Peshastin Creek Fish Passage Barrier Removal – Scotty Creek Road

Chelan County Natural Resources Department
411 Washington Street Suite 401
Jennifer Hadersberger
PRISM # 18-1815

Anticipated Request - SRFB:	$ 205,000
Anticipated Request for Proposal:	**$ 205,000**
Match - USFS:	$ 40,000
Anticipated <u>TOTAL</u> Project Budget:	**$ 245,000**

SRFB Grant Regional Application Materials

Submission Date	2018-03-28 13:05:34
	Peshastin Creek Barrier Removal
Sponsor Organization	Chelan County Natural Resources Department
Sponsor Contact Person	Jennifer Hadersberger
Sponsor Address	411 Washington Street Suite 201
City	Wenatchee
State	WA
Zip Code	98801
Phone Number	(509) 860-1022
E-Mail Address	jennifer.hadersberger@co.chelan.wa.us
PRISM #	181815
Habitat Work Schedule #	123
Anticipated Request- SRFB	199750
Anticipated Request- Tributary Committee	35250
Total Anticipated Request (SRFB and Trib)	235000
Anticipated Other Funding	10000
Anticipated TOTAL Budget	245000
% of budget request from SRFB	81
In one or two sentences, what do you propose to do?	Design and construction to remove a fish passage barrier in Peshastin Creek under Scotty Creek Road
What subbasin is the project in?	Wenatchee
What project category is your project?	Restoration
Has this project previously been submitted for funding through SRFB?	Yes

If Yes, is this project the same or different from the previous submission? Please explain (e.g. different phase, different scope).	same - during the 2017 CCFEG barrier inventory WDFW decided this site was a fish passage barrier despite the fact that they told me it was not a barrier in 2016 when I originally drafted a proposal
Does this project or any of its phases (e.g. design) exist in Habitat Work Schedule?	Don't Know
Briefly describe the location of the project	Peshastin Creek RM 16
What assessment unit(s) is the project in?	Wenatchee- Peshastin
What rank restoration priority is/are the AU(s) listed above?	Wenatchee- Peshastin- 4
What is the primary species the project will target?	Steelhead
What are the secondary species (if any) that the project will benefit?	Spring Chinook
What are the expected project outcomes in terms of PCSRF core metrics?	3.5 miles of habitat quantity
What is the primary ecological concern that the project addresses (not required for protection projects)?	Habitat Quantity (Anthropogenic Barriers)
What are the secondary ecological concern(s) that the project addresses (not required for protection projects)?	Water Quality (Temperature)
What rank of the ecological concern(s) listed above?	#3 and #5
Briefly describe how your proposed restoration or protection project would improve or protect freshwater survival or capacity for target species at the project scale.	This project would improve fish passage to 3.5 miles of Peshastin and Scotty Creek. The larger stream span and revised angle of the road crossing will also reduce the potential for this crossing to blow out and deposit extensive amounts of fine sediment into mainstem Peshastin creek. Elevated fine sediment inputs increase the width to depth ratio and increase stream temperature.

Briefly describe how long will it take for the benefits of the project to be realized and how long are they estimated to persist?	Benefits would immediately follow restoration and persist into the future.
Are the benefits associated with the project in perpetuity?	Benefits would immediately follow restoration and persist into the future.
Are threats imminent?	Peshastin Creek RM 16

Upper Peshastin Creek Fish Passage Barrier Removal

Summary of Final Proposal Changes in Response to Comments on Pre-proposal:

1. The only change in the final proposal text is to the budget match; therefore, there is not a separate track changes version of text.
2. There was a suggestion for USFS to provide design as match. Since Tributary Committee did not fund match, the match proposed is for USFS to design the fish passage replacement structure.
3. Justin questioned whether or not NEPA was actually completed for this project. This was verified with Kathy McMillan, USFS Fish Biologist. NEPA has been completed through Categorical Exclusion documentation for this project.
4. There was a question about whether or not USFS really needs to keep this road open. Yes, Scotty Creek road was evaluated as part of the Upper Peshastin Restoration project and it was determined that it needs to remain as part of the roads network (see Figure 7).
5. There was a question about fish use in Upper Peshastin Creek. According to WDFW data, in 2016-2017, 40-50% of adult steelhead made it past the Ruby slide into Upper Peshastin creek.
6. There was a question about whether or not to invest in fish habitat restoration in Upper Peshastin creek given the mining in the area. I passed this question on to Amanda Barg and here is her response: “Placer mining activity should not preclude salmon recovery efforts such as improving fish passage.” Placer mining in Upper Peshastin creek is limited to an in-water work window that is outside of steelhead spawning and incubation (August 1 – Feb. 28). If placer miners want to work outside of that window, they must obtain an individual HPA. In this case, WDFW reviews the proposed mining location and only approves the HPA if the mining location is not located within spawning habitat (plus a buffer). WDFW staff enforce placer mining rules. WDFW is currently engaged in rulemaking on mining actions.

Project Number	18-1815
Project Name	Peshastin Creek Fish Passage Barrier Removal
Sponsor	Chelan County Natural Resources Department (CCNRD)

List all related projects previously funded or reviewed by RCO: 16-1781 This pre-application was not advanced to a final application due to questions about whether or not is was a passage barrier. It has since been confirmed to be a partial fish passage barrier.

1. **Project brief.**

This project will remove a partial fish passage barrier culvert from Peshastin Creek (near RM 15.5) and replace it with a bridge under Scotty Creek road, improving fish passage for steelhead to 3.5 miles of upper Peshastin and Scotty Creek (Figure 1).

2. **Project location.**

This fish passage barrier culvert is located on Scotty Creek road (USFS road 7324000) near RM 15.5 in Peshastin Creek (Township 22 North, Range 17 East Section 24). The culvert is approximately 2 miles from the road junction with Hwy 97 (Figure 1).

3. **Problem statement.**

The existing culvert has been documented as a partial fish passage barrier. The culvert span is 10.5' wide and the bankfull width is 43' wide ; thus, the culvert constricts flows and increases flow velocities through the culvert during high flow conditions. In addition, the culvert is not installed perpendicular to the stream (Figure 2). Thus, it restricts flows and the braided floodplain condition upstream of the culvert sends flows over the top of the road prism undermining the culvert structure and providing increased fine sediment inputs to Peshastin Creek. This flow constriction will likely cause culvert failure at some point in the future. This project is proposed to improve fish passage at this location and improve natural stream channel processes associated with removing floodplain constrictions.

This site is the only fish passage barrier in mainstem Peshastin creek (WDFW 2018). Thus, removal of this partial fish passage barrier would ensure fish access throughout >19 miles of habitat plus all of the tributary habitat access.

4. **List the fish resources present at the site and targeted by this project.**

Species	Life History Present (egg, juvenile, adult)	Current Population Trend (decline, stable, rising)	Endangered Species Act Coverage (Y/N)
steelhead	Juvenile, adult, egg	Stable (2011 NOAA status review)	Y

Peshastin Creek supports spring Chinook, steelhead, and bull trout as well as redband and cutthroat trout. Peshastin Creek is a minor spawning area for spring Chinook and a major spawning area for steelhead (UCRTT 2013 p. 40). Spring Chinook distribution extends to approximately RM 14.5 or ~ 1 mile downstream of the project area, however, the mapped intrinsic potential extends up to approximately 0.25 mile from project area (Figure 3). Spring Chinook spawning has been documented between Mill Creek and Ingalls Creek (RM 5.2 – 9.4) and juvenile rearing has been documented up to Magnet Creek (RM 14.8) (as cited in Andonaegui 2001). Steelhead spawning and distribution in Peshastin Creek extends upstream from the project site (Figure 4). There is 3.5 miles of steelhead intrinsic potential mapped above the site in Peshastin and Scotty Creek (Figure 4).

Recent data indicates that Peshastin Creek had the highest percentage of wild steelhead spawners and lowest proportion of hatchery spawners for any single tributary in the Wenatchee basin (Table 1).

Table 1. PIT tag based steelhead spawning escapement estimates for tributaries within primary populations of the upper Columbia River basin steelhead DPS, brood year 2014 (WDFW 2015).

Tributary	Hatchery			Wild			% of run wild	% of Run hatchery
	Estimate	SE	CV	Estimate	SE	CV		
Mission Creek	31	16	0.406	94	24	0.259	8%	5%
Peshastin Creek	6	10	0.733	226	39	0.174	19%	1%
Chumstick Creek	7	10	0.701	78	23	0.286	7%	1%
Icicle Creek	45	19	0.357	76	24	0.275	6%	8%
Chiwaukum Creek	9	9	0.683	37	17	0.372	3%	2%
Chiwawa River	103	26	0.238	142	31	0.207	12%	17%
Nason Creek	148	31	0.21	190	34	0.18	16%	25%
Elsewhere (mainstem plus other tribs)	251	60	0.214	340	48	0.15	29%	42%
Totals	600			1183			100%	100%

5. Describe the limiting factors, and limiting life stages (by fish species) that your project expects to address.

This project would address the habitat quantity ecological concern for steelhead by improving fish passage to 3.5 miles of Peshastin and Scotty Creek. Habitat Quantity is the #5 ecological concern in Peshastin Creek. The larger stream span and revised angle of the road crossing will also reduce the potential for this crossing to blow out and deposit extensive amounts of fine sediment into mainstem Peshastin creek. Elevated fine sediment inputs increase the width to depth ratio and increase stream temperature. Water

quality (stream temperature) is the #3 ecological concern that needs to be addressedin Peshastin Creek.

6. Project goals and objectives.

A. What are the project's goals?

The goals of this project include:

1. Improving fish passage for steelhead in Peshastin Creek.

2. Removing a channel constriction to facilitate natural channel processes such as , improve floodplain connectivity, reduction of fine sediment inputs, and reduction in stream temperatures.

B. What are the project's objectives?

The project objectives include:

1. Improving steelhead access to 3.5 miles of habitat in Peshastin and Scotty Creek.

2. Removing 1 channel constriction to increase the channel spanning width to accommodate bankfull flows and restore natural channel processes.

C. What are the assumptions and constraints that could impact whether you achieve your objectives?

TBD

7. Project details.

A. Provide a narrative description of the proposed project.

Photos in Figure 5 depict existing site conditions. The US Forest Service prepared a preliminary design for a culvert replacement, however, that design will be revised by a US Forest Service Regional Bridge Engineer or an engineering design consultant hired by CCNRD. The proposed structure will be a bridge with an opening designed to pass 100-year flows and achieve stream simulation design to include passage for juveniles. The design will include the new bridge, but it will also show any road, floodplain and/or channel reconfiguration needed to achieve stream simulation design. The culvert removal and bridge installation will occur during the in-water work window. The project will include site restoration actions including revegetation in the fall following culvert replacement.

B. Provide a scope of work and detailed list of project deliverables.

Table 2: Scope of Work

Task	Timeline	Who	Deliverable
Design	Jan – June 2019	USFS	Final design plans
NEPA Categorical Exemption	Completed	USFS	FONSI, Section 7 and Section 106 consultation
Permits	Jan – June 2019	CCNRD	HPA, NWP 27, DOE 401 Cert, local SE
Construction	July – Sept2019	CCNRD/USFS	Bridge installation and riparian plantings
Site restoration	Sept – Oct. 2019	CCNRD/USFS	

C. Explain how the sponsor determined cost estimates.

The cost estimates for project design and construction were provided by US Forest Service Engineering Department.

Table 3. Cost Estimate

Task	SRFB Request	USFS Match
Design	0	$30,000
NEPA Categorical Exemption	0	$10,000
Local, State, and Federal Permits	$8,000	
Construction (includes revegetation and construction management)	$187,000	
Project management	$5,000	
Project administration	$5,000	
Total	$205,000	$40,000

D. Describe the design or acquisition alternatives considered to achieve the project's objectives.

Three design alternatives have been considered to date:

1 - The Minimum Roads Analysis (USFS 2010) determined that road de-commissioning was not an option. The Peshastin Minimum Roads Analysis (USFS 2010) identifies Scotty Creek Road (#7324000) as a maintenance level 2 road and recommends stormproofing, surfacing, and drainage improvements to minimize risk to aquatic systems. Thus, removing this road is not currently proposed because it provides access to mining claims and Weyerhaeuser land (cost share road). Resource specialists also identified this as a main trunk road that provides access to vegetation management areas, recreation areas, and access for fire/fuels reduction.

2 - The original USFS design was for a culvert; however, USFS fish biologist review indicated that a culvert would not sufficiently improve fish passage.

3 –The proposed design will be a bridge designed using stream simulation methods to accommodate the 100 year event and it will likely include earthwork and some adjacent road work to re-align the angle of the proposed crossing.

E. How have lessons learned from completed projects or monitoring studies informed this project?

Recent WDFW data (Table 1) indicate that Peshastin Creek has the highest percentage of wild steelhead spawners and lowest proportion of hatchery spawners for any single tributary in the Wenatchee basin. This project would provide improved access to steelhead habitat in this reach and the increased channel spanning width of the proposed bridge may also allow improve floodplain connectivity, reduce fine sediment inputs, and improve or maintain water quality (temperature).

A review of stream habitat enhancement projects also documents that barrier removal projects register quick habitat improvement responses and provide significant long and short term improvements to the overall quality of habitat and instream conditions (Hillman, T., P. Roni, and J.O'Neal. 2016). Removal of these barriers is crucial to the re-establishment of natural stream channel processes and physical characteristics such as connectivity, flows, habitat accessibility and streambed substrate composition. The improvement of these key characteristics would likely in turn improve the presence and abundance of salmonids within the watershed (Hillman, T., P. Roni, and J. O'Neal. 2016).

F. Describe the long-term stewardship and maintenance obligations for the project or acquired land.

USFS is the landowner and will provide long-term site stewardship and maintenance obligations.

8. Explain why it is important to do this project now instead of later.

This culvert is likely to blow out anytime soon so it would be better to replace it now rather than have to replace it later and address the downstream implications of it's failure.

9. If the project is a part of a larger overall project or strategy, describe the goal of the overall strategy, explain individual sequencing steps, and which of these steps is included in this application for funding.

US Forest Service has analyzed watershed conditions throughout the Upper Peshastin watershed. This analysis evaluated the causal mechanisms for stream habitat degradation and developed a proposed action to change the current state of watershed and aquatic ecosystem function by targeting impaired hydrologic and geomorphic processes and conditions through the upper Peshastin watershed. The proposed actions included:

- Decrease the impacts of road crossing streams in headwater tributaries

- Reduce barriers to steelhead, bull trout and juvenile spring Chinook salmon migration caused by roads crossing streams
- Reduce water flow alterations caused by roads that primarily exist within 300' of streams
- Alleviate other altered flow regimes caused by roads which have impacted stream channel stability
- Reduce stream channel confinement caused by roads in floodplains
- Reduce surface road and dispersed campsites generated sediment as well as floodplain and stream channel impingement.

Figure 6 shows a preliminary draft of proposed actions for the Upper Peshastin watershed. This barrier replacement is on a road proposed for upgrades. The larger watershed scale project implementation has been delayed while ownership and mineral rights issued are addressed, however, US Forest Service is interested in working with partners to implement actions to improve watershed health and address issues identified in their analysis.

10. Describe the sponsors experience managing this type of project.

The Chelan County Natural Resource Department (CCNRD) has successfully replaced over 26 fish passage barrier culverts with bridge structures since 2006. In 2007, CCNRD worked with US Forest Service to design, secure funds, and install 4 fish passage barrier replacements in Alder and Clear creek. The four culverts under SR 207 that were replaced to reconnect the 2007 and 2009 Nason Creek oxbows were also located on USFS land. If funds are awarded, Jennifer Hadersberger will be the CCNRD project manager for this barrier replacement.

11. List all landowner names.

This project is located on US Forest Service Land. A signed landowner acknowledgement form will be provided with the final proposal.

12. List project partners and their role and contribution to the project.

The project partner contribution form that describes the USFS match for this project will be provided with the final proposal.

13. Stakeholder outreach.

We do not anticipate any issues associated with stakeholder outreach. As described above, CCNRD has managed numerous culvert replacement projects and incorporated stakeholder and public outreach as a component of project development. CCNRD will also work with USFS to ensure recreation users and miners are notified of proposed construction dates and address any access issues prior to and during construction.

Supplemental Questions

Restoration Project Supplemental Questions

Answer the following supplemental questions:

A. Will the sponsor complete, or already completed, a preliminary design, final design, and design report (per Appendix D) before construction?
Yes

B. Will a licensed professional engineer design the project?
Yes

Either a US Forest Service Regional bridge engineer and Forest-level engineer will stamp the plans or CCNRD will hire an professional engineer to design the bridge.

C. If this project includes measures to stabilize an eroding stream bank, explain why bank stabilization there is necessary to accomplish habitat recovery.

This project will not involve bank stabilization.

D. Describe the steps the sponsor will take to minimize the introduction and spread of invasive species during construction and restoration.

All construction equipment will be cleaned prior to entering the site.

Fish Passage Project Supplemental Questions

A. Describe the passage problem (outfall, velocity, slope, etc.)

The existing culvert has a 10.5' wide span and is 6.13' tall. The bankfull width is 43' and the .43 culvert:stream width ratio creates a velocity barrier. The slope was measured at -0.83% which is likely due to the partial failure of the existing structure (see Photos in Figure 5). See the attached barrier evaluation form (note all measurements are in meters).

B. Describe the current barrier (age, material, shape, and condition).

The existing culvert is a corrugated aluminum arch culvert that does not cross the stream at a perpendicular angle. It is also partially damaged likely due to the angle.

C. Is the current barrier a complete or partial barrier?

The existing culvert is a partial fish passage barrier documented to be passable by fish 67% of the time.

D. If a culvert or arch is proposed, does it employ a stream simulation, no slope, hydraulic, or other design?

The existing culvert will be replaced with a bridge designed to convey the 100 year flood event using stream simulation design methods.

E. Describe the amount and quality of habitat made accessible if the barrier is corrected. Has the project received a Priority Index (PI) number?

A habitat survey to assign a PI number has not been completed, however, US Forest Service conducted a stream survey of this reach (RM 15-16.3) in August 2011. The stream temperature was recorded at 13.8° C and the channel gradient averages 2.5%. Riparian habitat has been impacted by Scotty Creek Road, dispersed campsites, and suction dredge mining; however, stream shading was reported as fair throughout the entire reach. Other sources indicate that most of this reach contains shrubby vegetation with some trees adjacent to the stream. About 15% of the surface substrate consisted of fine sediments (<6 mm at the two pebble count sites). Nineteen of the 53 pools in the reach had greater than 20% surface fine sediments based upon ocular estimates. Spawning habitat was noted as more abundant in this reach than in downstream reaches surveyed, although the lack of large wood limits the spawning potential in the reach. Suction dredging is sorting gravels into piles and gravel may be transported downstream during spring run-off. Very little off-channel habitat was observed in this reach. The lack of large wood was recorded as the number one factor that is likely to be limiting fish production in this reach of Peshastin Creek with only 4 pieces of large wood recorded (>35' and 12" DBH).

F. Identify if there are additional fish passage barriers downstream or upstream of this project.

There are no fish passage barriers in mainstem Peshastin creek below this site.

G. Engineering licensing requirement. Will a licensed professional engineer design the project? Yes

Either a US Forest Service Regional bridge engineer and Forest-level engineer will stamp the plans or CCNRD will hire a professional engineer to design this project.

Comments

Use this section to respond to the comments received after the initial site visits, and then again after submitting the final application.

Response to Site Visit Comments

Bulleted text are the RCO review panel comments. Responses are included in italics below.

- If the previous design work for the culvert replacement was a bridge, please load the preliminary design onto PRISM.

  Previous design work has been loaded into PRISM. USFS engineers drafted a design that USFS biologists determined needs revision in order to meet WDFW stream simulation standards since the design includes an overflow pipe.

- With nearly 20% of the wild steelhead run utilizing Peshastin Creek, this creek sees more wild steelhead adults than any other single tributary in the Wenatchee basin. However, the extensive suction dredge mining that is permitted along this reach of Peshastin Creek calls into question whether we want to try to make this a more attractive destination for these fish. Steelhead spawning is already documented above this 33% barrier at RM 15.5; intrinsic potential models map 3.5 miles above the partial barrier as potential steelhead spawning and rearing habitat. Chinook are not currently identified near the site. Documented presence stops roughly 1 mile below this partial barrier; however intrinsic potential models map potentially productive Chinook habitat at 0.25 miles below this barrier. The road has been identified as having potential to fail, given the flow and floodplain constriction. The USFS has designated this road for upgrades in forest planning documents. With the importance of this road to mining claims, Weyerhaeuser lands, recreation areas, vegetation management areas, and fire/fuels reduction areas, improvements at this crossing appear to be more appropriately covered by USFS as part of their roads maintenance and operations activities. Given the 67% passability of this culvert and the extensive disturbance associated with section dredge mining in this reach, the benefits of this project appear to be more heavily weighted toward transportation and other forest uses than salmon.

  See additional information in response to RTT comments at the beginning of this application.

References

Hillman, T., P. Roni, and J. O'Neal. 2016. Effectiveness of Tributary Habitat Enhancement Projects.

USFS. 2010. Peshastin Creek Minimum Roads Analysis.

WDFW. 2018. Fish Passage Database.

Figure 1. Site Location Map

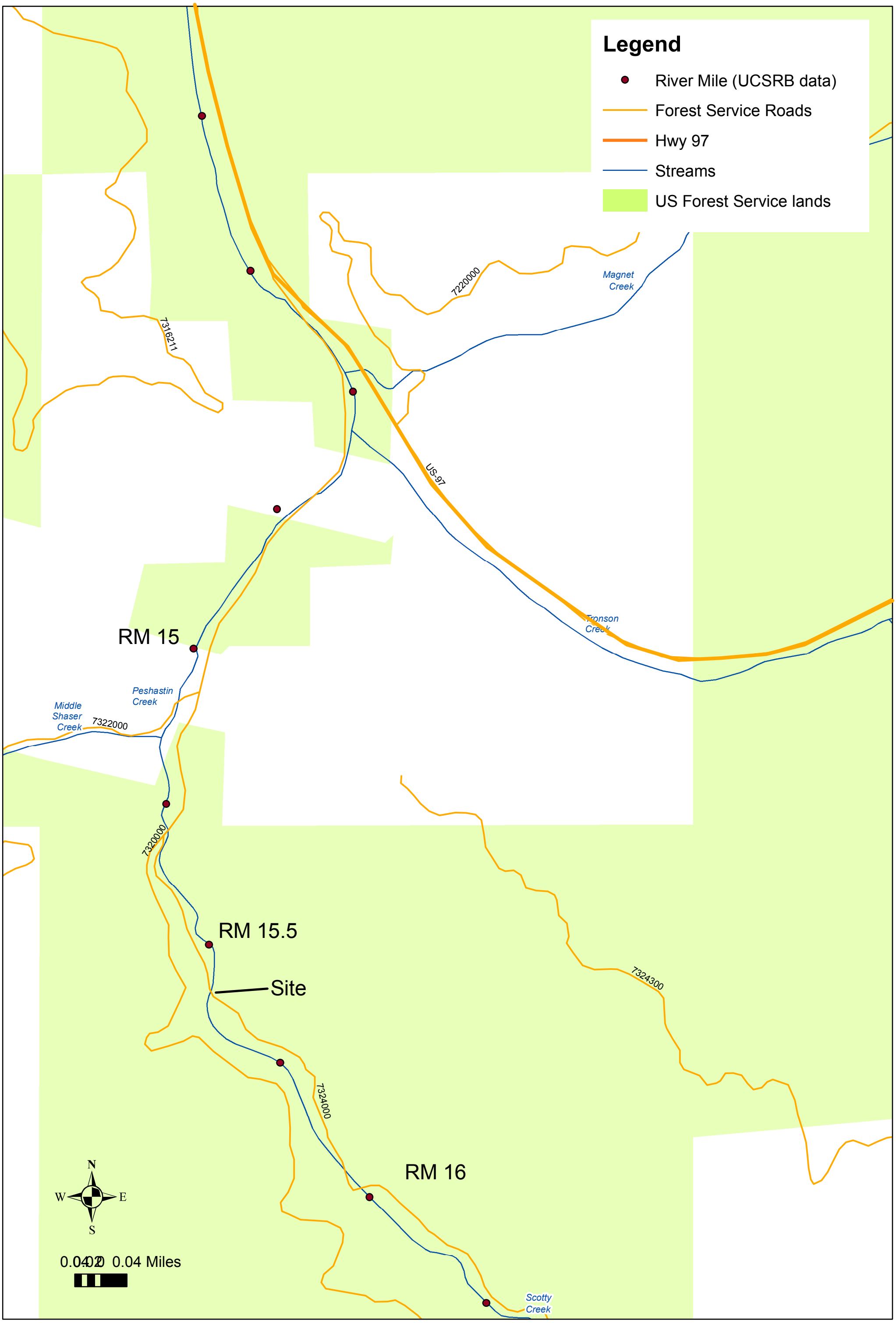


Figure 2: Google earth oblique image of the project area (May 2015). Note the angle of the culvert crossing is not perpendicular to flows. Blue arrows depict stream flow. Red arrow depicts overland flow due to channel constriction. Overland flows are eroding/comprising the current structure and causing increased fine sediment deposition to the stream.

Figure 3: Spring Chinook distribution (yellow-source streamnet) and intrinsic potential (orange – source NOAA 2007 for Recovery Plan).

This map also shows data from the WDFW Fish Passage Database: Green dots or squares are stream crossings that are not barriers. Red dots are complete passage barriers. Orange dots are partial fish passage barriers.

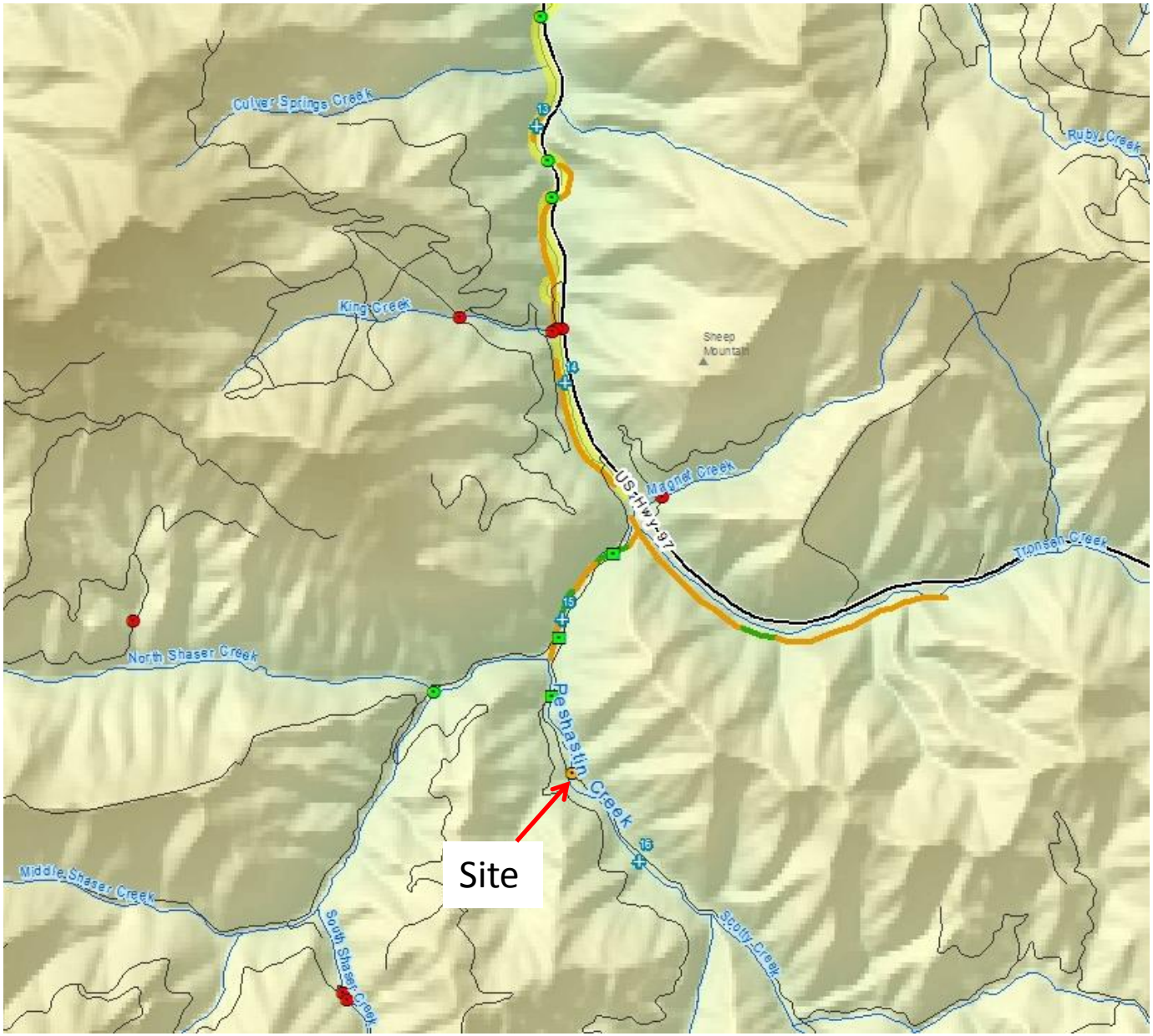


Figure 4: Steelhead distribution (yellow-source streamnet) and intrinsic potential (orange/purple – source NOAA 2007 for Recovery Plan). Steelhead spawning is depicted as pink dots.

This map also shows data from the WDFW Fish Passage Database: Green dots or squares are stream crossings that are not barriers. Red dots are complete passage barriers. Orange dots are partial fish passage barriers.

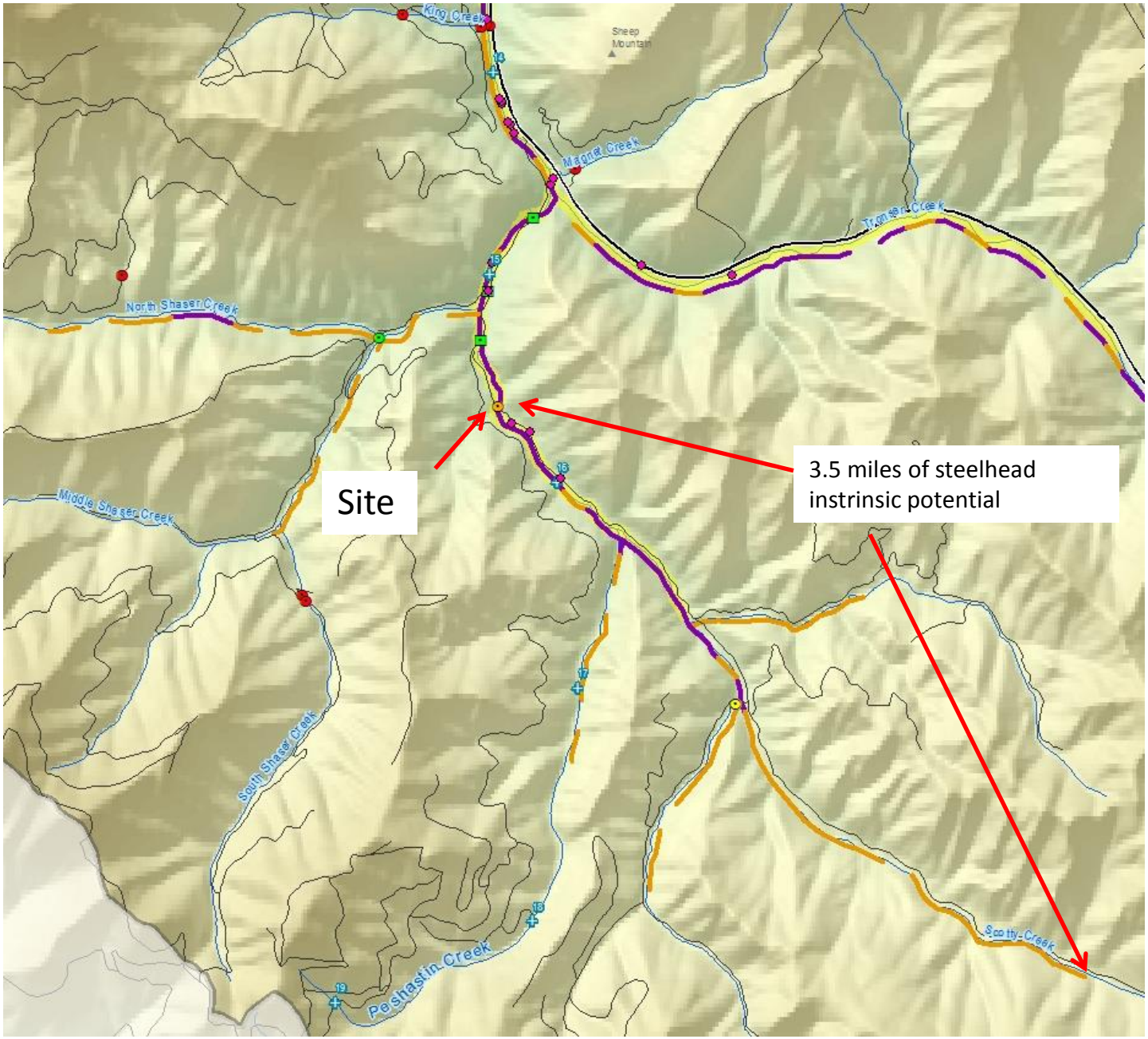
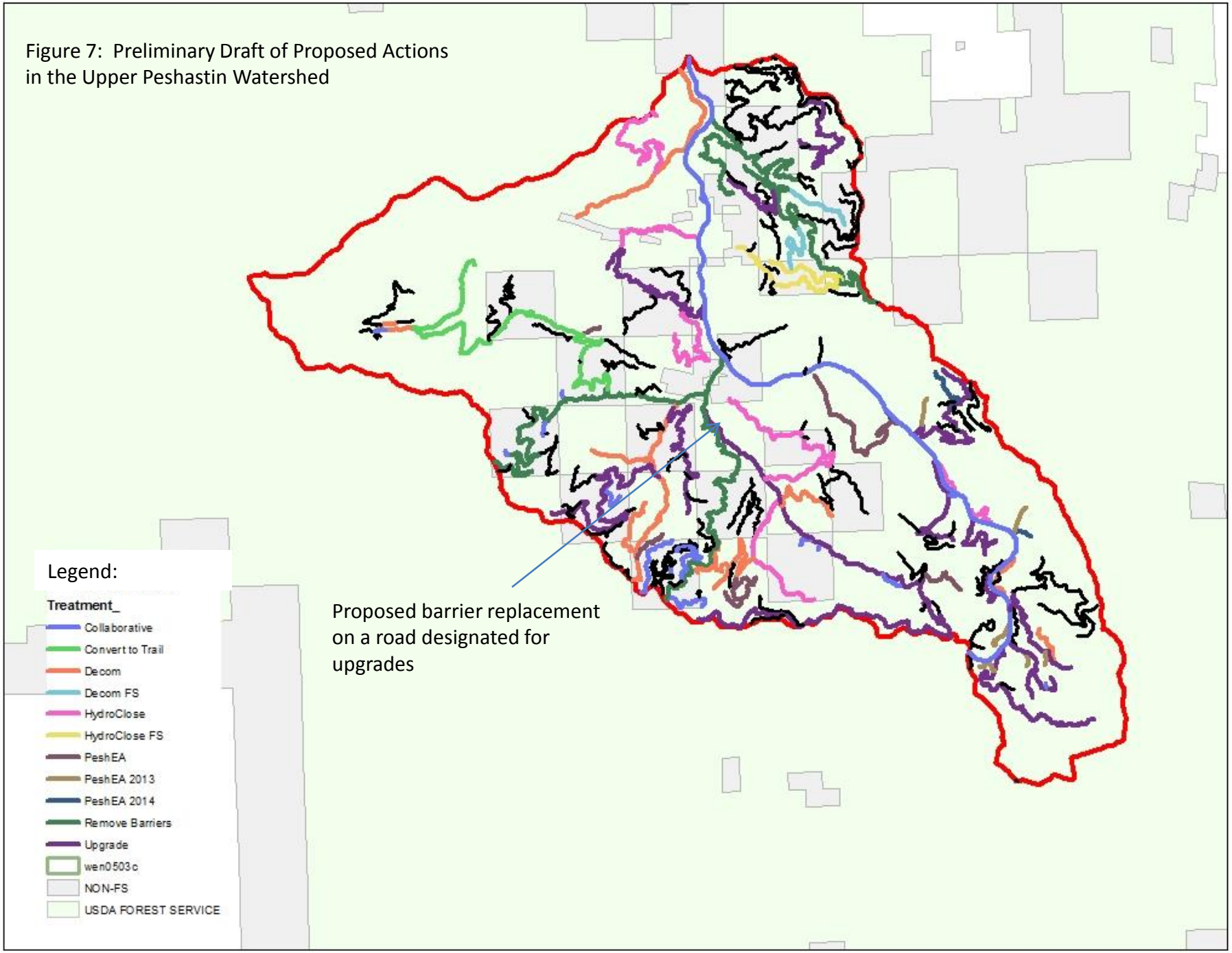


Figure 5: Site Photos

Photo 1 taken upstream looking downstream at the culvert showing the flow constriction under current conditions and deformed shape of the culvert.

Photo 2 taken under low flow conditions showing the damage to the structure.

Figure 7: Preliminary Draft of Proposed Actions in the Upper Peshastin Watershed



Fish Passage and Diversion Screening Inventory Database
Report Cover Sheet

The Washington Department of Fish and Wildlife (WDFW) makes every attempt to keep these reports in sync with the fish passage data presented on the web map; however, the dynamic nature of the data and workflows associated with maintaining the Fish Passage database may result in short-term differences.

Users are encouraged to contact WDFW to discuss appropriate use of the data and how we can assist with fish passage barrier removal or inventory. Please visit the Fish Passage web site for contact information at: http://dfw.wa.gov/conservation/habitat/fish_passage/.

Disclaimer:

- WDFW makes no guarantee concerning the data's content, accuracy, completeness, or the results obtained from use of the data.
- These data are not an attempt to provide you with an official agency response as to the impacts of your project on fish and wildlife.
- WDFW makes no warranty of fitness for a particular purpose, no representation as to the quality of any data, and assumes no liability for the data represented here.
- The fish and wildlife data may not represent exhaustive inventories, but are compilations of observations from field biologists that are updated periodically as knowledge improves.
- It is important to note that fish passage features, habitats, or species may occur on the ground in areas not currently known to WDFW biologists, or in areas for which comprehensive surveys have not been conducted.
- All data presented here represent a snapshot observation of conditions in a dynamic environment that are subject to change.
- Unauthorized attempts to alter or modify the contents of these reports are strictly prohibited.

Other Notes Regarding Fish Passage Data:

- The Fish Passage and Diversion Screening Inventory (FPDSI) database often uses default values such as '-99.99' or -999 to represent null values.
- EXIF data presented with Image Reports may be erroneous due to camera battery failures and resetting of camera clock functions.
- When conducting projects or planning for fish and wildlife, please consider using additional information gathered from field investigations and consultations with WDFW or other professional biologists.
- Erroneous data may be reported directly to Fish Passage staff through the use of the Washington State Fish Passage web application at: http://apps.wdfw.wa.gov/fishpassage/.

WDFW Fish Passage and Diversion Screening Inventory Database

Site Description Report

Site ID 040147 **Project** SRFBGRANT

Geographic Coordinates

Latitude (WGS 84):	47.385632843
Longitude (WGS 84):	-120.65725938
East (HARN 83):	1,601,455.0
North (HARN 83)	748,491.0

Waterbody

Stream:	Peshastin Cr
Tributary To:	Wenatchee R
WRIA:	45.0232
River Mile:	1.00
Fish Use Potential:	Yes
FUP Criteria:	Biological

General Location

Road Name:	Nfd 7324
Mile Post:	-999.99
County:	Chelan
WDFW Region:	2

Owner

Type:	Federal
Name:	US Forest Service

PI Species

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

Associated Features

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

Location/Directions

Site Comments

Water temperature 10.9 c (7/18/2016)

Print Date: 2/26/2018

WDFW Fish Passage and Diversion Screening Inventory Database

Level A Culvert Assessment Report

Site ID:	**040147**				
Latitude:	**47.385632843**	Stream:	**Peshastin Cr**	WRIA:	**45.0232**
Longitude:	**-120.65725938**	Tributary To:	**Wenatchee R**	Fish Use Potential:	**Yes**

Data Source

Field Crew: CCFEG Review Date: 9/13/2016

Culvert Details / **Level A Parameters**

ID	Shape	Material	Span	Rise	Length	WDIC	Apron	WSDrop	Location	Countersunk	Backwater	Slope (%)
1.1	ARCH	CAL	3.20	1.87	13.10	0.16	NO	0.00		Yes	0	-0.82

All dimensions in meters

Channel Description

Toe Width (m):	3.1
Average Width (m):	8.80
Culvert/Stream Width Ratio:	0.43

Plunge Pool

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

Road

Fill Depth (m):	3.00

Assessment Results

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

Comments

Culvert is not perpendicular to stream. Slope measured from top of culvert. Span record at inlet where damaged = 3.2 m, span at outlet = 4.3 m. [LvlB-Barrett,2/6/2018,FishXing. Depth Crit N/A]. Level B run using culvert span from inlet.

Potential Habitat Gain

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

Print Date: 2/26/2018

WDFW Fish Passage and Diversion Screening Inventory Database

Level B Culvert Assessment Report

Site ID: 040147

Reference Point

Elevation (m): 100.00 Location: Inlet bed material

Drainage Basin

Basin Area (sq mi): 9.94 Basin Precipitation (in): 27.50

Culvert Elevations

Culvert ID	Corrugation	USIE (m)	USCBE (m)	DSIE (m)	DSCBE (m)
1.1	1"x3"	-999.99	100.00	-999.99	99.94

Downstream Control

X-Section

Station	Top LB	Toe LB	Bed 1	Bed 2	Bed 3	Toe RB	Top RB
Distance (m)	0.00	1.80	2.45	2.90	3.55	4.35	6.35
Elevation (m)	100.43	100.08	99.97	99.94	100.01	100.05	100.66

Downstream Control Water Surface Elevation (m) 100.07

Downstream Control OHW Surface Elevation (m) -999.99

15 Meters Downstream of Downstream Control

Water Surface Elevation (m): 99.67 Dominant Channel Substrate: Cobble

Results

Velocity (m/sec): 1.35 Depth (m): 0.08

Print Date: 2/26/2018

WDFW Fish Passage and Diversion Screening Inventory Database

Image Report - Active

Site ID:	**040147**				
Latitude:	**47.385632843**	Stream:	**Peshastin Cr**	WRIA:	**45.0232**
Longitude:	**-120.65725938**	Tributary To:	**Wenatchee R**	Fish Use Potential:	**Yes**

Associated Features

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

Image Name: 040147_1.jpg

Image Name: 040147_2.jpg

Print Date: 2/26/2018