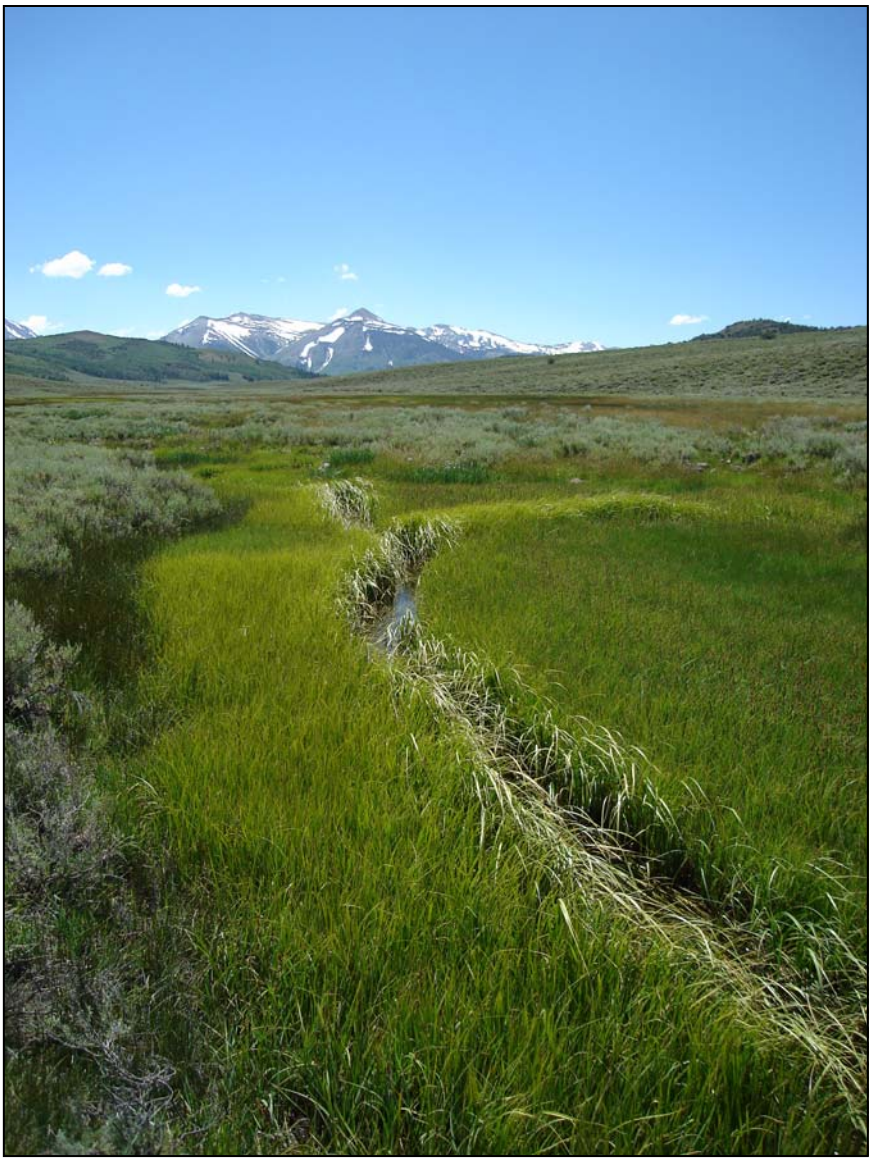
LONG VALLEY CREEK
MONO COUNTY, CALIFORNIA

2006 Stream Habitat Survey Report



Prepared by:

Humboldt-Toiyabe National Forest, Bridgeport Ranger District

Introduction

Long Valley Creek is located in Mono County, California. The mainstem of Long Valley Creek flows for approximately 5.6 miles in an easterly direction from its headwaters near Mahogany Ridge and Long Valley Ponds to its confluence with Swauger Creek which flows into Bridgeport Reservoir. The majority of the Long Valley Creek watershed occurs on National Forest lands. Long Valley Creek flows through one private parcel of land near its confluence with Swauger Creek. Approximately 4.1 miles of Long Valley Creek were surveyed between the National Forest-private property boundary located just upstream of Sario Ranch (Site 1, 2129m) and a point approximately 1.5 miles downstream of Long Valley Ponds (Site 8, 2457m).

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 2006 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 Valley Creek was surveyed on July 5, 2006 by Joel Ingram and Harrison Davis of the Bridgeport Ranger District: Humboldt-Toiyabe National Forest.

Methodology

Forest Service personnel surveyed Long Valley Creek by hiking the stream in an upstream manner. Interesting and relevant features were documented, photographed, and recorded into a Trimble GPS unit. These features included but were not limited to: road crossings, trail crossings, fish sightings, permanent fish barriers, seasonal fish barriers, tributaries, springs, beaver dams, areas of erosion concern, grazing impacts, dispersed campsites, 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. Barriers categorized as permanent barriers may actually be seasonal barriers, and some seasonal barriers may actually act as a permanent barrier.

Results

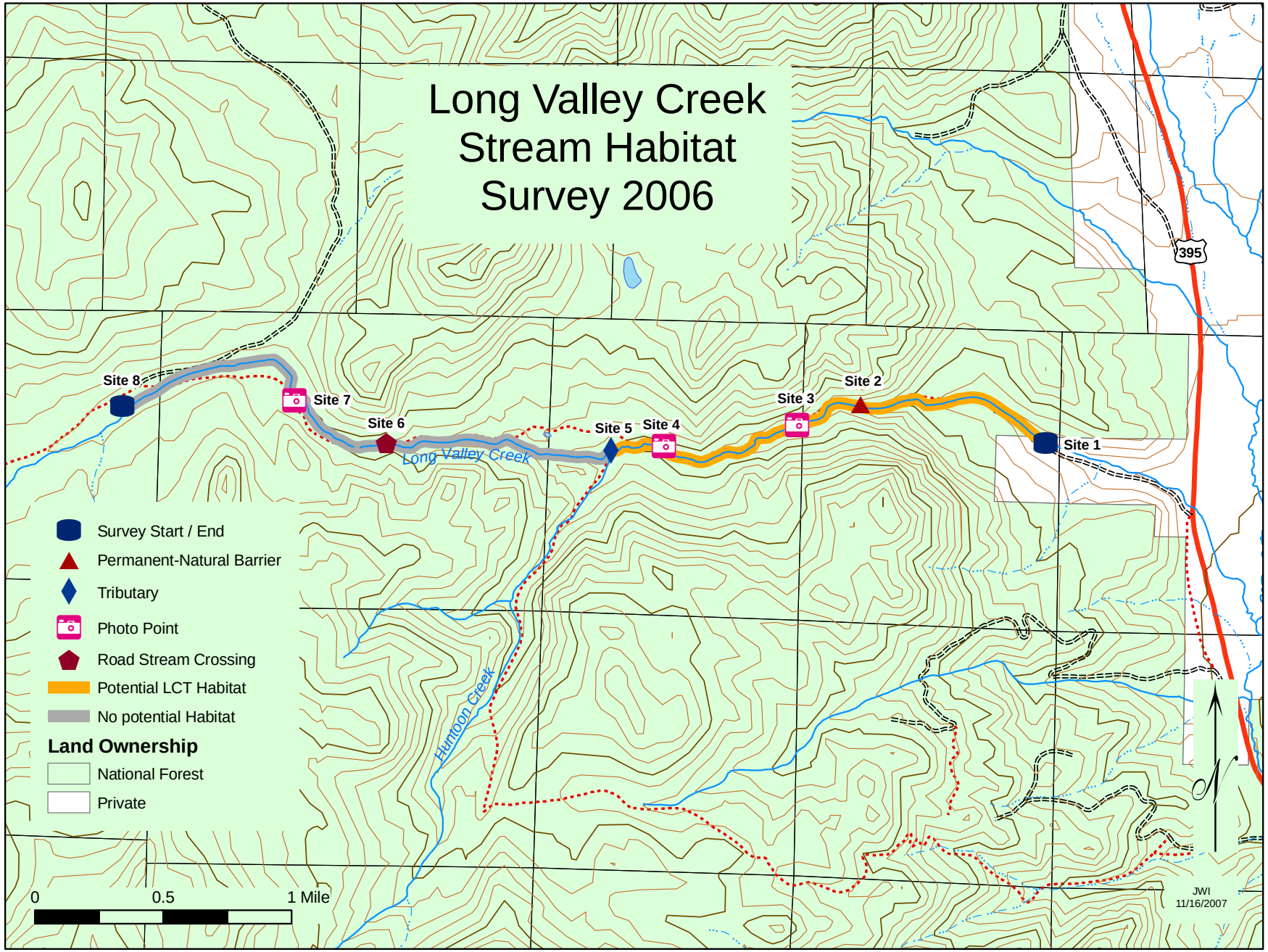
Approximately 4.1 miles of Long Valley Creek were surveyed between the National Forest-private property boundary located just upstream of Sario Ranch (Site 1) and a point approximately 1.5 miles downstream of Long Valley Ponds (Site 8). One permanent fish barrier was identified at Site 2. Photo points were taken at Sites 3, 4, and 7. One tributary was documented at Site 5; which was Huntoon Creek. One road crossing was identified at Site 6. Pictures were taken at the survey start and end points (Sites 1 and 8). While conducting the survey, no fish were sighted in Long Valley Creek. The average stream gradient between Site 1 and Site 8 is 5%.

Discussion

Long Valley Creek offers 1.87 miles of potential LCT habitat located between Site 1 and Site 5. The average stream gradient between Site 1 and Site 5 is 6.4%. Upstream of Site 5, Long Valley Creek does not have enough water to support a sustained population of fish. Site 5 is the confluence of Huntoon Creek and Long Valley Creek. Huntoon Creek contributes approximately 60-70% of the overall flow in Long Valley Creek. Huntoon Creek was also surveyed and it provides an additional 3.1 miles of potential LCT habitat. The two creeks combined provide approximately 4.97 miles of potential LCT habitat. Site 2 on Long Valley Creek is an 8.2 foot high naturally occurring permanent fish passage barrier. No other barriers were identified on Long Valley Creek. Two small seasonal fish barriers were identified on Huntoon Creek. Because flows upstream of Site 5 on Long Valley Creek are so minimal and can't support a sustained population of fish, if a population of LCT were restored to Long Valley and Huntoon Creeks, that restored population of LCT would not be a metapopulation using two different drainages.

Recommendations

1. Consider the 1.87 mile section of Long Valley Creek between Site 1 and Site 5 as potential LCT habitat and consider Long Valley Creek a medium candidate for restoration.


Long Valley Creek
Stream Habitat
Survey 2006
Site 8
Site 7
Site 6
Site 5
Site 4
Site 3
Site 2
Site 1
Long Valley Creek
Hunloon Creek
395
Survey Start / End
Permanent-Natural Barrier
Tributary
Photo Point
Road Stream Crossing
Potential LCT Habitat
No potential Habitat
Land Ownership
National Forest
Private
0
0.5
1 Mile
JWI
11/16/2007

Site 1: Long Valley Creek, Bridgeport Ranger District, looking downstream from the survey start point. The survey start point is near highway 395 just upstream of the private property-National Forest boundary. This site is located at UTM: N: 4242647 & E: 296821, Elevation 2129m.

Site 1 continued: Long Valley Creek, Bridgeport Ranger District, looking upstream from the survey start point. This site is located at UTM: N: 4242647 & E: 296821, Elevation 2129m.

Site 2: Long Valley Creek, Bridgeport Ranger District, looking upstream at a permanent fish passage barrier. This waterfall is 2.5m (8.2ft) high. This site is located at UTM: N: 4242900 & E: 295661, Elevation 2229m.

Site 3: Long Valley Creek, Bridgeport Ranger District, looking upstream at the stream characteristics typical for this section of stream. The water velocity has slowed a bit and the stream has good vegetative cover for shade and protection. This site is located at UTM: N: 4242765 & E: 295329, Elevation 2257m.

Site 3 continued: Long Valley Creek, Bridgeport Ranger District, looking downstream at the stream characteristics typical for this section of stream. The water velocity has slowed a bit and the stream has good vegetative cover for shade and protection. This site is located at UTM: N: 4242765 & E: 295329, Elevation 2257m.

Site 4: Long Valley Creek, Bridgeport Ranger District, looking upstream at the stream characteristics typical for this section of stream. This site is located at UTM: N: 4242622 & E: 294428, Elevation 2301m.

Site 4 continued: Long Valley Creek, Bridgeport Ranger District, looking downstream at the stream characteristics typical for this section of stream. This site is located at UTM: N: 4242622 & E: 294428, Elevation 2301m.

Site 5: Long Valley Creek, Bridgeport Ranger District, looking at where Huntoon Creek (picture left side) enters Long Valley Creek (picture right side). Huntoon Creek contributes approximately 60-70% of the overall flow in Long Valley Creek. This site is located at UTM: N: 4242602 & E: 294099, Elevation 2323m.

Site 5 continued: Long Valley Creek, Bridgeport Ranger District, looking downstream from the Huntoon Creek-Long Valley Creek confluence. This site is located at UTM: N: 4242602 & E: 294099, Elevation 2323m.

Site 6: Long Valley Creek, Bridgeport Ranger District, a cross-section view of a road crossing. This crossing appears to get little use. The gate is in disrepair and there is minimal erosion on the banks. This site is located at UTM: N: 4242649 & E: 292693, Elevation 2399m.

Site 6 continued: Long Valley Creek, Bridgeport Ranger District, another view of the gate looking downstream. This site is located at UTM: N: 4242649 & E: 292693, Elevation 2399m.

Site 6 continued: Long Valley Creek, Bridgeport Ranger District, a view looking upstream from the gate. This site is located at UTM: N: 4242649 & E: 292693, Elevation 2399m.

Site 7: Long Valley Creek, Bridgeport Ranger District, looking upstream at the stream characteristics typical for this section of stream. The stream here meanders heavily and has many seeps near the stream. This site is located at UTM: N: 4242914 & E: 292118, Elevation 2437m.

Site 8: Long Valley Creek, Bridgeport Ranger District, looking upstream from the survey end point. Upstream of this point the stream turns into a large meadow system that is extremely wet and the main channel disappears. This site is located at UTM: N: 4242879 & E: 291040, Elevation 2457m.