

Restoration of a Degraded Urban Forest in a Campus Setting: A Two Year Review of work at Kincaid Ravine

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Project History

Kincaid Ravine is a 4-acre forested open space with two delineated wetlands located in the northeast corner of the University of Washington campus. Until student led restoration work began at the ravine in the spring of 2014, the site was covered with a suite of invasive species, trash and lacked any conifer canopy. With the help of funding from the Campus Sustainability Fund, contract work from EarthCorps and SER-UW led student volunteer events, over 3 acres of the ravine are now in active restoration and 4,000 native trees and shrubs have been planted.

Project Location



Focused Objectives

1. Increase plant biodiversity, conifer canopy and wildlife habitat.
2. Enhance wetland habitat and limit erosion and flooding on the Burke-Gilman Trail through increased infiltration of stormwater into soils on site.
3. Engage students in stewardship, research and educational opportunities.
4. Transform Kincaid Ravine into an amenity on campus that students and the broader community can enjoy for education, exploration and mental respite.

Place Making

Development of "Educational Nook" that includes:

- Two cedar benches
- Interpretive signs on the importance of urban forests for pollinator habitat and climate change mitigation
- Small trail with mini native plant identification signs



Kincaid Ravine's proximity to the Burke-Gilman Trail gives the project excellent visibility which has attracted many visitors.

Vegetation Monitoring

*Monitoring data collected for 1/10 acre plot partially located in central wetland

Parameter	8/19/2013	3/25/2016
Trees (stems)	THPL: 1 (seedling) ACMA: 1 ALRU: 3	THPL: 10 (ave. height = 19") PISI: 5 (ave. height = 34") ALRU: 1 (7" DBH)
Shrubs (% cover)	RUSP: 80% OECE: 5%	RUSP: 35% OECE: 25% SALU: 8%
Groundcovers (% cover)	EQHY: 85% LYAM: 60% ATFI: 5%	EQHY: 50% LYAM: 22 % ATFI: 5 %
Invasive Species	ILAQ: 1 (mature) HEHE: 90% RUAR: 10%	ILAQ: 16 (ave. height = 12") HEHE: 6% RUAR: 5%

Photo Point Monitoring



Photo Point pictures taken in October, 2013 (above) at entrance to Kincaid Ravine before restoration work began and again in March of 2016 (left) two years into active restoration.

Notes on Monitoring Data

- Invasive removal and planting at monitoring plot occurred in Feb. of 2014 with one maintenance crew day in 2015.
- 83% tree planting survival (71% for PISI and 90% for THPL)
- Only dominant species listed in above table. Other species present (< 5% cover) PHCA, RILA, COSE, OPHO, POMU, DREX, TEGR and invasive species CASE and LAMU.
- Timing of monitoring may have skewed % cover estimates.
- Large ALRU in plot uprooted in Dec. 2014 which broadened the flow of water, possibly favoring wetland species.
- Invasive species regrowth concentrated around brush piles.

Wetland Improvements

- Development of Kincaid Ravine Hydrological Assessment report documenting the groundwater seeps and channels in the ravine with a goal of improving wetland habitat and limiting flooding on the Burke-Gilman Trail.
- Use of trail side ditch for infiltration gallery which has greatly reduced the frequency of trail flooding this past winter and limited amount of water entering storm sewers (below right).
- Installation of "Picket Fence" check dams (below left) to limit channel incision and slow down transport of water and sediments.
- Planting of willow and dogwood live stakes treated with natural "willow water" rooting hormone.
- Reduction of reed canarygrass cover when cut and covered with 2-3 layers of burlap sacks as compared to just mowing.



Student Involvement

- 3rd year of MEH student project management
- 3rd year of UW-REN capstone class working on site
- SER-UW coordinated volunteer events and other RSO partnerships
- Interns from ESRM and MLA
- Class field trips in ESRM 362



Thanks to our Project Partners!

