

South Fork Chalk Creek Cutthroat Trout Passage Project

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Introduction

Chalk Creek supports an extensive, connected Bonneville cutthroat trout population, which occupies approximately 111 miles of contiguous stream habitat. Two on-channel ponds on a tributary to the South Fork of Chalk Creek were constructed in the 1950's and have fragmented another 1.6 miles of occupied habitat. Although on-channel ponds are generally considered deleterious to native fish populations, these two ponds were viewed as being potentially beneficial. For example, no lacustrine habitat occurs within the Chalk Creek drainage, and these ponds provide an opportunity for a portion of the population to exhibit high growth rates in ideal conditions. These ponds also provide a potential source of fish population expansion efforts within the upper Weber River Subbasin.

A majority of the Chalk Creek Watershed is privately owned. The Oswald and Blonquist Ranches occupy approximately 3500 combined acres of land within the Chalk Creek Watershed. The properties are located at the headwaters of the South Fork of Chalk Creek, approximately 17 miles east of Coalville, Utah.

In addition to the presence of the on-channel ponds, 4 road crossings were identified as being partial barriers to fish

migrations. These road crossings didn't completely block fish passage, but likely limited upstream movement in certain conditions (e.g. low waters years). The road crossings also had potential negative impacts because three were undersized and one was a ford through the stream.

Objectives

The project objectives were to:

1. Restore the connectivity of fish populations in the headwaters of the South Fork of Chalk Creek by installing fish ladders and improving road crossings.
2. Improve habitat conditions within the stream segments.
3. Remove sediment deposited in the ponds.
4. Strengthen the dam on the Oswald Pond.

Methods

Four stream segments and three small ponds are located on the properties. Stream Segment A flows into the Oswald Pond and was used by cutthroat trout prior to project implementation, but habitat conditions were in poor condition



Figure 1: Habitat structures constructed in Segment A.

due to a lack of pool habitat and overhanging vegetation. Segment B is



Figure 2: New fish ladders constructed on both ponds with wooden steps in place.

located upstream of the upper pond and is presently used by cutthroat trout. Habitat conditions and connectivity are good; therefore no stream work was completed in Segment B. Segment C is located in Snake Hollow, on the northern part of the property and it is connected to the middle pond. It is presently used by BCT for spawning during wet years. The road Culvert was replaced to make it fish passable. Segment D was completely reconstructed to provide a passable channel between the Oswald and Blonquist Ponds.

The Blonquist and Oswald Ponds presently support strong populations of Bonneville cutthroat trout that reproduce naturally and overwinter. Both pond outlets were complete barriers to fish migrations and were replaced with concrete outlet structures with fish ladders. In addition to the pond outlets, we constructed step pool complexes below each pond outlet by placing large rocks to create channel roughness. In the process, the dam of the Oswald Pond was strengthened by the addition of clay material.

The final phase of this project included the reconstruction of two road crossings on the South Fork Chalk Creek. Both road crossings were considered partial migration barriers, especially at low water levels.



Figure 3: A new bridge, which has replaced a previously existing culvert that was considered a partial fish migration barrier.

Project Partners

Utah Watershed Restoration Initiative
U.S. Fish and Wildlife Partners Program
Western Native Trout Initiative
NRCS WHIP
Utah Division of Wildlife Resources
U.S. Fish and Wildlife LIP
Landowner In-Kind Donations
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