

The Shellfish Sentinel

News from the Puget Sound Shellfish Program



Photo by Roy Clark

Pinto Abalone Listed as State Endangered Species



Peter Naylor

In May of 2019, the Fish and Wildlife Commission used information contained in the final, peer-reviewed status report in their decision to list pinto abalone as a state endangered species. This is the first time that a marine invertebrate has been listed as Endangered in Washington. The listing, which takes effect July 8th, will aid in conservation efforts by accurately communicating the status of the species to the public and policymakers, and also by increasing the penalties for any harvest of abalone. The State Legislature has increased funding for pinto abalone restoration in the 2019-2021 biennium, which will be used to develop a formal recovery plan, ramp up field work, expand hatchery production, establish remote nursery facilities and perform genetic and disease testing. The listing process started with developing a preliminary status report for the species, hosting public comment meetings and other outreach, and briefing the Fish and Wildlife Commission. Outplants of hatchery-reared juvenile pinto abalone started in 2009 and were made possible through key partnerships including the Puget Sound Restoration Fund, NOAA, University of Washington, Western Washington University, and others. To date, approximately 22,000 juvenile abalone have been outplanted to 18 different sites in the San Juan Islands. Ongoing monitoring of these sites has shown that this is a viable restoration strategy that produces dense aggregations of adults. PSRF and WDFW hosted a media event at the Manchester hatchery on June 4th that generated local and national media stories. [Abalone Video 1 & 2](#)

Don Rothaus – Reflection on a Career

By Bob Sizemore

The most rewarding part of this job is the people that we get to meet, share experiences with, and come to appreciate as colleagues and friends. My first recollection of Don Rothaus was during a department check-out dive for me to qualify as an agency diver. Don was the Master Diver/Dive Safety Officer for the department and I was the new shellfish disease control biologist and alternate subtidal shellfish diver. On that fateful day in 1991, I had head congestion and was having extreme difficulty descending into the water column to demonstrate my basic dive skills. Don patiently worked with me to incrementally descend until we reached bottom. This was the first, but not the last, time that I observed Don demonstrate his willingness to help others overcome their difficulties and I am forever grateful for Don's compassion and professionalism over his career.

Don started working for WDFW in August of 1988 under the wings of geoduck legend Lynn Goodwin and sea urchin guru Alex Bradbury. For the initial 20 years of his career with the Department, Don was a member of the Shellfish Dive Team, conducting geoduck, sea urchin, abalone and sea cucumber research and survey work. He amassed over 1,500 dives for the agency resulting in 1,114 hours of bottom time (the equivalent of 46 days underwater). During this time he served as the Department's Diving Safety Officer and helped to develop many versions of the Department's Diving Operations Manual. In 2002, Don took on additional responsibilities to oversee pinto abalone in Washington. At the time, WDFW survey work had demonstrated significant declines and numerous stresses on abalone populations in Puget Sound. The abalone project grew into a large collaborative recovery effort, including the development of an abalone hatchery and separate nursery facilities, all funded through a large number of Federal, State and non-governmental grants.

Late in 2009, Don became a member of the Crustacean Team working on Puget Sound Dungeness crab and shrimp management. His primary focus in this role has been on State commercial harvest. He has developed solid professional relationships with commercial fishers and buyers. He developed a checks and balance system for commercial landings that allows for precise regulation of the commercial fishery. Don worked closely with WDFW Enforcement over his career. This has included a few high profile investigations and prosecutions. Additionally, teaming with Enforcement has resulted in the development of gear recovery and recreational compliance databases. Don has been an author on numerous peer reviewed journal articles and WDFW Technical Reports on subjects ranging from abalone, geoduck, crayfish and even small mouth bass. It is an honor to recognize Don for all of his contributions to the agency and colleagues, and we wish him all of the best in his retirement.





Kopachuck Oyster Enhancement

Clockwise from upper left: Gregory Shimek, Executive Director of the Coastal Cutthroat Coalition (CCC), Killian Burris, and other project participants carry bags of oysters at Kopachuck State Park; a bag of oyster cultch (shells); oyster "spat" set on an adult oyster shell; native Olympia oysters are also found at this park. The June 20 oyster planting was supported by the Coastal Conservation Association's (CCA) SeaTac Chapter, CCC, the Key Peninsula Gig Harbor Island Watershed Council, WDFW and others.

Photos by Hannah Letinich

Welcome New Shellfish Program Employees



On May 31, 2019, **Katelyn Bosley** accepted a Fish and Wildlife Biologist 4 position within the Puget Sound Shellfish Unit. This position is a key leadership position for the program and vital to the implementation and management of robust recreational and commercial crab and shrimp fisheries in Puget Sound. These fisheries are important to the state of Washington: Puget Sound recreational crab fishing is enjoyed by 239,000 annual WDFW license-holders and commercial crab and shrimp fisheries generate over \$37 million in ex-vessel value annually. In managing these important resources, this position oversees a staff of 7 biologists and technicians as well as budgets and agency vessels. This position also plays a key role in interacting with 15 treaty tribal co-managers and a large and vocal constituency.

Katelyn distinguished herself as someone with the quantitative, research, and fisheries management skills and experience that could uniquely advance management of Puget Sound crab and shrimp fisheries. Katelyn received her PhD from Oregon State University where she investigated the life history of estuarine crustaceans to advise their management, and most recently was engaged in post-doctoral work in stock assessment and modelling to advise West Coast groundfish management. Katelyn also served for 3 years as a Research Fellow for NOAA, worked as a fisheries observer on the east coast, and comes with a stellar reputation.



Katie Sowul recently filled in the position of Fisheries Biologist 3 within the Shellfish Dive Team. She is leading the state's pinto abalone restoration efforts as well as assisting shellfish research and management. She will also be working as the Dive Safety Officer for the department.

Katie is a research diver and marine scientist from Sonoma County, California. Prior to her recent migration north, she held a dual position at Bodega Marine Lab as a red abalone/kelp forest biologist with California DFW and a white abalone restoration biologist for UC Davis. In her free time, Katie enjoys freediving, surfing, and a brisk game of water polo or underwater hockey.

Please welcome Katelyn and Katie to the Puget Sound Shellfish Unit.

Sea Urchins: Part 2



Where and How to Harvest and Process Sea Urchins (Sea Eggs or Uni)

By Nam Siu, WDFW Habitat Biologist

Although green sea urchins can be found in the Puget Sound and Hood Canal, the San Juan Islands and Strait of Juan de Fuca is where harvesters can encounter all three species of sea urchins in abundance. Make sure that you are not in marine protected areas as there are several on the strait of Juan de Fuca and in the San Juan Islands where harvest of any marine life is prohibited. Since sea urchins are a subtidal species, the only way to harvest them is via snorkeling or SCUBA diving.

Remember to check the tides, currents, and weather conditions as it can get dangerous very fast. The general rule of thumb for finding sea urchin is to look for kelp beds on rocky shorelines. They usually hang out on the edges of these kelp beds, with a majority of them on the deeper waterward edge in between 15 to 20 feet of water. Wearing thick gloves will help to protect your hands from the spines, so that you can just knock or pry them off of the rocks by hand. A mesh catch bag is great for filling with these spiny edibles. Once you find them it won't take you long to get all you need. Be sure to keep any harvested sea urchins in cold sea water for as long as possible. Any temperature or salinity shock can cause them to spawn and therefore ruin the roe. Sea urchins don't keep well once processed, and processing them takes a bit of time, so I usually only harvest 6 or 8 large sea urchins. One large sea urchin will produce about a handful of roe, enough for 4 people in one serving.

There are many ways to prepare, cook, and cure sea urchin roe. Many recipes and preparation methods can be found online. You can also freeze the roe for later use such as in a pasta sauce. Keep in mind that there is no right or wrong way to process sea urchin and extract the roe. There are also many methods and even specialized tools for the task, but in my opinion, the following is the simplest and most efficient method that yields the best results. First, orient yourself to the sea urchin. For this you will need to learn a little about sea urchin anatomy. Although the sea urchin at first glance looks like a uniform ball of spines, it does indeed have a dorsal/top and ventral/bottom asymmetry. The ventral or bottom side is where the mouth is, and it is the side that was touching the seafloor when you harvested it. Flipping the sea urchin on its side to look directly at the mouth, you should notice a star shaped/5 branch pattern in how its rows of spines and tube feet are organized (it is related to the sea star). Following along of one of these five rows of spine and tube feet, set the sea urchin on a cutting board with its mouth facing down. Break through the test/shell longitudinally (top to bottom) with a stiff and dull knife (oyster shucking knife works well) in at least two locations along the row of spine and tube feet. If you've done this correctly you would have cut along a natural suture line, and with a twist of the inserted knife the urchin should crack into two roughly even halves. Note that the suture lines and roe run longitudinally along those rows of spines and tube feet. Opening it along these lines will prevent damaging the roe on the inside. Once the test is opened, simply scoop out the five rows of roe with your fingers or a spoon by scraping along the inside. Separate everything from the yellow or orange roe, rinse with cold water, pat dry with a paper towel, and serve or refrigerate.



Dave Forcucci

Creamy Sea Urchin Pasta Sauce Recipe

Blend 8 oz (equivalent to one large red urchin's worth) of previously processed and frozen urchin roe with ¼ cup of heavy whipping cream and 1/3 cup of grated Parmesan cheese until smooth.



Dave Forcucci

Meanwhile, heat 4 Tbsp of butter with 2 to 3 cloves of pressed or minced garlic in a saucepan or skillet on medium low heat until golden brown. Stir in the blended urchin cream and cheese mixture and turn heat to low. Once sauce thickens, salt and pepper for desired taste, and serve over cooked pasta. - Nam Siu



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Staff Awards

Congratulations to **Dr. Henry Carson**, recipient of the **John Pierce Conservation Award**, and **Camille Speck**, recipient of the **Public Service Award**, presented at the WDFW Employee Recognition and Service Awards Ceremony in May, and to **The Crustacean Team (Don Rothaus, Don Velasquez, Brian McLaughlin, Korie Griffith, George Peterson, and Kris Costello)**, for their **Award of Merit** from Region 4.

Photo by Chris Eardley

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