Partnership for the Umpqua Rivers

Your Watershed Council

1758 NE Airport Road
Roseburg, OR 97470
(541) 673-5756

Received By
OWEB
JUL 23 2015

Report Approved
7/21/2015
Approved
Donald Sick
7-27-15

Morgan Creek Restoration

OWEB Project # 210-2061

Project Monitoring Report – Year Three

June 24, 2015

Exhibit D

Background

Morgan Creek is a low gradient stream that has two miles of high intrinsic potential habitat for OC coho and an additional mile of winter steelhead habitat. Two culverts located on Morgan Creek were measured and ranked for the severity of blocking fish passage. These culverts ranked as the 6th and 33rd worst culverts for fish out of 163

total surveyed in the South Umpqua River 5th field watershed. The instream habitat in Morgan Creek upstream of the culverts was not in good shape and invasive blackberry plants were abundant where riparian trees were scarce. In 2009, PUR, ODFW and three private landowners worked together to enhance this stream and resolve legacy fish passage issues. The two culverts were replaced with half-round multiplate culverts placed on pre-fabricated concrete footings. Across the two upper landowners, 1.5 miles of instream habitat was enhanced by placing 139 logs and 249 boulders at 28 sites. Riparian blackberry was cleared across 1/2 mile of the project area and 250 native plants were replanted within 13 cattle enclosures. On the lowest property, ivy and blackberry were cleared and the area replanted with native plants.

PUR, in cooperation with the Roseburg District BLM restoration and fisheries biologists, has developed an overall plan to address restoration needs across the mosaic of private and federally-managed lands in the South Umpqua 5th field watershed. This watershed encompasses many streams that have been identified as lacking fish passage, quality instream habitat, or both. Over the past ten years, PUR and Roseburg BLM fish biologists, and other partners have worked cooperatively on projects to restore instream habitat and fish passage in other streams in this watershed and also have several projects planned (Upper Days, Fate, St. Johns, Poole, Stouts, Wood, Jordan, W. Fork Canyon and Perdue Creeks). These projects were very successful and created high quality summer and winter habitat. This watershed is comparatively drier than the rest of the basin. Aggradation of gravels behind the habitat structures is also working to hold hyporheic water like a sponge and provide cooler water for a longer period of time. This water is then available at the end of the summer when a combination of water withdrawal and heat cause the South Umpqua River to run at nearly a trickle and stream flow is needed the most. Most of the initial projects were planned on federally-managed land, county roads, or industrial timber land. Now that the projects have been completed and successful for a few years, PUR has begun outreach to landowners with small holdings in the watershed. One stream stood out from the rest as the highest priority for restoration: Morgan Creek. Maps of limiting factors were created, and Morgan Creek was identified as having one of the worst fish-blocking culverts in the watershed, another bad culvert near the mouth, fair instream habitat, and few native plants in the riparian zone. Three landowners manage the lower two miles of this creek, and all parties were interested in restoration.

ODFW has identified three miles of "intrinsic" habitat in this creek. Morgan Creek is a low gradient stream that would historically have had OC coho spawning grounds in the lower two miles and winter steelhead use all three miles. The lack of wood and gravel retention limits spawning areas and smolt survival. A perched culvert 0.5 miles from the mouth blocks 2.5 miles of upstream OC coho and steelhead migration, spawning, and rearing. Resident cutthroat trout, dace, and sculpin are found above the culvert. The Umpqua Basin Fish Access Team (UBFAT) measured and ranked most of the culverts in this watershed in order of worst fish-blocking culverts. The upper culvert ranked as the 6th worst culvert in the watershed, and the downstream culvert ranks as the 33rd worst culvert out of 163 culverts surveyed.

Current management of this watershed includes livestock production and timber harvest. These activities are properly managed under current agriculture and forest practice laws. Historically, these same uses were much harder on the instream and

riparian habitat and have left a legacy of heavy blackberry cover in some areas. In the lower reach, the lack of a diverse native plant community has resulted in areas of unstable stream banks, patchy shade over the stream and a lack of instream wood. Fencing the livestock out of the riparian area many years ago protected the existing trees, but no new native plants can become established because of the blackberry dominance. The more-heavily forested riparian areas have maintained enough shade to keep the blackberry from establishing, but the diversity of native plants is still low.

Project Description

Web Briggs, the patriarch of the Briggs Ranch in southern Douglas County, came to ODFW in 2008 looking for a way to restore fish to Morgan Creek and make it how it was when he was a boy. This was a historic move for a family that has not often opened up the ranch for outsiders and whose gate sports a sign prohibiting access to anyone from ODFW's wolf management team. As the project began to develop, PUR also approached the two lower landowners about a chance to partner on the work. They both agreed to join in and we were able to connect the project from the mouth of Morgan Creek at the South Umpqua River to the extent of coho habitat. When the project was approved by OWEB in spring 2010, PUR began working with the Briggs Family to produce the fish logs from their ranch. This went really well and the locally-sourced logs had about a two mile trip from where they once stood to where they would lay in the creek. This saved a significant amount of self-loader log truck time. Once all the logs and boulders were staged, the contractor worked with PUR and an ODFW biologist to place them all. The fish passage project began around the same time. The culverts that were in place were rotten, perched and blocked fish passage. Both were replaced with half-round multiplate arches on prefabricated concrete footings. The culvert replacement went very smoothly. The prefabricated footings dramatically decreased the length of the project because there was no waiting for seven days for poured in place concrete to set up. The riparian restoration project began during the winter of 2010/2011. The lowest landowners, the Battles and Carrols, began clearing blackberry with their own equipment. During spring 2011, the Briggs worked with PUR to repair the fence that was cut to allow excavator access into the creek. In June 2010, a youth crew from the Phoenix School came to clear English ivy and blackberry at the Carrol property. The same day, they planted 78 plants and mulched them all with a commercial bark mix. A week later the same crew moved upstream and spent three days on the Battle property to clear the blackberry that the mower was unable to reach. At end of July 2010, the Northwest Youth Corps youth crew was used to finish up the blackberry removal at the Battles. In early November, the blackberry resprouts were sprayed with herbicide in an attempt to kill the weakened plants. Once the blackberry and ivy control was complete, the rest of the planting and fencing commenced on the Battle property. The livestock exclosures were built in early December 2011. Each of the 13 exclosures were planted with a mix of plants. Each plant was mulched with raw sheep wool to control plant competition.

Changes to original proposal

More materials and more placement sites were added to the project. PUR and ODFW worked together to add 9 more logs and 249 boulders to the instream project. The original application called for some of the logs to be placed with a line pulling machine,

but it was more cost effective to do the project with the excavator. Riparian fence was installed for 13 livestock exclosures as well as for places where the excavator accessed the stream across existing fence. Less seedlings were planted than originally planned for, but larger plants were purchased to increase the survival rate. All the blackberry was cleared that was proposed, but more area was left open for one of the land owners to have better access to keep the blackberry mowed down in the future. Due to his health and age, it was too much for him to successfully maintain so many new plants.

Lessons Learned

This project was another good example of using the landowner as a source for logs. Each day of self-loader log truck time saved is enough to buy another two or three logs. Another good outcome from the project was the use of raw wool to control grass around the new native plants. The wool is extremely effective in controlling new grass growth as well as maintaining moisture around the young plants. A final lesson learned from the riparian work is that landowners followed through to various degrees of what they committed to in the beginning. The Carols, the lowest owner in the system, did much more than originally talked about. They planted and cleared around some little side channels and a pond that weren't originally included. The Briggs family ended up repairing the streamside fence and mending the gaps made by the excavator as well as other gaps already present. The end result was a fully fenced riparian area on the property. The middle owner, the Carol family, was not as successful with the riparian work. They were unable to meet the commitments to continue mowing the streamside blackberry. Four and five years later, the regrowth is significant. The Carol family has poor health that only deteriorated after the project, which was not foreseeable. It is possible that writing up a management plan, than PUR and landowners sign, would help keep owners focused on the needed deliverables, like follow up spraying.

Meeting Goals

The project has met all goals by providing unimpeded fish passage, to all life stages. One and one half miles of instream habitat was enhanced by placing 139 logs and 249 boulders at 28 sites. Riparian blackberry was cleared across 1/2 mile of the project area and 250 native plants were replanted within 13 cattle exclosures. On the lowest property, ivy and blackberry were cleared and the area replanted with native plants.

Coho salmon were observed above both culverts during the 2013 visit. Pre-project surveys did not identify any coho salmon above the Briggs culvert. In fact juvenile fish were only observed up to the low water crossing on the Battle Property. It would appear that fish passage is restored throughout the system. Riparian enclosures were in varying states of disrepair, but each enclosure that was visited had native vegetation growing in them; some doing very well. They were functioning to maintain cattle exclusion. Culverts appear to be functioning properly. No headcutting above and fish passage is possible during most flows. Road surfaces are in great shape and no structural damage to the culverts was identified.

2015 Update

The Morgan Creek instream project was a great success. The logs and boulders placed into the stream continue to provide cover habitat for fish, have created pools, and cause greater floodplain interaction. The winter of 2014/15 brought a significant storm to

Douglas County. In some areas this was calculated as a 20 year event. The structures held firm due to the huge log size. These were logged from the Briggs property about a mile away from the site. The project and the logging needed to complete the project, brought the PUR planner and main Briggs family representative, Gerry, together as a team. Over the years, the PUR planner has kept in close contact with Gerry. PUR sourced logs from him later for a project in Bilger Creek. He also ow Over the last year, he inquired about what he perceived as a lack of fish and wanted to know if there were any blockages for fish. The ODFW biologist walked the lower property (Battle) and the Briggs property and found no indication of any fish passage barrier. PUR will continue to stay in contact with these owners long into the future, as valuable partners located in the South Umpqua Watershed. PUR's planner noticed that the blackberry regrowth on the Battle property had not been managed over the last two years, and that the few cattle they once kept were now gone. The PUR planner spoke with Mr. Battle during the final monitoring visit and he did not seem to recognize her or remember her.

Maintenance and Modifications

No maintenance or modifications have been needed.

Costs

Since no maintenance or modifications were required with this project there were no additional costs. Costs were incurred for the site visit to take photos as well as to write the report.

Category	Unit Number	Unit Cost	Total
Travel	70 miles	0.55/mile	$ 38.50
Staff Time Monitoring	3 hours	49.82	$ 149.86
Staff Time Report	2 hours	44.81	$44.81
		Total:	$232.77

Public Awareness

There have been no outreach tours to these sites, other than the amount of time spent each day with the youth crews that came in to clear brush and plant back native species. Part of each day spent on site was devoted to learning about the project and the benefits of the project work.

Though no tours are likely to occur at these sites because of landowner preference, an invaluable outreach has been made possible by successfully completing this project with the well known patriarch of this historic ranch. Word of mouth between long time respected ranchers such as Web Briggs provides us a solid positive reputation amongst a community that was difficult to access. Web's son Gerry was not initially supportive of project work, but at the end became one of PUR's biggest allies in that area. Having a successful project with these landowners may very well lead to more projects in the agricultural community.

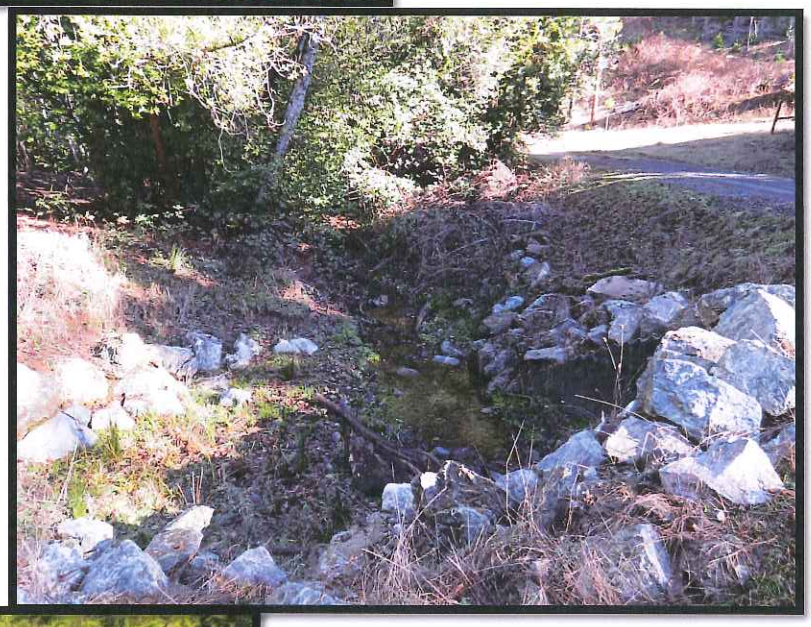
Battle Culvert Outlet Post-project 2012

Battle Culvert Outlet Post-project 2013

Battle Culvert Outlet Post-project June 2014

Battle Culvert Outlet Post-project June 2015. Culvert continues to function well.

Briggs Culvert Inlet
Pre-project 2009



Briggs Culvert Inlet
Post-project 2012

Briggs Culvert Inlet
Post-project 2013

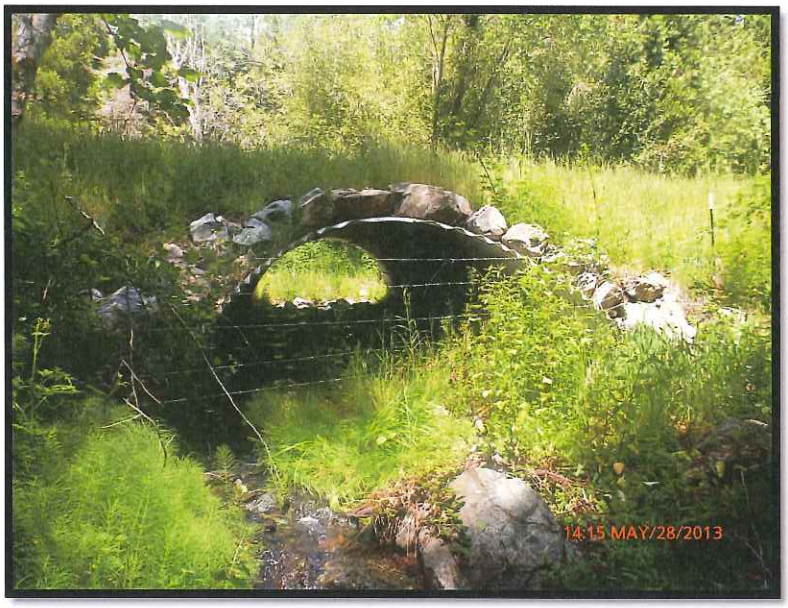
Briggs Culvert Inlet Post-project June 2014

Briggs Culvert Inlet Post-project June 2015. The site is stable and passing all fish.

Briggs Culvert Outlet
Pre Project 2009

Briggs Culvert Outlet
Post-project 2012

Briggs Culvert Outlet
Post-project 2013



Briggs Culvert Outlet
Post-project June 2014

Briggs Culvert Outlet
Post-project June 2015. Vegetation, including small alders, have vegetated all the disturbed areas around the culvert replacement.

Site #11
Briggs Property
Post-project
2013

Site #11 Briggs Property Post-project June 2014

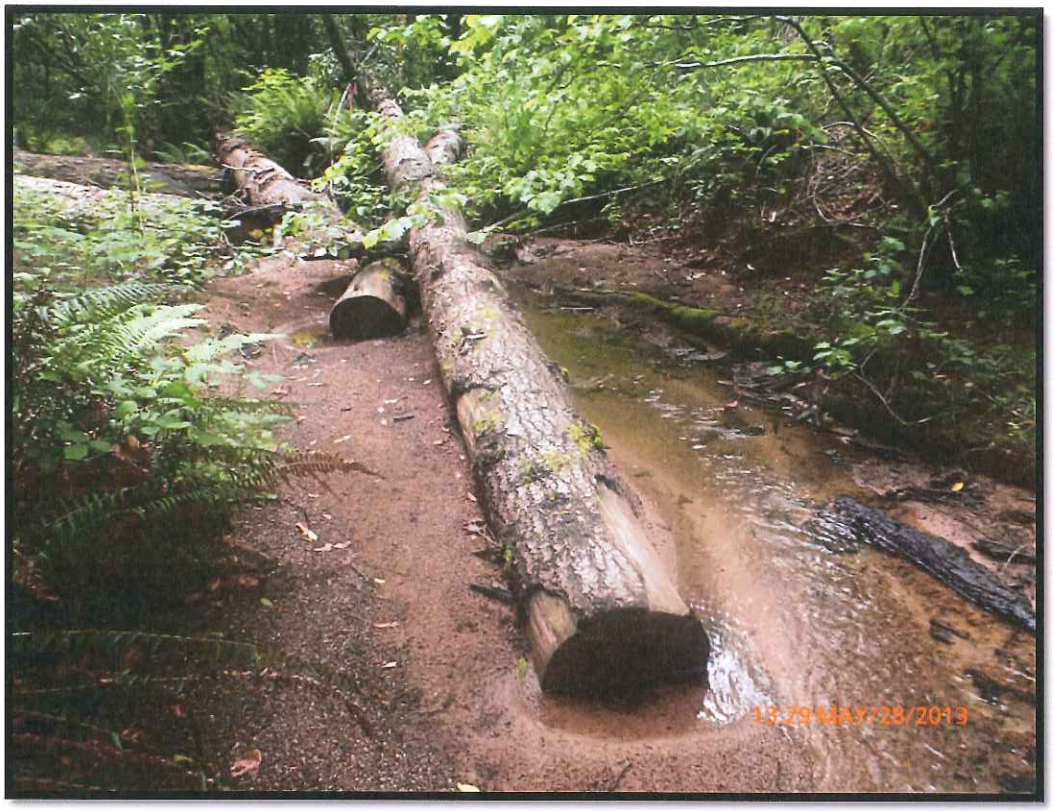
Site #11 Briggs Property Post-project June 2015. These logs transformed this reach by increasing meander and increasing pool depth, huge physical changes to occur in only five years.

Site #12
Briggs
Property
Post-project
2010

Site #12
Briggs
Property
Post-
project
June
2014

Site #12 Briggs Property Post-project June 2015. Utilizing large materials in a small stream provided a fast stream response to the treatment. Complexity, cover, and increased interaction with the floodplain increased soon after the materials were placed.

Site #15
Briggs Property
Post-project
2013



Site #15
Briggs
Property
Post-
project
June
2014

Site #15 Briggs Property Post-project June 2015. Laying large materials in the creek created meanders, islands, side channels, and deeper pools.

Site #21 Briggs Property Post-project 2013

Site #21 Briggs Property Post-project June 2014

Site #21 Briggs Property Post-project June 2015. Sand deposits are seen far up into the floodplain after the Dec. 21st, 2014 storm came through. This high water event was estimated to be a 20 year return interval event. The logs held firm in this flow and complexity continues to increase with increased gravel and sand deposition.

Riparian Exclusions and Plantings 2012

Riparian Exclusions and Plantings 2013

Riparian Exclusions and Plantings June 2014

Riparian Exclusions and Plantings June 2015. The owner was unable to maintain the exclusions and the blackberry around them. Once livestock were off the pasture, the blackberry had no disturbance and grew freely.