

20-1055, Plan, Asotin Co Conservation Dist Cougar Creek Fish Passage Design, RCO Grant Request: \$80,000

BASICS

FUNDING

Costs

RCO	\$80,000	80%
Sponsor Match	\$20,000	20%
Total	\$100,000	100%

Sponsor Match Breakdown

Grant - Federal	\$20,000
Total	\$20,000



Minimum match required
15.00%

DESCRIPTION

The Asotin County Conservation District is sponsoring a design proposal to seek SRFB funds develop construction ready final design for the replacement of the existing Cougar Creek culvert, which is a partial to fish passage barrier where Cougar Creek flows under the Grande Ronde River Road in Southeast Washington. The barrier poses an imminent threat to anadromous fish (Steelhead) and limits their access approximately 2.25 miles of rearing and spawning habitat upstream of the culvert. As stated in the Snake River Salmon Recovery Plan, Steelhead are especially effective at accessing and utilizing stream reaches with suitable habitat, however, their distribution is limited environmental issues such as migration barriers. Cougar Creek flows directly into by the Grande Ronde River approximately 140 feet below the barrier. The current culvert was identified in 2010 by the Walla Walla Community College Road Crossing Barrier Assessment as a barrier. The goal of this project is to develop designs to replace existing culvert.

[Project Application](#)

LOCATION

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.

The Cougar Creek Fish Passage Restoration Design Project is located where Cougar Creek flows under the Grande Ronde River Road approximately 4.5 miles west of highway 129. The project lies within the Lower Grande Ronde Subbasin and is part of the Grande Ronde MSA.

Project Factsheet

#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.

Northwest Marine Fisheries Service. 2017. ESA Recovery Plan for Snake River Spring/Summer Chinook Salmon (*Oncorhynchus tshawytscha*) & Snake River Basin Steelhead (*Oncorhynchus mykiss*). Portland, OR.
 This project is identified as a top priority and located in a major spawning area for Steelhead and a priority protection reach in the Snake River Salmon Recovery Plan and 3 yr workplan.

#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 project location was identified as one of four significant barrier locations associated with road crossing in the Lower Grande Ronde River watershed that needed to be addressed in order to restore fish passage to tributaries in the watershed. This will provide the designs for the final barrier to be replaced in order to provide fish access to spawning and rearing habitat.

METRICS/COSTS

PLANNING METRICS

Worksite: Cougar Creek Fish Passage Project (#1)

COSTS

Category	Work Type	Estimated Cost	Note
Cultural Resources	Cultural resources	\$8,000	
Design for Salmon restoration	Final design and permitting	\$92,000	
	Subtotal:	\$100,000	
	Total Estimate For Worksite:	\$100,000	

METRICS

Area Encompassed (acres) (B.0.b.1)	1.0
Miles of Stream and/or Shoreline Affected (B.0.b.2)	0.10

CULTURAL RESOURCES

Cultural resources

Acres surveyed for cultural resources	1.00
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Total Planning Cost	\$100,000
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PROJECT PROPOSAL

Project Factsheet

Targeted ESU Species

Worksites	Species by ESU	Egg Present	Juvenile Present	Adult Present	Population Trend
1	Steelhead-Snake River, Grande Ronde River Lower Mainstem, Threatened	✓	✓	✓	Unknown

Reference or source used

WDFW

PROPOSAL QUESTIONS

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

Cougar Creek is a tributary to the Grande Ronde River in southeast Washington. A fish passage barrier exists approximately 140 feet above the mouth of the Cougar Creek where it passes under the Grande Ronde River Road. The barrier poses an imminent threat to anadromous fish, including steelhead, limiting their access to approximately 2.25 miles of spawning and rearing habitat. As stated in the Snake River Salmon Recovery Plan, steelhead are especially effective at accessing and utilizing stream reaches with suitable habitat, however, their distribution is limited by environmental issues such as migration barriers. Cougar Creek has been identified as a priority protection reach for steelhead. Fish passage is identified in the Snake River Salmon Recovery Plan as a primary limiting factor for steelhead in several lower tributaries to the Grande Ronde River.

Site characteristics upstream of the barrier: The channel upstream of the culvert is confined for approximately 200 feet before the floodplain widens for approximately 1000 feet. This section has good floodplain connectivity, several short side channels and visible instream wood.

Moving upstream to approximately 1 mile above the culvert, there are several pockets of connected floodplain that exist where large wood has fallen into the channel and caused some deposition. This reach is relatively well connected to the floodplain, and small fish, possibly juvenile salmonids, were documented in small pools at several locations during field surveys in August 2019. Large tree vegetation exists throughout this reach and the channel is well shaded.

The removal of the barrier will increase the benefit of current conditions and future restoration projects.

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

Fish passage is identified in the Snake River Salmon Recovery Plan as a primary limiting factor for steelhead in several lower tributaries to the Lower Grande Ronde River, including Cougar Creek. Passage at this structure will benefit all life stages of steelhead. The ability for adults to access spawning habitat above the culvert will expand capacity for egg to emerging fry (in gravel) life stages. Juvenile capacity and access of Cougar Creek will be greatly increased as fish are able to move upstream freely to better rearing habitat than what is available on the mainstem Grande Ronde River, including colder, shaded pools and several side channels.

Project Factsheet

- #3: (all)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 is to develop construction ready designs and complete environmental compliance requirements (cultural resource and permits) for the fish passage barrier that currently limits the movement of steelhead in Cougar Creek access to spawning and rearing habitat upstream. The undersized culvert will be replaced with an adequately sized structure improving access to more than 2.25 miles of habitat.

By improving passage at this location, this project once implemented will allow all life stages of steelhead to fully utilize the stream reach. This includes suitable habitat upstream of the barrier as documented in the problem statement. This will provide improved utilization of shaded, cool reaches of the stream with instream habitat suitable for steelhead juveniles to survive year round.

ACCD is completing a geomorphic assessment for the lower Grande Ronde River and its tributaries, including Cougar Creek. A conceptual restoration plan will be developed based on the assessment which will identify project areas where restoration efforts will be a priority.

- #4: (all)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, develop designs that would include:

- Replace the existing barrier culvert on Cougar Creek with structure that would achieve 100% fish passage to 2.25 miles of habitat for all life stages of steelhead and other aquatic organisms.
- Site restoration will also aim to enhance existing native riparian vegetation and replace any vegetation removed during the construction of the passage project by planting native tree/shrub species on approximately 0.1 acres upstream and downstream of the culvert. Plantings will occur during the fall, winter and spring following construction. In addition, a native grass seed mix will be planted to reduce potential noxious weeds on all areas that were disturbed during construction.

Project Factsheet

#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.

Asotin County Conservation District

- Project Oversight – provide grant management and project oversight to coordinate with other parties to ensure all deliverables are achieved and financial coordination/documentation
- Contractor Selection – utilize RFP process to select and hire a consultant to complete the fish passage designs
- Design Review – coordinate with design review team at each design stage. Provide communication between design review team and consultant. Member of design review team
- Bid Package – create a full bidding package that will be utilize to complete the bidding requirements needed to hire a contractor for construction.
- Barrier Correction Analysis Form will be completed in conjunction with consulting firm.

Asotin County

- Design Review Team – provide an engineer to be a member of the design review team. Provide review and recommendations to the consultant during each design stage

Washington Department of Fish and Wildlife

- Design Review Team – provide an engineer to be a member of the design review team. Provide review and recommendations to the consultant during each design stage

Consulting Firm (TBD)

- Final Designs - provide construction ready/final designs for the project and will be available during construction for any follow up that may be needed by the onsite engineer.
- Environmental Compliance –complete a design report and secure all permits needed for this project.
- Bid Package – create documents needed for the bid package that ACCD will develop to complete the bidding requirements needed to hire a contractor for construction.

Project Factsheet

#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?

Funding is the significant constraint that could impact the ability to complete this project. The project location was identified during barrier assessments. WDFW and Asotin County support the ACCD in seeking funds to develop designs and complete the construction of the fish passage project.

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

The scope and goals of the project are straightforward. We are confident in the ability of ACCD to manage this project. We will be working closely with partners that have extensive past experience with similar projects to provide guidance and expertise that will be a part of the design review team.

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

This project is to develop a construction ready design plan to remove a fish passage barrier. During the development of the designs, there will be a phase that identifies design options and a local team as well as RCO will be a part of selecting the design option to utilize. LIDAR was acquired for the project site in the fall of 2018 and will be utilized, along with information from the hydraulic, hydrologic and scour analysis and a geotechnical investigation with will be completed as a part of the design process. The design will include features to ensure the replacement of the culvert does not result in head cutting or any other issues above or below the project area where construction will take place.

#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 culvert was identified as a fish passage barrier in the Walla Walla Community College Road Crossing Barrier Assessment in 2008 and identified in the WDFW Inventory Assessment in 2016. The existing culvert is blocking access to Cougar Creek from the Grande Ronde River, which will provide 2.5+ miles of spawning and rearing habitat once access is reestablished. This project has been supported by the Snake River Regional Technical Team and landowner (WDFW). Asotin County Commissioners and Engineer were also consulted since the barrier is associated with a county road and they have expressed support for the project.

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

Yes

Project Factsheet

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

Removing the barrier will improve access during critical low flow periods and provide access to upstream habitat. This will be even more important with expected climate change. Many streams in Asotin County, including Cougar Creek, originate in the Blue Mountains and the current hydrologic regime is snow-rain dominated for these streams, however it is anticipated to shift to a rain dominated regime. This will likely decrease summer base flows and increase summer water temperatures.

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

This project will be designed to ensure fish passage during all stream flow levels. Currently the culvert outlet is perched causing a fish passage barrier, especially for juvenile fish trying to access cooler stream reaches.

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

ACCD has extensive experience managing RCO funded projects and is very familiar with SRFB funding expectations. In recent years, ACCD was the lead on other fish passage barrier projects. We partnered with DOT to complete the Rattlesnake Barrier project which was completed in 2015. In 2016, we sponsored the Headgate Dam notching project on Asotin Creek. We have recently completed the designs for the Cottonwood Fish Passage project and will be going to construction during the summer of 2020.

#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

Project Factsheet

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

There are no barriers below the proposed project. There is an additional fish passage barrier approximately 2.25 miles upstream from this project. However, there are no future plans to correct that barrier. Additional monitoring efforts would need to be done to determine the amount of potential habitat that would be available above that barrier due to stream size and grade.

#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 culvert is confined for ~200' before the floodplain widens for ~1000'. There is good floodplain connectivity, several short side channels & instream wood. In the next mile, there are several pockets of connected floodplain, large wood causing deposition. The reach is relatively well connected to the floodplain, and small fish, possibly juvenile salmonids, were documented in several pools (Field survey August 2019). Large trees exist & the channel is well shaded.

#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 crossing design option will be determined after the design alternative phase of the project is completed

#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?

Yes and complete cultural resource requirements

ATTACHMENTS

PHOTOS (JPG, GIF)



417674 Primary



417676 Secondary



417678

RELEVANT DOCUMENTS

File Type	Attach Date	Attachment Type	Title
	04/16/2020	Project Application Report	Project Application Report, 20-1055P (submitted 04/16/20 11:
	03/03/2020	Cost Estimate	SRFB_Cost_Estimate - Cougar Design.xlsx
	02/28/2020	WDFW barrier & screening forms	602000 Cougar Creek Site Report.pdf
	02/28/2020	Photo	Cougar Creek Photo - Site & Road.jpg
	04/20/2020	Photo	Cougar Creek Photo - Side View of Outlet.jpg
	04/20/2020	Photo	Cougar Creek Photo - Outlet View from Road.jpg
	02/28/2020	Map: Area of Potential Effect (APE)	Cougar_APE_2000.pdf
	02/28/2020	Map: Area of Potential Effect (APE)	Cougar_APE_24000.pdf
	02/28/2020	Map: Planning Area	Cougar Creek Habitat Opened Map.pdf

PROJECT: 20-1055 P, Cougar Creek Fish Passage Design

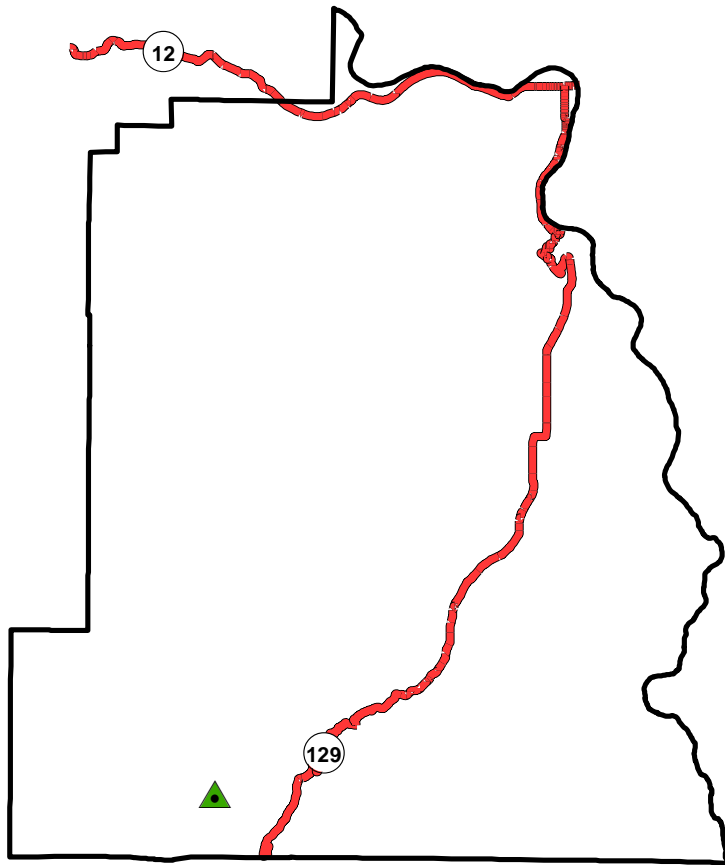
Sponsor: Asotin Co Conservation Dist Program: SALMON ST PROJ Status: Application Complete

MEETING: Initial Review

Shared: 6/1/2020

Review Status: Cleared

Topics	Comments
Review Panel Comments - Initial	
General Comments (response not required)	
	Correcting this partial, but significant passage barrier on Cougar Creek would provide improved access to approximately 2.25 miles of decent quality habitat for ESA-listed steelhead trout. The project sponsor has done a nice job of including all of the necessary information in the application regarding the proposed project design.



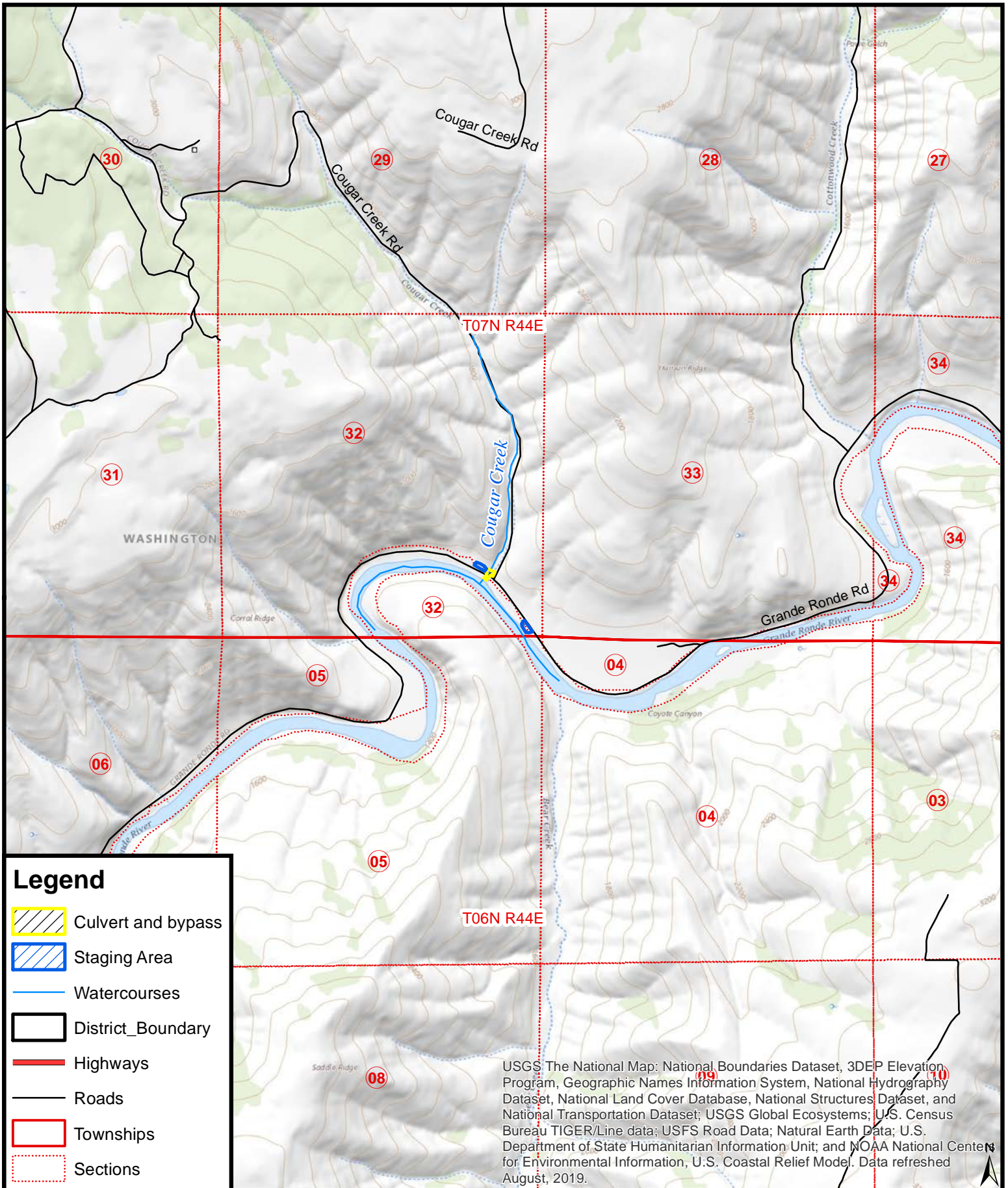
Legend

 Project Location

 Asotin_Co

 Highways

0 5 10 Miles



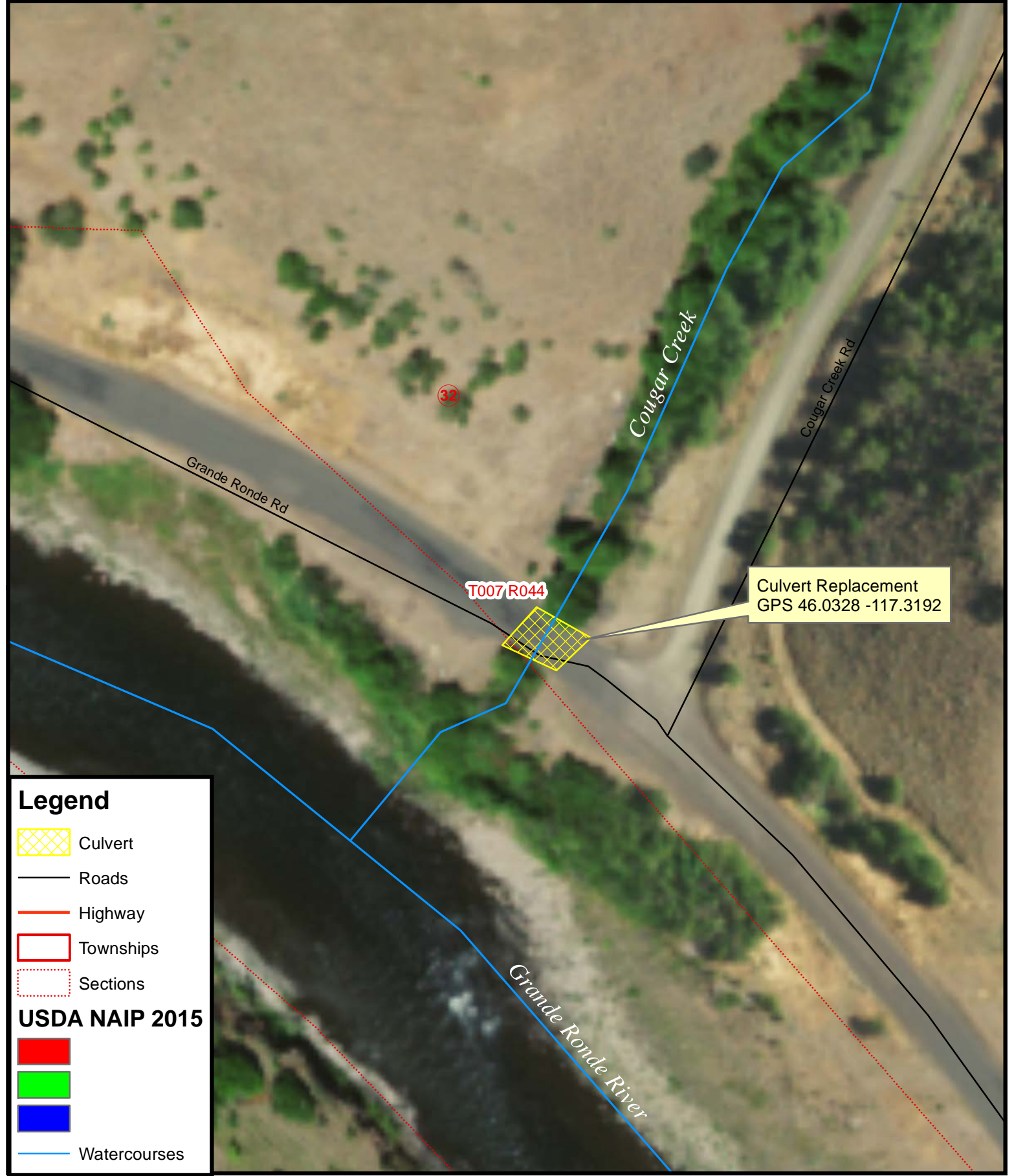
0 0.4 0.8 Miles

Cougar Creek Culvert Replacement APE








1:24,000




Brad Riehle
Date: 1/28/2020




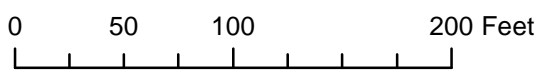
Legend

-  Culvert
-  Roads
-  Highway
-  Townships
-  Sections

USDA NAIP 2015

- 
- 
- 

 Watercourses



Cougar Creek





Appendix F: Landowner Acknowledgement Form

Landowner Information

Name of Landowner:

Landowner Contact Information:

Mr. Ms. Title: County Commissioner Chairman

First Name: Jim Last Name: Jeffords

Contact Mailing Address: P.O. Box 250 Asotin WA 99402

Contact E-Mail Address: bocc@co.asotin.wa.us

Property Address or Location:

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

Date

Project Sponsor Information

Project Name: Cottonwood Creek Fish Passage Restoration

Project Applicant Contact Information:

Mr. Ms. Title

First Name: Megan Last Name: Stewart

Mailing Address: 720 Sixth Street, Suite B. Clarkston, WA99403

E-Mail Address: megan@asoitncd.org

Appendix F: Landowner Acknowledgement Form

Landowner Information

Name of Landowner: Washington Department of Fish & Wildlife

Landowner Contact Information:

Mr. Ms. Title: Blue Mountain Wildlife Area Manager

First Name: Bob Last Name: Dice

Contact Mailing Address: 1049 Port Way, Clarkston WA 99403

Contact E-Mail Address: bob.dice@dfw.wa.gov

Property Address or Location: **Cougar Creek**

1. Washington Department of Fish & Wildlife (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.

Bob Dice Wildlife Area Manager

1-9-2020

Landowner Signature

Date

Project Sponsor Information

Project Name: Cottonwood Creek Fish Passage Restoration

Project Applicant Contact Information:

Mr. Ms. Title

First Name: Megan

Last Name: Stewart

Mailing Address: 720 Sixth Street, Suite B. Clarkston, WA99403

E-Mail Address: megan@asoitncd.org

WDFW Fish Passage and Diversion Screening Inventory Database

Site Description Report

Site ID

Project

Geographic Coordinates

Latitude (WGS 84):	<input type="text" value="46.032797"/>
Longitude (WGS 84):	<input type="text" value="-117.319244"/>
East (NAD 83 HARN)	<input type="text" value="2,448,058.6"/>
North (NAD 83 HARN)	<input type="text" value="271,355.5"/>

Waterbody

Stream:	<input type="text" value="Cougar Cr"/>
Tributary To:	<input type="text" value="Grande Ronde R"/>
WRIA:	<input type="text" value="35"/>
River Mile:	<input type="text" value="-999.99"/>
Fish Use Potential:	<input type="text" value="Yes"/>
FUP Criteria:	<input type="text" value="Mapped"/>

General Location

Road Name:	<input type="text" value="Grande Ronde Rd"/>
Mile Post:	<input type="text" value="-999.99"/>
County:	<input type="text" value="Asotin"/>
WDFW Region:	<input type="text" value="1"/>

Owner

Type:	<input type="text" value="County"/>
Name:	<input type="text" value="Asotin County"/>

PI Species

<input type="checkbox"/> Sockeye	<input checked="" type="checkbox"/> Chinook	<input checked="" type="checkbox"/> Sea Run Cutthroat
<input type="checkbox"/> Pink	<input type="checkbox"/> Coho	<input checked="" type="checkbox"/> Resident Trout
<input type="checkbox"/> Chum	<input checked="" type="checkbox"/> Steelhead	<input checked="" type="checkbox"/> Bull Trout

Associated Features

<input checked="" type="checkbox"/> Culvert	<input type="checkbox"/> Dam	<input type="checkbox"/> Natural Barrier	<input type="checkbox"/> Diversion
<input type="checkbox"/> Non-Culvert Xing	<input type="checkbox"/> Other	<input type="checkbox"/> Fishway	

Location/Directions

Site Comments

WDFW Fish Passage and Diversion Screening Inventory Database

Level A Culvert Assessment Report

Site ID: 602000	Stream: Cougar Cr	WRIA: 35	
Latitude: 46.032797	Tributary To: Grande Ronde R	Fish Use Potential: Yes	
Longitude: -117.319244			

Data Source	Washington Department of Fish and Wildlife
Field Crew:	Zweifel;Roler;Taylor
Review Date:	5/11/2016

Culvert Details						Level A Parameters						
<u>ID</u>	<u>Shape</u>	<u>Material</u>	<u>Span</u>	<u>Rise</u>	<u>Length</u>	<u>WDIC</u>	<u>Apron</u>	<u>WSDrop</u>	<u>Location</u>	<u>Countersunk</u>	<u>Backwater</u>	<u>Slope (%)</u>
1.1	RND	CST	1.79	1.88	14.00	0.08	NO	0.27	Outlet	No	No	3.07

All dimensions in meters

Channel Description	
Toe Width (m):	<input type="text"/>
Average Width (m):	<input type="text" value="5.81"/>
Culvert/Stream Width Ratio:	<input type="text" value="0.31"/>
Plunge Pool	
Length (m):	<input type="text" value="4.20"/>
Max Depth (m):	<input type="text" value="0.57"/>
OHW Width (m):	<input type="text" value="4.20"/>
Road	
Fill Depth (m):	<input type="text" value="2.50"/>



Assessment Results			
Barrier:	<input type="text" value="Yes"/>	Passability (%):	<input type="text" value="33"/>
Reason:	<input type="text" value="Slope"/>	Fishway Present:	<input type="text" value="No"/>
Method:	<input type="text" value="Level A"/>		
Recheck:	<input type="text"/>		

Comments
Slope and W.S. Drop barrier. Culvert is damaged at the outlet.

Potential Habitat Gain			
Survey Type:	<input type="text"/>	Spawning (sq m):	<input type="text"/>
Significant Reach:	<input type="text" value="Yes"/>	Rearing (sq m):	<input type="text"/>
		Length (m):	<input type="text"/>
		PI Total	<input type="text"/>