

OLYMPIA OYSTER

The Salish Sea's Native Oyster

"Globally, 85% of oyster reefs have been lost, making oyster reefs one of the most severely impacted marine ecosystems on the planet."

- The Nature Conservancy

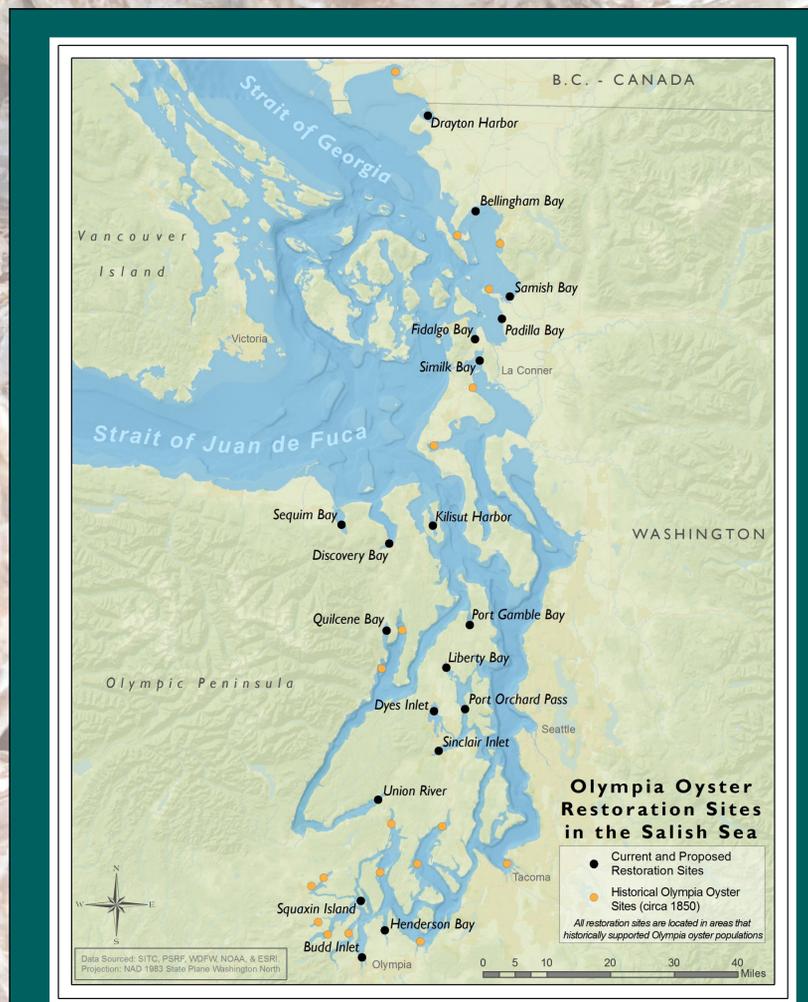
Restoration In Action

You may be surprised to find that the most common oyster in the Salish Sea is actually the non-native Pacific oyster. Native Olympia oysters are less known than other shellfish because their populations have decreased to an estimated 5% of the population size (circa 1850) in Puget Sound. This decline stems from overharvesting, pollution, habitat destruction, and competition with the Pacific oyster.

As a result, the Washington Department of Fish and Wildlife has listed the Olympia oyster as a candidate for state threatened, endangered, or sensitive species and has identified the species and its associated habitat as a state priority for conservation and management. The state, tribes, and non-profit organizations have been working since the late 1990's to restore Olympia oysters. In 2012, the Swinomish Tribe, in partnership with other organizations, began efforts to bring Olympia oysters back to northern Puget Sound.



Olympia oyster plot at Lone Tree Lagoon



Washington Department of Fish and Wildlife's *Olympia Oyster Stock Rebuilding Plan* encourages organizations to re-establish self-sustaining populations of oysters at 19 sites within Puget Sound; you are standing near one of the restoration sites just south of Similk Bay.

Why do we care?

The term **ecosystem services** refers to benefits that are supplied to humans by natural ecosystems. Oysters help maintain a stable environment by contributing ecosystem services like water filtration, habitat building, and shoreline retention.

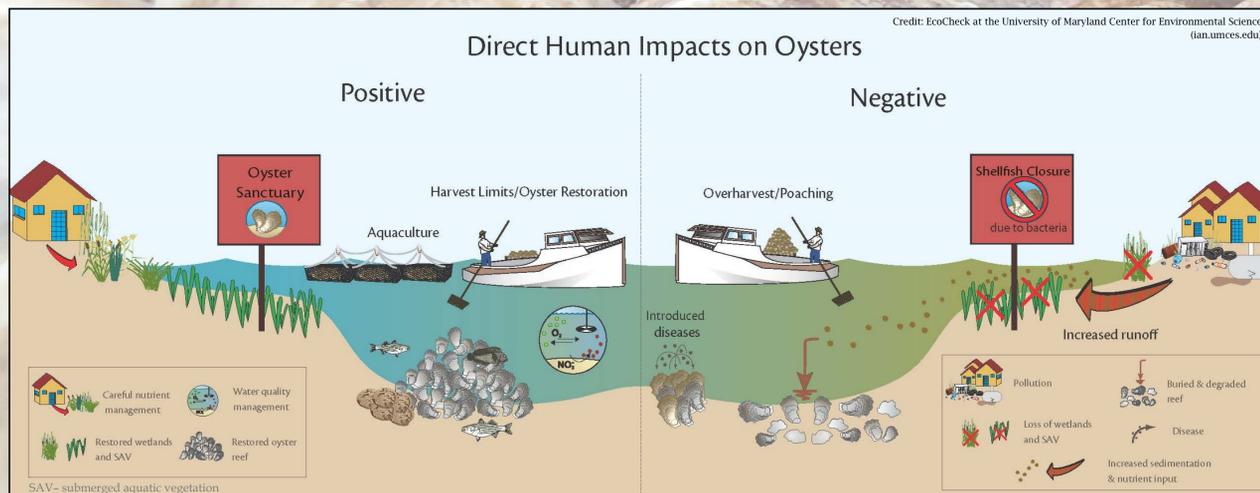
Filtration

Did you know that a single Olympia oyster can filter six gallons of water a day? Oysters feed by engulfing seawater to collect phytoplankton, their primary food source. This process clarifies the water, improving conditions for algae and seagrasses to photosynthesize. By filter feeding, oysters also remove potentially harmful organic nitrogen and transfer it into the sediment via fecal matter.



Habitat builders

Oysters are **ecosystem engineers**, meaning they create and modify their own habitat known as oyster reefs. Not only do oyster reefs provide the proper substrate for larval settlement, but they also provide habitat for many organisms including fishes and marine invertebrates. Because of their significant ecological role, Olympia oysters are considered a **keystone species**. This means they have a dominating effect on the structure of their community and without them the local ecosystem could drastically change.



A special thanks to our partners and collaborators on Olympia oyster restoration in Washington state: Washington Department of Fish and Wildlife, Puget Sound Restoration Fund, and Dr. Paul Dinnel. The US Fish and Wildlife Service and Conservation, Research, and Educational Opportunities International funded many aspects of the Swinomish Indian Tribal Community's restoration project.

