BONNEVILLE POWER ADMINISTRATION

Restore McComas Meadows

Meadow Creek Watershed

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Restore McComas Meadows/Meadow Creek Watershed

Annual Report CY 2003

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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. Designs for culvert replacements are being coordinated with the Nez Perce National Forest. 20 miles of roads were decommissioned. Tribal crews completed maintenance to the previously built fence.

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 home steading, resulted in grazing, agriculture, and water diversions. This USFS obtained this land in 1991, and has worked in partnership 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.

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

3. Restore fish passage.
   a. Survey and complete design for culvert replacements.

4. Perform maintenance to previously completed watershed rehabilitation and restoration projects.

5. Monitor and evaluate success of implementation projects.

Results

Coordination

Coordination meetings between the Nez Perce Tribe and the Nez Perce National Forest were held prior to field season to organize activities that would be completed and protocols that would be used to complete those activities.

Riparian Enhancement

Approximately 3,000 trees were planted in the riparian zone of Meadow Creek with the majority of trees planted within McComas Meadows, where cattle grazing have been excluded since 1992. Tree species included drummond willow, red osier, and dogwood. Trees are planted along the riparian zone to provide streambank stabilization, and large woody debris recruitment for shade, which reduces stream temperatures.

Hawthorn trees have been severely browsed by wildlife with McComas Meadows. In an effort to hinder wildlife from browsing these critical riparian shrubs, 10 cages were installed to protect these trees. Photos and measurements were taken to monitor the effectiveness of this effort.

Hydrologic Connectivity

Under subcontract, Terra Graphics Environmental Engineers completed designs for the ditch restoration project within McComas Meadows. Implementation of this project will occur in 2005.

Fish Passage Barriers

Over 40 culverts were identified for replacement in the Meadow Face EIS. Nez Perce Tribe and the Nez Perce National Forest designed three culverts for fish passage replacement. Solicitation for bids for culvert replacements on Doe Creek and a culvert on an unnamed tributary to Meadow Creek was completed under this contract. The implementation will occur during the 2005 field season. Storm Creek replacement will occur in 2006.

Figure 1. Drop at outlet of culvert at Doe Creek. Passage barriers exist at culverts when outlets are not in contact with the stream bottom.

Road Decommissioning

Decommissioning on 20 miles of road within the headwater drainages of the Meadow Creek

watershed began during the 2003 field season. S & S Contracting worked on the project, under sub-contract with the Forest Service, until weather prevented them from further work. The work was completed during the 2004 field season.

Riparian Protection

Maintenance of the 5 miles of riparian protection fence that surrounds McComas Meadow and Farris Creek was completed in May 2004. All dilapidated sections of fence were repaired.

Monitoring

Stream discharge measurements were collected at the established gaging station on Meadow Creek. An automatic recording pressure transducer is installed in Meadow Creek at the southern end of McComas Meadows at the Camp 58 bridge.

Fish data was collected through snorkel surveys during July 2004. Three reaches were surveyed; these are the same reaches where all monitoring data is collected within McComas Meadows. Results are summarized in a separate report.

Automatic temperature recorders were placed at four locations within the watershed.

Discussion

Preliminary culvert inventories were completed in 2002 and five priority culverts have been selected for replacement, with further prioritization to occur in the near future. Implementation of the culvert replacements is scheduled to begin during 2005; contracts will be prepared in 2004. Culverts are expensive to replace, so it is likely that only one to two culverts per year will be replaced.

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 large woody debris (LWD) recruitment will provide habitat for anadromous fish species.

Monitoring and evaluation will continue in the following years with more 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.

In closing, this project received the Riparian Challenge Award from the Western Division of American Fisheries Society. The award was received in Salt Lake City, Utah in February 2004.