

*Project Title	Restore Lower Peshastin Creek
*Sponsor	Cascade Fisheries
*Primary Contact	Jason Lundgren
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*Anticipated Request - SRFB	495,112
*Anticipated Request - Tributary Committee	495,112
*Anticipated Other Funding	0
*Anticipated TOTAL Budget	990,224
*Briefly describe the location of the project	The project will occur in lower Peshastin Creek RM 0 - 0.3
*Latitude (decimal degrees)	47.557207
*Longitude (decimal degrees)	-120.578137
*Project subbasin	Wenatchee
*Wenatchee Assessment Unit(s)	Lower Peshastin Creek
*Reach(es) Name	Wenatchee River Derby 01
1. *In one or two sentences, what do you propose to do?	This project addresses several needs within the area; the need for additional spawning habitat for steelhead in Peshastin Creek and the Lower Wenatchee, the need for high quality rearing habitat for both species (slow velocity and complex) in Lower Peshastin, and the need for high quality, cool off-channel habitat for fish using the mainstem Wenatchee in this area. Lower Peshastin Creek is an important migration corridor, linking the Wenatchee River to the cooler waters of the upper Peshastin watershed and its tributaries, which serve as important spawning and early rearing areas for Chinook, Steelhead, and bull trout. The design intent of the restoration project is to

return a degree of fluvial dynamism to the project reach by increasing frequency and extent of floodplain inundation during higher flows, decreasing the rate of transport of sediment (volume and size of sediment) through the project reach and thus promoting depositional processes, increasing retention of mobile large and small woody debris and increasing quality and density of riparian vegetation.

2. *What species will the project benefit?

Spring Chinook

Steelhead

Bull Trout

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

Instream Habitat (Includes Floodplain & Off-Channel Reconnection)

Instream Habitat: Reporting Code

Miles of off-channel stream created

4. *Does this project or any of its phases (e.g., design) already exist in Salmon Recovery Portal or PRISM?

Yes

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

Yes

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

The SRFB funded preliminary design in 2014 (#14-1736) Restore Lower Peshastin Creek - Preliminary Design. This effort was the foundation of our current 60% design, however, a key landowner withdrew support after we completed the preliminary design so we had to seek funding to redesign the project. In 2017, through the BPA Targeted Solicitation we were granted funding to redesign project given new project constraints listed above. Mid-design, BPA elected to pause the project to explore a more holistic approach that would maximize use of the WDFW-owned floodplain. That effort concluded that we were on the right path with our previous design effort, so in 2020 BPA committed funding to take our earlier (2018) preliminary design to 80%. As of February 2021, we have a 60% design and will proceed to 80% in the next two months.

6. *What category is the project?

Restoration

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

Final Design

Construction

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 Peshastin Creek Reach and Tributary Assessment (Interfluv 2010)

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

Contaminants

Cover - Wood

Off-Channel - Floodplain

Off-Channel - Side-Channels

Pool Quantity & Quality

Pools - Deep Pools

10. *Which life stages will the proposed project address?

Adult Migration

Adult Non-Spawning (Bull Trout)

Fry

Holding and Maturation

Smolt Outmigration

Spawning and Incubation

Summer Rearing

Winter Rearing

11. *Freshwater Benefits - To what extent will your project improve survival, capacity and/or distribution for target species at the project scale?

Due to its location in the heart of the Wenatchee watershed, and being a perennial cool water tributary, Lower Peshastin serves as a biological hotspot providing habitat for both natal Peshastin and Wenatchee river fish stocks, including our three threatened and endangered species. Tributary junctions are predicted to be hotspots of diversity and production (Rice et al. 2001b, 2008, Power and Dietrich 2002). Steelhead spawn immediately upstream of the project area and would likely spawn in the project area if conditions allowed, they also rear lower Peshastin in the summer and winter. Steelhead also use the mainstem Wenatchee in this area extensively for all life stages and would most likely use this area for off-channel habitat. Spring Chinook spawn further upstream in Peshastin Creek and juveniles use the project area for rearing. They also use the mainstem Wenatchee in this area for winter rearing and would use it as off-channel habitat potentially (Greer Maier, UCSRB, personal communication 2021).

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

Peshastin Creek and it's watershed have experienced over a century of resource extraction (logging and mining) and has been fundamentally altered due to road building, agriculture and rural residential development along the shoreline and throughout the floodplain. Watershed and stream process at the reach scale are and will continue to be a challenge to restore. With that said, the WDFW-owned 24 acre parcel at the confluence of Peshastin Creek and the Wenatchee River offers the most significant opportunity to regain the kind of dynamism that is so rare and critical for our threatened and endangered species. - This project addresses the following high priority habitat impairments (deemed by the RTT as "unacceptable" in these reaches)- riparian, cover- wood, pool quality and quantity, off-channel-floodplain, off-channel-side channels, channel stability, bank stability (Greer Maier, UCSRB Personal communication, 2021).

13. Temporal Effect - How long will it take for the benefits of the project to be realized?

1-10 years

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

20-50 years

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

Working closely with WDFW, Cascade Fisheries developed a three year adaptive management plan whereby maintenance thresholds and intervals have been identified. The current draft plan has fourteen project metrics that will be monitored, and if necessary, addressed over the three year period following

implementation. Once grant funds are extinguished, monitoring and maintenance will be on a more ad hoc basis.

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

The primary restoration project features incorporated into the draft 60% engineering drawings are listed below (refer to 60% designs).

Engineered Logjams (ELJs) – 19 each
- Type 1 ELJ
- Type 2 ELJ

Channel and floodplain earthwork – approximately 19,300 cy of excavation (3.8 acres)

Reconnection of an isolated meander bend, resulting in a 2x increase in channel length (1,100 linear feet of new low flow channel and creation of 1,000 linear feet of secondary channel)

Excavation and expansion of floodplain adjacent to the main channel

Additional overflow channel grading

Boulder, cobble, and gravel placement (s) – approximately 2,340 cubic yards (0.85 acres)

Rebuilding of the incised current streambed to a higher elevation to maintain split flows and an elevated water table (e.g. secondary channel construction)

Riparian restoration – 3 acres planting of native plants

Protecting existing riparian trees and shrubs

Other work associated with the project currently in the development process by others that may be implemented during this project includes:

Removal and disposal of lead-contaminated floodplain soils as described and delineated by Hart Crowser (2011).

Modifications of approximately 1,000 linear feet of overhead utility line pole locations to be setback from the new creek channel

Modifications to an existing PUD access road to be out of the flood and erosion hazard limits

1. *What is the landownership?

Washington Department of Fish and Wildlife

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

Yes

*Please explain

we are working our way through WDFW's restoration pathway. WDFW has indicated explicit support for the project, now at the

60% design phase.

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

Our project fits entirely on WDFW property. In order for this project to gain support from WDFW, Cascade Fisheries has been working through WDFW's detailed Restoration Pathway Process. We are currently at the 60% design review phase and expect to have our 80% design reviewed by April 1, 2021.

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

Potentially, although we've conducted extensive landowner and stakeholder outreach over the past few years and have not identified any concerns that we haven't, or will not, mitigate for. We have received support from the boating community and will continue to keep them engaged as we identify appropriate portages around the project site.

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

Cascade Fisheries will be the lead on project maintenance activities for three years following construction.

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

We believe the risk of failure is low due to the robust and prolonged engagement by our interdisciplinary team of scientists and engineers. The project is design to withstand the 100 year flood, and includes the dynamism and multiple flow paths to spread out flows and therefor velocities across a wide area.

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

Cascade Fisheries has sent mailers to adjacent landowners and called local commercial whitewater rafting companies. There are no commercial rafting/boating outfits that run Peshastin Creek, but they do use the site as a portage and put-in for rafting the Wenatchee. While our project will not impede these activities, we did hear positive feedback for our project and suggestions to sign our project and provide an upstream portage. Since this project is located on public property and heavily used, there are ample opportunities to build community support for salmon recovery. In fact, we hope, as a seperate project, to build an interpretive trail around the property educating the public about Peshastin Creek and its fish inhabitants.

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

If funded, this project will be bid through a competitive process. While we cannot guarantee the successful bidder will be local, many of the project expenses, supplies (wood, rock, asphalt, etc.), fuel, lodging and other costs, and taxes, will be incurred in the Wenatchee valley.

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

SRFB through a grant contributed \$119k to design. BPA also contributed/committed approximately \$150k to design. WDFW, WA Department of Ecology, Chelan PUD, Natural Systems Designs, and members of the Regional Technical team have all participated in the design team over the past six years providing technical expertise to various elements of the project.

