narrow the possibilities in identifying the flower you've found.

At first glance through this guide, the arrangement of species may seem simplistic because they're organized by color, but looking closer you'll see the very practical compromise the authors have devised. Within each color section, the plants are further ordered according to key family characteristics; such as, number of petals, whether they are symmetrical or irregular, etc. These categories together with the photographs and end plates illustrating botanical terminology will usually bring you quickly to an identification. The approach gives you an opportunity to learn plant family characteristics without the challenge of using a technical key. You can follow up on what you learn in the field by studying the pages describing the families in detail.



During the winter while you're dreaming of next summer's walks and hikes, read the well-illustrated and detailed introductory section on the Northwest's eco-regions and habitat types. Just looking at the photographs will inspire you to plan next year's hikes.

Mark Turner maintains a very good supplementary website with even more species than his book (www.pnwflowers.com/). Whether your interest in native plants is well-developed or just beginning, you'll want your own copy of Wildflowers of the Pacific Northwest before next spring. Stop by and pick one up at Padilla Bay Interpretive Center ($27.95 paperback).

-Book 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.

Padilla Bay
National Estuarine Research Reserve

Spring Events

Presentations for March, April and May 2013

Washington Bats

On a summer night, 15 species of bats in Washington take wing to hunt moths, beetles, mosquitoes and other insects. Worldwide, bats are important in plant pollination, seed dispersal and insect control. Wildlife researcher and Whidbey resident, Sarah Schmidt will use photos, video and personal stories to share the amazing adaptations and contributions of bats. **Saturday, March 9, 1:00-2:30**. Register online or by phone.

Spring Birds by Sight and Sound

March is an exciting month for bird songs, as winter draws to a close and spring slowly emerges. Some birds are busy with mates and territories, while others are on their way farther north. Join naturalist, Libby Mills, listening and looking for spring birds around Padilla Bay. Be prepared for a **slow** walk around the reserve uplands. (Bring warm clothes and warm drink.) Binoculars and field guides are available at the Interpretive Center. Meet in the Padilla Bay parking lot. Each class limited to 15 participants. **Saturday, March 2 and Sunday, March 31, 8:00-12:00.** Please register online or call the Interpretive Center.

Auks and Penguins: Benthic Beauties

What do awesome auks and playful penguins have in common? Yes, you are right, they both fly subsurface after aquatic animals! Join us to dive deeper in discovering the amazing affinities between these distant and unrelated marine families. We'll look at the biology and ecology of Pacific auks like puffins, murres and guillimots as well as their Antarctic counterparts from the far south. Wildlife biologist, David Drummond, director of the Merlin Falcon Foundation, enjoys annual trips to Antarctica. **Saturday, April 13, 1:00-2:30**. Register online or by phone.

Aquarium Tour and Fish Feeding

It's spring, and there are new animals in our aquarium. 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, May 4, 11:00.** No need to register. Just join us in the aquarium room at 11:00.

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. This 2-hour class is offered twice. **Saturday, June 1 and Sunday June 2, 2:00-4:00.** Please register online or call the Interpretive Center.

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

Three Spined Stickleback, *Gasteosteus aculeatus*

This pugnacious fish is aptly named for the three pointy spines found on their backs. You can imagine how hard it might be for bigger fish and birds to munch on these little guys, who only grow up to a few inches. But their small size certainly doesn't stop them from bossing other fish around, especially when it's nesting time.

Males will break away from their schools and begin to build little cocoon-like nests using whatever plants and debris they can fit into their mouth and drag to the nest. They then use a sticky, antimicrobial secretion called Spiggin to glue their choice building material together. Once the nest is built, males will often try to add shiny, brightly colored bits with a preference for red colored pieces. This elaborate construction process can be seen in our aquariums during the summer when the sticklebacks are breeding. At this time you can identify males by their brilliant red throats and blue eyes.

When the nest is complete, the male will try to entice nearby females into laying eggs in the nest by performing a zigzag dance. If the female is interested, she will lay some eggs and off she goes, leaving the male to fight off would-be predators and other males. He might also try to coax other females to lay their eggs in his nest as well.

Their hardiness is challenged by a tapeworm, *Schsitocephalus solidus*. This parasite lives in the digestive tract of birds but one of its larval stages is found in the stickleback. The only way for larvae to mature is if a stickleback is eaten by a bird. (Remember those spines?) Scientists have found that infected sticklebacks tend to live in shallower waters, shelter and school less, and more often feed in the presence of potential predators. In other words, they are trying to be eaten.

Three spined sticklebacks have become a model organism for scientific research. Everything from their body's ability to rapidly adapt when they move between freshwater and saltwater to their very social behavior and complex genetics has intrigued scientists for years. But most importantly for research, they are easy to find. These fish are hardy and can be found anywhere from backyard streams to the salty shores of Padilla Bay and they make a great addition to aquariums. So come visit Padilla Bay and check them out!

Monthly Youth Programs Offer Fun Learning

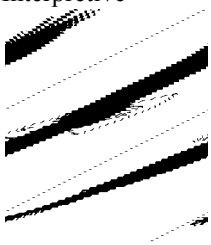
Mini Explorers are the 3-5 year old learners. We look at a new topic each month, with stories, games, hands-on observations, art projects, and plenty of action. Call the Interpretive Center to register or register online.

March 6 & 7, 10:00 & 1:00
Mammals—*Furry and warm blooded, lots of mammals make their home around the estuary.*

April 3 & 4, 10:00 & 1:00
Estuary Babies–*Padilla Bay is home to all kinds of animals when they are young. We'll look at tiny plankton and try to match up parents with their babies.*

May 1 & 2 10:00 & 1:00
Awesome Algae–*Sometimes green, sometimes red or brown, algae offers food and shelter to estuary animals.*

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.



March 15 & 16, 10:30-12:00
Eagles–*Our largest raptors, eagles are a common sight at Padilla Bay in the winter. Find out more about why the estuary is one of the eagle's favorite places.*

April 5 & 6, 10:30-12:00

Trees–*Celebrate spring and explore the forests above the Interpretive Center. We'll see how important trees are for animals, clean water, clean air, and people.*

May 10 & 11, 10:30-12:00
Wiggling Polychaete Worms–*Worms are the coolest, especially when they live in the estuary mud. Become a polychaete expert and check out these amazing animals. Bring old shoes that tie or snug boots.*

Why do we need clean water?

Having clean water is of primary importance for our health and economy. Clean water provides recreation, commercial opportunities, fish habitat, drinking water and adds beauty to our landscape. All of us benefit from clean water—and all of us have a role in getting and keeping our lakes, rivers, marine and ground waters clean.

What's the problem with car washing? There's no problem with washing your car. It's just how and where you do it.

Most soap contains phosphates and other chemicals that harm fish and water quality. The soap, together with the dirt and oil washed from your car, flows into nearby storm drains which run directly into lakes, rivers or marine waters. The phosphates from the soap can cause excess algae to grow. Algae look bad, smell bad, and harm water quality. As algae decay, the process uses up oxygen in the water that fish need.

Clean Water Tip

How can you wash your car and help keep our waters clean?

♦ Use soap sparingly.

♦ Use a hose nozzle with a trigger to save water.

♦ Pour your bucket of soapy water down the sink when you're done, not in the street.

♦ Or wash your car on a grassy area so the ground can filter the water naturally.

♦ Best of all, take your car to a commercial car wash, especially if you plan to clean the engine or the bottom of your car. Most car washes reuse wash water several times before sending it to the sewer system for treatment.

Puget Sound Starts Here

Only Rain Down the Drain

When you're washing your car in the driveway, remember you're not just washing your car in the driveway. All the soap, scum, and oily grit runs along the curb. Then into the storm drain and directly into our lakes, streams and Puget Sound. And that causes pollution, which is unhealthy for fish.

So how do you avoid this whole mess? Easy. Wash your car on grass or gravel instead of the street. Or better yet, take it to a car wash where the water gets treated and recycled.

Wastewater from vehicle cleaning and detailing businesses has the potential to discharge pollutants into the water through the storm drain system. Metals, oil, fuel, grease, soap, and even dirt can be deadly to fish and other aquatic life. Vehicle wash water should not be discharged into the storm drain system.

Only rain is allowed down the storm drain. Business owners can help keep pollution out of our waters by taking steps called best management practices. Many of these practices are simple, such as taking steps to prevent spills and leaks, filtering debris from wash water, and directing wash water to sanitary sewer drains once permission has been granted from the sewer system operator.

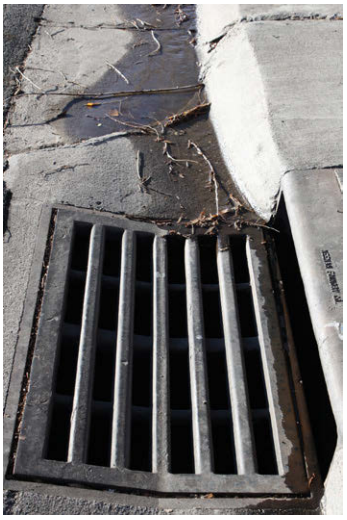
Are you holding a charity carwash? Here are some easy ideas to make sure you're keeping our waters clean.

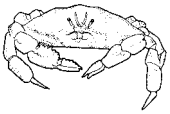
• Sell commercial car wash coupons instead.

• Borrow a pump kit to send the soapy runoff to a sanitary sewer.

• Locate the car wash to divert wash water into the sewer, not the storm drain.

• Rent a "Bay for a Day" at a self-serve car wash that is hooked up to sanitary sewer.





Ocean Acidification Seminar

Oysters, mussels and other shellfish all depend on seawater's naturally-occurring carbonate ions to grow their shells. But the chemistry of seawater is changing faster than living creatures can adapt. Excess carbon dioxide from the atmosphere dissolves in seawater, increasing acidity and lowering naturally-occurring carbonate ion. In Puget Sound, shellfish and other marine organisms are being impacted, posing a serious threat to jobs in the Washington state seafood industry.

NORTHWEST STRAITS
marine conservation initiative

Find out more about ocean acidification and what local communities can do at a free public seminar co-sponsored by the Northwest Straits Commission, in partnership with Sustainable Fisheries Partnership and local MRCs. Speakers for these events include members of the state's Blue Ribbon Panel on Ocean Acidification, and other local experts.
Wednesday, March 13, 6:00-8:00pm. Please check the Northwest Straits website for location.
http://www.nwstraits.org/

2013 Beach Watcher Lectures

March 8, 7PM
Designing a Healthy Salish Sea, Dr. Joe Gaydos, Wildlife Veterinarian and Chief Scientist, Sea Doc Society, University of California – Davis.

April 12, 7PM
Removal of the Elwha Dam and Ecological Restoration of the Elwha River, Dean Butterworth, Outreach and Education Specialist, National Park Service, Olympic National Park.

Lectures will be held at Northwest Educational Service District 189 Building, 1601 R Ave, Anacortes.

(From Q St., turn on to Seafarer's Way, turn rt. onto R St. at stop sign and continue on to the Northwest Educational Service District's parking lot (there will be signs pointing the way and Beach Watchers, too!)

Sponsored by WSU Skagit Beach Watchers & Friends of Skagit Beaches. Lectures are free and open to the public. For more information, contact Matt Kerschbaum (360) 293-0773.

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Breazeale Interpretive Center
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