

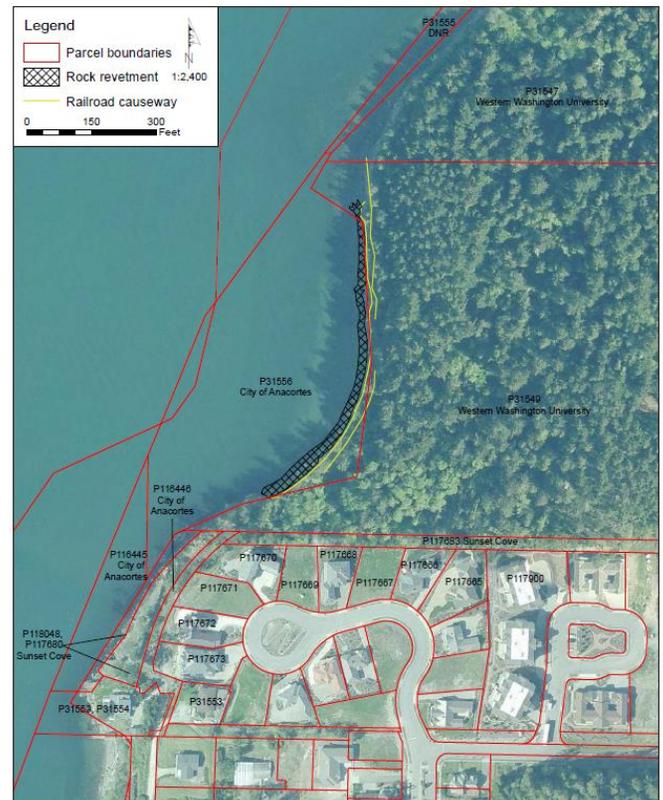
Shannon Point Shoreline Restoration Project

The Northwest Straits Foundation is partnering with the Skagit County Marine Resources Committee (MRC) to remove over 2,500 cubic yards of riprap along 770 linear feet of nearshore at Shannon Point. The project will improve feeder bluff functioning and will restore spawning habitat for Pacific sand lance and surf smelt, two important forage fish species preyed upon by salmon. This project was identified as a top priority of the MRC following a 2008 Geomorphic Assessment and Drift Cell Restoration Prioritization study conducted by Coastal Geologic Services.

Nearshore Processes

The nearshore habitat and nearshore habitat processes at the site are currently degraded and impeded by the riprap. Natural processes such as wave action, landslides, and erosion shape the shorelines of the Northwest Straits. Bulkheads, seawalls, docks and groins can interrupt sediment flow from naturally eroding shoreline bluffs.

Riprap also causes a coarsening of beach sediment in front of the bulkhead by increasing turbulence and mobilizing and washing away finer sediment. This decreases the total volume of beach sediment and creates a mixture of fine and coarse sediments unsuitable for forage fish spawning. This increasing turbulence and wave energy also degrades the nearshore habitat for smaller juvenile Chinook salmon,



Shannon Point vicinity map

which favor nearshore habitats with low gradient, shallow water, fine-grained substrates (silts and mud), and low wave energy.

Forage Fish Habitat

Spawning of Pacific sand lance and surf smelt has been documented on shorelines to the north and south of the project area during both winter and summer periods. These species are important prey for many marine fishes, birds and mammals. Surf smelt is also fished recreationally in Puget Sound.

Sand lance spawn on mid-intertidal sandy beaches while surf smelt spawn in high intertidal sands and gravels. Eggs of surf

smelt have been shown to be highly susceptible to high summer temperatures on beaches that do not have at least partial shading to help keep the developing eggs cool and moist.

Currently, the riprap on Shannon Point resides on the beach at an elevation that prevents use of the upper intertidal for surf smelt spawning. Removal of the riprap will open up this area for potential future spawning as well as help to insure an upland source of sediments to maintain healthy surf smelt and sand lance spawning substrates in the local drift cell.

Additionally, healthy trees and vegetation exist shoreward of the riprap. This line of vegetation is important for helping to maintain healthy temperature and moisture conditions for summer spawning surf smelt.

Project Status and Funding

The project is currently in the permitting phase with construction anticipated to start in September 2014 provided all permits and permissions can be obtained in time. A feasibility report was completed prior to design. The report included a geotechnical assessment affirming that the riprap removal will not endanger any adjoining properties.

The Foundation received over \$192,000 of grant funding from the Washington Department of Natural Resources Aquatic Restoration Program to complete the construction phase of the project. This funding expires in June 2015, therefore the project must be completed in the fall and winter of 2014 and 2015 or the funding will be lost.

Additional funding includes \$13,000 from the MRC as well as \$14,000 from the Department of Ecology Coastal Protection Fund.



Project Implementation

The riprap rock material will be removed and transported by barge to a pre-determined location for future use by the City of Anacortes. Once the riprap is removed, no further management action is required. The site will be left in a natural condition and monitored for a minimum of three years to assess habitat changes.

Based on estimated measurements of materials removed, approximately 15,250 ft² of beach/intertidal habitat will be recovered.

For more information contact:

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