

Final Completion Summary

The Whiskey Creek Courtney Ranch Restoration Project is located in Union County, approximately six and one half miles southwest of La Grande, Oregon. In-stream restoration actions were implemented in August of 2019. These actions included installing 146 post assisted log structures with an additional 80 whole trees placed for cover both in channel and on the floodplain. At each structure we excavated approximately one cubic yard of gravel/cobble to encourage pool formation. The excavated material was placed on the upstream face of each log structure. These log structures will create complex, deep pools to provide refuge during high flows and back water onto the floodplain so that water is stored and flow attenuation achieved. Deeper pools and more complex habitat will provide areas for rearing juveniles to occupy during low summer flows. Riparian fences were started this fall and will be completed in 2020. These fences are set back farther from the stream than the previous fences installed by ODFW in 1992, to allow more vegetation to establish in the floodplain while excluding grazing for the next 15 years. Project partners include the Union SWCD and NRCS for on-farm improvements like riparian fences, riparian planting, upland water developments, improving water gaps, and upland forestry improvements.

Background

Whiskey Creek and Little Whiskey Creek are similar to many other eastern Oregon streams in that they are flow limited during summer months. Low flows in the Whiskey Creek watershed are exacerbated by a simplified channel and disconnected floodplain. The primary limiting factors in the Whiskey Creek watershed as identified in the Recovery Plan for Northeast Oregon Snake River Spring and Summer Chinook Salmon and Snake River Steelhead Populations (Table 5-23) are excess fine sediment, reduced habitat quantity and diversity, high summer stream temperatures, and locally impaired riparian conditions. In Table 7-3 recovery actions for the watershed include: grazing management plans, riparian fences, easements, floodplain connection and adding structure (LWD, boulder). Past land management (timber harvest, grazing, roads, stream channelization) resulted in a simplified stream channel that is largely disconnected from the floodplain. A previous project funded by OWEB (215-5018-11303) addressed excess fine sediment through road decommissioning and road improvements. This project addressed habitat quantity and diversity through log structures designed to inundated the floodplain and activate additional side channels while also creating complex pools. The riparian fences and plantings will address the currently impaired riparian condition.

Work Done

The Whiskey Creek watershed has approximately 15 stream miles of Snake River summer steelhead spawning and rearing habitat. This restoration project focused on 4.5 of those miles or almost one third of the steelhead habitat in the watershed. For this project we installed 146

post assisted log structures. These structures were developed from small diameter trees and wood harvested from overstocked timber stands and are reinforced with driven wood posts. The structures are intended to add friction to the stream channel to force channel adjustment and sediment deposition. The overall project goal is to increase floodplain connectivity and elevate groundwater to increase water storage. Water stored on the floodplain and shallow aquifer will attenuate flow in Whiskey Creek. It is also expected that riparian vegetation will respond positively to an increased groundwater elevation.

In addition to the instream work completed, we worked with the Natural Resource Conservation Service (NRCS) and Farm Services Agency to enter the riparian area into the Conservation Reserve Enhancement Program. This work was started in the fall of 2019 and will be completed in 2020. Over seven miles of new fence will be built to protect 100 acres of floodplain and riparian habitat along 4.5 miles of stream. Additionally the landowners were successful in receiving Regional Conservation Partnership Program funding from NRCS to install upland water developments (OWEB paid for a portion of the upland water developments under this grant) to help disperse cattle away from the stream.

Changes from Proposed

There are two substantial changes from what was proposed to what was implemented. The first change was the number of wood structures installed. We reduced the number of structures because the construction bids came in higher than projected. We installed the maximum number of structures we could with the available funding we had. The proposed was 195 and we installed 146. GRMW plans to install several more structures by hand in 2020 during the in-water work window while we still have active permits. This will be done without any additional funding requests from OWEB.

The other change was to the project timeline and structure locations. The initial plan was to construct this project in 2017 but due to delays in National Historic Preservation Act Section 106 consultation process we weren't able to implement until 2019. During the Section 106 consultation process several areas were identified in the project that contained significant cultural resources and we chose to avoid those areas rather than try to mitigate for impacts. This meant there were areas where we had planned to install structures but were unable to due to these avoidance areas.

Overall, we were able to install 75% of the structures we proposed and we will install more next year. We were able to install all of the fence and plantings that were proposed and we were able to install some additional upland troughs using NRCS funding.

Public Awareness or Education

GRMW awarded the landowners our Ecological and Conservation award at this years Union County Farmers Merchant Banquet. GRMW will also highlight the project on our website.

Lessons Learned

Section 106 consultation is becoming increasingly expensive and time consuming. Sponsors should closely evaluate cost benefit of projects if there is a high probability or known cultural resources within the project area.

Recommendations

We recommend project sponsors research cultural resources early on in the project planning process. There may be cases where cultural resources are prevalent enough that the cost benefit of the project may be reduced considerably when factoring in the cost of mitigating for impacts to those resources.

When implementing post assisted log structures the diameter of the posts will affect the installation effort significantly. We chose 6" diameter posts for additional strength and stability but they were much harder to drive into the stream bed than a smaller diameter post. The contractor used a vibratory plate on an excavator to install the posts and they broke the plate/collar several times along with shattering several posts. Using more small diameter posts may be more a efficient way to achieve greater stability than using larger diameter posts.

Aquatic Habitat

The project implemented activities 1-4 (see attached CREP map) found on page 16 of the guide, grazing management, riparian fences, water gaps and upland water sources . Log structures and large wood placement were in compliance with recommendations on pages 37-40 (see attached design details).

Special Conditions

Before and after photos are uploaded and match has been documented under the funding tab.

| <i>Funding Sources</i> | | | | |
|---------------------------------------|------------|-------------|-------------|-------------|
| Source | Identifier | Cash | Inkind Type | Inkind |
| Bonneville Power Administration (BPA) | BPA | \$0.00 | Labor | \$25,000.00 |
| Bonneville Power Administration (BPA) | | \$29,000.00 | | \$0.00 |
| Grande Ronde Model WS Foundation | GRMW | \$0.00 | Labor | \$8,550.00 |

| | | | | |
|-----------|----------------|--------------|-------|------------|
| OWEB | 216-8205-15454 | \$310,946.00 | | \$0.00 |
| USDA-NRCS | NRCS | \$0.00 | Labor | \$2,000.00 |
| USDA-NRCS | | \$56,659.00 | | \$0.00 |
| USDA-NRCS | | \$55,000.00 | | \$0.00 |

| <i>Totals</i> | | | | | |
|---------------|---------------|--------------|-----------------|------------|--------------------|
| OWEB Amount | Non OWEB Cash | Inkind Total | Non OWEB Amount | OWEB Match | Total Project Cost |
| \$310,946.00 | \$140,659.00 | \$35,550.00 | \$176,209.00 | 57.0% | \$487,155.00 |

* This grant agreement has a special condition that alters the match funding requirement; to read the requirement see Exhibit B of the grant agreement.

| <i>Uploaded Files</i> | | |
|-----------------------|--|---|
| Image Type | File Name | Description |
| Exhibit B | 216-8205-15454 Whiskey Creek Courtney Ranch Restoration Project - Ex. B template.pdf | |
| Conservation Easement | Courtney Ranches CREP.pdf | Map showing CREP boundaries and eliminated water gaps |
| Project Designs | Whiskey Creek Details.pdf | Project design structure details |
| Photo Point | DSCN1247.JPG | Looking upstream on Whiskey Creek |
| Photo Point | DSCN1467.JPG | Looking upstream on Whiskey Creek |
| Photo Point | DSCN1250.JPG | Looking upstream on Whiskey Creek |
| Photo Point | DSCN1470.JPG | Looking upstream on Whiskey Creek |
| Photo Point | DSCN1252.JPG | Picture from road looking down onto Whiskey Creek |
| Photo Point | DSCN1472.JPG | From the road looking down on Whiskey Creek |
| Photo Point | DSCN1253.JPG | Picture from road looking down on Whiskey Creek |
| Photo Point | DSCN1476.JPG | Picture from road looking down on Whiskey Creek |
| Photo Point | DSCN1259.JPG | Looking upstream on Whiskey Creek near the confluence with Little Whiskey Creek |
| Photo Point | DSCN1478.JPG | Looking upstream on Whiskey Creek near the confluence with Little Whiskey Creek |
| Photo Point | DSCN1256.JPG | Looking downstream on Whiskey Creek near the confluence with Little Whiskey Creek |
| Photo Point | DSCN1480.JPG | Looking downstream on Whiskey Creek near the confluence with Little Whiskey Creek |
| Photo Point | DSCN1257.JPG | Looking downstream on Little Whiskey Creek near the confluence with Whiskey Creek |

| | | |
|------------------------------|-----------------------|---|
| Photo Point | DSCN1483.JPG | Looking downstream on Little Whiskey Creek near the confluence with Whiskey Creek |
| Photo Point | DSCN1260.JPG | Looking downstream on Whiskey Creek just downstream from the confluence with Little Whiskey Creek |
| Photo Point | DSCN1490.JPG | Looking downstream on Whiskey Creek just downstream from the confluence with Little Whiskey Creek |
| Photo Point | DSCN1491.JPG | Looking downstream at same location at pp8 but facing farther east |
| Federal Lobbying Certificate | OWEBLobbying_Cert.pdf | Signed Federal Lobbying Certificate |