Upper Grande Ronde
Headwater Initiative
Small Streams Restoration

Project Completion Report

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Contract #: 81778

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United States Forest Service
Wallowa-Whitman National Forest

LaGrande Ranger District
LaGrande, OR

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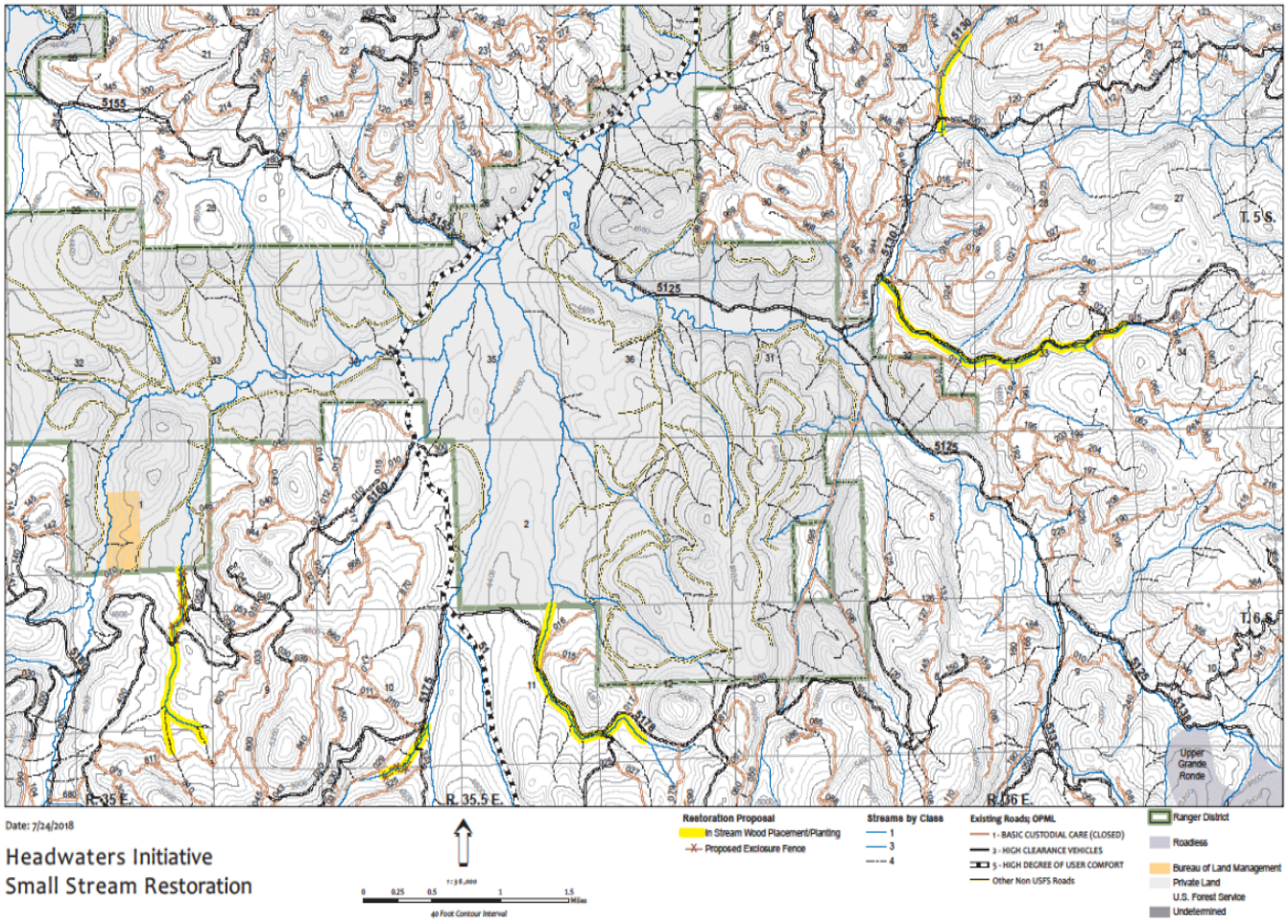
Small Streams Restoration Project

Location: The Headwaters Small Stream Restoration Project involves 5.25 stream miles on the following streams (see map below). All of these streams are located within the Upper Grande Ronde River Watershed (17060104).

- South Fork Limber Jim (2.2 miles), Limber Jim Subwatershed (170601040102) – T 5S, R36E, S 32-34.
- North Fork Limber Jim (.7 mile), Limber Jim Subwatershed (170601040102), T 5S, R36E, S 20
- Dry Cr (1.6 miles), Sheep Creek Subwatershed (170601040105), T 6S, R 35.5 E, S 11, 12
- Sheep Creek Tributary (.75 miles), Sheep Creek Subwatershed (170601040105), T 6S, R 35 E, S 1, 12.

Project Map - Upper Grande Ronde Atlas Tier 1, UGR 19 & Tier 2, UGR 18.



Introduction: Historic trapping, overgrazing, logging, road building, and an altered fire regime have degraded the small streams' watersheds ecological form and function. The loss of functional meadow and stream habitat adversely effects the survival and rearing of native salmonids, other fish, and wildlife species. Beaver trapping pressure in the19th Century almost caused extirpation of this species in the western United States. As a result, vertical erosion and channel incision occurred. Channel incision has altered the stream systems by lowering streambeds and groundwater tables causing a further decrease in riparian vegetation.

Existing Conditions: Historic trapping, overgrazing, logging, road building, & an altered fire regime have degraded the small streams' watersheds ecological form & function. The loss of functional meadow & stream habitat adversely effects the survival of salmonids. Channel incision has altered the streams by lowering streambeds & groundwater tables causing a further decrease in riparian vegetation.

Objectives: The objective is to improve spring/summer chinook, summer steelhead, and bull trout habitat, through the following goals.

1: Physical - Restore Hydrologic Function

The project will increase hydration of laterally confined channel to improve groundwater retention. Use Large Woody Debris (LWD) to restore stream grade, reduce hydraulic efficiencies, and increase floodplain meadow inundation time. LWD structures will be placed in locations to increase roughness and back up water. Restoring hydraulic form and function will facilitate an increase in floodplain water storage, flow attenuation, and spring and seep connection. Longer periods of floodplain inundation will moderate extreme high and low seasonal temperatures. Instream LWD structure types designed to meet these goals include channel spanning structures, lateral forcing structures, and floodplain wood.

2: Biological - Improve Fish Habitat

These structures will enhance scour pool habitat, cover, and floodplain connection. The structures will increase hydraulic complexity and zero velocity refugia on active channel margins. This will facilitate water retention, gravel deposition and sorting, and LWD recruitment.

Project Accomplishments

Wood placement: All of the wood for these streams was obtained within 200 feet on each side of the streams. All of the wood was felled (no trees pushed over) and brought to the stream with the use of mini excavators. Two mini excavators often worked together to place the wood in the stream. Small debris jams were be placed in the creek and averaged 50 debris jams per mile. Each debris jam consisted of 5 logs (9" – 12" in diameter and 20' long) with branches intact and racking material (consist of tree tops, branches and small trees less than 8" in diameter). In addition, 50 whole trees (10" – 12" in diameter) were spaced in between sites.

Fencing

Approximately .6 mile of stream (1.25 miles of fence) on Sheep Creek Tributary stream was fenced from livestock. The exclosure is a 4 strand, barbwire configuration.

Seeding

All disturbed areas were seeded with native grass seed.

Sheep Creek Small Tributary – Pre Implementation

Sheep Creek Small Tributary – Post Implementation photo

Mini excavator at work.

Typical channel spanning jams