



Contact Information

2024 Upper Columbia Regional Project Pre-Application

* Pre-applications due March 11, 2024 (COB)

*Complete applications due in PRISM April 19, 2024 (COB)

*Revised proposals due in PRISM May 24, 2024 (COB)

*Final revised applications due in PRISM June 24, 2024 (noon)

Project Title	Lower Sleepy Hollow Floodplain and Riparian Restoration
Sponsor	Cascade Fisheries
Primary Contact	Aaron Rosenblum
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Budget Request

Values MAY be duplicative and do not have to equal TOTAL anticipated budget in pre-application.

Anticipated Request - SRFB (standard round) 125,000

Anticipated Request - SRFB Riparian Funding 125,000

Anticipated Request - Tributary Committee 125,000

Anticipated TOTAL Budget 250,000

Project Location

Briefly describe the location of the project The project will occur on 40 acres of Wenatchee River floodplain from RM 2.25 to 2.75

Latitude (decimal degrees) 47.468758

Longitude (decimal degrees) -120.367625

Project subbasin

Wenatchee

Wenatchee Assessment Unit(s)

Wenatchee River-Nahahum Canyon

Does the proposed project span multiple assessment units?

No

Reach(es) Name

Wenatchee River Nahahum 03

Identify the reach(es) priority/ reach ranking. Note: If the project involves work in multiple reaches, select "Multiple" and include details in the text box that will appear below. Please reference the Prioritization Web Map: <https://prioritization.ucsrb.org/>.

Rank 3

Project Information

1. What are the project objectives? Objectives support and refine biological goals, breaking them down into small steps. Objectives are specific, quantifiable actions the project will complete to achieve the stated goal. Each objective should be SMART (Specific, Measurable, Achievable, Relevant, and Time-bound). Note: This exact question is included in the PRISM application. Example format: The project seeks to address [specify limiting factor(s)] for [limiting life stage(s)] by [specific actions proposed] to create an estimated [include specific target metrics, as described below] upon implementation in [estimated year].

This project seeks to improve riparian and floodplain habitat, function, and values over the 5 year implementation period through:

- planting 2.5 new acres of floodplain habitat with willows, cottonwoods, and other native riparian vegetation
- installing 8 floodplain roughness structures in the large high flow floodplain channel to create velocity refuge and planting space/substrate.
- maintaining 3 acres of previously installed floodplain plants, including irrigation, brush cutting, mulching, replacing dead plants, and browse control maintenance
- Noxious weed control over the entire 40 acre property

2. What species will the project benefit?

Spring Chinook

Steelhead

Bull Trout

Summer Chinook

Coho, Sockeye

3. Select the project's objectives and the associated tracking metrics

Design, Monitoring or Assessment

Instream Habitat (Includes Floodplain & Off-Channel Reconnection)

Riparian Habitat

Instream Habitat: Reporting Code

Riparian Habitat: Reporting Code

4. Does this project already exist in Salmon Recovery Portal or PRISM?

5. Has this project been submitted previously for funding through the SRFB and/or other process(es)?

6. What category is the project?

If applicable, what is the secondary project category?

Is the project eligible for Riparian Funding?

Design and Restoration Proposals

7. What project phase(s) are proposed for completion?

8. Is your project within a completed (or soon-to-be completed) Reach Assessment or other type of assessment (e.g., Rapid Site Assessment, other)?

9. Which limiting factors does the project propose to address?

10. Which life stages will the proposed project address?

11. Freshwater Benefits - Describe how your project will improve survival, capacity and/or distribution for target species at the reach scale?

The project will improve riparian and floodplain habitat, function, and values through planting the planting of native floodplain vegetation on former pasture lands and within a high flow floodplain channel,

installation of floodplain roughness structures in the high flow floodplain channel, maintaining previously installed restoration plantings, and noxious weed control.

This project occurs in the Wenatchee River – Nahahum Canyon Assessment Unit (AU). This AU is ranked as a Tier 2 for Steelhead Restoration and Tier 3 for Spring chinook restoration. For both spring chinook and steelhead the “Winter Rearing” life stage is a “High Priority” and “Smolt Emigration” is a “Medium Priority”. Both of these life stages are addressed through implementation of this project. In the Nahahum 03 reach the following Rank 1 (unacceptable) limiting factors are addressed through implementation of this project: Bank Stability, Cover- Wood, Riparian-Canopy Cover, Temperature- Rearing. The following Rank 2 (at risk) limiting factors are addressed through implementation of this project: Flow- Summer Base Flow, Off-Channel- Side-Channels, Riparian-Disturbance, Riparian. This parcel was ranked the 26th highest priority out of 576 parcels in the Lower Wenatchee sub-watershed for riparian restoration by the Wenatchee River Riparian Prioritization Final Report (<https://www.ucsr.org/science-resources/reports-plans/reports/>).

The large high flow floodplain channel was created in the 1995 flood as the flood waters ripped away pasture ground that had no tree roots to hold it in place. Today, this channel is inundated around 7500 CFS and above, or about 10% of the year. The channel is wide and lacks cover - both in the water and from trees above. Overall, the habitat is very plain and lacks the diversity of flow velocities, substrate size classes, and cover that fish require.

Our proposal is to plant portions of this floodplain channel with native cottonwoods and willows. Floodplain roughness structures will be installed to create hydraulic diversity, causing finer sediments to deposit which will create suitable planting and natural regeneration space. The floodplain roughness features will also create desperately needed cover and slower water velocities during periods of high flow. Use of an excavator will be required to achieve the required planting depth through the existing large cobble substrate. While removing the failed bank armor in this floodplain channel in 2021, we used this method to install willow cuttings along the banks. Many of these cuttings are still alive, providing evidence that a larger scale effort using rooted stock and floodplain roughness features can be successful. Willows and cottonwood are slowly starting to recolonize the floodplain channel naturally. This project is speeding up the natural evolution of the floodplain channel while also providing immediate and necessary benefits to Endangered-Species-Act-listed salmonids.

The woody vegetation planted in the secondary channel will create diverse habitat and cover for juvenile fish while the channel is inundated through hydraulic interaction with flowing water. A vegetated floodplain is a highly productive place. Planting woody vegetation will increase the food locally available in the channel helping to grow juvenile fish big and strong before their journey to the ocean. The vegetation will provide shade to the water, helping to keep it cooler in the summer time. As it matures, vegetation will rack large wood floating in floodwaters which will further enhance the diversity of cover, substrate, and habitat within the floodplain channel. Eventually, the trees and shrubs planted in the floodplain channel will become in-water wood material.

Through implementation of this proposal we will continue to restore lands on the property that were formerly used as pasture grounds for grazing animals. The existing pasture lands are composed of non native grass species and noxious weeds. They provide no benefit to floodplain or in-water habitat or function. Once restored, these floodplain areas will: filter and retain sediment and pollutants helping to improve water quality; provide bank and floodplain stability helping to prevent future catastrophic erosion events, like the one that created the existing floodplain channel; be a source for future large wood recruitment for instream habitat; and help to store and retain groundwater in the floodplain longer which will improve summer base flow quantity and temperature.

This proposal also includes the maintenance of the existing 3 acres of floodplain vegetation that have been installed under a previous grant. Tasks will include running and maintaining the existing irrigation system, controlling noxious weeds within planting enclosures, brush cutting within planting enclosures, replanting if mortality occurs, and maintaining and removing (when it is no longer needed) browse control fencing. Ensuring the success of previous restoration efforts will have the same benefits to floodplain and instream habitat and function as listed above.

Finally, this proposal includes control of noxious weeds across the 40-acre parcel. The existence of aggressive weed species on this property threaten the success of restoration efforts and the associated benefits to floodplain and in-stream habitat. Weed species to be treated include *Lythrum salicaria* (Purple loosestrife), *Tanacetum vulgare* (Common Tansy), *Centaurea stoebe* (Spotted knapweed) & *Centaurea diffusa* (Diffuse knapweed), *Lepidium draba* and *L. latifolium* (white top), *Ulmus pumila* (Siberian elm), *Ailanthus altissima* (Tree of Heaven), *Robinia pseudoacacia* (Black Locust), *Rubus armeniacus* (Himalayan blackberry), and *Linaria dalmatica* (toadflax). Ensuring the success of previous restoration efforts will have the same benefits to floodplain and instream habitat and function as listed above.

12. Temporal Effect - Briefly describe how and to what extent the project would promote natural stream/watershed process consistent with the geomorphology of the stream?

Floodplains are naturally covered in riparian vegetation, which play an important role in the floodplain's role in watershed processes. The existing floodplain at this site is lacking riparian vegetation in many locations. This property is one of the few in the lower watershed where the Wenatchee River actually has access to its floodplain. Restoring mature native riparian vegetation to the floodplain will promote natural processes including floodwater and groundwater retention and storage, sediment and pollutant filtration, bank and channel stability, and large wood recruitment.

13. Temporal Effect - How long will it take for the project to achieve its intended response?

Less than or equal to 1 year	1-10 years
10-25 years	25-50 years
	Greater than 50 years

14. Temporal Effect - How long will the restoration action and its benefits persist?

50+ years

15. Temporal Effect - What level and/or interval of maintenance is anticipated? What is the plan for any anticipated maintenance?

Maintenance will occur throughout the 5 year grant period. Tasks will include running and maintaining the existing irrigation system, controlling noxious weeds within planting enclosures, brush cutting within planting enclosures, replanting if mortality occurs, and maintaining and removing (when it is no longer needed) browse control fencing

16. Methods - Briefly describe the potential (for design) or proposed restoration methods and how they will achieve project objectives.

- Planting 2.5 new acres of floodplain habitat with willows, cottonwoods, and other native riparian vegetation will be achieved with hand held tools such as a power auger and potentially a mini excavator. Labor will be provided by a hired contractor, volunteers, and staff.

- Installing 8 floodplain roughness structures in the large high flow floodplain channel to create velocity refuge and planting space/substrate will be achieved with an excavator and imported logs. We will hire a consulting firm to evaluate risks, especially any increased risk to adjacent infrastructure during flood flows.

- Maintaining 3 acres of previously installed floodplain plants, including irrigation, brush cutting, mulching, replacing dead plants, and browse control maintenance will be achieved by staff and hired contractors.

- Noxious weed control over the entire 40 acre property will be completed by staff, volunteers, and hired contractors. Control is expected to include mechanical, chemical and biological treatments.

17. If the project is eligible and applying for Riparian Funding, does the project have in-stream components? If so, briefly describe those components, how they support riparian plant survival and/or natural regeneration, and why they are necessary for the success of the riparian habitat elements of the project.

Yes, instream floodplain roughness structures are proposed. These structures will create a hydraulic shadow which will reduce water velocities, and therefore, reduce damage to planted vegetation. The structures will also cause fine sediments to deposit which will promote natural regeneration.

Assessment Proposals

Protection Proposals

Monitoring Proposals

Project Risk and Economic Benefits

1. What is the landownership? Private - CDLT

2. Have you secured landowner participation in or acceptance for this project?

Yes

Please explain

CDLT is supportive of the project.

3. Describe any land owner requirements (e.g., design elements, right-of-ways, access agreements, liability waivers, etc.) and if/how they could affect the project

CDLT is requesting we complete hydraulic modeling to ensure the in-stream roughness structures and vegetation planted in the the high flow floodplain channel do not increase risk to existing infrastructure.

4. Will the project raise potential concerns for interest groups (e.g., recreational users) or the community at large (including upstream/ downstream/ adjacent landowners)?

The project is not expected to cause concerns for interest groups. Adjacent landowners will likely have the same concerns as CDLT, which we will address through hydraulic modeling and outreach.

5. Who will have the responsibility to manage and maintain the project? What is the responsibility of current or future landowners?

CF will manage and implement the project in close coordination with CDLT. Maintenance will be completed by both CF And CDLT staff. Following the 5 year project period, maintenance responsibility would transfer to CDLT, unless additional funding is secured.

6. Are other projects being proposed immediately upstream or downstream of worksite?

No

7. Please describe the risk of failure associated with this project.

In areas without access to irrigation water the biggest risk is not planting vegetation deep enough into groundwater, or planting the incorrect species for the particular hydrologic regime. We will mitigate the first risk by hiring an excavator to install vegetation within the floodplain channel to a depth of at least 5'. The will mitigate the second risk by incorporating reviews of planting plans into our project structure. Areas where it is not feasible to reach groundwater will be planted with upland terrace vegetation such as Ponderosa pine.

The biggest risk to areas with irrigation water is malfunction of the irrigation system and noxious weeds.

We will mitigate this risk with regular inspections to the project site to fix issues and attack noxious weeds early.

8. Is there any public outreach planned during and/or after implementation? Does the project build community support for salmon recovery efforts?

One of the primary long term goals of the LSH property is for it to be an outreach and education destination. CF and CDLT have already ramped up efforts. The property is frequented by many different user types of all ages. Further restoration of this project site would further solidify its role as an exemplary outreach location to build support for salmon recovery efforts. This project site is close to Wenatchee, has off street parking, and has relatively mild terrain, making it accessible to a wide variety of people that may not be able to visit many salmon recovery projects.

CF and CDLT will conduct outreach to adjacent landowners prior to project implementation to address and answer questions or concerns.

9. Does the project represent an opportunity for economic benefit? How much benefit does the project create for the dollars invested?

This project will partially fund 2 FTEs and 1 seasonal staff at CF and 1 seasonal staff at CDLT. We will hire a local engineering firm to complete the hydraulic modeling. A local construction company will be hired to install the floodplain roughness features and a separate contractor (or more) will be hired to complete other floodplain planting and weed control. Plant materials will be sourced from a local provider.

Further, a functioning floodplain provides important economic value to society including floodwater attenuation and storage, water pollutant filtration, and wildlife tourism. This property is critical winter mule deer habitat. Mule deer hunting provides socioeconomic value to Chelan County.

10. Describe any partnerships, their experience, and types of contributions supporting the project.

CDLT and CF have been partnering to restore the floodplain at LSH since 2020. The partnership has required close collaboration, regular communication, and a shared ownership in project roles and responsibilities. To date over \$100,000 have been spent to restore over 3 acres. However, this funding runs out at the end of 2024 and there is more work to do. For this proposal, CF and CDLT will continue our partnership and shared responsibilities. Some funding is proposed for CF and CDLT staff to ensure both organizations have boots on the ground to implement the work.

Optional Section - Preparation for PRISM

The following questions are identical to the questions RCO requires in the PRISM application. If desired, sponsors can complete associated questions early and copy responses into PRISM during the "Complete Application" phase due on April 19, 2024.

Do you want to review and/or pre-populate PRISM questions?

No

Supporting Documents

[Upper Columbia Process Guide 2024](#)

[SRFB Manual 18 \(2024\)](#)

[RCO Application Resources \(2024\)](#)