

Adaptive Restoration at Stossel Creek

PLANTING THE RIGHT TREE
AT THE RIGHT SITE
FOR THE RIGHT REASONS

STOSSEL CREEK IS UNDERGOING RESTORATION THAT EMPHASIZES PLANTING TREE SPECIES THAT ARE RESILIENT TO THE PROJECTED CLIMATE OF THE FUTURE.

The Stossel Creek site consists of 154 acres located near Stossel Creek in the Tolt Watershed east of Seattle, WA. Stossel Creek provides habitat for steelhead and salmon, and the upland site provides forest and wetland habitat for many wildlife species.

The site was logged by a private landowner in 2012, purchased by Seattle City Light in 2015, and as of 2020 is in the process of being restored.



Mapping location of monitoring plots within the replanted areas.
Photo by NNRG.

WHAT DOES THIS PROJECT ACCOMPLISH?

About 51 acres of the 154 acre-site are being planted and restored with approximately 14,000 tree seedlings consisting of seven species. Aggressive invasive species were removed prior to planting.

Some of these seedlings have been sourced from areas that have climates similar to the projected future climate of the site, using the Seedlot Selection Tool to determine seedlings adapted to the climate projections. The remaining acres have naturally regenerating trees, which will be allowed to mature.

WHAT PROBLEMS DOES THIS PROJECT ADDRESS?

The site and the road running through it increase runoff of sediment to the stream, which reduces the quality of habitat for steelhead and salmonids.

Increasing tree cover will slow runoff during heavy rains and spring snowmelt and will shade and cool the site, retaining more cold, clean water on the site to support plants, fish, and wildlife throughout the year. Additionally, planting the site with a climate-resistant mix of tree seed sources and species will help ensure a healthy forest that will continue to minimize these environmental problems for decades to come.

***A healthy forest
resilient to climate
change can continue
to manage water
and sediment for
humans, fish, and
wildlife.***

HOW WILL THIS REFORESTATION PROJECT HELP THE SITE ADAPT TO CLIMATE CHANGE?

Increasing tree diversity helps to increase resilience to climate change over time and creates a buffer against the uncertainty of climate change. The climate of the Stossel Creek project area is expected to be similar to southwestern Oregon by the middle to end of the 21st century, so trees adapted to that climate are expected to be well suited to this site as the climate warms.

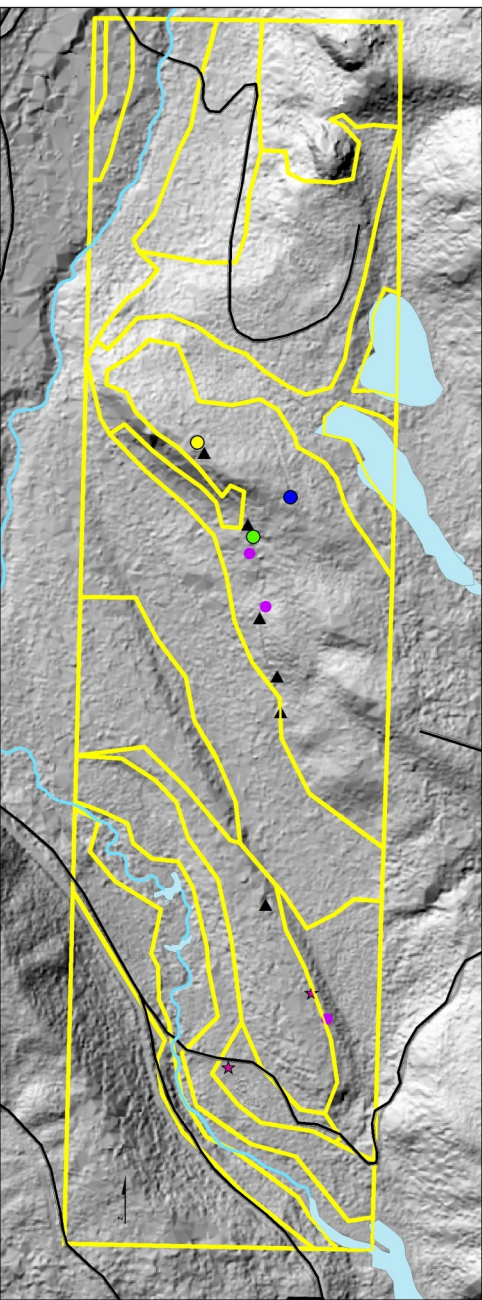
Douglas-fir and Western redcedar tree species are native throughout the Pacific Northwest, but genetic varieties are adapted to local climates. Drier areas of the site are being planted with Douglas-fir and Western redcedar trees from seed sources adapted to warmer winters and drier summers in southwestern Oregon.

This is a pilot project that will be used in inform climate-adapted restoration practices for other public and private forest lands in the region.

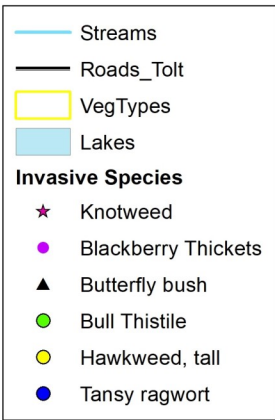
PARTNERS AND FUNDING

The project is being funded by a grant from the Climate Adaptation Fund of the Wildlife Conservation Society, established by a grant to WCS from the Doris Duke Charitable Foundation; Carter Subaru of King County; and the City of Seattle.

It's being implemented by Mountains to Sound Greenway Trust, Northwest Natural Resource Group, Seattle City Light, and Seattle Public Utilities.



Stossel Creek
Map Units



0 500 1,000 Feet



R. Gersonde, 3/9/2018
Seattle Public Utilities
Seattle City Light
Mountains to Sound Greenway

This map of the Stossel Creek site shows the planting map and identified invasive species on the site.



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