



# Padilla Bay Newsletter

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

Summer 2012



**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.

Padilla Bay Foundation  
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## A Taste of Science: The Padilla Bay Research Symposium

—By *Stephanie Eckard*

On February 15th, 2012, scientists, local residents, professors, students, and community members interested in estuary monitoring and conservation gathered at the Padilla Bay Reserve for the very first Padilla Bay Research Symposium. The purpose was to bring the community together for an opportunity to learn about the breadth of research going on at Padilla Bay. Speakers included staff from the Padilla Bay reserve, university professors, and graduate students from several schools.

Shell Puget Sound Refinery generously provided financial support. The symposium was organized by Padilla Bay’s research coordinator Doug Bulthuis and Jude Apple, a Padilla Bay Foundation board member and professor at Shannon Point Marine Center. Ronald Thom from U.S. Department of Energy’s Pacific Northwest National Laboratory opened with a keynote speech on Puget Sound ecosystem restoration. The rest of the day was filled with speakers who gave 15-minute presentations of their research. Topics included zooplankton monitoring, invasive snail parasites, native and non-native eelgrass distribution and mapping, foraging harbor seals, and effects of sea level rise on intertidal habitat and sedimentation in the bay.

“I was blown away at how many projects are going on,” said Leah Hall, Washington Conservation Corps educator at Padilla Bay. Leah attended the symposium because she wanted to gain a better understanding of the types of research occurring in Padilla Bay. She was especially interested to learn about the projects of scientists from other institutions.

Nancy Olsen, a local resident and the new Skagit County Beach Watchers coordinator, attended the symposium for similar reasons. “I just love learning new things and understanding the ecology. And I enjoy networking and meeting other people who are on that same level. I was very, very happily stimulated, learned tons of stuff,” Nancy said. “I think a lot of the success had to do with the location. It was in that room, it was local, and that worked. . . many people in this area are really interested.”

Padilla Bay Education Coordinator, Glen “Alex” Alexander was especially impressed with a talk by Micah Horwith, a University of Washington PhD student. Micah studied competition between two eelgrass species, native *Zostera marina* and non-native *Zostera japonica*. Micah transplanted the two species in various plots across the intertidal eelgrass habitat and recorded their growth and survival. “He has a very good grasp of the science and he’s a very good speaker. That was very impressive,” Alex said.

In the end, everyone seemed satisfied with the symposium. Beach Watchers volunteers, more than a dozen in attendance, gave high praises for the symposium. With a full crowd of participants and so much positive feedback, Doug Bulthuis hopes to continue hosting future symposiums in one form or another. Stay tuned for future tastes of science at Padilla Bay.

## Programs for All Ages

### 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.

**Tuesday, July 3 from 10:00-12:00**

**Saturday, July 21 from 12:30-2:30**

**Wednesday, August 1, 10:00-12:00**

**Thursday, August 30 from 10:00-12:00**

### Beach Seines

You don't need SCUBA 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

**Thursday, June 28, 10:00**

**Thursday, July 12 at 11:00**

**Tuesday, July 24 at 1:00**

**Saturday, August 11, at 11:00**

**Wednesday, August 22 at 3:00**

### "ART for Learning" Week at Padilla Bay, June 20-27

Join in creative classes and workshops celebrating our Skagit watershed and the creatures that live here. Art classes, journal writing, photography, poetry, music and a watershed journey offer opportunities for adults, teachers and families.

- One highlight of the week is the ceremonial kickoff of this year's **Watershed Letterbox Trail** - Sunday, June 24th at Padilla Bay, 1:00PM to 4:00PM. Be one of the first to know the clues to this year's trail!
- Teachers can earn free clock hours for the **Words and Images from the Watershed** workshop June 27. You'll gain background and tools to connect your students to their watershed through writing, art, and science activities. Call the Interpretive Center for more information. (360) 428-1558.
- For poets, we will offer a **Haiku Workshop** Saturday, June 23 with Michael Dylan Welch. See page 5 for more details.
- There are **Mini Explorer** preschool classes on June 20 and 21 and **Junior Ecologist** classes for six to nine year olds on June 22 and 23. See details on page 6.

Check out Skagit Conservation Education Alliance's website ([www.SkagitCleanWater.org](http://www.SkagitCleanWater.org)) for the complete schedule of activities.

Art for Learning projects and Letterbox Kickoff are produced by Skagit Conservation Education Alliance and the Padilla Bay Foundation, with the help and sponsorship of Shell Puget Sound Refinery and numerous organizations and individuals working together to protect and enhance the creeks, rivers, estuaries, shorelines and deep waters of our region.



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  
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# PADILLA BAY FOUNDATION NEWS

The Padilla Bay Foundation would like to offer a huge thanks to the Shell Puget Sound Refinery for its generous support of our first Research Symposium. Their donation enabled the participation of many respected scientists from around the region for a very successful conference.

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
- Yearly Members' Day event and annual meeting

To contact the Padilla Bay Foundation:

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## Natural Grace: The Charm, Wonder, & Lessons of Pacific Northwest Animals & Plants

by William Dietrich

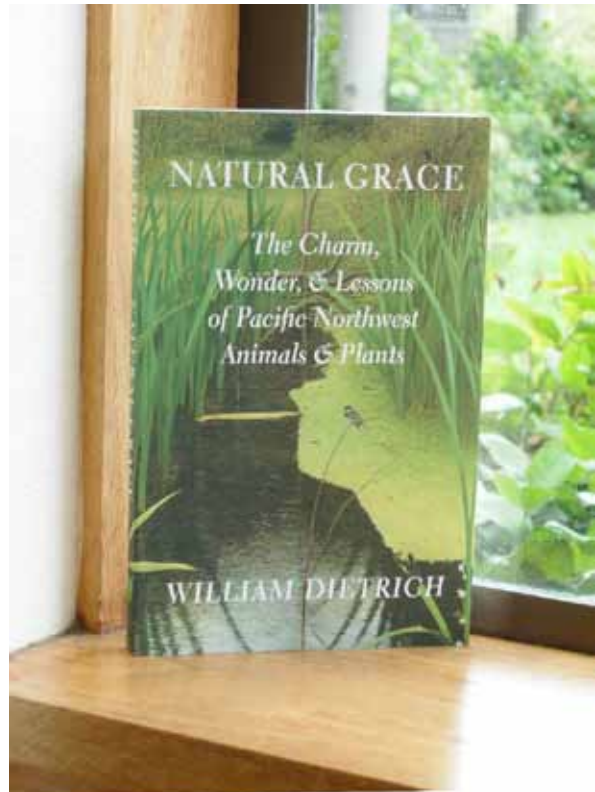
The non-human world is more with us than we usually realize. We take many amazing things for granted if we ever note them at all. Here's an antidote for this common situation. William Dietrich, Pulitzer-prize winning science writer, novelist, Western Washington University journalism professor, and Fidalgo Island resident composed the essays comprising *Natural Grace* for the *Seattle Times*' Sunday magazine. This is not a book about exotic natural history glimpsed on foreign adventures, nor one focused only on charismatic wonders of the Salish Sea. Yes, there are essays on killer whales and bald eagles but others concerning crabs, alder, and snow.

Dietrich's style makes his fact-filled prose a pleasure to read. You will find yourself saying, "I didn't know that," and "Now, that is interesting" again and again as you turn the pages about everyday Northwestern wildlife such as gulls and, yes, mosquitoes. ("...the one bit of wildlife with which virtually everyone has intimate contact in the Pacific Northwest") Our home area has just 43 of the world's 3,500 or so mosquito species, but they are an important part of life here, for both good and ill. Have you wondered why young gulls are dull-colored in contrast to their white and gray elders? Perhaps for camouflage while feeding on low-tide shores before bossy adults swoop in for their share. Ideas and facts pack each chapter enriching the reader's perspective on natural phenomena encountered daily.

Every essay's concluding paragraphs expand on the larger significance of the featured animal, plant, or natural phenomenon. The chapter "Tides" tells us that though the gravitational influence of the moon (especially) and sun cause daily tides, predicting them accurately is a complicated matter of juggling 37 variables. On the last page, Dietrich asks, "What if the moon didn't exist?" and explains how "our Northwest would not be the Northwest we know..."

The theme binding the essays is simply this: knowing about the natural world is a first step towards caring about it. This fact-filled, well-written, and thought-provoking book is worth reading again and again between excursions into the world it illuminates. Line drawings by Brenda Cunningham enhance many of the chapters. Find your copy of *Natural Grace* on your next visit to Padilla Bay Interpretive Center (\$18.95 paperback).

—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 2012



### 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 2 and Sunday June 3, 2:00-4:00.** Please register online or call the Interpretive Center.

### Corvidae: Jays, Magpies, Nutcrackers, Crows and Ravens

Are you curious about Corvids? What do crazy crows and raucous ravens have in common? Insight and Intellect. Few birds play such prominent roles in the world's cultural mythologies as do these two! Join David Drummond, wildlife biologist with the Merlin Falcon Foundation ([www.merlinfalconfoundation.org](http://www.merlinfalconfoundation.org)) to explore the ecology, habitats and fascinating behaviors of ravens, crows, and their cousins through a new multi-media presentation. Here is an opportunity for a lively sharing of anecdote, fact and fiction. Bring your stories and observations for this walk on the wild side! Quoth the Raven: "There's more, always more!" **Saturday, June 16, 1:00-2:30.** Please register online or call the Interpretive Center.



### The Nature of Haiku

Join Michael Dylan Welch, vice president of the Haiku Society of America, for an exploration of haiku poetry as a window into appreciating the natural world, its seasons, and one's five senses. Explore the myths and realities of haiku, hear a brief overview of haiku in Japan, and understand important targets for haiku in English. This class will include lecture, inspirational slide show (with photographs, haiku, and music), writing exercises and optional sharing, and outdoor nature walks for haiku inspiration. There is a \$15 fee for this workshop. **Saturday, June 23, 9:00-4:00.** Please register online ([www.padillabay.gov](http://www.padillabay.gov)) or call the Interpretive Center (360.428.1558).



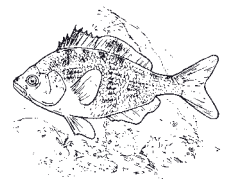
### A Summer Journal with Libby Mills

Mid-summer calls for some down time, time to get down with your field journal or sketchbook and record the natural world with your pen or pencil, watercolors or colored pencils. This is a half-day workshop for those who enjoy slowing down and experiencing nature with a book and open eyes and ears. Join Libby Mills, a 38-yr journal-keeper and naturalist to give yourself some ideas and time to get back into an old healthy activity. We'll listen to birds, look for berries, explore the invertebrate world either in the aquarium or on the beach, then record our findings in our journals. Bring paper or sketchbook, pen and pencil. Other art tools are optional. **Saturday July 14 and/or Sunday July 15, 8:30-12:30.** You may register for one class or two—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, August 4, 11:00.** No need to register. Just join us in the aquarium room at 11:00.



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

Closed Wednesday, July 4.

Staff are available 7 days a week.

Register online or by phone.

[www.padillabay.gov](http://www.padillabay.gov)

(360) 428-1558



# Aquarium Notes

## California Sea Cucumber, *Parastichopus californicus*

Have you noticed a reddish, dill pickle-looking creature meandering around our tanks here at Padilla Bay? If so, you have likely spotted one of our California sea cucumbers. It's hard to describe these organisms as beautiful—slightly grotesque might be more accurate—but they are definitely one of the most interesting looking animals in our tanks.

California sea cucumbers are typically colored reddish brown with stubby tentacles covering their backs and tube feet densely arranged on their underside. They are the largest sea cucumber species along the Pacific Northwest Coast, capable of growing up to 20 inches. They have bodies that are limp when extended but firm when contracted and have 5 unequal sections.

This sea cucumber uses specialized, feather-like tube feet around its mouth to mop up the decaying matter and detritus that make up most of its diet. The California sea cucumber is consumed by sea stars and occasionally by humans. Despite their lackadaisical appearance, they can be a little more challenging to catch than you might think. When stressed by a predator, a California sea cucumber uses specialized muscles to writhe about and can squirt a strong jet of water from its rear. If this does not result in an escape, this sea cucumber has one more trick: It is capable,

when severely agitated, of expelling its internal organs (gut tract, respiratory tree, stomach and all). This is done with the hope that predators will help themselves to the organs and let the sea cucumber steal away to grow a new and complete set.

California sea cucumbers are usually encountered on rocky shores that are protected from strong waves and on pilings in open bays. An easy way to see this amazing creature is to stop by the Padilla Bay Aquarium and find our two California sea cucumbers, hopefully with their organs intact.

— by Leah Hall



## 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 20 & 21, 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.*

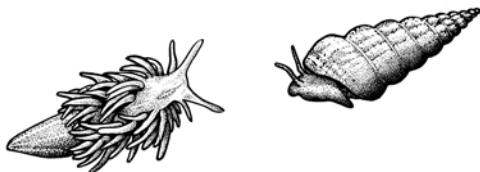


### July 18 & 19, 10:00 & 1:00

Elegant Eelgrass—*This is Padilla Bay's favorite plant, and we've got heaps of it. We'll take a trip to the beach to see this fabulous plant that is home to so many animals.*

### August 15 & 16 10:00 & 1:00

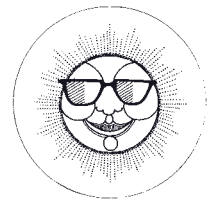
Snails and Sea Slugs—*Sort of slow and sometimes slimy, these cousins are the queens of every estuary fashion show.*



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 22 & 23, 10:30-12:00

Here Comes the Sun—*Celebrate the longest days of the year as we learn about how our sun gives energy to everything around..*



### July 13 & 14, 10:30-12:00

Cool Crustaceans —*There's nothing more fun than watching the antics of crabs and their cousins. Bring old shoes or snug boots for a crustacean scavenger hunt.*

### August 17 & 18, 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.*

## Want to Learn More?

For more information on landfills, organic wastes, and gases, check out the following readings available on the internet:

Agency for Toxic Substances and Disease Registry: "Landfill Gas Basics" November 2001  
<http://www.atsdr.cdc.gov/HAC/landfill/html/ch2a.html>

Environment and Plastics Industry Council: "Biodegradation Won't Solve the Landfill Crunch"  
<http://www.genpak.com/downloads/Landfill.pdf>

U.S. Composting Council: "Keeping Organics Out of Landfills"  
<http://compostingcouncil.org/admin/wp-content/uploads/2011/11/Keeping-Organics-Out-of-Landfills-Position-Paper.pdf>

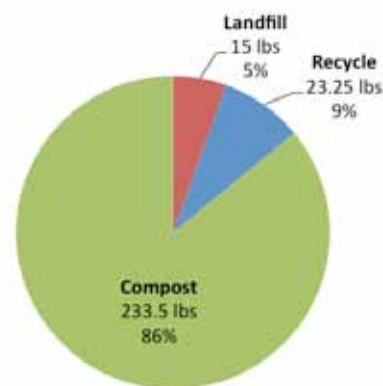
## Wasted Waste at Mount Vernon High School

—By *Stephanie Eckard*

On March 27th, 2012, the three Washington Conservation Corps staff (David, Leah, and Stephanie) from Padilla Bay spent the afternoon sorting through cafeteria trash at Mount Vernon High School with members of the school's Earth Club. Why would they want to dig through bags of milk-soaked, half eaten pizzas and trays of leftover iceberg lettuce mixed with soggy paper towels, candy wrappers, and plastic soda bottles? Perhaps David and Leah were roped into this event because Stephanie was excited to help with Lizzie Gaver's senior project. Lizzie, Mount Vernon Earth Club president, wanted to quantify just how much of the students' waste is compostable or recyclable. Waste audits are an important tool in assessing the composition of a particular waste stream whether at school, business, or home. The data gathered from a waste audit can then be used to convince administrators to start a compost or recycle system. That's what Lizzie Gaver is hoping to do.

Most of us agree reducing landfill waste is a good thing. But why is it particularly important to keep organic materials like paper towels, grass clippings, and vegetable scraps out of landfills? Don't they just decompose? The truth is modern landfills are designed to preserve rather than decompose. The elements of decomposition—sunlight, oxygen, and water—are removed and carefully controlled to prevent contaminating the surrounding air, water, and soil. Organic wastes essentially get mummified. Lettuce can remain recognizable for decades in a landfill.

Once in a landfill, organic waste slowly decomposes without oxygen, and that releases methane and other gases into the environment. Methane is a potent greenhouse gas which contributes to climate change. Landfills are the single largest emitters of non-natural methane in the United States. Despite efforts to capture, treat, and even harness energy from landfill gases, organic wastes in landfills means more methane released into the atmosphere than necessary. Reducing waste, especially organics, is a critical step in minimizing the impacts of climate change. It's also a step anyone can take.



The result of the high school waste audit was astounding: 86 percent of one day's worth of cafeteria trash was compostable and 9 percent was recyclable. Only five percent was true landfill waste. Lizzie plans to present this data to her principle and other key officials as part of her senior project. Mount Vernon High School is one of the only schools in the surrounding counties without a food compost system in place. Eager Earth Club members hope to change that this year to reduce their school's waste and subsequent carbon footprint. We can all learn from these students' efforts and take a good look at what organics and recyclables we toss into our own waste baskets.

## Fidalgo Shoreline Academy

Fidalgo Shoreline Academy is WSU Skagit County Extension Beach Watchers first “One Day University for Everyone.” Modeled after Island County’s Sound Waters, this event is designed to inspire community members to care for and protect our marine environment. Please come join us for this extremely informative and fun day with a wide variety of presentations. The schedule includes a keynote speaker and three sessions. Each session will have a choice of two classes or an interpretive walk offered by local and regional experts.

Fidalgo Shoreline Academy will be held June 9, at the Fidalgo Bay Resort, 4701 Fidalgo Bay Road, Anacortes. There is a fee of \$20 and an optional \$9 lunch can be pre-ordered. For more information about classes, schedule and registration, visit <http://fidalgoacademy.eventbrite.com/> or email: [news@skagitbeaches.org](mailto:news@skagitbeaches.org). Space is limited so registration is required.

This Friends of Skagit Beaches event is made possible by a grant from the Washington State Department of Ecology Public Participation Program and the efforts of WSU Skagit County Extension Beach Watchers.



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