

Final Report for Western Native Trout Initiative
Sun Creek Historic Channel Reconnection
Trout Unlimited
October 26, 2017

Project Background

The goal of this project is to reestablish redband trout and migratory populations of bull trout to Sun Creek through improved connectivity, habitat quality and stream and riparian function. Sun Creek was historically a tributary to the Wood River but it had been ditched, straightened, and relocated for irrigation and became a tributary to Annie Creek. A population of federally threatened bull trout in the upper reaches of Sun Creek has been aggressively managed by Crater Lake National Park and has increased in abundance ten-fold in the last two decades. Reconnecting Sun Creek to the Wood River will provide a migratory corridor for the isolated bull trout population and also expand available habitat for redband trout currently present in the Wood River. The reconnection includes establishment of a new Sun Creek stream corridor, instream water transfers and to increase flow in the new channel, and a fish screen on the irrigation diversion to prevent fish entrainment in irrigation ditches. It also includes riparian fencing and planting along the reconnected reach.

Completed Project Activities

In 2015, Phase I of channel construction was completed. Phase I included the middle reach of the channel, and was entirely on Sun Pass State Forest. Approximately 4000 feet of channel was created, much of it through the historic channel, easily visible on the landscape. In addition, large wood was staged along the entire private property reach of the new channel.

In 2016, Phase II of channel construction was completed. Phase II included the entire length of the new channel except for 100ft at the upstream end that connects it to the existing Sun Creek channel. Wood was placed throughout the new channel to increase heterogeneity and habitat complexity. A riparian fence was built along one mile of the new channel (the portion of the channel located on cattle pasture). A riparian fence was also built along the east side of the pasture to protect springs that flow into the Wood River. Approximately 6500 trees and shrubs were planted along the new channel, mostly concentrated in the pasture reach. All of the planted trees were caged with wire mesh, and 10% of the shrubs were caged.

In 2017, the fish screen and diversion structure was installed at the upstream end of the restored reach. On May 9, 2017, water was released down the restored channel for the first time and allowed to run all the way to the Wood River.

Monitoring is ongoing and includes tracking fish populations, vegetation survival, channel morphology, flow, and amphibians. A monitoring report will be prepared in November of each year and shared with funders and partners.

Outreach

A short film funded by USFWS about the project was released in October 2017 and is available on YouTube (“A Creek Once More”). In addition, Oregon Public Broadcasting is currently working on a radio and film piece about the project that is expected to be done in early 2017.

Sun Creek Restoration

Wood River Valley

Completed:
2017

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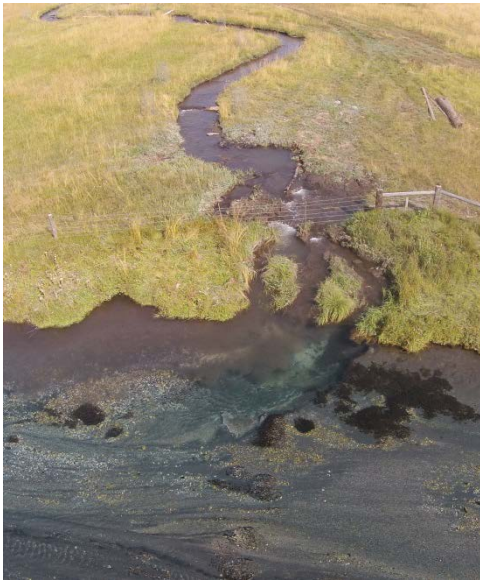
PROJECT OVERVIEW

Sun Creek flows from Crater Lake National Park into the Wood River Valley and is home to one of the few bull trout populations in the Upper Klamath Basin. This bull trout population is expanding due to excellent management by the national park, but extreme downstream habitat degradation and lack of connectivity has limited recovery. This project reconnected Sun Creek to the Wood River and provides migratory habitat for the bull trout population, as well as native redband trout.

PROJECT COMPONENTS

- Reoccupy natural Sun Creek channel and connect channel to Wood River (2 miles of new channel)
- Transfer water rights instream from 250 acres of pasture to increase flow (~5 cfs added instream before July 20, ~3 cfs added instream after July 20)
- Install riparian fence on private property on new channel (~1 mile of fence)
- Plant native riparian area (~25 acres)
- Install fish screen at irrigation diversion (1 new screen)
- Monitor project effectiveness

PRIMARY SPECIES: redband trout, bull trout, Oregon spotted frog



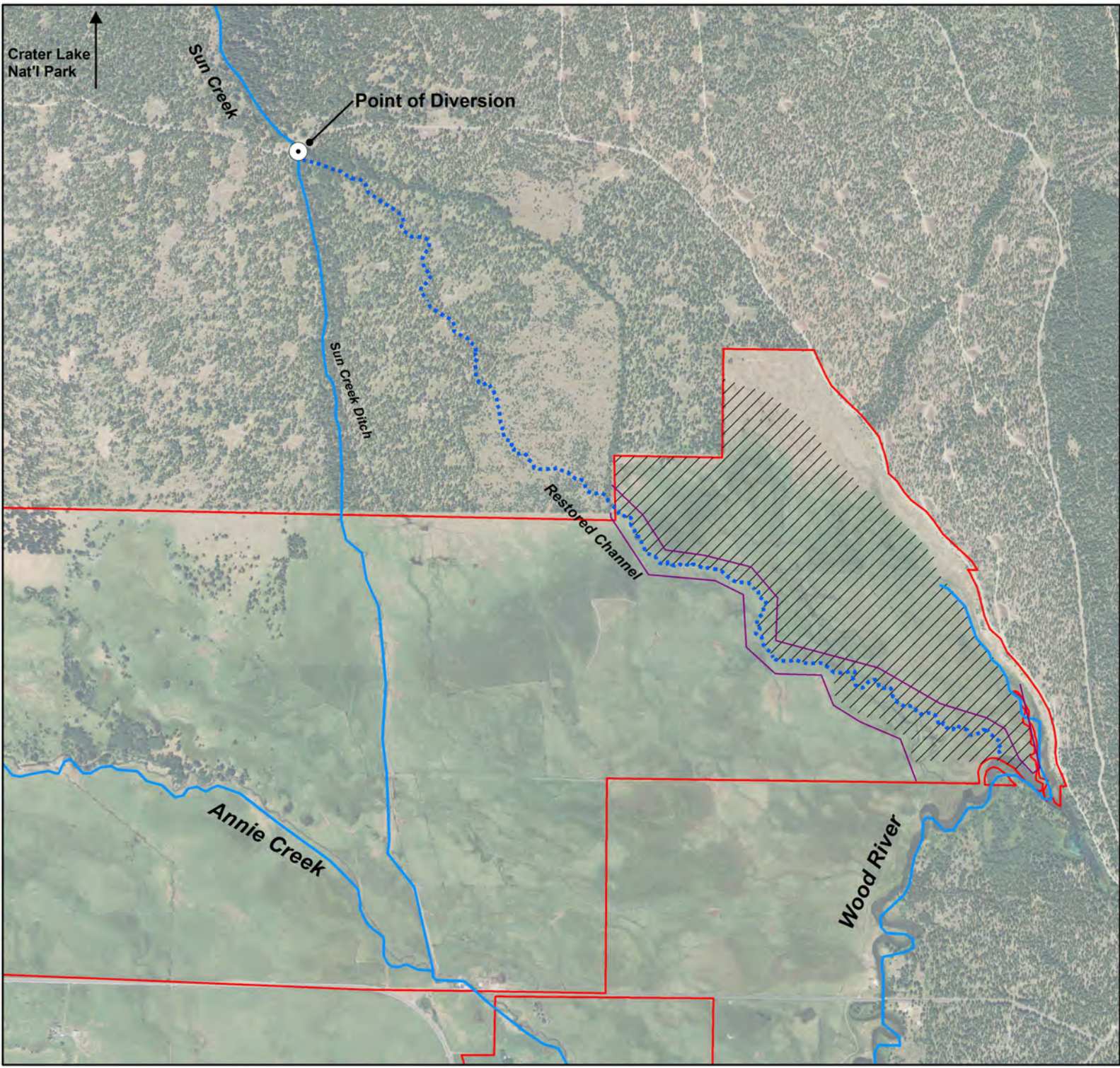
Sun Creek confluence with Wood River



Reoccupied Sun Creek historic channel

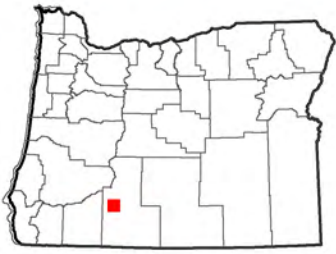
PROJECT PARTNERS AND FUNDING ENTITIES

Private Landowners, Crater Lake National Park, Trout Unlimited, U.S. Fish and Wildlife Service, National Fish and Wildlife Foundation, Natural Resources Conservation Service, Oregon Department of Fish and Wildlife, Oregon Department of Forestry, Oregon Watershed Enhancement Board, The Klamath Tribes, U.S. Forest Service, Western Native Trout Initiative, Oregon Water Resources Department

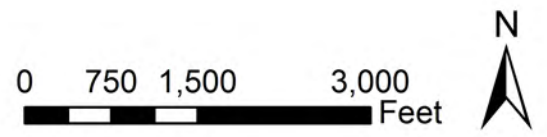


Sun Creek Project Overview

Updated 08/07/17



- Existing Rivers
- Limnes Land Co. Property Boundary
- Restored Channel
- New Riparian Fence
- Instream Transfer Acreage
- New Fish Screen and Consolidated POD



Photopoint #1: Point of diversion and headgate structure

March 2015 (pre-construction)



August 2017



Photopoint #4: (from original Interfluvue report in 2007) Shows clear historic channel before construction. In the original OGMS completion report, this photo was labeled PP#2.

July 2007 (pre-construction)



August 2017



Photopoint #6: Ditch before channel construction near northern ranch boundary.

Oct 2015 (pre-construction)



August 2017

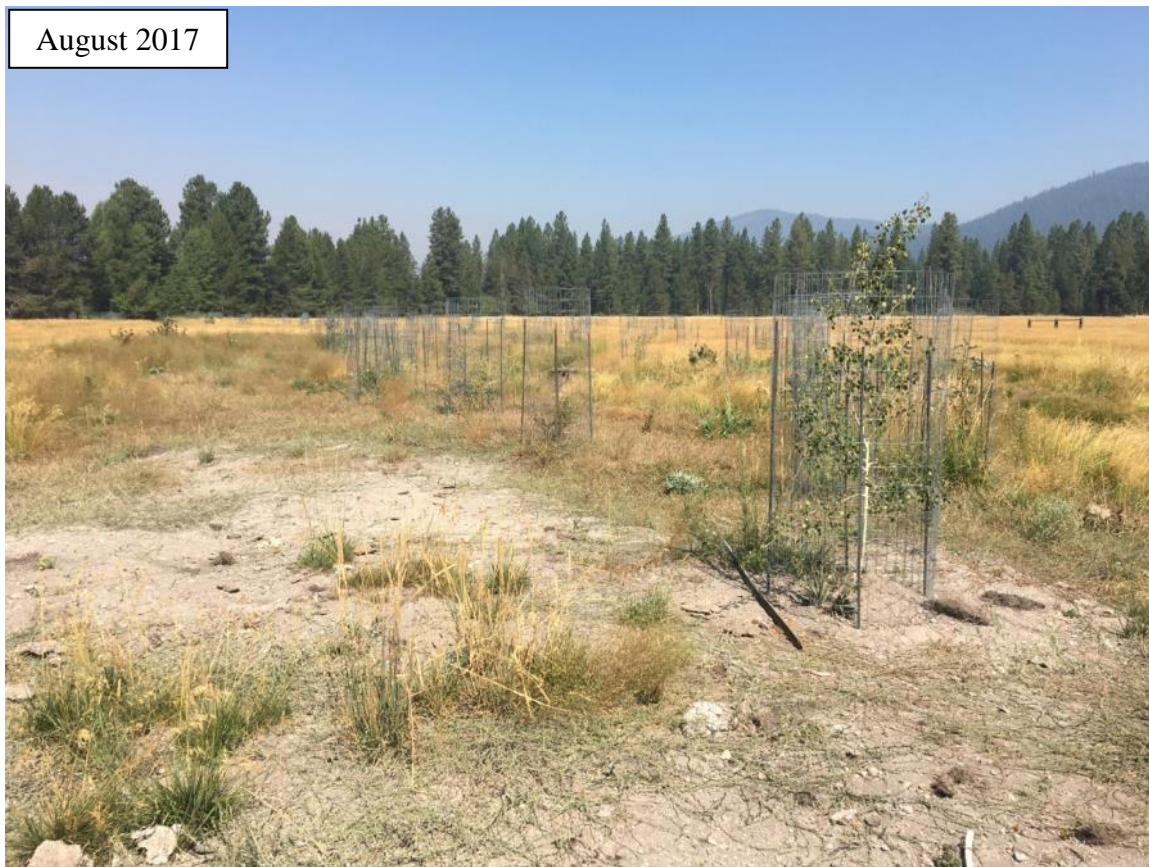


Photopoint #8a Ditch before channel construction. In the original OGMS completion report, this photo was labeled PP#3.

Nov 2015 (pre-construction)



August 2017



Photopoint #8b: The new channel runs along the left of the photo, but is not easily visible. Cages in 2017 photo are surrounding newly planted trees and shrubs.

July 2016 (pre-construction)



August 2017



Photopoint #9a: Shows construction of channel in the same location as existing ditch. (This is an aerial version of photopoint #8a)

Sept 2015 (pre-construction)



August 2017



Photopoint #9b: Shows construction of channel in the same location as existing ditch. (This is an aerial version of photopoint #8b)

Sept 2015 (pre-construction)



August 2017



Photopoint #13a (no pre-construction photo, but shows veg recovery after construction)

April 2017



August 2017



Photopoint #16: View of channel mouth. In the original OGMS completion report, this photo was labeled PP#11.

August 2016



August 2017



Photopoint #17: Shows final downstream connection of Sun Creek to the Wood River (excavated August 2017). This photo is an aerial version of photopoint #16.

June 2017



August 2017



Photopoint #21: Shows fence set-back from Wood River springs

August 2016



August 2017

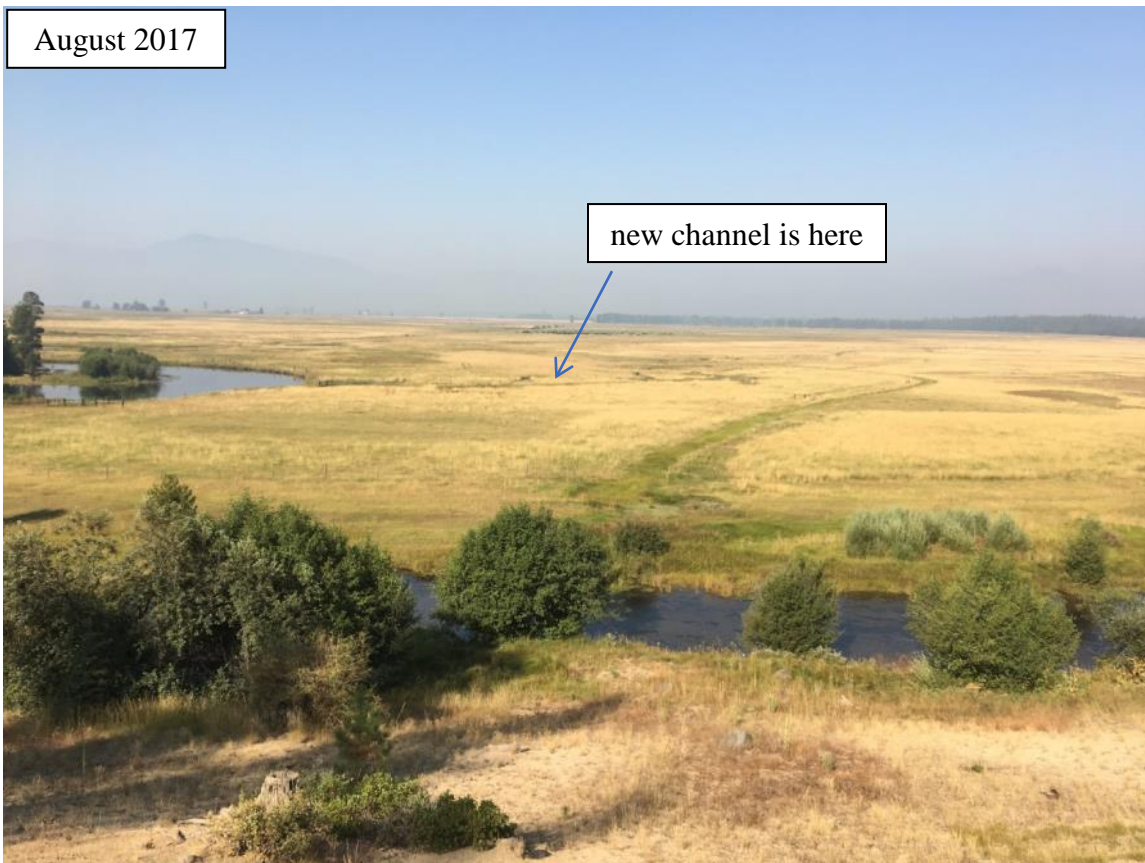


Photopoint #23: Overview of confluence with Wood River. It is difficult to see new channel with full season of grass growth. In the original OGMS completion report, this photo was labeled PP#17.

Aug 2016 (pre-construction)



August 2017



Additional Photos:

Fish Screen (in June 2017, right after installation)



Forest Veg Plot #2:



Pasture Veg Plot #1:

