Prospectus of Proposed Project Opportunity

Submitted Jun 06, 2018

Opportunity Title

Free Willow, Lower Willow Creek Fish Passage Design

Opportunity Lead

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Technical Contact

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Landowners

Ron Hills
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Phone: 541-534-2642

Sam Royes
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Sky Huber
Address: 65526 Courtney Ln Summerville Or 97876
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Contacted: Yes
Supportive: The landowners have been contacted and to date have been very supportive of the idea of increasing fish passage at the two

diversions (Huber and Royes).
Contribution: The landowners will be providing technical assistance through the design review process to determine the most appropriate design alternative that both facilitates their irrigation needs and fish passage requirements.

River

Name: Willow Creek
Mile: RM 2.28 and RM 5.34
Tributary: Grande Ronde River

Restoration Atlas

BSR: UGR4
Tier: Tier 3
Initial Score: 65
Proposed Score:

Restoration Activities

23. Structural Passage (Diversions)

Species Affected

Focal: Snake River Spring/Summer Chinook and Snake River steelhead
Other: redband trout, largescale sucker, northern pikeminnow, and pacific lamprey

Description

Historically, the downstream section of Willow Creek formed a low gradient channel that meandered through a large wetland complex consisting of herbaceous and shrub plant communities. Portions of the channel have been modified from the original form, primarily by riparian plant removal and livestock grazing. Currently, vegetation within the floodplain is predominantly grasses with some segments retaining dense communities of natural shrub species. The stream within this reach remains as a low gradient and meandering channel, although high rates of bank erosion are apparent in many areas due to a lack of stabilizing vegetation and continued livestock grazing.
The Project is comprised of both the Royes and Huber dams. Both Huber and Royes dam structures are locally owned by a small number of close neighbors or related families. They were first built around 1950 and each was originally a simple 3-bay concrete stoplog structure. The stoplogs are specialized bulkheads that are dropped into premade slots or guides in a control structure. The purpose of these control structures is to raise the water surface elevation upstream of the dams, thereby creating a backwater

pool that allows water users upstream to divert irrigation water. The Royes dam has been raised in height a few feet since original construction. The Huber dam has been filled with concrete and an approximate 24-inch diameter culvert positioned at the bottom of the center bay with a C-gate installed on the front of the culvert to allow drainage of the pool. Water spills over the fill concrete on the Huber dam when the C-gate is closed, and even when the gate is open, flows can exceed the capacity of the culvert and will also spill over the concrete sill. Due to concerns about channel erosion downstream of the Huber dam, two additional culverts with C-gates were later installed upstream of the structure. This water runs through a manmade ditch that connects to the old channel about 1,200 feet downstream from the Huber structure.

The backwater pool formed upstream of the Royes Dam when all stoplogs are installed, extends upstream approximately 1.8 miles upstream to the Summerville Road bridge. The OWRD water rights database identifies 12 point of diversion (POD) locations water can be pumped from that pool, but there are only 5 known active pumping sites with the most upstream pump located near the Summerville Road bridge.

The Huber backwater pool may extend as far upstream as the Royes Dam at high flows, but more commonly extends only about one mile upstream from the Huber structure. The OWRD water rights database identifies up to nine POD locations that can pump from the Huber pool but currently only three to four pumps are in operation, with three of these located near the Huber structure.

Both dam structures are operated in a similar fashion. After spring high flows, usually around the first of May when irrigation begins, the water users install stoplogs at the Royes Dam and shut the three C-gates at Huber Dam. This raises the pool upstream of each structure so water then spills over the stoplogs or concrete sill. Throughout the irrigation season, the water users may adjust the elevation of the pools by removing or adding stoplogs at the Royes Dam or adjusting the C-gates at Huber Dam depending on which pumps need pooled water. The pools are rarely lowered during the irrigation season unless repairs are needed. In the fall, usually around the first of November, the water users will remove the stoplogs and open the C-gates to drain the water. At the Royes Dam, stoplogs are usually removed from one or two bays to allow the pool to drain out. One or two C-gates at the Huber Dam are initially opened, and then the third C-gate is opened as winter approaches. Leaving the stoplogs and gates open during winter months allows the pools to drain and sluices any silt that may have accumulated behind the structures.

The goal of this project is to help meet requirements of the 2008 Biological Opinion for the Federal Columbia River Power System (FCRPS BiOp) for improving conditions for ESA-listed fish species by providing fish passage to important habitat in the Grande Ronde River and its tributaries. The output of this technical assistance funding will be implementation ready designs which include: construction specifications and drawings, construction cost estimates, a Revegetation Plan, and environmental permits including: Oregon Removal/Fill permit and CWA Section 404 permit through the DSL/COE Joint Permit Application, NHPA Section 106 requirements, a 1200C permit, and DEQ Section 401 permit. Design development and completion is planned for 2019 with implementation anticipated to begin during the 2020 instream water work window.

Objectives

Design objectives include the following:
1) Develop and select fish passage design alternatives for juvenile and adult spring/summer Chinook salmon (Oncorhynchus tshawytscha) and summer steelhead (Oncorhynchus mykiss) during periods of migration that achieve Oregon Department of Fish and Wildlife (ODFW) and National Marine Fisheries Service (NMFS) fish passage criteria to the greatest extent possible.
2) Develop a fish passage design that maintains access and use of irrigation water for water rights holders and irrigators.
3) Provide a sustainable, permittable, easily maintained design at a reasonable cost.

Major Risks

The only risks associated with the project at this time are securing funding and permitting. Once technical assistance funding is secured the USWCD will rapidly secure an engineering firm and work diligently through the design process to expedite permitting and implementation.

Permits and Consultation

ESA Section 7 USFWS: Applicable
ESA Section 7 NMFS: Applicable
COE or DSL Permit: Applicable
Cultural Resources Section 106: Applicable
DEQ 401 Water Quality Permit: Applicable

Project Schedule

Year: 2019

Monitoring: Temperature monitoring will begin in the summer of 2018 and continue through 2021. No other monitoring for the design stage of this project will be conducted.

Project Relations

Multi-phase Effort: Yes
Phase Description: Technical Assistance for the design of the two new fish passage systems and Construction of the designs.
Could Phase 1 be a Stand Alone Project: False
Would the project lose value if future phases don’t happen: The Huber and Royes dams pose individual obstructions to fish migration and should both be modified to improve passage conditions. It is possible to phase this project by treating only one structure at a time. If an improved passage design is implemented at only one of the structures, the other structure

will continue to be a limiting factor for fish population recovery in Willow Creek and the Grande Ronde Subbasin.

Preliminary Cost Estimate

Total: 250,000.00
BPA Funding: 0
OWEB Funding: 250,000.00

Design Funding

Design Funds Requested: No