Prospectus of Proposed Project Opportunity

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Opportunity Title

Chesnimnus Creek - Williams Reach

Opportunity Lead

Kathryn Frenyea
Organization: Nez Perce Tribe
Phone: 541-432-2506
Email: kathrynf@nezperce.org

Technical Contact

Montana Pagano
Organization: Nez Perce Tribe
Phone: 541-432-2507
Email: montanap@nezperce.org

Landowners

Michael S. Williams Revocable Trust
Address: P.O Box 156 Enterprise, Oregon 97846
Email: ccranch11@gmail.com

Contacted: Yes
Supportive: Yes. The landowners are very supportive of the project, particularly aspects that create more channel sinuosity and enhance or restore beaver habitat.
Contribution: The landowner has agreed to convert acres of pasture to floodplain as well as restrict cattle in the project area. Additionally, the project plans to incorporate large wood from adjacent stands of timber. The landowner will donate materials and assist in marking restoration trees for implementation.

River

Name: Chesnimnus Creek
Mile: RM4.3 - RM9.2
Tributary: Joseph Creek

Restoration Atlas

BSR: MCC-2
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
10. Floodplain Construction
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
26. Boulder Placement
27. LWD Placement
28. Modification or Removal of Bank Armoring
31. Improve Thermal Refugia (spring reconnect, other)
34. Upland Vegetation Treatment - Management
35. Road Decommissionsing or abandonment
36. Road Grading - Drainage Improvements

Species Affected

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

Description

The current condition of this reach of Chesnimus Creek is significantly degraded from historic conditions. Due to decades of varied land management, 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 occur, however, the channel has also 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 overarching project goal is to enhance aquatic habitat diversity and restore natural stream function, including the encouragement and/or mimicry of beaver activity, for all freshwater life stages of threatened and sensitive species within the project reach.

Objectives

Project objectives include:
* Reconnect or create new secondary channels and off-channel connections and improve channel geometry to include a generally low width-to-depth ratio with increased hydraulic diversity and sediment sorting that is favorable for spawning (width, depth, and velocity with ample structure and cover).
* Increase seasonal floodplain connection and function to dissipate flood energy while improving flood water storage, hyporheic exchange, floodplain fine sediment storage, in-channel sediment reduction, high-flow juvenile

refugia, nutrient exchange, and riparian vegetation.
* Establish, protect, and maintain a robust native riparian plant community along channel banks and floodplains, increasing shade, improving bank structure and habitat, and providing a buffer from upland and floodplain sediment sources.
* Maintain and enhance existing beaver activity where possible and create habitat features that can be utilized by beaver to expand their area of use and influence.
* Protect and/or modify infrastructure (roads, bridges, structures, and other constraints) while maximizing fish habitat uplift throughout their project area.

Major Risks

Project design includes a suite of treatments including channel fill and reconstruction, levee modification, floodplain Connectivity, bridge remediation, and Channel Reconstruction. These activities fall under the BPA HIP Review "High" risk category. However, provided infrastructure is localized and overall 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: Nez Perce Fisheries Research Division staff are currently applying for funds to install PIT tag arrays at 3-4 locations within the project area. These arrays, if funded, would provide valuable fish utilization data and aid in showing project success or affects.
Additionally, GRMW remote sensing (drone imagery) as well as NPT established photo points will aid in documenting channel activation and overall river and floodplain changes pre and post project as well as over time.

Project Relations

Multi-phase Effort: Yes
Phase Description: The current project reach (Williams parcel) is nearly five miles long. Given this distance, associated acreage, planned treatments (including bridge work), and funding needs it is unlikely the volume of work could be completed in one field season or in water work window. This current phase will focus on approximately 2.6 miles or half of the Williams parcel. The project sponsor anticipates phase II implementation will occur in 2027.
Could Phase 1 be a Stand Alone Project: False
Would the project lose value if future phases don't happen: Project staff will seek to ensure all associated costs with both phases one and two are considered in project planning to avoid duplicate or repetitive costs. Additionally, any work that can be done while wrapping up phase I in anticipation of phase II will be included where possible. The landowner is very engaged and enthusiastic so the risk of losing the future phase is thought to be low.

Preliminary Cost Estimate

Total: 1,000,000
BPA Funding: 1,000,000
OWEB Funding: N/A

Design Funding

Design Funds Requested: Yes
Design Option: Option 2
Type of Work:
Technical project management
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
Fisheries biologist
Suveryor
Project manager