

## Mission Creek Barriers Final Design

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Chelan County Natural Resources Department  
Michael Kaputa  
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Prism # 23-1213

Anticipated SRFB Request:	\$62,152
Anticipated Tib Comm Request:	\$0
Other Match:	\$10,968
Anticipated TOTAL Project Budget:	\$261,207



Thursday, April 20, 2023

## 2023 Regional Project Pre-application

# 2023 Upper Columbia Regional Project Pre-Application

- \* Pre-applications due March 10, 2023 (COB)
- \* Complete applications due in PRISM April 20, 2023 (COB)
- \* Revised proposals due in PRISM May 19, 2023 (COB)
- \* Final revised applications due in PRISM June 26, 2023 (noon)

### Project Title

Mission Creek Barriers Final Design

### Contact Information

#### Sponsor

Chelan County Natural Resource Department

#### Primary Contact

Mike Kaputa

#### E-Mail Address

mike.kaputa@co.chelan.wa.us

### Budget Request

#### Anticipated Request - SRFB (standard round)

73120

#### Anticipated Request - Tributary Committee

73120

#### Anticipated TOTAL Budget

261,207

### Project Location

#### Briefly describe the location of the project

This project is located in Cashmere, WA and is within the first seven river miles (RM) of Mission Creek, approximately 0.9 miles upstream from the Wenatchee River and extends upstream to RM 6.1.

**Latitude (decimal degrees)**

47.5151

**Longitude (decimal degrees)**

-120.47361

**Project subbasin**

Wenatchee

**Wenatchee Assessment Unit(s)**

Mission Creek-Brender Creek

**Reach(es) Name**

Mission-Bender Creek Reach 01-06

**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/>.**

Rank 1

Unranked (not a priority or missing data)

Multiple reaches (provide details below)

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

Reach: Mission Creek 01 - Rank 1; Reach: Mission Creek 02 - Rank 1; Reach: Mission Creek 03 - unranked; Reach: Mission Creek 04 - unranked; Reach: Mission Creek 05 - unranked; Reach: Mission Creek 06 - unranked

**Project Information**

**1. What are the project objectives? Objectives support and refine biological goals, breaking them down into small steps. Objectives are specific, quantifiable actions the project will complete to achieve the stated goal. Each objective should be SMART (Specific, Measurable, Achievable, Relevant, and Time-bound). Note: This exact question is included in the PRISM application. Example format: The project seeks to address [specify limiting factor(s)] for [limiting life stage(s)] by [specific actions proposed] to create an estimated [include specific target metrics, as described below] upon implementation in [estimated year].**

This proposal is the match for a larger phase project that will result in final designs for all seven barriers within reaches 01-06 of Mission creek. The full project seeks to remove and replace all seven barriers, one dam and six irrigation diversions, with 100% fish passable structures. This will open up a total of ~12.5 RM of Mission Creek for fish passage and habitat for all life stages of ESA listed salmonids: spring and summer chinook, steelhead, and bull trout. The removal of these barriers will result in immediate and permanent benefit for fish passage that will persist for the life of the replacement structures. Benefits are expected to be seen within the first five years post project implementation 2025.

**2. What species will the project benefit?**

Spring Chinook

Steelhead

Bull Trout

Summer Chinook

### 3. Select the project's objectives and the associated tracking metrics

Design, Monitoring or Assessment

Fish Passage

### Fish Passage: Reporting Code

Miles of stream made accessible

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

Yes

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

Yes

### Please explain which process(es) and how this proposal differs from the previous submission (e.g., different phase, modified scope, etc.)

This application was previously submitted to SRFB but was withdrawn last year. Funding through FBRB has been secured to support 72% of the funds required to complete designs through the final stage for the seven barriers. This proposal is match for the FBRB funding and will cover the remaining 28% of funding required to complete this phase of the project.

### 6. What category is the project?

Design

## Design and Restoration Proposals

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

Conceptual Design

Preliminary Design

Final 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)?

Yes, CCNRD recently completed new floodplain mapping data collection with FEMA, in addition to a barrier evaluation completed by Aspect Consulting 2021. The reach has also been assessed by the Upper Columbia River Technical Team (UCRTT) and WDFW.

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

Fish Passage Barriers

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

Adult Migration

Adult Non-Spawning (Bull Trout)

Fry

Holding and Maturation

Smolt Outmigration

Spawning and Incubation

Summer Rearing

Winter Rearing

### **11. Freshwater Benefits - Describe how will your project improve survival, capacity and/or distribution for target species at the reach scale?**

The Mission Creek Sub-basin has been identified by The Upper Columbia Salmon Recovery Plan (UCSRB) as a category 3 action for re-establishing connectivity by removing, replacing or fixing anthropogenic barriers. This proposal the match for a larger project that will address seven of 15 fish passage barriers in Mission Creek, opening up ~12.5RM for salmonid habitat. Barrier 603691 is within reach 01 in Mission Creek, at RM 0.9, (the downstream barrier), which is ranked as a Tier 1 Highest Priority barrier in the Wenatchee Basin by UCRTT. The remaining six barriers are Tier 2 and 3 priorities. Mission Creek is significant for spawning and rearing of ESA-listed salmonids including Spring and summer Chinook, Steelhead, and Bull Trout; spring and summer chinook are also important SRKW species. At present, instream temperatures are within range of the thermal tolerances of ESA-listed salmonids and has the potential to provide thermal refuge during hot summer months. Once implemented, the removal of all seven barriers will result in immediate and permanent benefit for fish passage that will persist for the life of the replacement structures. This effort will increase spatial structure, abundance, and productivity of salmonids in the Mission Creek by providing year-round fish passage for all species at all life stages in lower Mission Creek. Effects of barrier removal are expected to be seen within the first five years post-removal and are anticipated to increase stream connectivity and high flow refugia for juveniles, lower instream temperatures, increased spawning and rearing habitat, and improved overall stream conditions for Spring and Summer Chinook, Steelhead, and Bull trout.

### **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?**

Mission Creek is a sub-watershed that supports salmonids but has experienced substantial degradation and is strongly fragmented by habitat loss as a result of anthropogenic impacts. Based on UCSRB data reaches 01-06 of Mission Creek have unacceptable conditions for: bank and channel stability, flow, connectivity, riparian disturbance, riparian canopy cover, and summer instream temperatures (not including: Reach 03 [temperature: at risk] and Reach 06 [temperature: adequate]). Mission Creek has been confined and oversimplified as a result of urban and agriculture development and will likely continue to be impacted by these to some extent. However, removing these barriers will promote the following natural stream processes to occur in the first ~12.5 RM of Mission Creek within the first five years of barrier removal: increased stream connectivity and complexity, improved fish passage, reduced instream temperatures, and improved overall stream conditions. As a part of this proposal and the larger project, we will restore riparian habitat for areas impacted through the barrier removal and replacement process. This will help improve floodplain habitat conditions and add shade around the creek, assisting in lowering instream temperatures.

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

Less than or equal to 1 year

1-10 years

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

50+ years

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

A monitoring plan will be developed as part of the design project. Monitoring the site for geomorphic changes, plant survival and fish passage will help determine if any maintenance is required. With fish passage projects, fill planting is usually the only maintenance required, but in this urbanized setting,

some invasive plant species control may be needed post-construction.

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

Develop final designs for the removal and replacement for seven barriers in Mission creek, located between RM 0.9-6.1. Removing these barriers and replacing them with 100% fish passable structures will increase fish passage to 100% for the first ~12.5 RM of Mission Creek.

## Assessment Proposals

## Protection Proposals

## Monitoring Proposals

## Project Risk and Economic Benefits

### 1. What is the landownership?

Private

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

No

#### Please explain

CCNRD staff are in process of securing landowner support from the right and left bank landowners for the seven barriers being addressed in this project. CCNRD staff have acquired landowner acceptance from four landowners including Pierre Dawson, Kameron Miller, Jim Dolman, and Alberto Silva. We will plan to have secured full landowner participation by the final application deadline.

### 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

Landowner requirements will be determined as part of the design process. For the barriers associated with irrigation diversions, continued access to water right is necessary.

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

Yes, there could be concern from landowners about impacts if bank stabilization is removed or reconfigured. The project will be designed to not increase any risk for flooding to adjacent landowners.

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

CCNRD will be responsible for monitoring and maintenance of the restoration project. There will be no management or maintenance responsibilities for current or future landowners. This project will result in 100% fish passable barrier alternatives for one dam and six irrigation diversions that will be fully self-sufficient once installed.

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

No

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

In 2007-8, the Bureau of Reclamation partnered with Cascadia Conservation District to address several irrigation diversions on Mission Creek with simple log and rock weir type structures. The structures were destroyed during a large flood event in 2009. During subsequent post-fire flood events in Mission Creek, roads and even homes have been damaged. CCNRD has completed projects to stabilize flood damaged banks in Mission Creek and is working on other design projects in this flashy stream, so is very aware of the design challenges. Part of the design process will include a review of the cause of the past project failures, including the dam-breach hydrology that can exceed typical “100 year” event modeling to minimize the risk of project failure.

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

Yes, CCNRD will host their watershed community outreach meetings during the design process and after construction. The overall project (the rockfill dam and the six upstream irrigation diversions), and other efforts in East Fork Mission and Sand Creek will all be presented during those meetings. Barrier replacement projects on this scale typically build community support for salmon recovery efforts, as they provide access for steelhead to the upper watershed, are relatively inexpensive and we are working directly with local orchard managers.

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

Yes, this proposal is the match contribution for the larger project that will be sharing development, activities, and funding across seven (7) fish barrier dam and irrigation diversions, resulting in a highly efficient approach. We will be able to coordinate multiple evaluations and design efforts with the community, landowners, and design consultants, rather than developing for each site individually.

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

CCNRD has FBRB funding lined up to develop final designs for the seven dam/irrigation diversion replacements discussed in this proposal. The total project is expected to cost \$261,207, with \$188,087 being funded through FBRB, and \$73,120 to be funded as match. CCNRD is expecting to receive funding July 1, 2023, and the project will last two years. CCNRD has been at the forefront of the development and implementation of habitat improvement projects for listed salmonids in the Wenatchee since the adoption of the Wenatchee Watershed Management and Implementation Plans in 2008. CCNRD has successfully planned, developed, designed, permitted, coordinated, and constructed over 75 salmon habitat improvement projects, including over 35 fish barrier correction projects in the Wenatchee.

CCNRD works closely with the Bureau of Reclamation (BOR) on salmon recovery in the Wenatchee and Entiat watersheds, and it’s likely BOR will provide support for this project, including a site survey. Additionally, CCNRD is working with multiple private landowners who are willing to address their upstream irrigation diversions, which are identified as fish barriers. Specific partner contributions are still being determined, and will be defined by the final application deadline.

# Optional Section - Preparation for PRISM

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

No

Supporting Documents

[Upper Columbia Process Guide 2022](#) (updates anticipated January 2023)

[SRFB Manual 18 \(2023\)](#)

[RCO Application Resources \(2023\)](#)



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

No

## PROJECT: 23-1214 PLAN, MISSION CREEK BARRIERS FINAL DESIGN

Sponsor: Chelan Co Natural Resource Program: Salmon State Projects Status: Board Alternate

### Parties to the Agreement

#### PRIMARY SPONSOR

Chelan County Natural Resources Department

**Address** 411 Washington St Ste 201

**City** Wenatchee **State** WA **Zip** 98801

**Org Type** County-Open Space/Nat Resources

**Vendor #** SWV0001231-12

**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.

CCNRD works closely with the Bureau of Reclamation (BOR) on salmon recovery projects in the Wenatchee and Entiat watersheds, and it's likely BOR will provide support for this project, including a site survey. Additionally, CCNRD is working with multiple private landowners who are willing to address their irrigation diversions, which are identified as fish barriers. Specific partner contributions are still being determined and will be defined by the final application deadline.

# Project Application Report - 23-1214

## Project Contacts

Contact Name Primary Org	Project Role	Work Phone	Work Email
<u>Amee Bahr</u> Rec. and Conserv. Office	Project Manager	(360) 867-8585	<a href="mailto:Amee.Bahr@rco.wa.gov">Amee.Bahr@rco.wa.gov</a>
<u>Doran Lower</u> Rec. and Conserv. Office	MAgy Fiscal Contact	(360) 902-3007	<a href="mailto:doran.lower@rco.wa.gov">doran.lower@rco.wa.gov</a>
<u>Michael Kaputa</u> Chelan Co Natural Resource	Project Contact	(509) 670-6935	<a href="mailto:mike.kaputa@co.chelan.wa.us">mike.kaputa@co.chelan.wa.us</a>
<u>Keeley Chiasson</u>	Alt Project Contact		<a href="mailto:keeley.chiasson@co.chelan.wa.us">keeley.chiasson@co.chelan.wa.us</a>
<u>David Hecker</u>	Lead Entity Contact	(208) 869-9446	<a href="mailto:dave.hecker@ucsr.org">dave.hecker@ucsr.org</a>
<u>Sofia Bjorklund</u> Chelan Co Natural Resource	Billing	(509) 667-6324	<a href="mailto:sofia.bjorklund@co.chelan.wa.us">sofia.bjorklund@co.chelan.wa.us</a>

## Worksites & Properties

### # Worksite Name

#1 603691

#### Planning Property Name

- ✓ Pierre Dawson
- ✓ James L Craig
- ✓ Dennis H Reay

#2 603688

#### Planning Property Name

- ✓ James Dolman
- ✓ Brian Andruss
- ✓ Steve knowles

#3 603685

#### Planning Property Name

- ✓ Michael & Ashlyn Dobbins
- ✓ Irvin & Jennifer Alloway
- ✓ Dee R Jones

#4 603681

#### Planning Property Name

- ✓ Jonathan and Julie Hills
- ✓ Greg Reed

#5 603677

#### Planning Property Name

- ✓ Greg Milne

# Project Application Report - 23-1214

## # Worksite Name

Planning	Property Name
✓	Gregg Milne
✓	Chad Milne

#6 603672

Planning	Property Name
✓	Kameron Miller

#7 603671

Planning	Property Name
✓	Sam Miller

## Worksite Map & Description

### Worksite #1: 603691

#### WORKSITE ADDRESS

**Street Address** 102 Julie Ann Court  
**City, State, Zip** Cashmere WA 98815

### Worksite #2: 603688

#### WORKSITE ADDRESS

**Street Address** 5077 Mission Creek Rd  
**City, State, Zip** Cashmere WA 98815

### Worksite #3: 603685

#### WORKSITE ADDRESS

**Street Address** 4900 YAKSUM CANYON RD  
**City, State, Zip** Cashmere WA 98815

### Worksite #4: 603681

#### WORKSITE ADDRESS

**Street Address** 4040 MISSION CREEK RD  
**City, State, Zip** Cashmere WA 98815

### Worksite #5: 603677

#### WORKSITE ADDRESS

**Street Address** 3434 MISSION CREEK RD  
**City, State, Zip** Cashmere WA 98815

### Worksite #6: 603672

#### WORKSITE ADDRESS

**Street Address** 2255 MISSION CREEK RD  
**City, State, Zip** Cashmere WA 98815

### Worksite #7: 603671

#### WORKSITE ADDRESS

**Street Address** 1565 MISSION CREEK RD  
**City, State, Zip** Cashmere WA 98815

# Project Application Report - 23-1214

## Worksite Details

### Worksite #1: 603691

#### SITE ACCESS DIRECTIONS

Google maps from CCNRD office in Wenatchee to 102 Julie Ann Court. Park on street, or with permission from landowner on their property.

#### TARGETED ESU SPECIES

Species by ESU	Egg Present	Juvenile Present	Adult Present	Population Trend
Chinook-Upper Columbia River Spring, Wenatchee River, Endangered	✓	✓	✓	Declining
Chinook-Upper Columbia River Summer/Fall, Not Warranted	✓	✓	✓	Declining
Steelhead-Upper Columbia River, Wenatchee River, Threatened	✓	✓	✓	Declining

#### Reference or source used

<https://prioritization.ucsr.org/> ;  
<https://geodataservices.wdfw.wa.gov/hp/fishpassage/index.html> ; summer chinook were observed Mike Kane, at Kane Natural Resources.

#### TARGETED NON-ESU SPECIES

Species by Non-ESU	Notes
Bull Trout	
Searun Cutthroat	
Rainbow	

#### Questions

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

Barrier coordinates: 47.5151, -120.47361

### Worksite #2: 603688

#### SITE ACCESS DIRECTIONS

Google maps from CCNRD office in Wenatchee to 5077 Mission Creek Rd. Park on street, or with permission from landowner on their property.

#### TARGETED ESU SPECIES

Species by ESU	Egg Present	Juvenile Present	Adult Present	Population Trend
Chinook-Upper Columbia River Spring, Endangered	✓	✓	✓	Declining
Chinook-Upper Columbia River Summer/Fall, Not Warranted	✓	✓	✓	Declining
Steelhead-Upper Columbia River, Threatened	✓	✓	✓	Declining

#### Reference or source used

<https://prioritization.ucsr.org/> ;  
<https://geodataservices.wdfw.wa.gov/hp/fishpassage/index.html> ; summer chinook were observed Mike Kane, at Kane Natural Resources.

# Project Application Report - 23-1214

## TARGETED NON-ESU SPECIES

### Species by Non-ESU

### Notes

Bull Trout

Searun Cutthroat

Rainbow

## Questions

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

Barrier coordinates: 47.50829, -120.47324.

## Worksite #3: 603685

### SITE ACCESS DIRECTIONS

Google maps from CCNRD office in Wenatchee to 4900 YAKSUM CANYON RD. Park on street, or with permission from landowner on their property.

## TARGETED ESU SPECIES

### Species by ESU

### Egg Present

### Juvenile Present

### Adult Present

### Population Trend

Chinook-Upper Columbia River  
Spring, Endangered

✓

✓

✓

Declining

Chinook-Upper Columbia River  
Summer/Fall, Not Warranted

✓

✓

✓

Declining

Steelhead-Upper Columbia River,  
Threatened

✓

✓

✓

Declining

## Reference or source used

<https://prioritization.ucsr.org/> ;  
<https://geodataservices.wdfw.wa.gov/hp/fishpassage/index.html> ; summer chinook were observed Mike Kane, at Kane Natural Resources.

## TARGETED NON-ESU SPECIES

### Species by Non-ESU

### Notes

Bull Trout

Searun Cutthroat

Rainbow

## Questions

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

Barrier coordinates: 47.50713, -120.47369.

## Worksite #4: 603681

### SITE ACCESS DIRECTIONS

Google maps from CCNRD office in Wenatchee to 4040 MISSION CREEK RD. Park on street, or with permission from landowner on their property.

# Project Application Report - 23-1214

**TARGETED ESU SPECIES**

Species by ESU	Egg Present	Juvenile Present	Adult Present	Population Trend
Chinook-Upper Columbia River Spring, Endangered	✓	✓	✓	Declining
Chinook-Upper Columbia River Summer/Fall, Not Warranted	✓	✓	✓	Declining
Steelhead-Upper Columbia River, Threatened	✓	✓	✓	Declining

**Reference or source used**

<https://prioritization.ucsr.org/> ;  
<https://geodataservices.wdfw.wa.gov/hp/fishpassage/index.html> ; summer chinook were observed Mike Kane, at Kane Natural Resources.

**TARGETED NON-ESU SPECIES**

Species by Non-ESU	Notes
Bull Trout	
Rainbow	
Searun Cutthroat	

**Questions**

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

Barrier coordinates: 47.48941, -120.48151

**Worksite #5: 603677**

**SITE ACCESS DIRECTIONS**

Google maps from CCNRD office in Wenatchee to 3434 MISSION CREEK RD. Park on street, or with permission from landowner on their property.

**TARGETED ESU SPECIES**

Species by ESU	Egg Present	Juvenile Present	Adult Present	Population Trend
Chinook-Upper Columbia River Spring, Endangered	✓	✓	✓	Declining
Chinook-Upper Columbia River Summer/Fall, Not Warranted	✓	✓	✓	Declining
Steelhead-Upper Columbia River, Threatened	✓	✓	✓	Declining

**Reference or source used**

<https://prioritization.ucsr.org/> ;  
<https://geodataservices.wdfw.wa.gov/hp/fishpassage/index.html> ; summer chinook were observed Mike Kane, at Kane Natural Resources.

**TARGETED NON-ESU SPECIES**

Species by Non-ESU	Notes
Bull Trout	
Rainbow	
Searun Cutthroat	

**Questions**

# Project Application Report - 23-1214

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

Barrier coordinates: 47.47741, -120.49141

## Worksite #6: 603672

### SITE ACCESS DIRECTIONS

Google maps from CCNRD office in Wenatchee to 2255 MISSION CREEK RD. Park on street, or with permission from landowner on their property.

### TARGETED ESU SPECIES

Species by ESU	Egg Present	Juvenile Present	Adult Present	Population Trend
Chinook-Upper Columbia River Spring, Endangered	✓	✓	✓	Declining
Chinook-Upper Columbia River Summer/Fall, Not Warranted	✓	✓	✓	Declining
Steelhead-Upper Columbia River, Threatened	✓	✓	✓	Declining

### Reference or source used

<https://prioritization.ucsr.org/> ;  
<https://geodataservices.wdfw.wa.gov/hp/fishpassage/index.html> ; summer chinook were observed Mike Kane, at Kane Natural Resources.

### TARGETED NON-ESU SPECIES

Species by Non-ESU	Notes
Bull Trout	
Rainbow	
Searun Cutthroat	

### Questions

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

Barrier coordinates: 47.46603, -120.49193

## Worksite #7: 603671

### SITE ACCESS DIRECTIONS

Google maps from CCNRD office in Wenatchee to 1565 MISSION CREEK RD. Park on street, or with permission from landowner on their property.



# Project Application Report - 23-1214

## TARGETED ESU SPECIES

Species by ESU	Egg Present	Juvenile Present	Adult Present	Population Trend
Chinook-Upper Columbia River Spring, Endangered	✓	✓	✓	Declining
Chinook-Upper Columbia River Summer/Fall, Not Warranted	✓	✓	✓	Declining
Steelhead-Upper Columbia River, Threatened	✓	✓	✓	Declining

### Reference or source used

<https://prioritization.ucsr.org/> ;  
<https://geodataservices.wdfw.wa.gov/hp/fishpassage/index.html> ; summer chinook were observed Mike Kane, at Kane Natural Resources.

## TARGETED NON-ESU SPECIES

Species by Non-ESU	Notes
Bull Trout	
Rainbow	
Searun Cutthroat	

### Questions

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

Barrier coordinates: 47.44935, -120.49464

## Project Location

### RELATED PROJECTS

#### Projects in PRISM

PRISM Number	Project Name	Program Name	Current Status	Relationship Type	Notes
22-1484 P	Mission Creek Barrier Preliminary Design	Salmon State Projects	Wastebasket	Current Phase	
21-1541 P	Mission Creek Subbasin Fish Barrier Removal Design	BA Fish Barrier Removal Board	Active	Current Phase	This application will be the match for this FBRB award.

### Related Project Notes

### Questions

#1: 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.

This project is located in Cashmere, WA, approximately 12 miles west of Wenatchee. The project is located within the Mission Creek sub-watershed, which drains into the Wenatchee River at river mile (RM) 10.4. The project will take place starting at RM 0.9 of Mission Creek and extends upstream to RM 6.1.

## Project Application Report - 23-1214

#2: 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.

The Mission Creek sub-watershed is listed as a Category 3 Habitat Priority in the Wenatchee Watershed Planning Unit's (WWPU) WRIA 45 Watershed Management Plan. This implies that the sub-watershed supports salmonids but has experienced substantial degradation and is strongly fragmented by habitat loss, especially due to a loss of connectivity in the mainstem corridor (\*WWPU, 2006, Appendix C, Pg. 15). The WRIA 45 Watershed Management Plan recommends actions to address instream flows, water quantity, water quality, and habitat issues in the sub-watershed including mitigation and enhancement projects, as well as alternatives that would enhance instream and out of stream flows (WWPU, 2006, Table 2-9).

The Mission Creek is also described in the Upper Columbia Salmon Recovery Board's (UCSRB) Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan. UCSRB data shows that all reaches being addressed under this project (Reaches 01-06) have unacceptable conditions for: bank and channel stability, flow, connectivity, riparian disturbance, riparian canopy cover, and summer instream temperatures (not including: Reach 03 [temperature: at risk] and Reach 06 [temperature: adequate]). See UCSRB Prioritization at <https://prioritization.ucsrb.org/>. Re-establishing connectivity by removing, replacing or fixing anthropogenic barriers within the Mission Creek sub-watershed has been identified as a Category 3 action by The Upper Columbia Salmon Recovery Plan (UCSRB, 2007, Appendix G, Pg. 4).

The project will directly address the recommendations described above through removing and replacing all barriers in the mainstem of Mission Creek, up to ~ RM 7. Three of the barriers listed in this proposal are located in Mission Creek Reaches 01 and 02 and are categorized as UCSRB Priority Reaches to restore fish passage for: Chinook, steelhead and bull trout. The remaining four barriers are located throughout Reaches 03-06 and are categorized as priority habitat quality improvement areas. Replacing these barriers with 100% fish passable structures would restore un-obstructed fish passage up to ~RM 12.5 and increase habitat quality within Mission Creek by increasing spatial structure, abundance and productivity of ESA- listed salmonids in the Wenatchee Watershed.

\*WWPU: [https://www.co.chelan.wa.us/files/natural-resources/documents/Planning/Wen\\_Planning/Wen\\_Watershed\\_Plan/text/final\\_watershed\\_plan.pdf](https://www.co.chelan.wa.us/files/natural-resources/documents/Planning/Wen_Planning/Wen_Watershed_Plan/text/final_watershed_plan.pdf)

\*UCSRB: Recovery Plan – Upper Columbia Salmon Recovery Board ([ucsrb.org](http://ucsrb.org))

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

Yes

#3a: How does this project fit into the sequencing of the larger project?

This proposal will be the matching funds for the project, funded by the Fish Barrier Removal Board (FBRB). We currently have 72% of the funding needed to complete final designs for all seven barriers. This proposal seeks the remaining 28%.

#4: 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: Pierre Dawson (Worksite #1: 603691)

# Project Application Report - 23-1214

✓ Planning

## LANDOWNER

Name Pierre Dawson  
Address 102 Julie Ann CT  
City Cashmere  
State WA Zip 98815  
Type Private

## CONTROL & TENURE

Instrument Type Landowner Agreement  
Timing Existing  
Term Length  
# Yrs  
Expiration Date  
Note

### Property: James L Craig (Worksite #1: 603691)

✓ Planning

## LANDOWNER

Name James L Craig  
Address 321 CHAPEL ST  
City Cashmere  
State WA Zip 98815  
Type Private

## CONTROL & TENURE

Instrument Type Landowner Agreement  
Timing Proposed  
Term Length  
# Yrs  
Expiration Date  
Note

### Property: Dennis H Reay (Worksite #1: 603691)

✓ Planning

## LANDOWNER

Name Dennis R Reay  
Address 319 CHAPEL ST  
City Cashmere  
State WA Zip 98815  
Type Private

## CONTROL & TENURE

Instrument Type Landowner Agreement  
Timing Proposed  
Term Length  
# Yrs  
Expiration Date  
Note

### Property: James Dolman (Worksite #2: 603688)

✓ Planning

## LANDOWNER

Name James Dolman  
Address 5077 Mission Creek Rd  
City Cashmere  
State WA Zip 98815  
Type Private

## CONTROL & TENURE

Instrument Type Landowner Agreement  
Timing Proposed  
Term Length  
# Yrs  
Expiration Date  
Note

### Property: Brian Andruss (Worksite #2: 603688)

# Project Application Report - 23-1214

✓ Planning

## LANDOWNER

Name Brian Andruss  
Address 5021 Mission Creek Rd  
City Cashmere  
State WA Zip 98815  
Type Private

## CONTROL & TENURE

Instrument Type Landowner Agreement  
Timing Proposed  
Term Length  
# Yrs  
Expiration Date  
Note

Property: Steve Knowles (Worksite #2: 603688)

✓ Planning

## LANDOWNER

Name Steve Knowles  
Address 5063 Mission Creek Rd  
City Cashmere  
State WA Zip 98815  
Type Private

## CONTROL & TENURE

Instrument Type Landowner Agreement  
Timing Proposed  
Term Length  
# Yrs  
Expiration Date  
Note

Property: Michael & Ashlyn Dobbins (Worksite #3: 603685)

✓ Planning

## LANDOWNER

Name Michael & Ashlyn Dobbins  
Address 4900 YAKSUM CANYON RD  
City Cashmere  
State WA Zip 98815  
Type Private

## CONTROL & TENURE

Instrument Type Landowner Agreement  
Timing Proposed  
Term Length  
# Yrs  
Expiration Date  
Note

Property: Irvin & Jennifer Alloway (Worksite #3: 603685)

✓ Planning

## LANDOWNER

Name Irvin & Jennifer Alloway  
Address 4953 MISSION CREEK RD  
City Cashmere  
State WA Zip 98815  
Type Private

## CONTROL & TENURE

Instrument Type Landowner Agreement  
Timing Proposed  
Term Length  
# Yrs  
Expiration Date  
Note

Property: Dee R Jones (Worksite #3: 603685)

# Project Application Report - 23-1214

✓ Planning

## LANDOWNER

Name Dee R Jones  
Address 4920 Yaksum Canyon Rd  
City Cashmere  
State WA Zip 98815  
Type Private

## CONTROL & TENURE

Instrument Type Landowner Agreement  
Timing Proposed  
Term Length  
# Yrs  
Expiration Date  
Note

### Property: Jonathan and Julie Hills (Worksite #4: 603681)

✓ Planning

## LANDOWNER

Name Jonathan and Julie Hills  
Address 4040 MISSION CREEK RD  
City Cashmere  
State WA Zip 98815  
Type Private

## CONTROL & TENURE

Instrument Type Landowner Agreement  
Timing Proposed  
Term Length  
# Yrs  
Expiration Date  
Note

### Property: Greg Reed (Worksite #4: 603681)

✓ Planning

## LANDOWNER

Name Greg Reed  
Address 4080 MISSION CREEK RD  
City Cashmere  
State WA Zip 98815  
Type Private

## CONTROL & TENURE

Instrument Type Landowner Agreement  
Timing Proposed  
Term Length  
# Yrs  
Expiration Date  
Note

### Property: Gregg Milne (Worksite #5: 603677)

✓ Planning

## LANDOWNER

Name Gregg Milne  
Address 3434 MISSION CREEK RD  
City Cashmere  
State WA Zip 98815  
Type Private

## CONTROL & TENURE

Instrument Type Landowner Agreement  
Timing Proposed  
Term Length  
# Yrs  
Expiration Date  
Note

### Property: Chad Milne (Worksite #5: 603677)

# Project Application Report - 23-1214

✓ Planning

## LANDOWNER

Name Chad Milne  
Address 3368 MISSION CREEK RD  
City Cashmere  
State WA Zip 98815  
Type Private

## CONTROL & TENURE

Instrument Type Landowner Agreement  
Timing Proposed  
Term Length  
# Yrs  
Expiration Date  
Note

### Property: Kameron Miller (Worksite #6: 603672)

✓ Planning

## LANDOWNER

Name Kameron Miller  
Address 2627 MISSION CREEK RD  
City Cashmere  
State WA Zip 98815  
Type Private

## CONTROL & TENURE

Instrument Type Landowner Agreement  
Timing Existing  
Term Length  
# Yrs  
Expiration Date  
Note

### Property: Sam Miller (Worksite #7: 603671)

✓ Planning

## LANDOWNER

Name Sam Miller  
Address 1565 MISSION CREEK RD  
City Cashmere  
State WA Zip 98815  
Type Private

## CONTROL & TENURE

Instrument Type Landowner Agreement  
Timing Proposed  
Term Length  
# Yrs  
Expiration Date  
Note

# Project Application Report - 23-1214

## Project Proposal

### Project Description

The Chelan County Natural Resources Department (CCNRD) will use this grant as matching funds for the development of final designs to remove and replace seven fish passage barriers with 100% fish passable structures in Mission Creek. The project is located in Cashmere, WA and the barriers being addressed are located between Mission Creek RM 0.9 and 6.1. Upon implementation, this project will restore ~12.5 RM of unobstructed fish passage in Mission Creek for ESA listed salmonids: spring and summer chinook, steelhead, and bull trout. These actions will improve adult and juvenile passage, increase high flow refugia for juveniles, and increase access to spawning and rearing habitat. Removal of the proposed barriers are expected to lower instream temperatures and increase stream connectivity. The barriers being addressed are:

- WDFW Barrier ID: 603691, Tier 1 ~ RM 0.9
- WDFW Barrier ID: 603688, Tier 3 ~RM 1.4
- WDFW Barrier ID: 603685, Tier 2 ~RM 1.5
- WDFW Barrier ID: 603681, Tier 3 ~RM 3
- WDFW Barrier ID: 603677, Tier 3 ~ RM 4
- WDFW Barrier ID: 603672, Tier 3 ~RM 4.9
- WDFW Barrier ID: 603671, Tier 3 ~RM 6.1

Rectifying factors that are contributing to habitat degradation in Mission Creek is a high priority for CCNRD and is listed in the Upper Columbia Salmon and Steelhead Recovery Plan as a category 3 action. This includes re-establishing connectivity throughout Mission Creek by removing, replacing, or fixing artificial barriers, such as those being addressed under this proposal.

### Project Questions

## Project Application Report - 23-1214

#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.

Mission Creek is within the priority HUC 12 watershed for the Upper Columbia and is a Category 3 habitat priority in both the WRIA 45 Watershed Plan and The Upper Columbia Salmon Recovery Plan. This project seeks to restore fish passage in Mission Creek through removing and replacing seven anthropogenic barriers with 100% fish passable structures. These barriers include one rockfill dam and six irrigation diversions that were estimated by Aspect Consulting in 2021 to be 33% passable or less by fish. Three of the barriers listed in this project are located in Mission Creek Reaches 01 and 02 and are categorized by the Upper Columbia Salmon Recovery Board (UCSRB) as priority reaches to restore fish passage for spring and summer chinook, steelhead and bull trout. The remaining four barriers are located in Reaches 03-06 and are categorized as priority habitat quality improvement areas. Replacing these barriers with 100% fish passable structures would restore un-obstructed fish passage up to ~RM 12.5 and enhance habitat quality throughout Mission Creek.

The Wenatchee Watershed is listed by UCSRB as a priority watershed for fish passage and has been identified by Department of Ecology (DOE) to have critical and inadequate streamflow for fish. Mission Creek is one of nine primary watersheds within the Wenatchee Watershed where spring and summer chinook, steelhead, and bull trout spawn and rear, however spawning has not been observed in recent years (RTT, 2017). Limited water quantity, insufficient instream flow, and diminished water quality are the leading issues in the Mission Creek sub-watershed (WWPU, 2006). The sub-watershed is fully appropriated, which means that it is, at times, dry. A large portion of the Mission Creek sub-watershed was channelized to transport flood flows following major flood events during the 1940s and 1950s that damaged and jeopardized downstream development (WWPU, 2006). Mission Creek has also been confined by development in its floodplain. Historically, the primary land use was pear and apple orchards, with some alfalfa and non-commercial farms (Ecology, 2007). The Mission Creek sub-watershed is currently home to 3,895 people (including 64% of the City of Cashmere's population)—about 21% of the total population of the Wenatchee Watershed (WWPU, 2006). Although agriculture comprises only 3% of the overall land area in the sub-watershed, it is important to the local community, fruit packing industry, and economy. The majority (77.4%) of the sub-watershed is forestland managed by the U.S. Forest Service.

The barriers being addressed within this project are all privately owned and predominately used for irrigation, with the exception of 603691; primary use is unknown, and 603681; primary use is for recreation purposes. Barriers at each site are either rock fill dams or timber fill dams that span the channel width at each site and have a spillway outlet. All of the dams, aside from 603691 and 603681, are irrigation diversions. The first dam in the sequence is a rock fill dam with a hydraulic drop of 0.28m and a plunge pool depth of 0.45m, second is a timber dam with a hydraulic drop of 0.30m and a plunge pool depth of 1.05m, and the third is a timber dam with a hydraulic drop of 0.35 and a plunge pool depth of 0.50m. Barrier 603672 is comprised of three dams in a row for an irrigation diversion. Barrier 603671 consists of two timber dams; the upstream dam has a hydraulic drop of 0.17m and a plunge pool depth of 0.95m; the downstream dam has hydraulic drop of 0.46m and a plunge pool depth of 0.49m. The effects of barrier removal are expected to be seen within the first five years post-removal and will improve fish passage to 100%, increase high flow refugia habitat for juveniles, and increase access to spawning and rearing habitat.



## Project Application Report - 23-1214

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

As previously described, the Mission Creek sub-watershed is a priority category 3 in restoration, which means this is a watershed that supports salmonids, but has experienced substantial degradation and fragmented habitat loss, especially in regard to loss of connectivity with the mainstem corridor. The priority in Mission Creek is to rectify the primary factors that have caused habitat degradation. Specific factors affecting habitat conditions in Mission Creek that are expected to be addressed as a part of this project are:

- Fish passage barriers and habitat connectivity
- Low or non-existent flows with associated high instream temperatures in lower Mission Creek disrupt distribution and abundance of native species, particularly in summer.
- Channelization of Mission Creek
- Water Quality and Quantity

Removing fish passage barriers addresses limiting and causal factors such as loss of habitat quantity, habitat fragmentation, decreased habitat refugia and diversity, and increased density-dependent mortality from concentrating populations into small habitat units. These actions will improve adult and juvenile passage, increase high flow refugia for juveniles, and increase access to spawning and rearing habitat. Additionally, removal of the proposed dams/diversions are expected to lower instream temperatures, increase stream connectivity and improve overall stream conditions for EAS-listed salmonids. Effects of barrier removal are expected to be seen within the first five years post-removal and will have long lasting results.

#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 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](#)

The goal of this project is to create unobstructed fish passage within Mission Creek and increase habitat quality and quantity for all life stages of ESA listed salmonids (Spring and Summer Chinook, Steelhead, and Bull trout). As discussed, there are several fish passage barriers in Mission Creek that are 33% passable or less (Aspect, 2021), and this project will remove and replace these barriers with 100% fish passable structures. The removal of these barriers will result in immediate and permanent benefit for fish passage that will be realized throughout the year, as it will improve overwintering, high flow refugia, and spawning and rearing habitats in Mission Creek.

#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). [Example Goals and Objectives](#)

Within two years of funding by SRFB and FBRB, designs for all seven barriers in Mission Creek reaches 01-06 will be completed through the final stage.

Upon post project implementation in the estimated year of 2025, the first ~12.5 river miles of Mission Creek will be 100% passable and habitat quality will be enhanced for all life stages of ESA listed salmonids: spring and summer chinook, steelhead, and bull trout. The removal of these barriers will result in immediate and permanent benefit for fish passage that will persist for the life of the replacement structures.

## Project Application Report - 23-1214

#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.

Task 1: Project Admin/Management; Task coordinator (TC): Mike Kaputa (or designated staff) and Sofia Bjorklund;  
Description: Properly managed project that meets agreement and SRFB's administrative requirements. The recipient will administer and manage the project. Responsibilities will include, but not be limited to maintenance of project records, progress reports, contracting, conducting, coordinating, and scheduling project activities, and assuring quality control. Every effort will be made to maintain effective communication and ensure all deadlines are met.  
Deliverables: Timely and complete submittal of requests for reimbursement, quarterly progress reports and recipient closeout reports. Properly maintained project contracts and documentation.  
Scheduled completion end of funding period October 30, 2026.

Task 2: Conceptual Design; TC: Mike Kaputa (or designated staff); Scheduled completion  
Description: CCNRD will hire a design engineer through a competitive bidding process to complete the design process to replace the seven dams/irrigation diversions with a 100% fish passable structures. Tasks will likely include and won't be limited to 1) a full site assessment and feasibility analysis for each barrier 2) contract for cultural resources survey, wetland survey, and geotechnical survey 3) develop conceptual designs/concept sketches including 2-3 alternatives. 4) Design review and comment period by stakeholders and project committee.  
Deliverables: Level A Barrier Assessment, Evaluation Form, Corrected Analysis Form, and assessment reports completed for each barrier; Design review memo and selected concept designs for each barrier.  
Estimated Scheduled completion: December 30, 2023

Task 3: Preliminary Design; TC: Mike Kaputa (or designated staff)  
Description: Design Contractor and project team will move the preferred conceptual design from Task 2 to preliminary design. This task will likely include and not be limited to 1) design plans and development, 2) engineering, 3) competitive bidding process for construction contractor.  
Deliverables: preliminary designs, basis of design report, and selected construction contractor  
Estimated Scheduled completion: July 1, 2024

Task 4: Final Design; TC: Mike Kaputa (or designated staff)  
Description: Design Contractor and project team will move preliminary designs to the final stage. Tasks will likely include and won't be limited to 1) submitting any necessary permits for future construction activities, 2) development of final plans.  
Deliverables: Final plans, specifications and bid documents, final closeout report  
Estimated Scheduled completion: end of funding period October 30, 2026.

Task descriptions subject to change based on what is required and necessary to complete each task. Final due dates for all tasks will be negotiated by recipient and grantee.

## Project Application Report - 23-1214

#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?

There are limited physical constraints that would impact whether we achieve the objectives of this proposal. Mission Creek has been confined and over simplified as a result of anthropogenic impacts including both urban development and agriculture, and will likely continue to be impacted by these to some extent, but won't impact the outcome of the project. This constraint will be addressed by improving stream conditions through the removal of seven barriers, which will add channel complexity, improve fish passage, increase riparian species in areas of impact, reduce instream temperatures, and increase base flows.

Landowner acceptance is the main constraint that could impact whether we achieve our objectives, in part because there are a large number of landowners that we need acceptance from. There could be concern from landowners if bank stabilization is removed or reconfigured as a part of barrier removal and replacement. The project will be designed to either increase or make no change to current bank stabilization and will not increase any risk for flooding to adjacent landowners. If this concern is brought up by landowners, we will explain our plans to ensure bank stabilization doesn't become an issue. For the barriers associated with irrigation diversions, continued access to water right is necessary and will be maintained. If landowner permission becomes an issue, we will do our best to hear their concerns and modify as needed to gain permission. Thus far, we have had positive responses from landowners we've talked to and are assuming there will be acceptance of the project by the remaining private landowners and the public, as we've had positive responses from past work completed in Mission Creek and throughout the Wenatchee subbasin.

#7: How have lessons learned from completed projects or monitoring studies informed this project?

In 2007-8, the Bureau of Reclamation partnered with Cascadia Conservation District to address several irrigation diversions on Mission Creek with simple log and rock weir type structures. The structures were destroyed during a large flood event in 2009. During subsequent post-fire flood events in Mission Creek, roads and even homes have been damaged. CCNRD has completed projects to stabilize flood damaged banks in Mission Creek and is working on other design projects in this flashy stream, so is very aware of the design challenges. Part of the design process will include a review of the cause of the past project failures, including the dam-breach hydrology that can exceed typical "100 year" event modeling to minimize the risk of project failure.

CCNRD has been at the forefront of the development and implementation of habitat improvement projects for listed salmonids in the Wenatchee since the adoption of the Wenatchee Watershed Management and Implementation Plans in 2008. CCNRD has successfully planned, developed, designed, permitted, coordinated, and constructed over 75 salmon habitat improvement projects, including over 35 fish barrier correction projects in the Wenatchee. Through these experiences CCNRD has seen how barrier removal results in improved instream flows, improved floodplain connectivity, and improved water quality through sediment reduction. CCNRD staff have extensive experience in project management, landowner coordination, and contractor management.

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

There are no other options to address fish passage in Mission Creek. The UCSRB describes the solution to fish passage barriers in Mission Creek is through removing, replacing, or fixing the barriers (UCSRB, 2006). The precise action will be determined for each individual barrier being addressing in the project through the conceptual design process.

## Project Application Report - 23-1214

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

CCNRD works closely with the Bureau of Reclamation (BOR) on salmon recovery in the Wenatchee and Entiat watersheds, and it's likely BOR will provide support for this project, including a site survey. Additionally, CCNRD is working with multiple private landowners who are willing to address their upstream irrigation diversions, which are identified as fish barriers. Specific partner contributions are still being determined and will be defined by the final application deadline.

CCNRD has FBRB funding to support 72% of the cost for development of final designs for the seven dam/irrigation diversions. This proposal is asking for the remaining 28% of funds required. The project is expected to cost \$261,207 with \$188,087 being funded through FBRB, and the remaining \$73,120 is being requested through this funding opportunity, with \$52,188 of those will be used as match for FBRB funding. CCNRD is expecting to receive funding July 1, 2023, and the project will last two years, coinciding really well with this funding opportunity. The project will share development, activities and funding across all seven fish barriers, resulting in a highly efficient approach. We will be able to coordinate multiple evaluations and design efforts with the community, landowners, and design consultants, rather than developing for each site individually. CCNRD has successfully planned, developed, designed, permitted, coordinated, and constructed over 35 fish barrier correction projects in the Wenatchee.

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

Yes

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

Future conditions are expected to include more unpredictable weather patterns, severe storms that may increase flashy flood events, prolonged drought conditions, and increased wildfires. The project will improve the geographic diversity potential for ESA-listed species as climate change induces unpredictable conditions that at times could make existing habitat unusable during catastrophic events. Expanding habitat availability will provide more resilience for fish as they seek suitable habitat under these climate change scenarios. The project will be designed to withstand future 100-year flood events, taking into account projected hydrologic changes due to climate change for the barriers, as well as lessons learned from past restoration efforts (described in detail in question 7).

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

This project would increase habitat and species adaptability by improving stream connectivity and fish passage, increasing high flow refugia for juveniles and access to more spawning and rearing habitat. Removing all seven barriers in the mainstem of Mission Creek will create unobstructed fish passage for ~12.5 RM. The intrinsic habitat potential for spring chinook is ~8.4 RM and for summer steelhead is ~10.5 RM (See intrinsic habitat potential map). Small dams can negatively impact water quality and cause warmer instream temperatures, so by re-establishing connectivity by correcting these barriers the project is expected to restore natural stream function and has the potential to lower instream temperatures during the hot summer months. The project will increase riparian vegetation to promote more shade around the project areas, further assisting in lower instream temperatures. Effects of barrier removal are expected to be seen within the first five years post-removal.

## Project Application Report - 23-1214

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

CCNRD has FBRB funding to start the development of designs to remove and replace the seven fish passage barriers discussed in this proposal. CCNRD is expecting to receive funding July 1, 2023 to start the project. CCNRD has been at the forefront of the development and implementation of habitat improvement projects for listed salmonids in the Wenatchee Basin since the adoption of the Wenatchee Watershed Management and Implementation Plans in 2008. CCNRD has successfully planned, developed, designed, permitted, coordinated, and constructed over 75 salmon habitat improvement projects, including over 35 fish barrier correction projects in the Wenatchee Basin. CCNRD collaborates with numerous entities to accomplish tasks and goals. Outside consultant assistance is determined by the specific expertise necessary, availability of staff time, and project funding constraints. Previous experience with managing similar projects will ensure that this project is completed on time and within budget.

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

No

# Project Application Report - 23-1214

## 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.

There are no upstream barriers on the mainstem of Mission Creek.

#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.

Re-establishing connectivity by removing, replacing or fixing anthropogenic barriers in the Mission Creek has been identified as a Category 3 action by The Upper Columbia Salmon and Steelhead Recovery Plan. Barrier 603691 is a Tier 1 priority that is 33% passable by fish, 603688 is Tier 2 and the remaining five are Tier 3 priorities (UCSRB, 2007). All reaches being addressed in the project (01-06) have unacceptable conditions for bank and channel stability, flow, connectivity, riparian disturbance, riparian canopy cover, and summer instream temperatures (excluding: Reach 03 [temperature: at risk] and 06 [temperature: adequate]) (UCSRB, 2007). The overall project will create unobstructed fish passage and increase habitat quality for ~12.5 RM of Mission Creek. Including improving stream connectivity, instream temperatures, riparian shading, and increased high flow refugia for juveniles and access to more spawning and rearing habitat.

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

Other

We won't be designing a culvert or arch to resolve the fish passage problem. Barrier 603691 is a rockfill dam that will likely be replaced with a roughened channel design and the six upstream dams/irrigation diversion design alternatives will be determined in the conceptual design phase.

#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?

No.

## Planning Metrics

# Project Application Report - 23-1214

## Worksite: 603691 (#1)

Area Encompassed (acres) (B.0.b.1)	0.1
Miles of Stream and/or Shoreline Affected (B.0.b.2)	0.10

### DESIGN FOR SALMON RESTORATION

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

Total cost for Conceptual design	\$2,736
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Project Identified in a Plan or Watershed Assessment. (2457) (B.1.b.11.a)	Upper Columbia Salmon Recove Steelhead Recovery Plan, <a href="https://www.uwrria.com/Portals/0/Planning/Wen_Planni">https://www.uwrria.com/Portals/0/Planning/Wen_Planni</a>
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Priority in Recovery Plan (2458) (B.1.b.11.b)	The project addresses a priority action (removing fish passage barriers), occurs in a priority area (Mission Creek Category 3 habitat priority), and targets ESA-listed species Spring Chinook, Summer Steelhead, and bull trout. Pg 207, Appendix G. Pg 4
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#### Preliminary design (B.1.b.11.a RCO)

Total cost for Preliminary design	\$3,767
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Project Identified in a Plan or Watershed Assessment. (1220) (B.1.b.11.a)	The Upper Columbia Salmon and Steelhead Recovery Plan, and the WRIA 45 Watershed Plan
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Priority in Recovery Plan (1222) (B.1.b.11.b)	The project addresses a priority action (removing fish passage barriers), occurs in a priority area (Mission Creek Category 3 habitat priority), and targets ESA-listed species Spring Chinook, Summer Steelhead, and bull trout. Pg 207, Appendix G. Pg 4
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#### Final design and permitting (B.1.b.11.a RCO)

Total cost for Final design and permitting	\$3,661
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Project Identified in a Plan or Watershed Assessment. (1221) (B.1.b.11.a)	The Upper Columbia Salmon and Steelhead Recovery Plan, and the WRIA 45 Watershed Plan
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Priority in Recovery Plan (1223) (B.1.b.11.b)	The project addresses a priority action (removing fish passage barriers), occurs in a priority area (Mission Creek Category 3 habitat priority), and targets ESA-listed species Spring Chinook, Summer Steelhead, and bull trout. Pg 207, Appendix G. Pg 4
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### CULTURAL RESOURCES

#### Cultural resources

Total cost for Cultural resources	\$214
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Acres surveyed for cultural resources	0.10
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#### AGENCY INDIRECT COSTS

##### Agency Indirect

Total cost for Agency Indirect	\$79
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## Worksite: 603688 (#2)

Area Encompassed (acres) (B.0.b.1)	0.1
Miles of Stream and/or Shoreline Affected (B.0.b.2)	0.10

### DESIGN FOR SALMON RESTORATION

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

Total cost for Conceptual design	\$2,736
----------------------------------	---------

Project Identified in a Plan or Watershed Assessment. (2457) (B.1.b.11.a)	The Upper Columbia Salmon and Steelhead Recovery Plan, and the WRIA 45 Watershed Plan
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Priority in Recovery Plan (2458) (B.1.b.11.b)	The project addresses a priority action (removing fish passage barriers), occurs in
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# Project Application Report - 23-1214

(removing fish passage barriers), occurs in a priority area (Mission Creek Category 3 habitat priority), and targets ESA-listed species Spring Chinook, Summer Steelhead, and bull trout. Pg 207, Appendix G. Pg 4

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

Total cost for Preliminary design \$3,767

Project Identified in a Plan or Watershed Assessment. (1220) (B.1.b.11.a) The Upper Columbia Salmon and Steelhead Recovery Plan, and the WRIA 45 Watershed Plan

Priority in Recovery Plan (1222) (B.1.b.11.b) The project addresses a priority action (removing fish passage barriers), occurs in a priority area (Mission Creek Category 3 habitat priority), and targets ESA-listed species Spring Chinook, Summer Steelhead, and bull trout. Pg 207, Appendix G. Pg 4

## Final design and permitting (B.1.b.11.a RCO)

Total cost for Final design and permitting \$3,661

Project Identified in a Plan or Watershed Assessment. (1221) (B.1.b.11.a) The Upper Columbia Salmon and Steelhead Recovery Plan, and the WRIA 45 Watershed Plan

Priority in Recovery Plan (1223) (B.1.b.11.b) The project addresses a priority action (removing fish passage barriers), occurs in a priority area (Mission Creek Category 3 habitat priority), and targets ESA-listed species Spring Chinook, Summer Steelhead, and bull trout. Pg 207, Appendix G. Pg 4

## EQUIPMENT

### RESTORATION PLANNING AND COORDINATION PROJECT

#### SALMONID HABITAT ASSESSMENT / INVENTORY

#### CULTURAL RESOURCES

##### Cultural resources

Total cost for Cultural resources \$214

Acres surveyed for cultural resources 0.10

#### AGENCY INDIRECT COSTS



# Project Application Report - 23-1214

## Worksite: 603685 (#3)

Area Encompassed (acres) (B.0.b.1)	0.1
Miles of Stream and/or Shoreline Affected (B.0.b.2)	0.10

### DESIGN FOR SALMON RESTORATION

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

Total cost for Conceptual design	\$2,736
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Project Identified in a Plan or Watershed Assessment. (2457) (B.1.b.11.a)	The Upper Columbia Salmon and Steelhead Recovery Plan, and the WRIA 45 Watershed Plan
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Priority in Recovery Plan (2458) (B.1.b.11.b)	The project addresses a priority action (removing fish passage barriers), occurs in a priority area (Mission Creek Category 3 habitat priority), and targets ESA-listed species Spring Chinook, Summer Steelhead, and bull trout. Pg 207, Appendix G. Pg 4
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#### Preliminary design (B.1.b.11.a RCO)

Total cost for Preliminary design	\$3,767
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Project Identified in a Plan or Watershed Assessment. (1220) (B.1.b.11.a)	The Upper Columbia Salmon and Steelhead Recovery Plan, and the WRIA 45 Watershed Plan
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Priority in Recovery Plan (1222) (B.1.b.11.b)	The project addresses a priority action (removing fish passage barriers), occurs in a priority area (Mission Creek Category 3 habitat priority), and targets ESA-listed species Spring Chinook, Summer Steelhead, and bull trout. Pg 207, Appendix G. Pg 4
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#### Final design and permitting (B.1.b.11.a RCO)

Total cost for Final design and permitting	\$3,661
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Project Identified in a Plan or Watershed Assessment. (1221) (B.1.b.11.a)	The Upper Columbia Salmon and Steelhead Recovery Plan, and the WRIA 45 Watershed Plan
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Priority in Recovery Plan (1223) (B.1.b.11.b)	The project addresses a priority action (removing fish passage barriers), occurs in a priority area (Mission Creek Category 3 habitat priority), and targets ESA-listed species Spring Chinook, Summer Steelhead, and bull trout. Pg 207, Appendix G. Pg 4
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### EQUIPMENT

### RESTORATION PLANNING AND COORDINATION PROJECT

### SALMONID HABITAT ASSESSMENT / INVENTORY

### CULTURAL RESOURCES

#### Cultural resources

Total cost for Cultural resources	\$214
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Acres surveyed for cultural resources	0.10
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#### AGENCY INDIRECT COSTS

##### Agency Indirect

Total cost for Agency Indirect	\$79
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## Worksite: 603681 (#4)

Area Encompassed (acres) (B.0.b.1)	0.1
Miles of Stream and/or Shoreline Affected (B.0.b.2)	0.10

### DESIGN FOR SALMON RESTORATION

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

Total cost for Conceptual design	\$2,736
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Project Identified in a Plan or Watershed Assessment. (2457) (B.1.b.11.a)	The Upper Columbia Salmon and Steelhead Recovery Plan, and the WRIA 45 Watershed Plan
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# Project Application Report - 23-1214

Project Identified in a Plan or Watershed Assessment. (2457) (B.1.b.11.a)

The Upper Columbia Salmon and Steelhead Recovery Plan, and the WRIA 45 Watershed Plan

Priority in Recovery Plan (2458) (B.1.b.11.b)

The project addresses a priority action (removing fish passage barriers), occurs in a priority area (Mission Creek Category 3 habitat priority), and targets ESA-listed species Spring Chinook, Summer Steelhead, and bull trout. Pg 207, Appendix G. Pg 4

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

Total cost for Preliminary design

\$3,767

Project Identified in a Plan or Watershed Assessment. (1220) (B.1.b.11.a)

The Upper Columbia Salmon and Steelhead Recovery Plan, and the WRIA 45 Watershed Plan

Priority in Recovery Plan (1222) (B.1.b.11.b)

The project addresses a priority action (removing fish passage barriers), occurs in a priority area (Mission Creek Category 3 habitat priority), and targets ESA-listed species Spring Chinook, Summer Steelhead, and bull trout. Pg 207, Appendix G. Pg 4

## Final design and permitting (B.1.b.11.a RCO)

Total cost for Final design and permitting

\$3,661

Project Identified in a Plan or Watershed Assessment. (1221) (B.1.b.11.a)

The Upper Columbia Salmon and Steelhead Recovery Plan, and the WRIA 45 Watershed Plan

Priority in Recovery Plan (1223) (B.1.b.11.b)

The project addresses a priority action (removing fish passage barriers), occurs in a priority area (Mission Creek Category 3 habitat priority), and targets ESA-listed species Spring Chinook, Summer Steelhead, and bull trout. Pg 207, Appendix G. Pg 4

## EQUIPMENT

### RESTORATION PLANNING AND COORDINATION PROJECT

### SALMONID HABITAT ASSESSMENT / INVENTORY

### CULTURAL RESOURCES

#### Cultural resources

Total cost for Cultural resources

\$214

Acres surveyed for cultural resources

0.10

### AGENCY INDIRECT COSTS

#### Agency Indirect

Total cost for Agency Indirect

\$79

## Overall Project Metrics

### COMPLETION DATE

Projected date of completion

07/31/2025

## Planning Cost Estimates

# Project Application Report - 23-1214

## Worksite #1: 603691

Category	Work Type	Estimated Cost	Note
Agency Indirect Costs	Agency Indirect	\$79	
Cultural Resources	Cultural resources	\$214	
Design for Salmon restoration	Conceptual Design (B.1.b.11.a RCO)	\$2,736	
	Final design and permitting (B.1.b.11.a RCO)	\$3,661	
	Preliminary design (B.1.b.11.a RCO)	\$3,767	
	Subtotal:	\$10,457	
	Total Estimate For Worksite:	\$10,457	

## Worksite #2: 603688

Category	Work Type	Estimated Cost	Note
Cultural Resources	Cultural resources	\$214	
Design for Salmon restoration	Conceptual Design (B.1.b.11.a RCO)	\$2,736	
	Final design and permitting (B.1.b.11.a RCO)	\$3,661	
	Preliminary design (B.1.b.11.a RCO)	\$3,767	
	Subtotal:	\$10,378	
	Total Estimate For Worksite:	\$10,378	

## Worksite #3: 603685

Category	Work Type	Estimated Cost	Note
Agency Indirect Costs	Agency Indirect	\$79	
Cultural Resources	Cultural resources	\$214	
Design for Salmon restoration	Conceptual Design (B.1.b.11.a RCO)	\$2,736	
	Final design and permitting (B.1.b.11.a RCO)	\$3,661	
	Preliminary design (B.1.b.11.a RCO)	\$3,767	
	Subtotal:	\$10,457	
	Total Estimate For Worksite:	\$10,457	

## Worksite #4: 603681

Category	Work Type	Estimated Cost	Note
Agency Indirect Costs	Agency Indirect	\$79	
Cultural Resources	Cultural resources	\$214	
Design for Salmon restoration	Conceptual Design (B.1.b.11.a RCO)	\$2,736	
	Final design and permitting (B.1.b.11.a RCO)	\$3,661	
	Preliminary design (B.1.b.11.a RCO)	\$3,767	
	Subtotal:	\$10,457	
	Total Estimate For Worksite:	\$10,457	

## Worksite #5: 603677

Category	Work Type	Estimated Cost	Note
Agency Indirect Costs	Agency Indirect	\$79	
Cultural Resources	Cultural resources	\$214	
Design for Salmon restoration	Conceptual Design (B.1.b.11.a RCO)	\$2,736	
	Final design and permitting (B.1.b.11.a RCO)	\$3,661	
	Preliminary design (B.1.b.11.a RCO)	\$3,767	
	Subtotal:	\$10,457	
	Total Estimate For Worksite:	\$10,457	

## Worksite #6: 603672

Category	Work Type	Estimated Cost	Note
Agency Indirect Costs	Agency Indirect	\$79	

## Project Application Report - 23-1214

Category	Work Type	Estimated Cost	Note
Cultural Resources	Cultural resources	\$214	
Design for Salmon restoration	Conceptual Design (B.1.b.11.a RCO)	\$2,736	
	Final design and permitting (B.1.b.11.a RCO)	\$3,661	
	Preliminary design (B.1.b.11.a RCO)	\$3,767	
	Subtotal:	\$10,457	
	Total Estimate For Worksite:	\$10,457	

### Worksite #7: 603671

Category	Work Type	Estimated Cost	Note
Agency Indirect Costs	Agency Indirect	\$79	
Cultural Resources	Cultural resources	\$214	
Design for Salmon restoration	Conceptual Design (B.1.b.11.a RCO)	\$2,736	
	Final design and permitting (B.1.b.11.a RCO)	\$3,661	
	Preliminary design (B.1.b.11.a RCO)	\$3,767	
	Subtotal:	\$10,457	
	Total Estimate For Worksite:	\$10,457	

### Summary

Total Estimated Costs:	\$73,120
Total Estimated Planning Costs:	\$73,120

## Cost Summary

	Estimated Cost	Project %	Admin/AA&E %
<u>Planning Costs</u>			
Planning	\$73,120		
SUBTOTAL	\$73,120	100.00 %	
Total Cost Estimate	\$73,120	100.00 %	

## Funding Request and Match

### FUNDING PROGRAM

Salmon State Projects	\$62,152	85.000000 %
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### SPONSOR MATCH

OTHER MONETARY FUNDING	DONATED CASH	Amount
		\$10,968.00
Funding Organization		Chelan County Natural Resources Department

Match Total: \$10,968.000000

Total Funding Request (Funding + Match): \$73,120.000000

## Questions

#1: Explain how you determined the cost estimates

Cost proposal was created based on estimates from a consultant, as well as based on similar projects.

# Project Application Report - 23-1214

## Cultural Resources

### Cultural Resource Areas

#### Worksite #1: 603691

##### Area: Dawson

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

For this phase of the project no ground disturbing work will be conducted. On-site work will include surveying, photo documentation, observing and documenting site characteristics, etc.

#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).

Mission Creek has historically been used for flood mitigation in the 1940's - 1950's, where the creek was channelized to transport flood flows. Due to topography most development has taken place in the lowlands along the floodplains of the creek, confining it. The Primary land use surrounding the creek has been for agriculture, mainly pear and apple orchards, but includes alfalfa and non-commercial farms. Currently about 3% of land around the creek is agriculture (pear and apple orchards) and 77.4% is forestland managed by the U.S Forest Service. The proposed barrier removals would take place in the first seven river miles of the creek, which is highly developed by both residential and agriculture properties. Most of the barriers in this proposal are dam diversions and are used for irrigation. The dams are rated to have 33% or less passability.

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

No

Not applicable for this phase of work.

#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

A cultural resource review will be conducted as a part of this proposal

#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

This will be determined within the site assessment and culture resource review.

##### Area: Dawson APE

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

For this phase of the project no ground disturbing work will be conducted. On-site work will include surveying, photo documentation, observing and documenting site characteristics, etc.

## Project Application Report - 23-1214

#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).

Mission Creek has historically been used for flood mitigation in the 1940's - 1950's, where the creek was channelized to transport flood flows. Due to topography most development has taken place in the lowlands along the floodplains of the creek, confining it. The Primary land use surrounding the creek has been for agriculture, mainly pear and apple orchards, but includes alfalfa and non-commercial farms. Currently about 3% of land around the creek is agriculture (pear and apple orchards) and 77.4% is forestland managed by the U.S Forest Service. The proposed barrier removals would take place in the first seven river miles of the creek, which is highly developed by both residential and agriculture properties. Most of the barriers in this proposal are dam diversions and are used for irrigation. The dams are rated to have 33% or less passability.

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

No

Not applicable for this phase of work.

#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

A cultural resource review will be conducted as a part of this proposal

#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

This will be determined within the site assessment and culture resource review.

### Worksite #2: 603688

#### Area: Dolman APE

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

For this phase of the project no ground disturbing work will be conducted. On-site work will include surveying, photo documentation, observing and documenting site characteristics, etc.

#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).

Mission Creek has historically been used for flood mitigation in the 1940's - 1950's, where the creek was channelized to transport flood flows. Due to topography most development has taken place in the lowlands along the floodplains of the creek, confining it. The Primary land use surrounding the creek has been for agriculture, mainly pear and apple orchards, but includes alfalfa and non-commercial farms. Currently about 3% of land around the creek is agriculture (pear and apple orchards) and 77.4% is forestland managed by the U.S Forest Service. The proposed barrier removals would take place in the first seven river miles of the creek, which is highly developed by both residential and agriculture properties. Most of the barriers in this proposal are dam diversions and are used for irrigation. The dams are rated to have 33% or less passability.

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

No

Not applicable for this phase of work.

## Project Application Report - 23-1214

#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

A cultural resource review will be conducted as a part of this proposal

#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

This will be determined within the site assessment and culture resource review.

### Worksite #3: 603685

#### Area: Dobbins APE

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

For this phase of the project no ground disturbing work will be conducted. On-site work will include surveying, photo documentation, observing and documenting site characteristics, etc.

#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).

Mission Creek has historically been used for flood mitigation in the 1940's - 1950's, where the creek was channelized to transport flood flows. Due to topography most development has taken place in the lowlands along the floodplains of the creek, confining it. The Primary land use surrounding the creek has been for agriculture, mainly pear and apple orchards, but includes alfalfa and non-commercial farms. Currently about 3% of land around the creek is agriculture (pear and apple orchards) and 77.4% is forestland managed by the U.S Forest Service. The proposed barrier removals would take place in the first seven river miles of the creek, which is highly developed by both residential and agriculture properties. Most of the barriers in this proposal are dam diversions and are used for irrigation. The dams are rated to have 33% or less passability.

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

No

Not applicable for this phase of work.

#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

A cultural resource review will be conducted as a part of this proposal

#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

This will be determined within the site assessment and culture resource review.

### Worksite #4: 603681

#### Area: Hills 603681

# Project Application Report - 23-1214

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

For this phase of the project no ground disturbing work will be conducted. On-site work will include surveying, photo documentation, observing and documenting site characteristics, etc.

#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).

Mission Creek has historically been used for flood mitigation in the 1940's - 1950's, where the creek was channelized to transport flood flows. Due to topography most development has taken place in the lowlands along the floodplains of the creek, confining it. The Primary land use surrounding the creek has been for agriculture, mainly pear and apple orchards, but includes alfalfa and non-commercial farms. Currently about 3% of land around the creek is agriculture (pear and apple orchards) and 77.4% is forestland managed by the U.S Forest Service. The proposed barrier removals would take place in the first seven river miles of the creek, which is highly developed by both residential and agriculture properties. Most of the barriers in this proposal are dam diversions and are used for irrigation. The dams are rated to have 33% or less passability.

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

No

Not applicable for this phase of work.

#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

A cultural resource review will be conducted as a part of this proposal

#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

This will be determined within the site assessment and culture resource review.

## Area: Hills APE

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

For this phase of the project no ground disturbing work will be conducted. On-site work will include surveying, photo documentation, observing and documenting site characteristics, etc.

#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).

Mission Creek has historically been used for flood mitigation in the 1940's - 1950's, where the creek was channelized to transport flood flows. Due to topography most development has taken place in the lowlands along the floodplains of the creek, confining it. The Primary land use surrounding the creek has been for agriculture, mainly pear and apple orchards, but includes alfalfa and non-commercial farms. Currently about 3% of land around the creek is agriculture (pear and apple orchards) and 77.4% is forestland managed by the U.S Forest Service. The proposed barrier removals would take place in the first seven river miles of the creek, which is highly developed by both residential and agriculture properties. Most of the barriers in this proposal are dam diversions and are used for irrigation. The dams are rated to have 33% or less passability.



## Project Application Report - 23-1214

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

No

Not applicable for this phase of work.

#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

A cultural resource review will be conducted as a part of this proposal

#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

This will be determined within the site assessment and culture resource review.

### Worksite #5: 603677

#### Area: Milne APE

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

For this phase of the project no ground disturbing work will be conducted. On-site work will include surveying, photo documentation, observing and documenting site characteristics, etc.

#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).

Mission Creek has historically been used for flood mitigation in the 1940's - 1950's, where the creek was channelized to transport flood flows. Due to topography most development has taken place in the lowlands along the floodplains of the creek, confining it. The Primary land use surrounding the creek has been for agriculture, mainly pear and apple orchards, but includes alfalfa and non-commercial farms. Currently about 3% of land around the creek is agriculture (pear and apple orchards) and 77.4% is forestland managed by the U.S Forest Service. The proposed barrier removals would take place in the first seven river miles of the creek, which is highly developed by both residential and agriculture properties. Most of the barriers in this proposal are dam diversions and are used for irrigation. The dams are rated to have 33% or less passability.

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

No

Not applicable for this phase of work.

#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

A cultural resource review will be conducted as a part of this proposal

#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

This will be determined within the site assessment and culture resource review.

# Project Application Report - 23-1214

## Worksite #6: 603672

### Area: K. Miller APE

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

For this phase of the project no ground disturbing work will be conducted. On-site work will include surveying, photo documentation, observing and documenting site characteristics, etc.

#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).

Mission Creek has historically been used for flood mitigation in the 1940's - 1950's, where the creek was channelized to transport flood flows. Due to topography most development has taken place in the lowlands along the floodplains of the creek, confining it. The Primary land use surrounding the creek has been for agriculture, mainly pear and apple orchards, but includes alfalfa and non-commercial farms. Currently about 3% of land around the creek is agriculture (pear and apple orchards) and 77.4% is forestland managed by the U.S Forest Service. The proposed barrier removals would take place in the first seven river miles of the creek, which is highly developed by both residential and agriculture properties. Most of the barriers in this proposal are dam diversions and are used for irrigation. The dams are rated to have 33% or less passability.

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

No

Not applicable for this phase of work.

#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

A cultural resource review will be conducted as a part of this proposal

#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

This will be determined within the site assessment and culture resource review.

## Worksite #7: 603671

### Area: S. Miller APE

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

For this phase of the project no ground disturbing work will be conducted. On-site work will include surveying, photo documentation, observing and documenting site characteristics, etc.

## Project Application Report - 23-1214

#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).

Mission Creek has historically been used for flood mitigation in the 1940's - 1950's, where the creek was channelized to transport flood flows. Due to topography most development has taken place in the lowlands along the floodplains of the creek, confining it. The Primary land use surrounding the creek has been for agriculture, mainly pear and apple orchards, but includes alfalfa and non-commercial farms. Currently about 3% of land around the creek is agriculture (pear and apple orchards) and 77.4% is forestland managed by the U.S Forest Service. The proposed barrier removals would take place in the first seven river miles of the creek, which is highly developed by both residential and agriculture properties. Most of the barriers in this proposal are dam diversions and are used for irrigation. The dams are rated to have 33% or less passability.

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

No

Not applicable for this phase of work.

#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

A cultural resource review will be conducted as a part of this proposal

#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

This will be determined within the site assessment and culture resource review.

### Project Permits

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

# Project Application Report - 23-1214

## Attachments

### Required Attachments

6 out of 6 done

- Applicant Resolution/Authorizations
- Cost Estimate
- Landowner acknowledgement form
- Map: Planning Area
- Photo
- RCO Fiscal Data Collection Sheet

- ✓
- ✓
- ✓
- ✓
- ✓
- ✓

### PHOTOS (JPG, GIF)

Photos (JPG, GIF)



# 558720 Primary



# 558722 Secondary



# 509144



# 558721



# 558723







### PROJECT DOCUMENTS AND PHOTOS

Project Documents and Photos

## Project Application Report - 23-1214

File Type	Attach Date	Attachment Type	Title	Person	File Name, Number Associations	Shared
	01/16/2024	Map: Area of Potential Effect (APE)	Project APE Report (01/16/24 08:50:32)	MarkJ	Project APE Report - 23-1214 (01-16-2024_08-50-32).pdf, 592617	✓
	01/16/2024	Cultural Resource Screening Report	Project Cultural Resource Screening Report (01/16/24 08:50:3)	MarkJ	Project Cultural Resource Screening Report - 23-1214 (01-16-2024_08-50-30).pdf, 592616	✓
	01/16/2024	Project Application Report	Project Application Report, 23-1214P (sub 01/16/24 08:50:28)	MarkJ	Project Application Report - 23-1214 (submitted 01-16-2024_08-50-28).pdf, 592615	✓
	01/16/2024	Project Review Comments	Proj Review Comments Final, 23-1214P(compl 01/16/24 08:49)	MarkJ	Project Review Comments Report - 23-1214 (compl 01-16-2024_08-49-59).pdf, 592614	✓
	01/16/2024	Project Review Comments	Proj Review Comments LE, 23-1214P(compl 01/16/24 08:49)	MarkJ	Project Review Comments Report - 23-1214 (compl 01-16-2024_08-49-47).pdf, 592613	✓
	01/16/2024	Project Review Comments	Proj Review Comments Initial, 23-1214P(compl 01/16/24 08:49)	MarkJ	Project Review Comments Report - 23-1214 (compl 01-16-2024_08-49-35).pdf, 592612	✓
	07/17/2023	Application Review Report	Grant Manager Comments, 23-1214P(compl 07/17/23 11:12)	AmeeB	Grant Manager Comments Report - 23-1214 (compl 07-17-2023_11-12-34).pdf, 571309	✓
	06/25/2023	Project Application Report	Project Application Report, 23-1214P (sub 06/25/23 15:46:07)	MichaelK	Project Application Report - 23-1214 (submitted 06-25-2023_15-46-07).pdf, 567632	✓
	05/24/2023	Application Review Report	Grant Manager Comments, 23-1214P(rtnd 05/24/23 10:00)	AmeeB	Grant Manager Comments Report - 23-1214 (rtnd 05-24-2023_10-00-10).pdf, 563717	✓
	04/21/2023	Project Application Report	Project Application Report, 23-1214P (sub 04/21/23 14:03:40)	KeeleyC	Project Application Report - 23-1214 (submitted 04-21-2023_14-03-40).pdf, 559179	✓
	04/21/2023	Visuals	Mission Creek Barriers Final Design Coversheet and JOT form	KeeleyC	Mission_Creek_Coversheet_JOTform... 558977	✓
	04/20/2023	Barrier evaluation form	Aspect Barrier Evaluation - All Barriers	KeeleyC	Mission VSP TM 21_0630.pdf, 558742	✓
	04/20/2023	Barrier evaluation form	WDFW Report 603691	KeeleyC	603691_Report.pdf.pdf, 558740	✓
	04/20/2023	Barrier evaluation form	WDFW Report 603688	KeeleyC	603688_Report.pdf.pdf, 558733	✓
	04/20/2023	Barrier evaluation form	WDFW Report 603685	KeeleyC	603685_Report.pdf.pdf, 558732	✓
	04/20/2023	Barrier evaluation form	WDFW Report 603681	KeeleyC	603681_Report.pdf.pdf, 558731	✓
	04/20/2023	Barrier evaluation form	WDFW Report 603677	KeeleyC	603677_Report.pdf.pdf, 558730	✓
	04/20/2023	Barrier evaluation form	WDFW Report 603672	KeeleyC	603672_Report.pdf.pdf, 558729	✓
	04/20/2023	Barrier evaluation form	WDFW Report 603671	KeeleyC	603671_Report.pdf.pdf, 558728	✓
	04/20/2023	Photo	603688	KeeleyC	603688_1.jpg.jpg, 558725	✓
	04/20/2023	Photo	603685	KeeleyC	603685_1.jpg.jpg, 558724	✓
	04/20/2023	Photo	603681	KeeleyC	603681_1.jpg.jpg, 558723	✓
	04/20/2023	Photo	603677	KeeleyC	603677_1.jpg.jpg, 558722	✓
	04/20/2023	Photo	603672	KeeleyC	603672_1.jpg.jpg, 558721	✓
	04/20/2023	Photo	603671	KeeleyC	603671_1.jpg.jpg, 558720	✓
	04/20/2023	Landowner acknowledgement form	MillerK	KeeleyC	MillerK.pdf.pdf, 558717	
	04/19/2023	RCO Fiscal Data Collection Sheet	2023 SRFBFiscalDataCollectionSheet_CCNRD_	KeeleyC	2023 SRFBFiscalDataCollectionSheet_CCN... 558650	
	04/19/2023	Applicant Resolution/Authorizations	2023 ApplicantAuthorizationResolution_CCNRD_	KeeleyC	2023 ApplicantAuthorizationResolution_CC... 558649	✓
	04/14/2023	Cost Estimate	Mission_CostEstimateSpreadsheet_23.xlsx	KeeleyC	Mission_CostEstimateSpreadsheet_2... 558250	✓
	04/10/2023	Map: Multi-site and geographic envelope	Intrinsic ESA species habitat potential overview map	KeeleyC	Overview.pdf, 557655	✓
	06/06/2022	Map: Area of Potential Effect (APE)	Project APE Report (06/06/22 13:47:56)	AmeeB	Project APE Report - 22-1484 (06-06-2022_13-47-56).pdf, 518430	✓
	06/06/2022	Cultural Resource Screening Report	Project Cultural Resource Screening	AmeeB	Project Cultural Resource Screening	✓

## Project Application Report - 23-1214

File Type	Attach Date	Attachment Type	Title	Person	File Name, Number Associations	Share
			Report (06/06/22 13:47:5		Report - 22-1484 (06-06-2022_13-47-55).pdf, 518429	
	06/06/2022	Project Review Comments	Proj Review Comments Initial, 22-1484P(compl 06/06/22 13:47)	AmeeB	Project Review Comments Report - 22-1484 (compl 06-06-2022_13-47-22).pdf, 518427	✓
	06/06/2022	Project Review Comments	Proj Review Comments LE, 22-1484P(compl 06/06/22 13:47)	AmeeB	Project Review Comments Report - 22-1484 (compl 06-06-2022_13-47-12).pdf, 518426	✓
	05/24/2022	Map: Area of Potential Effect (APE)	Project APE Report (05/24/22 12:39:19)	MarcD	Project APE Report - 22-1484 (05-24-2022_12-39-19).pdf, 516536	✓
	05/24/2022	Cultural Resource Screening Report	Project Cultural Resource Screening Report (05/24/22 12:39:1)	MarcD	Project Cultural Resource Screening Report - 22-1484 (05-24-2022_12-39-18).pdf, 516535	✓
	05/24/2022	Project Review Comments	Proj Review Comments Initial, 22-1484P(compl 05/24/22 12:37)	MarcD	Project Review Comments Report - 22-1484 (compl 05-24-2022_12-37-31).pdf, 516532	✓
	05/24/2022	Project Review Comments	Proj Review Comments LE, 22-1484P(compl 05/24/22 12:37)	MarcD	Project Review Comments Report - 22-1484 (compl 05-24-2022_12-37-22).pdf, 516531	✓
	05/17/2022	Map: Planning Area	Fish barrier Tier ranking map	KeeleyC	Potential fish barrier project locations.pdf, 515514	✓
	05/17/2022	Landowner acknowledgement form	Dawson.pdf	KeeleyC	Dawson.pdf, 515510	
	04/20/2022	Imaged Project File	Mission Creek Barrier Photo Presentation	MichaelK	Mission Creek Barriers.pdf, 509148	
	04/20/2022	Barrier evaluation form	603691	MichaelK	Craig Dawson Barrier_Page_4.jpg, 509144	✓

### Application Status

Application Due Date: null

Status Name	Status Date	Submitted By	Submission Notes
Application Complete	07/17/2023	Amee Bahr	Thanks for addressing the comments. Your application is clear for funding in September. Please let me know if you have any further questions.
Application Resubmitted	06/25/2023	Michael Kaputa	
Application Returned	05/24/2023	Amee Bahr	Thanks for submitting your application. It looks like we need a little more information. Please respond to the Review Panel and Grant Manager Comments and resubmit the application by June 26th. Let me know if you have any questions.
Application Submitted	04/21/2023	Keeley Chiasson	
Preapplication	03/28/2023		

I certify that to the best of my knowledge, the information in this application is true and correct. Further, all application requirements due on the application due date have been fully completed to the best of my ability. I understand that if this application is found to be incomplete, it will be rejected by RCO. I understand that I may be required to submit additional documents before evaluation or approval of this project and I agree to provide them. (Michael Kaputa, 06/25/2023)

Date of last change: 01/16/2024



# CUMULATIVE TOTALS

*This sheet contains automatic calculations*

Project Name	MISSION CREEK BARRIERS FINAL DESIGN
SRFB #	23-1214
Sponsor	Chelan County Natural Resources Department

	OVERALL PROJECT Cost	GRANT REQUEST Amount	PRISM MATCH Amount	MATCH NOT IN PRISM Amount	Budget Check
<u>Sheet #1 Acquisition</u>					
Property Costs	\$ -	\$ -	\$ -	\$ -	0
Incidental Costs	\$ -	\$ -	\$ -	\$ -	0
Administrative Costs	\$ -	\$ -	\$ -	\$ -	0
Indirect Costs	\$ -	\$ -	\$ -	\$ -	
STotal	\$ -	\$ -	\$ -	\$ -	0
<u>Sheet #2 Design</u>					
Design Costs	\$ 72,568	\$ 62,152	\$ 10,416	\$ -	
Indirect Costs	\$ 552	\$ -	\$ 552	\$ -	
STotal	\$ 73,120	\$ 62,152	\$ 10,968	\$ -	0
<u>Sheet #3 Restoration</u>					
Construction Costs	\$ -	\$ -	\$ -	\$ -	0
AA&E	\$ -	\$ -	\$ -	\$ -	0
Indirect Costs	\$ -	\$ -	\$ -	\$ -	
STotal	\$ -	\$ -	\$ -	\$ -	0
<b>Totals</b>	<b>\$ 73,120</b>	<b>\$ 62,152</b>	<b>\$ 10,968</b>	<b>\$ -</b>	<b>0</b>



# Landowner Acknowledgement Form

## Landowner Information

Name of Landowner: Pierre Dawson

Landowner Contact Information:

Mr. Ms. Title:

First Name: Pierre Last Name: Dawson

Contact Mailing Address: 102 JULIE ANN CT CASHMERE, WA 98815

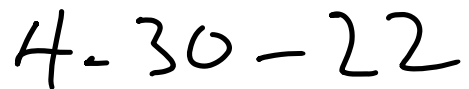
Contact E-Mail Address: p\_k\_dawson@yahoo.com

Property Address or Location: same as above

1. Pierre Dawson (Landowner or Organization) is the legal owner of property described in this grant application.
2. I am aware that the project is being proposed on my property.
3. If the grant is successfully awarded, I will be contacted and asked to engage in negotiations.
4. My signature does not represent authorization of project implementation.



Landowner Signature



Date

## Project Sponsor Information

Project Name: Mission Creek Fish Barrier

Project Applicant Contact Information:

Mr. Ms. Title: Director

First Name: Mike Last Name: Kaputa

Mailing Address: 411 Washington Street, Suite 201, Wenatchee, WA 98801

E-Mail Address: [mike.kaputa@co.chelan.wa.us](mailto:mike.kaputa@co.chelan.wa.us) Phone: (509) 670-6935

# Landowner Acknowledgement Form

## Landowner Information

Name of Landowner: Kameron Miller

Landowner Contact Information:

Mr.  Ms. Title:

First Name: Kameron

Last Name: Miller

Contact Mailing Address: 2297 Mission Creek Road, Cashmere, WA 98815

Contact E-Mail Address: kameronmiller16@hotmail.com

Property Address or Location: same as above

1. (Landowner or Organization) is the legal owner of property described in this grant application.
2. I am aware that the project is being proposed on my property.
3. If the grant is successfully awarded, I will be contacted and asked to engage in negotiations.
4. My signature does not represent authorization of project implementation.



Landowner Signature

4-30-22

Date

## Project Sponsor Information

Project Name: Mission Creek Fish Barrier Project

Project Applicant Contact Information:

Mr.  Ms. Title: Director

First Name: Mike

Last Name: Kaputa

Mailing Address: 411 Washington Street, Suite 201, Wenatchee, WA 98801

E-Mail Address: [mike.kaputa@co.chelan.wa.us](mailto:mike.kaputa@co.chelan.wa.us) Phone: (509) 670-6935



Esri, NASA, NGA, USGS, FEMA, WA State Parks GIS, Esri, HERE, Garmin, SafeGraph, Geotechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA

## Mission Creek Fish Barrier Correction: Habitat Potential

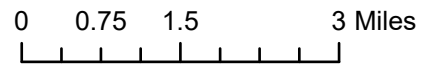


**COUNTY OF  
CHELAN**

Map Created by: Keeley Chiasson; 7/29/2022

Data Source: NAD 1983 HARN StatePlane Washington South FIPS 4602 (US Feet)

The County makes no warranty, expressed or implied, concerning the data's content, accuracy, currency or completeness, or concerning the results to be obtained from queries or use of the data. ALL DATA IS EXPRESSLY PROVIDED "AS IS" AND "WITH ALL FAULTS". The County makes no warranty of fitness for a particular purpose, and no representation as to the quality of any data. The Requester shall have no remedy at law or equity against the County in case the data provided is inaccurate, incomplete or otherwise defective in any way.



- FP Barriers
- Intrinsic Habitat Potential Steelhead
- Intrinsic Habitat Potential Chinook





**Chelan Co Natural Resource; Mission Creek Barriers Final Design (#23-1214)**

**Attachment #558724, 603685**



**Chelan Co Natural Resource; Mission Creek Barriers Final Design (#23-1214)**

**Attachment #558725, 603688**





**Chelan Co Natural Resource; Mission Creek Barriers Final Design (#23-1214)**

**Attachment #558720, 603671**



**Chelan Co Natural Resource; Mission Creek Barriers Final Design (#23-1214)**

**Attachment #558721, 603672**





**Chelan Co Natural Resource; Mission Creek Barriers Final Design (#23-1214)**

**Attachment #558722, 603677**





**Chelan Co Natural Resource; Mission Creek Barriers Final Design (#23-1214)**

**Attachment #558723, 603681**