BONNEVILLE POWER ADMINISTRATION

Restore McComas Meadows

Meadow Creek Watershed

Annual Report 2004 - 2005 December 2005 DOE/BP-00004936-2

This Document should be cited as follows:

McRoberts, Heidi, "Restore McComas Meadows; Meadow Creek Watershed", 2004-2005 Annual Report, Project No. 199607705, 9 electronic pages, (BPA Report DOE/BP-00004936-2)

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This report was funded by the Bonneville Power Administration (BPA), U.S. Department of Energy, as part of BPA's program to protect, mitigate, and enhance fish and wildlife affected by the development and operation of hydroelectric facilities on the Columbia River and its tributaries. The views in this report are the author's and do not necessarily represent the views of BPA.

Restore McComas Meadows
Meadow Creek Watershed

Annual Report

August 2004 - February 2005

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Project Number 199607705

Contract Number 4936

November 2005

ABSTRACT

The Nez Perce Tribe Department of Fisheries Resource Management, Watershed Division approaches watershed restoration with a ridge-top to ridge-top approach. Watershed restoration projects within the Meadow Creek watershed are coordinated and cost shared with the Nez Perce National Forest.

The Nez Perce Tribe began watershed restoration projects within the Meadow Creek watershed of the South Fork Clearwater River in 1996. Progress has been made in restoring the watershed by excluding cattle from critical riparian areas through fencing, planting trees in riparian areas within the meadow and its tributaries, prioritizing culverts for replacement to accommodate fish passage, and decommissioning roads to reduce sediment input. During this contract period, bids were solicited and awarded for two culvert replacement projects on Doe Creek, and a tributary to Meadow Creek. Additionally, NEPA and permits were completed for the ditch restoration project within McComas Meadows. Due to delays in cultural resource surveys, the contract was not awarded for the performance of the ditch restoration. It will occur in 2005.

Monitoring for project effectiveness and trends in watershed conditions was also completed. Road decommissioning monitoring, as well as stream temperature, sediment, and discharge were completed.

Background

McComas Meadows lies within the Meadow Creek drainage of the South Fork Clearwater River. The project area lies within the Nez Perce Tribe ceded territory of 1855 and within the Nez Perce National Forest.

The watershed is approximately 27,000 acres in size, and is located 7 air miles southeast of the town of Grangeville. The watershed is important to steelhead, Chinook salmon, and Westslope cutthroat trout.

Management activities have affected aquatic processes within this drainage. Encroaching roads, undersized culverts, and grazing processes have degraded the stream/riparian processes.

Sediment is listed as the primary limiting factor in the watershed. Existing sediment deposition levels are 20 to 40 % over base levels. Roads have been shown to be a major contributor of sediment to streams. There are approximately 193 miles of roads in the Meadow Creek watershed, and the road density is 4.6 miles per square mile, the highest road density in the South Fork Clearwater sub-basin. Through the Meadow Face EIS, 90 miles of road are slated for decommissioning.

McComas Meadows is a low elevation 700-acres meadow located within the Meadow Creek watershed. This area was historically a Nez Perce Tribe summer camp. Early settlement by homesteading, resulted in grazing, agriculture, and water diversions. This USFS obtained this land in 1991, and has worked with the Nez Perce Tribe to restore this meadow.

Grazing practices have been present within the Meadow Creek drainage for decades. These practices have led to degraded and depleted riparian vegetation, especially within McComas Meadows. The depleted riparian vegetation has resulted in elevated temperatures that exceed temperature standards. McComas Meadows was fenced to exclude cattle in 1997. Since that time re-vegetation has been implemented and is on-going.

In addition to grazing within McComas Meadows, a ditch system was constructed on the upslope areas of the meadow. This ditch impedes hydrologic processes and contributes sediment to the stream within the meadow.

Objectives & Tasks

The objectives of this project address watershed concerns that are limiting to anadromous fish habitat. Anadromous fish that are targeted for restoration within the Meadow Creek watershed include: spring Chinook salmon, coho salmon, and steelhead trout. Since the majority of the watershed is managed by the US Forest Service, Nez Perce National Forest (NPNF), coordination with them is critical to the success of the project. Coordination with the NPNF is an on-going effort at the pre-work, planning, and implementation stages.

On-the-ground objectives include:

1. Restore meadow and riparian plant communities to enhance fish and wildlife habitat.

a. Obtain materials and supplies including seed and plants to implement native species restoration within McComas Meadows.

b. Implement exotic species reduction and native species restoration.

2. Restore hydrologic connectivity within the McComas Meadows reach of Meadow Creek.

a. Gather/obtain materials for ditch decommissioning.

b.Restore topography/channels to hydrologically stable and passable condition for aquatic species.

3: Restore fish passage through road/stream interface.

a. Coordinate with the Nez Perce National Forest on logistics and construction equipment for stream/road crossing upgrades.

b. Oversee two stream/road crossings to simulate natural stream conditions and accommodate passage of all aquatic species.

4: Monitor and evaluate success of implementation projects (i.e. cattle exclusion, re-vegetation, streambank stabilization, and road obliteration) and determine future needs based on these results.

a. Implement McComas Meadows/Meadow Creek Restoration Effectiveness Monitoring Plan to determine trend in habitat conditions and biological species as a result of restoration projects.

b. Implement monitoring and evaluation of road obliteration practices.

Results

Coordination

Coordination meetings between the Nez Perce Tribe and the Nez Perce National Forest were held to track progress on solicitation and implementation of the ditch restoration project.

Riparian Enhancement

Approximately 3,100 trees were ordered including: drummond willow, red osier, and dogwood. These trees will be planted in the riparian zone of Meadow Creek with the majority of trees planted within McComas Meadows, where cattle grazing has been excluded since 1997. Trees are planted along the riparian zone to provide streambank stabilization, and large woody debris recruitment for shade, which reduces stream temperatures. This is part of the implementation of native species restoration within McComas Meadows.

Exotic species reduction and native species restoration associated with the ditch obliteration has been rescheduled for the summer of 2005.

Hydrologic Connectivity

The design for ditch decommissioning has been completed and the permits are in-hand. Implementation of the project has been rescheduled for the summer of 2005 due to delays in completing the cultural resource surveys and getting concurrence from the Idaho State Historic Preservation Office.

Fish Passage Barriers

Over 40 culverts were identified for replacement in the Meadow Face EIS. Nez Perce Tribe and the Nez Perce National Forest work cooperatively to replace culverts and simulate natural stream characteristics. A sub-contract was awarded in the summer of 2004 to conduct the work of replacing two culverts on Doe Creek and a tributary stream to Meadow Creek. The construction work will be completed in the summer of 2005.

Figure 1. Drop at outlet of culvert at Doe Creek.

Road Decommissioning Monitoring

20 miles of road within the headwater drainages of the Meadow Creek watershed were decommissioned during the summers of 2003 and 2004. Monitoring of samples within this old road system was completed in the fall of 2004.

Monitoring

An automatic recording pressure transducer was installed in Meadow Creek at the southern end of McComas Meadows at the Camp 58 bridge. This data will be used to create a hydrograph for Meadow Creek.

All monitoring results are summarized in a separate report that will be submitted in March 2006.

Automatic temperature recorders were placed at four locations within the watershed. Graphs displaying water temperature variation within the watershed will be summarized in the monitoring report.

Additional monitoring data that was collected consists of: photopoints, canopy cover, large woody debris, cobble embeddedness, pebble counts, bank stability, and macroinvertebrates.

Discussion

More restoration work remains to be completed in this watershed. Additional information on culvert inventories will be completed in 2005 and a prioritization of culverts to be replaced will be completed by the Forest Service.

Further riparian plantings are warranted in the lower section of McComas Meadows to augment the previous years planting. Vegetation density and diversity are not at the desired/recommended levels. Shade is needed to cool water temperatures and LWD recruitment will provide habitat for anadromous fish species. Natural regeneration of some native species, such as Douglas Hawthorn, is evident, but growth is stunted by wildlife browse. Protective cages will be installed to around these trees.

Monitoring and evaluation will continue in the following years for discharge measurements, temperature recorders, and measurement of physical habitat parameters. In addition the road obliteration monitoring program will continue as roads are decommissioned. Permanent monitoring sites are established within the 20 miles of road decommissioning project. The sites will be revisited on one, two, five and ten year intervals.

Costs

The following table is a break down of the rounded expenditures for the project.

	Cost
Salary	$76,627
Fringe	$19,089
Sub-contracts	$1,200
Communications	$68
Travel	$1,317
Vehicles	$4,734
Supplies	$1,375
Materials	$4,101
Computer Services	$2,172
Indirect Costs	$26,954
	$137,637