Tuesday, March 11, 2025

Contact Information

2025 Upper Columbia Regional Project Pre-Application

* Pre-applications (SRFB & Monitoring) due March 12, 2025 (COB)

*Complete SRFB applications due in PRISM April 18, 2025 (COB)

*Complete Monitoring applications due in PRISM May 1, 2025 (COB)

*Revised SRFB proposals due in PRISM May 27, 2025 (COB)

*Final revised SRFB & Monitoring applications due in PRISM June 23, 2025 (noon)

Project Title	Pre- and post-implementation of Stage-0 restoration, Phase 1
Sponsor	Cascadia Conservation District
Primary Contact	Mark Ingman
E-Mail Address	marki@cascadiacd.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.

This is a monitoring project focused on pre- and post-implementation monitoring of the first Stage-0 floodplain restoration project in the Upper Columbia Basin scheduled for 2026-2027. Our proposed work is what Manual 18M describes as a “phased project.” We propose to collect and analyze pre-restoration monitoring data during this grant round (for 2026) and to propose to gather post-restoration data in the 2027 SRFB funding cycle for comparison in 2028. In this way, we will apply a BACI monitoring approach for the quantification of restoration success. Additionally, it will complement ongoing monitoring efforts conducted by our cooperators in other restored floodplains in the Entiat subbasin (funded by SRFB 2024, 2025, the Pacific Northwest Research Station, and the HCP Tributary Committees). Finally, the monitoring will address the following data gaps as defined by the Upper Columbia Regional Technical Team:

- 1.8. Occurrence and status of steelhead in unmonitored areas; Tier 1
- 3.1. Effectiveness of habitat projects incorporating spatial and temporal influences on results and at the appropriate scale; Tier 1
- 3.3 Certain project types are missing robust effectiveness monitoring (e.g., nutrients, floodplain, off-channel, riparian, beaver reintroduction, BDAs); Tier 2

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].

Our project objectives are:

1) Quantify the condition of the stream in terms of potential limiting factors prior to Stage-0 restoration in Roaring Creek. Example available metrics include

- Water Temperature
- Macroinvertebrates (food web monitoring)
- Flow velocity and juvenile salmonid habitat
- Inundation Area
- Wood Loading
- Vegetation Condition
- Substrate

Budget Request

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

Anticipated Request - Monitoring Grant Funding	$289,920
Anticipated or Actual Other Funding	25,000
Anticipated TOTAL Budget	$289,920

Other Funding Source(s), please note if funding is anticipated or actual.

Pacific Northwest Research Station (USFS)
Cascadia Conservation District / USBR, Actual

Project Location

Briefly describe the location of the project	The project will occur in Roaring Creek starting at RM 1.4 and ending at RM 2.8.
Latitude (decimal degrees)	47.682246
Longitude (decimal degrees)	-120.361772
Project subbasin	Entiat
Entiat Assessment Unit(s)	Roaring Creek
Does the proposed project span multiple assessment units?	No
Reach(es) Name	Roaring 03, Roaring 04

Identify the reach(es) priority/ reach ranking. Note: If the project involves work in multiple reaches, select "Multiple" and include details in the text box that will appear below. Please reference the Prioritization Web Map: https://prioritization.ucsrb.org/.

- Unranked (not a priority or missing data)
- Multiple reaches (provide details below)

Please detail the reach-ranking of the reaches below

Roaring Creek 01-04 are listed as "unranked" on the basis of a FS valley confinement ratio algorithm. This is a error in the algorithm as the valley width is great that 8x bankfull width and there is considerable floodplain in which to do restoration for the greater extent of the 1.4 mile project area. We request a full review and consideration of this project despite is unranked status.

Project Information

1. What species will the project benefit?

- Spring Chinook
- Steelhead
- Summer Chinook
- Coho

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

- Design, Monitoring or Assessment
- Instream Habitat (Includes Floodplain & Off-Channel Reconnection)
- Upland Habitat
- Wetlands

Instream Habitat: Reporting Code

- Total miles of instream habitat treated
- Miles of off-channel stream created or connected
- Acres of channel/off-channel connected or added
- 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?

- Monitoring

If applicable, what is the secondary project category?

- N/A

Is the project eligible for Riparian Funding? No

Design and Restoration Proposals

Assessment Proposals

Protection Proposals

Monitoring Proposals

7. Does this project address a Tier 1 data gap in the MaDMC Regional Data Gaps List? Yes

8. To what extent does your project address a regional data gap?

The monitoring will address the following data gaps as defined by the Upper Columbia Regional Technical Team:

- 1.8. Occurrence and status of steelhead in unmonitored areas; Tier 1
- 3.1. Effectiveness of habitat projects incorporating spatial and temporal influences on results and at the appropriate scale; Tier 1
- 3.3 Certain project types are missing robust effectiveness monitoring (e.g., nutrients, floodplain, off-channel, riparian, beaver reintroduction, BDAs); Tier 2

9. What is the scale of inference? Stream Scale

10. Purpose - How will the monitoring complement, enhance, or leverage ongoing monitoring efforts?

The proposed monitoring will be the first effectiveness monitoring project for a Stage-0 restoration project in the Upper Columbia Basin. This presents a unique opportunity to apply lessons learned from ongoing monitoring efforts in the area—such as restored floodplain monitoring conducted by project partners—to develop and establish standardized monitoring protocols for future Stage-0 restoration projects in the region.

Additionally, the data collected from this project will contribute to and complement three years of restoration effectiveness data gathered by project partners in the Entiat River Basin.

11. Methods - Briefly describe the methods and how they are appropriate to the monitoring question

As described above, we will collect the following data at habitat and random replicate sites within the reach targeted for restoration during phase 1 (pre-restoration) and phase 2 (post-restoration):

> Water temperature

> Macroinvertebrates (food web monitoring)

> Flow velocity and depth

> Inundation area

> Wood loading/availability

> Vegetation condition

> Substrate composition

> Juvenile salmonid habitat

> Spawning habitat

These parameters align with those used in other Stage-0 monitoring studies conducted in other regions, as well as with monitoring parameters established by project partners in the Entiat subbasin.

12. Describe how the data (raw and processed), results, and other information will be disseminated and accessed once the project is complete

Monitoring data will be managed by project partners Hinchinbrook, Inc. and the Pacific Northwest Research Station (USDA Forest Service). Additionally, processed monitoring results will be shared through Entiat Watershed Planning Unit meetings, conferences, reports, and publications.

13. Briefly explain how this project will address one or more of the identified strategic priorities in Manual 18M (survival bottlenecks, limiting factors, or project effectiveness).

Monitoring Stage-0 floodplain restoration projects aligns with all four Strategic Priorities that were designated for monitoring:

1) Assess survival bottlenecks: Pre-implementation monitoring should identify bottlenecks on unrestored reaches.

2) Identify limiting factors: The response variables evaluated by this proposed monitoring projects are all potential limiting factors and those that appear to be affected by the restoration will be identified as significant to the efficacy of Stage-0 projects.

3) Implement restoration and monitoring: This will be directly associated with the implementation of restoration as the monitoring is designed to occur both pre- and post-implementation for this specific project.

4) Communicate results: Monitoring results will be presented at conferences and in publications and reports.

Project Risk and Economic Benefits

1. What is the landownership? Public/ Forest Service

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

Please explain

The Forest Service has provided match funding for the design, and partial funding for construction. The Forest Service is reviewing the 30%, 60% and final design stages. There is Forest Service gate and primitive road that leads to the project area. The design team has been in conversation with the Forest Service about widening at least one part of the road in order to transport large quantities of wood to the staging areas. The landowner is the entity directing and funding the project.

3. Describe any land owner requirements (e.g., design elements, right-of-ways, access agreements, liability waivers, etc.) and if/how they could affect the project

N/A, publicly owned

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

N/A, this monitoring work on public land does not present a concern.

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

Monitoring and associated data will be maintained by the project partners Hinchinbrook, Inc., and the Pacific Northwest Research Station (USDA Forest Service).

6. Are other projects being proposed immediately upstream or downstream of worksite? No

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

Weather events that lead to abnormally high flows may disrupt field sampling. The study area is also prone to wildfires that may preclude the ability to conduct field sampling safely and may be followed by debris flows that affect the condition of the study area.

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

Monitoring results are shared in public forums regularly and have strong potential to lead to greater community support for restoration projects. Specifically, this is achieved through meetings of the Entiat Watershed Planning Unit, where community involvement is directly sought.

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

Monitoring projects are not generally intended to result in economic benefit. Results may lead to better management of natural resources, which can be economically beneficial.

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

The monitoring is conducted by project partners Hinchinbrook, Inc., and the Pacific Northwest Research Station (USDA Forest Service). These partners have two decades of experience conducting monitoring and research in the mainstem Entiat River into which Roaring Creek is a tributary. Most recently, they have monitored floodplain restoration at project sites that were not Stage-0 projects, but that had similar sampling and monitoring needs.

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)

To: Monitoring Grants Manager, Washington State Recreation and Conservation Office

From: Mark Ingman, Cascadia Conservation District (Project Sponsor)

Date: March 12, 2025

We submit this letter to express our intent to submit a proposal for consideration for the RCO's monitoring program in the 2025 grant round, entitled "Pre- and post-implementation monitoring of Stage-0 restoration." This proposal is intended to complement our restoration project, entitled "Roaring Creek Floodplain Reconnection Project," also submitted in the 2025 grant round for implementation in 2026/2027 in Roaring Creek, a tributary of the Entiat River. The restoration project already has partial funding and is scheduled to move forward to implementation. This is the first Stage-0 restoration project proposed for the Upper Columbia Region and offers the opportunity for both pre- and post-implementation monitoring under a BACI design using a control reach in Roaring Creek upstream of the planned restoration work.

The monitoring component proposed here will involve the collection of the following types of data, seeking to quantify changes between pre-implementation and post-implementation conditions:

- Water Temperature
- Macroinvertebrates (food web monitoring)
- Flow velocity and depth
- Inundation Area
- Wood Loading
- Vegetation Condition
- Substrate
- Juvenile salmonid habitat
- Juvenile salmonid habitat selection and movement
- Redd counts and spawning habitat

Our proposed work is what Manual 18M describes as a "phased project." We propose to collect and analyze pre-restoration monitoring data during this grant round (for 2026) and plan propose to gather post-restoration data in the 2027 SRFB funding cycle for comparison in 2028. In this way, we will apply a BACI monitoring approach for the quantification of restoration success. Additionally, it will complement ongoing monitoring efforts conducted by our cooperators in other restored floodplains in the Entiat subbasin.

Monitoring Stage-0 floodplain restoration projects aligns with all four Strategic Priorities that were designated for monitoring:

1) Assess survival bottlenecks: Pre-implementation monitoring should identify bottlenecks on unrestored reaches.
2) Identify limiting factors: The response variables evaluated by this proposed monitoring projects are all potential limiting factors and those that appear to be affected by the restoration will be identified as significant to the efficacy of Stage-0 projects.
3) Implement restoration and monitoring: This will be directly associated with the implementation of restoration as the monitoring is designed to occur both pre- and post-implementation for this specific project.
4) Communicate results: Monitoring results will be presented at conferences and in publications and reports.

Additionally, the habitat, environmental, macroinvertebrate and fish monitoring proposed here would address the following data gaps as defined by the Upper Columbia Regional Technical Team:

- 1.8. Occurrence and status of steelhead in unmonitored areas; Tier 1
- 3.1. Effectiveness of habitat projects incorporating spatial and temporal influences on results and at the appropriate scale; Tier 1
- 3.3 Certain project types are missing robust effectiveness monitoring (e.g., nutrients, floodplain, off-channel, riparian, beaver reintroduction, BDAs); Tier 2

We believe that this project will provide valuable insights into the effectiveness of *Stage 0* restoration techniques and contribute significantly to future restoration efforts. Thank you for your consideration.

Mark Ingman

Project Sponsor

Cascadia Conservation District

2025 SRFB Monitoring Program
Letter of Intent Form

Project Name:	Pre- and Post-implementation of Stage-0 restoration, Phase 1
Project Sponsor:	Cascadia Conservation District
Funding Request:	$289,920
Sponsor Contact Info: *Include email and cell number*	Mark Ingman; marki@cascadia.org ; (509)906-1545
Key Partners:	Hinchinbrook Inc., Pacific Northwest Research Station (USDA Forest Service)
Has the project been vetted and endorsed by the regional organization (Y/N)?	Yes
Brief Project Description:	This is a monitoring project focused on pre- and post-implementation monitoring of the first Stage-0 floodplain restoration project in the Upper Columbia Basin scheduled for 2026-2027. Our proposed work is what Manual 18M describes as a "phased project." We propose to collect and analyze pre-restoration monitoring data during this grant round (for 2026) and to propose to gather post-restoration data in the 2027 SRFB funding cycle for comparison in 2028. In this way, we will apply a BACI monitoring approach for the quantification of restoration success. Additionally, it will complement ongoing monitoring efforts conducted by our cooperators in other restored floodplains in the Entiat subbasin (funded by SRFB 2024, 2025, the Pacific Northwest Research Station, and the HCP Tributary Committees). Our project objectives are: 1) Quantify the condition of the stream in terms of potential limiting factors prior to Stage-0 restoration in Roaring Creek. Example available metrics include • Water Temperature • Macroinvertebrates (food web monitoring) • Flow velocity and juvenile salmonid habitat • Inundation Area • Wood Loading • Vegetation Condition • Substrate
Data collection and analysis:	We will collect the following data at habitat and random replicate sites within the reach targeted for restoration during phase 1 (pre-restoration) and phase 2 (post-restoration): > Water temperature > Macroinvertebrates (food web monitoring) > Flow velocity and depth > Inundation area > Wood loading/availability > Vegetation condition > Substrate composition > Juvenile salmonid habitat > Spawning habitat These parameters align with those used in other Stage-0 monitoring studies conducted in other regions, as well as with monitoring parameters established by project partners in the Entiat subbasin.

	Monitoring data will be managed by project partners Hinchinbrook, Inc. and the Pacific Northwest Research Station (USDA Forest Service). Additionally, processed monitoring results will be shared through Entiat Watershed Planning Unit meetings, conferences, reports, and publications.
How does the project inform regional information needs or data gaps and where are those identified in a regional research, monitoring, or evaluation plan **(if not, then provide a separate statement of endorsement from the regional organization which explains why this is a regional priority)**	The proposed monitoring will be the first effectiveness monitoring project for a Stage-0 restoration project in the Upper Columbia Basin. This presents a unique opportunity to apply lessons learned from ongoing monitoring efforts in the area—such as restored floodplain monitoring conducted by project partners—to develop and establish standardized monitoring protocols for future Stage-0 restoration projects in the region. Additionally, the data collected from this project will contribute to and complement three years of restoration effectiveness data gathered by project partners in the Entiat River Basin. Specific data gaps addressed are detailed below.
Monitoring priorities from the Upper Columbia MaDMC data gaps list this project will address:	The monitoring will address the following data gaps as defined by the Upper Columbia Regional Technical Team: • 1.8. Occurrence and status of steelhead in unmonitored areas; Tier 1 • 3.1. Effectiveness of habitat projects incorporating spatial and temporal influences on results and at the appropriate scale; Tier 1 • 3.3 Certain project types are missing robust effectiveness monitoring (e.g., nutrients, floodplain, off channel, riparian, beaver reintroduction, BDAs); Tier 2
How will this project address one or more of the 2025 SRFB strategic priorities below: • **Survival Bottlenecks** • **Limiting Factors** • **Effectiveness**	Monitoring Stage-0 floodplain restoration projects aligns with all four Strategic Priorities that were designated for monitoring: 1) Assess survival bottlenecks: Pre-implementation monitoring should identify bottlenecks on unrestored reaches. 2) Identify limiting factors: The response variables evaluated by this proposed monitoring projects are all potential limiting factors and those that appear to be affected by the restoration will be identified as significant to the efficacy of Stage-0 projects. 3) Implement restoration and monitoring: This will be directly associated with the implementation of restoration as the monitoring is designed to occur both pre- and post-implementation for this specific project. 4) Communicate results: Monitoring results will be presented at conferences and in publications and reports.
How does this project align with the Action Agenda for Puget Sound? (Puget Sound Projects Only)	*NA*