

Klamath River Riparian Fence Project Final Report

Cooperator: **PacifiCorp**
Cooperative Agreement: **14-48-11333-99-J065**
Project numbers: **99-319(h)-IV-06**
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Abstract

The Klamath River Riparian Fence Project includes the design and construction of 3 segments of livestock exclusion fence along both sides of the Klamath River. Fences are located along the river and tie into existing natural barriers to livestock movement. Native riparian trees were transplanted in several areas to accelerate riparian vegetation development and increase diversity. Fence construction and planting was completed by January, 2001.

Introduction

The goal of this project is to protect and improve riparian vegetation and water quality along PacifiCorp-owned ranchlands along the Klamath River through construction of livestock exclusion fencing. Fencing will allow restriction of grazing along the river in 3 livestock pastures. Expected long-term benefits include decreased erosion and sedimentation, increased riparian vegetation, and increased cover for fish.

The objective was to design and construct cattle exclusion fences along both sides of the river. Fences are tied into terrain or vegetation features that form natural barriers to livestock movement.

Study Area

The project is located on the Klamath River, approximately 2 miles upstream of Copco Lake in Siskiyou County, California (T. 48N, R. 3W, Sections 27, 28 and 32). This part of the river passes through an irrigated meadow/pasture complex that is used for livestock grazing. Vegetation near the fencing project includes pasture grasses, blackberry, scattered woody vegetation such as willow, ash, and alder, and patches of emergent wetland vegetation (sedges and rushes) along the river. The primary land use is livestock grazing.

Methods and Materials

Wire fences consisting of 4-strands with the following specifications: 3 upper strands of barbed wire and one bottom strand of smooth wire; 6-ft steel T-posts spaced 20-ft apart with a wire dancer inserted midway between posts; spacing between wires of 12, 12, 12, 18 inches from top to bottom; and corners consisting of rock crib or wood posts. Wire

gates were constructed at 3 locations for maintenance access. Fisherman gates were constructed at 3 locations to reduce potential damage to fences from public access.

Fences were constructed in 3 main pastures (Figure 1). A local rancher was contracted to build the fences.

Fence Construction:

1. Shovel Creek Meadow fence

Two fence segments were constructed in this pasture. The west fence consists of approximately 600 ft of 4-strand wire that ties the existing west pasture boundary fence to a point on the shoreline where the steep bank forms a natural barrier to livestock. A fisherman gate and a wire access gate were included in this segment.

The east fence segment consists of approximately 2313 ft of 4-strand wire fence beginning at a steep bank near the middle of the pasture and ending at the fence along the county road. The fence follows the Klamath River but jogs widely to the south to include a section of emergent wetland. It follows a small creek to the county road. One wire access gate and one fisherman gate were included in this segment.

2. Barn Lot pasture fence

Approximately 1013 ft of 4-strand wire fencing was constructed along the Klamath River, from the center of the pasture to the existing fence at the east end. One fisherman gate and one wire gate were included.

3. Island Pasture fence.

Approximately 100 ft of 4-strand wire fences were constructed to close a gap in the existing blackberry vegetation and prevent cattle from getting into the riparian zone.

Riparian Plantings:

Native riparian tree species (willow) were transplanted along the river at the Shovel Creek Meadow and Barn Lot pasture fencing sites to accelerate vegetation development and add diversity. Plant material consisted of dormant young rooted stock that was obtained from a nearby grazing pasture. Plants were lifted with a backhoe and were transplanted within 1-2 days. Planting sites were either immediately adjacent to the shoreline or were in low areas that received subirrigation from the pasture.

Results and Discussion

Approximately 4026 ft of fence was constructed in 3 pastures. The riparian fencing project was completed by January 2001. Fences were built between December 2000 and January 2001 and plantings were completed by mid-January. The pre-construction site visit and cultural resource consultations were completed during the summer of 2000 by USFWS personnel.

There were no major problems encountered during the construction of the fence, although there were minor contractor scheduling conflicts due to timing of grant funding approval. Photographs of the fence segments are included in Figures 2-6.

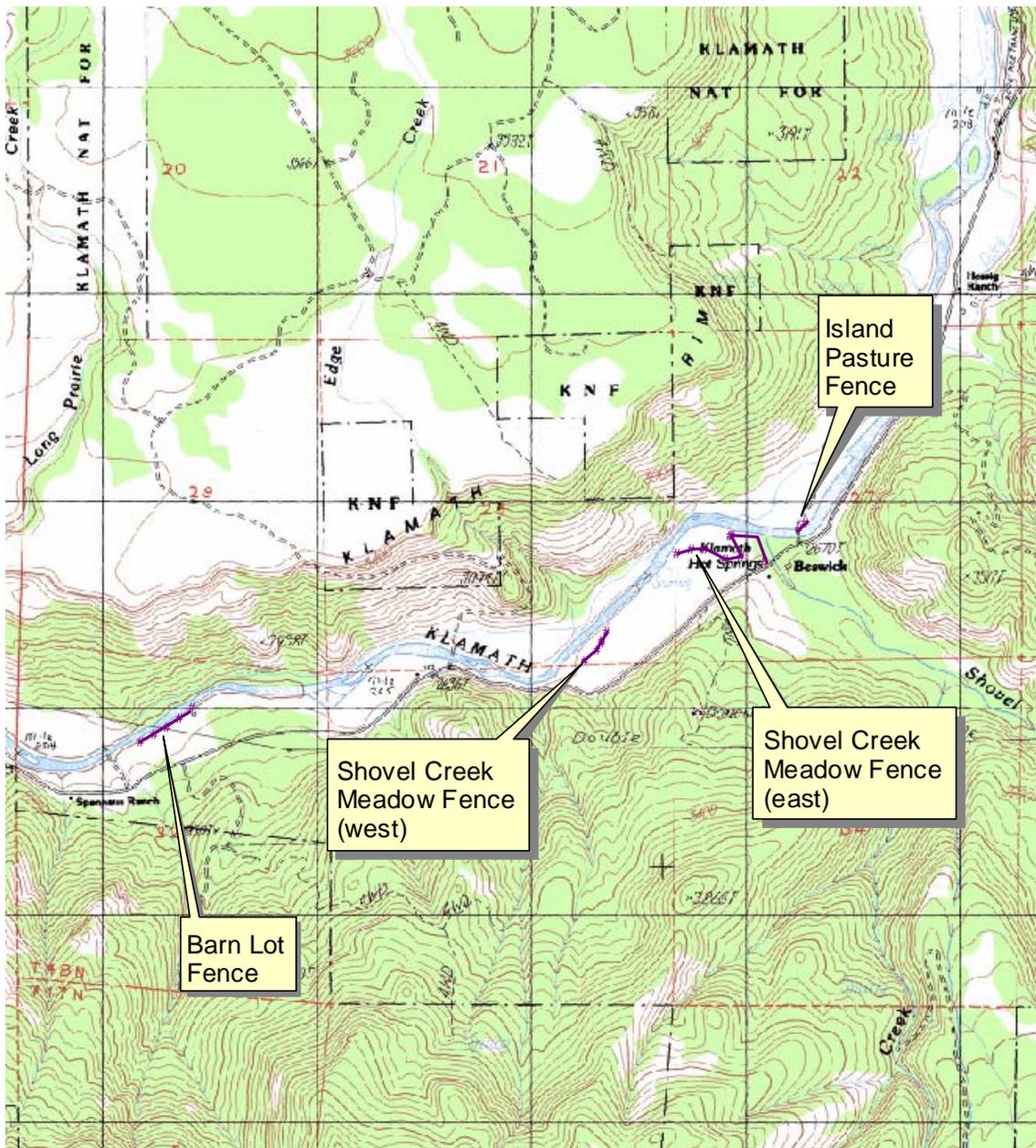
The amount of fencing is less than the original grant proposal (0.8 miles vs. 1.3 miles proposed) due to a number of factors including increased costs, vegetation growth since the proposal, and timing of the grant approval. The costs for some fence segments were somewhat higher than originally planned due to the addition of fisherman gates. One fence segment was dropped because of these higher costs and also from a lack of suitable terrain for water gaps and termination points along the river. In another area, growth of blackberry “hedges” closed the gaps in the eastern part of the Owens Pasture making several short proposed fence segments unnecessary. Finally, a 500-foot section of riparian fence that was originally proposed to be part of this project, was constructed by PacifiCorp during the winter of 2000. Because of its location and design, this fence segment had to be constructed concurrently with some repairs on a bridge and livestock corral; therefore it is not considered to be part of this project.

Willows were transplanted along the river at the Shovel Creek Meadow (Figure 3) and Barn Lot fencing sites. In the Shovel Creek Meadow site, one or two rows of willows were planted along the riverbank with an approximate spacing of 3 feet. A backhoe with a narrow bucket was used to dig most of the planting holes due to the rocky substrate. Weather conditions were good for planting (cool and raining).

The fences will be monitored opportunistically during the periods of livestock use and repairs will be conducted as needed.

Summary and Conclusions

The new riparian fences allow control of livestock grazing along 3 areas along the Klamath River. The fenced area includes irrigated meadow, wetland, and riparian vegetation communities that were used for grazing. By excluding cattle from these areas, there should be a reduction of livestock-related effects on water quality and riparian vegetation should be able to grow more rapidly, benefiting both fish and wildlife.



0 1000 2000 3000 4000 5000 Feet



Figure 1. Klamath Riparian Fence Project



Figure 2. Riparian fence at Shovel Creek Meadow (east side).



Figure 3. Riparian plantings in Shovel Creek Meadow (east side).



Figure 4. Fisherman gate on riparian fence at Shovel Creek Meadow (west side). Fisherman gates were installed to prevent damage to the fence from public access. Top crossbar clearance is approximately 6-ft high.



Figure 5. Riparian fence at Owens Pasture.



Figure 6. Riparian fence at Barn Lot Pasture showing fisherman gate.