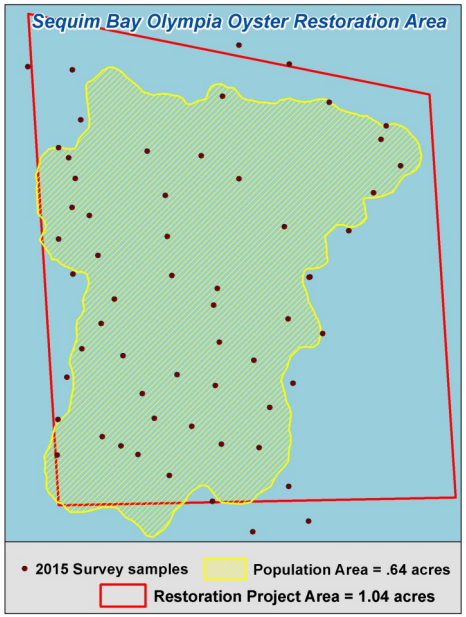
Adding Sequim Bay to the Restoration Project

It is estimated that less than 4% of historic core populations of Olympia oysters remain. A tiny remnant population remains in Sequim Bay, making the bay an excellent candidate for reintroduction of the species.

Between 2012-2015 the Jamestown S'Klallam Tribe has added an acre and a half of Olympia oyster habitat to the 40 acres already established in other areas.

- In 2012, grow-out bags with approximately 6,200 Olympia oyster seeds (broodstock) were planted on Jamestown's Sequim Bay tidelands.
  Their survival and growth is being monitored. Their genetic data is being studied and compared to the small remnant population of Olympia oysters, to determine whether the Sequim Bay Olympia oyster has different genetic traits than other Olympia oyster populations in Puget Sound.
- In 2013, seeded cultch bags (Pacific oyster shell with Olympia oyster larvae attached to it) with approximately 500,000 oysters were spread onto the tideland adjacent to the prior year's seeds.
- In 2014, seeded cultch bags with approximately 250,000 were spread on to an additional half acre of tidelands.
- In 2015, 100 unseeded cultch bags were spread onto the tidelands to provided substrate for larval Olympia oysters to set on.

This project fulfills one of the goals of the Northwest Straits Initiative, which is working in partnership with National Fish and Wildlife Foundation, Washington Department of Fish and Wildlife, Puget Sound Restoration Fund, the Jamestown S'Klallam Tribe and several Marine Resources Committees to restore Olympia oyster populations.



The 2015 population survey estimated that there are 46,620 Olympia oysters in the restoration area.

Ongoing Research

A larger focus has been placed on monitoring Olympia oyster spawning in the bay as well as continuing to survey and evaluate the survival of the existing Olympia population after observing natural set in 2014.

- Spatfall collectors have been placed in the bay to measure settlement and juvenile recruitment.
- A spawning pool constructed to retain water at low-tide, in an effort to increase spawning events, controlled by water temperature, has been placed in the bay.

The Sequim Bay Olympia Oyster Project is a partnership of:

Northwest Straits Commission

Clallam County Marine Resources Committee

Puget Sound Restoration Fund

The Strong People Jamestown S'Klallam Tribe

NOAA

PugetSound Partnership

This project has been funded wholly or in part by the United States Environmental Protection Agency.

Sequim Bay Olympia Oyster Project

Illustration by Cory Ench

The Project Goal:

To restore an acre and a half of self-sustaining native Olympia oyster bed in Sequim Bay; and provide structured habitat for a diverse community of organisms.

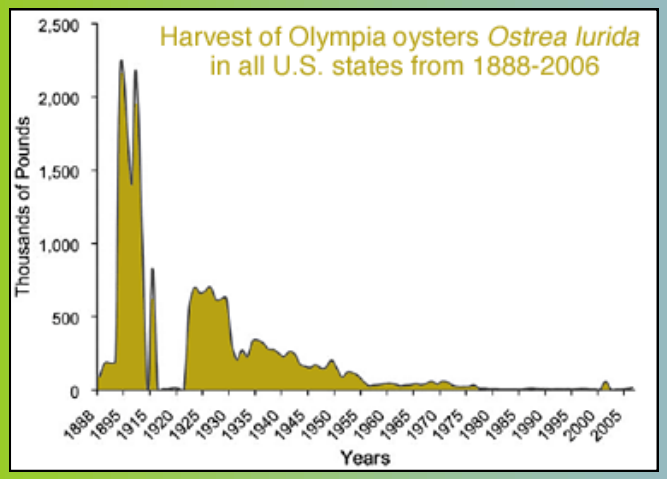
This project is part of a larger goal for the entire Puget Sound region; restoring Olympia oyster habitat by utilizing genetically diverse hatchery propagated oyster seed and integrating various restoration materials and methods.

Washington's Only Native Oyster

The Olympia oyster (*Ostrea lurida*) Washington's only native oyster, once thrived in coves, inlets and other protected tidelands of the Puget Sound, and farther afield from Baja, California north to Alaska. They were an important food source for Native Americans, as evidenced by the massive shell middens built up over thousands of years. George Vancouver's expedition in 1792 reported that the shores of Discovery Bay were "plentiful strewn" with oysters.

What Happened?

Heavy harvesting prompted by the Gold Rush in the mid-19th century combined with decades of nearshore lumber mill pollution and habitat devastation had a huge, detrimental impact on this slow-growing, delicate shellfish. Populations of Olympia oysters dwindled. In the 1920s, shellfish growers began importing and seeding larger, faster-growing Pacific oysters (*Ostrea gigas*) from Japan to meet market demand for the tasty shellfish.



From *The Journal of Shellfish Research*, 2009

JST Natural Resources intern, Tori Cantelow, placing adult Olympia oysters into a spawning pool with bagged pacific oyster shell to provide setting substrate. Photo: Jamestown S'Klallam Tribe

Rebuilding Olympia Oyster Populations

Olympia oyster enhancement efforts in Puget Sound – ranging from seeding to habitat enhancements – have been underway since 1999. The purpose of restoring native oyster habitat in historic locations is to restore the ecosystem services that dense accumulations of oysters once provided.

The Puget Sound Restoration Fund and its partners aim to restore 100 acres of Olympia oyster habitat by the year 2020. This effort has resulted in:

- Over 40 acres of enhanced native oyster habitat;
- Over 100 partners involved with Olympia oyster restoration; and
- Partnerships with tideland property owners, Marine Resource Committees, The Nature Conservancy, NOAA, Washington Department of Fish and Wildlife, commercial growers and other Tribes.

Planted for Filtration, Not for Food

These oysters are not being planted as a source of food for humans. They are being planted to create important habitat that naturally filters water in tidal flats and estuaries, helping to create habitat and food for many indigenous species to thrive.

Olympia oysters are filter feeders:

- Individuals are capable of filtering 8-12 gallons of water per day.
- By removing nutrients from the water, oysters reduce the frequency of algal blooms that are harmful to marine life and have caused recent shellfish closures in Sequim and Dungeness Bays.
- Olympia oyster gills filter food particles (phytoplankton) that are smaller than those taken by Pacific oysters, so they serve a different filtration role in controlling algal blooms.

Pacific oyster shell with 2014 juvenile Olympia oysters and adults for size comparison. Photo: Jamestown S'Klallam Tribe