UGR Mine Tailings Reclamation 10

Contract #: 46833

Project #: 1992-026-01

Final Report

Period Covered: 4/1/2010 – 2/29/2012

Completed by: Joe Platz

United States Forest Service

Wallowa-Whitman National Forest

LaGrande Ranger District

LaGrande, OR

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UPPER GRANDE RONDE RIVER MINE TAILINGS RESTORATION PROJECT

The Upper Grande Ronde River Mine Tailings Restoration Project was the most extensive project of the period. The influential impact on this section of river was the historic gold mining activities associated with Camp Carson Mining District. The mine tailings left behind from the gold dredge operation covered the Upper Grande Ronde River floodplain for 2.5 miles. As a result, aquatic habitat exhibited poor riparian growing conditions, hindered floodplain connection and functionality, a constrained stream channel, and reduced habitat diversity and complexity.

Dredge Mining Results (c.1939)

Tailings in Floodplain

Restoration Objectives

- Improve floodplain connectivity
- Improve water capture, storage, and safe release within the floodplain
- Increase quantity and quality of pools
- Increase fish cover and spawning gravel recruitment
- Improve habitat complexity, forage availability, and stream shading
- Increase the number of large and medium pieces of large woody structure in streams

Before

After

Restoration Treatments

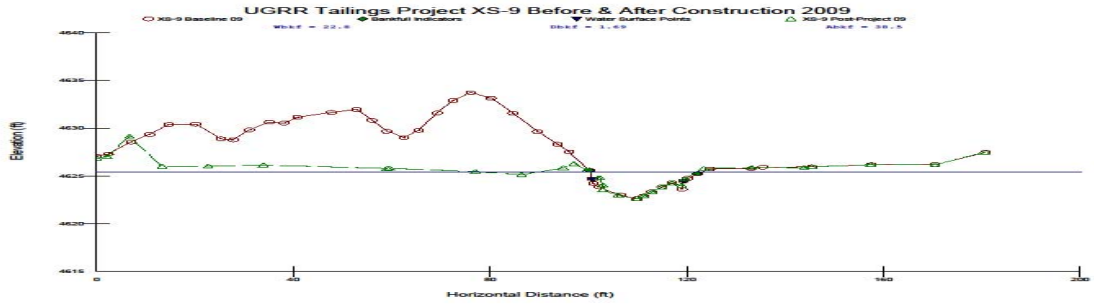
- Relocated 5,000 dump truck loads of mine tailings.
- Restored 2.5 miles of floodplain.
- Established 4 side channels.
- Placed large wood/boulder additions along 5 miles of river channel.
- Partially removed/modified 44 old sill log structures.
- Removed and re-contoured 7 stream side dispersed camping sites.
- Established and defined 17 new dispersed camping sites.
- Seeded and mulched 5 miles of stream bank and re-contoured slopes.
- Planted 5 miles of stream bank with deciduous and conifer species.
- Constructed 125 small exclosures to protect deciduous seedlings.
- Obliterated and re-contoured 1.5 miles of stream bottom road.
- Closed 4 miles of OHV trails.

Large Wood/Boulder Additions

Total cost: $830,057 (USFS funds - $339,222; BPA - $391,919; CTUIR - $98,916)

Several monitoring techniques have been employed to track restoration effectiveness. These include: 1) Photo point observation, 2) Cross section analysis, 3) Longitudinal profile analysis, 4) Stream survey comparisons, 5) Plant survival surveys, 6) stream temperature and 7) noxious weed monitoring. In addition, Oregon Department of Fish and Wildlife (ODFW), CTUIR, and/or Oregon Water Resources Department conduct spring/summer Chinook redd monitoring, early life history research, temperature and stream flow monitoring within the project area. Monitoring results indicate the following.

Transformation at XS-9



Hankin and Reeves Survey Results

Wood Count	Floodprone Width
Pre Project – 273 pieces	Pre Project – 66.1 feet
Post Project – 694 pieces	Post Project – 97.2 feet

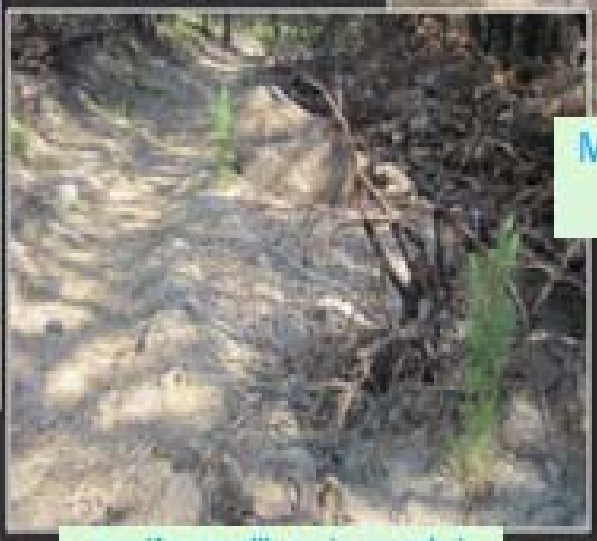
Upper Grande Ronde Mine Tailings Planting Project

Survival Rates

- Conifer Seedlings = 88%
- Deciduous Seedlings = 73%
- Cuttings = 73%

Mine tailings stockpile planting

Deciduous seedlings with vexar



Conifer seedlings (4 months)