U.S. Fish and Wildlife Project Completion Report

Catherine Creek-Baum Habitat Improvement Project

Biological Opinion – FWS Reference 01EOFW00-2012-0025

Project Sponsor – Grande Ronde Model Watershed Program (GRMWP)

Project Manager – Jesse Steele, jesse@grmw.org, 541-663-0570

Prepared by Jesse Steele

September 30, 2013

i. Project identification
    1) Project name - Catherine Creek-Baum Habitat Improvement Project
    2) Project type - Levee set-back, side channel and wetland creation, and large woody debris installation
    3) HUC 170601040505
    4) Fisheries biologist - Jesse Steele, jesse@grmw.org, 541-663-0570
    5) Construction Start: August 1, 2012 and End: October 31, 2013

ii. Photo documentation

Pre-Project habitat conditions-aerial

Catherine Creek-Baum Habitat Improvement Project – April 20, 2012 at 10:22am by Allen Childs (CTUIR)

This is an aerial photo of the Catherine Creek-Baum Habitat Improvement Project site before construction. The view is looking north and flow direction is from the bottom right of the photo to the upper left.

Pre-project habitat conditions

Catherine Creek-Baum Habitat Improvement Project - March 22, 2011 at 10:48am by Jesse Steele (GRMW)

This is an on the ground photo of the Catherine Creek-Baum Habitat Improvement Project site before construction. The view is looking north and taken from the southeast corner of the project site. The photo shows the pre-project location of the levee and the fence. It also shows the vegetation conditions of the project site prior to construction.

Project Construction – Levee set-back

Catherine Creek-Baum Habitat Improvement Project - September 11, 2012 at 1:01pm by Jesse Steele (GRMW)

This photo was taken from the same location as the previous photo but during construction. The fence and levee have been removed. The far left side of the photo shows the new levee being built. Notice the young pine trees on the right side of the photo were left undisturbed. Side channel location is flagged in the middle of photo.

Project Construction – Large woody debris

Catherine Creek-Baum Habitat Improvement Project - October 1, 2012 at 2:22pm by Jesse Steele (GRMW)

This photo shows the large wood structure being installed at the outlet of the side channel. It shows how effective the silt curtain is at preventing suspended sediment from entering Catherine Creek.

Post-construction – Aerial view of project site

Catherine Creek-Baum Habitat Improvement Project – April 17, 2013 at 9:17am by Allen Childs (CTUIR)

This post-construction aerial photo shows the layout of the new side channel, wood structures, and the new levee location.

Post-construction – Side channel entrance

Catherine Creek-Baum Habitat Improvement Project – March 12, 2013 at 11:30am by Jesse Steele (GRMW)

This photo shows the upstream extent of the side channel with the large wood structure built at the entrance. Also note the coconut fiber erosion fabric used on the side channel to reduce erosion until vegetation becomes established. Also visible in the photo are the willow stakes planted along the waters edge.

Post-construction – Side channel exit at high flows

Catherine Creek-Baum Habitat Improvement Project – May 12, 2013 at 1:46pm by Jesse Steele (GRMW)

This photo shows the side channel exit back into Catherine Creek at high spring flows. Wood structure at exit of side channel is completely submerged.

Post-construction – Side Channel at high flows

Catherine Creek-Baum Habitat Improvement Project – May 12, 2013 at 1:47pm by Jesse Steele (GRMW)

This photo shows the side channel at high flows. The containerized brush species are on site and ready to be planted. Species planted include Elderberry, Red osier Dogwood, Snowberry, and Golden Currant. This photo also shows the irrigation system that was used to water the project site during the first season.

Post-construction – Project vegetation

Catherine Creek-Baum Habitat Improvement Project – August 7, 2013 at 12:27pm by Jesse Steele (GRMW)

This photo shows the project site vegetation. Areas surrounded by orange flagging indicate some of the wetland areas where we had good survival on rush and sedge species. Up to this point weeds have been controlled by hand pulling and mowing.

iii. Construction Effects

1) The turbidly plume was not visible outside of the isolation work area during construction. Even during installation of large wood structures the suspended sediment was held within the isolation areas (see Large woody debris photo). Isolation barriers were removed after sediment had settled and a faint plume could be seen for approximately 100 feet downstream of the work area. The plume was monitored again during high spring flows but there was no detectable plume because Catherine Creek contained a lot of suspended sediment at the time.
2) Erosion has been monitored carefully over the first season. High winds during the first winter caused some erosion but not enough to cause any structural weaknesses on the project. Most of the sediment was not deposited in the side channel or Catherine Creek but was carried overland for several hundred yards. Some sediment was deposited near the downstream end of the side channel due to the wind. The sediment has remained in place, even during spring flows and is now heavily vegetated on the bank of the side channel. Because the side channel is lined with erosion control fabric we have not seen any erosion due to water. All the wood structures are stable with little to no erosion. There are no pollution concerns on the project site. The project site is well vegetated now and we don't anticipate wind erosion having an effect this winter.

iv. Salvaging Effects

1) The contractor isolated both work areas using a silt curtain that was sealed on the bottom and sides to prevent any fish from coming in and out of the work area.
2) Once isolated the work areas were electroshocked to remove all fish. Four sculpin, two red-sided shiners, one sucker and one crayfish were removed with two passes each at both sites. Fish were held in an aerated five gallon bucket for less than 10 minutes before being released.
3) As anticipated no listed fish species were present in the work isolation areas.
4) All fish were observed to be in good health at the time of release just upstream of the project site.
5) No mortality was observed.

v. Comments

1) An In-water work extension was approved for this project from October 1st through October 12th. The extension was needed to complete the large wood structures at the inlet and outlet of the side channel.
2) Seeding of the project site took place immediately after construction. The grasses grew up nicely the first fall but were desiccated by harsh cold winds during the winter. The following spring when it was apparent the grass had died we reseeded using the specified native mix. Grass species have grown in well now and we don't anticipate loss this winter since it is much more established.