Final Completion Summary

Implemented a watershed restoration project that improved fish passage, reduced erosion and sedimentation along 5-miles of Wallowa County Road 4602 adjacent to Little Sheep Creek, and restored road surface conditions reducing maintenance and operation costs as well as improving safety and mobility, all actions were identified in regional planning and watershed restoration documents.

Objective #1

Restored fish passage to 11-miles of Little Sheep Creek on Wallowa County Road 4602, at mile 0, where the road crosses Little Sheep Creek such that both State and federal fish passage criteria are met as currently applied.

Objective #2

Improved roadway drainage reducing erosion and sedimentation input to Little Sheep Creek along 5-miles of Wallowa County Road 4602 from State Highway 350 to the US Forest Service boundary.

Objective #3

Improved travel safety and mobility along Wallowa County Road 4602 from State Highway 350 to the US Forest Service boundary such that all forms of traffic including bicycles, motorcycles, passenger vehicles, RV's, and commercial equipment are accommodated with good visibility, adequate turn-outs, and a road surface of appropriate width and tread.

Background

The double culvert that passed Little Sheep Creek under Wallowa County Road 4602 at the intersection with State Route 350 in Wallowa County, Oregon was a passage barrier to ESA Listed fish including steelhead trout (Oncorhynchus mykiss) and bull trout (Salvelinus confluentus), as well as several other aquatic species. The structure did not meet fish passage requirement regulations as currently applied by ODFW, US Fish and Wildlife Service and National Marine Fisheries Service, specifically jump height and water velocity criteria. Fisheries are very important in the area, with great emphasis being placed on restoring habitat. BPA and others are spending millions of dollars on fisheries projects as part of the Biological Opinion for the Columbia River dams. Many culverts along the roadway are damaged or buried and require maintenance or replacement and a double culvert installation on Little Sheep Creek required fish passage provisions. Replacing the culverts with a channel spanning bridge restored access to

11-miles of habitat upstream. These culverts were an upstream velocity barrier to all fish at high flow and upstream movement at low flows due to jump height and shallow water depth inside the culverts. As debris collected at the top end of each culvert, jump heights were greater than 6-inches exceeding fish passage criteria. The jump height barrier was exacerbated annually by stream dewatering in the later part of the irrigation season as well as natural flow decline in mid and late summer.

Work Done

Objective #1

Restored fish passage to 11-miles of Little Sheep Creek on Wallowa County Road 4602, at mile 0, where the road crosses Little Sheep Creek such that both State and federal fish passage criteria are met as currently applied.

The construction company that was awarded this project replaced the existing culverts (2) that were a fish passage barrier to bull trout, steelhead, and other aquatic organisms in Little Sheep Creek with a bridge as detailed in design sheets G1 – G14 (pages 50 – 63) of the final design documents. Actions that achieved this objective included: 1. Road excavation and culvert removal, 2. Bridge abutment installation, 3. Set 436 lineal feet precast, prestressed, 48-inch voided concrete bridge surface members, 4. Installed 125 lineal feet bridge railing, and 5. Complete bridge approach, structure waterproofing, structure backfill, and roadway resurfacing. During bridge construction a temporary diversion channel was constructed providing fish passage as detailed in design sheets F.11 page 45 in the plan set.

Objective #2

Improved roadway drainage reducing erosion and sedimentation input to Little Sheep Creek along 5-miles of Wallowa County Road 4602 from State Highway 350 to the US Forest Service boundary.

Roadway work along 5-miles of Wallowa County Road 4602 reduced sediment input to Little Sheep Creek through: 1. Roadway reconstruction and resurfacing (5-miles), 2. Road shoulder reconstruction and stabilization (19,000-lineal feet), 3. Roadway ditch reconditioning (3000-lineal feet), and 4. Drainage culvert and road drainage restoration (350-lineal feet). Best management practices such as silt fence installation, straw bales, or fiber roles were installed to reduce construction related sediment input to Little Sheep Creek.

Objective #3

Improved travel safety and mobility along Wallowa County Road 4602 from State Highway 350 to the US Forest Service boundary such that all forms of traffic including bicycles, motorcycles, passenger vehicles, RV's, and commercial equipment are accommodated with good visibility, adequate turn-outs, and a road surface of appropriate width and tread.

Construction activities improved safety and mobility along Wallowa County Road 4602 by: 1. Constructed a widened roadway, 2. Improved intersection at State Route 350 by reducing skew and installing an exit lane from State Route 350, 3. Restored road surface such that potholes and cracks are eliminated, 4. Constructed roadway shoulders, and 5. Painted roadway striping showing centerline and roadway edges.

Public Awareness or Education

The repairs and construction of the Wallowa Mountain loop road and bridge were mentioned in the Wallowa County Chieftain and The Observer newspaper:

https://www.wallowa.com/news/local/loop-road-will-get-m-in-improvements/article_6c851cdc-f3dd-5c72-b1e2-f993bf331a34.html

https://www.lagrandeobserver.com/news/wallowa-mountain-loop-road-construction-set-to-improve-fish-and/article_3739e2c4-abcf-5123-be2f-89f47eec856d.html

Both articles uploaded.

Lessons Learned

The project manager for the grantee learned how the contractor dewatered and diverted Little Sheep Creek during bridge construction. Little Sheep Creek was diverted in to an overflow culvert away from the construction site and remaining water in the project area was removed with a sump pump.

Aquatic Habitat

Oregon Aquatic Habitat Restoration and Enhancement Guide compliance

Guidance and/or Considerations When planning a culvert replacement the following should be considered:

1. Does the affected stream section support native fish habitat, or have fish historically inhabited the area upstream of the culvert?
Yes, there is native fish habitat upstream of the culvert.

2. Does the existing structure block native fish passage?
Yes, the double culvert was identified as a fish passage barrier.

3. Does the crossing blockage separate an introduced species (such as Brook Trout) from a native species (such as Bull Trout)?
No

4. Is fish passage blocked by other road-related problems downstream of the intended culvert replacement site? Do culverts nearby or downstream have a higher priority for replacement?
No, fish passage is not blocked by other road-related problems downstream. There are no culverts nearby or downstream that have a higher priority.

5. Is the culvert going to be installed during “in-water work periods”?
Yes, appropriate in-water work windows were used in the construction of the County road bridge.

Special Conditions
Exhibit B

2. In addition to the requirements in Exhibit C, the Project Completion Report shall include the following:

(a) The number of miles of Little Sheep Creek opened as a result of Project Implementation.
11 miles opened as a result of project implementation.

(b) Fish species that benefited from the project.
Fish species that benefited, included: steelhead trout (Oncorhynchus mykiss) and bull trout (Salvelinus confluentus)

Funding Sources				
Source	Identifier	Cash	Inkind Type	Inkind

Federal Highway Administration (FHWA)	Federal Lands Access Program	$0.00	Labor	$304,112.00
Federal Highway Administration (FHWA)	Federal Lands Access Program	$6,874,288.00		$0.00
ODOT	State Access Management Program	$591,000.00		$0.00
OWEB	219-5024-16570	$118,096.00		$0.00
Wallowa County	Wallowa County funds	$123,240.00		$0.00

Totals					
OWEB Amount	Non OWEB Cash	Inkind Total	Non OWEB Amount	OWEB Match	Total Project Cost
$118,096.00	$7,588,528.00	$304,112.00	$7,892,640.00	6683.0%	$8,010,736.00

Uploaded Files		
Image Type	File Name	Description
Exhibit B	Ex. B 219-5024.pdf	
Map	Vicinity map.pdf	Vicinity map placing the project in context with the Imnaha and Snake River basins
Photo (other)	Pre and post project photos.pdf	Pre and post project photo points
Map	Photo point monitoring_portriat.pdf	Photo point monitoring map
Land Use Form	Land use form_Loop Road Project.pdf	Local land use form reviewed and signed by county planning director
Federal Lobbying Certificate	Federal-Lobbying-Cert.pdf	Signed Federal lobbying certificate
Map	Overall project map.pdf	Map showing Wallowa County road bridge location and the 4602 road construction project
Media Coverage	Wallowa Mountain Loop Road construction set to improve fish and human passage _ News _ lagrandeobserver.com.pdf	Newspaper article
Media Coverage	Loop Road will get $8M in improvements_Chieftain.pdf	Newspaper article