

# Padilla Bay Newsletter

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

Summer 2009



**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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Publication No. 09-06-005



## Best Wishes to David Henry

Since 1991, Dave Henry has been dashing around the Padilla Bay Reserve with his hands in countless projects. He's toted tubs of monitoring equipment throughout the watershed, and has worn out many pairs of hip waders.

Thousands of elementary school children knew him as the incredibly entertaining Plankton Man or Estuary Soup Chef. Middle schoolers learned about water quality monitoring, the importance of estuaries to juvenile fish, and just how detritus from the hills run down the river, past their school, on its way to the sea. He could make the most reluctant, sleepy high school senior laugh and enjoy estuary life in a mud flat. He was loved and admired (and relentlessly teased) by scores of Stream Team volunteers. And he was constantly helping other Padilla Bay staff with any need - from climbing the flagpole to seining for fish to emptying the compost bucket from the staff kitchen. Dave will be missed by many, many people.

Dave's new job promoting fisheries management in the Canadian Arctic for Pew Charitable Trust will offer him great challenges and a chance to make a real difference in the rapidly changing North. His new office will be an easy bike ride from his Bellingham home. (Way to reduce carbon emissions!) Dave will continue to pursue his "beyond work" passions which include climate change issues, literature, travel, fly fishing, backcountry skiing, stone sculpture, and exercising his two dogs. (His wife Carol is a big part of "beyond work" as well, we think.) Best of luck, Dave.



# Volunteers

## Hats Off to a Dedicated Volunteer

Since 2006, Tom Richards has shown up at the Breazeale Interpretive Center, picked up the tools of his trade and hiked up the Upland Trail to the blackberry removal restoration sites for the opportunity to make a difference. PBNERR staff removed large areas of Himalayan and Evergreen blackberry with an excavator then re-planted with native trees and shrubs. Small pieces of root broken by the excavator sprout new blackberry plants and old blackberries remain on the edges of the restoration sites. Tom has dedicated himself to eradicating the remaining blackberry from these sites.

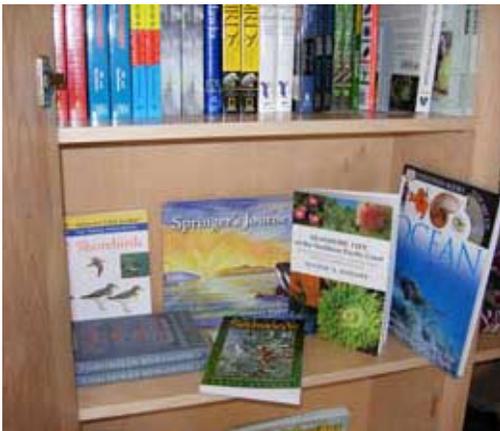
Tom says he'd rather get his exercise outside than to join a gym. The trail is a wonderful place any season of the year and provides a brief respite from everyday tasks. Tom would like to invite others to volunteer a couple hours a week to monitor the restoration sites and pull blackberry while they are still small. He has donated hundreds of hours to the task over the past three years and has more than earned our respect and gratitude. Thanks, Tom!

In addition to blackberry removal, Tom is President of the Padilla Bay Foundation Board of Directors and is also a Skagit Beach Watcher volunteer. He retired from NOAA in 1997 and moved to Anacortes from Seattle.



## New "Book Store" Offers Field Guides and More

The next time you visit the Reserve, stop to browse the new selection of books for sale. Along with our great selection of clothing, totes, mugs, and posters, we now have wonderful children's books, field guides, and books by local authors. Proceeds from all sales benefit the Padilla Bay Foundation.



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

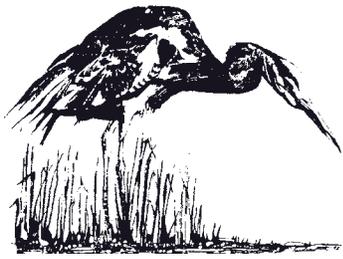
Send your contribution to:  
Padilla Bay Foundation  
PO Box 1305  
Mount Vernon, WA 98273  
(360) 757-3234  
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## Foundation Board Members

President: Tom Richards  
Vice-president: Tim Manns  
Secretary: Don Sorensen  
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Gail Smith  
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Terry Stevens - Advisory Member  
Kay Reinhardt - Administrator



# PADILLA BAY FOUNDATION NEWS

## President's Message: Volunteers Needed, Now More than Ever

I am sure it is not news to anyone reading this that we are in the midst of a serious recession. That recession is affecting everyone, especially activities at the Padilla Bay Reserve. We are fortunate that the Padilla Bay Foundation is in a position to help Terry Stevens and the staff carry on the numerous educational and research activities that were begun at the Center in more prosperous times. The state of Washington and the federal government have already had to institute reductions in current programs at Padilla Bay. One such reduction was support for the evening and weekend educational programs advertised in this newsletter. The Padilla Bay Foundation has stepped up to keep these programs going. Another way the foundation has been able to help is by purchasing scientific equipment such as the new monitoring buoy placed in Padilla Bay this year and by the procurement of lab equipment for volunteer water sampling in Padilla and Samish Bays and tributaries.

But there are additional and possibly more important ways that the Foundation membership can be of assistance to the professional staff at Padilla Bay. That is by showing up and helping them with the numerous volunteer tasks that need doing at the Center. This is how we can help them respond to the state and federal mandate to do more with less. My favorite volunteer activity is Evergreen & Himalayan invasive blackberry removal in the woods surrounding the center. Other foundation members help by assisting Sharon Riggs with Spartina removal along the beaches and out in Padilla Bay, or in welcoming guests to the visitor center, or by helping Alex with the educational programs. Perhaps you have a particular interest or skill that could benefit the research reserve. If so, please don't be shy. Drop by the center, talk to the staff, and make yourself available. Even if there is not a specific task for you to perform immediately, just showing up and being there demonstrates your support and will boost the spirits of staff members who might otherwise become dispirited by the various reductions they are being forced to make. Seeing the center teeming with volunteers and visitors is bound to bring a smile to many a weary worker. *-Tom Richards, Padilla Bay Foundation president*



Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 City/State/Zip \_\_\_\_\_  
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Membership Category \_\_\_\_\_

(see reverse)

Membership Amount \$ \_\_\_\_\_  
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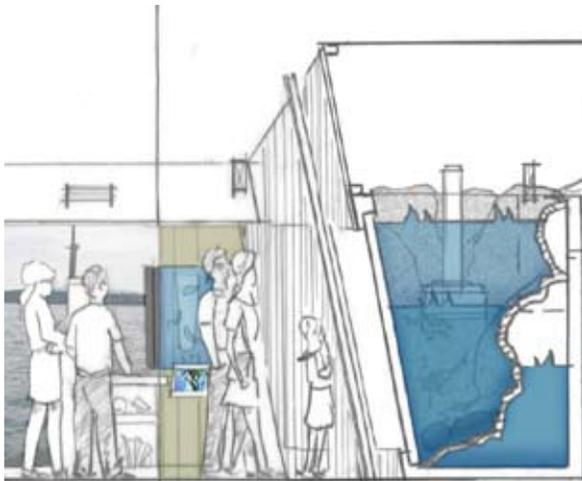
## Pagoo

“Little Pagurus – ‘Pagoo’ for short – floated at the surface of the sea. Pagurus would grow into a two-fisted Hermit Crab – if he could make it.” So begins a children’s classic among the books for sale at Breazeale Interpretive Center that is just as appealing today as when published over 50 years ago. Pagoo, by Holling Clancy Holling, follows the life of a hermit crab from birth to adulthood with many adventures along the way. As in all great children’s books, this one’s text and illustrations (by the author and Lucille Webster Holling) work together beautifully. Twenty of the 87 pages are full-page color drawings of episodes in Pagoo’s life described in the text. All the other pages have line illustrations with natural history notations and provide an informative supplement to the story.



Pagurus is the genus name for hermit crabs, who use an empty snail shell to protect their vulnerable abdomens. As we follow Pagoo’s life from free-floating bit of zooplankton to tiny, vulnerable hermit crab in search of an available shell, to adult member of “Tidepool Town,” we learn about the natural history of many intertidal creatures. Pagoo is an adventure story and illustrated natural history manual rolled into one. It is remarkable for maintaining scientific accuracy within an imaginative tale and gives an introduction to nearshore marine life interesting for readers of any age. Notably, we never get the impression that this tale is really more a metaphor about a human growing up than about a crustacean. Take, for example, the dramatic chapter in which freshwater from a sudden storm threatens Pagoo’s tidepool neighbors, followed by the danger of pounding surf. The animals act and think like animals.

If you’re starting to explore the beach at low-tide or would like some motivation to do so, reading Pagoo aloud to yourself and your child is a great place to start. You can find Pagoo in the book sales area of the interpretive center. Price: \$11.95 -review by Tim Mann



### Aquarium Design Well Underway

Designs are nearly complete for Padilla Bay’s new aquariums. Staff of the Reserve, the Foundation, and aquarium design company, BIOS Design, have been busy with meetings, discussions, debates, and forays for reference materials and photos. Two large tanks will let visitors walk through an eelgrass meadow and observe the effects of tidal changes on estuary shores. Smaller tanks will feature select Padilla Bay inhabitants, with interactive graphic displays throughout. Most of the exhibit construction will be done by the contractor off-site, and will be installed over the course of about two weeks in October. Padilla Bay Foundation donations will play a key role in funding, so please consider making a designated contribution to this project.

## 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.

# Summer Events

Presentations for June, July and August

## Aliens in our Midst: Invasive Species

Yes, there are aliens in our midst. Non-native plants and animals in Padilla Bay arrived through many means, from all over the world. Learn to recognize some of the most common ones and how they affect the places they invade—including your own backyard. Presenter, Sharon Riggs is Padilla Bay's Stewardship Coordinator, and has spent countless hours digging, mowing, trapping, and monitoring invaders at Padilla Bay. **Saturday, June 6, 1:00-2:30**



## Raven: Shapeshifter and Innovater

A cultural icon the worldover, Raven is treated with a mixture of suspicion and respect. We will explore these perspectives and our own relationship to this spiritual "messenger" through poem, video, stories and slides. Learn about *Corvus corax*'s fascinating ecological adaptation to ever evolving landscapes. Join David Drummond, biologist with the Merlin Falcon Foundation, for a fresh insight on Raven. **Sunday, June 7, 1:00-2:30**. Please call to register.



## Songs of Summer Birds

Enjoy listening to summer bird song before it fades with the breeding season. Take a Padilla Bay "staycation" and learn about your avian neighbors. Naturalist Libby Mills will lead a morning of watching and listening for birds. This excursion involves a slow walk around the reserve uplands, so you may want to bring a folding chair. Bring binoculars, field guides, and snack



or lunch. Each class limited to 15 participants. Please call or register online. **Friday, July 3, 8:00-12:00**.

## Sketching the Natural World

Bring your journal or sketchbook and favorite pen or pencil, and take time to look more deeply at the world. Artist and naturalist, Libby Mills will teach the basic techniques of quick field sketching while walking slowly and carefully, sitting quietly, and observing closely. Bring folding chair and lunch. Please call or register online. **Sunday, August 16, 9:00-1:00**.



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

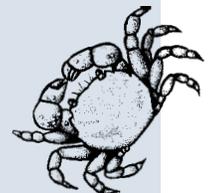
Staff are available 7 days a week.

Closed Friday, July 3.

Register online or by phone.

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# For all Ages

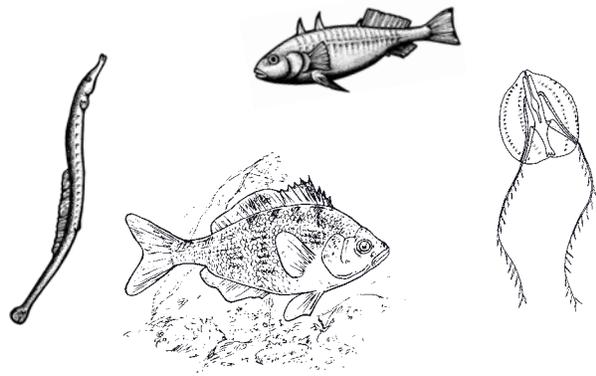
## Mud Flat Safaris

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. **June 26 from 12:30-2:30, July 3 from 10:00-12:00, July 25 from 12:30-2:30, August 5 from 10:00-12:00, and August 18 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.

**June 27 at 11:00**  
**July 17 at 11:00**  
**July 31 at 11:00**  
**August 15 at 10:00**  
**August 29 at 10:00**



## 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 24 & 25, 10:00 & 1:00**

*Fabulous Fishes—Estuaries like Padilla Bay are important places for many kinds of fish, especially when they are young. Come and learn all about our finned friends.*

**July 8 & 9, 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 19 & 20, 10:00 & 1:00**  
*Elegant Eelgrass—Find out all about our favorite plant in Padilla Bay. We will take a trek to the beach to see where eelgrass lives and who uses eelgrass for a home.*



**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 19 & 20, 10:30-12:00**

*Awesome Algae—Sometimes green, sometimes red or brown, algae offers food and shelter to estuary animals.*

**July 10 & 11, 10:30-12:00**

*Crusty Crustaceans—Learn all about the estuary's armored animals, from the tiny amphipod to the mighty Dungeness crab.*

**August 21 & 22, 10:30-12:00**

*Mud Flat Safari—Come explore all the plants and animals that the tide leaves behind. Bring a jacket and snug shoes or boots.*





## Discovering Inconvenient Truths Among the Mussels

*by Cynthia Hansen*

You might think that a mussel bed is home only to—well, mussels, of course! But the shells and filaments mussels use to anchor themselves to their rocky habitats can provide homes for hundreds of different species, offering protection from the harsh conditions of the intertidal zone. While mussel beds can withstand the changing tides, global climate change may cause damage to these diverse ecosystems. As the amount of CO<sub>2</sub> in the air increases, so does the amount of CO<sub>2</sub> dissolved in seawater. The resulting acidification changes the basic chemistry of the oceans and decreases the growth rate of organisms which rely on dissolved calcium carbonate to build their shells. If current CO<sub>2</sub> emission trends continue, it is possible that mussels will remain smaller for longer periods of time and be less able to protect associated epifauna (organisms which live on and among the mussels) from temperature extremes, which may also increase due to global climate change. Rebecca Gooding, a graduate student working towards her PhD at the University of British Columbia in Vancouver and the recipient of a 2008 Padilla Bay Research Assistanceship, is studying how mussel size and mussel bed temperature impact epifaunal communities. Her research is being conducted on the rocky shores of Saddlebag Island, located just east of Guemes Island in Padilla Bay.



Becca Gooding, hard at work on Saddlebag Island.

Becca used two techniques to create mussel beds on Saddlebag Island. First, she cleared small plots of algae, added mesh cages to keep out predators, and allowed mussels to settle in both the shaded (cool) and unshaded (warm) plots. Second, she transplanted mussels of various sizes from dock pilings to Saddlebag Island. Mussels of small (10-30 mm) and large (35+ mm) shell lengths were painted black or white to increase or decrease temperature. By sampling the epifauna among the mussels and identifying individual species in the lab, Becca will be able to observe how mussel size and mussel bed temperature combine to impact the hundreds of other organisms that call mussel beds home. Becca's research will provide insight into how intertidal communities in and around Padilla Bay might react to changes in the Earth's climate. It will also provide a framework for future research into climate change's impact on whole communities rather than individual species. As atmospheric CO<sub>2</sub> levels rise, it's important to keep looking among the mussels.

## Northwest Straits Foundation to receive grant for restoration projects in Fidalgo and Padilla Bays

The Northwest Straits Foundation is positioned to receive \$500,000 over four years from the Kimberly-Clark Company through the Department of Ecology. These funds are part of a natural resource damage assessment for impacts to the marine environment from the Scott Paper Mill site in Anacortes. Payments are spelled out in Draft Cleanup Action Plan for the former Scott Paper mill site. If the plan is adopted as written, the funding will be used for restoration projects in Fidalgo Bay and Padilla Bay. The Skagit Marine Resources Committee will play a key role in identifying and implementing projects with this funding. Thanks to Connie Thoman and Bob Elsner of the Port of Anacortes for recommending the work of the Skagit Marine Resources Committee and the Northwest Straits Foundation



during the development of the Draft Cleanup Action Plan. To see more information about the work of the Northwest Straits Foundation, please see their web site at [www.nwstraits.org](http://www.nwstraits.org).

## Important for Newsletter Subscribers!

Do you want to keep receiving this newsletter? Then please call Padilla Bay to keep your name on the list. We periodically “clean up” our mailing list to eliminate expired addresses. You can call (360) 428-1558 or email Linda Smith at [lsmith@padillabay.gov](mailto:lsmith@padillabay.gov). The newsletter is also available online, so consider saving paper and postage, and subscribe to our e-newsletter at [www.padillabay.gov](http://www.padillabay.gov).



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