# Final Report
# Salmon Creek Mile 10.5 Restoration (G0500074)
# July 2009

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| Total Cost of Project | $ 330,000 |
| Grant Amount | $ 247,500 |
| Project Start Date | 12/06/2004 |
| End Date | 06/30/2009 |

Submitted to State of Washington Department of Ecology

Submitted by Clark Conservation District

Denise Smee, District Manager
Rebecca Meats, Financial Administrator

INTRODUCTION

In partnership with Clark Public Utilities, Clark County Public Works, and USDA Farm Service Agency, Clark Conservation District (CCD) began implementing the Salmon Creek Mile 10.5 Restoration (Grant No. G05000743). The project was funded through the State of Washington Department of Ecology Centennial Clean Water Fund.

This project restored approximately 2,670 lineal feet of stream water quality and habitat at mile 10.5 of Salmon Creek through streambank restoration, protection, and revegetative practices. These established practices serve to reduce levels of sedimentation, lower water temperature, create salmon and steelhead habitat, improve stream complexity and cover, reconnect the floodplain, and enhance off-channel rearing habitat.

## SCOPE OF WORK SUMMARY

### Task 1 – Project Administration/Management

We administered and managed this project effectively by maintaining project records, submitting vouchers and progress reports in a timely manner, and carrying out this project in accordance with the required performance items and completion dates.

### Task 2 – Planning and Permit Acquisition

Project partners and landowners met throughout the project, and participated in the planning process. Clark Public Utilities organized and implemented the construction and planting of this project. Engineering designs were developed and permits attained by the District engineer Sam Giese, P.E., funded through a grant from the WA State Conservation Commission. Instream surveys were also completed with the help of the Lower Columbia Fish Enhancement Group (Tony Meyer with the LCFEG pictured at right with Steve Selser, District technician). All appropriate and necessary permits were attained for project implementation through the Joint Aquatic Resources Permit Application (JARPA).

### Task 3 – Instream Restoration and Implementation

The focus on this section of Salmon Creek was due to the severity of streambank erosion and the impacts created to the water quality in the area. Most of the reach, on the north

bank was being undercut at the toe and the outsides of the river bends. Large woody debris, which consists of large timbers with rootwads still attached that are positioned and anchored into the creek bank, along with log jams and roughness wood, were placed in the areas with the most erosion. On the south bank of the creek, a berm had been built many years ago so the flat floodplain could be used for recreational purposes. The berm was removed to allow the creek access to the floodplain. At the upper bend of the creek, a side-channel was opened up to provide fish rearing habitat. The bank near the side-channel bend was eroding rapidly, so the opposite bank was angled back to take the pressure off, allowing the creek access to the floodplain. Large woody debris was added to the bank just before the eroded area to provide roughness and direction to the creek. All the Best Management Practices implemented under the terms of this grant are consistent with the current NRCS standards. The pictures below show the before and after of these areas.

The berm along the creek and floodplain behind it.

The berm was removed and the bank shaped. The floodplain was planted.

The north bank showing the erosion and lack of vegetation.

Large woody debris (rootwads) placed and the bank shaped

An area on the north bank where it was undercut and eroding.

Wood being placed to provide roughness and bank protection.

The north bank of the bend in the creek showing considerable erosion.

The background of this picture shows the opposite bank. The south side bank of the bend was angled back to the floodplain. In the foreground is LWD placed near the opening to the side-channel.

**<u>Task 4 – Riparian Area Restoration</u>**
**<u>Task 5 – Riparian Area Maintenance</u>**

Landowners involved in this project participated in the Conservation Reserve Enhancement Program (CREP). CREP pays the landowner to establish the buffer, in addition to annual rental payments for the enrolled land. CREP also pays to remove invasive plants such as reed canary grass and Himalayan blackberry. The program is administered by USDA Farm Service Agency (FSA). Landowners in this project enrolled their riparian area land in CREP under a 10 year contract.

Clark Public Utilities provided all the materials, invasive plant removal, and labor associated with revegetating this project. They planted over 7,500 native trees and shrubs in the project area of over 10 acres. The pictures below show some of the plantings. They also provided and performed all the maintenance. CPU will continue to maintain the plants until they are established and routine maintenance is no longer needed.

**Task 6 – Water Quality Monitoring**

Clark County conducted water quality monitoring during this project. The Ecology-approved Quality Assurance Project Plan (QAPP) had been approved prior to any monitoring activities and sampling was in accordance to the QAPP. The data from this monitoring has been entered into the Ecology Environmental Information Management System.