



# **Prospectus of Proposed Project Opportunity**

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## **Opportunity Title**

Wallowa Valley Improvement Canal Fish Passage Designs and Irrigation Efficiency

## **Opportunity Lead**

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## **Technical Contact**

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## **Landowners**

Contacted: Yes

Supportive: The landowners of the irrigation canal consist of those associated with the Wallowa Valley Irrigation District (WVID). We have coordinated with the board members of the WVID and they are in support of an irrigation assessment and development of fish passage designs. The land on which much of the canal exists is managed by the U.S. Forest Service, who have been coordinated with throughout project development and are also in full support of the project.

Contribution: The board of the WVID are part of a team that will review designs and provide feedback in the development process since their input and continued support will be necessary to evaluate effectiveness and maintenance needs. The U.S. Forest Service also participates in the technical team and will review all design phases and irrigation alternatives.

## **River**

Name: Big Sheep Creek, Little Sheep Creek, McCully Creek

Mile: BS: 35, LS: 26

Tributary: Little and Big Sheep are tribs to Imnaha R., McCully feeds into the valley.

## **Restoration Atlas**

BSR: BSC-1

Tier: Tier 2

Initial Score:

Proposed Score:

## **Restoration Activities**

23. Structural Passage (Diversions)

32. Irrigation System Upgrades -Water Management

## **Species Affected**

Focal: Focal: bull trout and Snake River summer steelhead The primary focal species for this project is bull trout, partially due to the fact that we have a better understanding of the bull trout problem within this canal due to research led by USFWS in 2006-2012. However, Snake River summer steelhead distribution only extends as far up as the diversions on Little Sheep and Big Sheep, supporting the full migration barrier and addressing these diversions would expand steelhead distribution in Little Sheep and Big Sheep watersheds.

Other: Additionally, the struggling Snake River Spring Chinook Salmon population within Big Sheep would benefit from improved temperatures, increased flows, and access to cold water refuge as a result of improving irrigation efficiency and passage.

## **Description**

The Wallowa Valley Improvement Canal (WVIC) is a water irrigation canal within the Imnaha River subbasin. First constructed in the 1880s to divert water into the Wallowa Valley, the canal spans various creeks within the Imnaha subbasin. It originates in the headwaters of Big Sheep Creek, crosses over to Little Sheep Creek (at portions sharing the same alignment as Little Sheep), and also captures all of McCully Creek and various other small tributaries (Salt, Redmont, Ferguson, and Canal Creeks).

Associated with this canal are three major points of diversion at Big Sheep, Little Sheep, and McCully Creeks, none of which are screened. Bull trout have been documented throughout this canal (Hudson et al. 2017) and

summer steelhead distribution within Big and Little Sheep extends only up until the points of diversion. Both of those diversions are identified as full passage barriers by ODFW for bull trout and steelhead and classified as priority barriers.

Additionally, significant water losses are experienced throughout the canal. In partnership with the U.S. Fish and Wildlife Service, Wallowa Resources will evaluate various methods of improving irrigation efficiency to create a water savings within the Big and Little Sheep watersheds while preserving the water rights of the irrigators.

## **Objectives**

There are two primary objectives that we aim to accomplish with the technical assistance: 1.) Develop designs for the fish passage barriers at the major points of diversion, as well as identify solutions for addressing passage at the smaller captured tributaries, and 2.) Assess irrigation needs and provide alternatives to improve efficiency to create water savings within bull trout occupied critical habitat.

## **Major Risks**

When it comes to implementation, the primary hurdles will be dependent on the strategy for irrigation efficiency and fish passage. In order to meet the needs of the irrigators and species, solutions will need to preserve the irrigators legally allotted water rights, provide sufficient irrigation efficiencies that also provide a water savings, as well as manageable maintenance requirements.

## **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: 2028

Monitoring: Potential monitoring associated with this project could include:

- Flow and temperature monitoring to identify water savings and thermal changes before and after project implementation
- Evaluation of passage at the new diversion structures and confirming exclusion of fish from the canal system
- Population monitoring of steelhead and bull trout to determine if their distribution is expanded post-implementation

## **Project Relations**

Multi-phase Effort: Yes

Phase Description: While we are not yet to the implementation phase, this project would ultimately result in a multi-phase effort to address all aspects of irrigation and passage. The sequencing is yet to be determined, but would have to involve considerations of providing irrigation, timing of in-water work windows, logistics of de-watering and salvage, etc.

Could Phase 1 be a Stand Alone Project: False

Would the project lose value if future phases don't happen: While we have not yet identified the specifics of each phase, it is unlikely that this will be able to implemented within one year given the scope and scale of what is proposed.

## **Preliminary Cost Estimate**

Total: ~\$250,000.00

BPA Funding: TBD

OWEB Funding: \$177,548.000

## **Design Funding**

Design Funds Requested: Yes

Design Option: Option 2

Type of Work:

- Technical project management

- Hydrology, geomorphology, or river hydraulic modeling

- Fish passage and fish screening design

Specialties:

- Stream restoration engineer

- Fluvial geomorphologist