## 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)

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| **Project Title** | Wenatchee Entiat Beaver Project Low-Tech Restoration and Beaver Habitat Protection |
| **Sponsor** | Trout Unlimited |
| **Primary Contact** | Lisa Foster |
| **E-Mail Address** | lisa.foster@tu.org |

## 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.**

Trout Unlimited (TU) plans to restore approximately 0.75 miles of stream total across three different streams - Brush Creek, Tillicum Creek, and Indian Creek using Low-Tech Process-Based Restoration (LTPBR) techniques. TU will also work with local landowners on coexistence measures to allow beavers and the habitat they create to remain in place on 20 properties in Chelan and Douglas County watersheds. Habitat restoration and protection activities will maintain and increase quality pool habitat, arboreal shading, and water quality for salmonids in the Upper Columbia River Watershed.

Salmon- and steelhead-bearing stream habitat conditions in the Wenatchee and Entiat watersheds have been degraded by clear cut logging, road construction, over-grazing, stand replacing wildfire, and removal of beaver populations. Beavers were systematically extirpated from most of the United States during the 1800s and today are commonly perceived as a nuisance animal when their activities come into conflict with human land uses, often resulting in removal by lethal measures. Loss of beaver from regional watersheds reduces salmonid habitat capacity and productivity and diminishes the resilience of human communities with respect to flooding, drought, wildfire, and other natural phenomena that impact economies and ways of life. In all project sites, these impacts have resulted in degraded habitat with few pools, decreased complexity, and disconnected floodplains.

Using LTPBR techniques, Trout Unlimited and partners will address these habitat quality issues by increasing the density and spatial scale of the structural elements in the target stream systems, improving conditions for development of riparian vegetation, and aggrading stream beds to correct incision. Re-establishment of characteristic historic stream complexity will jump start natural processes to transition stream systems to improved ecological conditions with increased resilience to disturbance.

Beavers create, maintain, and improve habitat that supports survival, capacity and/or distribution of salmonid species by creating ponds that store cool water, create rearing habitat, aggrade incised streams, reconnect floodplains, and lower downstream turbidity. Trout Unlimited will protect and improve existing good quality salmonid habitat in streams throughout the Upper Columbia Watershed by working with landowners and public agencies to keep beavers in place using a variety of coexistence methods.

Desired future conditions will consist of three stream reaches and 20 coexistence sites with a network of stable, connected habitats with thriving native vegetation and beavers, improved water retention, and enhanced capacity to support fish and wildlife populations.

**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 project seeks to address in-stream habitat, riparian habitat, and temperature limiting factors for all life stages of steelhead, bull trout, and spring chinook, with a focus on rearing habitat by focusing on the following objectives:

Reconnect floodplains and improve riparian habitat across 0.75 miles of stream using LTPBR techniques.

Maintain and improve riparian habitat across 10-20 miles of stream by working with land managers to keep beavers in place

Monitor and maintain installed in-stream structures and coexistence structures throughout the life of the project

Implementation of the LTPBR project on Brush Creek will take place in 2026 and Tillicum and Indian Creeks will take place in 2027. Beaver Coexistence work will take place throughout the performance period.

# Budget Request

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

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| **Anticipated Request - SRFB (standard round)** | 463134.23 |
| **Anticipated TOTAL Budget** | 463,134.23 |

# Project Location

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| **Briefly describe the location of the project** | Low-Tech Process-Based Restoration (LTPBR) projects will take place on Brush Creek (47.893230, -120.735871) in the Wenatchee River Watershed and Tillicum Creek (47.734183, -120.420323) and Indian Creek (47.731412, -120.438691) in the Entiat River Watershed. Beaver Coexistence work will take place in rivers and streams throughout Chelan and Douglas Counties. Latitude and longitude provided below are for the TU |

base of operations at the Leavenworth National Fish Hatchery

**Latitude (decimal degrees)** 47.557828

**Longitude (decimal degrees)** -120.675780

**Project subbasin** Multiple Subbasins

**Please explain why there are multiple subbasins**

Brush Creek is in the Wenatchee subbasin and Tillicum and Indian Creeks are in the Entiat subbasin. Coexistence work will take place throughout the Wenatchee and Entiat subbasins and small tributaries to the Columbia in Douglas County.

**Does the proposed project span multiple assessment units?** Yes

**List the additional assessment units directly impacted by this proposal.** LTPBR work will take place within the Lower Chiwawa River and Tillicum Creek Assessment Units

**Reach(es) Name** LTPBR work will take place on Brush Creek 02, Tillicum Creek 02, Tillicum Creek 03, and Indian Creek 01

**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/.** Multiple reaches (provide details below)

**Please detail the reach-ranking of the reaches below**

Brush Creek 02, Tillicum Creek 02, Tillicum Creek 03, and Indian Creek 01 are all unranked.

# Project Information

**1. What species will the project benefit?** Spring Chinook, Steelhead, Bull Trout

**2. Select the project's objectives and the associated tracking metrics** Instream Habitat (Includes Floodplain & Off-Channel Reconnection)

**Instream Habitat: Reporting Code**

- Total miles of instream habitat treated
- Number of beavers
- Number of structures placed in channel
- Pools created through channel structure placement

**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?**

Restoration

**If applicable, what is the secondary project category?**

N/A

**Is the project eligible for Riparian Funding?**

Yes

## Design and Restoration Proposals

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

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)?**

Unknown

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

Cover - Wood
Flow - Summer Base Flow
Off-Channel - Floodplain
Pool Quantity & Quality
Pools - Deep Pools
Riparian
Riparian - Canopy Cover
Riparian - Structure
Temperature - Adult Holding
Temperature - Rearing

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

Natal Rearing (Bull Trout)
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?**

This project will create new and protect and enhance existing pool habitat for rearing salmonids, create cold water refugia, increase invertebrate habitat, increase fry habitat, increase wood loading, and increase canopy cover in and around LTPBR project sites and beaver complexes. The project will also decrease downstream turbidity at these sites. Additionally, the project will address reduced base flow conditions and reconnect floodplains by impounding water and raising water tables. These actions will also increase canopy cover, decreasing stream temperatures by making water more available to riparian trees.

**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 project will decrease incision, reconnect floodplains, raise water tables, and increase wood loading across 23 sites. The project will also protect naturally occurring beaver colonies and beaver dam

complexes which provide numerous benefits including restoring hydrological, geomorphic, ecological, and biological processes.

**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?**

10-50 years

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

LTPBR projects will be maintained once per year for 5 years after implementation. Land managers with beaver will be contacted periodically to assess any coexistence needs and any coexistence devices will be maintained in cooperation with the land manager. In some cases, the land manager will handle maintenance and TU may assist periodically as needed.

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

Install LTPBR structures to restore 0.75milesof stream across 3 different streams. Work with landowners on 20 different sites to keep existing beaver colonies in place.

The project involves installation of beaver dam analogs and channel structure placement, as well as beaver coexistence, including but not limited to unanchored log placement, post-assisted log structures, and large woody materials. The project reaches in question have incised channels, disconnected floodplains, and low summer base flows. LTPBR structures can be installed and beaver can be maintained in place to correct these deficits by kicking off processes that support channel aggradation and floodplain reconnection, supporting riparian vegetation and decreasing stream temperatures by making water more available to riparian trees.

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

N/A

# Assessment Proposals

# Protection Proposals

# Monitoring Proposals

# Project Risk and Economic Benefits

**1. What is the landownership?**

All low-tech process-based restoration activities will occur on United States Forest Service owned land. TU has current agreements with the Forest Service that authorize LTPBR and beaver coexistence projects. Coexistence work will be conducted on private and public land on an as-needed basis and WDFW Landowner Attestation Forms will be signed.

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

Yes

**Please explain**

TU operates on a Memorandum of Understanding with USFS and collaborates with them on all project planning. Coexistence work will be conducted on private and public land on an as-needed basis with interested landowners seeking TU out. On average, TU currently works with 10 landowners per year on beaver coexistence.

### 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

All LTPBR projects will take place in accordance with an existing Memorandum Of Understanding between Trout Unlimited and USFS. Project permitting and implementation is subject to USFS review and approval.

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

LTPBR projects are designed, planned, and implemented in communication with USFS. Infrastructure such as roads and culverts are taken into account and appropriate setbacks are observed.
Trout Unlimited provides valuable assistance to local landowners and land managers facing challenges with beavers, including falling orchard trees, causing flooding, damming culverts, and seeks coexistence solutions so that beaver can remain on sites where they provide valuable stream and habitat benefits while mitigating challenges.

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

TU will maintain all LTPBR projects. TU will work with land owners and managers to maintain any coexistence measures installed. Either the land owners/managers will maintain structures or TU will complete maintenance as needed.

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

No

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

LTPBR projects are designed to use natural stream processes to restore degraded conditions. Structures are installed in cohesive groupings and designed to work together. Any individual structure may blow out or may not impound water as expected. Even so, all structures add material to the stream and increase habitat complexity. The idea is to allow the stream system to make as many decisions as possible. If any one structure fails, it can be repaired at a relatively low cost, and other structures in the system can compensate for any loss in water storage and aggradation.

Beaver coexistence work is contingent on willing landowners. TU has a history of positive collaboration with landowners. Coexistence with beavers is a never-ending process that requires regular adaptive management in most cases. If coexistence is not an option, TU also operates a beaver relocation program. Beavers that must be removed because coexistence solutions cannot be found can be live-trapped and released in different streams where they can have positive habitat benefits.

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

For LTPBR projects, TU often works with community volunteers. TU also provides photos of and narratives about completed work to our regional communication team. The communications team writes blogs and social media posts about TU projects which are seen by a national audience.

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TU regularly attends community events in Chelan and Douglas Counties to tell the community about important salmon recovery work and educate community members about beaver coexistence as well as the link between beavers and salmon recovery.

Beaver coexistence work requires a constant interface with local communities and working one on one with local landowners. Phone calls and site visits provide ample opportunity to educate community members about beaver coexistence and the importance of beavers on the landscape. Landowners are often eager to engage neighbors who are having conflicts with beavers, thus expanding the program's reach. This outreach and interest in beavers more generally provides opportunities to discuss the interrelated nature of beaver coexistence and salmon recovery with a diverse array of community members.

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

This project represents multiple opportunities for economic benefit. Implementation of LTPBR projects requires materials, including wooden posts purchased from local vendors and weave material which is often sourced from forest thinning projects carried out by local contractors. TU also often hires local contractors to carry out post-project maintenance.

TU provides a free service to landowners such as farmers facing costly infrastructure and agricultural damage from beavers on their property. TU is able to work with them to provide solutions which allow beavers to stay on site without causing damage to infrastructure and crops.

Trout Unlimited provides valuable assistance to local landowners and land managers facing challenges with beavers. TU works with landowners and managers to provide free coexistence services. Landowners or managers typically call TU to address beaver impacts like falling orchard trees, flooding, or damming culverts, among other impacts, potentially causing expensive damage. TU works to find coexistence solutions that allow beavers to remain onsite where they can continue providing ecosystem benefits. As such, this project turns a potential economic burden into a positive force for salmon habitat restoration.

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

TU is part of the Coordinated Resource Management (CRM) group. CRM partners collaborate to leverage their unique resources, expertise, and opportunities in pursuit of shared missions and values, with a focus on salmon recovery in and around Chelan County. This formal partnership allows TU to work with Cascadia Conservation District and Cascade Fisheries to complete LTPBR implementation. CRM crews will assist with on-site implementation.

TU works collaboratively with USFS to plan and authorize LTPBR implementation. USFS often provides technicians to assist with implementation.

Beaver coexistence is a requirement of the WDFW Beaver Relocation Program. TU is required to seek coexistence solutions prior to pursuing beaver relocation. WDFW, along with partners such as Methow Beaver Project, Beavers Northwest, and The Beaver Institute provide TU technical assistance as needed regarding challenging coexistence scenarios.

Trout Unlimited is further strengthened by partnerships with various Federal and State agencies that collaborate on project development, design, planning, permitting, and implementation. These agencies include:

Federal

US Bureau of Reclamation

US Forest Service

US Fish and Wildlife Service

National Resources and Conservation Service

Bureau of Land Management

State

WA Department of Fish and Wildlife

WA State Conservation Commission

Department of Ecology

Department of Natural Resources

## 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

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| **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)**