Long Canyon Creek

Mono County, California

2007 Stream Habitat Survey Report

Prepared by:

Carson Ranger District: Humboldt-Toiyabe National Forest

Introduction

Long Canyon Creek is located in Mono County, California and originates high in the mountains of the proposed Hoover Wilderness and flows for approximately 4.2 miles from Beartrap Lake until it reaches its confluence with the West Walker River. All of Long Canyon Creek occurs on lands managed by the Humboldt-Toiyabe National Forest, Bridgeport Ranger District. The survey for this stream started at the confluence with the West Walker River and then continued upstream to the creeks source, Beartrap Lake, at nearly 10,000 feet elevation.

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. Long Canyon Creek was surveyed on June 17th, 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 Long Canyon 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

All 4.2 miles of Long Canyon Creek were surveyed between Beartrap Lake (Site 22) and the confluence with the West Walker River (Site 1). Throughout the survey of Long Canyon Creek the most prevalent feature recorded was natural fish barriers. We recorded ten different waterfalls during the survey and most of them were found all within one mile of each other. Five of these barriers were listed as permanent and can be found at Sites 8, 9, 10, 13, and 21. There were also five barriers that were listed as seasonal barriers that can be found at Sites 2, 3, 6, 7, and 11. Three different tributaries were found entering Long Canyon Creek and they are located at Sites 4, 15, and 19. At two different locations hiking trails crossed the creek; these are located at Sites 5 and 18. The Long Canyon Trail that follows the length of the stream did not seem to be heavily used and very little camping was observed along the river, but two separate campsites were identified at Sites 12 and 17. Fish were spotted at two separate locations on the river and

were both found in large open meadows at Sites 14 and 16. A single photo point was taken at Site 20. The average stream gradient of Long Canyon Creek between Sites 1 and 22 is 11.6%.

Discussion

Long Canyon Creek offers 3.1 miles of potential LCT habitat between Sites 13 and 22. Long Canyon Creek occurs within the proposed Hoover Wilderness. This limits the amount of use on the stream to foot and pack stock traffic only. With the nearest trailhead being far away, this stream appears to be rarely visited. Between Sites 7 and 13 Long Canyon Creek is incredibly steep and has several permanent fish barriers. Above this very steep section; however, is a network of large meadows where the stream meanders freely and provides a good combination of different habitats for fish. During the survey several fish were spotted in large groups numbering up to 15 fish at different locations in these upper reaches. The fish in Long Canyon Creek probably came from being airily stocked in Beartrap Lake.

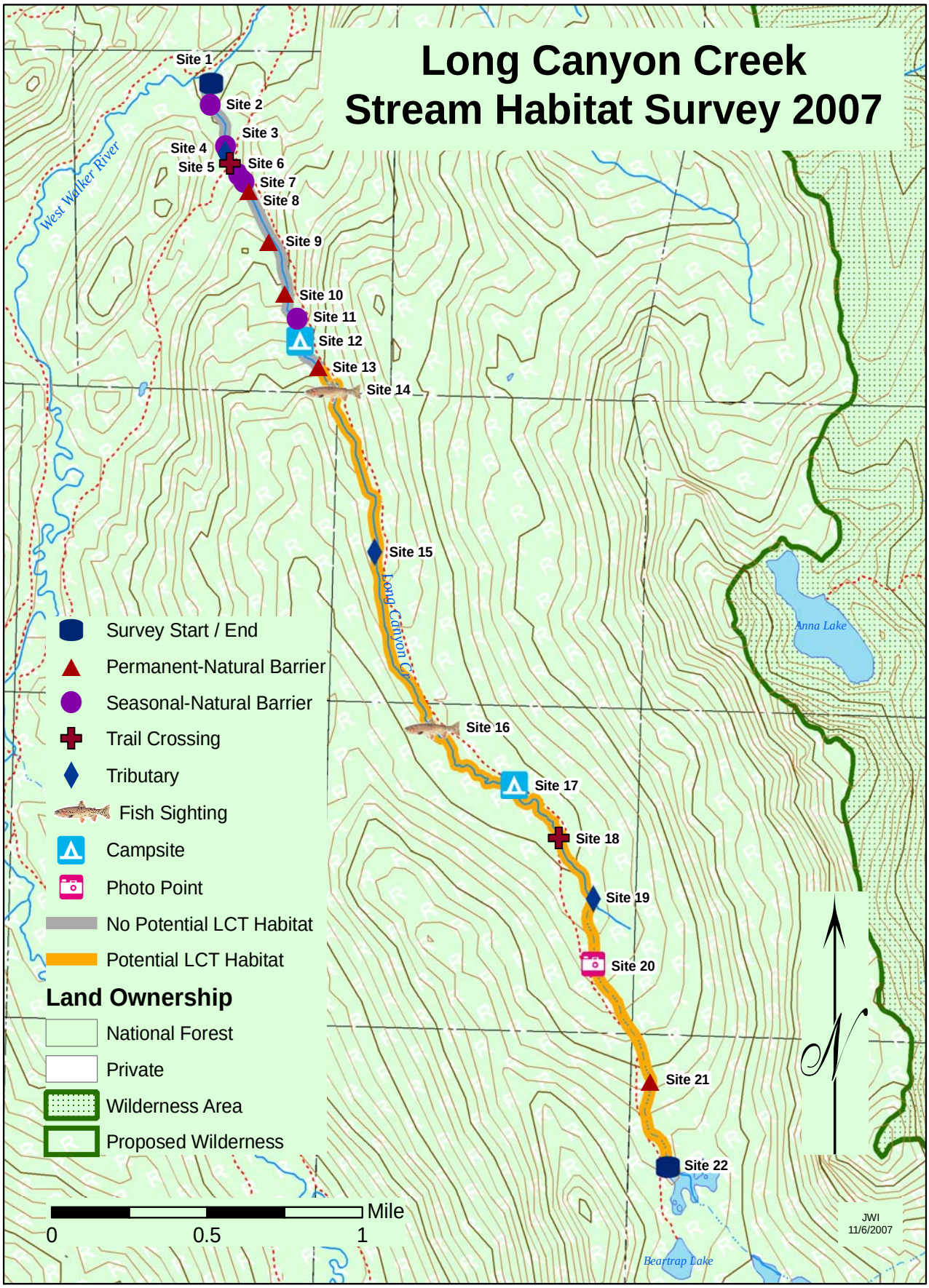
Even with the low use of this area there were two campsites that were identified along the stream. Both sites were within 100ft. of the stream. The campsite located at Site 12 was not close to the trail or any other prominent feature other than the stream. It was a small site that looked to be seldom used. The campsite at Site 17 was located right next to the stream. This site was large and well developed and looked to have been heavily used for many years.

Although Long Canyon Creek does provide 3.1 miles of potential LCT habitat, any native fish that were restored would be physically and genetically isolated. Fish would be able to move downstream to the West Walker River, but would not be able to migrate back upstream. Long Canyon Creek is far from the nearest trailhead, so access is also difficult.

Recommendations

1. Consider the 3.1 mile section of Long Canyon Creek between Sites 13 and 22 as potential LCT habitat and consider Long Canyon Creek a low priority for restoration.

2. Close and decommission all dispersed campsites within 100 feet of Long Canyon Creek. Only allow camping to occur more than 100 feet away from the streams edge.


Long Canyon Creek
Stream Habitat Survey 2007
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
Site 16
Site 17
Site 18
Site 19
Site 20
Site 21
Site 22
West Walker River
Long Canyon Cr
Anna Lake
Beartrap Lake
Survey Start / End
Permanent-Natural Barrier
Seasonal-Natural Barrier
Trail Crossing
Tributary
Fish Sighting
Campsite
Photo Point
No Potential LCT Habitat
Potential LCT Habitat
Land Ownership
National Forest
Private
Wilderness Area
Proposed Wilderness
Mile
0
0.5
1
JWI
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Site 1: Long Canyon Creek, Bridgeport Ranger District. Photo depicts an upstream view of Long Canyon Creek as we begin the survey at its confluence with the West Walker River. This site is located at UTM: N: 4235580 & E: 277496, Elev. 2425m.

Site 2: Long Canyon Creek, Bridgeport Ranger District. A log jam in the stream holds back a large pool of water and acts as a seasonal barrier. This site is located at UTM: N: 4235465 & E: 277492, Elev. 2433m.

Site 3: Long Canyon Creek, Bridgeport Ranger District. A log spanning the width of the creek causes a backup of water which spills over the log dropping 0.65m with a pool depth of approx. 1m. This site is located at UTM: N: 4235271 & E: 277563, Elev. 2463m.

Site 4: Long Canyon Creek, Bridgeport Ranger District. This tributary draining into Long Canyon Creek enters river left and contributes 50% to the streams overall flow. This site is located at UTM: N: 4235231 & E: 277568, Elev. 2489m.

Site 5: Long Canyon Creek, Bridgeport Ranger District. Leavitt Meadows Trail crosses the stream at a point where it is a little wider. Stepping stones make crossing the stream dry and easy. This site is located at UTM: N: 4235181 & E: 277593, Elev. 2452m.

Site 6: Long Canyon Creek, Bridgeport Ranger District. This seasonal fish barrier consists of several cascading falls that range from 0.5 to 0.8m in height. This site is located at UTM: N: 4235123 & E: 277628.

Site 7: Long Canyon Creek, Bridgeport Ranger District. A series of waterfalls that measure up to 1.3m high create a seasonal fish barrier. This site is located at UTM: N: 4235090 & E: 277665.

Site 8: Long Canyon Creek, Bridgeport Ranger District. Photo depicts a large waterfall measured to be 2.2m in height creating a permanent barrier. There are several other smaller cascading falls upstream of the main barrier. This site is located at UTM: N: 4235046 & E: 277689.

Site 9: Long Canyon Creek, Bridgeport Ranger District. Another permanent barrier is created through this steeper section of stream. This series of falls has a large drop of approx. 3m and smaller drops up to 1m in height. This site is located at UTM: N: 4234796 & E: 277795, Elev. 2541m.

Site 10: Long Canyon Creek, Bridgeport Ranger District. Another series of waterfalls ranging from 0.5 to 3.5m tall forms another permanent fish barrier. This site is located at UTM: N: 4234538 & E: 277876, Elev. 2569m.

Site 11: Long Canyon Creek, Bridgeport Ranger District. This area has a high concentration of waterfalls that measure between 0.8 and 1.1m in height forming another seasonal barrier. This site is located at UTM: N: 4234379 & E: 277948.

Site 12: Long Canyon Creek, Bridgeport Ranger District. A nicely constructed fire ring and sitting log define this campsite. The ring lies 5m from the water's edge. This site is located at UTM: N: 4234302 & E: 277955.

Site 13: Long Canyon Creek, Bridgeport Ranger District. A large 3.5m waterfall stretches across the entire width of the creek making fish passage impossible. This site is located at UTM: N4234172 & E: 278049.

Site 14: Long Canyon Creek, Bridgeport Ranger District. Several fish believed to be rainbow trout are seen in this low gradient riffle. We spot around 20 fish ranging from 2 to over 8 inches in length. This site is located at UTM: N: 4234123 & E: 277998.

Site 15: Long Canyon Creek, Bridgeport Ranger District. A small tributary empties into river right contributing a small amount (5-10%) to the overall flow of Long Canyon Creek. The creek is flowing through a meadow lush with corn lily and lupine plants. This site is located at UTM: N: 4233337 & E: 278351.

Site 16: Long Canyon Creek, Bridgeport Ranger District. The stream slows down as it passes through a meadow and fish are readily seen in the larger pools. As many as ten different fish were seen and sizes ranged from 5 to 10 inches in length. This site is located at UTM: N: 4232438 & E: 278606.

Site 17: Long Canyon Creek, Bridgeport Ranger District. Just off the large meadow in the shade of a pine stand is a campsite featuring a well constructed fire ring and sitting log. The campsite is 15m from the edge of the stream. This site is located at UTM: N: 4232089 & E: 279033.

Site 18: Long Canyon Creek, Bridgeport Ranger District. Photo depicts Long Canyon Trail as it crosses the creek. Some stream channel widening is evident but the trail looks as if it sees little use. This site is located at UTM: N: 4231904 & E: 279261.

Site 19: Long Canyon Creek, Bridgeport Ranger District. The small tributary pictured here enters the creek adding about 5% to its overall flow. A fish spotted in the tributary is evidence that it could add some potential fish habitat. This site is locates at UTM: N: 4231553 & E: 279437.

Site 20: Long Canyon Creek, Bridgeport Ranger District. Photo point shows the damage presumably caused by beetle kill to the surrounding forest. Hundreds of trees lie in or around the stream. This site is located at UTM: N: 4231209 & E: 279502, Elev. 2835m.

Site 21: Long Canyon Creek, Bridgeport Ranger District. This waterfall has a height of 1.5m and has a maximum pool depth of 0.4m. This waterfall acts as a permanent barrier for fish passage. This site is located at UTM: N: 4230596 & E: 279757, Elev. 2741m.

Site 22: Long Canyon Creek, Bridgeport Ranger District. Survey ends at the beginning of Beartrap Lake. The creek flows out of Beartrap Lake which seems to be low due to a light snow season. This site is located at UTM: N: 4230188 & E: 279865, Elev. 3007m.