Protect and Restore Mill Creek Watershed

Annual Report
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Protect & Restore Mill Creek Watershed

Annual Report CY 2003

(6/1/03 - 5/31/04)

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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 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 designs completed on two of the high priority culverts. 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. Coordinate with NPNF on pre-work, planning, and logistics.
   a. Coordinate with NPNF on pre-work, planning, and logistics through an agreement.
   b. Consult with the NPNF, USFWS, and NMFS on any NEPA & ESA consultation or permits needed and complete those needed documents.
   c. Conduct surveys and consult with SHPO and NPT on any cultural/historic sites.
   d. Conduct pre-work surveys for TES plants and weeds.
   e. Develop protection, avoidance, or abatement plans for TES plants, weeds, and heritage resources, if needed.
   f. Attend meeting regarding project logistics.

2. Restore meadow and riparian plant communities to enhance fish and wildlife habitat.
   a. Evaluate re-vegetation plan.
   b. Purchase/gather vegetation for planting.
   c. Plant vegetation.

3. Return passage to inaccessible tributary habitat and alleviate sediment sources associated with culverts.
   a. Complete survey and designs for culverts to be replaced, ensuring tha the design will simulate natural stream conditions.
   b. Coordinate with the NPNF on logistics, contracting, and equipment for stream/road crossing upgrades.
   c. Restore one stream/road crossing to simulate natural stream conditions and accommodate passage of all aquatic species.

4. Protect riparian habitat as it provides critical habitat for fish and wildlife.
   a. Maintain 3 miles of cattle excloure fence through repair of any damaged or destoryed sections of fence including the cattle guard.

5. Monitor and evaluate success of implementation projects 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. 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 database administrered by the Idaho StreamNet Project Leader.

7. Reporting to BPA
   a. Complete quarterly and end of year reports.
   b. Provide applicable RPA data for the FCRPS Biological Opinion.
   c. Provide project specific information to BPA on an “as needed” basis for accounting purposes.

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.

After culvert inventories were completed and prioritized for replacement, NEPA was sub-contracted to Herrera Environmental Consultants to complete a Categorical Exclusion document for the future project of replacing barrier culverts. Cultural resource surveys were sub-contracted and completed in August by the Nez Perce Tribe Cultural Resource Department. Engineering surveys for the design of new culverts was sub-contracted to the Nez Perce National Forest (NPNF). The NPNF hired DJ&A P.C., an engineering firm, to complete the survey and design of two culverts within Mill Creek. Final designs were completed in April for Corral Creek and Camp Creek.

ESA consultation was completed by Heidi McRoberts, project manager. This undertaking involved research and data collection that was used in writing a biological assessment. The assessment covered five culverts, Corral Creek, Camp Creek, Black George Creek, Hepner Creek and Merton Creek. In April, consultation was completed for these culvert replacements.

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

Inventory of all culverts at road/stream crossing sites was completed during the 2002 field season. 26 culverts were surveyed using the National Inventory and Assessment Procedure for Identifying Barriers to Aquatic Organism Movement at Road-Stream Crossings. Data was inputted into the FishXing database to determine whether crossing structures were passable by aquatic species. Nearly all of the culverts were not passable by either adult or juvenile fish. Six culverts were prioritized for replacement, including Merton Creek, Black George Creek, Hunt Creek, Corral Creek, Camp Creek, and Heppner Creek. After completing the Biological Assessment and Categorical Exclusion documents, Hunt Creek was dropped from the list of culverts to be replaced, due to passage concerns above the culvert. Cooperatively between the Nez Perce Tribe and the Nez Perce National Forest, designs were completed for Corral Creek and Camp Creek, and Corral Creek was contracted for replacement.

Riparian Protection

Maintenance of the 3 miles of riparian protection fence that surrounds the upper Mill Creek meadow was completed in June 2003. All dilapidated sections of fence were repaired and cheater bars were installed at gates for easier human access.

Monitoring

Stream discharge was collected at the established gauging station on Mill Creek. Measurements were recorded on April 1, April 15, May 18, and May 25. During the spring runoff season, stream discharge peaked at 91.8 cubic feet per second before May 31.

Automatic temperature loggers were deployed on June 11, 2003 at two 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 in a meadow in the upper watershed and one in the lower watershed. The automatic recorders were collected from the field on September 22, 2003. Data was downloaded to a computer and summarized. During the summer season, water temperatures reached 15.49 degrees Celsius and 18.39 degrees Celsius at locations in the upper and lower watershed, respectively, on July 25, 2003.

Physical monitoring parameters were not collected in 2003 since data collection is on a rotational basis and not every parameter collected each year.

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 replacement is scheduled to begin during field season 2004; contracts were prepared in FY 2003. Culverts are expensive to replace, so the five priority culverts will likely take several years to complete.

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

Salary & Wages	$ 22,208
Fringe Benefits	$ 8,407
Sub-contracts	$ 23,625
Travel	-$ 1,641
Vehicles	$ 2,727
Supplies	$ 1,226
Materials	$ 1,380
Rent	$ 0
Equipment	$ 2
Indirect Costs	$ 7,985
TOTAL	**$ 65,919**