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 within the next 5 years. 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 230000

Anticipated TOTAL Budget 230000

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-Green Lake

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.

Adult fish passage is rated a high priority for restoration in the Salmon Creek AU. The AU overall is a tier 1

priority for steelhead restoration. The lower two culverts are located in a rank 1 reach, and the upper culvert is in a tier 2 reach. 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 steelhead, 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? No

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.

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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.

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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).

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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

PROJECT: 26-1637 PLAN, SALMON CREEK FISH PASSAGE BARRIERS PRELIM DESIGNS

Sponsor: Cascade Col Fish Enhance Group Program: Salmon State Projects Status: Application Submitted

Parties to the Agreement

PRIMARY SPONSOR

Cascade Columbia Fisheries Enhancement Group

Address PO Box 3162

City Wenatchee **State** WA **Zip** 98807

Org Type Non-Gov-Reg Fisheries Enhance Group

Vendor # SWV0010742-00

UBI

Date Org created

Org Notes

link to Organization profile

☐ Org data updated

SECONDARY SPONSORS

No records to display

MANAGING AGENCY

Recreation and Conservation Office

LEAD ENTITY

Upper Columbia Salmon Rcy Bd L

QUESTIONS

#1: List project partners and their role and contribution to the project.

External Systems

SPONSOR ASSIGNED INFO

Sponsor-Assigned Project Number

Sponsor-Assigned Regions

LINK AN EXISTING SRP PROJECT

Unlink

26-1637, Salmon Creek Fish Passage Barriers Prelim Des

Project Contacts

Contact Name Primary Org	Project Role	Work Phone	Work Email
Amee Bahr Rec. and Conserv. Office	Project Manager	(360) 867-8585	Amee.Bahr@rco.wa.gov
Doran Lower Rec. and Conserv. Office	MAgy Fiscal Contact	(360) 902-3007	doran.lower@rco.wa.gov
Kristen Kirkby Cascade Col Fish Enhance Group	Project Contact	(509) 449-2346	kristen@ccfeg.org
Aaron Rosenblum Cascade Col Fish Enhance Group	Alt Project Contact	(509) 630-4160	aaron@ccfeg.org
Ariel Edwards Upper Columbia Salmon Rcy Bd L	Lead Entity Contact	(208) 540-2691	ariel.edwards@ucsrb.org
Shelly Swanson Cascade Col Fish Enhance Group	Billing	(509) 670-0805	Accounting@ccfeg.org

Worksites & Properties

#	Worksite Name
#1	Salmon Creek

Planning	Property Name
✓	Barrier ID 606489
✓	Barrier IDs 605278 and 605279

Worksite Map & Description

Worksite #1: Salmon Creek

WORKSITE ADDRESS

Street Address Unassigned
City, State, Zip Okanogan WA 98840

Worksite Details

Worksite #1: Salmon Creek

SITE ACCESS DIRECTIONS

TARGETED ESU SPECIES

Species by ESU	Egg Present	Juvenile Present	Adult Present	Population Trend
Steelhead-Upper Columbia River, Okanogan River, Threatened				

Reference or source used

OBMEP reports

TARGETED NON-ESU SPECIES

Species by Non-ESU	Notes
Rainbow	

Questions

#1: Give street address or road name and mile post for this worksite if available.

Intersection of Salmon Creek Rd and Spring Creek Rd

Project Location

RELATED PROJECTS

Projects in PRISM

PRISM Number	Project Name	Program Name	Current Status	Relationship Type	Notes
No related project selected					

Related Project Notes

Questions

#1: Did this project originate from the Shore Friendly program?

No

#2: Project location. Describe the geographic location, water bodies or habitat types, and the location of the project in the watershed, i.e. nearshore, tributary, main-stem, off-channel, etc.

These three culvert barriers are located on the mainstem Salmon Creek, a tributary to the Okanogan River.

#3: How does this project fit within your regional recovery plan and/or local lead entity's strategy to restore or protect salmonid habitat? Cite section and page number.

Correcting fish passage barriers is identified as a priority action in the Upper Columbia Salmon and Steelhead Recovery Plan (UCSRB, 2007). The Upper Columbia Salmon Recovery Region has a regional prioritization in which "adult passage" is listed as a "high priority" life stage to address for the Salmon Creek Assessment Unit.

#4: Is this project part of a larger overall project?

No

#5: Is the project on State Owned Aquatic Lands? Please contact the Washington State Department of Natural Resources to make a determination. **Aquatic Districts and Managers**

No

Property Details

Property: Barrier ID 606489 (Worksite #1: Salmon Creek)

✓ **Planning**

LANDOWNER

Name	Okanogan County Public Works
Address	1234A Second Ave S
City	Okanogan
State	WA Zip 98840-9723
Type	Local

CONTROL & TENURE

Instrument Type	Landowner Agreement
Timing	Proposed
Term Length	Fixed # of years
# Yrs	10
Expiration Date	
Note	

Property: Barrier IDs 605278 and 605279 (Worksite #1: Salmon Creek)

✓ **Planning**

Project Application Report - 26-1637

LANDOWNER

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City	Okanogan
State	WA Zip 98840-9723
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CONTROL & TENURE

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Project Proposal

Project Description

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Project Questions

#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 historic factors important to understand the problems.

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#2: Describe the limiting factors, and/or ecological concerns, and limiting life stages (by fish species) that your project expects to address.

The project addresses fish passage. 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 manmade barriers will improve spatial structure and diversity of our listed species.

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#3: **Project Goals.** 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 future condition. Include which species and life stages will benefit from the outcome, and the time of year the benefits will be realized. **Example Goals and Objectives**

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#4: **Project Objectives.** 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). **Example Goals and Objectives**

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 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.

1. Site Reconnaissance: CF and the selected engineer/design firm will conduct field visits to collect site information including: topographic, geomorphic, and vegetative survey information, pebble counts, surrounding habitat types and land uses, and site constraints. This phase would include a geotechnical investigation to inform footing/foundation design at later stages. Expected completion by 6/1/2027.
2. Conceptual design per Manual 18 Appendix D. Designs will be completed by a licensed engineer. This phase will evaluate multiple alternatives, including different structure types and feasibility, including the possibility of converting the two lower culverts into one road crossing. CF will work with the 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. At the completion of this phase, a preferred alternative will be selected and advanced to the preliminary phase. Expected completion by 10/1/2027.
3. Preliminary designs per Manual 18 Appendix D. Designs will be completed by a licensed engineer. CF will work with the 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. Designs will include level of detail in design drawings and basis of design report sufficient to complete permitting. Will be complete by 3/31/2028, allowing for CF to pursue funding for remaining design and implementation in future years.
4. Regulatory: CF will lead regulatory compliance effort. Cultural resource compliance is expected at this phase to complete geotechnical investigations and be compliant with EO 21-02. Additional tasks include inventory of potentially impacted wetlands and coordination with regulatory agencies. This task is ongoing throughout this agreement, with cultural resources surveys to take place right away.
5. Project Management: CF will complete all project management, reporting, invoicing, etc. Task is ongoing throughout the life of the grant.

#6: **Assumptions and Constraints.** What are the assumptions and physical constraints that could impact whether you achieve your objectives? Assumptions and constrains 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?

None known at this time

#7: **Previous Lessons Learned.** How have lessons learned from completed projects or monitoring studies informed this project?

CF staff have successfully implemented approximately two dozen barrier culvert replacements in the last decade or so. These projects have been through the FFFPP, FBRB, and SRFB funding program. The vast majority of the replacements have been overseen by primary project contact Kristen Kirkby or alternate project contact Aaron Rosenblum. Through this experience we have learned the ins and outs of fish passage design and implementation, where the pit falls lie and how to avoid them.

#8: **Project Alternatives.** Describe the alternatives considered and why the preferred was chosen.

At this point the only project alternative is to do nothing, to the detriment of ESA-listed salmonids. An alternative analysis is included in this scope as described above.

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

Primary stakeholders include Okanogan County and the Confederated Tribes of the Colville Reservation (CTCR). We have coordinated with Josh Thompson, the Okanogan County Public Works Director. Josh has discussed the project with the County commissioners, and all are supportive of our proposal with no concerns identified at this time. Okanogan County Public Works will be included in design review, alternative selection, and final project approval. The CTCR has an extensive history working in the Salmon Creek watershed. CF has been in discussion with CTCR throughout the application process and they will be a partner in this project and will be included on the design team.

#10: **Climate Change.** Does your project address or accommodate the anticipated effects of climate change?

Yes

#10a: How will your project be climate resilient given future conditions?

The project will be climate resilient by designing and installing a fish passage structure that will pass high flows, and associated stream bed substrate and wood, that may become more frequent and intense in the future. The undersized culvert identified for replacement in this proposal is at risk of plugging and washing out, resulting in erosion and an associated large load of fine sediment

#10b: How will your project increase habitat and species adaptability?

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 16C. Establishing unrestricted passage through the barriers identified in this proposal will provide essential access cold water refugia, which may be critical to ensure the persistence of ESA-listed salmonids.

Project Application Report - 26-1637

#11: **Project Team Experience.** Describe the project management team's experience managing this type of project. Describe other projects where they have successfully used a similar approach.

CF staff have successfully implemented approximately two dozen barrier culvert replacements in the last decade or so. These projects have been through the FFFPP, FBRB, and SRFB funding program. The vast majority of the replacements have been overseen by primary project contact Kristen Kirkby or alternate project contact Aaron Rosenblum.

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

No

Planning Supplemental

#1: Is the project an assessment / inventory?

No

#2: Is your project a Barrier / Screening Diversion Inventory Project?

No

#3: Is this a fish passage design / screening design project?

Yes

#3a: List additional upstream and/or downstream fish passage barriers, if any. Identify current or future plans for correction.

Downstream: 605289 (33% passable dam): initial outreach conducted under this proposal. With landowner engagement expected timeline for correction is within five years.

606499 (67% passable other): Initial outreach conducted under this proposal. With landowner engagement expected timeline for correction is within five years.

950124 (0% passable dam): The Confederated Tribes of the Colville Reservation are currently working with the USBR to address. Listed as 0% passable, but reported to have passability to adult steelhead by CTCR biologists. Expected timeline for correction is within five years.

#3b: Describe the amount and quality of habitat made accessible if the barrier is corrected. Include the Priority Index (PI), or Screening Priority Index (SPI), if applicable.

The project would provide improved access to about 11 miles of upstream habitat as measured from the lower culverts to the Conconully dam. Upstream is a mix of agriculture and forested lands, with some locations being relatively ecologically intact and others degraded, with limited buffer between the creek and agricultural fields. PI numbers are not available.

#3c: If you will be designing a culvert or arch to resolve the fish passage problem, what crossing design option will you use?

Stream simulation

#4: Will the project develop a design?

Yes

#4a: Will a licensed professional engineer design of the project?

Yes

#4b: Will you apply for permits as part of the project scope?

Cultural resource consultation

Planning Metrics

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Worksite: Salmon Creek (#1)

Area Encompassed (acres) (B.0.b.1)	1.0
Miles of Stream and/or Shoreline Affected (B.0.b.2)	1.00

DESIGN FOR SALMON RESTORATION

Conceptual Design (B.1.b.11.a RCO)

Total cost for Conceptual design	$120,000 **Note:** Includes data collection, engineering, and CF staff
Project Identified in a Plan or Watershed Assessment. (2457) (B.1.b.11.a)	Adult fish passage is rated a high priority for restoration in the Salmon Creek AU. The AU overall is a tier 1 priority for steelhead restoration. The lower two culverts are located in a rank 1 reach, and the upper culvert is in a tier 2 reach. 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 steelhead, receiving an overall prioritization score of 71.
Priority in Recovery Plan (2458) (B.1.b.11.b)	Adult fish passage is rated a high priority for restoration in the Salmon Creek AU. The AU overall is a tier 1 priority for steelhead restoration. The lower two culverts are located in a rank 1 reach, and the upper culvert is in a tier 2 reach. 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 steelhead, receiving an overall prioritization score of 71.

Preliminary design (B.1.b.11.a RCO)

Total cost for Preliminary design	$80,500 **Note:** Engineering and CF time
Project Identified in a Plan or Watershed Assessment. (1220) (B.1.b.11.a)	Adult fish passage is rated a high priority for restoration in the Salmon Creek AU. The AU overall is a tier 1 priority for steelhead restoration. The lower two culverts are located in a rank 1 reach, and the upper culvert is in a tier 2 reach. 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 steelhead, receiving an overall prioritization score of 71.
Priority in Recovery Plan (1222) (B.1.b.11.b)	Adult fish passage is rated a high priority for restoration in the Salmon Creek AU. The AU overall is a tier 1 priority for steelhead restoration. The lower two culverts are located in a rank 1 reach, and the upper culvert is in a tier 2 reach. 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 steelhead, receiving an overall prioritization score of 71.

CULTURAL RESOURCES

Cultural resources

Total cost for Cultural resources	$25,000
Acres surveyed for cultural resources	1.00

AGENCY INDIRECT COSTS

Agency Indirect

Total cost for Agency Indirect	$4,500

Overall Project Metrics

COMPLETION DATE

Projected date of completion	04/30/2028

Planning Cost Estimates

Worksite #1: Salmon Creek

Category	Work Type	Estimated Cost	Note
Agency Indirect Costs	Agency Indirect	$4,500	
Cultural Resources	Cultural resources	$25,000	
Design for Salmon restoration	Conceptual Design (B.1.b.11.a RCO)	$120,000	Includes data collection, engineering, and CF staff
	Preliminary design (B.1.b.11.a RCO)	$80,500	Engineering and CF time
	Subtotal:	$230,000	
	Total Estimate For Worksite:	$230,000	

Summary

Total Estimated Costs:	$230,000
Total Estimated Planning Costs:	$230,000

Cost Summary

	Estimated Cost	Project %	Admin/AA&E %
Planning Costs			
Planning	$230,000		
SUBTOTAL	$230,000	100.00 %	
Total Cost Estimate	$230,000	100.00 %	

Funding Request and Match

FUNDING PROGRAM

Salmon State Projects	$230,000	100.000000

SPONSOR MATCH

Questions

#1: Explain how you determined the cost estimates

CF requested help developing a cost estimate for this scope from a restoration consulting firm. Engineering costs are based on that estimate. CF time estimate based on other completed projects of similar scale and scope.

Other Funding

OTHER FUNDING DETAILS

Cultural Resources

Cultural Resource Areas

Worksite #1: Salmon Creek

Area: Culvert 605278

#1: Describe any planned ground disturbing pre-construction/restoration work. This includes geo-technical investigation, fencing, demolition, decommissioning roads, etc.

Geotechnical investigation is part of this scope

#2: Describe the existing project area conditions. The description should include existing conditions, current and historic land uses and previous excavation/fill (if depths and extent is known, please describe).

Previous earthwork to build roads. Existing culverts in place.

#3: Will a federal permit be required to complete the scope of work on the project areas located within this worksite?

No

#4: Are you utilizing Federal Funding to complete the scope of work? This includes funds that are being shown as match or not.

No

#5: Do you have knowledge of any previous cultural resource review within the project boundaries during the past 10 years?

No

#6: Are there any structures over 45 years of age within this worksite? This includes structures such as buildings, tidegates, dikes, residential structures, bridges, rail grades, park infrastructure, etc.

Unknown

Age of culverts is unknown by the applicant

Area: Culvert 605279

#1: Describe any planned ground disturbing pre-construction/restoration work. This includes geo-technical investigation, fencing, demolition, decommissioning roads, etc.

Geotechnical investigation is part of this scope

#2: Describe the existing project area conditions. The description should include existing conditions, current and historic land uses and previous excavation/fill (if depths and extent is known, please describe).

Previous earthwork to build roads. Existing culverts in place.

#3: Will a federal permit be required to complete the scope of work on the project areas located within this worksite?

No

#4: Are you utilizing Federal Funding to complete the scope of work? This includes funds that are being shown as match or not.

No

#5: Do you have knowledge of any previous cultural resource review within the project boundaries during the past 10 years?

No

#6: Are there any structures over 45 years of age within this worksite? This includes structures such as buildings, tidegates, dikes, residential structures, bridges, rail grades, park infrastructure, etc.

Unknown

Age of culverts is unknown by the applicant

Area: Culvert 606489

#1: Describe any planned ground disturbing pre-construction/restoration work. This includes geo-technical investigation, fencing, demolition, decommissioning roads, etc.

Geotechnical investigation is part of this scope

#2: Describe the existing project area conditions. The description should include existing conditions, current and historic land uses and previous excavation/fill (if depths and extent is known, please describe).

Previous earthwork to build roads. Existing culverts in place.

#3: Will a federal permit be required to complete the scope of work on the project areas located within this worksite?

No

#4: Are you utilizing Federal Funding to complete the scope of work? This includes funds that are being shown as match or not.

No

#5: Do you have knowledge of any previous cultural resource review within the project boundaries during the past 10 years?

No

#6: Are there any structures over 45 years of age within this worksite? This includes structures such as buildings, tidegates, dikes, residential structures, bridges, rail grades, park infrastructure, etc.

Unknown

Age of culverts is unknown by the applicant

Project Permits

Permits and Reviews	Issuing Organization	Applied Date	Received Date	Expiration Date	Permit #
Archaeological & Cultural Resources (EO 21-02)	DAHP				

Attachments

Required Attachments	7 out of 7 done
Applicant Resolution/Authorizations	✓
CCA Tribal Notification	✓
Cost Estimate	✓
Landowner Acknowledgement	✓
Map: Planning Area	✓
Photo	✓
RCO Fiscal Data Collection Sheet	✓

PHOTOS (JPG, GIF)

Photos (JPG, GIF)


707791 Primary


707792 Secondary


707793

PROJECT DOCUMENTS AND PHOTOS

Project Documents and Photos

File Type	Attach Date	Attachment Type	Title	Person	File Name, Number Associations	Shared
	05/27/2026	Cost Estimate	SAL-CostEstimate_26-1637_052726.xlsx	KristenK	SAL-CostEstimate_26-1637_052726.xlsx, 716784	✓
	04/17/2026	Project Application Report	Project Application Report, 26-1637P (sub 04/17/26 07:06:26)	AaronR	Project Application Report - 26-1637 (submitted 04-17-2026_07-06-26).pdf, 707859	✓
	04/17/2026	Cost Estimate	SAL-CostEstimate_26-1637_041726.xlsx	AaronR	SAL-CostEstimate_26-1637_041726.xlsx, 707855	✓
	04/16/2026	Landowner Acknowledgement	SAL-LandownerAckForm - 26-1637.docx	AaronR	SAL-LandownerAckForm - 26-1637.docx, 707804	
	04/16/2026	RCO Fiscal Data Collection Sheet	FiscalDataCollectionSheet - Cascade Fisheries - 2025 sds.pdf	AaronR	FiscalDataCollectionSheet - Cascade Fisheries - 2025 sds.pdf, 707803	
	04/16/2026	Applicant Resolution/Authorizations	ApplicantAuthorizationResolution - Cascade Fisheries - 2025.	AaronR	ApplicantAuthorizationResolution - Cascade Fisheries - 2025.pdf, 707802	✓
	04/16/2026	CCA Tribal Notification	Draft-CCA-TribalNotice_CF2026.docx	AaronR	Draft-CCA-TribalNotice_CF2026.docx, 707801	✓
	04/16/2026	Barrier evaluation form	606489_Report.pdf	AaronR	606489_Report.pdf, 707796	✓
	04/16/2026	Barrier evaluation form	605279_Report.pdf	AaronR	605279_Report.pdf, 707795	✓
	04/16/2026	Barrier evaluation form	605278_Report.pdf	AaronR	605278_Report.pdf, 707794	✓
	04/16/2026	Photo	606489_2.jpg	AaronR	606489_2.jpg, 707793	✓
	04/16/2026	Photo	605279_2.jpg	AaronR	605279_2.jpg, 707792	✓
	04/16/2026	Photo	605278_1.jpg	AaronR	605278_1.jpg, 707791	✓
	04/16/2026	Map: Planning Area	Salmon Creek barriers.pdf	AaronR	Salmon Creek barriers.pdf, 707790	✓

Application Status

Application Due Date: 06/22/2026

Status Name	Status Date	Submitted By	Submission Notes
Application Submitted	04/17/2026	Aaron Rosenblum	
Preapplication	03/26/2026		

Project Application Report - 26-1637

I certify that, to the best of my knowledge, all information in this application is true and complete, and if artificial intelligence (AI) was used to prepare this application, I accept full responsibility for ensuring its accuracy and compliance. I understand incomplete applications will be rejected by RCO and that I may be asked to submit additional documentation before evaluation or approval of this project. I understand that if a grant is awarded to my project, I will be bound by all representations and commitments in this application, which RCO may enforce to the fullest extent permitted by law. (Aaron Rosenblum, 04/17/2026)

Date of last change: 05/27/2026

DESIGN PROJECTS

The costs on this page are for design projects, not for the design phase of a restoration grant.

				OVERALL PROJECT	GRANT REQUEST	MATCH & OTHER FUNDING			
				Budget must account for all costs to complete the project	*Enter only the amount of the grant request*	*The Grant Request, Match and Other Funding should equal the total project cost and Budget Check cell should be 0. Sponsors must account for all sources and types of funding needed to complete the project.*			
				Amount	Grant Amount	Match in PRISM	Other Funding not reported as match in PRISM	Source (Grant, Cash, Materials, Labor, Volunteers, etc)	Funding Type (federal, state, local)
Design Costs									
Category	Task Description	Qty	Rate						
Data collection	*Topographic, Geotech, etc*	**1.00**	$ 75,000.00	$ 75,000	$ 75,000	$ -	$ -		
Conceptual design	*Engineering Services*	1.00	$ 30,000.00	$ 30,000	$ 30,000	$ -			
Preliminary design	*Engineering Services*	1.00	$ 65,500.00	$ 65,500	$ 65,500	$ -			
Cultural resources	*Survey, consultation*	1.00	$ 25,000.00	$ 25,000	$ 25,000	$ -			
Permits	*CF staff wetland study, regulatory coordinat*	1.00	$ 10,000.00	$ 10,000	$ 10,000	$ -			
Administrative	*CF Staff design coordination, PM, Admin*	1.00	$ 20,000.00	$ 20,000	$ 20,000	$ -			
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			STotal	**$ 225,500**	**$ 225,500**	**$ -**	**$ -**		

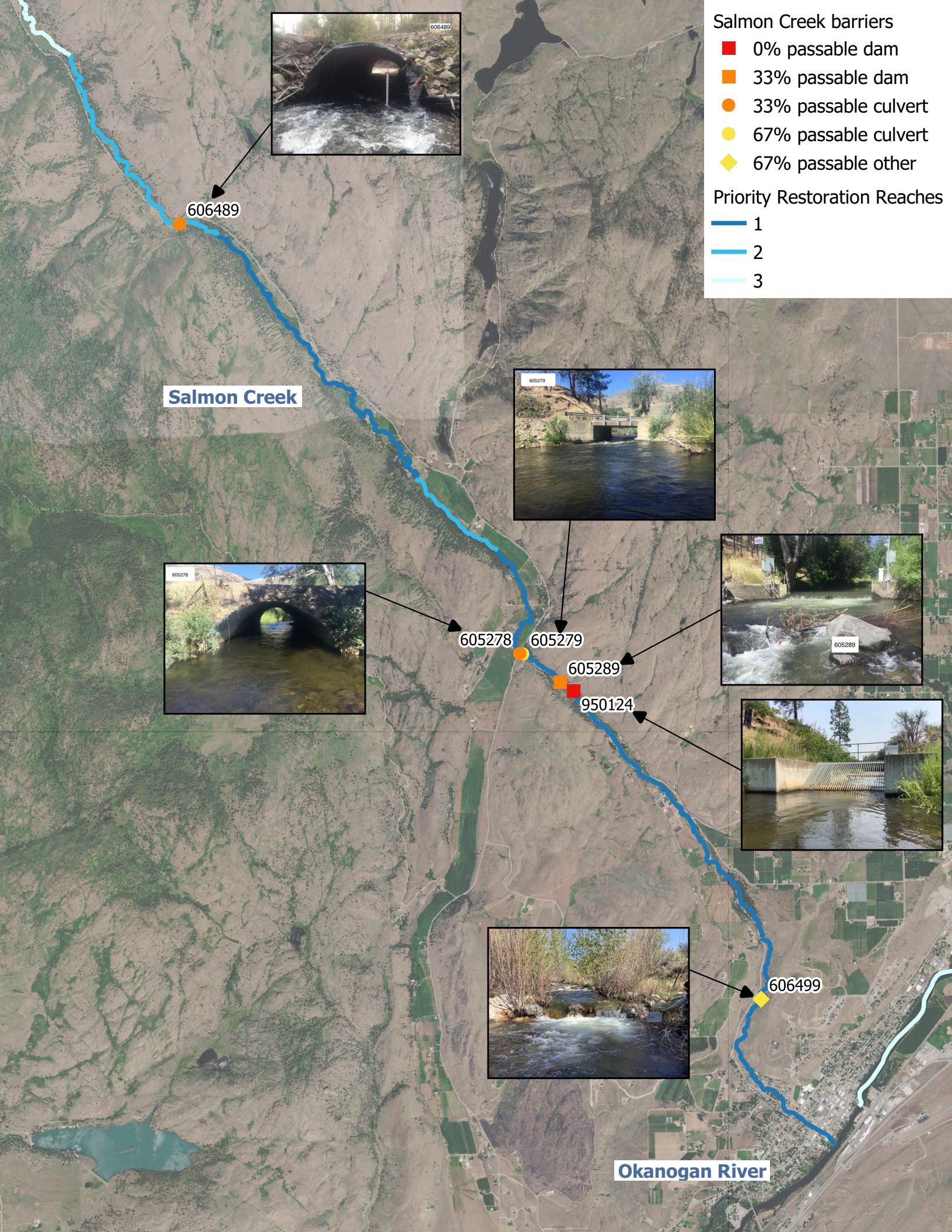
Indirect Costs				Amount	Grant amount	Match in PRISM	Funding not reported in PRISM	Match Source	Match Type (federal, state, local)
	Description	Approved Rate	Total Project Base						
	Indirect	15.000%	$ 30,000.00	$ 4,500	$ 4,500	$ -			
	Indirect	0.000%	$ -	$ -	$ -	$ -	$ -		
			STotal	**$ 4,500**	**$ 4,500**	**$ -**	**$ -**		
			Totals	**$ 230,000**	**$ 230,000**	**$ -**	**$ -**		

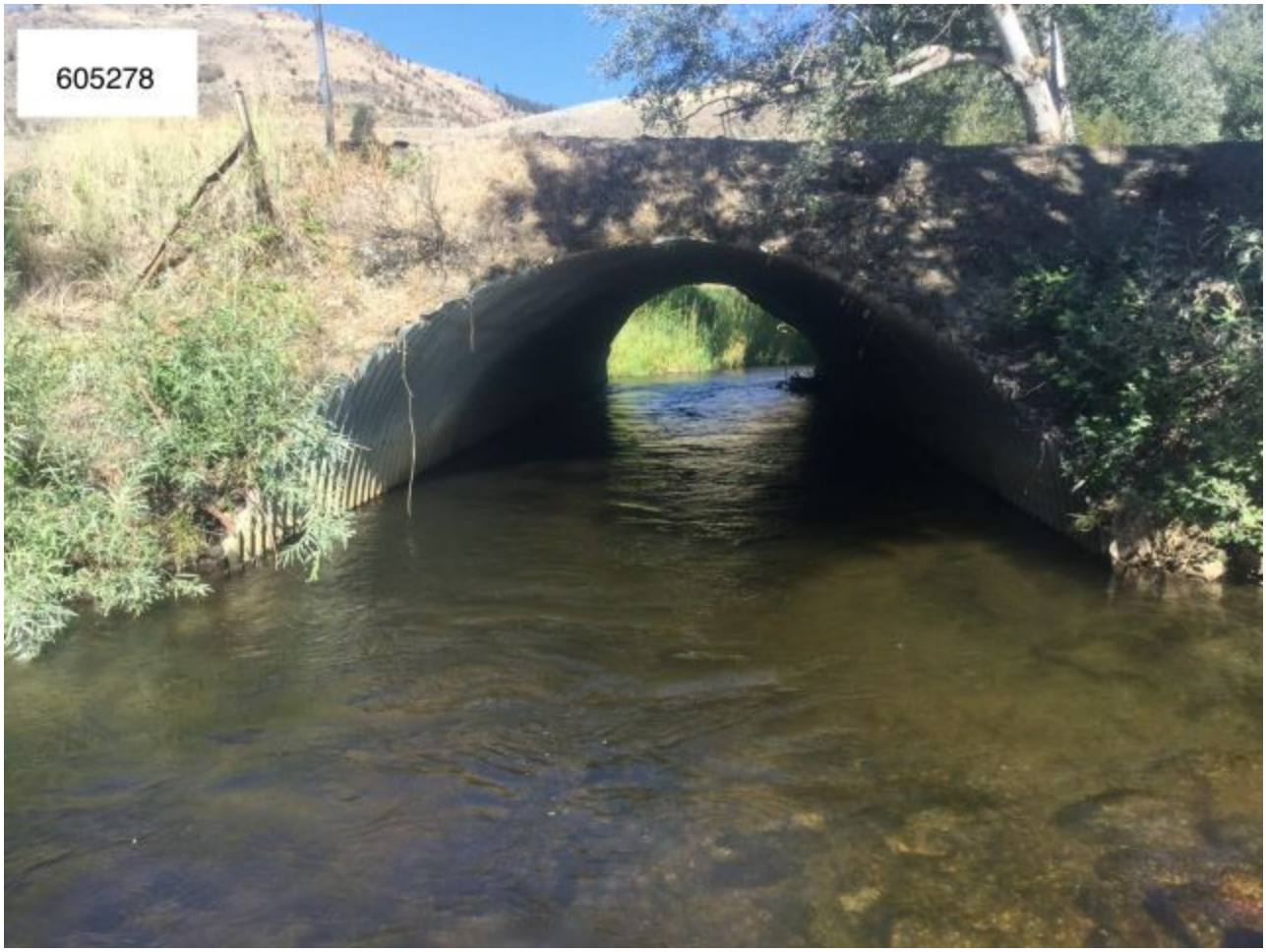
CUMULATIVE TOTALS

This sheet contains automatic calculations

Project Name	Salmon Creek Fish Passage Barriers Preliminary Design
SRFB #	26-1637
Sponsor	Cascade Fisheries

	OVERALL PROJECT Cost	GRANT REQUEST Amount	PRISM MATCH Amount	OTHER FUNDING NOT REPORTED AS MATCH IN PRISM Amount	*Budget Check*
Sheet #1 Acquisition					
Property Costs	$ -	$ -	$ -	$ -	0
Incidental Costs	$ -	$ -	$ -	$ -	0
Administrative Costs	$ -	$ -	$ -	$ -	0
Indirect Costs	$ -	$ -	$ -	$ -	
STotal	$ -	$ -	$ -	$ -	0
Sheet #2 Design					
Design Costs	$ 225,500	$ 225,500	$ -	$ -	
Indirect Costs	$ 4,500	$ 4,500	$ -	$ -	
STotal	$ 230,000	$ 230,000	$ -	$ -	0
Sheet #3 Restoration					
Construction Costs	$ -	$ -	$ -	$ -	0
AA&E	$ -	$ -	$ -	$ -	0
Indirect Costs	$ -	$ -	$ -	$ -	
STotal	$ -	$ -	$ -	$ -	0
Totals	$ 230,000	$ 230,000	$ -	$ -	0


Salmon Creek barriers
0% passable dam
33% passable dam
33% passable culvert
67% passable culvert
67% passable other
Priority Restoration Reaches
1
2
3
606489
Salmon Creek
605279
605278
605278
605279
605289
605289
950124
606499
Okanogan River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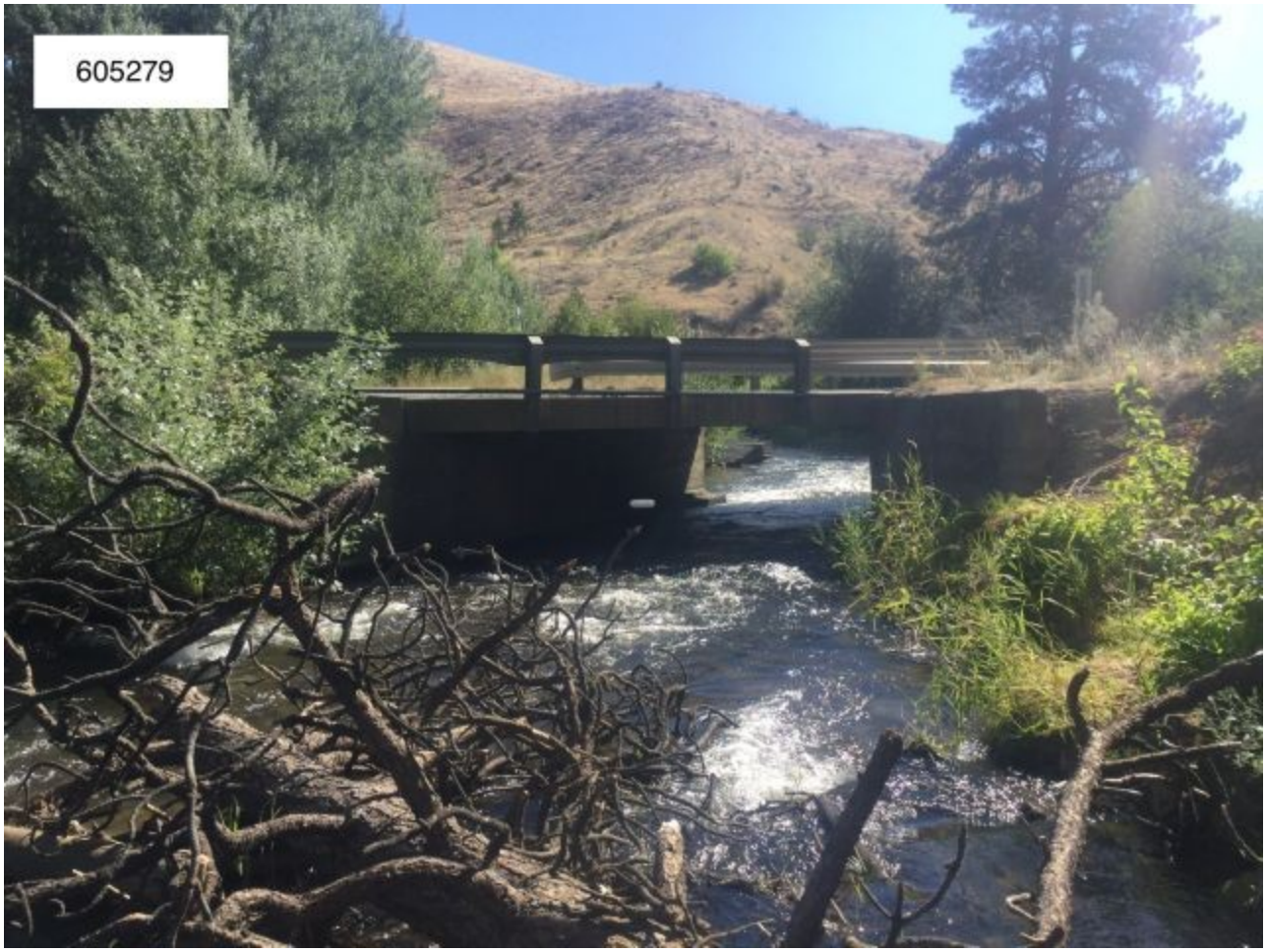
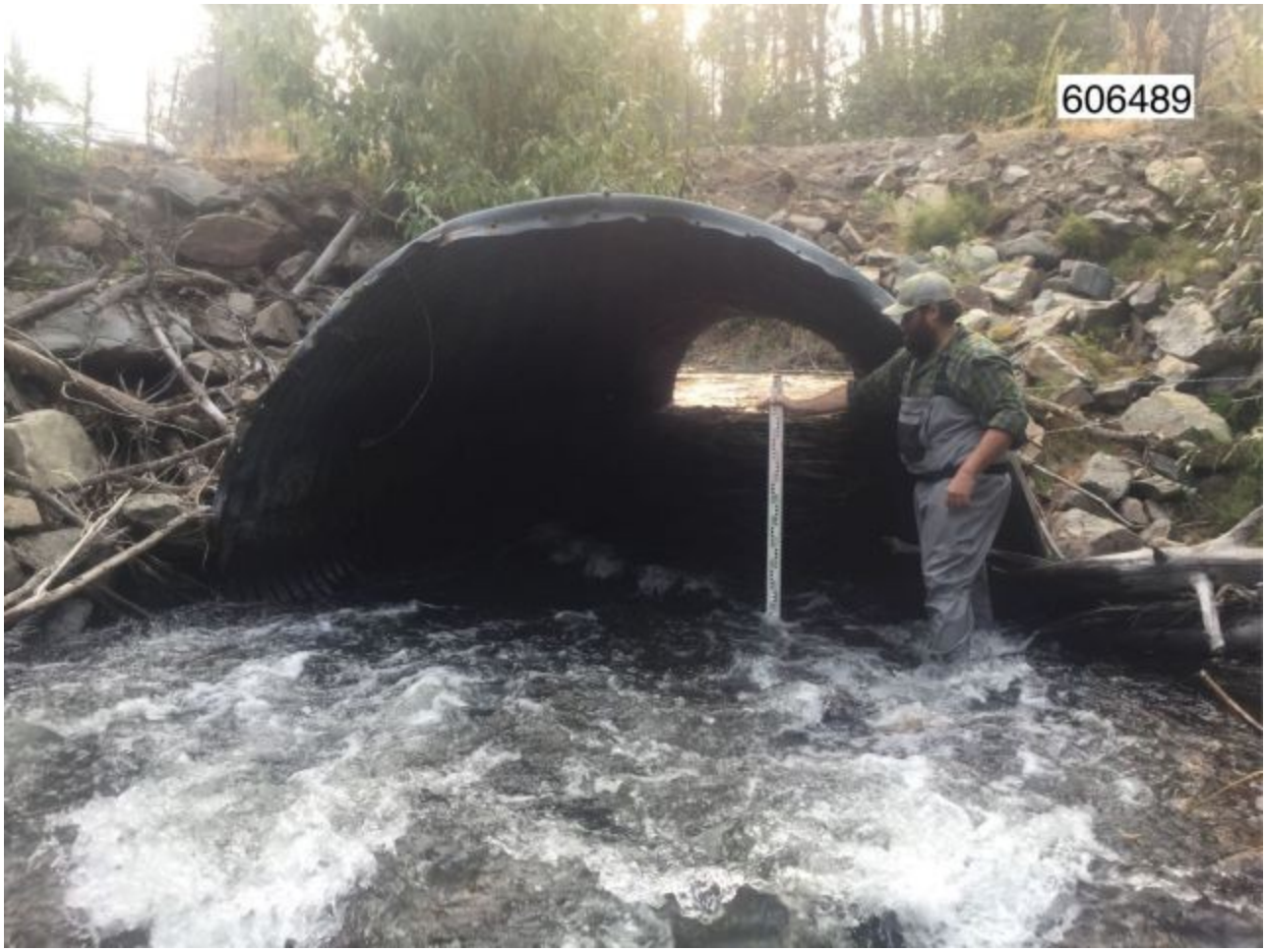

605279


606489

Washington Department of
Fish and Wildlife

Fish Passage & Diversion Screening Inventory Database
Report Cover Sheet

The following report is extracted from the Washington Department of Fish and Wildlife's (WDFW) Fish Passage and Diversion Screening Inventory Database (FPDSI). WDFW makes every attempt to keep these reports in sync with FPDSI; however, the dynamic nature of the data and workflows associated with maintaining the database may result in short-term differences.

Users are encouraged to contact WDFW to discuss appropriate use of the data and how we can assist with fish passage barrier removal or inventory. Please visit the Fish Passage web site for contact information at: https://wdfw.wa.gov/species-habitats/habitat-recovery/fish-passage/about

Disclaimers:

- Data presented here represent a snapshot observation of conditions in a dynamic environment that is subject to change. Fish passage data are also collected from a variety of agencies and sources. Therefore, WDFW makes no guarantee concerning the data's content, accuracy, completeness, or the results obtained from use of the data. WDFW assumes no liability for the data represented here.
- These data are not an attempt to provide you with an official agency response as to the impacts of your project on fish and wildlife.
- Note that some fish passage features, habitats or species may occur in areas not currently known to the WDFW Fish Passage division, and may not be reflected in this database. A lack of data does not necessarily indicate that a feature, habitat, or species are not present.
- Unauthorized attempts to alter or modify these data are strictly prohibited.
- Bankfull width measurements included in these reports should not be used for fish passage crossing design. They are solely for assessment purposes.
- The barrier status reported in this document is based on the swimming abilities of adult salmonids. Passabilities are a qualitative value, and should not be interpreted as a quantitative calculation. Please see page 1-4 of the Fish Passage Inventory, Assessment and Prioritization Manual for further clarification: https://wdfw.wa.gov/publications/02061
- EXIF data presented with Image Reports may be erroneous due to camera battery failures and resetting of camera clock functions.

Abbreviations:

Most abbreviations in this report are defined in the Quick Reference Tables of the Fish Passage Inventory, Assessment, and Prioritization Manual. Additional commonly used abbreviations are defined as follows:

NFB = no potential salmonid use, **BB** = both banks, **LB** = left bank looking downstream, **RB** = right bank looking downstream, **US or U/S** = upstream, **DS or D/S** = downstream, **WSDrop** = water surface drop, **BFW** = bankfull width, **OHW** = ordinary high water, **SLW** = scour line width, **CMP** = corrugated metal pipe, $\mathbf{Q_{fp}}$ = fish passage flow, **V&D** = Velocity and Depth, **ROW** = Right of Way

The FPDSI database often uses default values such as '**-99.99**' or '**-999**' to represent null values.

WDFW Fish Passage and Diversion Screening Inventory Database

Site Description Report

Site ID 605278 **Project** SRFBGRANT ☐ **Mitigated**

Geographic Coordinates

Latitude (WGS 84):	48.406984
Longitude (WGS 84):	-119.6258
East (NAD 83 HARN):	1,852,846.6
North (NAD 83 HARN)	1,122,265.6

Waterbody

Stream:	Salmon Cr
Tributary To:	Okanogan R
WRIA:	49
River Mile:	-999.99
Fish Use Potential:	Yes
FUP Criteria:	Mapped

General Location

Road Name:	Spring Coulee Rd
Mile Post:	-999.99
County:	Okanogan
WDFW Region:	2

Owner

Type:	County
Name:	Okanogan County

PI Species

☐ Sockeye	☑ Chinook	☐ Sea Run Cutthroat
☐ Pink	☐ Coho	☑ Resident Trout
☐ Chum	☑ Steelhead	☐ Bull Trout

Associated Features

☑ Culvert	☐ Dam	☐ Natural Barrier	☐ Diversion
☐ Non-Culvert Xing	☐ Other	☐ Fishway	

Location/Directions

Site Comments

11/7/2022

WDFW Fish Passage and Diversion Screening Inventory Database

Level A Culvert Assessment Report

Site ID:	**605278**				
Latitude:	**48.406984**	Stream:	**Salmon Cr**	WRIA:	**49**
Longitude:	**-119.6258**	Tributary To:	**Okanogan R**	Fish Use Potential:	**Yes**

Data Source: Cascade Columbia Fisheries Enhancement Group

Field Crew: Broderius;Yeckel Review Date: 8/10/2020

Culvert Details / **Level A Parameters**

ID	Shape	Material	Span	Rise	Length	WDIC	Apron	WSDrop	Location	Countersunk	Backwater	Slope (%)	Sediment
1.1	SQSH	SPS	4.52	2.52	18.70	0.72	NO	0.00		No	No	-0.14	Yes

All dimensions in meters

Channel Description

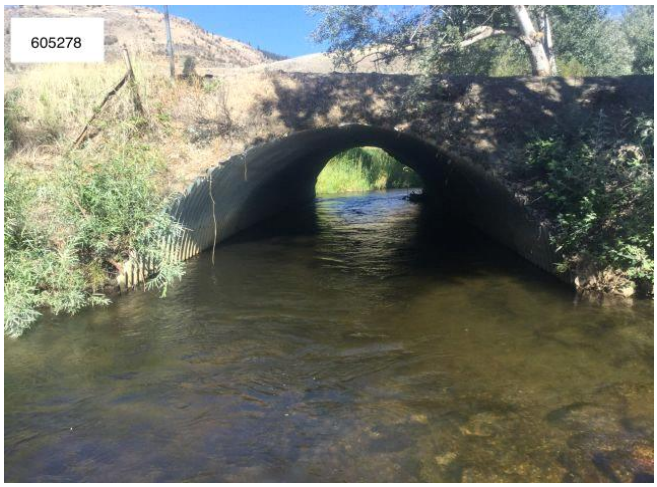
Toe Width (m):	
Average Width (m):	10.39
Culvert/Stream Width Ratio:	0.44

Plunge Pool

Length (m):	0.00
Max Depth (m):	-99.99
OHW Width (m):	-999.99

Road

Fill Depth (m):	3.00



Assessment Results

		Tidal Influence:	No	Tidegate Present:	No
Barrier:	Yes	Passability (%):	33	Method:	Level B
Reason:	Velocity	Fishway Present:	No	Recheck:	

Comments

[LvlB,Barrett,FishXing,3/16/21. HighQfp = 4.99 cms]. Flows are heavily manipulated, but 4.99 cms was determined to be sufficient for the purposes of determining barrier status (Colville Tribes Bio, 2022)

Potential Habitat Gain

Survey Type:		Spawning (sq m):		Length (m):	
Significant Reach:	Unknown	Rearing (sq m):		**PI Total**	

11/7/2022

WDFW Fish Passage and Diversion Screening Inventory Database

Level B Culvert Assessment Report

Site ID: 605278

Reference Point

Elevation (m): 100.00 Location: Outlet culvert crown

Drainage Basin

Basin Area (sq mi): 148.05 Basin Precipitation (in): #######

Culvert Elevations

Culvert ID	Corrugation	USIE (m)	USCBE (m)	DSIE (m)	DSCBE (m)	Sediment
1.1	2"x6"	97.41	-999.99	97.38	-999.99	Yes

Downstream Control

X-Section

Station	Top LB	Toe LB	Bed 1	Bed 2	Bed 3	Toe RB	Top RB
Distance (m)	0.00	1.00	2.50	4.06	6.40	8.40	9.10
Elevation (m)	99.92	97.94	97.52	97.45	97.50	98.01	100.08
Substrate	Sand	Cobble	Cobble	Cobble	Cobble	Cobble	Sand

Downstream Control Water Surface Elevation (m): 97.85

Downstream Control OHW Surface Elevation (m): -999.99

Downstream of Control

Water Surface Elevation (m): 97.62 Channel Dominant Substrate:

Distance Downstream (m): 15.00

Results

Velocity (m/sec): 1.84 Depth (m): 0.14

11/7/2022

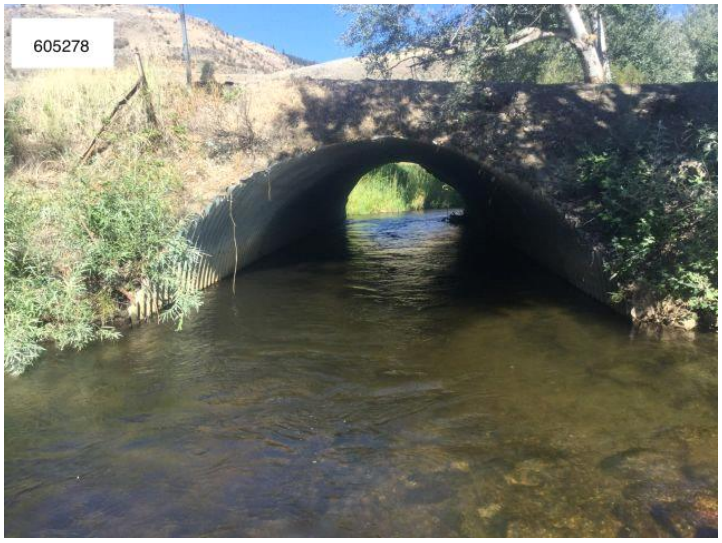
WDFW Fish Passage and Diversion Screening Inventory Database

Image Report - Active

Site ID:	**605278**				
Latitude:	**48.406984**	Stream:	**Salmon Cr**	WRIA:	**49**
Longitude:	**-119.6258**	Tributary To:	**Okanogan R**	Fish Use Potential:	**Yes**

Associated Features

☑ Culvert	☐ Dam	☐ Natural Barrier	☐ Diversion
☐ Non-Culvert Xing	☐ Other	☐ Fishway	



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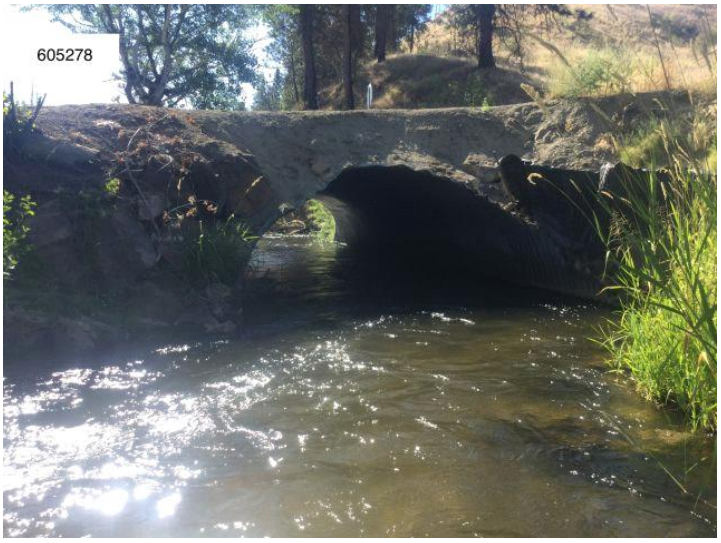

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11/7/2022

Washington Department of
Fish and Wildlife

Fish Passage & Diversion Screening Inventory Database
Report Cover Sheet

The following report is extracted from the Washington Department of Fish and Wildlife's (WDFW) Fish Passage and Diversion Screening Inventory Database (FPDSI). WDFW makes every attempt to keep these reports in sync with FPDSI; however, the dynamic nature of the data and workflows associated with maintaining the database may result in short-term differences.

Users are encouraged to contact WDFW to discuss appropriate use of the data and how we can assist with fish passage barrier removal or inventory. Please visit the Fish Passage web site for contact information at: https://wdfw.wa.gov/species-habitats/habitat-recovery/fish-passage/about

Disclaimers:

- Data presented here represent a snapshot observation of conditions in a dynamic environment that is subject to change. Fish passage data are also collected from a variety of agencies and sources. Therefore, WDFW makes no guarantee concerning the data's content, accuracy, completeness, or the results obtained from use of the data. WDFW assumes no liability for the data represented here.
- These data are not an attempt to provide you with an official agency response as to the impacts of your project on fish and wildlife.
- Note that some fish passage features, habitats or species may occur in areas not currently known to the WDFW Fish Passage division, and may not be reflected in this database. A lack of data does not necessarily indicate that a feature, habitat, or species are not present.
- Unauthorized attempts to alter or modify these data are strictly prohibited.
- Bankfull width measurements included in these reports should not be used for fish passage crossing design. They are solely for assessment purposes.
- The barrier status reported in this document is based on the swimming abilities of adult salmonids. Passabilities are a qualitative value, and should not be interpreted as a quantitative calculation. Please see page 1-4 of the Fish Passage Inventory, Assessment and Prioritization Manual for further clarification: https://wdfw.wa.gov/publications/02061
- EXIF data presented with Image Reports may be erroneous due to camera battery failures and resetting of camera clock functions.

Abbreviations:

Most abbreviations in this report are defined in the Quick Reference Tables of the Fish Passage Inventory, Assessment, and Prioritization Manual. Additional commonly used abbreviations are defined as follows:

NFB = no potential salmonid use, **BB** = both banks, **LB** = left bank looking downstream, **RB** = right bank looking downstream, **US or U/S** = upstream, **DS or D/S** = downstream, **WSDrop** = water surface drop, **BFW** = bankfull width, **OHW** = ordinary high water, **SLW** = scour line width, **CMP** = corrugated metal pipe, $\mathbf{Q_{fp}}$ = fish passage flow, **V&D** = Velocity and Depth, **ROW** = Right of Way

The FPDSI database often uses default values such as '**-99.99**' or '**-999**' to represent null values.

WDFW Fish Passage and Diversion Screening Inventory Database

Site Description Report

Site ID 605279 **Project** SRFBGRANT ☐ **Mitigated**

Geographic Coordinates

Latitude (WGS 84):	48.406943
Longitude (WGS 84):	-119.625365
East (NAD 83 HARN):	1,852,952.5
North (NAD 83 HARN)	1,122,251.8

Waterbody

Stream:	Salmon Cr
Tributary To:	Okanogan R
WRIA:	49
River Mile:	-999.99
Fish Use Potential:	Yes
FUP Criteria:	Mapped

General Location

Road Name:	Salmon Creek Rd
Mile Post:	-999.99
County:	Okanogan
WDFW Region:	2

Owner

Type:	County
Name:	Okanogan County

PI Species

☐ Sockeye	☑ Chinook	☐ Sea Run Cutthroat
☐ Pink	☐ Coho	☑ Resident Trout
☐ Chum	☑ Steelhead	☐ Bull Trout

Associated Features

☑ Culvert	☐ Dam	☐ Natural Barrier	☐ Diversion
☐ Non-Culvert Xing	☐ Other	☐ Fishway	

Location/Directions

Site Comments

11/7/2022

WDFW Fish Passage and Diversion Screening Inventory Database

Level A Culvert Assessment Report

Site ID:	**605279**				
Latitude:	**48.406943**	Stream:	**Salmon Cr**	WRIA:	**49**
Longitude:	**-119.625365**	Tributary To:	**Okanogan R**	Fish Use Potential:	**Yes**

Data Source: Cascade Columbia Fisheries Enhancement Group

Field Crew: Broderius;Yeckel Review Date: 8/10/2020

Culvert Details / **Level A Parameters**

ID	Shape	Material	Span	Rise	Length	WDIC	Apron	WSDrop	Location	Countersunk	Backwater	Slope (%)	Sediment
1.1	BOX	CPC	3.73	1.98	13.50	0.37	NO	0.00		No	No	-0.74	No

All dimensions in meters

Channel Description

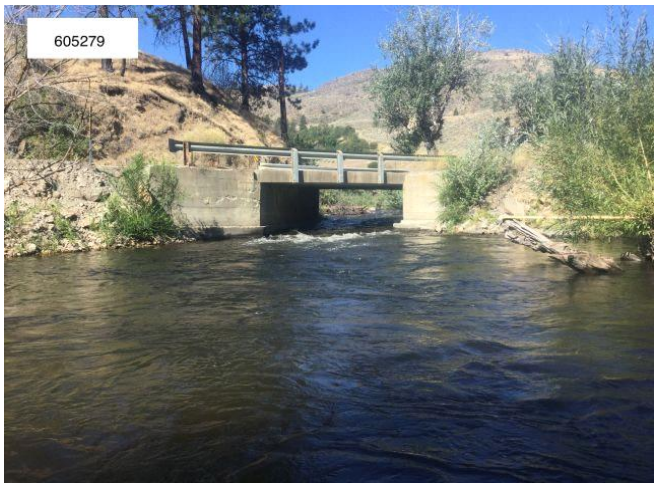
Toe Width (m):	
Average Width (m):	10.39
Culvert/Stream Width Ratio:	0.36

Plunge Pool

Length (m):	0.00
Max Depth (m):	-99.99
OHW Width (m):	-999.99

Road

Fill Depth (m):	3.00



Assessment Results

		Tidal Influence:	No	Tidegate Present:	No
Barrier:	Yes	Passability (%):	67	Method:	Level B
Reason:	Velocity	Fishway Present:	No	Recheck:	

Comments

[LvlB,Barrett,FishXing,3/16/21. HighQfp = 4.99 cms]. Flows are heavily manipulated, but 4.99 cms was determined to be sufficient for the purposes of determining barrier status (Colville Tribes Bio, 2022). Concrete wingwalls.

Potential Habitat Gain

Survey Type:		Spawning (sq m):		Length (m):	
Significant Reach:	Unknown	Rearing (sq m):		**PI Total**	

11/7/2022

WDFW Fish Passage and Diversion Screening Inventory Database

Level B Culvert Assessment Report

Site ID: 605279

Reference Point

Elevation (m): 100.00 Location: Outlet crown

Drainage Basin

Basin Area (sq mi): 148.05 Basin Precipitation (in): #######

Culvert Elevations

Culvert ID	Corrugation	USIE (m)	USCBE (m)	DSIE (m)	DSCBE (m)	Sediment
1.1	Concrete	97.42	-999.99	97.61	-999.99	No

Downstream Control

X-Section

Station	Top LB	Toe LB	Bed 1	Bed 2	Bed 3	Toe RB	Top RB
Distance (m)	0.00	2.40	5.00	8.35	10.99	13.30	16.60
Elevation (m)	98.81	98.21	96.99	97.34	97.62	97.80	98.07
Substrate	Sand	Sand	Sand	Sand	Cobble	Cobble	Sand

Downstream Control Water Surface Elevation (m): 97.74

Downstream Control OHW Surface Elevation (m): -999.99

Downstream of Control

Water Surface Elevation (m): 97.69 Channel Dominant Substrate:

Distance Downstream (m): 15.00

Results

Velocity (m/sec): 1.77 Depth (m): 0.13

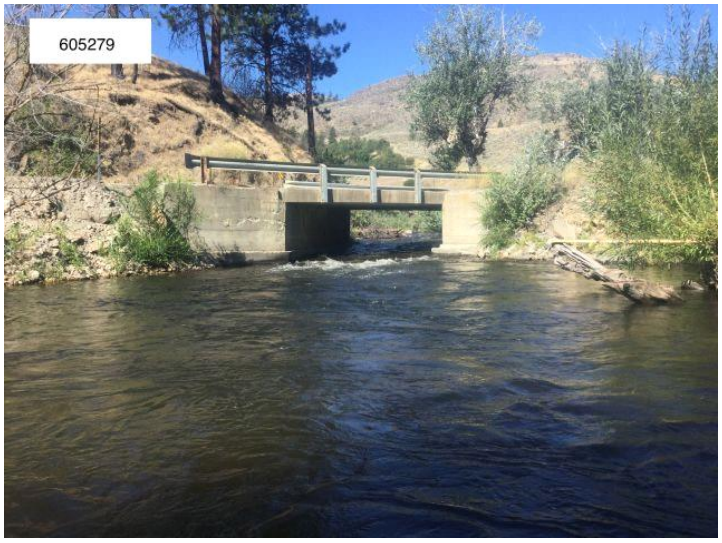
WDFW Fish Passage and Diversion Screening Inventory Database

Image Report - Active

Site ID:	**605279**				
Latitude:	**48.406943**	Stream:	**Salmon Cr**	WRIA:	**49**
Longitude:	**-119.625365**	Tributary To:	**Okanogan R**	Fish Use Potential:	**Yes**

Associated Features

☑ Culvert	☐ Dam	☐ Natural Barrier	☐ Diversion
☐ Non-Culvert Xing	☐ Other	☐ Fishway	



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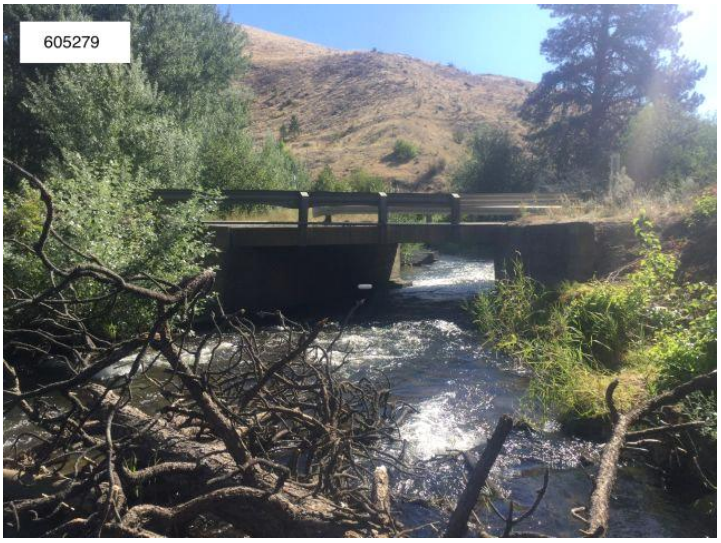

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11/7/2022

Washington Department of
Fish and Wildlife

Fish Passage & Diversion Screening Inventory Database
Report Cover Sheet

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WDFW Fish Passage and Diversion Screening Inventory Database

Site Description Report

Site ID 606489 **Project** SRFBGRANT ☐ **Mitigated**

Geographic Coordinates

Latitude (WGS 84):	48.448545
Longitude (WGS 84):	-119.673689
East (NAD 83 HARN):	1,841,051.2
North (NAD 83 HARN)	1,137,308.5

Waterbody

Stream:	Salmon Cr
Tributary To:	Okanogan R
WRIA:	49
River Mile:	-999.99
Fish Use Potential:	Yes
FUP Criteria:	Mapped

General Location

Road Name:	Salmon Creek Rd
Mile Post:	-999.99
County:	Okanogan
WDFW Region:	2

Owner

Type:	County
Name:	Okanogan County

PI Species

☐ Sockeye	☑ Chinook	☐ Sea Run Cutthroat
☐ Pink	☐ Coho	☑ Resident Trout
☐ Chum	☑ Steelhead	☐ Bull Trout

Associated Features

☑ Culvert	☐ Dam	☐ Natural Barrier	☐ Diversion
☐ Non-Culvert Xing	☐ Other	☐ Fishway	

Location/Directions

Site Comments

11/20/2021

WDFW Fish Passage and Diversion Screening Inventory Database

Level A Culvert Assessment Report

Site ID:	**606489**				
Latitude:	**48.448545**	Stream:	**Salmon Cr**	WRIA:	**49**
Longitude:	**-119.673689**	Tributary To:	**Okanogan R**	Fish Use Potential:	**Yes**

Data Source Cascade Columbia Fisheries Enhancement Group

Field Crew: Bunde;Ikeda Review Date: 9/17/2020

Culvert Details / **Level A Parameters**

ID	Shape	Material	Span	Rise	Length	WDIC	Apron	WSDrop	Location	Countersunk	Backwater	Slope (%)	Sediment
1.1	SQSH	SPS	3.76	2.36	18.40	0.58	NO	0.00		No	No	1.03	

All dimensions in meters

Channel Description

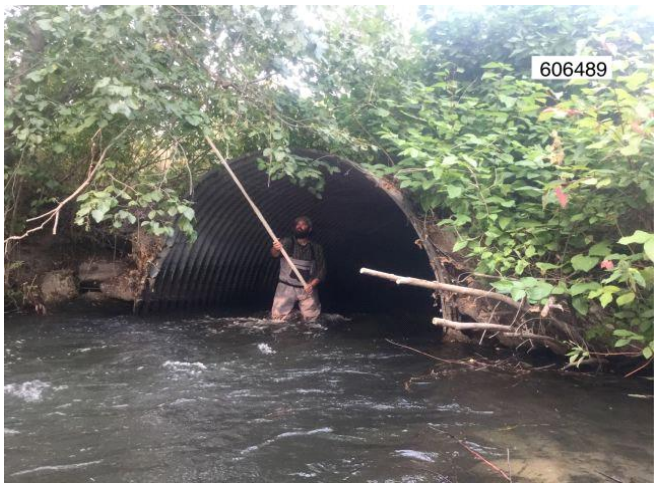
Toe Width (m):	
Average Width (m):	9.86
Culvert/Stream Width Ratio:	0.38

Plunge Pool

Length (m):	0.00
Max Depth (m):	-99.99
OHW Width (m):	-999.99

Road

Fill Depth (m):	3.50



Assessment Results

		Tidal Influence:	No	Tidegate Present:	No
Barrier:	Yes	Passability (%):	33	Method:	Level A
Reason:	Slope	Fishway Present:	No	Recheck:	

Comments

Large pool DS. Indicators of fast velocity. Bet material only at inlet. Some of the outlet is rusted-out.

Potential Habitat Gain

Survey Type:		Spawning (sq m):		Length (m):	
Significant Reach:	Unknown	Rearing (sq m):		**PI Total**	

11/20/2021

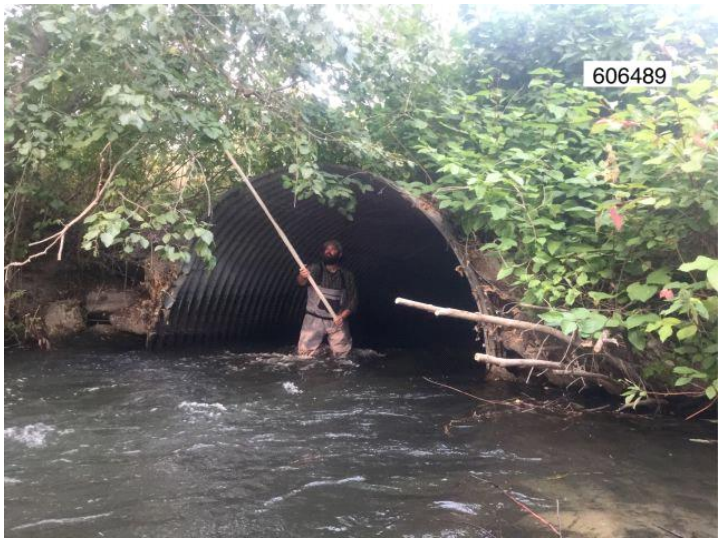
WDFW Fish Passage and Diversion Screening Inventory Database

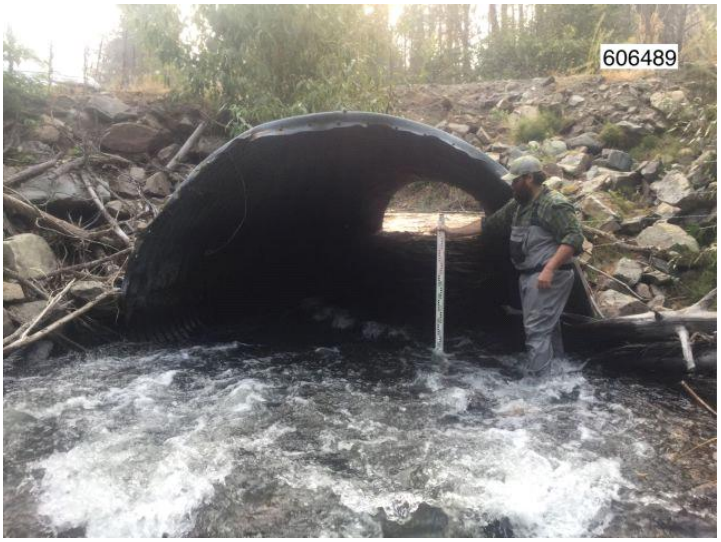
Image Report - Active

Site ID:	**606489**				
Latitude:	**48.448545**	Stream:	**Salmon Cr**	WRIA:	**49**
Longitude:	**-119.673689**	Tributary To:	**Okanogan R**	Fish Use Potential:	**Yes**

Associated Features

- [x] Culvert
- [ ] Dam
- [ ] Natural Barrier
- [ ] Diversion
- [ ] Non-Culvert Xing
- [ ] Other
- [ ] Fishway





11/20/2021