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
E-Mail Address	bryan.maloney@co.chelan.wa.us

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)	273604
Tributary Committee - Anticipated or Actual	~~41041~~
Anticipated TOTAL Budget	273604

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)

PROJECT: 25-1227 PLAN, SQUILCHUCK CREEK PASSAGE BARRIER PRELIM DESIGNS

Sponsor: Chelan Co Natural Resource Program: Salmon State Projects Status: Application Submitted

Parties to the Agreement

PRIMARY SPONSOR

Chelan County Natural Resources Department
Address 411 Washington St Ste 201
City Wenatchee **State** WA **Zip** 98801
Org Type County-Open Space/Nat Resources
Vendor # SWV0001231-12
UBI
Date Org created
Org Notes

link to Organization profile
✓Org data updated (by Amee Bahr 05/01/2025)

SECONDARY SPONSORS

No records to display

MANAGING AGENCY

Recreation and Conservation Office

LEAD ENTITY

Upper Columbia Salmon Rcy Bd L

QUESTIONS

#1: List project partners and their role and contribution to the project.

External Systems

SPONSOR ASSIGNED INFO

Sponsor-Assigned Project Number

Sponsor-Assigned Regions

LINK AN EXISTING SRP PROJECT

Unlink
25-1227, Squilchuck Creek Passage Barrier Prelim Desig

Project Contacts

Contact Name Primary Org	Project Role	Work Phone	Work Email
Amee Bahr Rec. and Conserv. Office	Project Manager	(360) 867-8585	Amee.Bahr@rco.wa.gov
Doran Lower Rec. and Conserv. Office	MAgy Fiscal Contact	(360) 902-3007	doran.lower@rco.wa.gov
Bryan Maloney Chelan Co Natural Resource	Project Contact	(509) 670-1772	bryan.maloney@co.chelan.wa.us
Ariel Edwards Upper Columbia Salmon Rcy Bd L	Lead Entity Contact	(208) 540-2691	ariel.edwards@ucsrb.org

Worksites & Properties

#	Worksite Name
#1	Barrier 970003 (South Wenatchee Ave.)

Planning	Property Name

Worksite Map & Description

Worksite #1: Barrier 970003 (South Wenatchee Ave.)

WORKSITE ADDRESS

Street Address South Wenatchee Ave
City, State, Zip Wenatchee WA 98801

Worksite Details

Worksite #1: Barrier 970003 (South Wenatchee Ave.)

SITE ACCESS DIRECTIONS

From downtown Wenatchee, drive south along South Wenatchee Avenue. When South Wenatchee Avenue turns into the Malaga Alcoa Highway, turn right to stay on South Wenatchee Avenue. The barrier site is 200 yards ahead, where the road crosses over Squilchuck Creek.

TARGETED ESU SPECIES

Species by ESU	Egg Present	Juvenile Present	Adult Present	Population Trend
Steelhead-Upper Columbia River, Wenatchee River, Threatened		✓		

Reference or source used

Juvenile Chinook and steelhead have been documented in this reach of Squilchuck Creek, blocked from additional upstream habitat by this barrier.

TARGETED NON-ESU SPECIES

Species by Non-ESU	Notes
Unknown	Juvenile Chinook have been documented in this reach of Squilchuck Creek, blocked from additional upstream habitat by this barrier.

Questions

#1: Give street address or road name and mile post for this worksite if available.

South Wenatchee Avenue located at lat./long.: 47.3947534, -120.2964317

Project Location

RELATED PROJECTS

Projects in PRISM

PRISM Number	Project Name	Program Name	Current Status	Relationship Type	Notes
No related project selected					

Projects not in PRISM

Project Number	Project Name	Current Status	Relationship Type	Project Funder
	Squilchuck Creek Passage	Proposed	Related	Federal Highways Administration

Related Project Notes

The related project proposal to Federal Highways Administration (FHWA) includes the only barrier downstream on Squilchuck Creek (under the BNSF rail yard). This FHWA proposal includes assessment and concept designs for the BNSF rail yard barrier.

Questions

#1: Project location. Describe the geographic location, water bodies or habitat types, and the location of the project in the watershed, i.e. nearshore, tributary, main-stem, off-channel, etc.

This project is located in Squilchuck Creek at River Mile 0.28.

#2: How does this project fit within your regional recovery plan and/or local lead entity's strategy to restore or protect salmonid habitat? Cite section and page number.

The Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan (UCSRB 2007) includes the following habitat short term objective on page 194: "restore connectivity (access) throughout the historic range where feasible and practical for each listed species."

The Upper Middle Mainstem Subbasin Plan (NWPCC 2004) includes the following recommended task on page 204: "Provide fish passage at the South Wenatchee Avenue culvert and other identified barriers" that would achieve the objective "eliminate obstructions to adult steelhead and Chinook migration" in Squilchuck Creek."

#3: Is this project part of a larger overall project?

Yes

#3a: How does this project fit into the sequencing of the larger project?

The larger overall project is to restore full fish passage in lower Squilchuck Creek. The Federal Highways Administration grant proposal would develop concepts for the BNSF railyard barrier downstream, and this SRFB application would address the County Road barrier.

#4: Is the project on State Owned Aquatic Lands? Please contact the Washington State Department of Natural Resources to make a determination. **Aquatic Districts and Managers**

No

Property Details

Properties for this program and project type are optional.

Project Proposal

Project Description

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, which have been documented occupying habitat immediately downstream of this barrier. This SRFB proposal works in tandem with a proposal to Federal Highways Administration, which requests funding for designing the barrier correction at the only downstream barrier, under the BNSF rail yard.

Project Questions

#1: Problem statement. What are the problems your project seeks to address? Include the source and scale of each problem. Describe the site, reach, and watershed conditions. Describe how those conditions impact salmon populations. Include current and historic factors important to understand the problems.

This project seeks to address a fully impassable fish passage barrier located at RM 0.28 on Squilchuck Creek. This barrier is the lowest complete barrier in Squilchuck Creek. The complete barrier is caused by the concrete box culvert conveying Squilchuck Creek under South Wenatchee Avenue, with a half-meter outfall drop. Juvenile Chinook and steelhead have been documented in Squilchuck Creek immediately downstream from this barrier (see both 2025 fish survey summary under 'Baseline Inventory' "Attachments" and 2002 WDFW letter of support in "Attachments"). This SRFB proposal works in tandem with a proposal to Federal Highways Administration, which requests funding for barrier correction design at the only downstream barrier, under the BNSF rail yard.

#2: Describe the limiting factors, and/or ecological concerns, and limiting life stages (by fish species) that your project expects to address.

This project expects to address the limiting factor of passage barriers constraining the amount of rearing habitat available to Chinook salmon and steelhead in Squilchuck Creek. Juvenile Chinook and steelhead have been documented in Squilchuck Creek immediately downstream from this barrier (see both 2025 fish survey summary under 'Baseline Inventory' "Attachments" and 2002 WDFW letter of support in "Attachments"). Replacing this barrier would immediately open up additional upstream habitat above this barrier. The next complete barrier upstream is located at RM 1.37, meaning this barrier replacement would open up over one mile of rearing habitat in Squilchuck Creek.

WDFW surveyed Squilchuck Creek in 2006 and 2007 for spawning steelhead, temperature, and streamflow (WDFW 2007; see attachment labeled 'Baseline Inventory'). Squilchuck discharge measurements documented streamflow of 3.69 cfs (March 2006), 18.79 cfs (May 2006), 1.17 cfs (August 2006), 13.38 cfs (March 2007), 17.79 cfs (May 2007), and 0.46 cfs (September 2007). "During the spawning period in 2006 and 2007 the maximum weekly temperatures were between 9-12 °C. During the summer months, the average weekly temperature peaked at 20.5 °C in 2006 and 18.3 °C in 2007" (WDFW 2007). Based on the existing streamflow and temperature data, we believe Squilchuck Creek to have potential for both spawning and rearing Chinook and steelhead through the different seasons. Further, Chelan County plans to monitor Squilchuck Creek streamflow and temperature to better characterize habitat conditions.

#3: What are the 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. Include which species and life stages will benefit from the outcome, and the time of year the benefits will be realized. **Example Goals and Objectives**

The project goal is to increase habitat available to juvenile salmon in Squilchuck Creek, through designing the replacement structure for a full fish passage barrier at RM 0.28. Juvenile Chinook salmon, steelhead, and coho will benefit once this project is implemented (anticipated in 2028).

#4: What are the project objectives? Objectives support and refine biological goals, breaking them down into smaller 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). **Example Goals and Objectives**

Project objectives are to design the replacement for a full fish passage barrier (970003) on Squilchuck Creek at RM 0.28. This project would address 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.

#5: Scope of work and deliverables. Provide a detailed description of each project task/element. With each task/element, identify who will be responsible for each, what the deliverables will be, and the schedule for completion.

The project scope includes an alternatives analysis, conceptual designs, preliminary (permit-ready) designs, and preparation of necessary permit applications. CCNRD will be responsible for completion of all tasks. Chelan County Public Works will provide in-kind support for engineering design review and coordination.

The alternatives analysis will include developing 2-4 structure options for replacing the current culvert. For example, these may include a bridge, arch culvert, or bottomless box culvert. The analysis will also include calculating construction costs for each option, as well as design considerations, such as how each option will impact the existing roadway. We anticipate this step to be complete by January of 2026.

After selecting the preferred alternative, the conceptual design step will develop designs that meet requirements in Manual 18. These conceptual designs will be shared with all relevant stakeholders for review and comments. We anticipate this step to be complete by March of 2026.

Stakeholder feedback will be incorporated in the development of permit-ready preliminary designs. Preliminary designs will include a planset that details road and stream longitudinal profiles and cross sections. This preliminary deliverable will also entail a basis of design report, detailing hydraulic modeling, site considerations, and cost estimates for construction. A geotechnical assessment and report will be required to complete this preliminary design deliverable. We anticipate this step to be complete by December of 2026.

Preparation of necessary permit applications is anticipated to include development of a JARPA application to the Army Corps for a Nationwide permit and to WDFW for an HPA. Complete permit applications will require an evaluation of wetlands on site, as well as calculations of fill and excavation quantities. We anticipate this step to be complete by April of 2027.

#6: What are the assumptions and physical constraints that could impact whether you achieve your objectives? Assumptions and constrains are external conditions that are not under the direct control of the project, but directly impact the outcome of the project. These may include ecological and geomorphic factors, land use constraints, public acceptance of the project, delays, or other factors. How will you address these issues if they arise?

The main assumption is that this project will need to be completed within existing Chelan County right-of-way. However, we will engage with adjacent landowners to coordinate project logistics and whether there is ability to expand project footprint onto neighboring properties (e.g., streambed grading upstream and downstream of crossing).

#7: How have lessons learned from completed projects or monitoring studies informed this project?

Chelan County's extensive experience with replacing fish passage barriers has informed this project through the development of a robust project process. Effectively engaging all relevant stakeholders is critical to successful completion of these projects. Similarly, Chelan County is adept at preparing cost estimates for these projects to develop strong grant applications. Chelan County contracts with qualified firms to provide engineering and consultant support, to ensure high-quality project deliverables.

#8: Describe the alternatives considered and why the preferred was chosen.

This project will develop feasible alternatives for replacing the culvert barrier structure. The preferred alternative will be selected after stakeholder review and feedback.

The only other alternative to consider is a no-action alternative. However, this was not pursued due to the benefit of this project to open upstream habitat to Chinook and steelhead that are blocked by this barrier.

#9: How were stakeholders consulted in the development of this project? Identify the stakeholders, their concerns or feedback, and how those concerns were addressed.

The primary stakeholder consulted in the development of this project was the Chelan County Public Works Department. The road and culvert structure are owned and managed by Public Works, who is interested in replacing the structure. Public Works requires that any replacement structure meet all relevant code and safety standards. CCNRD has incorporated Public Works feedback in the process of developing grant applications in support of this project.

#10: Does your project address or accommodate the anticipated effects of climate change?

Yes

#10a: How will your project be climate resilient given future conditions?

The project addresses the anticipated effects of climate change by designing a fish passage barrier replacement. Climate resilience will be increased by designing the replacement structure of a sufficient size to accommodate future conditions. Climate change is projected to impact hydrology in Chelan County through increased 100-year streamflows and decreased baseflows (Hamlet et al., 2013). The barrier replacement structures will accommodate 100-year streamflows to maintain structural integrity and stream functioning through time. Further, this project will allow passage of all aquatic organisms at baseflows through installing structures that do not alter the streams' natural grade or substrate.

#10b: How will your project increase habitat and species adaptability?

This project will increase species adaptability by restoring passage at all streamflows and increasing access to habitat for all aquatic species. Juvenile Chinook and steelhead are blocked from accessing upstream habitat by this complete barrier. Replacing this culvert within lower Squilchuck Creek will restore access to more upstream habitat and increase species adaptability. Additionally, this project will increase adaptability in the face of dynamic conditions across the range of habitat occupied by salmon in the Upper Columbia region. As regional climate change projections include increased wildfire severity and area (Rogers et al., 2011), access to habitat across a wide geographic range will be imperative to ensure all aquatic species have access to some suitable habitat.

#11: Describe the sponsor's experience managing this type of project. Describe other projects where the sponsor has successfully used a similar approach.

Chelan County Natural Resource Department (CCNRD) has managed many similar projects to restore fish passage. CCNRD has successfully managed the replacement of over 30 barriers on Chumstick Creek, 6 barriers on Eagle Creek, and 3 barriers on Beaver Creek.

#12: Will veterans (including the veterans conservation corps) be involved in the project? If yes, please describe.

No

Planning Supplemental

#1: Is the project an assessment / inventory?

No

#2: Is your project a Barrier / Screening Diversion Inventory Project?

No

#3: Is this a fish passage design / screening design project?

Yes

#3a: List additional upstream and/or downstream fish passage barriers, if any. Identify current or future plans for correction.

One partial barrier exists downstream under the BNSF rail yard. This downstream barrier will be assessed and have concepts developed as part of an existing grant proposal to Federal Highways Administration.

#3b: Describe the amount and quality of habitat made accessible if the barrier is corrected. Include the Priority Index (PI), or Screening Priority Index (SPI), if applicable.

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 (total of 0.27 miles of habitat made fully accessible). Further, this project would restore partial fish passage up to the next complete barrier upstream at RM 1.37 (total of 1.09 miles of habitat made partially accessible).

#3c: If you will be designing a culvert or arch to resolve the fish passage problem, what crossing design option will you use?

Stream simulation

#4: Will the project develop a design?

Yes

#4a: Will a licensed professional engineer design of the project?

Yes

#4b: Will you apply for permits as part of the project scope?

Yes, we will apply for permits with the preliminary design plans.

Planning Metrics

Worksite: Barrier 970003 (South Wenatchee Ave.) (#1)

Area Encompassed (acres) (B.0.b.1)	0.2
Miles of Stream and/or Shoreline Affected (B.0.b.2)	0.03

DESIGN FOR SALMON RESTORATION

Conceptual Design (B.1.b.11.a RCO)

Total cost for Conceptual design	$44,149
Project Identified in a Plan or Watershed Assessment. (2457) (B.1.b.11.a)	Northwest Power & Conservation Cou M https://www.nwcouncil.org/sites/default/files/ Upper Columbia Salmon Recovery Boar Spring Chinook and https://www.ucsrb.org/mdocs-posts/00 chinook-salmon-and-

Priority in Recovery Plan (2458) (B.1.b.11.b)	The Upper Middle Mainstem Subbasin Plan (NWPCC 2004) includes the following recommended task on page 204: “Provide fish passage at the South Wenatchee Avenue culvert and other identified barriers” that would achieve the objective “eliminate obstructions to adult steelhead and Chinook migration” in Squilchuck Creek.” The Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan (UCSRB 2007) includes the following habitat short term objective on page 194: “restore connectivity (access) throughout the historic range where feasible and practical for each listed species.”

Preliminary design (B.1.b.11.a RCO)

Total cost for Preliminary design	$214,044
Project Identified in a Plan or Watershed Assessment. (1220) (B.1.b.11.a)	Northwest Power & Conservation Cou M https://www.nwcouncil.org/sites/default/files/ Upper Columbia Salmon Recovery Boar Spring Chinook and https://www.ucsrb.org/mdocs-posts/00 chinook-salmon-and-
Priority in Recovery Plan (1222) (B.1.b.11.b)	The Upper Middle Mainstem Subbasin Plan (NWPCC 2004) includes the following recommended task on page 204: “Provide fish passage at the South Wenatchee Avenue culvert and other identified barriers” that would achieve the objective “eliminate obstructions to adult steelhead and Chinook migration” in Squilchuck Creek.” The Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan (UCSRB 2007) includes the following habitat short term objective on page 194: “restore connectivity (access) throughout the historic range where feasible and practical for each listed species.”

CULTURAL RESOURCES

Cultural resources

Total cost for Cultural resources	$10,000
Acres surveyed for cultural resources	0.20

AGENCY INDIRECT COSTS

Agency Indirect

Total cost for Agency Indirect	$5,411

Overall Project Metrics

COMPLETION DATE	
Projected date of completion	06/30/2027

Planning Cost Estimates

Worksite #1: Barrier 970003 (South Wenatchee Ave.)

Category	Work Type	Estimated Cost	Note
Agency Indirect Costs	Agency Indirect	$5,411	
Cultural Resources	Cultural resources	$10,000	
Design for Salmon restoration	Conceptual Design (B.1.b.11.a RCO)	$44,149	
	Preliminary design (B.1.b.11.a RCO)	$214,044	
	Subtotal:	$273,604	
	Total Estimate For Worksite:	$273,604	

Summary

Total Estimated Costs:	$273,604
Total Estimated Planning Costs:	$273,604

Cost Summary

	Estimated Cost	Project %	Admin/AA&E %
Planning Costs			
Planning	$273,604		
SUBTOTAL	$273,604	100.00 %	
Total Cost Estimate	$273,604	100.00 %	

Funding Request and Match

FUNDING PROGRAM

Salmon State Projects	$273,604	100.000000

SPONSOR MATCH

Questions

#1: Explain how you determined the cost estimates

We received cost estimates from qualified firms to inform the project cost estimate. For instance, we received a cost estimate from a river restoration and engineering firm for design costs. We received a cost estimate from a geotechnical engineer for geotechnical assessment costs.

We estimated staff time required to complete similar fish passage restoration design projects.

Other Funding

OTHER FUNDING DETAILS

Cultural Resources

Cultural Resource Areas

Worksite #1: Barrier 970003 (South Wenatchee Ave.)

Worksite #1: Barrier 970003 (South Wenatchee Ave.)

Area: Barrier 970003 APE

#1: Describe any planned ground disturbing pre-construction/restoration work. This includes geo-technical investigation, fencing, demolition, decommissioning roads, etc.

A geotechnical assessment is the only ground disturbance planned in this project scope. The geotechnical assessment is anticipated to include excavation or boring near the corners of the existing culvert structure. Geotechnical assessment will be necessary to inform the development of preliminary designs.

#2: Describe the existing project area conditions. The description should include existing conditions, current and historic land uses and previous excavation/fill (if depths and extent is known, please describe).

The existing project area is a County Road culvert conveying Squilchuck Creek underneath South Wenatchee Avenue.

#3: Will a federal permit be required to complete the scope of work on the project areas located within this worksite?

Unknown

#4: Are you utilizing Federal Funding to complete the scope of work? This includes funds that are being shown as match or not.

Unknown

#5: Do you have knowledge of any previous cultural resource review within the project boundaries during the past 10 years?

Unknown

#6: Are there any structures over 45 years of age within this worksite? This includes structures such as buildings, tidegates, dikes, residential structures, bridges, rail grades, park infrastructure, etc.

Unknown

Project Permits

Permits and Reviews	Issuing Organization	Applied Date	Received Date	Expiration Date	Permit #
Archaeological & Cultural Resources (EO 21-02)	DAHP				

Attachments

Required Attachments	7 out of 7 done
Applicant Resolution/Authorizations	✓
CCA Tribal Notification	✓
Cost Estimate	✓
Landowner acknowledgement form	✓
Map: Planning Area	✓
Photo	✓
RCO Fiscal Data Collection Sheet	✓

PHOTOS (JPG, GIF)

Photos (JPG, GIF)

666136 Primary

PROJECT DOCUMENTS AND PHOTOS

Project Documents and Photos

File Type	Attach Date	Attachment Type	Title	Person	File Name, Number Associations	Shared
	05/23/2025	Baseline Inventory	Squilchuck Fish Survey Summary May 2025.pdf	BryanM	Squilchuck Summary May 2025.pdf, 670371	✓
	05/23/2025	CCA Tribal Notification	CCA-TribalNotice_Yakama.pdf	BryanM	CCA-TribalNotice_Yakama.pdf, 670370	✓
	05/23/2025	CCA Tribal Notification	CCA-TribalNotice_Colville.pdf	BryanM	CCA-TribalNotice_Colville.pdf, 670369	✓
	05/16/2025	Cost Estimate	SRFB-CostEstimateSpreadsheet_Squilchuck_202	BryanM	SRFB-CostEstimateSpreadsheet_Squilchuck… 669815	✓
	04/18/2025	Project Application Report	Project Application Report, 25-1227P (sub 04/18/25 15:27:49)	BryanM	Project Application Report - 25-1227 (submitted 04-18-2025_15-27-49).pdf, 666798	✓
	04/18/2025	Baseline Inventory	wdfw_steelhead_spawning_temp_Q_colun	BryanM	wdfw_steelhead_spawning_temp_Q_c… 666788	✓
	04/16/2025	Map: Planning Area	Squilchuck_Map2_lower_squilchuck_detai	BryanM	Squilchuck_Map2_lower_squilchuck_… 666381	✓
	04/16/2025	Map: Multi-site and geographic envelope	Squilchuck_Map1_relative_to_UC_Basins.	BryanM	Squilchuck_Map1_relative_to_UC_Ba… 666380	✓
	04/15/2025	Letters of Support	WDFW_2002_South Wenatchee Avenue.pdf	BryanM	South Wenatchee Avenue.pdf, 666138	✓
	04/15/2025	WDFW barrier & screening forms	970003_Report.pdf	BryanM	970003_Report.pdf, 666137	✓
	04/15/2025	Photo	970003_outlet.jpg	BryanM	970003_outlet.jpg, 666136	✓
	04/15/2025	Landowner acknowledgement form	Squilchuck_CCPW_landowner_acknowled	BryanM	Squilchuck_CCPW_landowner_ackno… 666135	
	04/15/2025	Applicant Resolution/Authorizations	SRFB2025_CCNRD_ApplicantAuthorizatic	BryanM	SRFB2025_CCNRD_ApplicantAuthori… 666131	✓
	04/15/2025	RCO Fiscal Data Collection Sheet	SRFB 2025_FiscalDataCollectionSheet_final.pdf	BryanM	SRFB 2025_FiscalDataCollectionSheet_final… 666130	

Application Status

Application Due Date: 06/23/2025

Project Application Report - 25-1227

Status Name	Status Date	Submitted By	Submission Notes
Application Submitted	04/18/2025	Bryan Maloney	
Preapplication	04/03/2025		

I certify that to the best of my knowledge, the information in this application is true and correct. Further, all application requirements due on the application due date have been fully completed to the best of my ability. I understand that if this application is found to be incomplete, it will be rejected by RCO. I understand that I may be required to submit additional documents before evaluation or approval of this project and I agree to provide them. (Bryan Maloney, 04/18/2025)

Date of last change: 05/23/2025

DESIGN PROJECTS

The costs on this page are for design projects, not for the design phase of a restoration grant.

				OVERALL PROJECT	GRANT REQUEST	MATCH			
				Budget must account for all costs to complete the project	*Enter only the amount of the grant request*	*The Grant Request and Match should equal the total project cost and Budget Check cell should be 0. Sponsors must account for all sources and types of match need to complete the project.*			
				Amount	Amount	Match	Funding not reported in PRISM	Source (Grant, Cash, Materials, Labor, Volunteers, etc)	Match Type (federal, state, local)
Design Costs									
Category	Task Description	Qty	Rate						
Assessments (geologic, hydraulic, etc.)	*geotech assessment*	1.00	$ 40,000.00	$ 40,000	$ 40,000	$ -	$ -		
Conceptual design	*alternatives analysis, conceptual design*	1.00	$ 34,820.00	$ 34,820	$ 34,820	$ -	$ -		
Preliminary design	*survey, hydraulic model, permit-ready designs, BOD report*	1.00	$ 147,120.00	$ 147,120	$ 147,120	$ -	$ -		
Cultural resources	*cultural resource surveys & reporting*	1.00	$ 10,000.00	$ 10,000	$ 10,000	$ -	$ -		
Administrative	*CCNRD staff - wetland survey & reporting*	1.00	$ 2,128.00	$ 2,128	$ 2,128	$ -	$ -		
Administrative	*CCNRD staff - permitting (Nationwide, HPA)*	1.00	$ 6,139.00	$ 6,139	$ 6,139	$ -	$ -		
Administrative	*CCNRD staff - project management*	1.00	$ 7,980.70	$ 7,981	$ 7,981	$ -	$ -		
Administrative	*CCNRD staff - accounting & admin*	1.00	$ 19,117.60	$ 19,118	$ 19,118	$ -	$ -		
Administrative	*CCNRD staff - indirect*	1.00	$ 5,410.60	$ 5,411	$ 5,411	$ -	$ -		
Other	*Travel*	1.00	$ 888.00	$ 888	$ 888	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			STotal	$ 273,604	$ 273,604	$ -	$ -		
			GTOTAL	**$ 273,604**	**$ 273,604**	**$ -**	**$ -**		

CUMULATIVE TOTALS

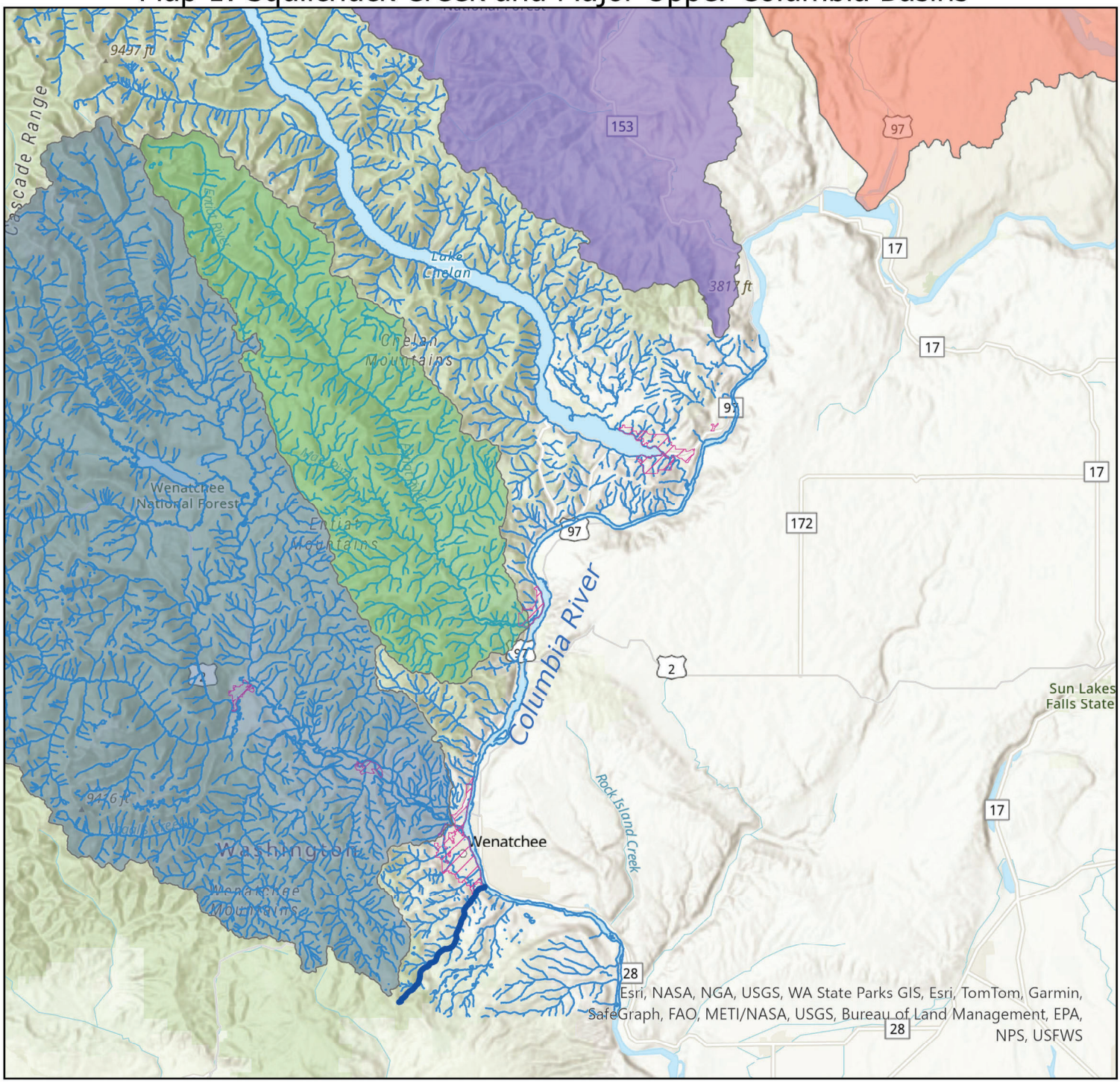
This sheet contains automatic calculations

Project Name	Squilchuck Creek Barrier Replacement Prelim Designs
PRISM #	25-1227
Sponsor	Chelan County Natural Resource Department

	OVERALL PROJECT Cost	GRANT REQUEST Amount	PRISM MATCH Amount	MATCH NOT IN PRISM Amount	*Budget Check*
Sheet #2 Design					
Design Costs	$ 273,604	$ 273,604	$ -	$ -	
STotal	$ 273,604	$ 273,604	$ -	$ -	0
Sheet #3 Restoration					
Construction Costs	$ -	$ -	$ -	$ -	0
AA&E	$ -	$ -	$ -	$ -	0
STotal	$ -	$ -	$ -	$ -	0
GTOTAL	**$ 273,604**	**$ 273,604**	**$ -**	**$ -**	0

Appendix A - Maps

Map 1: Squilchuck Creek and Major Upper Columbia Basins



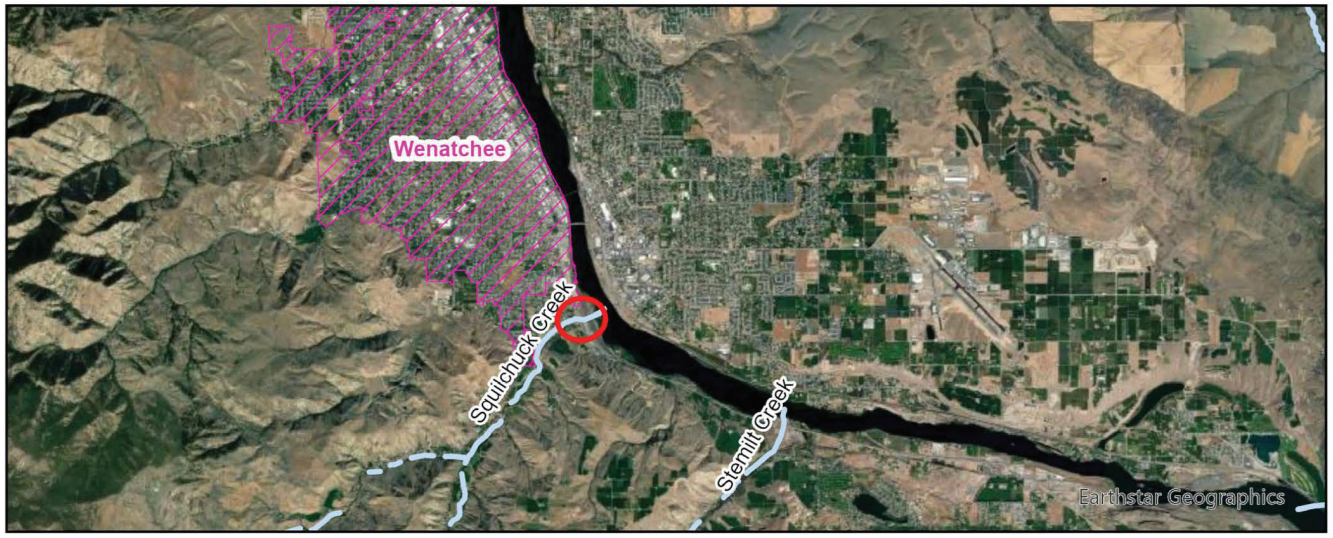
Legend

- Squilchuck Creek
- Major_Upper_Columbia_Subbasins
  - OKANOGAN
  - METHOW
  - ENTIAT
  - WENATCHEE
  - <all other values>
- CityLimits
- Chelan County Streams

0 5 10 20 Miles

N

Map 2. Project Area and Transportation Nexus



0 2.25 4.5 9 Miles

Legend

Roads

- County Roads
- City Roads
- County/City Roads
- Unmaintained County Roads
- Highways
- Private Roads
- Steelhead_Intrinsic_Potential
- CityLimits

Project Area

BNSF culvert extent within BNSF rail yard

S. Wenatchee Ave culvert on county road

Washington Department of
Fish and Wildlife

Fish Passage & Diversion Screening Inventory Database
Report Cover Sheet

The following report is extracted from the Washington Department of Fish and Wildlife's (WDFW) Fish Passage and Diversion Screening Inventory Database (FPDSI). WDFW makes every attempt to keep these reports in sync with FPDSI; however, the dynamic nature of the data and workflows associated with maintaining the database may result in short-term differences.

Users are encouraged to contact WDFW to discuss appropriate use of the data and how we can assist with fish passage barrier removal or inventory. Please visit the Fish Passage web site for contact information at: https://wdfw.wa.gov/species-habitats/habitat-recovery/fish-passage/about

Disclaimers:

- Data presented here represent a snapshot observation of conditions in a dynamic environment that is subject to change. Fish passage data are also collected from a variety of agencies and sources. Therefore, WDFW makes no guarantee concerning the data's content, accuracy, completeness, or the results obtained from use of the data. WDFW assumes no liability for the data represented here.
- These data are not an attempt to provide you with an official agency response as to the impacts of your project on fish and wildlife.
- Note that some fish passage features, habitats or species may occur in areas not currently known to the WDFW Fish Passage division, and may not be reflected in this database. A lack of data does not necessarily indicate that a feature, habitat, or species are not present.
- Unauthorized attempts to alter or modify these data are strictly prohibited.
- Bankfull width measurements included in these reports should not be used for fish passage crossing design. They are solely for assessment purposes.
- The barrier status reported in this document is based on the swimming abilities of adult salmonids. Passabilities are a qualitative value, and should not be interpreted as a quantitative calculation. Please see page 1-4 of the Fish Passage Inventory, Assessment and Prioritization Manual for further clarification: https://wdfw.wa.gov/publications/02061
- EXIF data presented with Image Reports may be erroneous due to camera battery failures and resetting of camera clock functions.

Abbreviations:

Most abbreviations in this report are defined in the Quick Reference Tables of the Fish Passage Inventory, Assessment, and Prioritization Manual. Additional commonly used abbreviations are defined as follows:

NFB = no potential salmonid use, **BB** = both banks, **LB** = left bank looking downstream, **RB** = right bank looking downstream, **US or U/S** = upstream, **DS or D/S** = downstream, **WSDrop** = water surface drop, **BFW** = bankfull width, **OHW** = ordinary high water, **SLW** = scour line width, **CMP** = corrugated metal pipe, $\mathbf{Q_{fp}}$ = fish passage flow, **V&D** = Velocity and Depth, **ROW** = Right of Way

The FPDSI database often uses default values such as '**-99.99**' or '**-999**' to represent null values.

WDFW Fish Passage and Diversion Screening Inventory Database

Site Description Report

Site ID 970003 **Project** FRIMA ☐ **Mitigated**

Geographic Coordinates

Latitude (WGS 84):	47.3947156
Longitude (WGS 84):	-120.2964486
East (NAD 83 HARN):	1,690,829.8
North (NAD 83 HARN)	751,830.5

Waterbody

Stream:	Squilchuck Cr
Tributary To:	Columbia R
WRIA:	40.0836
River Mile:	0.28
Fish Use Potential:	Yes
FUP Criteria:	Biological

General Location

Road Name:	S Wentatchee Ave
Mile Post:	-999.99
County:	Chelan
WDFW Region:	2

Owner

Type:	County
Name:	Chelan County

PI Species

☐ Sockeye	☑ Chinook	☐ Sea Run Cutthroat
☐ Pink	☑ Coho	☑ Resident Trout
☐ Chum	☑ Steelhead	☐ Bull Trout

Associated Features

☑ Culvert	☐ Dam	☐ Natural Barrier	☐ Diversion
☐ Non-Culvert Xing	☐ Other	☐ Fishway	

Location/Directions

Site Comments

Contact Carol Michel (662-6245). WDFW AHB Bob Steele and Bruce Heiner observed extensive numbers chinook and steelhead juveniles and a few coho juveniles within a reach between the S Wenatchee Ave culvert to the BNRR culvert (2002, SRFB application).

WDFW Fish Passage and Diversion Screening Inventory Database

Level A Culvert Assessment Report

Site ID:	**970003**				
Latitude:	**47.3947156**	Stream:	**Squilchuck Cr**	WRIA:	**40.0836**
Longitude:	**-120.2964486**	Tributary To:	**Columbia R**	Fish Use Potential:	**Yes**

Data Source Washington Department of Fish and Wildlife

Field Crew: Schmidt;Trunkey Review Date: 5/17/2006

Culvert Details / **Level A Parameters**

ID	Shape	Material	Span	Rise	Length	WDIC	Apron	WSDrop	Location	Countersunk	Backwater	Slope (%)	Sediment
1.1	BOX	CPC	3.00	2.00	8.50	0.40	DS	0.45	Outlet	No		1.20	

All dimensions in meters

Channel Description

Toe Width (m):	2.43
Average Width (m):	-99.99
Culvert/Stream Width Ratio:	1.23

Plunge Pool

Length (m):	6.00
Max Depth (m):	0.50
OHW Width (m):	5.30

Road

Fill Depth (m):	0.10

Assessment Results

		Tidal Influence:		Tidegate Present:	No
Barrier:	Yes	Passability (%):	0	Method:	Level A
Reason:	WS Drop	Fishway Present:	No	Recheck:	

Comments

Sloped apron on DS end. RND CST on LB at DS end-unknown source. Pump diversion 960349 on RB in plunge pool.

Potential Habitat Gain

Survey Type:	RSFS	Spawning (sq m):	9,705	Length (m):	20,169
Significant Reach:	Yes	Rearing (sq m):	35,652	**PI Total**	20.21

11/21/2021

WDFW Fish Passage and Diversion Screening Inventory Database

Habitat Survey Summary Report

Site ID:	**970003**				
Latitude:	**47.3947156**	Longitude:	**-120.2964486**	WRIA:	**40.0836**
Stream:	**Squilchuck Cr**	Tributary To:	**Columbia R**	PI Total:	**20.21**

Survey Type RSFS

Spreadsheet File(s):

040162.xls; 040162(2).xls; 040162(3).xls; 040162(4).xls; 040162a.xls; 040162b.xls; 040162c.xls; 040162c1.xls

Downstream Survey

Date: 8/15/2006 Crew: Romero;Schmidt Length (m): 301

Downstream Comments:

1 barrier downstream.

Upstream Survey

Date: 8/15/2006 Crew: Romero;Schmidt Length (m): 20,169

Upstream Comments:

45 barriers upstream.

Potential Habitat Gain

Lineal (m):	20,169
Spawning Area (sq m):	9,705
Rearing Area (sq m):	35,652

Distribution

- (•) Anadromous
- ( ) Resident Only
- ( ) Unknown

Gain Direction (Resident Only):

Potential Species Benefit

☐ Sockeye / Kokanee	☑ Chinook	☐ Searun Cutthroat
☐ Pink	☑ Coho	☑ Resident Trout
☐ Chum	☑ Steelhead	☐ Bull Trout

11/21/2021

WDFW Fish Passage and Diversion Screening Inventory Database

Barrier Priority Index Report

Site ID: 970003

Stream	Squilchuck Cr	Trib To	Columbia R	WRIA	40.0836

Habitat (H) Estimatiom Method RSFS

	B	H	M	D	C	Species PI
Sockeye			2		2	0.00
Pink			2		2	0.00
Chum			2		2	0.00
Coho	1	3,723	2	1	2	5.22
Chinook	1	3,301	2	1	2	3.81
Steelhead	1	26,341	2	1	2	3.86
Searun Cutthroat			2		2	0.00
Resident Trout	1	35,652	1	1	2	7.32
Dolly/Bull Trout					2	0.00
				TOTAL PI		**20.21**

B = proportion of fish passage improvement (1, 0.67, 0.33).

H = potential habitat gain (square meters), spawning habitat for sockeye, pink and chum, rearing habitat for the rest.

M= mobility modifier (anadromous = 2, resident = 1).

D = stock condition modifier (critical = 3, depressed = 2, not 2 or 3 = 1).

C= repair cost modifier (<$100K = 3, $100K - $500K = 2, >$500K = 1).

11/21/2021

Fish survey summary for Squilchuck Creek

Prepared by Hinchinbrook Inc. for Chelan County Natural Resources Dept.

Survey Date: May 20, 2025
Methods: Backpack electrofisher, dipnets, modified beach seine

Summary:

Surveys were conducted from approximately 9am to 12pm in Squilchuck Creek between the Columbia River confluence and the South Wenatchee Avenue bridge. The survey extent was broken into two primary sample reaches separated by the BNSF Appleyard culvert (See Figure 1). Sampling was not feasible through the culvert, but was possible under the main railway bridge and Malaga Hwy bridge.

All safely accessible waters were sampled for fish using a backpack electrofisher. Some areas were not sampled due to heavy overgrowth of thorny brush and other physical obstructions preventing access.

A total of five *Oncorhynchus mykiss* (steelhead or rainbow trout) and one *O. kisutch* (coho salmon) were captured and retained for measurements. Two large bridgelip sucker were captured and immediately released, and at least three juvenile salmonids were observed but not captured.

One of the *O. mykiss* specimens was previously PIT tagged. The PTAGIS tag history shows that it was first tagged at the Chiwawa River screw trap by WDFW on April 9, 2025 for the Comparative Survival Study. In the 40 days between release and recapture, the fish traveled approximately 85 rkm through the Wenatchee and Columbia Rivers to reach Squilchuck Creek, and grew from 193 to 205 mm FL in that time.

The remainder of the salmonids were given a new PIT tag to allow measurement of growth and residence time for any recaptures encountered in local summer or fall sample events, as well as possible tracking through the Columbia River detection system. The *O. kisutch* was 162 mm FL, and the *O. mykiss* mean length was 197.8 mm FL, with a range of 177 to 222 mm FL.

Figure 1. Squilchuck Creek Survey Extent, May 20, 2025

STATE OF WASHINGTON
DEPARTMENT OF FISH AND WILDLIFE
3860 Chelan Highway • Wenatchee, Washington 98801 • (509) 662-0452 FAX (509) 662-0490

September 25, 2002

Greg Pezoldt P.E. - County Engineer
Chelan County Department of Public Works
350 Orondo Avenue
Wenatchee, Washington 98801

SUBJECT: Washington Department of Fish & Wildlife (WDFW) Support For Squilchuck Creek Fish Barrier Removal - Impassable Box Culvert To Be Replaced With A Full Span Bridge - Squilchuck Creek - South Wenatchee Avenue - Chelan County, Washington - Water Resource Inventory Area (WRIA) 40.0836

Dear Mr. Pezoldt:

The Washington Department of Fish and Wildlife (WDFW) strongly supports your recent proposal to replace the S. Wenatchee Avenue box culvert on Squilchuck Creek, with a new full span bridge, as well as your efforts to secure grant or other funding for this extremely important fish passage restoration project.

As you are aware, this old box culvert has been identified by WDFW as a complete barrier to the upstream passage of all fish life at this location, including upstream passage of such anadromous fishes as "Endangered" summer steelhead trout, "Endangered" spring chinook salmon, and other fishes known to inhabit Squilchuck Creek downstream of the S. Wenatchee Avenue culvert.

In fact WDFW (myself and WDFW Fish Passage Engineer Bruce Heiner) just yesterday conducted a thorough field survey of the stream reach from the passable Burlington Northern Railroad (BNRR) culvert to the S. Wenatchee Avenue barrier culvert to ascertain both current stream conditions, and to document the presence or absence of any federally listed ESA salmonids such as "Endangered" summer steelhead, "Endangered" spring chinook salmon and/or other fish life during the early fall low flow period.

To say the least, the results of our investigation were quite surprising even to us, as upon conducting a brief electro-fishing survey from the BNRR culvert just upstream of the railroad yard to the S. Wenatchee Avenue culvert, we found this stream reach quite literally "chocked full" of wild, fat, healthy juvenile spring chinook salmon and wild juvenile summer steelhead trout, AND even sprinkled with a few young of the year coho salmon (evidently the progeny from naturalized adults from the Yakima Tribe's Wenatchee River coho reintroduction program, as native coho are technically "extinct"from the upper Columbia River basin and its tributaries).

Even more amazing, based on a sub-sample of the fish we temporarily captured, enumerated, measured, photographed and then released unharmed during our survey, our fish passage engineer, Mr. Heiner roughly estimated the current population of juvenile salmonids for this tiny system at around 2200 fish/mile, which is an extremely robust salmonid population for such a small stream system, AND thus the importance of reestablishing unhindered fish passage and anadromy to the remaining 9 to 10 miles of this very important salmon & steelhead stream as soon as possible.

I have enclosed a set of photographs, including photos of some of the fish we sampled, the gear we used, and of the S. Wenatchee Avenue culvert for your perusal and use. Of particular note is that of the all the fish we sampled within this stream reach (roughly several hundred salmonids), the vast majority were spring chinook salmon, with spring chinook juveniles outnumbering summer steelhead juveniles by 3:1, with both species however found in great numbers (and spread out rather evenly) throughout all pools and riffles from the BNRR culvert to the plunge pool directly below the S. Wenatchee Avenue barrier culvert. **NO** fish of any species were found from the S. Wenatchee Avenue barrier culvert or upstream of the culvert for the next 200 or so feet, where our fisheries survey finally ended, thus denoting the severity of the passage problem for anadromous fishes and other fish life at the S. Wenatchee avenue culvert.

Earlier fishery surveys conducted on Squilchuck Creek by WDFW from 1/4 mile upstream of the S. Wenatchee culvert barrier to its headwaters (at various "spot" locations) found **NO** salmon or steelhead, but did find an excellent population of resident rainbow trout inhabiting most of the rest of the streamcourse all the way to its headwaters, that are presumably are related to and/or are decedents from native "steelhead" stocks that historically entered the entire Squilchuck Creek drainage to spawn and rear, but have been isolated from their parental stocks for many years because of several man-made passage barriers known to exist within the drainage (including the main migration barrier near Squilchuck Creek's mouth at S. Wenatchee Avenue).

Thus, based on this new biological information WDFW places your proposed barrier removal project as a **"high"** priority, as this culvert barrier is presently the lowermost blockage (as it is only roughly 0.3 of a mile from the Columbia River) to the upstream passage of anadromous fishes to the Squilchuck Creek drainage, AND because the habitat value of many portions of Squilchuck Creek above the S. Wenatchee Avenue culvert is actually "higher" than what we found during our recent survey below the culvert (again denoting the importance of allowing "endangered" spring chinook & summer steelhead to freely pass above this blockage and seek out and seed many of the better habitat reaches found within Squilchuck Creek above this main and lowermost fish passage barrier).

Therefore, the Washington Department of Fish and Wildlife thanks you very much for your genuine interest in this matter, for allowing us to review and comment on your preliminary bridge designs, and in working cooperatively with my agency, your own Chelan County Natural Resources Program, the SRF Board and/or others in trying to find the money to correct this severe fish passage problem in the most expeditious and environmentally "fish friendly" manner possible.

Again WDFW supports these fund raising efforts and your proposed fish passage restoration project fully, and we hope that this extremely important project finally receives the recognition and support (including financial support) that it deserves, in order to once again allow salmon, steelhead and other important fish life to freely enter and use the fertile waters of Squilchuck Creek to the fullest extent possible, as they once did many, many years ago.

If I or my agency can answer any questions or be of any further assistance to either you, your staff or any other interested parties or agencies, please feel free to call me at (509) 662-0503.

We appreciate your cooperation in our efforts to protect, perpetuate and manage the valuable fisheries resources of Squilchuck Creek, Chelan County and the State of Washington.

Sincerely,

R. M. Steele II

Robert M. Steele II
Area Habitat Biologist
Chelan County & U. Columbia River

cc: Dennis Beich, Tracy Lloyd & Katherine March, WDFW, Ephrata
Bruce Heiner P.E., WDFW Environmental Engineering, Pullman
Art Viola, WDFW, Wenatchee & Mark Cookson, WDFW, Omak
Mark Schuppe & Max Linden, DOE, Yakima
Debbie Knaub, COE, Chelan
Dale Bambrick & Justin Yeager, NMFS, Ellensburg
Stewart Cory, NMFS Enforcement, Wenatchee
Mark Miller, Jodi Bush & Judy DeLavergne, USFWS, Wenatchee
Judith Lee, EPA, Seattle
Bob Rose, YIN, Toppenish & Jerry Marco, CCT, Nespelem
Christina Katz, Chelan County Planning, Wenatchee
Mike Kaputa, Chelan County Natural Resources Program, Wenatchee
Jan Carpenter, President Trout Unlimited, Leavenworth
William Ruckelshaus, Chairman, SRF Board, Olympia

9-23-02

Squilchuck Creek Box Culvert & Fish Passage Barrier On S. Wenatchee Ave.

9-23-02

Bob Steele & Bruce Heiner Of WDFW Sampling Squilchuck Cr. At Box Culvert

9-23-02

"Endangered" Summer Steelhead & Spring Chinook Salmon Found Directly Below The Barrier... No Fish Of Any Species Were Found Directly Upstream Of The Barrier

(1 "Endangered" Summer Steelhead & 3 "Endangered" Spring Chinook Parr Found Below Barrier)