





Projects for a Healthy Willamette River Lower Willamette River Environmental Dredging and Ecosystem Restoration Project

JANUARY 2019

Project Goals:

- Re-establish riparian and wetland plant communities
- Increase aquatic and riparian habitat complexity and diversity
- Restore floodplain function and connectivity (including fish barrier removal)
- Provide connection to spawning grounds and cold water refugia for endangered species

Project Actions:

- Increase interconnected, active channels
- Create shallow water habitat
- Increase shallow-sloped, more natural shorelines
- Increase bank vegetation
- Improve access to tributary streams
- Improve sediment and water quality

Project will benefit:

- Columbia River and Willamette River fish species including native salmon and trout, lamprey, bull trout, sturgeon, and delta smelt
- Tribal fishing opportunities
- Amphibians and reptiles
- Migratory birds and mammals

The Willamette River, part of the Columbia River Basin, is a nationally, regionally, and locally significant watershed and ecosystem.

The lower Willamette River's broad areas of shallow water and beach habitat, emergent wetlands, riparian forests, and adjacent upland forests have suffered from the impacts of past flood



control efforts and years of urban development. Fish and wildlife populations, especially those protected under the Endangered Species Act (ESA), have declined dramatically. This project will reverse some of the legacy impacts in the Willamette River and Columbia River basins.

The U.S. Army Corps of Engineers – Portland District and the City of Portland are proposing a project to restore five sites. The Corps and City will share the estimated cost of \$29,744,000. **This project will provide the greatest ecological and habitat benefits for the least cost.**



Salmon and lamprey are found in Portland streams.



Selected Sites for Restoration

The five selected sites represent the best, most costeffective ecosystem restoration opportunities. From an initial list of 45 sites, project teams screened and evaluated opportunities in the Lower Willamette River using the best available methodologies and modeling techniques.



BES Plant

Columbia Slow

Create

refugia

high-water

Add large

Regrade banks,

add large wood

wood

Columbia Blvd

Excavate low-flow

channel, enhance

Wastewater

turtle habitat

Columbia R

Historically: A former complex of wetland and off-channel habitats along the Columbia Slough.

Today: A city-owned trail and park. Placement of fill, an access road, and a culvert isolated adjacent habitat from the Columbia Slough.

Proposed Work: Lay back steep banks to reconnect wetland and surrounding riparian areas to the slough, remove a culvert, create an alcove for high flows, and place large wood and boulders.

Restoration is expected to increase habitat units by 68 percent.

Kenton Cove

Historically: A complex open channel cove with wetland, riparian, and shallow water habitat adjacent to the Columbia Slough.

Today: A small cove between Interstate 5 and Portland International Raceway with limited habitat value.

Proposed Work: Increase habitat complexity by adding large wood, creating wetland islands with sand and gravels, and enhance shallow water habitat. Remove invasive species and revegetate the riparian area with native trees and shrubs.

Restoration is expected to increase habitat units by 52 percent.

Oaks Crossing

Historically: A former floodplain with beach, bottomland forest, and wetland habitat.

Create off-channel habitat to connect existing wetland

Plant native

Today: A 6-acre natural area next to a developed park that includes paved and unpaved trails. A berm eliminates connection to the adjacent floodplain.

Proposed Work: Excavate berm, create off-channel wetland habitat, including tidal channels and riparian areas. Lay back banks along Willamette River, install riparian plantings, large wood, and boulders.

Restoration is expected to increase habitat units by 67 percent.

Proposed Work Builds on Past Success



The City and the Corps have successfully partnered on similar ecosystem restoration projects in Crystal Springs Creek, Columbia Slough, and Oaks Bottom Wildlife Refuge. This work, completed between 2001 and 2018, was authorized under Sections 206 and 1135 of the Water Resources Development

Act. These projects have shown immediate results and generated excitement and interest from the public.

Project Authorized, Awaiting Appropriations

Congress authorized the project in the Water Infrastructure Improvements for the Nation Act of 2016. In May 2018, the Senate included language to support projects like this in the FY2019 Energy and Water Development and Related Agencies Appropriations Act. The City (as the approved non-federal sponsor for this project) has secured its share of the project budget and has moved it into its Capital Investment Portfolio for construction.

Community Collaborations

Public support and community collaboration through partnerships is critical for success. The City regularly partners with these organizations:

Port of Portland • NOAA-Fisheries • Lower Columbia Estuary Partnership (LCEP) • Confederated Tribes of Grand Ronde • Confederated Tribes of Siletz Indians • Oregon Watershed Enhancement Board (OWEB) • East & West Multnomah Soil & Water Conservation Districts • City of Lake Oswego • Peninsula Drainage District #1 • Audubon Society of Portland • SOLV • Columbia Slough Watershed Council • Tryon Creek Watershed Council • Friends of Trees • SMILE Neighborhood Association • Friends of Smith & Bybee Lakes • Willamette Riverkeeper • Urban Greenspaces Institute • and more.



Photo courtesy of U.S. Army Corps of Engineers, Portland District Aerial view of construction at Oaks Bottom Wildlife Refuge – the largest remaining natural area in the lower Willamette River floodplain.

Oaks Bottom Habitat Restoration

In 2018, the City and the Corps completed the Oaks Bottom Habitat Restoration Project that improved the tidal connection between the Willamette River and the Oaks Bottom Wildlife Refuge. A new



The project replaced an old pipe culvert, pictured here in the front of the new salmonfriendly box culvert.

salmon-friendly culvert and channels give young salmon access to prime habitat in the wildlife refuge for the first time in over a century. The lower Willamette River is home to 15 threatened fish species, including salmon and trout, which need off-channel areas to find food and shelter during their journey to the Pacific Ocean. Nearly 75 acres of prime habitat is now accessible to these threatened species.

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www.portlandoregon.gov/bes/wrda

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