Contact Information

2026 Upper Columbia Regional Project Pre-Application

* Pre-applications due March 11, 2026 (COB)

*Complete SRFB applications due in PRISM April 17, 2026 (COB)

*Revised SRFB proposals due in PRISM May 27, 2026 (COB)

*Final revised applications due in PRISM June 22, 2026 (noon)

Project Title	Salmon Creek fish passage barrier design
Sponsor	Cascade Fisheries
Primary Contact	Kristen Kirkby
E-Mail Address	kristen@ccfeg.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.

The goal of this project is to complete preliminary designs for three County-owned fish-passage barrier road crossings on Salmon Creek in the Okanogan Basin, as well as initiate outreach to landowners of two other non-crossing barriers in the system.

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 objective of the project is to complete three preliminary designs for fish-passable crossing structures to replace barrier structures, allowing for a future project to improve connectivity in this important steelhead system in the Okanogan Basin. Locations for design are site IDs 605279 (67% passable culvert), 605278 (33% passable culvert), and 606489 (33% passable culvert). While adult steelhead passage occurs seasonally, these barriers are likely restricting juvenile passage and the lower may become a full barrier

with a change to a downstream beaver dam that creates a backwater. CF would also undertake outreach to initiate work on two additional barriers in the system, 605289 (33% passable dam) and 606499 (67% passable other). There are relatively few remaining barriers in the Salmon Creek system, and work proposed in this project would create designs or begin initial outreach to address all but one remaining barrier, 950124 (0% passable dam), which the Confederated Tribes of the Colville Reservation are currently working with the USBR to address. We anticipate a preliminary design completed for three culverts by 12/31/2027, allowing for CF to pursue funding for remaining design and implementation in future years.

Budget Request

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

Anticipated Request - SRFB	100000
Tributary Committee - Anticipated or Actual	100000
Anticipated TOTAL Budget	200000

Project Location

Briefly describe the location of the project	This project includes three sites on Salmon Creek in the Okanogan Basin. The downstream sites are roughly at RM 4.5, and the upstream site is at RM 9.0. Additional outreach work will take place for barriers are RM 1.3 and 4.2.
Latitude (decimal degrees)	48.406942
Longitude (decimal degrees)	-119.625683
Project subbasin	Okanogan
Okanogan Assessment Unit(s)	Salmon Creek-Lower
Does the proposed project span multiple assessment units?	No
Reach(es) Name	Design: Salmon 16-4, Salmon 16-8. Outreach: Salmon 16-1, Salmon 16-4.
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

Reach Rank 1 - Salmon 16-1, Salmon 16-4
Reach Rank 2 - Salmon 16-8

Project Information

1. What species will the project benefit?

Spring Chinook | Steelhead

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

Design, Monitoring or Assessment

4. Does this project already exist in Salmon Recovery Portal or PRISM?

No

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

Don't Know

6. What category is the project?

Design

If applicable, what is the secondary project category?

N/A

Design and Restoration Proposals

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

Preliminary Design

8. Is your project within a completed (or soon-to-be completed) Reach Assessment or other type of assessment (e.g., Rapid Site Assessment, other)?

No

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

Fish Passage Barriers

10. Which life stages will the proposed project address?

Adult Migration | Fry | Smolt Outmigration | 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?

Fish passage barriers reduce spatial structure, abundance, productivity, and diversity of salmonids and other aquatic species. Barriers such as culverts and dams also degrade fish habitat by altering or limiting the downstream movement of sediment, wood, and other organic materials, and may reduce the upstream extent of nutrient inputs by impeding adult salmon passage. The Upper Columbia spring Chinook, Steelhead, and Bull Trout Recovery Plan, developed by the UCSRB (Lead Entity), states that fixing man made barriers will improve spatial structure and diversity of our listed species.

This project will initiate work to address the remaining fish-passage barriers on Salmon Creek (with the exception of a diversion dam currently being worked on by CTCR). Salmon Creek has historically been the most productive steelhead stream in the Okanogan Basin, per OBMEP reports, and juvenile chinook use has also been documented. Barriers in the project range from 33% passable to 67% passable and are thought to primarily impact juvenile passage in their current state. However, it's believed that loss of a backwater from a beaver dam downstream of the lowest crossing structure proposed for design would

lead to limitations on adult passage at these structures, as well.

The lower two culverts are not included in the Upper Columbia barrier prioritization, though we are not certain why at this time considering known use by steelhead and prioritization ranking upstream of these barriers. Per Ryan Klett with the Colville Tribes, it was an oversight that these culverts were not included in the EDT model run, but they will be included in the next run in summer 2026. The upper culvert, 606489, is included in the prioritization. It is a Tier 2 priority for chinook and Tier 3 for steelhead, with both species receiving an overall prioritization score of 71.

The 2025 Okanogan Basin Monitoring and Evaluation Program report states that the majority of annual outmigrant steelhead originate from Salmon Creek, which accounts for roughly half of the combined estimates for fry and parr O. mykiss in the subbasin. This report also described Salmon Creek as colder than the Okanogan River, with a maximum weekly water temperature lower than the majority of other Okanogan tributaries. Water temperatures are projected to continually warm over the coming decades. The NorWest Stream Temperature Model shows 7-day average summer temperatures in the Okanogan approaching 24 degrees Celsius in 2040, a potentially lethal temperature for salmonids. However, in the upper reaches of Salmon Creek near Conconully, water temperatures remain below 16 degrees Celsius. Establishing unrestricted passage through the barriers identified in this proposal will provide essential access cold water refugia, which may be critical to ensuring the persistence of our ESA-listed salmonids in the Okanogan basin in the future. The 2023 OBMEP report explicitly describes Salmon Creek as the highest priority for protection.

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 project would enable the eventual removal of three fish-passage barrier stream crossings and replacement with fish-passable crossing structures, ensuring the free flow of water, wood, and sediment for the creation and maintenance of downstream habitat, as well as improving fish passage for steelhead and other native species to improve distribution and ensure connectivity to high-quality spawning and rearing habitat.

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

Less than or equal to 1 year

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

50+ years

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

Replacing fish-passage barriers with fish-passable crossing structures design to accommodate 100-year flow and anticipated hydrologic changes with climate change should ensure that these structures do not require maintenance for decades.

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

CF will work with an accredited engineer to ensure crossing structures meet design requirements. Designs will be guided by specifications described in WDFW's Water Crossing Design Guidelines (2013), with a stream simulation channel design. These methodologies provide the best design approach to ensure long term fish passage for all species and life stages, as well as allowing for natural watershed processes to occur. Partners from CTCR and Okanogan County, as well as funders, will have the opportunity to review and comment on designs.

The project designs will be climate resilient by designing fish passages structure that will pass flood flows, and associated stream bed substrate and wood, that may become more frequent and intense in the future. Predicted future changes to stream hydrology will incorporated into the new structures' design.

Assessment Proposals

Protection Proposals

Monitoring Proposals

Project Risk and Economic Benefits

1. What is the landownership?

Okanogan County owns the three crossing structures slated for design. The additional structures slated for outreach are a USGS stream gage and a rock weir on land owned by the City of Okanogan.

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

Yes

Please explain

CF has reached out to Okanogan County and received initial support to seek funding for design for these culverts. We are currently reaching out to the City of Okanogan and USGS about two additional barriers for which we may pursue later design.

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

None known.

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 benefit both infrastructure and stream health.

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

The crossing structures will be owned by Okanogan County. This project will improve existing infrastructure and reduce existing maintenance burden for the County.

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.

We don't currently anticipate a risk of failure for this project, considering support from Okanogan County and our own extensive experience implementing design and construction for fish-passage projects. A lack of funding for construction is likely the greatest risk for the project; however, CF feels that there are several potential avenues for construction funding in future and the relatively high priority of these reaches suggest that funding would be achievable.

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

Not at this point. If there are public use areas associated with these crossing structures, CF would encourage landowners to allow for the placement of an informational outreach sign to educate users on native fish, stream health, and restoration.

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

The design phase of this project will support work for a contracted engineer and eventual construction would provide several projects for local contractors.

Replacement of the barriers identified in this project represent and upgrade to Okanogan County infrastructure. These roads provide access to a popular recreation area, which is an important driver of the County's economy. Implementation of this project helps improve climate resilience of these crossings and long-term access to the recreation area.

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

CF has been communicating with CTCR and Okanogan County about moving this project forward and has initial support from both. While these structures were initially (and unintentionally) left out of the EDT model for fish passage, CTCR intends to update and include them in summer 2026, as well as provide any information or support in the meantime.

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 x, 2026

Do you want to review and/or pre-populate PRISM questions? Yes

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

Fish passage barriers reduce spatial structure, abundance, productivity, and diversity of salmonids and other aquatic species. Barriers such as culverts and dams also degrade fish habitat by altering or limiting the downstream movement of sediment, wood, and other organic materials, and may reduce the upstream extent of nutrient inputs by impeding adult salmon passage. The Upper Columbia spring Chinook, Steelhead, and Bull Trout Recovery Plan, developed by the UCSRB (Lead Entity), states that fixing man made barriers will improve spatial structure and diversity of our listed species.

This project will initiate work to address the remaining fish-passage barriers on Salmon Creek (with the exception of a diversion dam currently being worked on by CTCR). Salmon Creek has historically been the most productive steelhead stream in the Okanogan Basin, per OBMEP reports, and juvenile chinook use has also been documented. Barriers in the project range from 33% passable to 67% passable and are thought to primarily impact juvenile passage in their current state. However, it's believed that loss of a backwater from a beaver dam downstream of the lowest crossing structure proposed for design would lead to limitations on adult passage at these structures, as well.

The lower two culverts are not included in the Upper Columbia barrier prioritization, though we are not certain why at this time considering known use by steelhead and prioritization ranking upstream of these barriers. Per Ryan Klett with the Colville Tribes, it was an oversight that these culverts were not included in the EDT model run, but they will be included in the next run in summer 2026. The upper culvert, 606489, is included in the prioritization. It is a Tier 2 priority for chinook and Tier 3 for steelhead, with both species receiving an overall prioritization score of 71.

The 2025 Okanogan Basin Monitoring and Evaluation Program report states that the majority of annual outmigrant steelhead originate from Salmon Creek, which accounts for roughly half of the combined estimates for fry and parr O. mykiss in the subbasin. This report also described Salmon Creek as colder than the Okanogan River, with a maximum weekly water temperature lower than the majority of other

Okanogan tributaries. Water temperatures are projected to continually warm over the coming decades. The NorWest Stream Temperature Model shows 7-day average summer temperatures in the Okanogan approaching 24 degrees Celsius in 2040, a potentially lethal temperature for salmonids. However, in the upper reaches of Salmon Creek near Conconully, water temperatures remain below 16 degrees Celsius. Establishing unrestricted passage through the barriers identified in this proposal will provide essential access cold water refugia, which may be critical to ensuring the persistence of our ESA-listed salmonids in the Okanogan basin in the future. The 2023 OBMEP report explicitly describes Salmon Creek as the highest priority for protection.

3. What are the project goals? The goal of the project should be to solve identified problems by addressing the root causes. Then clearly state the desired and future condition. Include which species and life stages will benefit from the outcome, and the time of year the benefits will be realized.

The goal of this project is to complete preliminary designs for three County-owned fish-passage barrier road crossings on Salmon Creek in the Okanogan Basin, as well as initiate outreach to landowners of two other non-crossing barriers in the system. This project would enable the eventual removal of three fish-passage barrier stream crossings and replacement with fish-passable crossing structures, ensuring the free flow of water, wood, and sediment for the creation and maintenance of downstream habitat, as well as improving fish passage for steelhead
and other native species to improve distribution and ensure connectivity to high-quality spawning and rearing habitat.

4. What are the project objectives? Objectives support and refine biological goals, breaking them down into smaller steps. Objectives are specific, quantifiable actions the project will complete to achieve the stated goal. Each objective should be SMART (Specific, Measurable, Achievable, Relevant, and Time-bound).

The objective of the project is to complete three preliminary designs for fish-passable crossing structures to replace barrier structures, allowing for a future project to improve connectivity in this important steelhead system in the Okanogan Basin. Locations for design are site IDs 605279 (67% passable culvert), 605278 (33% passable culvert), and 606489 (33% passable culvert). While adult steelhead passage occurs seasonally, these barriers are likely restricting juvenile passage and the lower may become a full barrier with a change to a downstream beaver dam that creates a backwater. CF would also undertake outreach to initiate work on two additional barriers in the system, 605289 (33% passable dam) and 606499 (67% passable other). There are relatively few remaining barriers in the Salmon Creek system, and work proposed in this project would create designs or begin initial outreach to address all but one remaining barrier, 950124 (0% passable dam), which the Confederated Tribes of the Colville Reservation are currently working with the USBR to address. We anticipate a preliminary design completed for three culverts by 12/31/2027, allowing for CF to pursue funding for remaining design and implementation in future years.

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

Design - CF will contract with an accredited engineer to develop conceptual and then preliminary designs for three crossing structures. Designs will be guided by specifications described in WDFW's Water Crossing Design Guidelines (2013), with a stream simulation channel design. These methodologies provide the best design approach to ensure long term fish passage for all species and life stages, as well as allowing for natural watershed processes to occur. Partners from CTCR and Okanogan County, as well as funders, will have the opportunity to review and comment on designs.

Survey - CF will contract with a firm to complete geotech survey to inform design.

Project management - CF will manage all aspects of the project, contracting with an engineer, leading outreach with landowners and partners, and communicating and presenting to funders for review.

Administration - CF will be responsible for billing and grant management.

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

Designs for these sites will be informed by site survey, geotech survey, system hydrology, and a thorough understanding of the site. Close coordination with Okanogan County and project partners in the form of a design team will also ensure thorough review of proposed designs.

7. How have lessons learned from completed projects or monitoring studies informed this projects?

CF has extensive experience leading design and implementation of fish passage barrier projects across our region. We also have a history of strong communication with partners to ensure collaboration and partner/regional support for projects. CF has been communicating with CTCR and Okanogan County about moving this project forward and has initial support from both.

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

Alternative crossing structures/styles/locations will be considered in the conceptual design phase of this project. Review by CF, the design team, and funders will ensure that an appropriate alternative is selected to take to a preliminary design.

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

CF has held initial discussions with Okanogan County and the Confederated Tribes of the Colville Reservation, as well as reached out to the City of Okanogan (landowner on the lowest barrier, which is not included in design). Outreach to and engagement with landowners, project partners, and funders will continue throughout the design process to ensure thorough review of and support for design as we move through the process toward implementation.

10. Does your project address or accommodate the anticipated effects of climate change? How will your project be climate resilient given future conditions? How will your project increase species and habitat adaptability?

The project designs will be climate resilient by designing fish passages structure that will pass flood flows, and associated stream bed substrate and wood, that may become more frequent and intense in the future. Predicted future changes to stream hydrology will incorporated into the new structures' design.

The 2025 Okanogan Basin Monitoring and Evaluation Program report states that the majority of annual outmigrant steelhead originate from Salmon Creek, which accounts for roughly half of the combined estimates for fry and parr O. mykiss in the subbasin. This report also described Salmon Creek as colder than the Okanogan River, with a maximum weekly water temperature lower than the majority of other Okanogan tributaries. Water temperatures are projected to continually warm over the coming decades. The NorWest Stream Temperature Model shows 7-day average summer temperatures in the Okanogan approaching 24 degrees Celsius in 2040, a potentially lethal temperature for salmonids. However, in the upper reaches of Salmon Creek near Conconully, water temperatures remain below 16 degrees Celsius. Establishing unrestricted passage through the barriers identified in this proposal will provide essential access cold water refugia, which may be critical to ensuring the persistence of our ESA-listed salmonids in the Okanogan basin in the future. The 2023 OBMEP report explicitly describes Salmon Creek as the highest priority for protection.

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

CF has extensive experience leading design and implementation of fish passage barrier projects across our region. We also have a history of strong communication with partners to ensure collaboration and partner/regional support for projects. CF has managed many fish-passage barrier projects in the Wenatchee, Methow, and Okanogan basins, working with a range of landowners (private, local, federal) and funders.

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

No.

Supporting Documents

Upper Columbia Process Guide 2026

SRFB Manual 18 (2026)

RCO Application Resources