

Fall City Park Phase III – Riparian Restoration and Traditional Knowledge Project



FINAL REPORT

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As namesake of the Snoqualmie people, the Snoqualmie River holds substantial historical and cultural significance. . From time immemorial, the Snoqualmie Indian Tribe (Tribe) has used its waterways as highways to access fishing and gathering areas, for economic activities, and spiritual ceremonial activities. Today its importance lives on as many tribal members continue living and working in the Snoqualmie River Valley.

As the site of a former tribal village and vital habitat for fish and wildlife, the river reach surrounding Fall City Park holds great importance to the Tribe for historical, cultural and ecological reasons. It is heavily used by several salmonid species including ESA-listed Chinook salmon and steelhead trout for spawning, rearing and migration. To support these species and the riverine-floodplain habitat they require, this project focused on re-establishing riparian canopy cover and increasing native plant species diversity along the right bank of the mainstem Snoqualmie River, with special emphasis on re-introducing culturally significant plants whose local populations today in many cases are dwindling or even lost. In this way, the project worked to restore, protect and enhance both the ecological and cultural landscape of the Snoqualmie people and the river they call home, while educating visitors to its importance through volunteer events and the creation and expansion of the Fall City Park interpretive trail.

Phase 3 of this project completed the restoration work begun in Phase 1 in 2009, and in the process fostered and created successful partnerships between several stakeholders including the Tribe, King County Parks, King County Noxious Weeds, Friends of Fall City Park, Fall City Community Association, Edmonds Community College, Stewardship Partners, King Conservation District, Mountains to Sound Greenway Trust, and the surrounding community. The project is in a highly visible location readily seen from SR 203 and is very heavily used throughout the summer months by river recreationists. As such, it provides a valuable education opportunity and a current example of how local stakeholders can effectively work together to improve habitat and water quality for fish and wildlife, while still supporting multi-user recreational needs and protecting a place's cultural heritage.

The primary goals of this project were to improve habitat conditions for imperiled fish species and other aquatic and terrestrial wildlife via native tree and shrub establishment and invasive species removal; restart native forest successional processes; establish rare or culturally-significant native plant species; engage with the community in volunteer events; and to expand on the interpretive trail to educate the public about native plants, salmon recovery efforts and the Snoqualmie people. During Phase 3, 8.4 acres and ~2,200 linear feet of the Snoqualmie River and ~ 400 linear feet of Rutherford Slough were restored. The restoration actions completed followed implementation strategies outlined in both the WRIA 7 Salmon Conservation Plan and the 2012 Puget Sound Partnership Near-Term Action Agenda.

The project was comprised of several implementation components with tasks and deliverables summarized below.

- 1) **INVASIVE SPECIES REMOVAL & CONTROL** - Multiple non-native invasive noxious weed species were manually controlled during the course of the project. The primary target species were Himalayan blackberry (*Rubus armeniacus*), Bohemian knotweed (*Fallopia japonicus x bohemica*), and reed canarygrass (*Phalaris arundinacea*); however, evergreen blackberry (*Rubus laciniatus*), herb-robert (*Geranium robertianum*), English ivy (*Hedera helix*), spotted jewel-weed (*Impatiens capensis*), butterfly bush (*Buddleja davidii*), scotch broom (*Cytisus scoparius*), Tansy ragwort (*Senecio jacobaea*), Canada thistle (*Cirsium arvense*) and other species were also targeted and controlled during this project. The weed management approach used during Phase 3 was multifaceted and included mechanized cutting, clearing, mowing, grubbing, dense planting (shading), and chemical spraying using backpack sprayers. Approximately .5 acres of weed-infested area at the southeast corner of the park was originally identified for restoration and underwent clearing and multiple chemical treatments. However, a new unexpected King County Parks policy came into effect requiring extensive and costly archeological surveys before any planting could be done on this site. As a result, efforts were redirected to treating residual infestations in the interior of the Phase 1 and 2 areas and the original area is currently returning to blackberry. Future funding may be pursued that can fund the archeological survey, review, treatment and riparian planting.
- 2) **NATIVE REVEGETATION** - Riparian restoration was completed along the right bank of the Snoqualmie River within the boundaries of Fall City Community Park. Buffer sizes were large and ranged from 140 feet to 680 feet. Overall, approximately **2,200** native trees and **5,000** native shrubs were planted over **8.4** acres of riparian area including replacement plantings. Stewardship Partners partnered with us on planting and coordinating volunteer events for the Rutherford Slough portion of the park. Through all three phases of the project, species diversity was increased from ~ 25 to 51 types of native trees, shrubs and woody groundcover species on site. Due to the new cultural review process explained above in #1, approximately .5 acres of infested area was not able to be planted as initially planned. Efforts were instead redirected towards much needed replacement plantings within the existing Phase 1 and 2 planting areas where recent severe summer droughts and an early winter freeze resulted in significant mortality of many well-established trees and shrubs.
- 3) **COMMUNITY OUTREACH** – In total, the Fall City Park restoration project has resulted in the creation of ~.75 miles of interpretive trail through restoration plantings with educational signage highlighting the importance of these plant species to the Snoqualmie people. Through all three phases of the project, a total of 14 unique plant signs were installed, as well as an interpretive plant sign legend, a trail map sign, and a large project history and background map. Trail work for phase 3 focused primarily on maintenance and the design and installation of a large interpretive trail map (image included in photo summary). **5** volunteer planting events were held with **65** volunteers contributing **243** hours helping to

plant the site, which included 17 community college students from the Edmonds Community College LEAF Program. All volunteer events incorporated environmental education as part of the event.

- 4) MONITORING & MAINTENANCE** - The site was visited frequently to assess changes from flood events, weed growth, fish & wildlife use, storm damage, summer drought, herbivory/browse, etc. Formal vegetation monitoring was completed annually during the summer to measure species abundance, vigor & survival using established vegetation monitoring protocols. A total of 44 transects were established throughout the site (including Phase 1 and 2 areas) in order to measure buffer establishment and planting success (see site monitoring map) Vegetation monitoring data from 2015 was submitted to EPA – STORET and we're currently working some data submission glitches in order to submit 2016 and 2017 monitoring data. Replacement and supplemental planting was completed each year to offset identified plant mortality. An overall warmer/drier weather period from 2013 – 2015 disturbed soil conditions and made plant establishment challenging and necessitated more replanting than was initially anticipated in many parts of the site.

Regular maintenance (mowing) occurred at least 2-3 times per year during the growing season to control competition from non-native blackberry species and reed canary grass. Additionally, herbicide application was performed between mid-spring through late summer on blackberry and knotweed, and achieved good success reducing weed densities throughout the site; however, in spite of ~ 7 continuous years of knotweed treatment, regrowth persists – often in stunted and mutated forms which makes sufficient and effective herbicide application difficult to achieve. Plant protectors (blue tubes) were also installed to protect from browse and/or rubbing by deer, voles, and beaver and to help with seeing plants in tall weeds while performing initial early season maintenance. Significant beaver browse in areas closest to the water required the installation of wire cages on approximately 30 native conifer plantings scattered along the river.