

DESERT CREEK

Lyon & Douglas County, Nevada, & Mono County, California

2005 Stream Habitat Survey Report



Prepared by

Humboldt-Toiyabe National Forest, Bridgeport Ranger District

Introduction

Desert Creek is located in Lyon and Douglas Counties, Nevada and Mono County, California. The mainstem of Desert Creek flows for approximately 30 miles in a north direction to its confluence with the Walker River near Smith, Nevada. Desert Creek originates partly from Lobdell Lake. The mainstem of Desert Creek ranges from approximately 4700 feet elevation to 9211 feet elevation. Approximately 2/3 of the Desert Creek watershed is located on Humboldt-Toiyabe National Forest (HTNF) lands. The lower/bottom 1/3 of the watershed, closest to the Walker River, is located on private land. The stream habitat survey only occurred on National Forest lands between Lobdell Lake and the Desert Creek Ranch located on Forest System Road 027 near Site 1 (see map).

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 Desert 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 Desert 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 Desert 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 22.6 miles of the Desert Creek watershed was surveyed. Two permanent fish barriers (Sites 1 & 28) were identified and no seasonal fish barriers were identified. Desert Creek is diverted just upstream of Site 1. The permanent fish barrier at Site 1 is located only on one side of the diversion. The other side of the diversion was not surveyed because of land ownership. Eleven ford-road crossings were identified (Sites 2, 3, 4, 5, 6, 7, 17, 18, 19, 20, and 23). Twelve tributaries were identified (Sites 8, 12, 13, 14, 15, 16, 21, 22, 23, 24, 26, and 27). Some photo points were taken at Site 9, 10, 11, and 25. Non-native fish were seen throughout the Desert Creek watershed. The overall

gradient of Desert Creek between Lobdell Lake and Site 1 is 3.5%. Approximately 18.5 miles of potential LCT habitat was identified on Desert Creek between Site 1 and Site 25, approximately 1.1 additional miles of potential LCT habitat was identified on Jackass Creek near its confluence with Desert Creek, and approximately 3 more miles of potential LCT habitat was identified on the East Fork Desert Creek between Site 21 and extending upstream of Site 28 to an old road/trail crossing. No other interesting features were photographed or GPS'ed.

Discussion

The Desert Creek watershed upstream of Site 1 does provide potential LCT habitat. The overall gradient of Desert Creek between Lobdell Lake and Site 1 is 3.5%, only two permanent fish barriers were identified, no seasonal fish barriers were identified, and 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. All eleven vehicular ford road crossings are likely sources of sediment entering into the Desert Creek watershed; however, this impact can be reduced with some site specific restoration work.

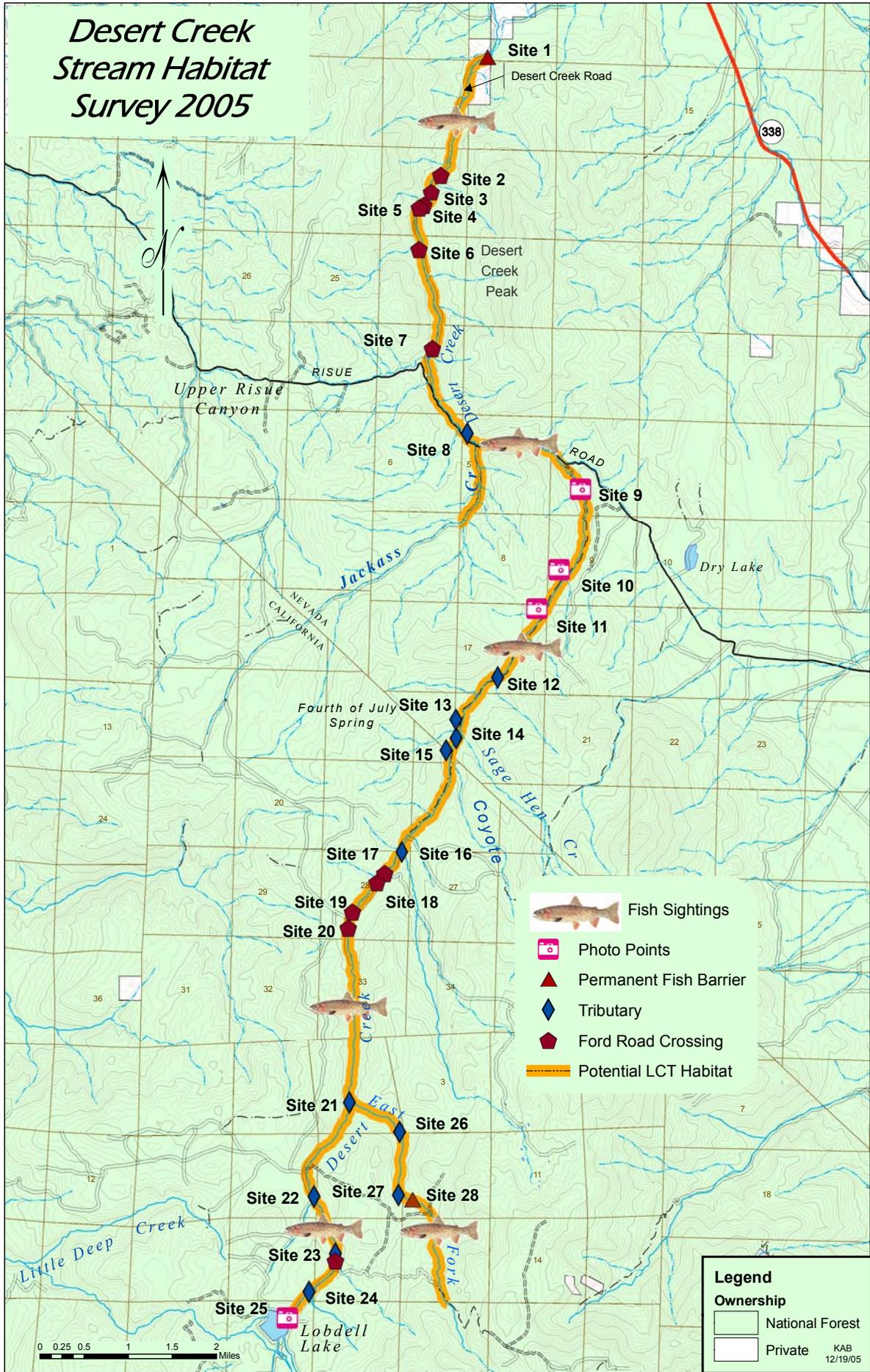
Site 1 is located just downstream of a diversion point on Desert Creek. The permanent fish barrier is located on one side of the diversion. The other side of the diversion was not surveyed because of land ownership. The private land owner should be contacted to determine if a permanent fish barrier does exist on that side of the diversion. Depending if a permanent fish barrier exists or not, non-native fish may still be able to migrate upstream from the private property on Desert Creek downstream of Site 1.

Stream habitat surveys were completed in 2004 on Deep and Cottonwood Creeks which are also connected to Lobdell Lake. Potential LCT habitat was identified within the Deep and Cottonwood Creek watersheds. Lobdell Lake needs to be surveyed to determine if a metapopulation of LCT could be established between Desert, Deep, and Cottonwood Creek.

Recommendations

1. Work with California Department of Fish and Game and Nevada Department of Wildlife to obtain stocking records and information related to previous density and distribution surveys of fish in Desert Creek.
2. Desert Creek is diverted at Site 1. The permanent fish barrier only occurs on one side of the diversion. Contact the private land owner to determine if a permanent fish barrier occurs on the other side of the diversion.
3. Consider Desert Creek between Site 1 and Site 25, the lower 1.1 miles of Jackass Creek, and the East Fork Desert Creek as having potential LCT habitat.
4. If LCT are introduced into Desert Creek, assess the erosion/sediment impacts from all the ford-road crossings and implement the necessary actions to reduce the erosion/sediment impacts to the watershed and the fish.
5. Assess the water right issues at Lobdell Lake and develop a recommendation that will support recovery of LCT.
6. Survey Lobdell Lake to determine if a metapopulation of LCT could be established between Desert, Deep, and Cottonwood Creek.

Desert Creek Stream Habitat Survey 2005





Site 1: Desert Creek, Bridgeport Ranger District, looking at a permanent fish barrier. This site is near the National Forest-private property boundary. The height of the barrier is 9.8 feet. This site is located at UTM N: 4280231 & E: 297672. Approximately 50% of Desert Creek is diverted at this site.



Site 1: Desert Creek, Bridgeport Ranger District, looking downstream at a permanent fish barrier and where Desert Creek is diverted. This site is near the National Forest-private property boundary. The height of the barrier is 9.8 feet. This site is located at UTM N: 4280231 & E: 297672. Approximately 50% of Desert Creek is diverted at this site.



Site 2: Desert Creek, Bridgeport Ranger District, looking upstream at a ford-road crossing. This site is located at UTM N: 4278099 & E: 296820.



Site 3: Desert Creek, Bridgeport Ranger District, looking downstream at a ford-road crossing. This site is located at UTM N: 4277790 & E: 296649.



Site 4: Desert Creek, Bridgeport Ranger District, looking downstream at a ford-road crossing. This site is located at UTM N: 4277546 & E: 296513.



Site 5: Desert Creek, Bridgeport Ranger District, looking downstream at a ford-road crossing. This site is located at UTM N: 4277498 & E: 296429.



Site 6: Desert Creek, Bridgeport Ranger District, looking upstream at a ford-road crossing. This site is located at UTM N: 4276753 & E: 296424.



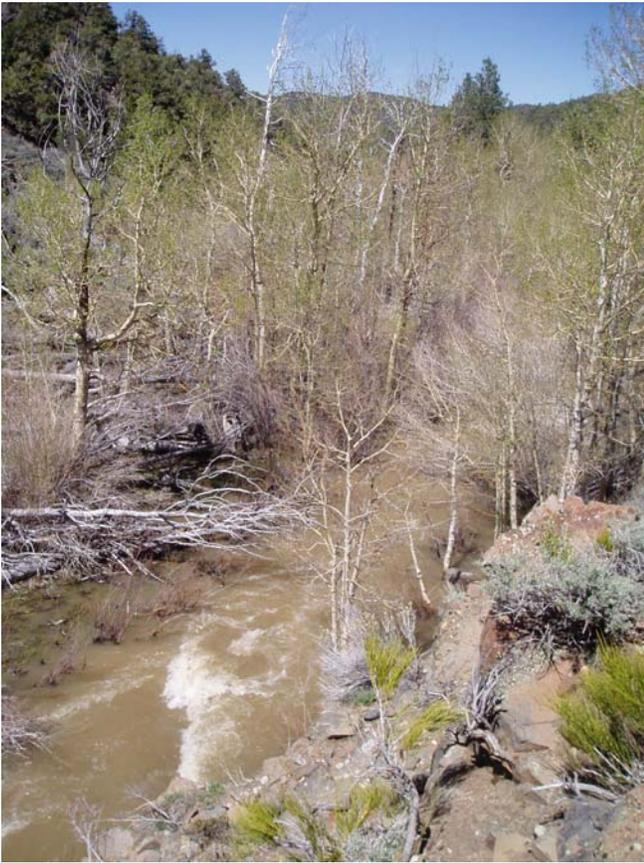
Site 7: Desert Creek, Bridgeport Ranger District, looking downstream at a ford-road crossing. This site is located at UTM N: 4275093 & E: 296563.



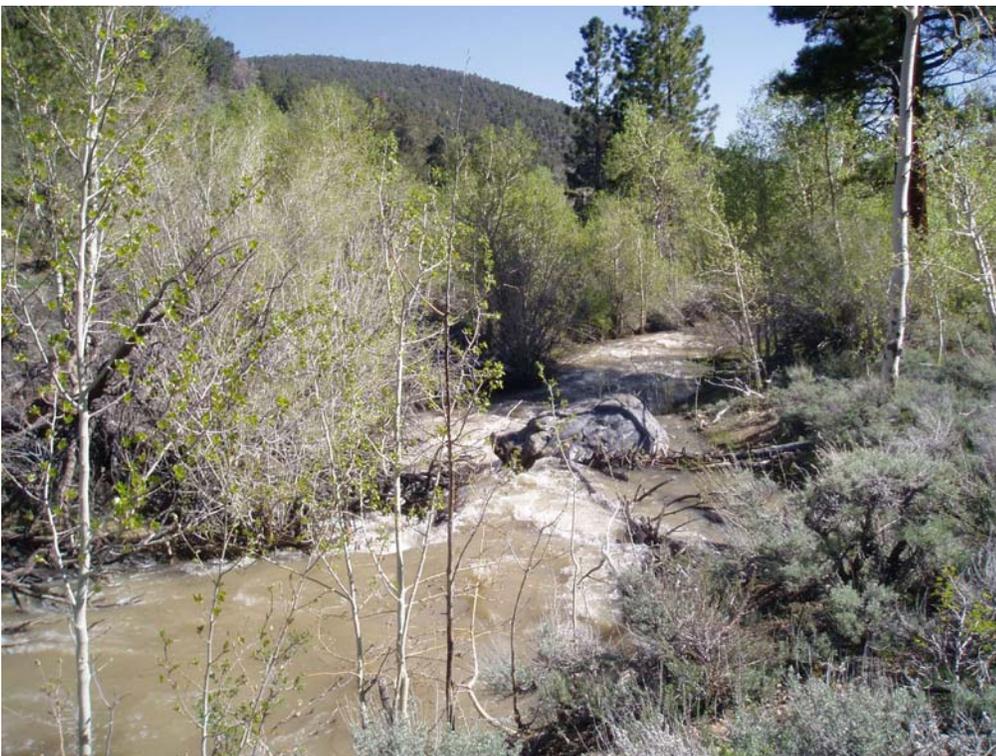
Site 8: Desert Creek, Bridgeport Ranger District, looking at a tributary (Jackass Creek) that enters on the river left side. The lower 1 mile (approximate) of Jackass Creek, closest to Desert Creek, does have potential LCT habitat. This site is located at UTM N: 4273454 & E: 297318.



Site 9: Desert Creek, Bridgeport Ranger District, photo point looking upstream. This site is located at UTM N: 4272414 & E: 299365.



Site 10: Desert Creek, Bridgeport Ranger District, photo point looking downstream. This site is located at UTM N: 4270959 & E: 298975.



Site 11: Desert Creek, Bridgeport Ranger District, photo point looking downstream. This site is located at UTM N: 4270251 & E: 298568.



Site 12: Desert Creek, Bridgeport Ranger District, looking at a tributary that enters on the river right side. This tributary is contributing approximately 5% to the overall flow in Desert Creek. This site is located at UTM N: 4269226 & E: 297749.



Site 13: Desert 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 Desert Creek. This site is located at UTM N: 4268251 & E: 297096.



Site 14: Desert Creek, Bridgeport Ranger District, looking at a tributary (Sagehen Creek) that enters on the river right side. This tributary is contributing approximately 5% to the overall flow in Desert Creek. This site is located at UTM N: 4286248 & E: 297102.



Site 15: Desert Creek, Bridgeport Ranger District, looking at a tributary (Coyote Creek) that enters on the river right side. This tributary is contributing approximately 20% to the overall flow in Desert Creek. This site is near the Nevada-California border. This site is located at UTM N: 4267693 & E: 296919.

Site 16: The picture for this site is missing. Site 16 is a tributary that enters Desert Creek, Bridgeport Ranger District, on the river right side. This tributary is contributing approximately 25% to the overall flow in Desert Creek. This site is located at UTM: N: 4265855 & E: 296107.



Site 17: Desert Creek, Bridgeport Ranger District, looking at a ford-road crossing. The location of this site is approximate on the map. No UTM coordinates were collected at this site.



Site 18: Desert Creek, Bridgeport Ranger District, looking at a ford-road crossing. The location of this site is approximate on the map. No UTM coordinates were collected at this site. This site is located within approximately 1/8 mile of site 17.



Site 19: Desert Creek, Bridgeport Ranger District, looking at a ford-road crossing. This site is located at UTM: N: 4264768 & E: 295210.



Site 20: Desert Creek, Bridgeport Ranger District, looking at a ford-road crossing. The location of this site is approximate on the map. No UTM coordinates were collected at this site.

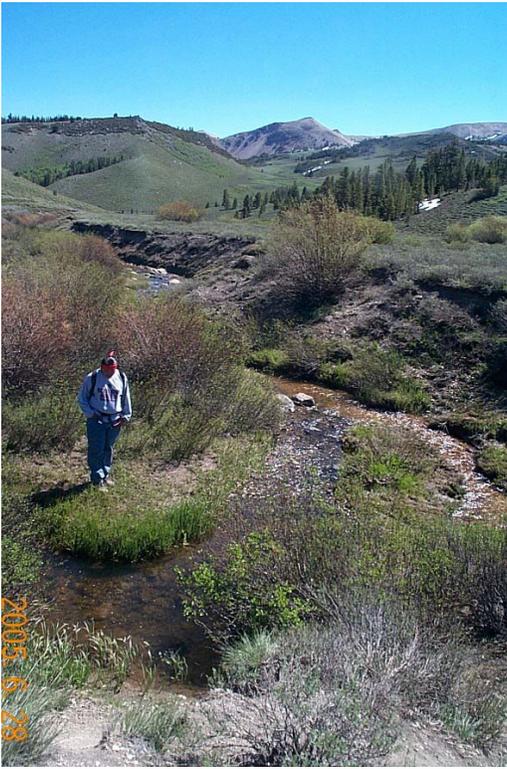


Site 21: Desert Creek, Bridgeport Ranger District, looking downstream at a tributary (East Fork Desert Creek) that enters on the river right side. This tributary is contributing approximately 40% to the overall flow in Desert Creek. This site is located at UTM N: 4261319 & E: 295155.

Site 22: The picture for this site is missing. Site 22 is a tributary that enters Desert Creek, Bridgeport Ranger District, on the river left side. This tributary is contributing approximately 5% to the overall flow in Desert Creek. This site is located at UTM: N: 4259618 & E: 294507.



Site 23: Desert Creek, Bridgeport Ranger District, looking downstream at a ford-road crossing and a tributary that enters on the river right side. The tributary is contributing approximately 50% to the overall flow in Desert Creek. This site is located at UTM N: 4258595 & E: 294902.



Site 24: Desert Creek, Bridgeport Ranger District, looking downstream at a tributary that enters on the river right side. The tributary is contributing approximately 50% to the overall flow in Desert Creek. This site is located at UTM N: 4257890 & E: 294417.



Site 25: Beginning of Desert Creek, inlet from Lobdell Lake, Bridgeport Ranger District, photo point, looking downstream. This site is located at UTM N: 4257418 & E: 294024.



Site 26: East Fork Desert Creek, Bridgeport Ranger District, looking downstream at a tributary that enters on the river right side. The tributary is contributing approximately 10% to the overall flow in this creek. This site is located at UTM N: 4260792 & E: 296068.



Site 27: East Fork Desert Creek, Bridgeport Ranger District, looking downstream at a tributary that enters on the river right side. The tributary is contributing approximately 10% to the overall flow in this creek. This site is located at UTM N: 4259644 & E: 296046.



Site 28: East Fork Desert Creek, Bridgeport Ranger District, looking upstream at a permanent fish barrier. These cascades are approximately 100 meters long. This site is located at UTM N: 4259561 & E: 296305.



Site 28: East Fork Desert Creek, Bridgeport Ranger District, looking downstream from the top of the permanent fish barrier. This site is located at UTM N: 4259561 & E: 296305.