Contact Information

2025 Upper Columbia Regional Project Pre-Application

* Pre-applications (SRFB & Monitoring) due March 12, 2025 (COB)

*Complete SRFB applications due in PRISM April 18, 2025 (COB)

*Complete Monitoring applications due in PRISM May 1, 2025 (COB)

*Revised SRFB proposals due in PRISM May 27, 2025 (COB)

*Final revised SRFB & Monitoring applications due in PRISM June 23, 2025 (noon)

Project Title	Wenatchee RM 3.25-4.5 Feasibility and Conceptual Design
Sponsor	Cascade Fisheries
Primary Contact	Aaron Rosenblum
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Project Summary

Please provide a description or summary of the proposed project, including project goals. The goal of the project should be to solve identified problems by addressing the root causes. Then clearly state the desired future condition.

The project will create a conceptual design for a habitat enhancement project on the lower Wenatchee River from RM 3.25-4.5. The project is expected to address high priority limiting factors for this reach including cover-wood, riparian canopy cover, floodplain connectivity, and off-channel/side channel habitat. Highway 2 boarders the river and bisects the floodplain on river left throughout much of the project area. The project will investigate feasibility and cost effectiveness of alternatives to provide water and fish access to the disconnected floodplain. The project will include a data collection task including groundwater data collection and a geotechnical analysis, a feasibility/alternatives task, and a conceptual design task. Implementation of this project will lead to future design phases and eventually implementation of a restoration project that could provide access to important, currently disconnected, habitat, as well as improve existing habitat in the Wenatchee River.

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].

The proposed project will achieve the following objectives:
1. Collect groundwater information at 3 -5 locations within the project area
2. Complete an alternatives analysis that will include an analysis of feasibility and cost effectiveness.
3. Complete a conceptual design of the preferred alternative

Budget Request

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

Anticipated Request - SRFB (standard round)	100,000
Tributary Committee - Anticipated or Actual	100,000
Anticipated TOTAL Budget	200,000

Project Location

Briefly describe the location of the project	Wenatchee River RM 3.25 - 4.5
Latitude (decimal degrees)	47.480107
Longitude (decimal degrees)	-120.389839
Project subbasin	Wenatchee
Wenatchee Assessment Unit(s)	Wenatchee River-Nahahum Canyon
Does the proposed project span multiple assessment units?	No
Reach(es) Name	Nahahum 04
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 species will the project benefit?

Spring Chinook | Steelhead | Bull Trout | Summer Chinook | coho

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

Design, Monitoring or Assessment

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

No

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

No

6. What category is the project?

Design

Is the project eligible for Riparian Funding?

No

Design and Restoration Proposals

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

Conceptual Design

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)?

Lower Wenatchee River

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

Cover - Wood | Off-Channel - Floodplain | Off-Channel - Side-Channels | Pool Quantity & Quality | Riparian - Canopy Cover | Temperature - Rearing

10. Which life stages will the proposed project address?

Subadult Rearing (Bull Trout) | Fry | Summer Rearing | Winter Rearing

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

The goals of the design created through this proposal will be to provide more frequent floodplain inundation and connection at high frequency flows to floodplain and off-channel habitat, create additional cover and structure in the existing river channel, and establish riparian vegetation on mid-channel islands. The lower Wenatchee is a Major Spawning Area for steelhead, foraging and overwintering habitat for bull trout, a spawning and rearing area for summer Chinook, and migration corridor for sockeye, spring Chinook, summer chinook, coho, steelhead, and bull trout (Table 1) (ibid) (Andonaegui 2001). Juveniles of all three ESA-listed species rear in the lower Wenatchee.

Rivers, and the ESA-listed fish that live in them, require a regular connection to their floodplains to

maintain natural processes and overall watershed health. Once implemented, this project will reconnect substantial acreage of floodplain in an area of the watershed that is heavily impacted by human development and infrastructure. Floodplain habitats provide a low velocity, high productivity area that is essential for juvenile salmonids to thrive. Healthy, connected floodplains also provide important watershed process functions including, flood water and energy dispersion, water storage, carbon storage and sequestration, riparian habitat maintenance, and source of future wood/cover to instream habitats.

The mid-channel bars/islands located within this project reach are mostly bare and lacking in riparian vegetation. Riparian vegetation plays an important role in watershed processes. The existing disconnected floodplain at this site contains a riparian vegetation community in many locations. Reconnecting these areas to the river would provide immediate benefits provided by an intact riparian community. 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.

Side channels are naturally occurring features of a riverscape. However, they are frequently cut off from the river when the channel is artificially confined. Side channels and off-channel areas provide important rearing habitat for target fish species. Martens and Connolly (2014) found higher densities of salmonids in seasonally disconnected, partially connected, and fully connected side channels than in mainstem channels. This proposal would explore the possibility of creating side channels within the project area.

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 04 reach the following Rank 1 (unacceptable) limiting factors could be addressed through implementation of
this project: Bank Stability, Channel Stability, Cover- Wood, Riparian-Canopy Cover, Temperature- Rearing. The following Rank 2 (at risk) limiting factors could be addressed through implementation of this project: Floodplain connectivity, Off-Channel- Side-Channels, Pool quantity and quality, Riparian.

This is a large project area with potentially large amounts of disconnected floodplain that could be reconnected. Implementation of this project could result in large biological benefits.

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?

Significant human infrastructure has severely impaired watershed processes and functions in the lower Wenatchee River. The natural and artificial confinement in this section of the river limit restoration opportunities and have resulted in a stable channel with limited connection to floodplains and off-channel habitat.

Restoring floodplain connectivity can help improve natural watershed processes. A properly functioning floodplain acts as an extension of the alluvial aquifer, attenuating stream flows and energy as floodwaters disperse onto the floodplain and discharging stored water during drier months. Connected floodplains regulate stream flows, water temperature, and water quality. Floodplain groundwater discharge to streams provides cool water areas for rearing fish, and floodplain groundwater storage has also been shown to attenuate peak flows (Acreman et al. 2003). Implementation of this project could provide a large increase in connected floodplain.

This project will examine using process-based riparian methods. The bare islands likely receive flow velocities that are to high and preclude the establishment of vegetation. The Wenatchee River is artificially confined in this reach and lacks large wood. Installing roughness features on the islands could create the hydraulic shadow necessary to establish riparian vegetation and realize all the benefits that come along with it.

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

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

10-50 years

50+ years

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

Following implementation, the project will require regular check ups and maintenance during the first three - five years following implementation to ensure successful establishment of riparian vegetation. Instream project elements, e.g. pools and side channels, will be designed to be self-maintaining.

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

We will investigate the feasibility of reconnecting the disconnected floodplain on the other side of Highway 2. Potential alternatives include culvert installation or use of a boring machine.

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Assessment Proposals

Protection Proposals

Monitoring Proposals

Project Risk and Economic Benefits

1. What is the landownership?

WSDOT, DNR aquatic lands, WDFW

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

Yes

Please explain

The proposal has been discussed with all three agencies and all are supportive. We are currently conducting outreach to surrounding private landowners.

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

WSDOT will require a right of entry permit to conduct assessment and design work. All three agencies will have approvals for construction.

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

We expect that adjacent landowners will be concerned about increased flooding risk. We will address this issue with extensive modeling and demonstrating compliance with the FEMA/Chelan County floodplain regulations.

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 administer the project.

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

Don't know

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

This is a design project with low risk of failure.

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

We are currently conduction outreach to surrounding landowners. Additional outreach would be necessary prior to implementation. This is a high visibility project area that could get lots of attention and boost support for recovery efforts.

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

This design project will partially fund 2 FTEs at Cascade Fisheries and one or more local design engineering firms. Once implemented, the project will provide a substantial construction contract to a local company, support CF staff, and help salmon recovery. Given the large floodplain and overall size of the potential project area, this project could create a large biological benefit for the dollars invested.

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

CF will partner with WSDOT, WDFW, and DNR on this project. We are currently working on multiple projects with WSDOT and have a strong working relationship with them. We are currently working with WDFW on the lower Peshastin project. Through many years of partnering on this project we have learned the ins and outs of the Restoration Pathway process, and have developed strong working relationships with WDFW personnel. Additionally, CF will work the the WDFW Restoration specialist on this project.

Optional Section - Preparation for PRISM (SRFB applications only)

The following questions are identical to the questions RCO requires in the PRISM application for SRFB projects. If desired, sponsors can complete associated questions early and copy responses into PRISM during the "Complete Application" phase due on April 18, 2025.
*please note, this section is not applicable for Monitoring proposals

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

No

Supporting Documents

Upper Columbia Process Guide 2025

SRFB Manual 18 (2025)

RCO Application Resources (2025)