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	CRM Riparian Stewardship Package
Sponsor	Cascade Fisheries (Lead Sponsor), Cascadia Conservation District (Co-sponsor), Trout Unlimited (Co-sponsor)
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Project Summary

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

The Coordinated Resource Management (CRM) group, a partnership between Cascade Fisheries, Cascadia Conservation District, and Trout Unlimited, submits this joint proposal to restore riparian and in-stream habitat across the Upper Columbia region. This proposal focuses on the stewardship of riparian and in-stream habitat restoration efforts by the CRM across 23 project sites in the Wenatchee and Entiat River watersheds, as well as in two tributaries of the Columbia River. The primary goals are to improve the success and rate of riparian habitat establishment and to enhance the development of normative stream processes and functions, promoting self-sustaining ecosystems.

To achieve these goals, this project will focus on managing invasive plant species and noxious weeds, replacing unsuccessful plantings, increasing groundwater availability through in-stream structures, and supplementing sites with irrigation water as needed. Additionally, efforts will be directed toward improving the effectiveness and longevity of low-tech process-based restoration (LTPBR) in-stream habitat structures, such as Beaver Dam Analogs (BDAs) and Post-Assisted Log Structures (PALS), through annual maintenance, monitoring system response, and adaptive management based on observed responses.

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. Every year, Trout Unlimited works with landowners and public agencies to keep beavers in place through education and various coexistence measures. When leaving beavers in place is not an option and those beavers would otherwise be lethally removed, Trout Unlimited will live trap beavers and relocate them to streams where they can create and restore quality salmonid habitat.

By addressing the root causes of habitat degradation, including reduced riparian vegetation, competition from invasive species, loss of in-stream complexity, removal of beavers, and diminished hydrologic processes and functions, this project will foster resilient riparian and aquatic ecosystems. The desired future condition is a network of stable, connected habitats with thriving native vegetation and beavers, improved water retention, and enhanced capacity to support fish and wildlife populations. Through continued stewardship, this project will ensure that restoration efforts achieve lasting ecological benefits and contribute to the long-term health of these watersheds.

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].

This project will achieve the following objectives:

- Riparian Vegetation Establishment: Restore and expand riparian vegetation communities to address shade cover and high stream temperatures for all salmonid life stages by providing stewardship and maintenance to over 21 acres of previously planted riparian habitat through managing invasive species, replacing unsuccessful plantings, and supplementing water (irrigation) to achieve self-sustaining riparian communities that are on a trajectory to becoming fully functioning riparian systems. The project will also improve conditions for riparian vegetation establishment through ponds created by released beavers.
- Invasive Species Management: Manage invasive plant species and noxious weeds across more than 21 acres of previously planted riparian habitat, to promote native vegetation establishment and riparian resilience.
- In-Stream Habitat Structure Maintenance: Maintain and enhance over 500 BDAs and 100 PALS across more than 11 miles of previously treated aquatic habitat by conducting annual inspections, routine structure maintenance, and adaptive management, to achieve self-sustaining stream processes that promote the formation of riparian communities and in-stream habitat for aquatic species.
- Beaver Relocation: Reintroduce beavers to 5 sites in Chelan and Douglas Counties. Based on linear beaver colony densities reported in the literature (Scrafford et al. 2018; Cox and Nelson, 2009; Boyce, 1980; Busher et al. 1983; Busher et al. 1983) we anticipate that every beaver family maintained in place has the potential to treat 0.9 – 1.6 km of stream with ecosystem benefits (instream habitat), so beaver relocation could result in a total of 4.5-8 km of maintained and improved instream habitat across 5 sites.
- Hydrologic Process Enhancement: Improve groundwater recharge, streamflow retention, and in-stream complexity by ensuring that BDAs, PALS, and relocated beavers are actively promoting natural stream processes (i.e. lateral floodplain connectivity, pool formation, sediment retention, etc.) as observed during routine structure maintenance over the 5-year term.
- Irrigation and Water Supplementation: Support riparian vegetation survival by supplementing sites with irrigation water as needed, ensuring soil moisture levels remain within optimal ranges during the driest months of the year, to achieve self-sustaining riparian communities that are on a trajectory to becoming fully functioning riparian systems.

Project objectives are summarized across all 23 project sites. While each site has specific treatments and recovery goals, these objectives establish the common recovery goals shared across all project sites. Detailed site-specific objectives are not included in this pre-application to maintain clarity and focus on the unified restoration strategy.

Budget Request

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

Anticipated Request - SRFB (standard round)	$600,000.00
Anticipated Request - SRFB Riparian Funding	$600,000.00
Tributary Committee - Anticipated or Actual	$200,000.00
Anticipated TOTAL Budget	$800,000.00

Project Location

Briefly describe the location of the project	This project will take place across 23 different project sites (14 “work sites” or stream systems) within the Wenatchee and Entiat Rivers, and the Columbia River Tributaries. A list of river miles (or length of stream affected for smaller streams) by site can be found in “Attachment A- Worksites and Properties Info”. Beaver Relocation work will take place in rivers and streams throughout Chelan and Douglas Counties.
Latitude (decimal degrees)	A list of Latitudes and Longitudes by site can be found in “Attachment A- Worksites and Properties Info”.
Longitude (decimal degrees)	A list of Latitudes and Longitudes by site can be found in “Attachment A- Worksites and Properties Info”.
Project subbasin	Multiple Subbasins

Please explain why there are multiple subbasins

This proposal focuses on the stewardship of riparian and in-stream habitat restoration efforts by the CRM across 23 project sites in the Wenatchee and Entiat River watersheds, as well as in two tributaries of the Columbia River.

Does the proposed project span multiple assessment units?	Yes
List the additional assessment units directly impacted by this proposal.	There are 10 total Assessment Units associated with the project sites proposed in this project. The Columbia River Tributaries do not have a designated AU. A list of AUs by site can be found in “Attachment A- Worksites and Properties Info”.
Reach(es) Name	The projects included in this proposal take place across 14 different defined reaches. The other 9 project sites occur in reaches that have not yet been defined. A list of reaches by site can be found in “Attachment A- Worksites and Properties Info”. Beaver relocation and coexistence will take place as needed on public and private land in collaboration with landowners and land managers.
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

The projects included in this proposal take place across 14 different defined reaches. The other 9 project sites occur in reaches that have not yet been defined.

A list of reaches and associated rankings by site can be found in “Attachment A- Worksites and Properties Info”.

Beaver relocation and coexistence will take place as needed on public and private land in collaboration with landowners and land managers.

Project Information

1. What species will the project benefit?

Spring Chinook | Steelhead | Bull Trout | Summer Chinook | Coho, Sockeye, Lamprey, westslope cutthroat

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

Instream Habitat (Includes Floodplain & Off-Channel Reconnection) | Riparian Habitat

Instream Habitat: Reporting Code

Total miles of instream habitat treated | Number of beavers | Number of structures placed in channel

Riparian Habitat: Reporting Code

Total riparian miles streambank treated | Total riparian acres treated

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?

Restoration

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)?

Ten of the 23 project sites included in this proposal fall within defined reaches. Those reaches will likely have had Reach Assessments completed for them to some degree. It is unknow to the sponsor if the other 13 project sites have completed or soon-to-be-completed Reach Assessments. UCSRB's Prioritization Web Map does not name the assessments performed to gather reach data.

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

Cover - Wood
Flow - Summer Base Flow
Off-Channel - Floodplain
Riparian
Riparian - Canopy Cover
Riparian - Structure
Temperature - Adult Holding
Temperature - Adult Spawning
Temperature - Rearing

10. Which life stages will the proposed project address?

Subadult Rearing (Bull Trout)
Fry
Spawning and Incubation
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?

Several native aquatic species are threatened, endangered, or a species of concern in the Wenatchee, Entiat, and upper Columbia watersheds. These species include steelhead (Oncorhynchus mykiss), spring Chinook salmon (Oncorhynchus tshawytscha), bull trout (Salvelinus confluentus), Pacific lamprey (Entosphenus tridentatus) and Westslope cutthroat trout (Oncorhynchus clarkii lewisi). Coho salmon (Oncorhynchus kisutch), a reintroduced species of cultural importance to both the Yakama Nation and the Colville Confederated Tribes, and sockeye salmon (Oncorhynchus nerka), are also present in the Wenatchee watershed. Much of the region's available restoration funding is directed towards habitat restoration with a focus on increasing channel structure, off-channel habitat, habitat complexity and heterogeneity, and water quality within the mainstem river and side channel anadromous zones (UCSRB 2020). Comparatively few restoration dollars are directed upstream to address root causes of anadromous zone degradation. This includes reduced seasonal streamflow caused by rapid conveyance of water through disconnected and incised stream channels in headwater streams, as well as the excess sediment and nutrient transport from low order tributaries after disturbance events and legacy degradation (Powers et al. 2018). The majority of project sites in this proposal within WRIAs 45, 46, and 44 are in lower order streams within the upper extent of the active anadromous zone. The process-based restoration projects included in this proposal, that were previously implemented by the CRM, to increase structure, habitat complexity, and reconnection with floodplains are providing multiple essential benefits to onsite and downstream anadromous habitat and salmonids by:

1. Reducing erosive stream power emanating from degraded and incised headwater streams (Pollock et al. 2014, Wheaton et al. 2019)
2. Reducing large scale debris, sediment, and nutrient transport during disturbance events (Beechie et al. 2010, Wohl et al. 2018).
3. Increasing water residency time in headwater basins through the reconnection of streams with floodplains, recharging groundwater (Wohl et al. 2018, Wohl et al. 2019).
4. Slowing the groundwater return downstream of floodplain inundation moderates stream temperatures

in all seasons, cooling streams in the heat of summer and warming them in the depths of winter, both critical to salmon across life stages (Bouwes et al. 2016, Majarova et al. 2019)
5. Slowing conveyance of water through headwater basins, increasing late season stream baseflows, and moderating annual baseflows (Yokel et al. 2018, Wheaton et al. 2019).

Riparian restoration projects provide critical freshwater benefits to our region's target species throughout their life stages by enhancing habitat complexity, regulating water temperature, and stabilizing streambanks. Riparian vegetation improves instream habitat by increasing the future recruitment source of large woody debris, which creates pool habitat and cover that is essential for juvenile rearing and predator avoidance (Roni et al. 2002). The shading provided by mature riparian canopies helps moderate stream temperatures, which is particularly vital for thermally sensitive species such as bull trout (Salvelinus confluentus) and spring Chinook salmon (Oncorhynchus tshawytscha) (Poole & Berman 2001). Additionally, riparian root systems reduce sediment transport and improve substrate quality, benefiting egg incubation and early fry development by maintaining suitable interstitial flow and oxygen levels in spawning gravels (Naiman et al. 2005). The increased habitat complexity from floodplain reconnection and side channel formation further supports juvenile fish by providing low-velocity refugia during high-flow events, improving survival rates across various life stages (Beechie et al. 2010). By restoring riparian function, these projects address both local and downstream habitat conditions, supporting the long-term resilience of anadromous and resident fish populations in degraded freshwater systems.
Research has demonstrated how beavers create, maintain, and improve habitat that support survival, capacity and/or distribution of all life stages of salmonid species:
1. Beaver ponds retain surface water, store cool water, and elevate water tables to enhance base flows and promote aquifer recharge. (Naiman, Johnston and Kelley, 1988 and Dittbrenner et al. 2022)
2. Ponds offer habitat for salmonids and other aquatic/terrestrial species including invertebrate food sources, and lower downstream turbidity. (Pollock et al., 2004)
3. Beaver dams and BDAs increase stage to aggrade incised streams, reconnect streams with floodplains, and create critical off-channel habitat. (Bouwes, et al., 2016)
4. Beaver activities attenuate flooding and sediment transport. (Rosell and Parker, 1996)
5. Beaver habitats create natural fire breaks and refugia and increase riparian vegetation fire resistance. (Fairfax and Whittle, 2020)
6. Beavers recruit woody debris to the stream system. (Orr, et al., 2020)

Benefits to other aquatic and riparian dependent species: All native aquatic and riparian dependent species that evolved in WRIA 45 and 46 are challenged by current conditions of watershed degradation, changing precipitation patterns, and a warming climate. Riparian areas and their streams hold some of the most complex and biodiverse ecosystems around the world and the majority of all freshwater and terrestrial species are dependent upon riparian/aquatic systems for some stage of their life cycle, if not the entirety (Abell, Robin, et al. 2008, Naiman et al. 1993). LTPBR and riparian planting provide immense value by returning water to the riparian floodplain and helping maintain wetted conditions across a greater proportion of valley widths throughout these watersheds. This broad scale wetting would exponentially increase habitat conditions conducive to diverse life and restore resiliency into our ecosystems (Wheaton et al. 2019). This resilience will enable faster recovery from ongoing climate exacerbated weather events. A number of riparian and aquatic species are currently at risk and would benefit from broad watershed LTPBR actions to improve habitat quantity and quality: state ESA listed endangered greater sage-grouse (Centrocercus urophasianus), several species of freshwater mussels, many bat species including the spotted bat (Euderma maculatum), Townsend's big eared bat (Corynorhinus townsendii), and little brown bat (Myotis lucifugus) and amphibians including the Columbia spotted frog (Rana luteiventris) are candidate species for at risk listing in WA (ISSSSP 2020, WDFW 2020).

The 23 project sites included in this proposal fall across 10 different Assessment Units (AUs) within the Wenatchee and Entiat watersheds. Due to the majority of included project sites occurring in lower order streams within the upper extent of the active anadromous zones of WRIAs 45 and 46, many of the project sites do not have associated reaches that have been defined. Ten of the 23 project sites included in this proposal fall within defined reaches. Out of those ten projects (covering 14 reaches), only five reaches have had the necessary information collected to allocate priority rankings for restoration on the UCSRB prioritization list. These five reaches are: Nason Creek Lower 10 (Rank 1), Peshastin Creek Lower 01 (Rank 1), Peshastin Creek Lower 03 (Rank 2), Wenatchee River Ollalla 01 (Rank 3), and Chumstick Creek 02 (awaiting rank).

Though there are no defined ranks associated with the majority of the project sites included within this proposal, these projects still provide multiple essential benefits to the region's priority species at multiple life stages within these systems, and extend to downstream systems and their associated life stages. These projects were originally identified by the CRM group to address the limiting factors that exist within our priority species' habitats, supported by funding from various partners, and have been implemented by the CRM partners utilizing process-based restoration techniques (primarily LTPBR methods).

The overarching goal of this proposal is to restore riparian communities through continued stewardship and to restore structure to tributary streams through the maintenance of LTPBR actions and reintroduction of beavers, addressing the many forms of habitat degradation in WRIAs 45, 46, and 44. The restoration projects included in this proposal provide freshwater benefit in these systems, with regards to the way that riparian planting, LTPBR, and beaver reintroduction projects address the historic loss of habitat and habitat forming processes. Our project follows Castro & Thornes' "stream evolutionary model" that includes hydrology, geology, and biology, with biology being the active agent for the change and healing of watersheds (2019). By providing the necessary inputs to restore the normative hydraulic, geomorphic, and biological processes present within stream ecosystems, we aim to improve survival, capacity, and distribution for the region's target species.

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?

This proposal focuses on the stewardship of riparian and in-stream habitat restoration efforts by the CRM across 23 project sites in concert with beaver reintroduction across the Wenatchee and Entiat River watersheds, as well as in two tributaries of the Columbia River. The primary goals are to improve the success and rate of riparian habitat establishment and to enhance the development of normative stream processes and functions, promoting self-sustaining ecosystems. The included projects integrate varying degrees of low-tech process-based restoration (LTPBR) techniques, beaver relocation, and riparian planting to create a powerful, holistic approach to restoring stream ecosystems and watershed functions. These efforts work together to address hydrological, geomorphic, and ecological processes that sustain resilient river systems. However, while these restoration techniques set the foundation for recovery, active stewardship and maintenance are crucial in the first few years after implementation to ensure long-term success and self-sustainability.

1. Hydrological Process Restoration
a. Floodplain Reconnection: LTPBR techniques (e.g., BDAs, PALS, wood supplementation, and side-channel reactivation) and natural beaver dam complexes slow down high flows, promoting floodplain inundation and restoring groundwater recharge.
b. Water Retention & Baseflow Improvement: Reconnected wetlands and riparian zones store water during wet seasons and release it slowly over dry periods, ensuring sustained baseflows in drought conditions.
c. Stormwater Attenuation: Increased floodplain roughness, in-stream structure (BDAs, PALS, woody material, natural beaver dams), and vegetation help slow floodwaters, reducing peak flows and protecting downstream communities.

2. Geomorphic Process Restoration
a. Bank Erosion Control: Native vegetation (e.g., willows, cottonwoods, and sedges) stabilizes banks with deep roots, reducing collapse and sediment runoff.
b. Sediment Balance & Channel Stability: In-stream structures (BDAs, PALS, woody material, natural beaver dams) and riparian vegetation reduce excessive sediment erosion while allowing natural deposition that helps form riffles, pools, and stable banks.
c. Encouraging Channel Evolution: Streambank plantings, floodplain restoration, and beaver reintroductions promote the natural stream processes that encourage channels to evolve and change through time, leading to the formation of more complex and sinuous channels, creating diverse habitats and enhancing water storage capacity. Additionally, beavers excavate side channels to access food and habitat, enhancing this effect.

3. Ecological and Biological Process Restoration
a. Temperature & Oxygen Regulation: Riparian trees shade the stream's surface, preventing excessive heating from solar radiation and ambient air, which is crucial for temperature sensitive salmonids and other aquatic species. In-stream structures and beaver dams raise the water table and increase base

stream flow, which increases the density and growth rate of riparian trees.
b. Habitat Enhancement: In-stream structures (BDAs, PALS, woody material, natural beaver dams) and riparian vegetation create diverse aquatic and terrestrial habitats for aquatic and terrestrial species, providing foraging opportunities and cover from predators.
c. Nutrient Cycling & Food Web Support: Leaf litter and organic matter from riparian plants, as well as accumulated sediment from in-stream structures and natural beaver dams, fuel aquatic food chains, benefiting macroinvertebrates and fish populations.

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

Less than or equal to 1 year | 1-10 years

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

Less than 10 years | 10-50 years | 50+ years

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

This proposal focuses on the stewardship and maintenance of riparian and in-stream habitat restoration efforts by the CRM across 23 project sites in the Wenatchee and Entiat River watersheds, as well as in two tributaries of the Columbia River.

Riparian Plant Stewardship: Of the 23 project sites included in this proposal, 16 sites included riparian planting as a project component during initial implementation. The sources of funding used to implement those projects have since, or will soon expire, leaving these sites without proper stewardship before the plants have adequately been established. Newly planted riparian vegetation requires active stewardship for 3-5 years, including watering (irrigation), mulching, and invasive species/noxious weed management, to ensure survival and the establishment of deep root systems. Stewardship of these riparian project sites allows for continued observations to track the development of riparian communities, and to replant or adaptively manage for plant mortality.

LTPBR structure maintenance: Of the 23 project sites included in this proposal, 19 sites included LTPBR methods as a project component during initial implementation. The sources of funding used to implement those projects have since, or will soon expire, leaving these LTPBR structures (BDAs and PALS) without proper maintenance before the normative stream processes have become established within the system. The longer that LTPBR structures are maintained, the higher the chance of success of restoring normative stream processes, and for those processes to become self-sustaining into the future.

BDAs require annual maintenance and inspection for the first 5 years after implementation and every other year after (up to 10 years post-implementation), to add more material and support to the structures that may have been lost due to seasonal conditions and/or high-flow events. Additionally, BDAs are constructed using natural, untreated materials that may begin to biodegrade at varying rates and need to be supplemented to maintain the structure's form and function.
Maintenance actions could include:
- Adding additional "weave" material to create a tight seal on a BDA's pond.
- Replacing the posts used for structure stability, if they have been lost or become degraded.
- Altering the size and shape of structures depending on the site conditions and the effectiveness of the treatments. (i.e. extending structure length/width, extending structure height, reinforcing structure, etc.)

PALS require annual inspection and may require some level of maintenance from year-to-year, for the first 3-5 years after implementation. This is to evaluate the structure's integrity and to determine if it needs to be altered, due to seasonal conditions and/or high-flow events that jeopardized it's integrity. PALS are constructed using natural, untreated materials that may begin to biodegrade at varying rates and need to be supplemented to maintain the structure's form and function.
Project sites will be adaptively managed based on outcomes and effectiveness of LTPBR treatments (i.e. new structure placement, structure removal, structure "abandonment"). BDAs and PALS will be evaluated on their progress with regards to structure, complex (set of structures), and site goals.

One goal of maintaining BDAs and PALS on these projects is to create conditions that attract beavers to the site or that are favorable for relocation of beavers, who can take over the maintenance of the structures and the site, stewarding the normative stream processes into the future. Beavers maintain their dams daily and adaptively manage their habitats based on the site conditions, providing a level of maintenance and stewardship that is impractical for humans to replicate. Put simply, beavers do it better. However, beavers are unpredictable factors in the overall ecosystem, and it cannot be determined when or if beavers will colonize a site. Due to land use activities and goals, existing infrastructure, and public perception, it is not feasible to assume that beaver colonization is the end-goal at every LTPBR project site.

Beaver Relocation: Relocated beavers maintain beneficial stream conditions and enhance degraded sites. Beavers can restore degraded sites on their own or expand upon and maintain previously restored sites. TU monitors relocation sites after releasing beavers at least three times, one month post release, once in the fall following the release, and once in the spring following the release, to assess whether beavers have remained at the relocation site and whether additional releases may be advisable. TU uses game cameras and pit tags to track relocated beaver movement through watersheds and relies on a variety of resources to keep track of beaver occupancy throughout local watersheds. WDFW requires on the ground relocation site assessments for every beaver relocation, and sites must score highly enough to support beaver reintroduction.

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

As previously stated, this proposal focuses on the stewardship and maintenance of riparian and in-stream habitat restoration efforts by the CRM across 23 project sites in the Wenatchee and Entiat River watersheds, as well as in two tributaries of the Columbia River and beaver relocation in Chelan and Douglas Counties. The primary goals are to improve the success and rate of riparian habitat establishment and to enhance the development of normative stream processes and functions, promoting self-sustaining ecosystems.

To achieve these goals, this project will focus on managing invasive plant species and noxious weeds, replacing unsuccessful plantings, increasing groundwater availability through in-stream structures, relocating beavers, and supplementing sites with irrigation water as needed. Additionally, efforts will be directed toward improving the effectiveness and longevity of low-tech process-based restoration (LTPBR) in-stream habitat structures, such as Beaver Dam Analogs (BDAs) and Post-Assisted Log Structures (PALS), through annual maintenance, monitoring system response, adaptive management based on observed responses and reintroduction of beavers as appropriate.

Methods to achieve project objectives are:

- Riparian Vegetation Establishment: Restore and expand riparian vegetation communities to address shade cover and high stream temperatures for all salmonid life stages by providing stewardship and maintenance to over 21 acres of previously planted riparian habitat through managing invasive species, replacing unsuccessful plantings, and supplementing water (irrigation) to achieve self-sustaining riparian communities that are on a trajectory to becoming fully functioning riparian systems. The project will also improve conditions for riparian vegetation establishment through ponds created by released beavers.
- Invasive Species Management: Manage invasive plant species and noxious weeds across more than 21 acres of previously planted riparian habitat, to promote native vegetation establishment and riparian resilience.
- In-Stream Habitat Structure Maintenance: Maintain and enhance over 500 BDAs and 100 PALS across more than 11 miles of previously treated aquatic habitat by conducting annual inspections, routine structure maintenance, and adaptive management, to achieve self-sustaining stream processes that promote the formation of riparian communities and in-stream habitat for aquatic species.
- Beaver Relocation: Reintroduce beavers to 5 sites in Chelan and Douglas Counties. Based on linear beaver colony densities reported in the literature (Scrafford et al. 2018; Cox and Nelson, 2009; Boyce, 1980; Busher et al. 1983; Busher et al. 1983) we anticipate that every beaver family maintained in place has the potential to treat 0.9 – 1.6 km of stream with ecosystem benefits (instream habitat), so beaver relocation could result in a total of 4.5-8 km of maintained and improved instream habitat across 5 sites. TU conducts outreach and responds to beaver conflict calls and works with landowners and managers to identify suitable coexistence solutions and relocation sites. When suitable coexistence options cannot be found, TU conducts live trapping and when successful, processes and temporarily houses beavers at their acclimation facility for up to two weeks, until all family members are captured. TU prepares the release

site in advance and then relocates the beaver to the previously identified site. Relocated beavers are monitored using game cameras and a minimum of three post-release site visits are conducted.

- Hydrologic Process Enhancement: Improve groundwater recharge, streamflow retention, and in-stream complexity by ensuring that BDAs, PALS, and relocated beavers are actively promoting natural stream processes (i.e. lateral floodplain connectivity, pool formation, sediment retention, etc.) as observed during routine structure maintenance over the 5-year term.
- Irrigation and Water Supplementation: Support riparian vegetation survival by supplementing sites with irrigation water as needed, ensuring soil moisture levels remain within optimal ranges during the driest months of the year, to achieve self-sustaining riparian communities that are on a trajectory to becoming fully functioning riparian systems.

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.

This proposal focuses on the stewardship and maintenance of riparian and in-stream habitat restoration efforts by the CRM across 23 project sites in the Wenatchee and Entiat River watersheds, as well as in two tributaries of the Columbia River and beaver relocation in Chelan and Douglas Counties. The in-stream components that were previously implemented across these project sites aim to improve the success and rate of riparian habitat establishment and to enhance the development of normative stream processes and functions, promoting self-sustaining riparian and aquatic ecosystems.

The in-stream components on these projects are process based restoration structures, primarily LTPBR structures (BDAs, PALS, woody materials). These in-stream structures support riparian plant survival by:

1. Slowing down high flows, promoting floodplain inundation and increasing groundwater recharge.
2. Providing structure to aggrade sediment, which reverses channel incision and decreases bank erosion.
3. Promoting the lateral flow of water, reconnecting wetlands and riparian zones, which increase the storage of water during wet seasons and release it slowly over dry periods, ensuring sustained baseflows in drought conditions.
4. Raising the water table and increasing base stream flow, which increases the density and growth rate of both riparian plantings and the natural regeneration of riparian vegetation.
5. Kick-starting the natural stream processes that encourage stream channels to evolve and change through time, leading to the formation of more complex and sinuous channels, and subsequently the formation of larger riparian communities. Additionally, beavers excavate side channels to access food and habitat, enhancing this effect.

Many of the project sites included in this proposal are in remote locations where supplementing the riparian plants with water may not be feasible. The in-stream habitat structures provide the benefits listed above, increasing the residence time and storage of water already in the system to provide water to riparian plants during the dry season, and promoting the natural recruitment of riparian vegetation due to these wetter conditions. The maintenance of these project's in-stream structures is critical to ensuring that the normative stream processes develop in these systems, which provide the wet conditions that the associated riparian plants need to survive and establish.

Assessment Proposals

Protection Proposals

Monitoring Proposals

Project Risk and Economic Benefits

1. What is the landownership?

Landownership across all 23 project sites included in this proposal is a mix of Private and Public (state and federal) lands. A list of landownerships by site can be found in "Attachment A- Worksites and Properties Info". Beaver relocation and coexistence work takes place as needed on

public and private land. TU conducts outreach and responds to beaver conflict calls, and works with landowners and land managers to identify suitable relocation sites.

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

Yes

Please explain

Landowner participation or acceptance of the projects included in this proposal has already been acquired during previous phases of each project (development, design, and implementation). As this proposal is for stewardship and maintenance at these project sites, current landowner agreements between the project sponsors and the various project landowners are still active, which details the stewardship and maintenance of project activities for 10 years post-implementation.

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

Landownership across all 23 project sites included in this proposal is a mix of Private and Public (state and federal) lands. Any landowner requirements that may exist are the responsibility of the CRM partner (Cascade Fisheries, Cascadia Conservation District, or Trout Unlimited) that is the project lead on the various project sites.
Landowners that have known requirements are as follows:

- United States Forest Service- requires project agreements and consultation with Forest Service staff during project design, permitting, and implementation.
- WA Dept. of Transportation- requires that a right of way be maintained during project actions.
- Dept. of Natural Resources- requires a Land Use License to be issued that covers project actions.
- Washington Department of Fish and Wildlife- requires landowners to notify neighboring property owners and sign a Landowner Attestation Form prior to having beavers released on their properties.
- United States Forest Service- requests to review all potential relocation sites on National Forest land prior to beaver trapping and release.

As these requirements have all been met during the initial implementation of these projects, we do not anticipate any effect on this project.

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

No, this project will not raise concerns for interest groups or the community at large. As this project focuses on stewardship and maintenance of previously implemented projects, impacts to interest groups or the community would have been considered during design and planning, and addressed before the implementation of each project.
These projects represent a continued commitment to environmental health and are a benefit to the natural spaces this community lives in and relies upon for resources, recreation, and intrinsic value.

Trout Unlimited provides valuable assistance to local landowners and land managers facing challenges with beavers and seeks coexistence solutions or relocates beaver to sites where they will provide valuable stream and habitat benefits and are not anticipated to create future challenges. In the event that relocated or naturally occurring beavers create issues for landowners or managers, TU responds quickly to address the concern. Beavers are primarily relocated from sites where they are in conflict with landowners (falling orchard trees, causing flooding, damming culverts, etc.), to sites high in watersheds, typically on public land, far from neighboring landowners.

The CRM provides multiple opportunities for the public and youth to be involved and also informed of our stream and streamside restoration efforts, Including: WRI Birdfest tours, fall and spring tours, community tabling events, Salmon Recovery Series with the NCW Library, social media campaigns for each organization, printed materials, the CCD quarterly newsletter to all Chelan County residents, direct outreach and education with youth such as Entiat, Wenatchee, and Leavenworth Schools (Kids in the Creek, Kids in the Forest, Kids in the Snow, field trips and hands-on learning at restoration sites, etc.). These events garner a large degree of community support and interest for our restoration projects.

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

Managing and maintaining the various projects will be the responsibility of Cascade Fisheries, Cascadia Conservation District, or Trout Unlimited, whichever organization is the lead on any given project site. Project components on both private and public lands are property of the landowner after implementation, but the lead organization for that project is responsible for maintaining the project components for a time period specified in the landowner agreement. Past the end of the project or landowner agreement, any further management and maintenance are dependent on landowner willingness, continued funding, and project needs. Landowner agreements generally define participation from the landowner for 10 years from the date the agreement was signed, to allow for the lead organization and permitting agencies to return to perform maintenance, monitor project performance, and evaluate project compliance with associated permits. The landowner cannot remove or alter project components during the life of the landowner agreement and is required to provide the landowner agreement as a sales contingency if selling the property that the project is on.

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

Don't know

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

As this project focuses on stewardship and maintenance of previously implemented projects, the risk of failure would have been considered during design and planning, and addressed before the implementation of each project. There is little to no risk of failure for the projects included in this proposal, with regards to the actions that this project will perform.
This project's goal is to reduce the risk of failure of the projects included in this proposal, through the stewardship and maintenance of riparian planting sites and LTPBR structures as well as beaver relocation. This project ensures that the restoration efforts initiated in these projects achieve lasting ecological benefits and support the long-term health of these watersheds. Additionally, this project is designed to safeguard the original investment made in implementing these restoration efforts.
Beavers are wild animals and may move to other locations within release streams or watersheds after they are relocated. Regardless of where they choose to reside, relocated beavers will create habitat and restore degraded streams within Upper Columbia River watersheds. In the event that relocated or naturally occurring beavers create issues for landowners or managers, TU responds quickly to address the concern.

TU monitors release sites post relocation and. if it is determined that beavers have not settled within one mile of the release site, that site becomes a viable candidate for future relocations, which will add genetic diversity to local beaver populations.

One of the important functions of the CRM is to provide a depth of staff and resources that span three organizations, each having their own unique skillsets, knowledge, experiences, relationships, tools, and other resources. No organization or agency is immune to loss of staff or funding, but as a CRM we have been able to successfully utilize the strengths and the redundancy of having multiple field crews, multiple staff with project management skills, and a robust level of relationships with community members. This has allowed us to nimbly adapt to unforeseen challenges at the individual project level as well as the grant funding and permitting levels. We work almost interchangeably on each other's projects, allowing us to overcome every challenge we've faced since the inception of the CRM in 2019. We likewise feel confident in our ability to meet future challenges, anticipated or not. From the perspective of the CRM, we consider this proposal to be of relatively low risk.

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

The stewardship and maintenance of riparian planting sites and LTPBR structures, as well as beaver coexistence and relocation, provide our organizations with valuable opportunities to engage the public through outreach events, educational opportunities, and site visits. By actively managing these sites, our organizations can host volunteer workdays, educational tours, and hands-on restoration activities, allowing community members, school groups, and other interest groups to participate directly in conservation efforts and contribute to their community. These projects serve as a platform for immersive environmental education lessons, where participants can learn about watershed health, habitat restoration, and the importance of beaver and riparian ecosystems in supporting salmon populations.

Additionally, restoration projects located on publicly owned properties create accessible spaces for the community to recreate, explore, and strengthen their connection to the local environment. As these areas are restored and maintained, they provide opportunities for hiking, wildlife observation, and other outdoor activities that encourage a deeper appreciation for nature. By fostering public involvement and demonstrating the long-term benefits of habitat restoration, these projects help build strong community support for salmon recovery efforts, cultivate environmental stewardship, and inspire continued investment in conservation initiatives.

Furthermore, these project sites serve as demonstration areas where prospective private landowners can observe the types of restoration projects our organizations can provide and the potential ecological and aesthetic benefits that could be realized on their properties. By seeing firsthand how these efforts enhance habitat, improve water quality, and support wildlife, landowners may be more inclined to partner with organizations like us to implement similar projects on their land, expanding the reach and impact of restoration initiatives.

Beavers are charismatic animals that capture the imagination of people young and old. The Wenatchee-Entiat Beaver Project acclimation facility at the Leavenworth National Fish Hatchery draws locals and tourists alike to view the animals as they are being held prior to release. There, they learn about beavers and their relationship to salmon recovery by interacting with Beaver Project staff and interpretive signage. TU conducts community outreach and landowner education through beaver coexistence efforts. 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 reintroduction 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 presents a significant economic opportunity by supporting local organizations, creating jobs, enhancing property values, stimulating local businesses, preventing property or crop damage, and reducing long-term resource management costs. By financially supporting the local organizations leading this proposal (Cascade Fisheries, Cascadia Conservation District, and Trout Unlimited) this project ensures sustainability of restoration efforts while also funding full time staff and seasonal technician

positions. These positions create opportunities for professionals to gain hands-on experience in natural resource management, fostering career growth and workforce development within the local economy.

Investing in the stewardship of riparian and restoration sites and addressing beaver conflicts on private, state, and federal lands benefits property owners by improving land values and alleviating management burdens. Healthy, well-maintained landscapes contribute to the renewal and sustainable use of natural resources, reducing long-term costs associated with land degradation. Additionally, this project stimulates the local economy by directing funds toward businesses such as native plant nurseries, hardware stores, and natural resource contractors, strengthening regional supply chains and supporting small businesses.

By integrating with forest health practices and wildfire fuels reduction, this project also plays a role in reducing the risks of wildfire and the smoke created from burn piles by using excess fuels such as trees, branches, and slash in restoration work. This contributes to the creation of green firebreaks, enhances water retention in the landscape, lowers future emergency response and recovery costs, and bolsters economic activities that would otherwise be hindered by smoke. Additionally, maintaining native vegetation on restoration sites helps control the spread of invasive species, reducing the economic burden noxious weeds place on local agriculture and minimizing the costs associated with weed management programs.

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 and live trapping services. Beavers are primarily relocated from sites where they are falling orchard trees, causing flooding, or damming culverts, among other impacts, potentially causing expensive damage, to sites where they can provide ecosystem benefits without conflicting with landowners. Additionally, TU has developed partnerships with Douglas Public Utility District's Wells Dam and the United States Department of Agriculture Animal and Plant Health Inspection Service Wildlife Services to expand relocation efforts through acquiring beavers trapped by these agencies for relocation to high priority sites. As such, this project turns a potential economic burden into a positive force for salmon habitat restoration.

Ultimately, this project maximizes the return on each dollar invested by ensuring that restoration efforts continue to provide ecological, economic, and community benefits. Through job creation, local business support, land value enhancement, and reduced long-term public and private expenditures, this project serves as a cost-effective and sustainable investment in our region's environmental and economic health.

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

The Coordinated Resource Management (CRM) group is a formal partnership between Cascade Fisheries, Cascadia Conservation District, and Trout Unlimited. Established in 2019, the 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. The group's mission is to create a network of healthy, connected tributaries that provide crucial habitat and climate refugia to native fish populations. These partners work closely to develop, plan, design, and implement salmon recovery projects throughout the region by employing LTPBR practices, fish barrier corrections, side-channel and floodplain reconnection projects, as well as beaver relocation and coexistence strategies. Thanks to support from the US Bureau of Reclamation, the CRM has been able to enhance and expand the ways this partnership benefits each organization's mission and increases their capacity to implement additional salmon recovery projects.

The CRM is further strengthened by its 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

The CRM collaborates closely with these agencies to ensure that the many projects we perform align with our shared goals of fish and wildlife recovery throughout the region. The support we receive from these partners takes many forms, including new project ideas, project funding, design review, consultation, permitting guidance, resource and equipment sharing, and even providing staff to help implement projects. The knowledge, expertise, and support exchanged between these sectors forge powerful connections that drive this important work forward. This collaborative network empowers us to produce higher-quality results at a faster pace, breaking down the silos that traditionally exist between organizations. Together, we are united in our mission to restore the precious natural resources we are dedicated to conserving, protecting, and restoring.

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)

Attachment A - Worksites and Properties Information

Worksite #	Property #	Site Name	Stream	County	WRIA	Subbasin	HUC12	AU	Reach	Reach Rank	River Miles	Stream Length Affected (Ft)	Latitude	Longitude	Site Ownership Type	Landowner	Site Address	Parcel #	Implementation Year(s)
1	1	Alder- DS	Alder Creek	Chelan	45	Wenatchee River	170200110308	Lower Chiwawa River	Alder Creek 01	unranked	0.29-0.91	3274	47.851775	-120.659304	Public	USFS	128 ALDER CREEK TIE FS 6200-200 RD LAKE WENATCHEE, WA 98826	271712200000	2022
		Alder- US	Alder Creek	Chelan	45	Wenatchee River	170200110308	Lower Chiwawa River	Alder Creek 02	unranked	1.55-1.8	1320	47.862329	-120.657312	Public	USFS	UNASSIGNED LAKE WENATCHEE, WA 98826	271701000000	2022
2	2	Beaver Ck	Beaver Creek	Chelan	45	Wenatchee River	170200110701	Wenatchee River- Beaver Creek	undefined	unranked	3.22-3.66	2323	47.781495	-120.595298	Public	USFS	UNASSIGNED LEAVENWORTH, WA 98826	261804000000	2023
	3	SF Beaver Ck	South Fork Beaver Creek	Chelan	45	Wenatchee River	170200110701	Wenatchee River- Beaver Creek	undefined	unranked		3500	47.772594	-120.605793	Public	USFS	UNASSIGNED LEAVENWORTH, WA 98826	261804000000, 261809000000	2024
3	4	Merrit Oxbow	Nason Creek	Chelan	45	Wenatchee River	170200110203	Lower Nason Creek	Nason Creek Lower 10	1	10.7-11	1584	47.77801	-120.832675	Private	CHELAN-DOUGLAS LAND TRUST	18675 US HWY 2 LAKE WENATCHEE, WA 98826	261603420000	2022
4	5	Jones	Chumstick Creek	Chelan	45	Wenatchee River	170200110705	Chumstick Creek	Chumstick Creek 02	TBD		280	47.616348	-120.649949	Private	HESS SUMMER N & JONES MATTHEW	25 SYLVESTER MEADOWS LN LEAVENWORTH, WA 98826	251831320300	2024
5	6	Youkey	Eagle Creek	Chelan	45	Wenatchee River	170200110704	Eagle Creek (Wenatchee)	undefined	unranked		240	47.633609	-120.628361	Private	YOUKEY DONALD & KARI	15 ADLER BACH LN LEAVENWORTH, WA 98826	251829300022	2023
	7	Bosket	Eagle Creek	Chelan	45	Wenatchee River	170200110704	Eagle Creek (Wenatchee)	undefined	unranked		170	47.634024	-120.627688	Private	BOSKET VINCENT N ETAL	11025 EAGLE CREEK RD LEAVENWORTH, WA 98826	251829300023	2023
	8	Hedeen	Eagle Creek	Chelan	45	Wenatchee River	170200110704	Eagle Creek (Wenatchee)	undefined	unranked		600	47.640496	-120.585148	Private	HEDEEN PAUL F & KNAPP ROSEMARY	9425 EAGLE CREEK RD LEAVENWORTH, WA 98826	251827545070, 251827545065, 251827545020	2025
	9	Headrick	Eagle Creek	Chelan	45	Wenatchee River	170200110704	Eagle Creek (Wenatchee)	undefined	unranked		535	47.645816	-120.576859	Private	HEADRICK TODD R & JENNIFER L TRUST	9247 EAGLE CREEK RD LEAVENWORTH, WA 98826	251822430100	2024
6	10	Conkle	Little Chumstick Creek	Chelan	45	Wenatchee River	170200110705	Chumstick Creek	undefined	unranked		600	47.719425	-120.633968	Private	CONKLE MICHAEL H & KAREN D MATAYA	16520 CHUMSTICK HWY LEAVENWORTH, WA 98826	261830440080, 261830400060	2023
	11	O'Neill	Little Chumstick Creek	Chelan	45	Wenatchee River	170200110705	Chumstick Creek	undefined	unranked		300	47.728024	-120.637019	Private	O NEILL JULIA A	16970 CHUMSTICK HWY LEAVENWORTH, WA 98826	261830120050	2023
	12	Holte	Little Chumstick Creek	Chelan	45	Wenatchee River	170200110705	Chumstick Creek	undefined	unranked		350	47.728857	-120.637282	Private	HARWELL ALEXANDRA & KEVIN HOLTE	16982 CHUMSTICK HWY LEAVENWORTH, WA 98826	261830100265	2023
	13	Drew	Little Chumstick Creek	Chelan	45	Wenatchee River	170200110705	Chumstick Creek	undefined	unranked		300	47.729788	-120.637607	Private	DREW DOUGLAS R & KATHRYN A REV TRT	41 STARGAZER LN LEAVENWORTH, WA 98826	261830100310	2023
7	14	Stroud	Derby Creek	Chelan	45	Wenatchee River	170200110706	Wenatchee River- Derby Canyon	undefined	unranked	3.49-4.43	2500	47.605288	-120.549595	Private	STROUD III WILLIAM G	6905 DERBY CANYON RD PESHASTIN, WA 98847	241802000050	2019, 2025
	15	DNR-Derby Ck	Derby Creek	Chelan	45	Wenatchee River	170200110706	Wenatchee River- Derby Canyon	Derby Canyon 01	unranked	0.48-0.86	2034	47.577349	-120.583215	Public	DNR	UNASSIGNED PESHASTIN, WA 98847	241816100000	2025
8	16	Roaring Ck-DS	Roaring Creek	Chelan	46	Entiat River	170200100208	Roaring Creek	Roaring Creek Entiat 03	unranked	1.45-1.51	317	47.685875	-120.349269	Public	USFS	UNASSIGNED ENTIAT, WA 98822	252008100000	2020
		Roaring Ck-US	Roaring Creek	Chelan	46	Entiat River	170200100209	Roaring Creek	Roaring Creek Entiat 04	unranked	2.65-2.91	1373	47.67664	-120.374218	Public	USFS	UNASSIGNED ENTIAT, WA 98822	252007410000	2023
9	17	Potato Ck	Potato Creek	Chelan	46	Entiat River	170200100207	Entiat River- Potato Creek	Potato Creek 02-03-04	unranked	0.17-1.3	5966	47.796104	-120.380376	Public	USFS	UNASSIGNED ENTIAT, WA 98822	271936000050, 272031000000	2020, 2022, 2023, 2024
10	18	Stormy Ck	Stormy Creek	Chelan	46	Entiat River	170200100207	Entiat River- Potato Creek	Stormy Creek 01	unranked		775	47.821637	-120.421286	Private	CHELAN-DOUGLAS LAND TRUST	UNASSIGNED ENTIAT, WA 98822	271922554480	2023
11	19	Rock Island Ck	Rock Island Creek	Douglas	44	Columbia Tributary	17020010	undefined	undefined	unranked	0-15	21120	47.508429	-120.131089	Private	Mutliple	Multiple	24213600000, 24223100000, 23220610001, 23220700000	2022-2028
12	20	Lower Peshastin	Peshastin Creek	Chelan	45	Wenatchee River	170200110503	Lower Peshastin Creek	Peshastin Creek Lower 01	1	0-0.5	2640	47.557168	-120.577467	Public	WDFW	UNASSIGNED DRYDEN, WA 98821	241822746006, 241822310100, 241822745006	2025
	21	Peshastin 2.5	Peshastin Creek	Chelan	45	Wenatchee River	170200110503	Lower Peshastin Creek	Peshastin Creek Lower 03	2	2.5-3	2640	47.538797	-120.617775	Private	MOUNTAIN VALLEY ACRES LLC	UNASSIGNED PESHASTIN, WA 98847	241832210000, 241829340200	2026
13	22	Goodwin Side Channel	Wenatchee River	Chelan	45	Wenatchee River	170200110707	Wenatchee River- Ollala Canyon	Wenatchee River Ollala 01	3	11-11.5	2640	47.528268	-120.491682	Private	WA-DOT	UNASSIGNED CASHMERE, WA 98815	24192340600	2026
14	23	Duffy Creek	Douglas Creek	Douglas	44	Columbia Tributary	17020012	undefined	undefined	unranked		500	47.50096	-120.04178	Public	BLM	UNASSIGNED	23221110000	2025