COLUMBIA SOIL AND WATER CONSERVATION DISTRICT

Wallace Property Stabilization/Habitat Structure Design-Build

Clatskanie, Oregon

top: Initial conditions;
above: During construction

Flood damage becomes an opportunity to engage local landowners in channel stabilization, sediment reduction, and the enhancement of riparian condition and habitat for the Clatskanie River's uniquely native-only salmonid populations.

The Clatskanie River, in northwest Oregon, flows through mostly rural agricultural and forestry land. Though it hosts abundant salmonids, uniquely, the river has never had a salmon and steelhead hatchery program implanted in it.

Severe flood events during the winter of 2015 forced existing main channel meanders to translate downstream, bringing down large trees and further damaging vulnerable and eroded embankments. Flooding also caused serious bank and channel erosion within the creek. The Columbia Soil and Water Conservation District acquired FEMA Emergency Watershed Protection (EWP) funding to support the landowners' recovery from flood damages and reduce the risk of future channel migration toward their homes.

Due to continued erosion during the winter of 2016, Biohabitats was asked to contribute design support regarding modifications for the strategic incorporation of additional wood, rock, and earthen materials; for the adaptation of the stabilization/habitat structure to newly evolved site morphology; and for the enhancement of existing side channel capacities opposite the structure.

In June 2017, as construction contractor, Biohabitats performed the installation of the newly redesigned 160-foot long stabilization/habitat structure. The structure includes approximately 160 logs, 150 boulders, 300 rebar connections, and 600 cubic total yards of pit run, native cobble, and earthen fill. Geotextile fabrics were then installed to stabilize the finished ground surface. In the fall of 2017, Biohabitats will return to the site to plant a native riparian vegetation community of willow stakes and potted shrubs.

SERVICES

Design
Construction

conservation planning
ecological restoration
regenerative design

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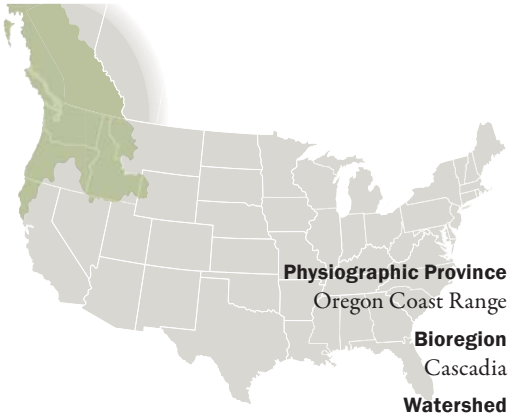

Physiographic Province
Oregon Coast Range

Bioregion
Cascadia

Watershed
Lower Columbia–Clatskanie River