



WASHINGTON SHELLFISH INITIATIVE

The Washington State Shellfish Initiative is a convergence of the National Oceanic and Atmospheric Administration's (NOAA) National Shellfish Initiative and the State's interest in promoting a critical clean water industry. While the initiative supports Governor Gregoire's goal of a "dig-able" Puget Sound by 2020, it also encompasses the extraordinary value of shellfish resources on the coast. As envisioned, the initiative will protect and enhance a resource that is important for jobs, industry, citizens and tribes.

Overview

Washington State is taking additional action to protect and enhance shellfish resources. This effort supports the long-term goal of abundant shellfish resources for Washington's residents and Native American tribes, as well as a thriving and healthy shellfish aquaculture industry. As an outcome of the 2007 treaty rights settlement, many Puget Sound tribes are undertaking shellfish aquaculture as a means of enhancing shellfish resources for cultural and economic gain.

We recognize and respect that shellfish aquaculture and commercial and tribal harvest of wild shellfish resources are water-dependent uses that rely on excellent water quality. Shellfish also can help filter and improve the quality of our marine waters thereby being part of the solution to restore and preserve the health of endangered waters. We can have healthy marine waters and productive shellfish beds for a growing industry, Native American tribes and for all the citizens of Washington.

The Puget Sound Partnership has targeted a net increase from 2007 to 2020 of 10,800 harvestable shellfish acres, which includes 7,000 acres where harvest is currently prohibited in Puget Sound. However, the recent shellfish downgrade in Samish Bay is a reminder of the constant vigilance needed by landowners, businesses and local, state, federal and tribal governments to protect and restore shellfish beds. Such efforts also are required on the coast where there is considerable opportunity to enhance shellfish resources.

To restore and expand shellfish resources, Washington must renew its protection, restoration and enhancement efforts. These efforts will pay off in increased recreation, additional clean water jobs, and a healthier Puget Sound and coastal marine waters.

Shellfish: Jobs and Economic Opportunity

Shellfish are critical to the health of Washington's marine waters and the state's economy. Washington leads the country in production of farmed clams, oysters and mussels with an annual value of over \$107 million. Washington shellfish growers directly and indirectly employ over 3,200 people and provide an estimated total economic contribution of \$270 million. Surveys from the early 2000's indicate shellfish growers are the largest private employer in Pacific County and the second largest in Mason County. In just those two counties, they generate over \$27 million annually in payroll. In addition, there is ceremonial and subsistence harvest in Puget Sound and coastal waters that tribes consider invaluable and unquantifiable.

Bivalves coming from Washington's cool clean waters are prized as some of the best in the world. This reputation has ensured that domestic and international demand for them has long exceeded

supply. This strong demand has fostered continued growth of shellfish production and hiring even during the current economic downturn. Implementation of the NOAA's National Shellfish Initiative in Washington will enable shellfish aquaculture in the state to expand to meet the demand for quality shellfish providing critical new jobs in rural Western Washington.

Annually, tourists and residents purchase over 300,000 licenses to harvest clams and oysters from Washington waters, providing more than \$3.3 million in state revenues. WDFW conservatively estimates that the 125,000 shellfish harvesting trips made each year to Puget Sound beaches provide a net economic value of \$5.4 million to the region. On Washington's coast, an average of 244,000 digger trips are made each season to harvest razor clams contributing an estimated \$22 million value to the coastal economies.

Shellfish Initiative

1. Create a Public/Private Partnership for Shellfish Aquaculture

Federal, state and local model permitting program. Provide unified state leadership from state natural resource agencies by identifying a shellfish aquaculture coordinating lead for the state and a lead in each agency. Use the Governor's Office of Regulatory Assistance (ORA) to facilitate the state team. Formalize clear and efficient coordination among state and federal agencies, tribes and local governments for permitting and licensing. Develop and implement a Model Permitting Program that ensures early and continued coordination from all parties, with an operational agreement that commits all parties to see each project through from beginning to end. The goal of the program is to develop a consistent process for improved timeliness of permit decisions while ensuring regulatory compliance. The process will address tribal notification and consultation protocols. The process also will address opportunities for early and ongoing dialogue with permittees and others. The Model Permitting Program will be based on existing, successful programs like the MAP Team (Multi-Agency Permitting) which has a proven record of promoting coordinated decision making. The permitting team has initiated work on a draft operational agreement.

Continue vital shellfish aquaculture research. Sustain research on key issues related to aquaculture management and planning. Seek opportunities to partner with NOAA, Washington Sea Grant, USGS and others to build on existing programs and to build our understanding of shellfish and aquaculture in the Pacific Northwest. Priority should be given to research on geoduck aquaculture, the role of shellfish in nutrient cycling and other aspects of ecosystem services provided by shellfish. New research projects include:

- The Jamestown S'Klallam Tribe recently received their state 401 Water Quality Certification for a new geoduck farm which includes a significant monitoring component for evaluating potential impacts to adjacent eelgrass beds. The data from this monitoring will help improve understanding of the relationship between farms and eelgrass.
- Washington Sea Grant will provide \$79,198 over two years to support development of a model that will serve as an innovative tool to assess the risk of toxic blooms in Puget Sound. WSG-funded research will study the cyst stage of the toxic algae *Alexandrium catenella*, responsible for paralytic shellfish poisoning, and evaluate the effectiveness of using cyst mapping as a tool for early warning of bloom events in Puget Sound.
- Washington Sea Grant will host a public symposium to share latest scientific research findings on shellfish production effects on the environment. The meeting will explore the scientific

basis for management decisions to balance competing land use interests, environmental protection and coastal development needs

Implement pilots. Implement pilot projects and use the Model Permitting Program to determine permitting efficiency, practicality and regulatory compliance (e.g., habitat protection). Potential pilots include a Washington Department of Natural Resources (DNR) lease site and North Sound restoration projects in bays like Sequim, Similk and Fidalgo.

Improve guidance for local shoreline master programs. Increase local government and public understanding and application of the new shellfish provisions in State Shoreline Guidelines (Chapter 173-26 WAC). The Department of Ecology (Ecology) will publish an aquaculture Shoreline Master Program Handbook section with special emphasis on geoduck aquaculture and net pen operations, update its aquaculture web resources to make them more comprehensive, and provide direct technical assistance and training to local governments. The guidance will address regulatory and technical assistance to protect against habitat impacts and planning to minimize conflicts with adjoining shoreline owners and other marine water users.

Review of shellfish ecosystem services. U.S. Geological Survey will conduct a review of available filter feeding models to quantitatively evaluate the capacity of cultivated shellfish to mitigate nitrogen pollution in Puget Sound. This work will be informed by NOAA research. If appropriate and feasible, Ecology will explore the possibility of implementing a nitrogen credit system using shellfish for pollution reduction. The credit system could stimulate new shellfish culture and jobs as well as identifying the role of shellfish in reducing nitrogen discharges.

2. Promote Native Shellfish Restoration and Recreational Shellfish Harvest

Restore native shellfish. Native shellfish restoration efforts will focus on two species: native Olympia oysters and pinto abalone.

Olympia oysters:

- Restore 19 historic, large, Puget Sound natural oyster beds and associated local ecosystems by 2022.
- Direct a \$200,000 NOAA grant to the Northwest Straits Commission for Olympia oyster restoration in the North Sound.
- Revise and update Washington Department of Fish and Wildlife's (WDFW) 1998 Native Oyster Rebuilding Plan by December 31, 2011. Share the revised plan with NOAA for inclusion in the national Oyster Restoration Plan. WDFW's standardized metrics will be used to determine success.
- Increase collaboration with NOAA for assistance in funding and facilitating Olympia oyster research and restoration efforts conducted by WDFW, Puget Sound Restoration Fund (PSRF), tribal co-managers, shellfish growers and other partners.
- NOAA is planning to host a hatchery breeding program for native oysters to increase seed production that meets established genetic conservation guidelines.

Pinto abalone:

- Use a \$560,000 federal grant awarded by NOAA to WDFW in September to bolster the number of pinto abalone. The program aims to re-establish a self-sustaining population of pinto abalone without ESA protections. The NOAA-funded research, coupled with

continued state funding, will advance abalone restoration efforts by developing hatchery and nursery programs for captive propagation and rearing. Priority abalone actions will be conducted by WDFW, Puget Sound Restoration Fund, University of Washington and non-profit organizations.

Enhance recreational shellfish harvest. Improve and increase public access to shellfish on public tidelands for tribal and recreational harvest through signage, maps, acquisition and other efforts.

Create public support for shellfish initiative. Leverage Washington State Parks to engage the public in the initiative.

- Washington Sea Grant will lead the state agencies and partners through a simple planning process to develop shellfish-related messages, publicize events, and otherwise develop materials to make connections between clean water, our region's shellfish resources and jobs.
- State Parks will conduct shellfish interpretive programs and events to help forge personal connections between clean, productive Puget Sound waters, the shellfish we eat, and the iconic role shellfish occupy in Washington's cultural and culinary identity. State Parks will collaborate with other public/tribal/private interests and help promote support of public lands and the Discover Pass program.

3. Ensure Clean Water to Protect and Enhance Shellfish Beds

Direct \$4.5 million in Environmental Protection Agency funding to protect and improve water quality to meet state standards in commercial, recreational and tribal shellfish growing areas.

Funds will be used to help reach the Puget Sound Partnership's shellfish indicator target of upgrading 10,800 acres of harvestable shellfish beds by 2020. The Department of Health (DOH) and Ecology are managing this new funding, which includes the following:

- More than \$2 million to help local governments create sustainable pollution identification and correction (PIC) programs. These programs will be designed to identify and address pathogen and nutrient pollution from a variety of nonpoint sources, including on-site sewage systems, farm animals, pets, sewage from boats and stormwater runoff. Counties being offered funding pending negotiations are San Juan, Thurston, Pierce, Skagit and Kitsap, as well as the Hood Canal Coordinating Council, the consortium of counties and tribes that encompass the Hood Canal.
- More than \$1 million to help local health jurisdictions carry out onsite sewage system management plans that inventory, inspect, and fix failing on-site sewage systems in Marine Recovery Areas and other areas sensitive to pathogen pollution.
- \$1.5 million to reduce pathogen and nutrient loading by improving manure management in those areas with PIC programs. The fund will pay for eligible agricultural best management practices, including livestock exclusion fencing, off-stream watering, and livestock feeding. Interested land owners must work through a conservation district local government, tribe or other governmental entity. Some of this work can be implemented by putting the newly created Sound Corps to work.
- Increase local government understanding and application of practices for controlling pathogens, consistent with Chapter 173-201 WAC. Ecology will provide guidance on nonpoint source BMPs consistent with state water quality standards as well as training to local governments to ensure that PIC programs and federal funding implement these standards.

- Develop economically viable strategies to address impacts from stormwater and wastewater treatment outfalls, which are a significant factor for shellfish bed prohibitions.

Improve shellfish growing area protection and restoration efforts. Additional efforts are needed at all levels of government to improve water quality protections for shellfish growing areas. Two immediate steps are to:

- Form an EPA and state (i.e., Ecology, DOH, Washington State Department of Agriculture) “pollution action team” to respond quickly when water quality problems are identified that threaten to shellfish areas. The team will focus in priority areas and support PIC programs where established. The team will work with technical staff from affected tribes with treaty reserved rights. Services provided by the team include pollution identification, inspections, enforcement, flyovers and technical assistance, consistent with guidance provided for use of federal funds. The team will focus initially in Drayton Harbor and Portage Bay. There has been a long struggle to protect the community shellfish beds in Drayton Harbor, and there are growing concerns over tribal resources in Portage Bay. The Whatcom Conservation District will be a key local partner in working with the state and federal pollution action team.

Take steps to address ocean acidification. Conduct research and develop recommendations to understand, monitor, mitigate and adapt to acidification in Puget Sound and Washington waters.

- Convene a Blue Ribbon Panel on Ocean Acidification including scientific experts, the relevant agencies and stakeholders to develop clear, actionable recommendations on understanding, monitoring, adapting and mitigating ocean acidification in Puget Sound and Washington waters.
- A new Washington Sea Grant research project will investigate the effects on Pacific oysters of exposure to natural water seawater that contains a high level of carbon dioxide. It will also explore new breeding programs for enhancing the tolerance of farmed Pacific oysters to higher CO₂ seawater. Washington Sea Grant will provide \$112,693 over two years (2012–14) for the project, building on 2010–13 funding of \$478,082 and a total four-year investment of \$590,785 to address ocean acidification impacts on shellfish resources.

Work with boaters to address potential pollution impacts.

- Strategically administer the Clean Vessel Program. The State Parks and Recreation Commission will target Clean Vessel Act grants toward marinas where significant recreational, commercial and tribal shellfish resources are harvested. These grants will fund the construction, renovation, operations and maintenance of boat pump-out stations and waste reception facilities for recreational boaters. State Parks will partner with the Washington Sea Grant, DNR and other entities on educational outreach to marinas and boaters that will publicize these pump-out locations and the need for their use.
- Complete No Discharge Zone Assessment. Ecology will complete an assessment needed to establish a No Discharge Zone, which would ban sewage disposal from commercial and recreational vessels for all or parts of Puget Sound.