

# **LOST CANNON CREEK**

**Mono County, California**

## **2005 Stream Habitat Survey Report**



**Prepared by:**

**Humboldt- Toiyabe National Forest, Bridgeport Ranger District**

## **Introduction**

Lost Cannon Creek is located in Mono County, California. The mainstem of Lost Cannon Creek flows for approximately 8.5 miles in a north direction to its confluence with Mill Creek. Mill Creek flows into the West Walker River near Walker, California located on Highway 395. The mainstem of Lost Cannon Creek ranges from approximately 6150 feet elevation to 9064 feet elevation. Most of the Lost Cannon Creek watershed is located on Humboldt-Toiyabe National Forest (HTNF) lands. A few parcels of private land are located within the watershed (see map for land ownership). Lost Cannon Creek was surveyed from the National Forest-private property boundary at Site 1 upstream to the top of the watershed.

The Short-Term Action Plan for Lahontan Cutthroat Trout in the Walker River Basin (Walker RIT 2003) recommended habitat surveys be conducted as a high priority task to identify and evaluate fish passage and existing barriers within the Walker River Basin, to develop a watershed analysis of the physical components of the Walker River Basin, and to evaluate potential LCT introduction streams and validate against existing LCT inhabited streams. These high priority tasks were deemed necessary to initiate Lahontan cutthroat trout (LCT) (*Oncorhynchus clarki henshawi*) recovery in the Walker River Basin. The Lost Cannon Creek watershed was surveyed during summer 2005. Merri Meldi and Francisco Rayos from the HTNF were the surveyors who conducted the stream habitat survey.

## **Methodology**

Forest Service personnel hiked upstream along side Lost Cannon Creek and photographed and GPS'ed all interesting features (road crossings, fish sightings, permanent fish barriers, seasonal fish barriers, tributaries, springs, beaver dams, areas with high amounts of erosion, and any other features that appeared interesting). All tributaries that appeared to possibly provide LCT habitat were also surveyed using the same methodology. All photographs taken and a map are included in this report. Based on the overall gradient of the watershed, the number of permanent and seasonal fish barriers, and the overall condition of the stream habitat, the Forest Service personnel who conducted this survey determined in the field what areas of the Lost Cannon Creek watershed provide potential LCT habitat.

Seasonal and permanent barriers are referenced several times throughout this report. Seasonal barriers are features that appear to be fish barriers under base flow; however, during high flow events fish may be able to migrate up through the seasonal barrier. Permanent barriers are features that are greater than 5 feet high, or are cascades sheeting across bedrock material. These are features that appear to serve as fish barriers during all seasons of the year. Some seasonal barriers may actually be permanent barriers and some permanent barriers may actually be seasonal barriers.

## **Results**

Approximately 9.7 miles of the Lost Cannon Creek watershed was surveyed. Five permanent fish barriers (Sites 2, 4, 24, 31, & 32) were identified and two seasonal fish barriers were identified (Site 3 & 16). One road crossing (bridge) was identified (Site 9). Fifteen tributaries were identified (Sites 5, 7, 10, 11, 13, 15, 17, 19, 20, 22, 23, 25, 27, 28, & 30). Two active beaver dams were identified (Sites 6 & 8). Non-native fish were seen throughout the Lost Cannon Creek

watershed at Sites 12, 14, 18, 21, 26, & 29. The overall gradient of Lost Cannon Creek between Site 1 and Site 32 is 6.8%. Approximately 7.5 miles of potential LCT habitat was identified on Lost Cannon Creek between Site 1 and Site 32, and approximately 2.2 additional miles of potential LCT habitat was identified on the East Fork of Lost Cannon Creek between Site 22 and extending upstream of Site 27. No other interesting features were photographed or GPS'ed.

## **Discussion**

The Lost Cannon Creek watershed upstream of Site 1 does provide potential LCT habitat (see map). The overall gradient of Lost Cannon Creek between Site 1 and Site 32 is 6.8%. Three out of the five permanent fish barriers (Sites 2, 31, & 32) occur at either the top or bottom of the Lost Cannon Creek watershed. Two permanent and two seasonal fish barriers occur within the middle of the watershed (Sites 3, 4, 16, & 24). Despite the large number of fish barriers, non-native fish were seen throughout the watershed. The number of pools, riffles, large-woody-debris, stable banks, etc. appeared to be in good condition. Although a large number of fish barriers were identified, based on all the other habitat characteristics mentioned above in this paragraph, the Forest Service personnel who conducted this survey still determined that the Lost Cannon Creek watershed does provide potential LCT habitat.

Mill Creek supports an introduced population of LCT; however, a permanent fish barrier does exist on Mill Creek just upstream of the Mill Creek-Lost Cannon Creek confluence. Due to the permanent fish barrier on Mill Creek and the permanent fish barrier on Lost Cannon Creek at Site 2, establishing a metapopulation of LCT between Mill and Lost Cannon Creek does not appear possible.

## **Recommendations**

1. Work with California Department of Fish and Game to obtain stocking records and information related to previous density and distribution surveys of fish in Lost Cannon Creek.
2. Consider Lost Cannon Creek between Site 1 and Site 32, and the East Fork of Lost Cannon Creek between Site 22 and extending upstream of Site 27 as having potential LCT habitat.
3. The Mountain Warfare Training Center (MWTC) trains within the Lost Cannon Creek watershed. Discuss with the MWTC their interest in restoring the Lost Cannon Creek watershed to LCT.
4. A few parcels of private land occur within the Lost Cannon Creek watershed. Discuss with the private land owners their interest in restoring the Lost Cannon Creek watershed to LCT.





**Site 1:** Lost Cannon Creek, Bridgeport Ranger District, looking downstream. Creek enters steep rock-walled canyon here. The stream habitat survey started at this location.



**Site 2:** Lost Cannon Creek, Bridgeport Ranger District, looking upstream at a permanent fish barrier. This barrier is located at UTM: N: 4261909 & E: 281757. The height of the barrier is 6.5 feet.



**Site 3:** Lost Cannon Creek, Bridgeport Ranger District, looking upstream at a seasonal fish barrier. This barrier is surrounded primarily by burnt Jeffrey pine, aspen, and wild rose. This barrier is located at UTM: N: 4261374 & E: 280809. The height of the seasonal barrier is 1.8 feet and the maximum depth of the pool at the bottom of the barrier is 2.1 feet.



**Site 4:** Lost Cannon Creek, Bridgeport Ranger District, looking upstream at a permanent fish barrier. A beaver dam is also located at this site. The height of the fish barrier is 5.6 feet. This site is located at UTM: N: 4260872 E: 279769.



**Site 5:** Lost Cannon Creek, Bridgeport Ranger District, tributary entering on the river left side. This tributary is contributing approximately 5% to the overall flow in Lost Cannon Creek. This site is located at UTM: N: 4260838 & E: 279719.



**Site 6:** Lost Cannon Creek, Bridgeport Ranger District, beaver dam on the river left side. This site is located at UTM: N: 4260800 & E: 279686.



**Site 7:** Lost Cannon Creek, Bridgeport Ranger District, looking upstream at a tributary entering on the river left side. This tributary is contributing approximately 5% to the overall flow in Lost Cannon Creek. This site is located at UTM: N: 4260397& E: 279409.



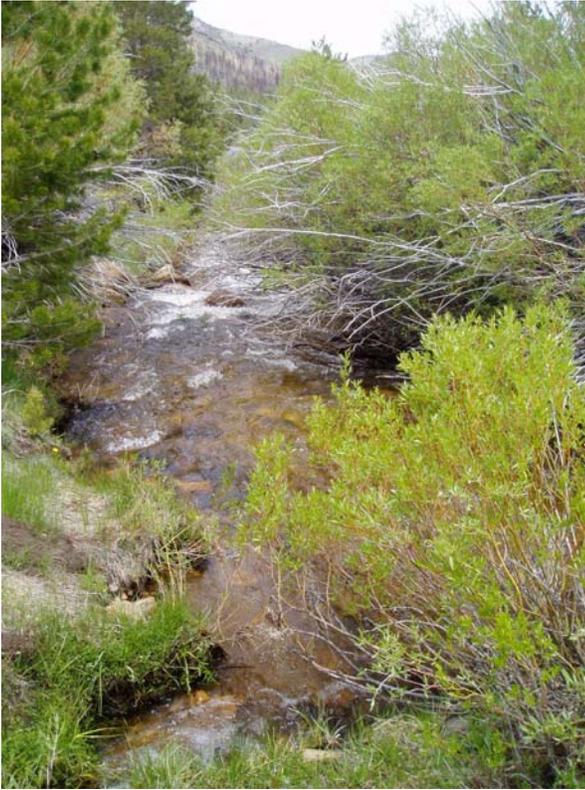
**Site 8:** Lost Cannon Creek, Bridgeport Ranger District, beaver dam. This beaver dam is currently not a fish barrier. This site is located at UTM: N: 4260362 & E: 279411.



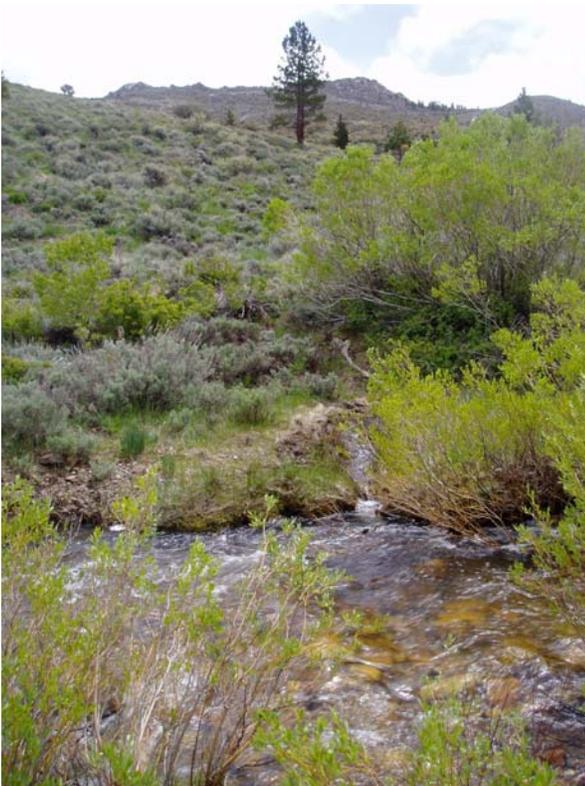
**Site 9:** Lost Cannon Creek, Bridgeport Ranger District, bridge at a road crossing. This site is located at UTM: N: 4259867 & E: 279232.



**Site 9:** Lost Cannon Creek, Bridgeport Ranger District, bridge at a road crossing. This site is located at UTM: N: 4259867 & E: 279232.



**Site 10:** Lost Cannon Creek, Bridgeport Ranger District, tributary entering on the river left side. This tributary is contributing approximately 5% to the overall flow in Lost Cannon Creek. This site is located at UTM N: 4259526 & E: 279064.



**Site 10:** Lost Cannon Creek, Bridgeport Ranger District, tributary entering on the river right side. This tributary is contributing approximately 2% to the overall flow in Lost Cannon Creek. This site is also located at UTM N: 4259526 & E: 279064.



**Site 11:** Lost Cannon Creek, Bridgeport Ranger District, looking downstream at a tributary entering on the river left side. This tributary is contributing approximately 5% to the overall flow in Lost Cannon Creek. This site is located at UTM: N: 4258390 & E: 278597.



**Site 12:** Lost Cannon Creek, Bridgeport Ranger District, looking upstream at where a 3-inch fish was sighted. This site is located at UTM: N: 4258233 & E: 278574.



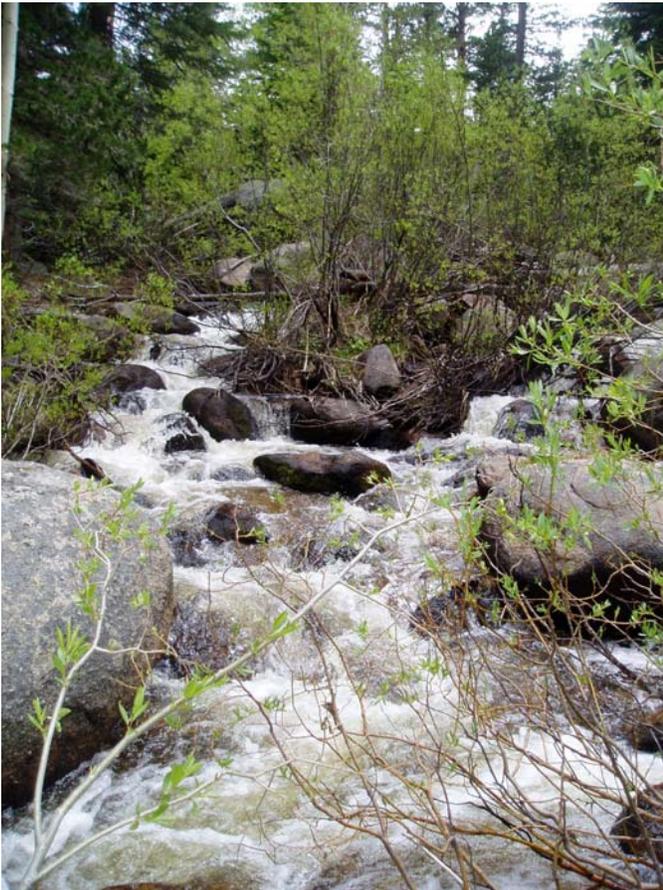
**Site 13:** Lost Cannon Creek, Bridgeport Ranger District, looking downstream at a tributary entering on the river left side. This tributary is contributing approximately 20% to the overall flow in Lost Cannon Creek. This site is located at UTM: N: 4257785 & E: 278472.



**Site 14:** Lost Cannon Creek, Bridgeport Ranger District, tributary entering on the river right side. This tributary is contributing approximately 20% to the overall flow in Lost Cannon Creek. This site is located at UTM: N: 4257449 & E: 278394.



**Site 15:** Lost Cannon Creek, Bridgeport Ranger District, looking upstream at where a 6-inch fish was sighted. This site is located at UTM: N: 4257443 & E: 278379.



**Site 16:** Lost Cannon Creek, Bridgeport Ranger District, looking upstream at a seasonal fish barrier. These cascades are approximately 55 feet long. This site is located at UTM N: 4257262 & E: 278358.



**Site 16:** Lost Cannon Creek, Bridgeport Ranger District, looking upstream at a seasonal fish barrier. These cascades are approximately 55 feet long. This site is located at UTM N: 4257262 & E: 278358.



**Site 17:** Lost Cannon Creek, Bridgeport Ranger District, looking downstream at a tributary entering on the river left side. This tributary is contributing approximately 5% to the overall flow in Lost Cannon Creek. This site is located at UTM: N: 4257037 & E: 278339.



**Site 18:** Lost Cannon Creek, Bridgeport Ranger District, looking at where some 7-8 inch fish were sighted. This site is located at UTM: N: 4256796 & E: 278447.



**Site 19:** Lost Cannon Creek, Bridgeport Ranger District, tributary entering on the river left side. This tributary is contributing approximately 3% to the overall flow in Lost Cannon Creek. This site is located at UTM: N: 4256682 & E: 278458.



**Site 20:** Lost Cannon Creek, Bridgeport Ranger District, tributary entering on the river left side. This tributary is contributing approximately 40% to the overall flow in Lost Cannon Creek. This site is located at UTM: N: 4256624 & E: 278463.



**Site 21:** Lost Cannon Creek, Bridgeport Ranger District, looking at where some 4-5 inch fish were sighted. This site is located at UTM: N: 4256221 & E: 278886.



**Site 22:** Lost Cannon Creek, Bridgeport Ranger District, looking upstream at a tributary entering on the river right side. This tributary is contributing approximately 55% to the overall flow in Lost Cannon Creek. Three water sources come together at this location. This site is located at UTM: N: 4256033 & E: 279021.



**Site 23:** Lost Cannon Creek, Bridgeport Ranger District, looking upstream at a tributary entering on the river right side. This tributary is contributing approximately 50% to the overall flow in this Creek. This site is located at UTM: N: 4256010 & E: 279141.



**Site 24:** Lost Cannon Creek, Bridgeport Ranger District, looking upstream at a permanent fish barrier. This site is located at UTM: N: 4255827 & E: 279367.



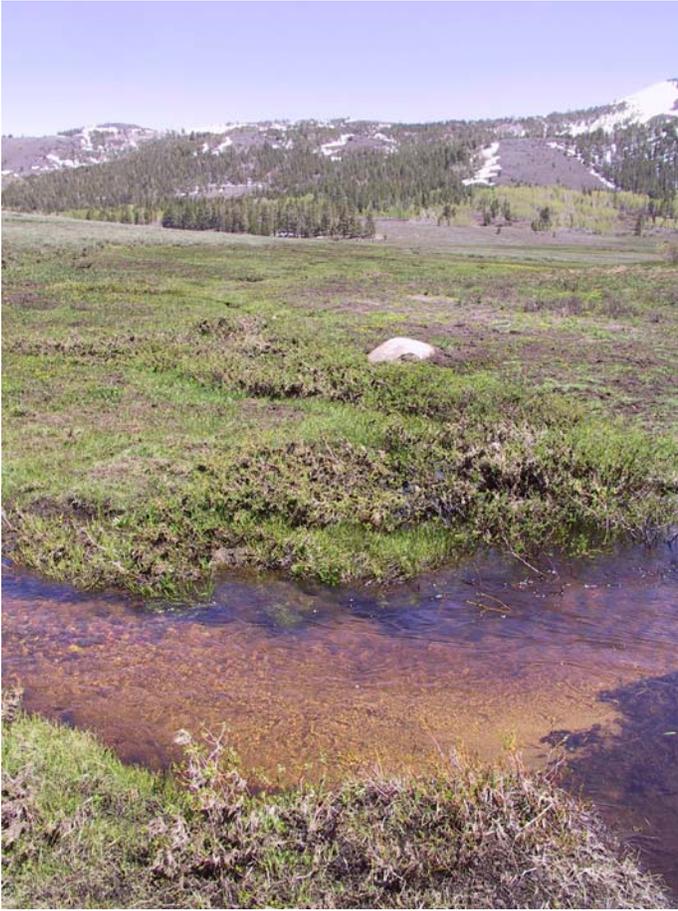
**Site 25:** Lost Cannon Creek, Bridgeport Ranger District, looking at a tributary that enters on the river left side. This tributary is contributing approximately 5% to the overall flow in this Creek. This site is located at UTM: N: 4255708 & E: 279336.



**Site 26:** Lost Cannon Creek, Bridgeport Ranger District, looking at where some 4 inch fish were sighted. This site is located at UTM: N: 4254806 & E: 279641.



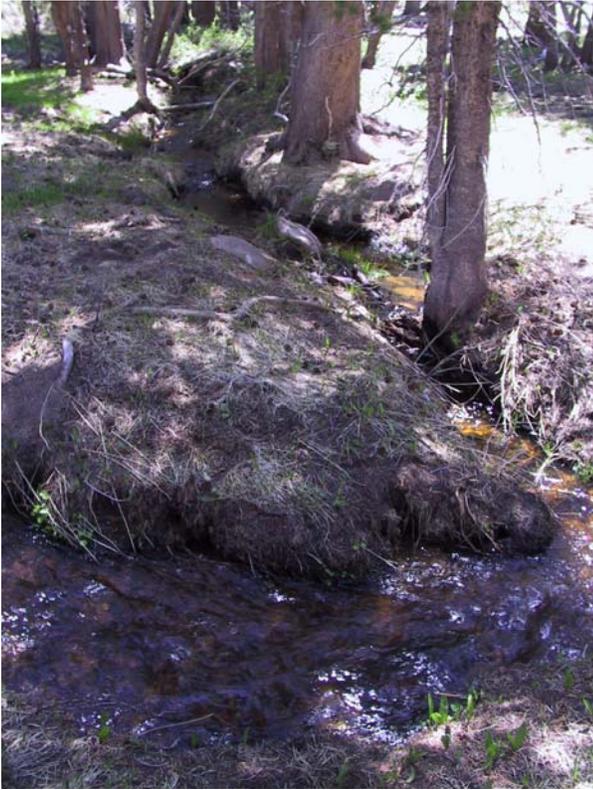
**Site 27:** Lost Cannon Creek, Bridgeport Ranger District, looking at a tributary that enters on the river right side. This tributary is contributing approximately 22% to the overall flow in this Creek. Some 3 inch fish were also seen at this site. This site is located at UTM: N: 4254473 & E: 280288.



**Site28:** Lost Cannon Creek, Bridgeport Ranger District, tributary entering on the river right side. This tributary is contributing approximately 5% to the overall flow in Lost Cannon Creek. About 10 fish were seen at this site. This site is located at UTM: N: 4254499 & E: 278989.



**Site 29:** Lost Cannon Creek, Bridgeport Ranger District, looking at where approximately 50, 4-5 inch fish were sighted. This site is located at UTM: N: 4254350 & E: 279109.



**Site 30:** Lost Cannon Creek, Bridgeport Ranger District, tributary entering on the river left side. This tributary is contributing approximately 5% to the overall flow in Lost Cannon Creek. Some fish were seen at this site. This site is located at UTM: N: 4254176 & E: 279025.



**Site 31:** Lost Cannon Creek, Bridgeport Ranger District, looking upstream at a permanent fish barrier. The gradient starts to increase here. This barrier is approximately 150 meters long. This site is located at UTM: N: 4253592 & E: 279011.



**Site 32:** Lost Cannon Creek, Bridgeport Ranger District, looking upstream at a permanent fish barrier. This barrier is 4.9 feet high and the depth of the pool at the bottom of the barrier is 0.7 feet. The stream survey ended at this site. This site is located at UTM: N: 4253420 & E: 278998.