



Cheers to our 2011 Contributors to PSRF's Community Shellfish Farms

CSA members, Volunteer farmers, Thurston Conservation District, WSU, Elliott's Oyster House, Olympia Seafood Company, Safeway Foundation, Kitsap County Health District, Royal Bank of Canada, and Bloedel Reserve.



Photo courtesy of Josh Bouma

ELLIOTT'S OYSTER HOUSE: A CHAMPION FOR PUGET SOUND

Every November, Elliott's Oyster House in Seattle hosts Oyster New Year, an annual celebration of the Northwest oyster season and the biggest oyster bash on the west coast. Last year's 18th annual event was hugely successful serving over 20,000 oysters to a crowd of 900 seafood lovers and raising \$10,000 for PSRF's restoration efforts in Henderson Inlet. And their efforts don't stop there- through the month of March, Elliott's will serve an abalone ceviche, a supreme appetizer of thinly sliced Monterey Bay abalone in lemon grass marinade with cucumber-jicama salad and blood orange and tangelo citrus supremes for \$12.

For each appetizer sold Elliott's will donate 25% to help rebuild the Salish Sea's only native abalone population – the mighty *Haliotis kamtschatkana* – or Pinto abalone. Robert Spaulding, executive chef at Elliott's Oyster House explains, "Our relationship with Betsy Peabody and the Puget Sound Restoration Fund has been both productive and educational and we have the utmost confidence that Betsy and her team will be successful in reintroducing abalone locally. We know that abalone recovery will take many decades. In the meantime, we are committed to offering sustainable products to our guests and farm grown abalone will be a wonderful addition to the oysters, clams, mussels and geoduck that we currently offer on our menu."

UPCOMING EVENTS

TRAINING WORKSHOPS ON HOW TO FIND AND IDENTIFY OLYMPIA OYSTERS:

- May 31st, 9 a.m.–2 p.m.
Bywater Lagoon, Jefferson County
- June 14th, 8:30 a.m.–12:30 p.m.
Fidalgo Bay, Skagit County
- July 12-14 (tbd)
Seal Rock Campground, Jefferson County

BAINBRIDGE ISLAND SHELLFISH SEED SALE

- June 4th from 8-Noon
PSRF's office on Bainbridge Island

Please call the PSRF office at 206.780.6947 or visit www.restorationfund.org for more information.



OUR MISSION

To achieve on-the-ground restoration of habitat, native species and water quality in Puget Sound by focusing on action not politics.

OUR GOAL

To mobilize funding and support from diverse sources to complete priority projects.



WASHINGTON'S LARGEST ABALONE OUTPLANT HAPPENING NOW!

This spring, 2,500 strong, healthy, and genetically diverse juvenile abalone were re-introduced into the wild. Currently, pinto abalone are considered functionally extinct in Washington waters and recovery is no longer possible without human intervention. As a result, a cross-disciplinary team has been working for over eight years to develop hatchery systems, improve spawning techniques, and ensure genetic fitness in order to safely produce juvenile abalone for re-introduction to the San Juan Islands. The 2011 outplant was the culmination of this endeavor and PSRF would like to thank the many partners who have helped make this possible, including Washington Department of Fish & Wildlife, University of Washington, Western Washington University, Shannon Point Marine Center, Baywater, Inc., Taylor Shellfish Farms, SeaDoc Society, Elwha Tribe, Jamestown S'Klallam Tribe, National Oceanic & Atmospheric Administration-Mukilteo Lab, Northwest Straits Commission, The Russell Family Foundation, Shell Puget Sound Refinery, and the Suquamish Tribe. PSRF would also like to extend a special thank you to Bob Selzler for developing an abalone field nursery and to the many individuals and foundations who contributed to our spring abalone campaign.

Left Photo: Thanks to all the participants in the 2010 West Coast Native Oyster Restoration Workshop in Suquamish. Funding for the workshop was provided by The Nature Conservancy, NOAA and National Fish & Wildlife Foundation. Picture courtesy of Rob Brumbaugh, TNC.



Photo courtesy of Bill Dewey

*Justin Taylor
 in his element.*

IN MEMORY OF JUSTIN TAYLOR (FEBRUARY 16, 1921 – FEBRUARY 21, 2011)

Justin Taylor is still at work in the world, there is no doubt about it. Though he passed away February 21, 2011, he is still making his presence known and carrying the rest of us on his shoulders.

Justin farmed shellfish in Puget Sound for most of his 90 years. But it was never just about his family's shellfish or his company's shellfish. Justin was a caretaker for the whole system. He was deeply concerned over the fate of Puget Sound and alarmed at how quickly things seemed to be deteriorating. But he also believed in the power of shellfish to combat the effects of nutrient pollution – through natural filtration. His concerns and beliefs were grounded in his own observations – gathered while walking the mudflats, but carefully tuned, always, to the long-term health of the system.

We are lucky, here in Puget Sound, that Justin passed these views onto an ever widening circle of people and lucky that we still live in a region that produces world-class oysters. This is thanks, in large part, to Justin Taylor and the generations of oyster men and women who have stood vigil over the health of Puget Sound and who insist that Puget Sound is still a place that can sustain and feed us.

It was an honor to meet and work with Justin Taylor. He and his son, Bill, were the first people to teach me about Olympia

oysters. It was clear that I knew nothing; even still, Justin shared his knowledge unstintingly. We walked lots of beaches and over time he and Bill helped me glimpse the world through their eyes. It was a gift that I will always treasure. I've been working for a dozen years now on native oyster recovery and if I continue working for the rest of my life I will never match what Justin did for this oyster in his lifetime. Justin fought to save Olympia oysters during the early days of pulp mills and he has tended them ever since. He understood where they liked to settle and grow and knew just what they needed to thrive.

In a final act of generosity, Justin Taylor requested that in lieu of sending flowers, people send memorial contributions to Puget Sound Restoration Fund or Union Gospel Mission. We are deeply grateful to Justin and his family. Puget Sound Restoration Fund has created a memorial fund for Justin Taylor and will continue working on the things Justin believed in – a healthy and productive Puget Sound. Many thanks to the individuals, businesses and organizations who made donations in Justin's honor.

To his dying day, Justin held fiercely to his vision of a cleaner Puget Sound. It is for us to make it so.

Betsy Peabody • Puget Sound Restoration Fund

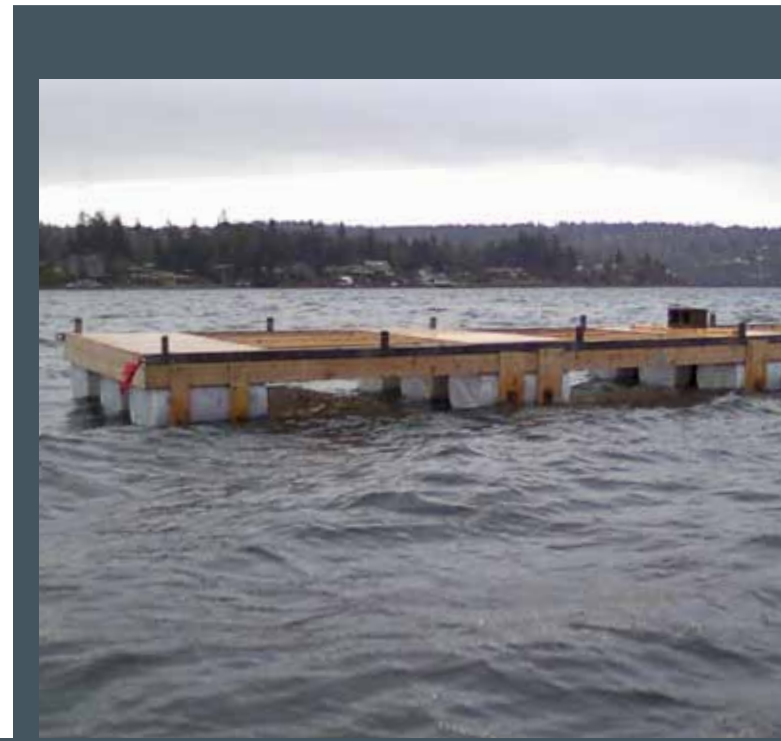
QUARTERMASTER HARBOR NUTRIENT MITIGATION PROJECT BEGINS!

This February we launched the much anticipated mussel raft in Vashon Island's Quartermaster Harbor. Volunteers and several brave Cub Scouts from Pack 275 congregated at Jensen Point Park, despite the cold and the snow, to help build an eight by thirty foot raft that will float 75,000 or so mussels. The idea is to measure whether the filtration services of these bivalves can help cleanse the nutrient rich waters of Quartermaster harbor. Onsite data collection and biomass samples will be analyzed for the next 10 months to determine the amount of nutrients being sequestered by the mussels and associated organisms. Once the shellfish are grown, they

will be removed and possibly composted to create a value-added soil amendment or turned into an animal feed additive in order to redistribute the sequestered nutrients back into the watershed. Both of these methods have been successfully implemented elsewhere in the world. PSRF thanks the community of Vashon for supporting this project, our funders – King County WaterWorks and The Russell Family Foundation – for financing it, and the many partners who have helped float this project, including Pacific Shellfish Institute, Baywater, Inc., Forest Trends, Taylor Shellfish, the Puyallup Tribe, and Penn Cove Shellfish Co.



Volunteers help construct mussel float on Vashon Island.



PSRF WORKS TO RESTORE BULL KELP

In 2011, the Puget Sound Restoration Fund is collaborating with the Puget Sound Pilots Association, the Suquamish and Port Gamble S'Klallam Tribes, The Russell Family Foundation, State resource agencies, and private tideland owners to conduct pilot bull kelp (*Nereocystis*) restoration projects at select locations in Puget Sound. Initial goals include developing a comprehensive restoration plan and conducting pilot restoration projects. PSRF's restoration team is currently propagating new kelp starts for two research projects which will examine restoration strategies at locations in central Puget Sound and Pt. Gamble Bay in Hood Canal. We hope to develop enhancement strategies that will catalyze natural recruitment and persistence of bull kelp in historical kelp beds.

IN OTHER NEWS

Port Gamble Bay Restoration

PSRF is pleased to be working on a multi-faceted restoration project in Port Gamble Bay that includes cockles, native oysters, kelp, shellfish gardening and community education. Partners include the Port Gamble S'Klallam Tribe, Port Gamble Environmental Lab, Olympic Property Group, Still Hope Productions and Kitsap Health District. Many thanks to The Russell Family Foundation for funding.

Oyster Bay Native Oyster Enhancement

In 2011, PSRF will be conducting a habitat enhancement project in Oyster Bay in partnership with the Washington State Departments of Fish & Wildlife and Natural Resources, the Suquamish Tribe, and shoreline residents. This project is one of several native oyster stock recovery projects funded by the National Fish & Wildlife Foundation. Recently, PSRF met with shoreline residents and tideland property owners in Oyster Bay to discuss the project proposal. We were pleased to find a very interested group of shoreline neighbors attracted to the stewardship of their marine resource and interested in learning more about how they can participate in rebuilding native oyster populations in their own backyard.

PSP Monitoring

PSRF assists the Washington State Department of Health in the collection of shellfish samples around Puget Sound to monitor for Paralytic Shellfish Poisoning (PSP). The program analyzed 3,135 biotoxin samples in 2010, which turned out to be a record year for lethal levels of PSP on the coast and in the northern part of Puget Sound.

Drayton Harbor Petites Grace Menus from Bellingham to Seattle

We are very excited to be offering oysters from the Drayton Harbor Community Oyster Farm at several locations including the Brooklyn Seafood, Steak, and Oyster House and Elliott's Oyster House in Seattle, the Cliff House and Nimbus restaurants in Bellingham, and Resort Semiahmoo in Blaine. Sales from these oysters help support local water quality improvement projects and community outreach programs. Be sure to swing in and support a healthier Puget Sound by slurping a few Drayton Petites- perfect on the half shell!



Eric Thorp, a volunteer at the Drayton Harbor Community Oyster Farm, rinses Drayton Petites.



Drayton Petites ready to be served by executive chef, Blair King, at the Brooklyn Seafood, Steak, and Oyster House.

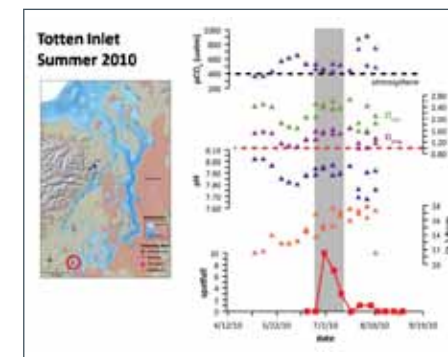
RESTORATION AQUACULTURE

To help recover Olympia oysters, Pinto abalone and Bull kelp, Puget Sound Restoration Fund is venturing further into the realm of restoration aquaculture. Modern-day hatcheries, conservation genetics and disease prevention are important components of these recovery efforts for the simple reason that there aren't always enough animals or plants left in the wild to rebuild a population. For example, the Pinto abalone population in Washington has sunk below an effective population size: remaining adults are not located in close enough proximity to one another to reproduce successfully, leaving hatchery propagation as the only viable recovery option. Native oyster rebuilding efforts also illustrate the role of aquaculture in the restoration of both species and habitat. Although habitat enhancement is the preferred restoration strategy in places that still support remnant populations, seed production is needed in bays that have lost natural larval production.

Producing seed for restoration is an entirely different proposition than producing seed for commercial harvest, since animals and plants are introduced into the wild forever – not just until harvest. To maximize the genetic diversity of hatchery-produced seed, Puget Sound Restoration Fund has been working with the University of Washington and Washington Department of Fish & Wildlife to develop genetic protocols that will guide the production of genetically diverse, restoration-grade Olympia oyster seed. Thanks to partnerships with Taylor Shellfish Co, Baywater, Inc., NOAA, University of

Washington, Port Gamble Environmental Lab, The Nature Conservancy and National Fish & Wildlife Foundation, small-scale restoration aquaculture programs have been developed at existing facilities. Increasing the scale of these efforts will require larger spaces dedicated to producing restoration-grade seed and effectively addressing genetic and disease issues associated with hatchery propagation.

To keep track of specific families of pinto abalone in the hatchery, they are tagged with unique colors and numbers.



Data collected in Totten Inlet illustrate peak settlement during peak water chemistry conditions.

OCEAN ACIDIFICATION MONITORING PROJECT

In 2010, PSRF completed a 2-year ocean acidification monitoring project with a team of partners, including NOAA, UW, Taylor Shellfish, Baywater, Inc., Pacific Shellfish Institute and Pacific Coast Shellfish Growers Association. The project was funded by the Puget Sound Partnership to examine whether or not changing water conditions in Puget Sound were affecting natural communities of shellfish. Two field stations were established in Totten Inlet and Dabob Bay to measure planktonic larvae, seawater and natural spatfall from Olympia oysters (Totten Inlet) and Pacific oysters (Dabob Bay). These data were correlated with oceanographic measurements to determine the effect of high CO₂ and low pH on larval abundance and oyster settlement.

While many questions remain unanswered, a few things have become clear: 1) Seawater chemistry is changing in Puget Sound as a result of ocean acidification. 2) The mechanisms driving more acidic conditions appear to be different at the two stations. Low pH in Dabob is tied to upwelling events; low pH in Totten seems more associated with decomposition. 3) Human-driven activities, such as nutrient loading, seem to be amplifying the effects of changing water conditions in Puget Sound. We are feeding our bays and inlets with nutrients that fuel algae growth. When this organic material breaks down, bacteria release CO₂ through respiration, which lowers pH and creates more acidic conditions. We don't yet understand the biological responses to these chemical changes but acidic conditions at these two stations certainly provide a wake-up call.