21-1010, Plan, Tri-State Steelheaders Inc
Mill Creek Passage - Gose St Bridge Prelim Design, RCO Grant Request: $160,860

BASICS

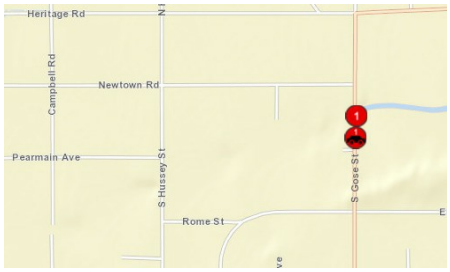
FUNDING

Costs

RCO	$160,860	85%
Sponsor Match	$28,390	15%
Total	$189,250	100%

Sponsor Match Breakdown

Donated Cash	$28,390
Total	$28,390



DESCRIPTION

The Mill Creek flood control channel in Walla Walla creates flow-dependent hydraulic conditions that present barriers to Mid-Columbia Summer Steelhead, bull trout, and to reintroduced spring chinook. Passage at the downstream end of the flood channel was improved with the installation of a fishway in 2005. In February 2020, the flood of record in the Walla Walla watershed had the Mill Creek flood control channel operating at capacity for hours. The flood flow scoured the channel bed downstream of the fishway, and the downcutting resulted in a five-foot high jump for fish to enter the fishway. A short term passage fix was completed in October, but it is not expected to last more than a few years. A long term passage solution is desired by stakeholders, but the situation is complicated by a bridge with footings in the channel. The goals of this project are to collect technical data to inform an alternatives analysis, resulting in a preferred alternative at the conceptual level.

Project Application

LOCATION

Related PRISM Projects

PRISM Number	Project Name	Current Status	Relationship Type	Notes
04-1605 R	Gose Street Fish Passage Project	Closed Completed	Earlier Phase	Constructed a fishway transition from the flood control channel to the natural channel.

Project Location Questions

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

Mill Creek is a tributary of the Walla Walla River. The Gose Street bridge is at approximately river mile four of Mill Creek, at the transition between the flood control channel and the natural channel.

#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 Snake River Salmon Recovery Plan for SE Washington identifies Mill Creek as a major spawning area for summer steelhead. In Chapter 5 of the Recovery Plan (Section 5.5.2.3 pg 155-156), the flood control channel is described, and the Plan states "It is believed to be extremely difficult for an adult salmon or steelhead under its own power to pass from Gose Street to Bennington Dam." The Current Impacts and Limiting Factors section for Mill Creek states, "The Mill Creek steelhead population continues to be suppressed by reduced habitat diversity, key habitat, and obstructions." The proposed project is also located in the designated critical habitat for bull trout (50 CFR 17. 2010. pg 63,898).

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

Yes

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

A short-term, emergency fix was constructed in 2020 to regain some fish passage at the site. This project would be the first step toward a long-term solution, by assessing alternatives and developing a preliminary plan. Additional planning phases and construction would follow.

METRICS/COSTS

OVERALL PROJECT METRICS

PLANNING METRICS

Worksite: Mill Creek at Gose Street Bridge (#1)

COSTS

Category	Work Type	Estimated Cost	Note

Cultural Resources	Cultural resources	$20,000	
Design for Salmon restoration	Conceptual Design	$169,250	Includes consultant contract, staff, and direct allocation
	Subtotal:	$189,250	
	Total Estimate For Worksite:	$189,250	

METRICS

Area Encompassed (acres) (B.0.b.1)	3.0
Miles of Stream and/or Shoreline Affected (B.0.b.2)	0.50

CULTURAL RESOURCES

Cultural resources

Acres surveyed for cultural resources	10.00

Total Planning Cost	$189,250

PROJECT PROPOSAL

Targeted ESU Species

Worksites	Species by ESU	Egg Present	Juvenile Present	Adult Present	Population Trend
1	Chinook-Middle Columbia River Spring, Not Warranted		✔	✔	Unknown
1	Steelhead-Middle Columbia River, Walla Walla River, Threatened		✔	✔	Declining

Targeted Non-ESU Species

Worksites	Species by Non-ESU	Notes
1	Bull Trout	Mill Creek (Walla Walla Basin) Migratory Bull Trout are known to migrate into the lower Walla Walla Basin and sometimes into the Columbia River. Mill Creek (Walla Walla Basin) Bull trout are ESA listed Threatened. The migratory portion of the population is critical to recovery.

PROPOSAL QUESTIONS

Project Factsheet

#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.

Flood control measures were constructed in the 1930s and 1940s on seven miles of Mill Creek in Walla Walla. The flood control channel creates a complex passage barrier for steelhead, bull trout, and spring chinook. In 2005, the Walla Walla County Conservation District sponsored a project (04-1605) to construct a fishway at the transition between the flood control channel and the natural channel to improve passage at that location.

In February 2020, the flood of record in the Walla Walla watershed created a fish passage barrier at the fishway. The flood control channel operated at capacity (~4,000 cfs) for hours. During the flood flows, the streambed was scoured and downcut at the fishway below Gose Street bridge, resulting in a jump height of approximately five feet for fish trying to enter the fishway.

The co-managers, CTUIR and WDFW, were able to mobilize an emergency remedy in October, which breaks the five-foot jump into two smaller jumps. This was an attempt on a short timeline to make the best of a bad situation. Because the design had to be implemented quickly, there was not time to design a durable, long-lived solution.

The solution was to build weirs from ecology blocks to create jump pools, and reduce the jump heights. This solution is not designed to withstand flow near the channel's capacity, and points to the need for a long-term fix.

The situation is complicated by the bridge footings of the Gose Street bridge in the channel. One engineer inspecting the channel scour was of the opinion that the fishway prevented the bridge from washing out. Any long-term fix here must include the bridge.

The problem this project seeks to address is the need for a planning process to develop a long term plan for fish passage, incorporating transportation infrastructure at the site.

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

The immediate limiting factor is the point barrier at the fishway, and less than ideal conditions created by the quick fix. These impact adult and juvenile summer steelhead, bull trout, and spring chinook.

#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**

Goal 1 - Describe the factors of hydrology, geomorphology, and geology impacting the project site
Goal 2 - Develop a preferred alternative to the conceptual design level

#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, Achieveable, Relevant, and Time-bound). **Example Goals and Objectives**

Objective 1 - Hire a consultant to collect relevant technical data
Objective 2 - Solicit alternatives from stakeholders and complete alternatives analysis
Objective 3 - Identify a preferred alternative
Objective 4 - Complete conceptual plans for the preferred alternative

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

The following tasks will be the responsibility of Tri-State Steelheaders staff, unless noted.

Task: Bid process to select consultant. Stakeholders will be encouraged to participate in the selection. Deliverable: Contract with consultant. September 2021.

Task: Meetings with stakeholders to share information, including a kick-off meeting. Deliverable: Meetings approximately quarterly. First meeting October 2021.

Task: Public outreach. Deliverable: Informative articles in social media, newspaper, and newsletters. Starting late 2021 and continuing through the project.

Task: Regular meetings with consultant to track project progress. Deliverable: meeting notes and deliverables from the consultant. Monthly, starting October 2021.

Task: Cultural resources consultations. Deliverables: Tribal and state feedback into design process and archaeology survey scope. Quarterly starting late 2021.

Task: Cultural resources survey. Deliverable: Survey report, forwarded to tribes and state for review. Spring 2023.

Task: Complete alternatives assessment. Deliverable: Preferred alternative selected. Spring 2023.

Task: Complete conceptual design of preferred alternative. Deliverable: Conceptual design report and drawings. Late 2023.

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

In-channel data collection, like surveying, is dependent on flow, and is limited to summer and early fall. The timing of the project would have the start of work at the low flow period. If data collection were missed, there would be a wait of a year for the next low flow opportunity.

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

In general, we understand that good communication and transparency with partners and stakeholders is fundamental to the process.

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

Identification and analysis of alternatives is the purpose of the project. We need technical information that we don't have in order to be able to begin to formulate alternatives.

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

The co-mangers, CTUIR and WDFW, when considering how to address the barrier created at Gose St by the 2020 flood flow, knew that immediate action was necessary to provide passage for this fall and winter. But that such a solution would come at the cost of long-term durability. While developing the short term fix that was implemented, the need for a long-term solution was clear.

#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?

The outcome of this project will be a conceptual plan. This will lead eventually to long-term design for fish passage. The project will be designed to the flow capacity of the flood channel. While we don't know what this will look like (that's the point of the project), it's durability will part of the design consideration.

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

Providing better, more permanent passage is the best opportunity for fish populations to remain resilient.

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

We have hired consultants for eight projects that have completed conceptual plans or final plans.

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

No

PLANNING SUPPLEMENTAL QUESTIONS

#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 downstream fish passage barriers, if any. Identify current or future plans for correction.

There are no known barriers downstream, all the way to the Columbia River. Upstream, the levee and weir sections of the flood channel prevent volitional passage of juvenile fish. The concrete channel is a two mile flume that creates hydraulic conditions preventing adult passage, and also prevents volitional passage of juveniles in low flow conditions. The Mill Creek Work Group prioritized work in the concrete channel because of the barrier to adults. As of 2020, five projects have provided passage and resting pools to 22% of the flume. After the flume is addressed, we will prioritize notching weirs for juvenile passage. Near the top of the flood control channel are two federal dams. The lower of the two dams had its fishway replaced in 2020. The upper dam's new fishway is in design now.

#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.

Above the Mill Creek flood control channel, there are over 50 stream miles of Mill Creek and headwater tributaries. Part of Mill Creek is protected in the municipal watershed (source of drinking water for Walla Walla), and is described as pristine.

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

Other

The road crossing is not the primary passage problem, though it contributes to it (footings in the stream).

#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, the proposed project is a preliminary design. Permit applications will follow completion of a higher design level.

ATTACHMENTS

PHOTOS (JPG, GIF)


462309


462310


462311


462312


462313

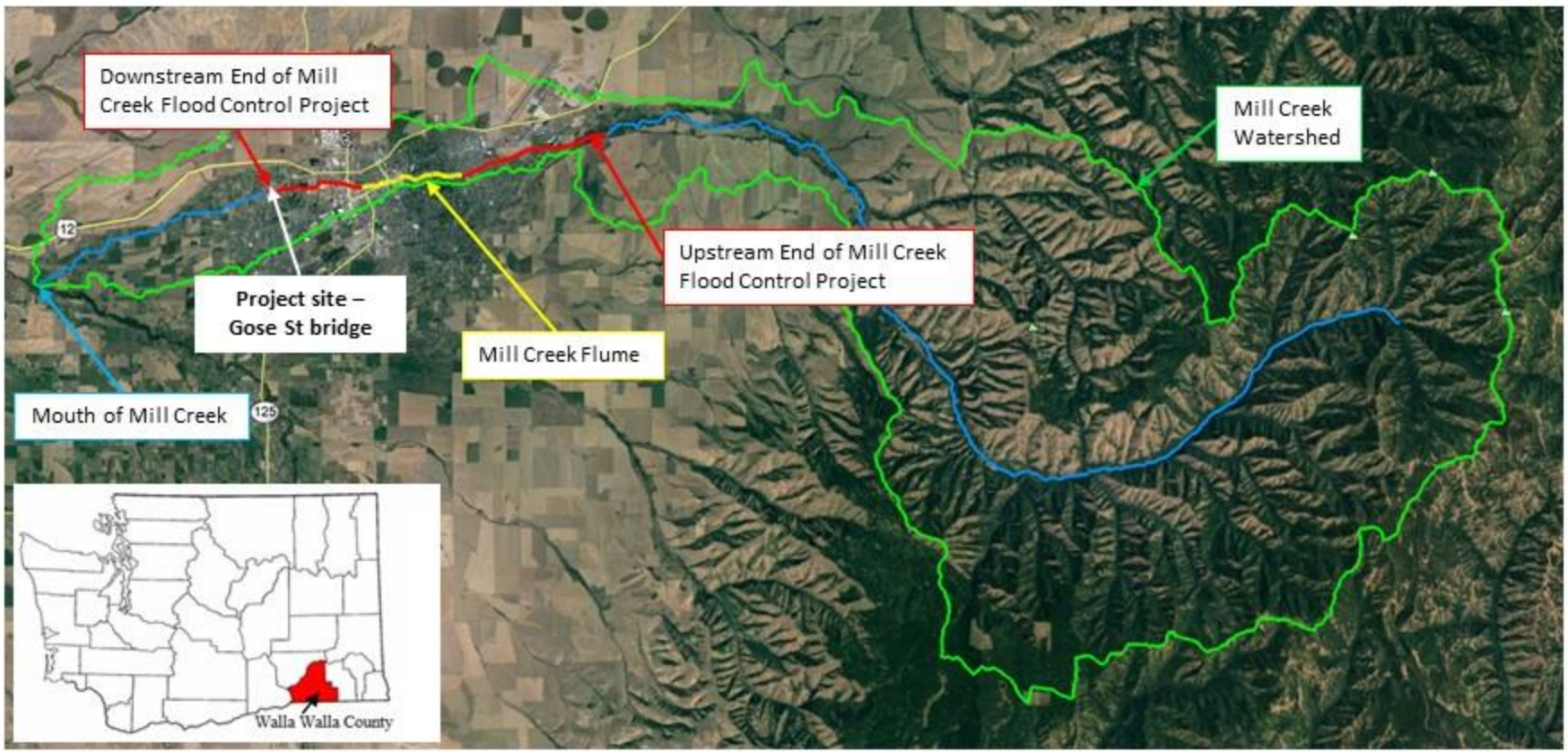

462314

RELEVANT DOCUMENTS

File Type	Attach Date	Attachment Type	Title
	02/08/2021	Cost Estimate	Cost Estimate
	02/08/2021	Map: Area of Potential Effect (APE)	APE map
	02/08/2021	Photo	Site photo - flooding
	02/08/2021	Photo	Site photo - channel incision
	02/08/2021	Photo	Site photo - fishway
	02/08/2021	Map: Planning Area	Site Aerial
	02/08/2021	Map: Planning Area	Watershed map

Mill Creek Passage – Gose St Prelim Design

Region Map – Mill Creek Watershed



Tri-State Steelheaders Inc; Mill Creek Passage - Gose St Bridge Prelim Design (#21-1010)

Attachment #462309, Watershed map

Mill Creek Passage – Gose St Prelim Design

Aerial Photo

Tri-State Steelheaders Inc; Mill Creek Passage - Gose St Bridge Prelim Design (#21-1010)

Attachment #462310, Site Aerial

Mill Creek Passage – Gose St Prelim Design

APE Map

Bridge is Lat 46.064438 Long -118.388630

APE (shaded white) expected to include bridge and approaches, levees and the area between them upstream, and the riparian corridor downstream. Total stream length about 0.4 mile.

Mill Creek Passage – Gose St Prelim Design

Site Photo

View upstream to fishway and Gose St bridge

Tri-State Steelheaders Inc; Mill Creek Passage - Gose St Bridge Prelim Design (#21-1010)

Attachment #462311, Site photo - fishway

Mill Creek Passage – Gose St Prelim Design

Site Photo

View downstream from below fishway. Channel is deeply incised.

Mill Creek Passage – Gose St Prelim Design

Site Photos

Flood flow February 2020

Tri-State Steelheaders Inc; Mill Creek Passage - Gose St Bridge Prelim Design (#21-1010)

Attachment #462313, Site photo - flooding

DESIGN PROJECTS

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

See Manual 18, Appendix D for additional information regarding allowable costs.

				OVERALL PROJECT	GRANT REQUEST	MATCH			
				Budget must account for all costs to complete the project	*Enter only the amount of the grant request*	*The Grant Request and Match should equal the total project cost and Budget Check cell should be 0. Sponsors must account for all sources and types of match need to complete the project.*			
				Amount	Amount	Match	Funding not reported in PRISM	Source (Grant, Cash, Materials, Labor, Volunteers, etc)	Match Type (federal, state, local)
Design Costs									
Category	Task Description	Qty	Rate						
Conceptual design	*Conceptual design assessment by cons*	**1.00**	$ 150,000.00	$ 150,000	$ 121,610	$ 28,390	$ -	**CTUIR**	**?**
Cultural resources	*Cultural survey and design consultatio*	1.00	$ 20,000.00	$ 20,000	$ 20,000	$ -	$ -		
Administrative	*Staff to conduct bids for services, outr*	1.00	$ 14,450.00	$ 14,450	$ 14,450	$ -	$ -		
Other	*Direct allocation*	24.00	$ 200.00	$ 4,800	$ 4,800	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
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			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			STotal	$ 189,250	$ 160,860	$ 28,390	$ -		
Indirect Costs									
	Description	Approved Rate	Total Project Base						
	Indirect	0.000%	$ -	$ -	$ -	$ -	$ -		
	Indirect	0.000%	$ -	$ -	$ -	$ -	$ -		
			STotal	$ -	$ -	$ -	$ -		
			GTOTAL	**$ 189,250**	**$ 160,860**	**$ 28,390**	**$ -**		