BONNEVILLE POWER ADMINISTRATION

Protect and Restore Mill Creek Watershed

Annual Report 2004 - 2005 December 2005 DOE/BP-00004271-3

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Protect & Restore Mill Creek Watershed

Annual Report CY 2004

(6/1/04 - 2/28/05)

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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. The Nez Perce Tribe and the Nez Perce National Forest (NPNF) have formed a partnership in completing watershed restoration activities, and through this partnership, more work is accomplished by sharing funding and resources in our effort.

The Nez Perce Tribe began watershed restoration projects within the Mill Creek watershed of the South Fork Clearwater River in 2000. Progress has been made in restoring the watershed through excluding cattle from critical riparian areas through fencing. Starting in FY 2002, continuing into 2004, trees were planted in riparian areas in the meadow of the upper watershed. In addition, a complete inventory of culverts at road-stream crossings was completed. Culverts have been prioritized for replacement to accommodate fish passage throughout the watershed, and one high priority culvert was replaced in 2004. Maintenance to the previously built fence was also completed.

Background

Mill Creek is located in the South Fork Clearwater River, within the Nez Perce Tribe ceded territory of 1855 and within the Nez Perce National Forest.

Mill Creek is a long linear watershed encompassing over 23,000 acres. It is of particular importance to steelhead and westslope cutthroat trout, and is considered a population stronghold for these species. Chinook salmon are also present within the watershed.

Management activities have negatively impacted aquatic processes within this drainage. Encroaching roads and grazing processes have degraded the stream/riparian processes.

The upper meadow of Mill Creek has been severely impacted by cattle grazing for several years. Grazing and the trampling of stream banks by cattle were a significant annual disturbance to riparian zones, which led to changes in riparian plant communities. Aerial photographs taken in 1927 indicated that 80% of the stream banks were lined with riparian hardwood shrubs. In the same photograph, taken in 1990, riparian shrubs lined only 5% of the stream banks. The riparian community consisted mostly of grasses and forbs in the first year of this project, 2000.

Roads have been constructed in the Mill Creek watershed, and the majority of these roads were constructed several decades ago. Road/stream crossing assessments revealed that passage for aquatic species through many of the structures is either not adequate or not functioning at all.

Objectives & Tasks

The objectives of this project were to address watershed concerns that are limiting to anadromous fish habitat. Anadromous fish that are targeted for restoration are spring Chinook salmon and steelhead trout.

1. Objective: Coordinate with agencies for on pre-work, planning and logistics of implementation activities.

a. Coordinate with Nez Perce National Forest (NPNF) on pre-work, planning, and logistics through an agreement.

b. Consult with the NPNF, USFWS, BPA, and NMFS on any NEPA & ESA consultation or permits needed and complete those needed documents.

2. Objective: Restore meadow and riparian plant communities to enhance fish and wildlife habitat.

a. Evaluate re-vegetation needs.

b. Purchase/gather vegetation for planting.

3. Objective: Return passage to inaccessible tributary habitat and alleviate sediment sources associated with culverts.

a. Coordinate with the NPNF on logistics, contracting, and equipment for stream/road crossing upgrades.

b. Oversee installation of culvert replacement.

4. Objective: Protect riparian habitat as it provides critical habitat for fish and wildlife.

a. Maintain 3 miles of cattle exclosure fence through repair of any damaged or destroyed sections of fence, including the cattle guard.

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

a. Implement Mill Creek effectiveness monitoring to determine trend in habitat conditions as a result of restoration projects.

6. Objective. Improve communication and information sharing among entities working in the Clearwater River on fisheries related issues.

a. On an annual basis, supply information to the publicly available databases administered by the Idaho StreamNet Project Leader.

7. Objective: Reporting to BPA

a. Complete quarterly reports.

b. Write and post Annual report on BPA website.

c. Provide applicable RPA data for the FCRPS Biological Opinion.

d. Provide project specific information to BPA on an “as needed” basis for accounting purposes.

8. Objective: Project Coordination and Development

a. Attend additional meetings.

b. Invoke and keep the legal and financial responsibilities of each lead entity involved; i.e., the Financial and Human Resource requirements of the Nez Perce Tribe as well as those of State and Federal entities as they would apply to this contract in so far as they do not supersede BPA contract directives or clauses.

c. Seek funding sources for training, extension of implementation work and related restoration projects.

Results

Coordination

Meetings between the Nez Perce Tribe and the Nez Perce National Forest were held prior to field season to coordinate activities that would be completed.

Culvert inventories were completed and four culverts were prioritized for replacement. Corral Creek, Camp Creek, Merton Creek, and Heppner Creek culverts were prioritized. NEPA, ESA consultation, cultural resource surveys were completed in 2003/2004. Corral Creek and Camp Creek were prioritized to be the top two culverts for replacement. Final designs were completed in April 2004 for Corral Creek and Camp Creek. Corral Creek was replaced in 2004.

Riparian Enhancement

Approximately 1,500 trees were planted in the riparian zone of Mill Creek within the upper meadow that was fenced in 2000 to exclude cattle grazing. Tree species included drummond willow, alder, scouler willow, and sandbar willow. Trees were planted along the riparian zone to provide streambank stabilization, and large woody debris recruitment for shade, which reduces stream temperatures.

Fish Passage Barriers

Corral Creek was selected as the first culvert for replacement. Bids were solicited in June 2004, and bid review was conducted to select a contractor in July. A contractor was selected to perform the work. Work began on August 9 and was completed on August 14, 2004.

Figure 1. Inlet of the newly replaced culvert on Corral Creek.

Riparian Protection
Maintenance of the 3 miles of riparian protection fence that surrounds the upper Mill Creek meadow was completed in June 2004. All dilapidated sections of fence were repaired.

Monitoring
Stream discharge was collected at the established gauging station on Mill Creek. A hydrograph will be created using the rating curve for Mill Creek.

Automatic temperature loggers were deployed in June 2004 at three locations within the Mill Creek watershed. The temperature loggers were placed at the same location as they have been in past years to accommodate repetition in data collection. These locations are two in a meadow in the upper watershed and one in the lower watershed. The automatic recorders were collected from the field in September 2004. Data was downloaded to a computer and summarized. Reports will be included in the 2004 monitoring report.

Physical monitoring parameters were collected in the upper meadow of Mill Creek. This data will be analyzed against previous year's data and reported in the 2004 monitoring report.

Fish data was collected through snorkel surveys by the BPA Project *Nez Perce Tribal Hatchery Monitoring and Evaluation* (83-350-03).

Discussion
Additional restoration work remains to be completed in this watershed. During the FY2002, culvert inventories were completed and a prioritized for replacement. Implementation of culvert replacements began during field season 2004 with the replacement of Corral Creek.

Further riparian plantings are warranted since the riparian zone is virtually devoid of vegetation. Shade is needed to cool water temperatures and LWD recruitment will provide habitat for anadromous fish species.

Monitoring and evaluation will be increased in the following years with more discharge measurements, temperature recorders, and measurement of physical habitat parameters.

Costs

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

Salary & Wages	**$**20,515.83
Fringe Benefits	**$**6,803.99
Sub-contracts	**$**-259.78
Travel	**$**-656.26
Vehicles	**$**3,359.31
Supplies	**$**639.69
Materials	**$**-23.51
Rent	**$**683.00
Indirect Costs	**$**6,581.73
TOTAL	**$37,644.00**