Prospectus of Proposed Project Opportunity

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Opportunity Title

Chesnimnus Creek RM6.4 Floodplain Restoration

Opportunity Lead

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Landowners

Michael Williams
Address: P.O. Box 156 Enterprise, OR 97828

Contacted: Yes
Supportive: Yes
Contribution: Acreage will be converted from pasture to floodplain.

River

Name: Chesnimnus Creek
Mile: RM4.6 - RM9.1
Tributary: Joseph Creek

Restoration Atlas

BSR: MCC-1
Tier: Tier 2
Initial Score: 48
Proposed Score:

Restoration Activities

2. Channel Reconstruction
3. Pool Development
4. Riffle Construction
7. Levee Modification: Removal, Setback, Breach
8. Remove - Relocate Floodplain Infrastructure
9. Restoration of Floodplain Topography and Vegetation
11. Perennial Side Channel
12. Secondary (non-perennial) Channel
13. Floodplain Pond - Wetland
14. Alcove
15. Hyporheic Off-Channel Habitat (Groundwater)
16. Beaver Restoration Management
17. Riparian Fencing
18. Riparian Buffer Strip, Planting
20. Remove non-native plants
23. Structural Passage (Diversions)
27. LWD Placement
28. Modification or Removal of Bank Armoring
31. Improve Thermal Refugia (spring reconnect, other)
35. Road Decommissionsing or abandonment
36. Road Grading - Drainage Improvements

Species Affected

Focal: Snake River Summer Steelhead, Pacific Lamprey
Other: Rainbow trout, dace, sculpin, other various native aquatic, amphibious, and terrestrial species.

Description

The current condition of this reach of Chesnimus Creek is significantly degraded from historic conditions. Due to decades of livestock grazing, channel manipulation, levee construction, vegetation clearing, infrastructure placement, and other anthropogenic actions, both the stream channel and floodplain have been extremely simplified and disconnected.
The majority of floodplain under restoration consideration is pastureland, some of which is being used seasonally to graze cattle in the fall. A riparian fence currently runs very close to the creek, which includes intermittent water gaps. These water gaps are located at low gradient sites where steelhead spawning may otherwise occur, however, the channel has been over-widened, and substrate is imbricated and simplified. Additional ecological disfunction was observed in September 2021, where a large

stretch of Chesnimnus Creek immediately upstream of the proposed project reach was dry potentially for the first time on record, according to local US Forest Service staff.
Although there is some remnant beaver activity observed, this reach is severely lacking in riparian vegetation, and does not consistently provide enough forage material to sustain healthy beaver populations. Historically, this watershed would have likely been a willow and alder dominated meandering wet meadow complex brimming with beaver dams. This geomorphic and biological combination would have effectively spread out and attenuated water and sediment coming through the system annually during spring high flows. Water captured in the floodplain during these events would have recharged groundwater and intercepted hyporheic flows, proliferating riparian vegetation to the benefit of beaver and fish through increased food production, reduced sedimentation, and improved stream temperatures and baseflows. In the absence of these symbiotic factors that previously captured runoff, spring flows now flash through the system, and leave the watershed hot and dry through the summer and into the fall. These disruptions in natural watershed processes have resulted in deleterious impacts to various life stages of ESA listed summer steelhead - with egg incubation/fry emergence, and juvenile summer and winter rearing being the highest priority, and to a lesser degree, adult immigration, holding, and spawning.
The goal is to complete designs and permit a project to improve instream structure, floodplain connectivity, and native vegetation conditions resulting in enhanced juvenile and adult steelhead and lamprey habitat in Chesnimnus Creek.

Objectives

Objectives include:
1) Secure funding to hire a reputable river restoration design firm to produce an engineer-stamped final design plan set, construction specifications, environmental permits, and bid documents necessary to implement an instream and floodplain habitat enhancement project between RM4.6 and RM9.1 on Chesnimnus Creek by 2025.
2) Facilitate design review and approval of 15%, 30%, and 80% project designs with the Wallowa Atlas Implementation Team, regulatory agencies, and BPA RRT.

Major Risks

Specific risks will be evaluated once design alternatives are developed and restoration actions are defined. It is likely Floodplain Connectivity and Channel Reconstruction will be among those selected restoration actions, these activities fall under the BPA HIP Review "High" risk category. However, provided infrastructure is limited in the project reach, and the channel gradient is low, these risks are anticipated to be relatively minimal.

When working on private land, there is always a risk related to changes in landowner willingness. Consistent communication to keep the landowner

informed and involved throughout the design process will be paramount to successful 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: 2026

Monitoring: A monitoring plan will be developed through the design planning process and will likely include a minimum of the following components:
- Pre (minimum 1 year) and post (annually for 3 years minimum) aerial drone imagery collection to detect changes to channel, floodplain, and vegetative conditions overtime
- Pre and post implementation photo point documentation
- Pre and post implementation temperature monitoring

Project Relations

Multi-phase Effort: Yes
Phase Description: If funded, final designs resulting from this proposal will be used to implement the first of two phases planned to restore approximately nine total miles of Chesnimnus Creek. There are a total of three privately owned properties along the nine mile stretch - this project/phase encompassing the most upstream property, with two additional properties downstream. The project sponsor and partners chose to break this larger reach up in order to obtain T.A. funding adequate to effectively cover design costs.
Could Phase 1 be a Stand Alone Project: True
Would the project lose value if future phases don’t happen: Yes, this phase can be completed as a stand-alone project. Being that this proposed project reach encompasses the entire extent of the upstream-most property, which makes up roughly half of the entire nine mile reach, implementing this reach alone will significantly contribute to ecological uplift in Chesnimnus Creek. Although all three landowners have expressed their willingness to have restoration implemented on their land as soon as possible, this first phase can function as somewhat of a pilot project that can be drawn from in any subsequent phase(s) downstream.

Preliminary Cost Estimate

Total: $150,000
BPA Funding: $75,000
OWEB Funding:

Design Funding

Design Funds Requested: Yes
Design Option: Option 1
Type of Work:
Technical project management
River and stream data acquisition (hydrology, sediment, surveying, assessment, fisheries)
Hydrology, geomorphology, or river hydraulic modeling
Stream and fisheries habitat design
Stream and fisheries habitat restoration contract - construction plan and specification development
Stream and fisheries habitat restoration construction quality assurance, management, and inspection

Specialties:
Stream restoration engineer
Fluvial geomorphologist
Riparian ecologist
Fisheries biologist
Suveryor
GIS specialist
Project manager