



Padilla Bay Newsletter

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

Spring 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.

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Low Tides, Busy Educators, and Excited Children: Padilla Bay's Spring Estuary Program

Once again, the busses are bringing thousands of students, teachers, and parents for classes at Padilla Bay. Children help staff make Estuary Soup, complete with plankton and a dash of detritus. They glimpse the underwater life of the bay in our exciting new aquariums, play educational games in the Hands-on Room, and see intertidal animals up-close under microscopes. But best of all, they head down to the beach and experience the estuary first-hand, mud and all.

Here's what they have to say about their trip.

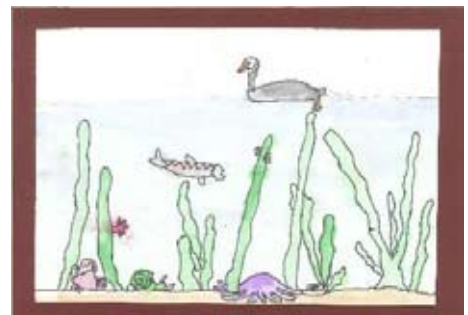
Thank you, thank you, thank you, thank you, oh sorry I just can't stop thanking you because it was a wonderful field trip! I loved the part when you showed us the barnacles, I thought that they were just shells, I didn't think they had mouths! I really like the fish tank, I didn't think all those creatures would live in an estuary. Well thanks again it was a blast!



I found a giant oyster shell about one foot big! I also found lots of green shore crabs— possibly purple shore crabs. I saw barnacles on wet rocks which look cool under a microscope. And the plants there were really cool, too. My group members also hit the jackpot! David from my group found a Dungeness crab which I've fished for. And some found algae too! And we found those clams by getting down and dirty! Did you enjoy this trip as much as I did?



Thank you so much for one of the best field trips I've been on. (And I'm 27!) I will be calling you next year to set up another field trip.



Native Olympia Oyster Restoration

At an event hosted by Taylor Shellfish, NOAA's administrator, Dr. Jane Lubchenco recently announced \$200,000 in funding for the Northwest Straits Commission to pursue Olympia oyster restoration. The Olympia oyster, *Ostreola conchaphila*, is our native oyster which grows along the Pacific coast from Alaska to Mexico. Though plentiful when early settlers arrived, overharvesting and water pollution nearly eliminated the small oyster from many bays and estuaries. Now, they are slowly making a comeback.

Several training workshops were organized last summer to train MRC members and others to identify Olympia oysters in the field and engage the power of the MRCs in identifying suitable habitat. This is not quite as easy as it sounds, as Olympia oysters are cryptic in appearance and not nearly as showy as their cousin the Pacific oyster.

Other work last year included: genetic analysis of potential broodstock, habitat enhancement plans for several North Sound locations, and broodstock collection and seed production. Particular care is being taken with seed production to ensure genetic diversity. Washington Department of Fish and Wildlife and the University of Washington developed the protocols for these restoration efforts.

The project is part of the Washington Shellfish Initiative, an agreement among federal and state governments, tribes and the shellfish industry. The initiative's goals are to restore and expand Washington's shellfish resources, to promote clean-water industries and create family-wage jobs. The Commission will work in partnership with National Fish and Wildlife Foundation, Washington Department of Fish and Wildlife, Puget Sound Restoration Fund, the Swinomish, Samish and Jamestown S'Klallam Tribes and several Marine Resources Committees (MRCs).

You can find more information about the Olympia oyster and restoration efforts at the Puget Sound Restoration Fund website, <http://www.restorationfund.org>.



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:

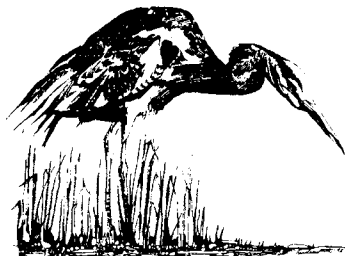
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PADILLA BAY FOUNDATION NEWS

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
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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 _____ | Membership Category _____ |
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***In the Company of Crows and Ravens* by John M. Marzluff and Tony Angell**

Even ardent bird watchers may pay scant attention to crows and hardly more to ravens. These birds, crows especially, are so much with us that they rarely spark our interest. In the Company of Crows and Ravens will change that for you. Professor John Marzluff does his teaching and research at the University of Washington’s School of the Environment. Tony Angell, whose excellent illustrations appear on almost every page of this terrific book, is a very well-known artist and acute observer of Northwest wildlife. His sculptures and illustrations grace many museum collections and public spaces. Marzluff and Angell’s collaboration has produced a volume you’ll enjoy perusing and reading again and again.

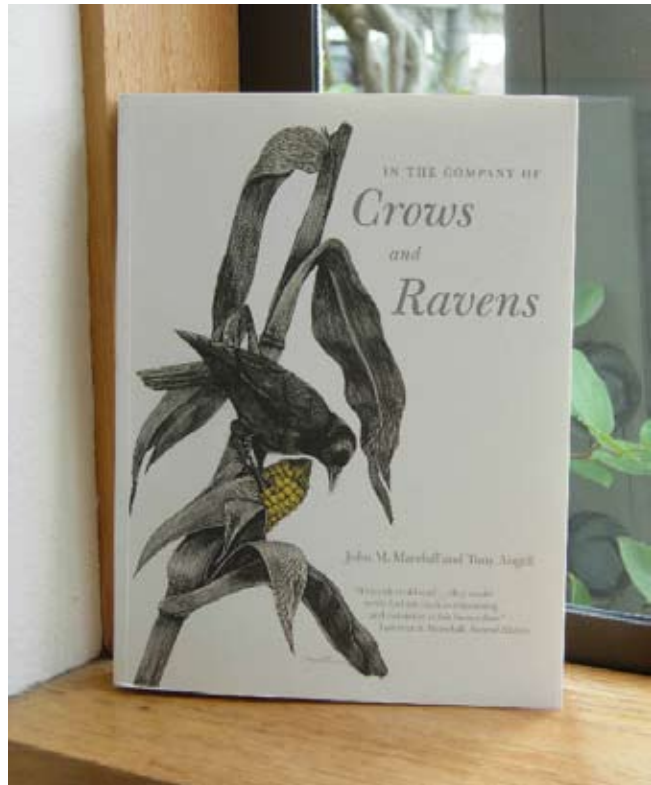
Many of the world’s 40 or so crow and raven species (in the corvid family) have been close associates of people for a very long time. That’s why we take them for granted but also why they figure so prominently in human culture. In many parts of the world, from ancient stories to contemporary literature there are depictions of people and corvids interacting.

In the Company of Crows and Ravens reveals that corvids, just as people, have evolving cultures. Their practices change as they learn from each other and in reaction to humans and environmental change. Intelligence and adaptability have enabled corvids to live in many different habitats and exploit opportunities humans provide. Here in western Washington the Common Crow was uncommon until land use changes created habitat favorable for them. In earlier days the locally abundant bird was the Northwestern Crow, still listed as a separate species in field guides. As Marzluff explains, the Northwestern Crow has now interbred so thoroughly with the Common Crow that it probably no longer exists as a truly separate species.

Read this book, study its wonderful illustrations and you will not only start noticing crows and ravens, you may admire them too. Their intelligence and adaptability to a diverse and ever changing world, their aerial ability, their cultures long intertwined with our own – all argue for a new perspective on these neighbors of ours.

Be sure to purchase your copy of In the Company of Crows and Ravens on your next trip to the Padilla Bay Interpretive Center (\$19.95).

-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 2012



Great Blue Herons on March Point

Skagit Land Trust Stewardship Director Michael Kirshenbaum will talk and lead a discussion about the March Point Heronry, one of the largest Great Blue heronries on the west coast. With over 400 nests on site, the heronry provides critical habitat for this iconic Northwest bird. Michael will talk about how this special place was protected through citizen-lead conservation efforts, ongoing efforts to monitor the heronry and the long-term collaborative relationship between the land trust and the Padilla Bay National Estuarine Research Reserve to educate the public about the heronry. **Saturday, March 24, 1:00-2:00.** Please register online or call the Interpretive Center.



Washington Shellfish Farming—Past and Present

Come learn about historic shellfish farming in Washington State. Nicole Hopper from Taylor Shellfish Farms will explain all that goes into growing the delicious bivalves that are raised in Puget Sound. She'll also discuss the issues shellfish farmers face due to pollution and ocean acidification. **Saturday, March 31, 10:30-12:00.** Register online or by phone.

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, April 28, 11:00.** No need to register. Just join us in the aquarium room at 11:00.

Spring Birds by Sight and Sound

Early May is Prime Time for bird songs, with migrants flooding through the area. Some 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, May 5 and Sunday, May 6, 8:00-12:00.** 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

Sunflower Star, *Pycnopodia helianthoides*

Though it has a friendly, cheerful name, this giant of the sea star world has a bad reputation among shellfish growers and fellow invertebrates. One field guide called it “a formidable engine of destruction.” It is a voracious eater, with a diet that includes just about everything: sea urchins, clams, oysters, scallops, mussels, snails, barnacles, crabs, sea cucumbers, sand dollars, fish, and even other sea stars. It sometimes everts its stomach to digest its food, but can also swallow its prey whole. (Imagine swallowing a prickly sea urchin!)



Luckily for the prey, this sea star gives off a chemical warning that sets off interesting escape responses in some animals. Cockles will extend their “foot” and flop out of harm’s way. Scallops will use jet propulsion to swim away. Abalone and some snails will pick up speed and twist their shells to pull free from the sunflower star’s suction tube feet. Even sea cucumbers and anemones that usually just sit motionless can flop away from this predator.

The sunflower star is our largest, heaviest and fastest sea star. It has 18-24 arms, each with thousands of tube feet and an “eyespot” at the end. It can’t see well, but is sensitive to light and dark. It sports beautiful colors ranging from reds and oranges to pinks and purples. (One good reason to get this newsletter online is the flashy color photo. Go to www.padillabay.gov and click on Newsletter.)

In Padilla Bay, the sunflower star is frequently spotted gliding through the eelgrass meadow. In our aquariums, we have several that cruise around the tanks, on the lookout for their next meal. We keep a close eye on the “tank-mates” to be sure *Pycnopodia h.* is only eating the mussels, clams, and bits of frozen herring we offer. See this beauty in action at 11:00 April 28 for our quarterly Fish Feeding and Aquarium Tour.

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 14 & 15, 10:00 & 1:00

Estuary!—*Padilla Bay is a cool place where fresh water meets the sea. Come and find out more with games, stories, and action.*



April 4 & 5, 10:00 & 1:00

Wet and Wonderful Water!—*Become a water drop on an amazing journey and find out why good clean water is more precious than gold.*

May 9 & 10 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.*



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 16 & 17, 10:30-12:00

Goofy Gastropods—*What else has its mouth in its foot? Learn all about these creatures in the snail and slug clan.*



April 13 & 14, 10:30-12:00

All About Algae—*From microscopic green fuzz to majestic kelp forests, algae is the foundation of life in the sea.*

May 11 & 12, 10:30-12:00

Songbirds of Padilla Bay’s Uplands—*Beginning birding especially for young folks: we’ll take a safari through the woods and meadows of Padilla Bay in search of the many small birds that make spring so exciting. Bring binoculars—or borrow ours, and dress for outdoors.*



Why is wetland restoration in Puget Sound important?

- 56% of wetlands in Puget Sound estuaries are lost
- 10% of the shoreline is now considered “artificial” as a result of intense development
- 27% of the shoreline is armored, restricting sediment transport needed to re-nourish beaches
- Hundreds of coastal embayments have been eliminated, including 40% of pocket estuaries
- 62% of river delta is now developed land



Fisher Slough Tidal Freshwater Wetland Restoration

Over 100 years ago Europeans settled in the Skagit Valley and dramatically changed the floodplains and deltas. The bay fronts and rivers were diked, wetlands drained, and spruce forests replaced by towns and railroads. Today, the Skagit Delta is a working landscape that contains some of the most productive soils in the world and supports a vibrant agricultural economy.

It is also home to the largest and most diverse runs of Chinook and other salmon in Puget Sound and supports a diversity of birds and other wildlife that depend on habitat and a functioning ecosystem for their survival. At Fisher Slough, located in the heart of this working landscape, an innovative project is being implemented to test how restoration and flood control protection needs can be combined.

This highly complex project has several construction elements that include relocation of a levee and major drainage system, and design and installation of new floodgates. The project will restore fish passage and improve salmon and wetland habitat. This is especially important, since more than 85% of the historic freshwater tidal wetlands in Puget Sound have been lost. At the same time, it will increase flood storage capacity, which will reduce annual maintenance costs for the dike district and reduce frequency of flooding on adjacent agricultural lands. This project is a win-win for both the restoration and agricultural communities and creates a model and novel approach that can be replicated by other communities in Puget Sound.

A collaborative partnership between The Nature Conservancy, Dike District #3, Drainage District #17, and Western Washington Agricultural Association, the project is funded by the Department of Fish and Wildlife’s Estuary and Salmon Restoration Program. Created by the legislature in 2006, this program provides funding and technical expertise for restoration projects throughout Puget Sound. Other local projects funded through this program include Wiley Slough dike removal in the Skagit Delta, Swinomish Channel fill removal, and Lone Tree Lagoon restoration on Fidalgo Island.



Padilla Bay Foundation Hosts Biologist, Julie Barber

Please set aside **Saturday, May 5th from 1:00 - 3:00PM**. The Foundation is pleased to be hosting Ms. Julie Barber, Shellfish Biologist with the Swinomish Indian Tribal Community. Julie took a fascinating trip down to Antarctica where she worked at the McMurdo Station. She dove to the sea floor as part of an ongoing research project. Her adventures make for a fascinating lecture! Registration will be required and light refreshments will be served. Watch Padilla Bay's website for more information closer to the event.

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) or call the Interpretive Center (360.428.1558).

Skagit Beach Watchers Winter Lecture Series

The Skagit Co. WSU Beach Watchers are pleased to present the final two talks in their popular lecture series. This series offers presentations on various topics related to the Puget Sound and our local marine environment. All the lectures are presented at the Anacortes Public Library from 7-9PM, are free, and open to the public.

March 9th, Decline of Large Fish Species

April 13th, Tectonic Processes of the Salish Sea

For more information or questions, please contact Matt Kerschbaum at cherrytree2@comcast.net



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