

Rock Creek Large Wood and Riparian Enhancement

Vernonia, Oregon



top and above: Initial conditions

The Columbia Soil and Water Conservation District (the “District”) is working with a private landowner along Rock Creek to address bank erosion that both threatens private property

By integrating bioengineering, complex woody debris structures, and riparian revegetation, severely eroded banks will be stabilized while aquatic and riparian habitat is enhanced.

and is degrading aquatic and riparian habitat. Rock Creek is a tributary to the Nehalem River, which provides critical habitat to salmon and steelhead trout. Rock Creek has been hit hard by flood events that have required innovative repair solutions with willing stakeholders. Projects on private property like this support the District’s county-wide approach of engaging urban and rural communities in voluntary conservation.

Biohabitats provided technical assistance in developing a preliminary bank stabilization and riparian enhancement design. The design process included a field assessment of existing conditions and active channel processes along with development of a design approach for installation of large

woody debris structures along the eroded bank.

Structures were configured to redirect flows from the embankment and positioned to minimize disturbance to existing resources. Special fish habitat structures composed of large and small woody debris were also included to provide refugia. Additional design features included a revegetation plan and the installation of downed habitat logs within existing wet meadow depressions. A detailed construction cost estimate was developed to support grant funding requirements and to promote an efficient future design-bid-build or design-build process.

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