



Contact Information

2024 Upper Columbia Regional Project Pre-Application

* Pre-applications due March 11, 2024 (COB)

*Complete applications due in PRISM April 19, 2024 (COB)

*Revised proposals due in PRISM May 24, 2024 (COB)

*Final revised applications due in PRISM June 24, 2024 (noon)

Project Title	Habitat Connectivity Improvement @ Twisp Ponds
Sponsor	MSRF
Primary Contact	Jessica Goldberg
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Budget Request

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

Anticipated Request - SRFB (standard round) \$63,750

Anticipated Request - Tributary Committee \$11,250

Anticipated TOTAL Budget \$75,000

Project Location

Briefly describe the location of the project

This project is located in the Twisp River Lower 02 reach and within Reach T2a of the 2010 Lower Twisp River Reach Assessment. The project extends from approximately RM 1.0 - 1.5 and includes approximately 27 acres of adjacent riparian and floodplain habitat and a series of ponds and channels that have been the site of on-going restoration since 2002.

Latitude (decimal degrees) 48.3673

Longitude (decimal degrees)	-120.1396
Project subbasin	Methow
Methow Assessment Unit(s)	Lower Twisp River
Does the proposed project span multiple assessment units?	No
Reach(es) Name	Twisp River Lower 02
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.ucsr.org/ .	Rank 2

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].

The project will remove barriers that impede water movement through the system at an off-channel site in lower Twisp River between river miles 1.0-1.5. The project site is located at Methow Salmon Recovery Foundation's Twisp Ponds restoration site, an off-channel system consisting of five ponds and channels, which provides high quality spawning and rearing habitat for UCR spring chinook, UCR steelhead, and other species.

Project goals:

- 1) Remove barriers that impede water movement through the system which cause downstream dewatering, juvenile stranding, and mortality.
- 2) Develop an adaptive management plan with action triggers to address barriers to flow reductions leading to stranding and mortality.

Project objectives:

- 1) Increase culvert size in two locations at the upstream end of the site to reduce the potential for flow interruption due to accumulated debris or beaver damming activities.
- 2) Create a secondary overflow channel near the top of the site and leading to Pond 1 (the uppermost pond) to ensure flow is maintained through the system in the event of a debris blockage in the primary channel.

Plant approximately 0.3 acres of riparian buffer adjacent to this secondary channel and maintain for 3-5 years until established.

- 3) Develop and implement an adaptive management plan with action triggers to address flow barriers leading to stranding and mortality.
- 4) Reduce periods of elevated water temperature in the off-channel habitat by removing the barriers that impede water movement.

Twisp Ponds provides off-channel rearing habitat in an otherwise constrained reach of the lower Twisp

River. Target fish species, including spring Chinook, steelhead, and coho rear in the network of connected side channels and pond habitats. Since the site was acquired by MSRF in 2002, a series of restoration activities have improved connectivity between the Twisp River and the series of five ponds and channels that make up the site. However, site monitoring has identified periods of dewatering due to undersized culverts in the upper channel reach that are likely a result of the initial project design. Removing flow obstructions will increase high quality rearing habitat in both deep-water pool habitat and higher velocity channel habitat to benefit ESA listed fish species throughout the Twisp Ponds site.

Currently the surface water supply to the ponds and channels is provided by a surface water diversion at RM 1.5. Surface water flows are routed through a narrow single thread channel from the diversion to the uppermost pond. Connections between each of the remaining ponds, and to the Twisp River, are also through relatively narrow single thread channels. There are currently two outflow channels to the mainstem Twisp River at the downstream end of the project site.

The greatest risk to flows occurs in the upper canal section between the diversion and the first pond. Debris jams in this segment can backwater the diversion, reducing flow conveyance to the remainder of the pond and channel system. To decrease the potential for flow interruption, the project proposes to remove the remaining culverts that routinely become impacted by beaver dams, and replace them with bridges or larger natural bed culverts as outlined in Project Objectives.

A secondary channel will also be created below the headgate and leading to Pond 1 (the uppermost pond) to reduce the potential that debris jams could result in flow loss downstream through the system. This secondary channel will be slightly perched to engage as an overflow channel, only becoming wetted in the event of a debris jam in the primary channel. Riparian plantings will be implemented adjacent to the secondary channel.

The Twisp Ponds site has provided ideal habitat for beavers to seasonally occupy portions of the project area. The current undersized culverts and relatively simple channels have created pinch points that can easily be blocked by beaver activities. Each of the proposed actions would further support the coexistence of fish and beavers at this site.

2. What species will the project benefit?

- Spring Chinook
- Steelhead
- Bull Trout
- coho, Pacific lamprey

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

Instream Habitat (Includes Floodplain & Off-Channel Reconnection)

Instream Habitat: Reporting Code

- Total miles of instream habitat treated
- Miles of off-channel stream created or connected
- Acres of channel/off-channel connected or added
- Number of structures placed in channel

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

Don't Know

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

No

6. What category is the project?

Restoration

Is the project eligible for Riparian Funding?

No

Design and Restoration Proposals

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

Construction

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

Yes. Lower Twisp River Reach Assessment, June 2010.
Prepared by Interfluve for Yakama Nation Fisheries Program

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

Entrainment/Stranding

Off-Channel - Floodplain

Off-Channel - Side-Channels

Riparian

Riparian - Canopy Cover

Riparian - Disturbance

Riparian - Structure

10. Which life stages will the proposed project address?

Subadult Rearing (Bull Trout)

Fry

Spawning and Incubation

Summer Rearing

Winter Rearing

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

The project will result in increased summer and winter juvenile salmonid survival by increasing flow between ponds and channels, thereby reducing juvenile stranding and mortality. The project increases the site's capacity to support rearing juvenile fish and distribution of juveniles and adults through increased water flow, improving access, and increasing spawning habitat.

Each of the proposed actions would create opportunities for increased use by resident fish species and non-target species, such as Pacific lamprey and coho salmon. The project currently supports a robust population of deer, bear, beavers, river otters, water birds, and birds of prey. The actions proposed by this project will increase the complexity of habitat for each of these species and support the coexistence of target fish species and beavers at this site.

12. Temporal Effect - Briefly describe how and to what extent the project would promote natural stream/watershed process consistent with the geomorphology of the stream?

This project will be designed to be consistent with natural processes and site and reach scale geomorphology. Channel modifications will provide continued passage of water in the event of channel blockages from downed woody materials and damming by beavers. Increasing the redundancy of connecting channels will allow beavers to remain in the system where they provide temporary flooding effects, natural wood recruitment, and enhance the dynamic nature of the system.

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?

10-50 years

50+ years

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

Development of an adaptive management plan for the site is a key component of this project. New riparian plantings will be maintained for at least five years. Downed materials or beaver dams may need to be removed on a seasonal basis if they are negatively impacting base flows leading to fish stranding. Debris and dam removal will not negatively impact beavers, as they have ample deep-water habitat within the system and minimal risk of predation. Because the majority of the project is on property where Methow Salmon Recovery Foundation holds an access easement or owns the property outright, access for maintenance is assured.

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

Replacing the undersized culverts and providing an overflow channel in the upper channel will decrease the potential that seasonal accumulations of debris or beaver damming result in a reduction of flow to downstream ponds and channel reaches.

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?

Yes

Please explain

The headgate for the system, the culverts proposed for removal, and excavation of a secondary channel are located on an adjacent private property upstream of MSRF property. MSRF holds an easement to access and maintain the headgate and has support from the landowner for the proposed restoration efforts.

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

Actions will be designed to decrease risk to the existing infrastructure within the site. WDFW currently utilizes an access road through the property to maintain a rotary screw trap and PIT antenna system on the adjacent mainstem Twisp River. Site access for WDFW employees and infrastructure will be maintained in project design. Removal of the culverts in the intake channel will be replaced by a bridge or natural bed culverts to maintain vehicle access to the dike and headgate. MSRF maintains a trail system open to the public on the downstream end of the property, which will not be impacted by project implementation.

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

Project design will not impact current recreational trail access to the site, will maintain WDFW's site access to their screw trap, and MSRF will consult with adjacent landowners on site improvements prior to construction. There is no impact to recreational river users.

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

The Methow Salmon Recovery Foundation and the Methow Beaver Project will be responsible for adaptive maintenance of the project and monitoring for channel obstructions.

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

Don't know

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

This project carries a very low risk of failure. MSRF has successfully maintained the ponds site for more than 20 years. The proposed actions are expected to reduce management needs by providing increased flow path redundancy. By owning much of the underlying property, much of the risk associated with changing landowner requirements is mitigated.

Redundant overflow channels below the headgate will reduce risk of downstream dewatering and reduce maintenance requirements.

There is very low risk to downstream/adjacent properties as flow discharge into the ponds system is low.

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

Yes, project activities will include posting signage explaining the purpose of the project, the construction phases, as well as a specific list of native vegetation utilized in the project. The Twisp Ponds site is viewed as a valuable community asset and is used by a large number of individuals and groups as a destination for walking, bird watching and gatherings. Signage and art installations currently engage visitors and highlight salmon recovery projects throughout the Methow Valley and serve to increase community support for salmon recovery efforts.

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

Yes, this project will directly employ local and regional contractors to complete most aspects of the project assessment, design, and future management. MSRF has built an approved roster of qualified local and regional contractors and prioritizes local contractor preference when possible. MSRF has implemented restoration actions in the Methow Valley for more than 20 years, and the majority of our awarded contracts have been directed to local and regional contractors with consistently high-quality results. Our findings are supported by an economic analysis completed by UCSRB that showed that funds spent on restoration projects cycle through the local community 4 to 7 times, significantly multiplying the local economic benefit.

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

This project will be led by MSRF staff who bring a breadth and depth of strengths to the project, including expertise in restoration ecology, community outreach, and engagement, permitting, and project management. MSRF has been actively engaged in habitat restoration in the Methow Valley since 2001 and has successfully served as a project sponsor for many restoration projects in the watershed. The Methow Beaver Project (MBP) was founded in 2008 and became a program of MSRF in 2014 and brings a wealth of beaver coexistence experience and strategies required to manage beavers in modified systems like Twisp Ponds.

Optional Section - Preparation for PRISM

The following questions are identical to the questions RCO requires in the PRISM application. If desired, sponsors can complete associated questions early and copy responses into PRISM during the "Complete Application" phase due on April 19, 2024.

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

No

Supporting Documents

[Upper Columbia Process Guide 2024](#)

[SRFB Manual 18 \(2024\)](#)

[RCO Application Resources \(2024\)](#)