Friday, March 7, 2025

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	Squilchuck Creek Passage Barrier Prelim Designs
Sponsor	Chelan County Natural Resource Department
Primary Contact	Bryan Maloney
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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.

Project goals are to restore full fish passage within Squilchuck Creek, an important tributary to the Columbia River. This project would develop preliminary designs for a complete fish passage barrier (0% passability) on Squilchuck Creek at RM 0.28 (South Wenatchee Ave culvert; WDFW ID 970003). This project would address the root cause of degradation of a complete fish passage barrier, by designing a replacement structure that facilitates unimpeded passage of all species at all streamflows. Implementation of the designs would restore full fish passage in this reach of Squilchuck Creek, from RM 0.28 up to the next partial barrier upstream at RM 0.55. Further, this project would restore partial fish passage up to the next complete barrier upstream at RM 1.37. Species benefited include Chinook salmon, steelhead, and coho salmon.

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].

Project objectives are to design the replacement for a full fish passage barrier on Squilchuck Creek, addressing the lack of fish passage that impacts rearing Chinook, steelhead, and coho in a direct tributary to the Columbia River. Design objectives include alternatives analysis, conceptual design, and permit-ready designs. This effort will open full fish passage to 0.27 river miles of habitat, and partial fish passage to 1.09 river miles of habitat, upon implementation, which is anticipated in 2028.

Budget Request

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

Anticipated Request - SRFB (standard round)	232671
Tributary Committee - Anticipated or Actual	41060
Anticipated TOTAL Budget	273731

Project Location

Briefly describe the location of the project	Squilchuck Creek at RM 0.28
Latitude (decimal degrees)	47.394722°
Longitude (decimal degrees)	-120.296431°
Project subbasin	Columbia River - small tributaries

Columbia River small tributaries HUC-12(s)

Squilchuck Creek - 170200100310

Does the proposed project span multiple assessment units?	No
Reach(es) Name	N/A
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/.	Unranked (not a priority or missing data)

Project Information

1. What species will the project benefit?

Spring Chinook | Steelhead | 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)?

Yes

Please explain which process(es) and how this proposal differs from the previous submission (e.g., different phase, modified scope, etc.)

This project was submitted for funding in 2002, but was not awarded funding.

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 | Preliminary 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)?

No

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

Fish Passage Barriers

10. Which life stages will the proposed project address?

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?

Squilchuck Creek contains 5 miles of ESA-listed steelhead intrinsic potential spawning habitat (NOAA 2022). However, the complete barrier on S. Wenatchee Ave blocks all fish passage above RM 0.28. Squilchuck Creek provides important rearing habitat and overwinter refuge to steelhead, spring chinook, and coho juveniles that have originated in one of the major Upper Columbia watersheds upstream (i.e., Wenatchee, Entiat, Methow) but have migrated downstream to rear. Indeed, WDFW observed extensive numbers (estimated 2200 fish/mile) of spring Chinook, steelhead, and coho juveniles between these the S. Wenatchee culvert and BNSF railway culvert downstream. In contrast, zero anadromous fish were observed above the S. Wenatchee Ave culvert. Additionally, Spawning ground surveys conducted by WDFW identified live adult steelhead and redd building in Squilchuck Creek (WDFW 2007). Opening up spawning habitat in Squilchuck Creek supports fish distribution of the Wenatchee steelhead population

across diverse habitat types, which provides a buffer against catastrophic events, a complex spatial structure, and genotypic and phenotypic diversity, all of which moderate extinction risk . This suggests the small mainstem tributary is important rearing and refuge habitat for anadromous juveniles whose natal origin is in a major upstream Upper Columbia sub-basin, but migrate downstream as parr to rear. This project will initiate the effort to open the best quality habitat in Squilchuck creek which is located past RM 0.28, support this diverse life history strategy, and hence enhance the resilience of the Upper Columbia ESA-listed spring Chinook and steelhead.

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?

The proposed project will promote natural stream process by designing the replacement for a complete passage barrier in Squilchuck Creek. The existing culvert disrupts ecosystem processes by impeding the free transport of streamflow, aquatic species, sediment, nutrients, and woody debris.

The S. Wenatchee Ave culvert is a total barrier culvert that is undersized for peak stream flows. Culvert span is 3.00 m, which is little more than 0.5 m larger than the width of the channel (WDFW Barrier Report). Proposed preliminary designs will be for a bridge or 3-sided box culvert designed to replace the current structure and accommodate 100-year flow events. The replacement structure will remove the hydraulic constriction to improve ecosystem resilience to large floods and eliminate erosion of the streambed and streambanks caused by the high water velocity and the water surface drop at the site. Additionally, by including a span that encompasses the 100-yr floodplain, barrier replacement will restore floodplain connectivity and habitat forming processes that result in improved water quality, and both riparian and instream habitat quality that benefit the larger ecological food web. Floodplain connectivity will increase water availability for riparian plants.

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

1-10 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?

After construction of the culvert replacement, the new structure would be maintained by Chelan County Public Works under their standard schedule.

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

This project will initiate the design process for the S. Wenatchee Ave culvert, resulting in permit-ready (60%) designs and permit applications. The design approach will follow relevant state and federal guidelines (e.g. WDFW Water Crossing Guidelines, RCO Manual 18) to maximize ecological function and fish passage improvement. The selected design approach will be based on elements completed in the proposed design process, which will include topographic survey, hydraulic modeling, geotech assessment, design alternatives analysis, conceptual designs (30%), preliminary designs (60%), and basis of design report. Additional work will support project permitting, including cultural resource surveys, Nationwide permit application, and HPA application.

Assessment Proposals

Protection Proposals

Monitoring Proposals

Project Risk and Economic Benefits

1. What is the landownership? Chelan County Public Works

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

Please explain

We have coordinated with Chelan County Public Works for a few years about this fish passage barrier culvert on S. Wenatchee Ave. Public Works is interested in replacing the culvert and will support the project through engineering review. Additionally, the County has started reaching out to adjacent landowners for coordination about the eventual culvert replacement 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

Requirements from Chelan County Public Works include working within the existing right-of-way. However, the final design step will address any additional easements that may be necessary.

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 replacement structure will need to meet Chelan County Public Works standards for safety, and accommodate vehicular and pedestrian uses of the road.

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

Chelan County Natural Resource Department (CCNRD) will be responsible for project management, with considerable coordination with Public Works. Chelan County Public Works will be responsible for maintaining the new structure after construction. CCNRD will be responsible for post-project monitoring of in-stream fish passage and plant survival.

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

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

The risk of failure is limited for this project. Project options will be reviewed thoroughly during the alternatives analysis.

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

Yes, the public would be notified before and during project implementation. The project also builds on an existing project funded by the Rose Foundation to complete rapid assessments in Squilchuck Creek and coordinate a riparian improvement project with the community through a partnership with Parque Padrinos.

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

Yes, this project represents an opportunity for ecosystem restoration, as well improvement of infrastructure.

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

Chelan County Natural Resource Department has coordinated with Chelan County Public Works for a few years about this fish passage barrier culvert on S. Wenatchee Ave. Public Works is interested in replacing

the culvert and will support the project through engineering review.

Additionally, Chelan County is partnering with UCSRB and WDFW to complete fish use surveys in Squilchuck and Stemilt Creeks. As mentioned before, Chelan County is partnering with Parque Padrinos to do outreach to the local community regarding stream improvements to water quality, fish passage, and habitat.

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)