

HABITAT RESTORATION & CARBON SEQUESTRATION



Strategies

HR1

Complete Smith Cove Blue Carbon Benefits Study

HR2

Continue shoreline restoration projects

212

Acres of freshwater, estuarine, and marine habitat in the Green-Duwamish and Puget Sound watersheds that the Port has enhanced or restored

Habitat restoration provides ecosystem benefits by supporting native plants and animals, and community benefits such as public shoreline access. Habitat restoration can also "sequester" or capture carbon from air and water—helping the Port work toward its carbon-neutral goal.

HABITAT RESTORATION & CARBON SEQUESTRATION



Context

As part of the Port’s Century Agenda, the Port set an objective to restore, create, and enhance 40 additional acres of habitat in the Green/Duwamish Watershed and Elliott Bay. Numerous habitat restoration and monitoring projects are in progress, both small and large, including up to 11 acres of riparian and marsh restoration to be completed in 2021. Native riparian and aquatic plants create important habitat for fish and wildlife. Restoration projects bring back these critical habitats and the natural resource values they offer, such as promoting salmon recovery. In addition, these restored habitats sequester carbon from the atmosphere and dissolved carbon from the aquatic environment.

Habitat restoration is included in this Plan as part of a long-term, holistic approach to emission reduction. The Port does not currently quantify the atmospheric carbon sequestration of restored riparian and marsh habitat and has not included habitat-related carbon sequestration in measuring progress toward its GHG reduction goals or to offset GHG emissions from other sources. However, the carbon capture benefits may be quantifiable in future years, to contribute to the Port’s net-zero carbon goals. If global emissions continue to increase, carbon sequestration strategies such as those described below will become critical measures to address climate change.

Strategies to 2030

HR1

Complete Smith Cove Blue Carbon Benefits Study. The Port launched a “blue carbon” pilot study at Smith Cove in 2018 by planting oyster shells, kelp, and eelgrass in a 23-acre plot. The Port will continue to monitor the test plot, quantify carbon captures, and apply lessons learned to other areas.

MT CO₂ Reduced Annually by 2030

Not quantified

Actions

By 2025

- ◆ Continue to investigate referred methods for blue carbon in Smith Cove based on results of test plots and initial installation of kelp, eelgrass, shellfish
- ◆ Continue to plan for restoration of native riparian habitat to complement the Smith Cove blue carbon benefits
- ◆ Add interpretive signage to future Smith Cove Park to raise awareness of the project
- ◆ Continue long-term monitoring and evaluation, including evaluation of changes to water chemistry, biomass, and habitat functions
- ◆ Capture lessons learned and identify opportunities to scale this project to other areas

By 2030

- ◆ Incorporate larger-scale blue carbon habitat components in existing and planned restoration projects depending on results of Smith Cove Blue Carbon Benefits Study

Success Story: Smith Cove Blue Carbon Pilot Project

The Smith Cove Blue Carbon Pilot Project is exploring the idea of “blue carbon” – CO₂ captured and stored in ocean and nearshore habitats. Kelp, eelgrass, and marsh plants are important elements of the blue carbon habitat in Elliott Bay. They remove carbon from seawater as they grow, storing it in the plants and sediments.



HR2

Continue shoreline restoration projects. The Port will map shoreline areas and landcover along 15 miles of shoreline. The Port will also complete construction of two additional shoreline parks and begin to quantify the carbon capture capacity of restored native riparian and aquatic plants at these sites.

MT CO₂ Reduced Annually by 2030

Not quantified

Actions

By 2025

- ◆ Evaluate shoreline areas and landcover along 15 miles of shoreline managed by the Port’s Maritime Division and Economic Development Division
- ◆ Continue to advance a Multi-Site Mitigation Bank through regulatory entitlement process
- ◆ Complete construction of the shoreline habitat restoration and public shoreline access at the Duwamish River People’s Park (formerly T117) and quantify anticipated carbon sequestration benefit
- ◆ Complete construction of the Park and Shoreline Habitat restoration project (formerly 8th Ave South Street End) and quantify anticipated carbon sequestration benefit
- ◆ Continue to evaluate feasibility of candidate sites for habitat restoration, including blue carbon components

By 2030

- ◆ Design and construct the 34-acre Auburn Wetlands habitat restoration project and quantify anticipated carbon sequestration benefits

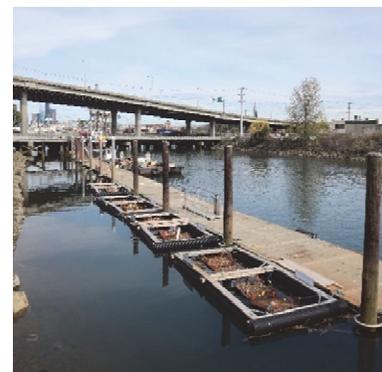
Success Story: Alternative Bankline Stabilization Program

Seawalls and rocks were historically used to keep shorelines from eroding in Elliott Bay and the Duwamish Waterway. These features create carbon-poor environments that are not ideal for optimal fish and wildlife habitat function. The Port’s Alternative Bankline Stabilization Program will identify opportunities to convert “hard armoring” on the shorelines to greener, carbon-rich areas. The program will use anchored large-wood, plant-based erosion control materials, recycled soil, and native plants to stabilize the banklines while creating habitat and capturing carbon.



Success Story: Floating Wetlands

Partnering with the University of Washington, the Port has installed several floating wetland units in the Duwamish River and at Fishermen’s Terminal. A floating wetland island is a raft packed with dense wetland plantings. They are used in areas where space limitations prevent conventional restoration methods. These units will provide fish and wildlife habitat while also taking up contaminants from the water column.



Performance Metrics

Metrics	Targets / Objectives
Number of acres of habitat restored (Port-wide)	Port of Seattle Century Agenda: Restore, create, and enhance 40 additional acres of habitat in the Green/Duwamish habitat