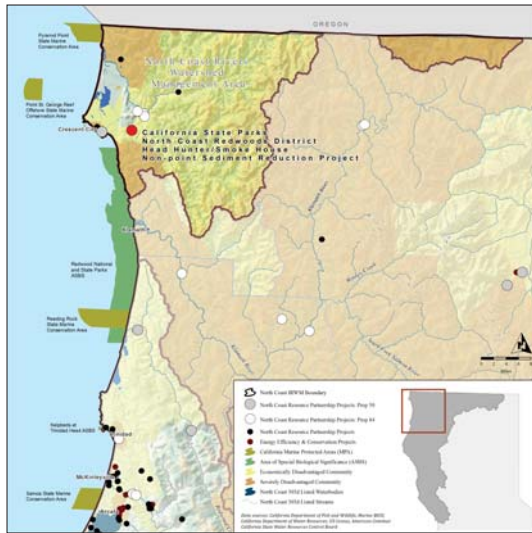


Head Hunter/Smoke House Non-Point Sediment Reduction

CALIFORNIA DEPARTMENT OF PARKS AND RECREATION



STATEMENT OF THE PROBLEM

The Mill Creek Watershed Addition (MCA) was managed for timber, resulting in an extensive network of haul roads, skid networks, landings, and clear-cut slopes. These pose a threat to aquatic resources of Hunter, Mill, Rock, and Wilson Creeks.

PROJECT GOALS

Short-term Goals: prevent road-related sediment delivery to the drainage network

Long-term Goals: protect water quality and preserve salmonid habitat

THE SOLUTION

This project eliminated road-related erosion by recontouring the landscape to pre-disturbance topography. The landscape was re-formed into unbroken hillside, ridge top, stream drainage, etc. with no further maintenance required.

PROJECT IMPLEMENTATION AND ACCOMPLISHMENTS

The project used techniques described in the CDFW California Salmonid Stream Habitat Restoration Manual Part X (2006).

- **Road segments.** Excavators and dozers removed vegetation growing on the cutbank, cutbench, and embankment, moved and compacted fill, and recontoured road surfaces. Trees and brush moved prior to excavation were used as mulch.
- **Landings.** Recontouring landings required the same methods as recontouring roads; however landings had larger embankment unit volumes.
- **Stream crossings.** Trees and brush were removed and a temporary dam of sandbags installed upstream to create a small pool. A trash pump and fire hose diverted stream surface flow. The excavator removed fill from crossing banks and excavated the stream channel. Bare soil surfaces were mulched with removed vegetation and the following winter, disturbed areas within 30 m of the channel centerline were reforested with native trees.
- **Sediment pollution reduction.** Roughly 43% of the total volume of fill was estimated to erode or fail and deliver to the drainage network. Restoring natural hydrologic and topographic patterns and recontouring the potentially unstable material eliminated excessive erosion likely to occur, alleviating downstream impacts.

PROJECT BUDGET

Total cost: \$269,162

BENEFITS

Economic

- Contributes to efforts to revitalize commercial salmon fisheries
- Increased terrestrial recreation due to improved trail construction corridors
- Increased aquatic recreation due to improved whitewater rafting and kayaking
- Using a benefit of \$6/ton to represent the sum of several avoided costs associated with reducing sedimentation, this project provided a benefit of \$33,534¹
- Using a benefit of \$2,100 per tree, planting 223 native trees (60% survival rate) provides an estimated yearly carbon sequestration benefit of \$351,225²

Habitat and Ecosystem Function

- 20,700 cubic meters of sediment stabilized/prevented from entering water courses
- Increased habitat connectivity and reduced terrestrial migration barriers
- Reduced pool filling, reduced stream bank erosion, improved cover and spawning habitat
- 250 feet of stream channel restored to hydrologic function
- 2.9 miles of abandoned logging roads decommissioned and restored to natural topography and hydrology

Jobs and Local Economy

- The project cost \$269,162, which was spent locally, using local labor and supplies when possible, contributing to State goals for environmental justice and social equity.
- 9 jobs created/maintained

NEXT STEPS

Long-term management of the MCA will focus on restoring old growth forest characteristics to this former commercial timberland, providing opportunities for recreation, research, interpretation, and protecting biological and cultural resources (CDPR 2011).

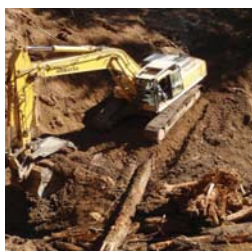
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REFERENCES

California Department of Parks and Recreation (CDPR). 2011. Local Watershed Plan, Mill Creek Property and Watershed, Del Norte Coast Redwoods State Park.

Flosi, G., R.N. Taylor, M. Love, B. Weaver, D. Hagans, E. Weppner, and K. Bates. 2006. California Salmonid Stream Habitat Restoration Manual, Volume 2. 4th edition. Part X Upslope Erosion Inventory and Sediment Control Guidance.



NORTH COAST RESOURCE PARTNERSHIP

COMPLETION DATE

August 3, 2010