Document ID #P131341

CATHERINE CREEK ELMER-HASSINGER WETLAND AND REARING HABITAT

Completion Report

Performance Period
July1, 2010 to December 31, 2012

Prepared by:

Lyle Kuchenbecker
Contract Project Planner
Grande Ronde Model Watershed Program

Prepared for:
United States Department of Energy
Bonneville Power Administration
Division of Fish and Wildlife
P.O. Box 3621
Portland, OR 97208

Project No. 1992-026-01
Contract No. 48575

March 20, 2013

CATHERINE CREEK ELMER-HASSINGER WETLAND AND REARING HABITAT

Background

Catherine Creek is critical habitat for ESA listed Snake River summer steelhead, spring Chinook and bull trout as well as resident rainbow and other native fish. All of these populations are severely depressed from historic levels. Catherine Creek was rated one of the highest habitat restoration priorities in the Grande Ronde Subbasin Plan. This reach of Catherine Creek is a migration corridor and provides juvenile winter rearing habitat. Lower Catherine Creek historically meandered a great deal in the reaches above what is now the confluence with the Grande Ronde River. This channel actually used to be the Grande Ronde River before the construction of the State Ditch in the late 1800's. Over the years some channel reaches were naturally cutoff, creating oxbows. Many reaches were intentionally cutoff throughout the early and mid-1900's with the same result. Levee construction to protect agricultural lands was also a common practice. Most often levees were constructed immediately adjacent to the stream channels disconnecting riparian habitats and the stream channel. The project created seasonal wetland habitat and salmonid rearing habitat adjacent to lower Catherine Creek by relocating a levee and opening up an oxbow.

Existing Condition

Approximately 50 years ago a two hundred foot channel was dug to cut off about 2000 feet of Catherine Creek. The old channel was plugged at the upper end but left open at the lower end. Over the years the lower end of the oxbow has silted in, cutting off the oxbow from the main channel during low-flow periods. At about the same time a levee was constructed along the east side of the oxbow and the live channel. Water backs up into the oxbow during periods of high flow.

Project Location

The project area is located on Catherine Creek approximately 12 miles above the confluence of Catherine Creek and the Grande Ronde River. Legal description: T2S, R40E, Sec. 19, SW ¼ of the NW ¼ and NW ¼ of the SW ¼

Project Description

The GRMW began working with landowners Howard & Cherie Elmer and Phil & Trudy Hassinger in 2008 to inquire if they would be interested in doing a habitat restoration project. In consultation with fisheries biologists and in coordination with the landowners GRMW staff developed a habitat restoration plan, prepared a project proposal and acquired BPA funding.

Limiting factors for Catherine Creek identified in the Grande Ronde Subbasin Plan are:

- Habitat quantity
- Habitat diversity
- Sediment
- Flow
- Temperature

The project directly addressed habitat quantity and habitat diversity, and indirectly addressed sediment, flow and temperature.

Specific Objectives were:

- Increase quality and quantity of off-channel salmonid rearing habitat by reactivating about 2000 feet old stream channel
- Increase water storage for late season release (potential late-season flow increase and temperature decrease)

- Restore connectivity between stream channel and adjacent landscape
- Improve habitat for wetland and riparian-dependent species

The GRMW accomplished the following planning, design and implementation activities:

- Contracted with Anderson Perry & Associates to do a site survey and prepare engineering designs.
- Completed ESA consultation using U.S. Fish and Wildlife Service (USFWS) Partners for Wildlife programmatic consultation.
- Completed Cultural Resource Section 106 consultation with Oregon State Historic Preservation Office, the Confederated Tribes of the Umatilla Indian Reservation and the Nez Perce Tribe.
- Contracted with Anderson Perry & Associates to conduct construction engineering inspections.

Completed Construction Activities

Construction was on-going from September 1, 2010 to October 25, 2010. Revegetation work occurred in November 2010 and again in May 2011.

The following activities were completed:

- Removed approximately 2000 feet of the existing dike adjacent to the Catherine Creek channel and the oxbow
- Constructed approximately 2500 feet of a new dike 50-250 feet back from the stream channel
- Excavated material within the new flood zone to create more permanent wetlands (ingress and egress provided back to the channel) as per designs
- Removed existing water control structures in the old dike (concrete and headgates)
- Opened bottom end of oxbow by removing sediment buildup in the lower approximate 500 feet of the oxbow channel
- Installed a 48”culvert through the channel plug at the upper end of the oxbow (free flowing, no headgate)
- Erosion seed disturbed ground with native forbs and grasses

Project Maintenance

The project should require very limited maintenance once vegetation becomes established. During vegetation establishment, and periodically thereafter, the landowners will monitor and control noxious weeds.

Monitoring

Post-project monitoring will consist of the following:

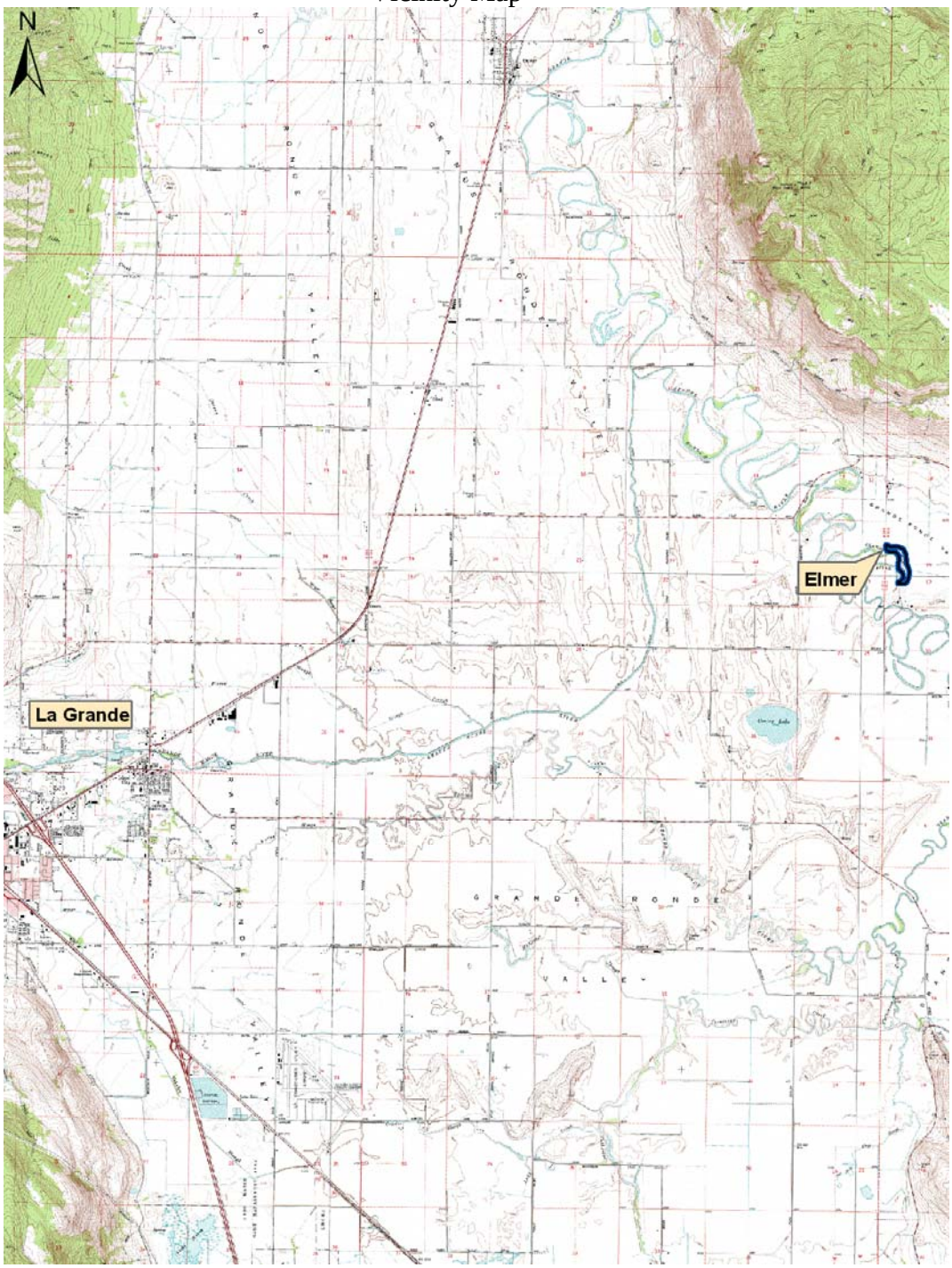
- Establishment of at least 6 permanent photo-points
- Annual report describing status of the project including vegetation, performance of the new levee and water control structures
- The GRMW will coordinate periodic juvenile fish presence surveys (winter/spring)

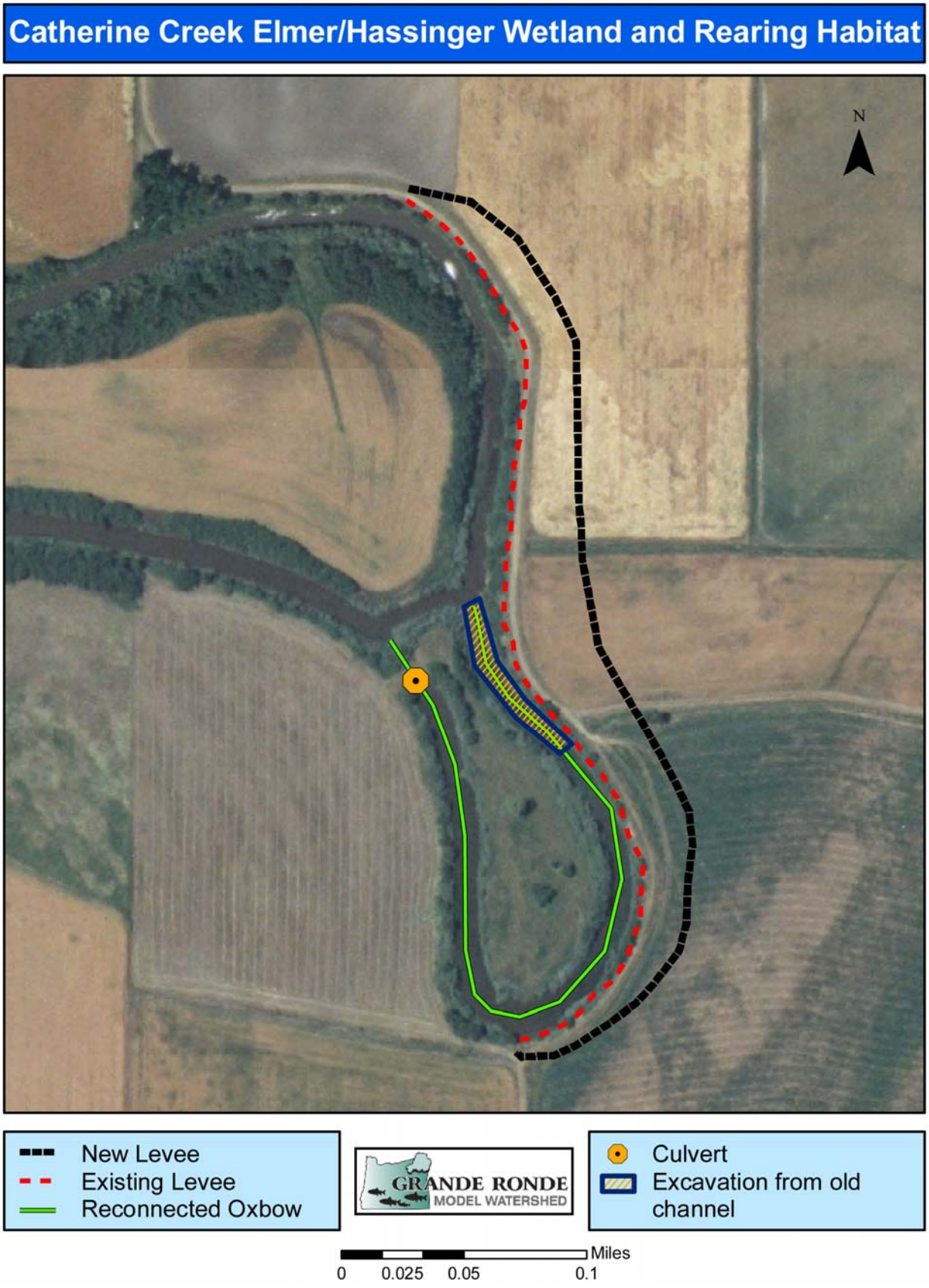
Budget and Expenditures

The project was entirely funded by BPA.

Catherine Creek Elmer-Hassinger Wetland & Rearing Habitat		
	Approved Budget	**Expenditures**
Mob/Demob Trackhoe	$2,000	$0
Grubbing	$1,500	$1,500
Dike Removal & Recon	$26,000	$26,000
RipRap Delivered	$3,000	$1,738
RipRap Place	$750	$750
Stabilization	$1,500	$1,500
Gravel Delivered & Spread	$540	$335
Geotextile Fabric	$150	$475
Tide Valve	$3,000	$0
Culvert/Concrete remvl/disp	$2,000	$2,000
36" Culvert purchase	$2,400	$1,439
36" Culvert Install	$2,600	$2,600
48" Culvert purchase	$2,800	$1,998
48" Culvert Install	$2,600	$2,600
48" Culvert Purchase	$4,200	$2,711
48" Culvert Install	$3,900	$2,694
Seed Surface Prep	$500	$500
Broadcast Seeding	$500	$567
Planting Stock Purchase	$1,000	$0
Planting Stock Installation	$1,000	$0
Excavate Backwater Chan	$7,200	$2,995
TOTAL	**$69,140**	**$52,402**

Vicinity Map




Catherine Creek Elmer/Hassinger Wetland and Rearing Habitat
N
New Levee
Existing Levee
Reconnected Oxbow
GRANDE RONDE
MODEL WATERSHED
Culvert
Excavation from old channel
Miles
0
0.025
0.05
0.1

Photos Pre-Project

Aerial photo looking north. Oxbow is in the foreground. Strip of bare ground on the east side of the oxbow is the new wetland area. The levee will be relocated along the east side of the bare ground.

South end of the old levee looking north. The oxbow is on the left.

Photos During Construction

About the mid-point along the new levee looking south. New wetland and oxbow is off to the right.

About the mid-point along the new levee looking north. New wetland and oxbow is off to the left.

Photos Post-Construction

About the mid-point along the new levee looking south. New wetland is off to the right. Spring flooding that occurred in April 2012.

About the mid-point along the new levee looking north. New wetland is off to the left. Spring flooding that occurred in April 2012.