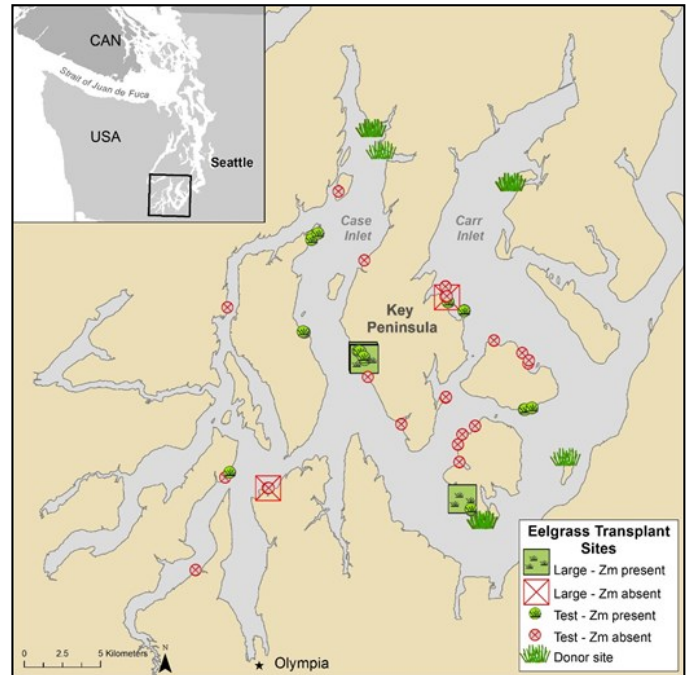




Eelgrass restoration in Puget Sound

The purpose of the project is to restore eelgrass (*Zostera marina*) on state-owned aquatic lands throughout Puget Sound. These actions will contribute to the Puget Sound Partnership's recovery goals outlined in the [2018-2022 Action Agenda](#). The Washington State Department of Natural Resources (DNR) is the lead agency to meet the objectives of specific projects related to eelgrass habitat assessments and restoration.

Eelgrass is a primary producer that grows, rooted to nearshore substrate, at depths ranging from +1 m to -13 m (relative to Mean Lower Low Water) and it supports a wide range of ecosystem functions and services. It is critically important for food web dynamics and seascape interactions between nearshore ecotones. Eelgrass mitigates the effects of ocean acidification by utilizing excess CO₂ in the marine waters of Puget Sound; improves water clarity and quality by slowing water movement that allows particulates to settle to the bottom and through the sequestration of nutrients from the water column; and it stabilizes the nearshore environment by binding fine grain sediments with its belowground rhizome and root mat.



Transplant success at eelgrass restoration sites 2013-2018.

Why does this matter to DNR?

Nearshore alteration and development has contributed to widespread eelgrass loss. DNR has documented continued declines and even complete disappearance of eelgrass beds within localized areas throughout the Sound. Eelgrass transplants represent one component of a multipronged recovery strategy developed by local, state, and federal agencies, tribes, organizations, and dedicated stakeholders.

Project participants

Funding and support for this project is provided by local, state (Ecology), federal (EPA, USACE, USFWS, PNPL), and tribal partners (Port Gamble S'Klallam Tribe, Puyallup Tribe).

For more information

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<https://www.dnr.wa.gov/SeagrassRestoration>



Eelgrass restoration methods

The overall objective of the project is to restore eelgrass in Puget Sound through a four step, iterative process:

- 1) identify suitable sites using an eelgrass site selection model
- 2) conduct environmental surveys and eelgrass test transplants at suitable sites
- 3) monitor test transplants to identify sites suitable for large scale transplantation
- 4) conduct large scale transplanting and monitoring transplant success

Over time, DNR has experimented with different methods to temporarily attach transplanted eelgrass to the sediment, such garden staples, metal washers, rebar, burlap, and biodegradable plant based products. These tools are removed after transplants are established. Each method has advantages and disadvantages. The majority of transplant efforts have used the staple method.

Restoration projects have ranged in size. For the largest projects at Joemma Beach State Park and Anderson Island we have planted more than 60,000 shoots at individual sites.



Drone image of an eelgrass restoration project several years after transplants were established (Joemma Beach State Park – 2018).



Eelgrass is attached to a length of metal rod with hemp cord. The rod is placed on the bottom at the transplant site and recovered after the eelgrass grows roots into the substrate and becomes established at the site.

Project outputs

[Eelgrass recovery strategy](#)

[Eelgrass \(*Zostera marina* L.\) restoration in Puget Sound: development of a site suitability assessment process](#)

[Eelgrass \(*Zostera marina* L.\) restoration in the Pacific Northwest: recommendations to improve project success](#)

[Eelgrass Restoration in Puget Sound Summary Report: 2018](#)

[Eelgrass restoration story map](#)