Cattle Creek

Mono County, California

2007 Stream Habitat Survey Report

Prepared by:

Carson Ranger District: Humboldt-Toiyabe National Forest

Introduction

Cattle Creek begins in Mono County, California high in the mountains of the proposed addition to the Hoover Wilderness near Crater Crest. The river flows approximately 3.59 miles until it drains into the south shore of Lower Twin Lakes. Cattle Creek flows through the proposed addition to the Hoover Wilderness and the entire length of the stream is under the management of the Humboldt-Toiyabe National Forest, Bridgeport Ranger District. The survey of Cattle Creek began at its confluence with Lower Twin Lakes and continued upstream to the streams origin from three separate tributaries flowing from high elevation mountain ponds.

Purpose and Need

The 1995 Lahontan Cutthroat Trout Recovery Plan recommended that an ecosystem management plan be developed for the Walker River Basin in order to both determine objectives for the future desired conditions of the watershed, and to create strategies for achieving these objectives. In 1998 a Walker River Basin Recovery Implementation Team was organized to develop strategies for Lahontan cutthroat trout (LCT) restoration and recovery efforts in the Walker River Basin. In August 2003 the recovery team completed a Short-Term Action Plan for Lahontan Cutthroat Trout Recovery in the Walker River Basin. The short-term action plan outlines specific tasks to be completed within five years. Some of the tasks that were identified include: (1) identifying and evaluating fish passage and existing barriers within the Walker River Basin, (2) developing a watershed analysis of the physical components of the Walker River Basin, and (3) initiating habitat surveys to evaluate potential LCT introduction streams and validating against existing LCT inhabited streams.

The Walker River Basin historically provided an estimated 595 miles of stream habitat (Kling and Mellison 2008) and 49,400 acres of lake habitat for the native Lahontan cutthroat trout (*Oncorhynchus clarki henshawi*). Populations of these salmonids within the watershed were interactive and interconnected, and therefore these metapopulations likely had high genetic diversity and were capable of long-term persistence through adverse conditions.

Within the Walker River basin, LCT currently occupy one stream that is within their historic range; By-Day Creek. Lahontan cutthroat trout have also been introduced into the formerly fishless headwaters of five other Walker River basin streams; Wolf Creek, Silver Creek, Mill Creek, Slinkard Creek, and Murphy Creek. Together, LCT within these 6 streams occupy approximately 17 miles of stream habitat, approximately 2.9% of the total miles that LCT presumably occupied historically.

The primary causes for the decline of LCT include: (1) reduction and alteration of stream discharge, (2) alteration of stream channels and morphology, (3) degradation of water quality, (4) reduction of lake levels and concentrated chemical components in natural lakes, and (5) introductions of non-native fish species. The Walker River Basin is primarily inhabited by non-native salmonid species that include but are not limited to:

Rainbow Trout (*Oncorhynchus mykiss*), Brook Trout (*Salvelinus fontinalis*), and Brown Trout (*Salmo trutta*). These competitive and aggressive introduced fish have displaced the endemic LCT. A small native population of LCT can be found in By-Day Creek part of the East Walker River system.

Long term survival and recovery of LCT with the Walker River Basin will require sustained cooperation and effort from multiple federal and state agencies, including the Forest Service and personnel of the Humboldt-Toiyabe National Forest. Gaining information through immediate action can aid in prioritizing future objectives for the restoration of LCT. The 2007 Walker River watershed surveys are being conducted to gain information about streams in the basin, and furthermore to provide an inventory of potential fish habitat for LCT. The surveys include the tasks of identifying potential fish passage barriers and evaluating physical characteristics that pertain to the success of the native LCT. Should recommendations be made to reintroduce LCT, these surveys can provide baseline information for future management of the fishery. Cattle Creek was surveyed on September 26th, 2007 by Joel Ingram and Kevin Rybacki of the Carson and Bridgeport Ranger Districts: Humboldt-Toiyabe National Forest.

Methods and Materials

Forest Service personnel surveyed Cattle Creek by hiking the watercourse in an upstream manner. Interesting and relevant features were documented, photographed, and recorded into a GPS unit. These features included but were not limited to: road crossings, fish sightings, permanent fish barriers, seasonal fish barriers, tributaries, springs, beaver dams, areas of erosion concern, grazing impacts, etc.

Fish passage barriers were noted and categorized into one of four categories: natural-permanent, natural-seasonal, artificial-permanent, and artificial-seasonal. A permanent barrier is categorized as an obstacle, waterfall, or drop in excess of 5ft that would prevent passage of fish year-round (specifically LCT). A stadia rod was used to measure barriers where applicable. Some permanent barriers may actually act as seasonal barriers and some seasonal barriers may actually act as a permanent barrier.

Results

Approximately 3.38 miles of Cattle Creek were surveyed between Sites 1 and 15. Throughout the surveying of Cattle Creek the most prevalent feature documented was fish barriers, which were at the beginning of the survey and towards the headwaters of the creek. Five barriers were found, three of which (Sites 4, 5, and 6) were deemed permanent and two were deemed seasonal (Sites 12 and 13). The permanent barriers can be found at the start of the survey as the stream flows down a steep mountainside into Lower Twin Lakes. The second most abundant feature documented were the presence of tributaries that added to the flow of the stream. There were two tributaries identified along the stream and they are located at Sites 10 and 14. The two sites listed as “other” were braids in the stream near the beginning of the survey as the creek traveled down a steep gradient into Lower Twin Lakes. These can be found at Sites 2 and 3. Since the

entire length of this stream is located within the proposed Hoover Wilderness there were no impacts from roadways; however, a trail crosses the stream at Site 7. During the survey fish were seen and documented at Sites 8 and 11. No Campsites were seen nor was there any area where erosion was a concern. Site 9 is listed as a photo point. The overall stream gradient for the surveyed section of Cattle Creek is 11.5%.

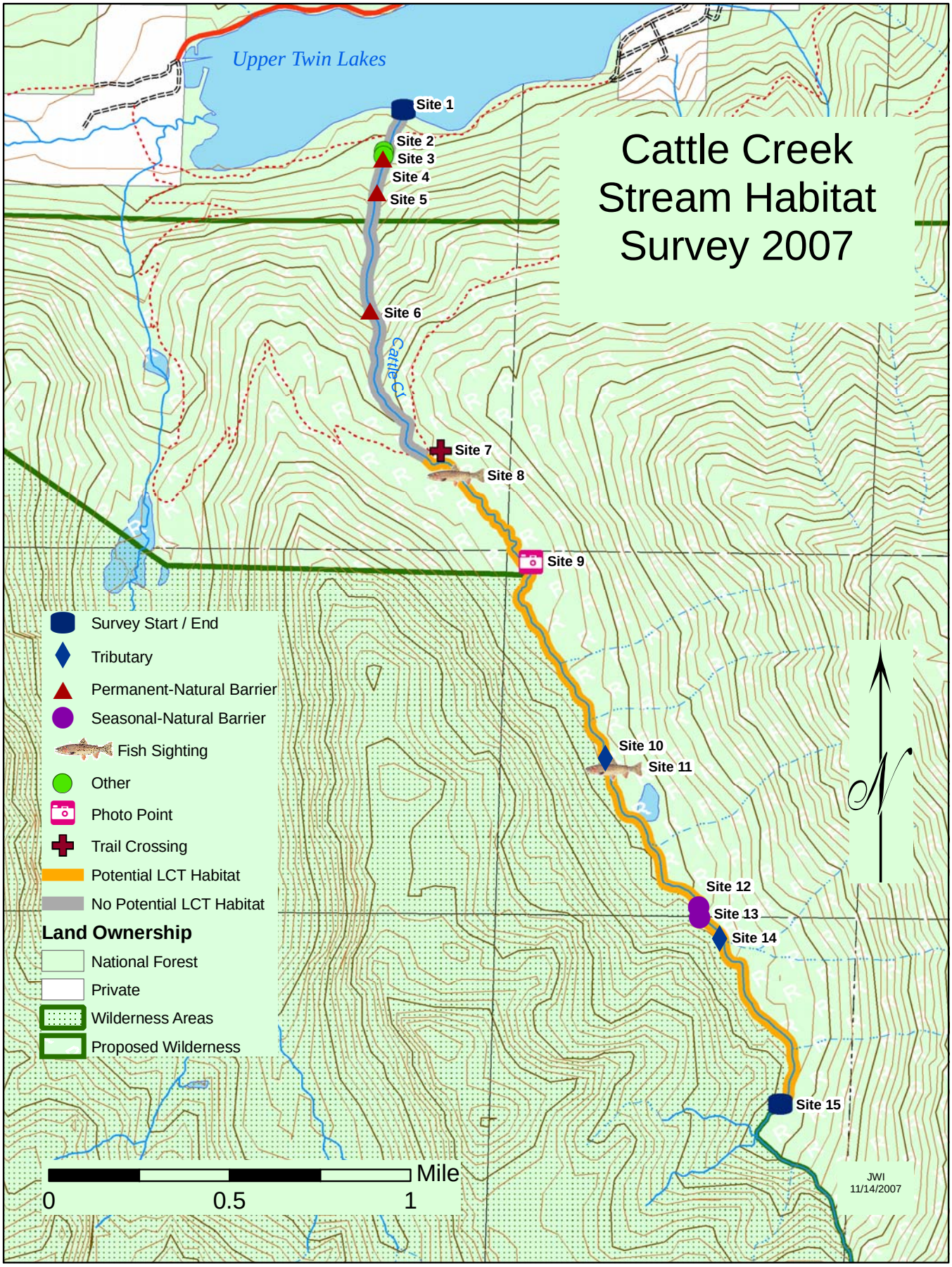
Discussion

Cattle Creek provides 2.41 miles of potential LCT habitat between Sites 7 and 15. From the point where the creek enters Lower Twin Lakes until the open meadow after Site 6 fish habitat is not present. This 1.05 mile stretch has several barriers as the gradient is very steep (25.7%) and the elevation gain is well over 1000 ft. This section is characterized by its many barriers including cascading waterfalls and rock gabions as high velocity water flows over large boulders. This section also provides limited pools for habitat and has many braids in the stream. The stream banks on this north facing slope are filled with big pine trees both upright and downed creating a stream that is heavily loaded with debris. Between Sites 7 and 15, the stream flows mostly through meadows and contains only two seasonal barriers located at Sites 12 and 13. This section of the stream is characterized by long runs, low gradient riffles, and plenty of pools. The stream gradient for this section is 4.8%. The stream tends to meander often through this stretch and turns back on itself several times during one particular section. This entire stretch from Site 7 to the survey end point (Site 15) does provide potential LCT habitat. One limiting factor through this stretch of the creek is the presence of non-native fish species. Non-native fish were documented at Sites 8 and 11.

Cattle Creek is located in the proposed addition to the Hoover Wilderness. There is no motorized vehicle access and only one hiking trail gives access to the creek. Due to these factors, there is little human impact on the creek. Fishing the creek is also limited by the creeks location and difficulty to access.

Recommendations

1. Consider the 2.41 mile section between Site 7 and Site 15 as potential LCT habitat and consider Cattle Creek a low candidate for restoration.


Upper Twin Lakes
Cattle Cr
Site 1
Site 2
Site 3
Site 4
Site 5
Site 6
Site 7
Site 8
Site 9
Site 10
Site 11
Site 12
Site 13
Site 14
Site 15
Cattle Creek Stream Habitat Survey 2007
Survey Start / End
Tributary
Permanent-Natural Barrier
Seasonal-Natural Barrier
Fish Sighting
Other
Photo Point
Trail Crossing
Potential LCT Habitat
No Potential LCT Habitat
Land Ownership
National Forest
Private
Wilderness Areas
Proposed Wilderness
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Site 1: Cattle Creek, Bridgeport Ranger District. Cattle Creek drains into the south shore of Lower Twin Lakes. The creek is wide and has several locations where small sections trickle into the lake. This site is located at UTM: N: 4224491 & E: 292726, Elev. 2163m.

Site 2: Cattle Creek, Bridgeport Ranger District. At this site the creek is divided into two separate streams that continue downstream to the lake. Photo depicts two small falls upstream that do not act as fish barriers. This site is located at UTM: N: 4224308 & E: 292640, Elev. 2206m.

Site 3: Cattle Creek, Bridgeport Ranger District. Just upstream of site 2, the stream splits again with 60% flowing through the gabion and the other 40% forming a separate stream. This site is located at UTM: N: 4224284 & E: 292638, Elev. 2215m.

Site 4: Cattle Creek, Bridgeport Ranger District. A rock gabion forms a permanent barrier as the majority of the stream takes a subterranean route and is filtered through large boulders. This site is located at UTM: N: 4224274 & E: 292635, Elev. 2218m.

Site 5: Cattle Creek, Bridgeport Ranger District. A waterfall measuring just over 6ft tall acts as a permanent fish barrier. The creek is extremely steep through this section of stream and is a continuous cascade with many barriers. This site is located at UTM: N: 4224125 & E: 292609, Elev. 2249m.

Site 6: Cattle Creek, Bridgeport Ranger District. This section of the creek is characterized by its numerous waterfalls as it cascades downstream with drops ranging from a couple of feet up to 5-6 feet tall. These falls make fish passage impossible. This site is located at UTM: N: 4223601 & E: 292577, Elev. 2416m.

Site 7: Cattle Creek, Bridgeport Ranger District. A hiking trail crosses the creek at this site. The trail crosses at the top of the canyon where the stream flows a little slower and is without the steep gradient. An old bridge lies washed away near the crossing. This site is located at UTM: N: 4222977 & E: 292887, Elev. 2598m.

Site 8: Cattle Creek, Bridgeport Ranger District. Two 8 inch brook trout were spotted at this section of the stream as it meanders through a dense pine forest and contains several deep holes creating plenty of good fish habitats. This site is located at UTM: N: 4222869 & E: 292954, Elev. 2603m.

Site 9: Cattle Creek, Bridgeport Ranger District. This photo depicts the stream as it meanders through open meadow that has begun to fill in with large pine trees. This site is located at UTM: N: 4222483 & E: 293288, Elev. 2595m.

Site 10: Cattle Creek, Bridgeport Ranger District. As the stream flows through open meadow again, a small tributary enters river left and adds approx. 5% to the creek's overall flow. This site is located at UTM: N: 4221615 & E: 293622, Elev. 2654m.

Site 11: Cattle Creek, Bridgeport Ranger District. At this location, we counted 17 brook trout ranging in size from 6 to 12 inches long. This site is located at UTM: N: 4221569 & E: 293652, Elev. 2670m.

Site 12: Cattle Creek, Bridgeport Ranger District. The barrier seen here measures 3 ¼ feet tall with a plunge pool of 2ft deep making it passable under higher flows and therefore seasonal. This site is located at UTM: N: 4220956 & E: 294036, Elev. 2712m.

Site 13: Cattle Creek, Bridgeport Ranger District. Although the barrier seen here is 7ft tall with a shallow pool, it is listed as a seasonal barrier because of the possibility of higher water levels creating an alternate route next to the main waterfall. This site is located at UTM: N: 4220910 & E: 294040, Elev. 2723m.

Site 14: Cattle Creek, Bridgeport Ranger District. Small stream pictured here enters cattle creek on river right and adds 5% to the creek's overall water flow. This site is located at UTM: N: 4220815 &E: 294128, Elev. 2729m.

Site 15: Cattle Creek, Bridgeport Ranger District. The survey ends as the stream forks into three separate tributaries coming from high elevation ponds. From this meadow the ponds are nearly 1000ft higher in elevation and the tributaries are too steep for fish to swim up. This site is located at UTM: N: 4220078 & E: 294394, Elev. 2786m.

Site 15(cont'd): Cattle Creek, Bridgeport Ranger District. Photo depicts one of the three canyons from which cattle creek is formed. This site is located at UTM: N: 4220078 & E: 294394, Elev. 2786m.