Establish Riparian Forest Buffer Adjacent to Black Lake Ditch
City of Olympia
Grant No. C1100044
July 1, 2010 – June 30, 2011
Final Total Project Cost: $10,348.13
Final Ecology Grant Contribution: $10,345.00

Project Description

The aim of this project was to interplant a previously planted area with succession species of native trees and plant live stakes along the bank sides of Black Lake Ditch, adjacent to the City of Olympia's Black Lake Meadows Stormwater Facility. The City of Olympia purchased tree seedlings to continue efforts to enhance the riparian corridor habitat along the man-made ditch. The ditch carries the naturally warm summer water of Black Lake into Capitol Lake and Budd Inlet via Percival Creek and contributes to the TMDL.

Establishing a healthy riparian forest buffer along the ditch will reduce the water temperature in this low-gradient waterway, as well as provide the associated benefits of tree cover, erosion control, pollution uptake, and naturally enhance stream channel complexity.

Volunteers planting Sitka willow, Hooker's willow and red osier dogwood live stakes along Black Lake Ditch.

Volunteers planting a western red cedar in the riparian area of Black Lake Ditch.

Project Accomplishments

The project accomplished the following:

- Planted approximately 1,860 lineal feet of a reed canary grass dominated stream bank with 3,500 Sitka willow, Hooker's willow, and red osier dogwood live stakes.
- Infill planted 150 western red cedar and Douglas fir trees (approximately 7-8') in the riparian buffer along the south side of the ditch.

Water Quality Improvements

Black Lake Ditch is a 303(d) listed waterbody, and is included in the *Deschutes River, Capitol Lake, and Budd Inlet Temperature, Fecal Coliform Bacteria, Dissolved Oxygen, pH, and Fine Sediment Total Maximum Daily Load (TMDL) Water Quality Study*. The study reports Black Lake Ditch exceeding the state water quality standard for temperature.

The planting project addressed primarily temperature, but also secondarily dissolved oxygen, pH and fine sediments. Additionally, a mature riparian corridor provides large woody debris which protects stream banks from enhanced erosion, increases the channel complexity, enhances hyporheic exchanges, and reduces transport of fine sediment and phosphorous.

The Next Step for Continued Success

Efforts by the City over the last several years, including the subject project, have in phases transitioned the low quality, reed canary grass dominated riparian area south of the ditch to what will be a mature, functioning riparian area in a few years. Future efforts will strive to replicate this condition on the north side of the ditch.

Lessons Learned

Initially the project also included working with a private property owner on the north side of the ditch to plant trees. Because of the grant's timelines and the complexities of working with the private property owner, the City instead focused all of its effort and planting on the south side of the ditch. In the future, the City will pursue partnership with private property owners to plant the north side.

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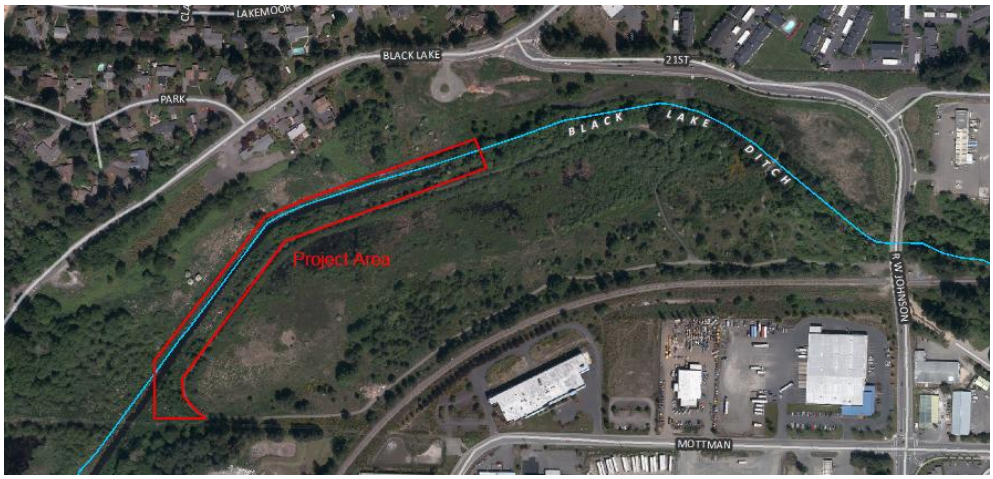

Project area along Black Lake Ditch.