Middle Upper Grande Ronde River (MUGRR) Fish Habitat Enhancement Project

IMPLEMENTERS: The Confederated Tribes of the Umatilla Indian Reservation (CTUIR), Wallowa-Whitman National Forest (WWNF), La Grande Ranger District, Grande Ronde Model Watershed (GRMW), and Bonneville Power Administration (BPA) partnered on the Middle Upper Grande Ronde River Fish Habitat Enhancement Project which was constructed in July 2019.

PROJECT LOCATION: The project is located in the Upper Grande Ronde Subbasin along the Grande Ronde River between RM 156 and RM 158 and included 0.30 miles of lower Fly Creek, a tributary. The Project reach is located on the Wallowa-Whitman National Forest within the Upper Grande Ronde River Atlas Biological Significant Reach UGR15.

PROJECT BACKGROUND: Fish habitat suitability has been significantly affected and suppressed by physical alterations of the river and its associated floodplain (splash dam logging, mining, and road construction) that have contributed to severely degraded habitat conditions. Problems include homogenous, high energy, plane bed riffle-run channel types with a lack of large pool habitat, channel complexity, peripheral habitat bed armoring and alteration of sediment sorting and coarsening of streambed gravel, altered groundwater and hyporheic function, and degradation of riparian and wetland plant communities.

ESA ESU or DPS: Grande Ronde/Imnaha - Catherine Creek Sping/Summer Chinook, Upper Grande Ronde Steelhead.

Aerial imagery taken of portion of project reach post construction

Helicopter placing large wood jam structures

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PROJECT OBJECTIVES:

- Increase the quantity of suitable habitat for all life stages of spring Chinook salmon, summer steelhead, bull trout and other native fish (including pools, side channels, complexity, and physical and hydraulic diversity).
- Promote diverse geomorphic processes, features, and patterns of sediment movement, sorting and deposition in stream channels and floodplain.
- Promote physical, geomorphic, and ecologic conditions that buffer diurnal and seasonal water temperature fluctuations within the project area and allow access to cold water spring sources.
- Re-connect floodplain and side channels to provide off channel habitat and natural flooding,
- Promote riparian vegetation establishment to support overall bank stability, particularly in locations where habitat structures have been installed and along banks with increased hydraulic roughness that are susceptible to erosion from loss of root mass.

Helicopter placing large wood jam structures

IMPLEMENTATION ACTIONS: The project included installation of 39 large wood structures and placement of an additional 574 wood pieces in complexes along the main Grande Ronde River channel, side channels and on the floodplain utilizing helicopter contractor.

HABITAT RESPONSE: Provide channel roughness, sediment storage and routing, pool formation and habitat complexity. Small wood assemblages were utilized in conjunction with large wood to provide floodplain roughness as well as racking and habitat complexity. Strategic small wood placement upstream of large wood structures was employed to promote natural racking on these large structures to provide additional cover, complexity, velocity refuges and deposition of sediments.

FISH RESPONSE: Targeting limiting factors such as temperature, in-stream habitat conditions, and sediment loads will achieve immediate benefits to salmon. Long term benefits will be realized through a focus on restoring fluvial habitat-forming processes, floodplain and groundwater hyporheic connectivity, riparian and wetland plant communities, and instream complexity and diversity commensurate with the reach's natural potential.