

East Walker River

Mineral County, NV & Mono County, CA

2007 Stream Habitat Survey Report



Prepared by:

Bridgeport Ranger District: Humboldt-Toiyabe National Forest

Introduction

The East Walker River begins in Mono County, California just upstream of Bridgeport Reservoir and flows in a northeasterly direction into Nevada's Mineral County. The East Walker River flows for approximately 72.25 miles until it connects with the West Walker River downstream of Topaz Lake. From there the Walker River flows to Walker Lake. The East Walker River flows through several parcels of private property as well as land managed by the Humboldt-Toiyabe National Forest, Bureau of Land Management, and California Department of Fish and Game. Due to the large amount of private property found downstream of the Flying M Ranch, the surveying of the East Walker River started at the ranch and continued upstream 32.5 miles to Bridgeport Reservoir. All National Forest lands and California State lands were surveyed.

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. The East Walker River was surveyed on May 16-22, 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 the East Walker River 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 32.5 miles of the East Walker River were surveyed between the south end of the Flying M Ranch and Bridgeport Reservoir. Throughout the survey of the East Walker River the most prevalent feature documented was campsites, which are located at Sites 7, 8, 9, 11, 13, 14, 17, 19, 23, 25, 26, 27, 29, 44, 46, 47, 50, 51, 53, 54, and 55. There are 4 bridges that cross the river that can be found at Sites 3, 38, 45, and 56, and two ford crossings are found at Sites 5 and 10. There are several areas along the river where erosion is a concern, with the largest impacts being located at Sites 18, 24, 33, 36, and 39. During this specific survey we also documented noxious weeds at Sites 15, 20, 30, 31, and 37. Fish were documented at Sites 16 and 35; however, we also saw several

fishermen landing large fish just downstream of Bridgeport Reservoir. Photo points showing stream characteristics were collected at Sites 12, 32, 43, and 57. We were able to document four different tributaries at Sites 22, 40, 42, and 48. We also found two locations where the water was being diverted for irrigation purposes and they are located at Sites 4 and 6. One adjacent road impact was recorded at Site 52. The only fish barrier documented was an artificial-permanent fish barrier located at the end of the survey at the Dam (Site 58) forming Bridgeport Reservoir. There were several other features documented as “other”, and those features can be found at Sites 2, 5, 21, 28, 34, 41, and 49. These sites range from fences that have been stretched across the river, areas burned by wildfire, private property boundaries, and the presence of Murphy’s Pond

Discussion

The East Walker River provides 32.5 miles of potential LCT habitat between Sites 1 and 59. The stretch of river between Sites 1 and 41 is almost entirely managed by the U.S. Forest Service, Bridgeport Ranger District with a few small private parcels intermixed. The habitat through this section varies from wide slow sections to steep canyons that contain long riffles, runs and pools. There is a stretch of private property between Sites 41 and 42 that is being used for cattle grazing; however, we were unable to survey this section of river. Many diversions could be seen within this section of river (Between Sites 41 and 42) in order to irrigate the surrounding pastures. Upstream of this private property section, between Sites 42 and 59, the land is managed by the California Department of Fish and Game. The habitat through this section is located adjacent to Highway 182 and therefore moves swiftly through a canyon with very few slower water sections. There was only one fish barrier documented throughout the surveyed 32.5 mile section and this was an artificial-permanent fish barrier located at the Dam forming Bridgeport Reservoir.

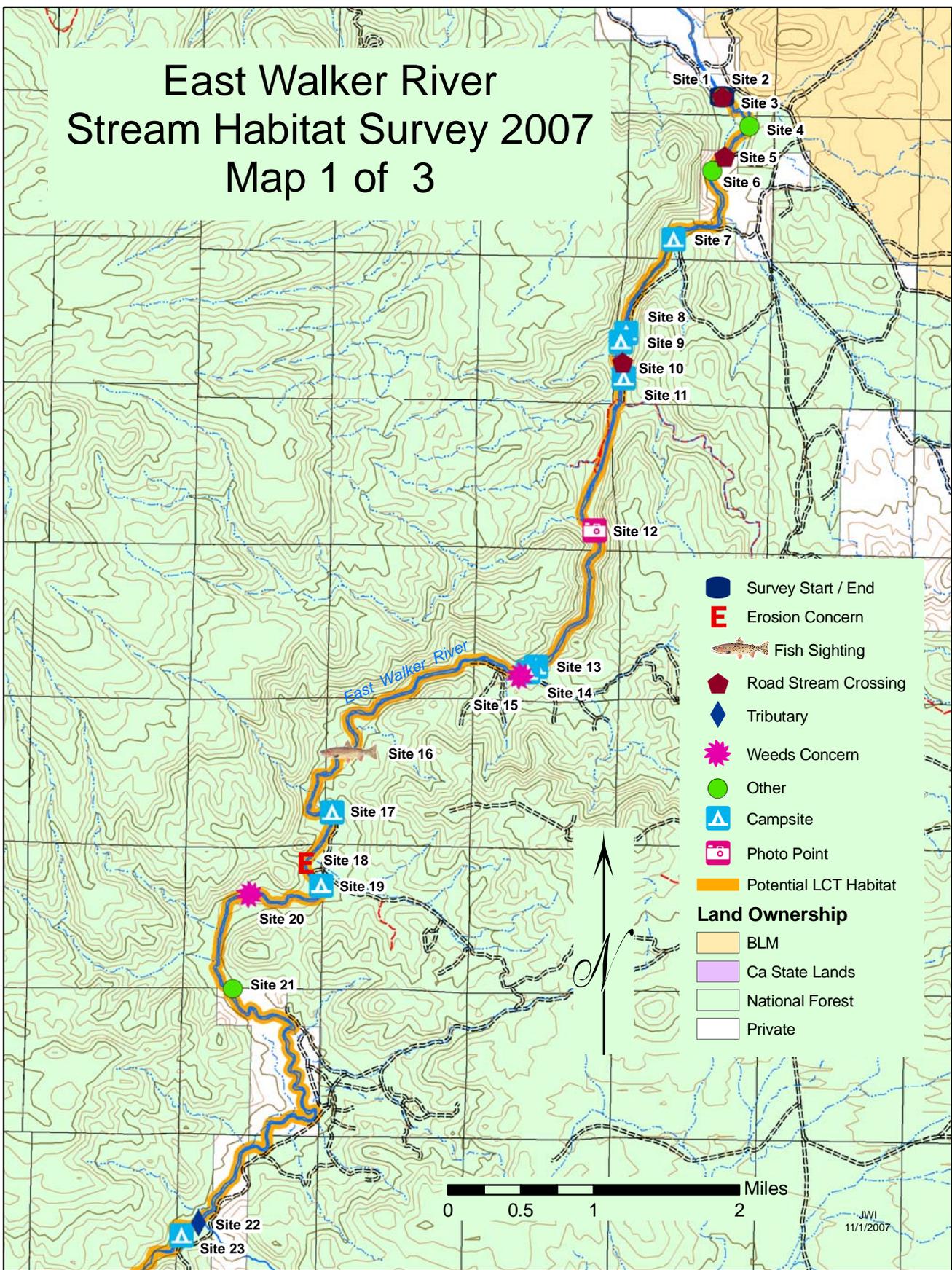
Overall, the East Walker River is a great river for fish and offers a variety of different types of habitat for fish. It is also already a very popular river for anglers, especially through the upper reaches of the river located in California and through the Rosaschi Ranch area. Downstream of Rosaschi Ranch the use is drastically less probably due to the lack of access to the river. There are some campsites located in places with easy access such as The Elbow and a hot spring located along the river. The most heavily impacted areas were located around the private ranch lands which showed evidence of the river being altered by heavy machinery to facilitate irrigation. These private ranch areas are also being impacted by cattle grazing. There were however, several long stretches of canyon that the cattle and people seemed to rarely visit and where the river was left to flow its natural course. The East Walker River has an overall stream gradient of 0.8% between Sites 1 and 59.

Recommendations

1. Consider the entire 32.5 mile section of the East Walker River between Sites 1 and 59 as potential LCT habitat and consider the East Walker River a high candidate for restoration.

2. Make information regarding Leave No Trace ethics more visible to the public. Decommission infrequently used campsites and encourage users to camp at least 100 feet from the river.
3. Talk with private land owners located along the river about the presence of barbed wire fencing that spans the river at several locations. Determine if these are appropriate and whether they are inhibiting recreational use of the river.
4. Investigate the destination and impacts of the diversions at Sites 4 and 6, and if possible the diversions that occur between Sites 41 and 42. Ensure that fish are not subject to terminal trips into irrigated pasture, and similarly ensure that water users are staying within the confines of their adjudicated rights.
5. Eliminate noxious weeds (cheat grass and whitetop) where herbicides can be safely applied.
6. Consider stocking LCT into the East Walker River as a put-and-take recreational fishery.

East Walker River Stream Habitat Survey 2007 Map 1 of 3

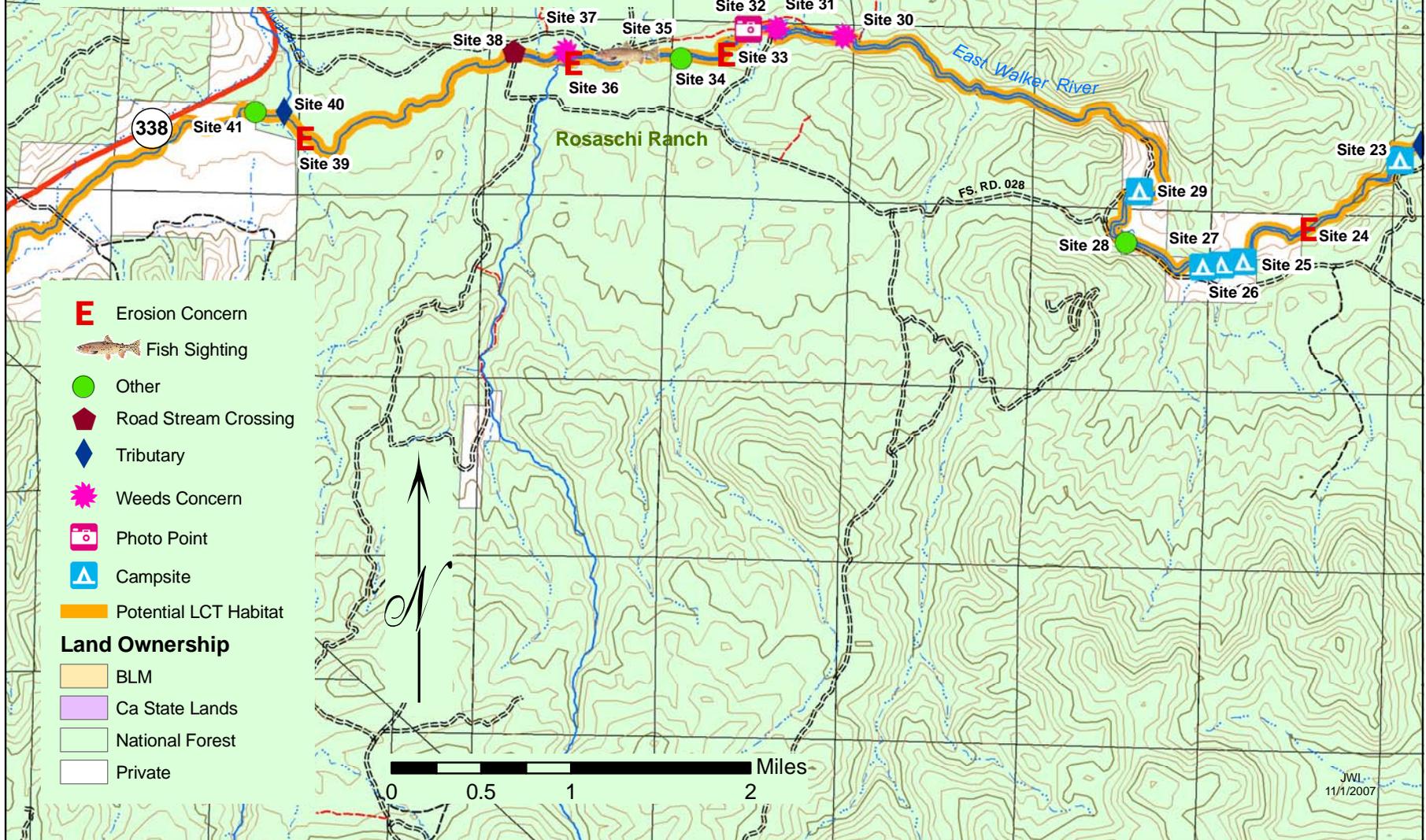


- Survey Start / End
 - Erosion Concern
 - Fish Sighting
 - Road Stream Crossing
 - Tributary
 - Weeds Concern
 - Other
 - Campsite
 - Photo Point
 - Potential LCT Habitat
- Land Ownership**
- BLM
 - Ca State Lands
 - National Forest
 - Private

0 0.5 1 2 Miles

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11/1/2007

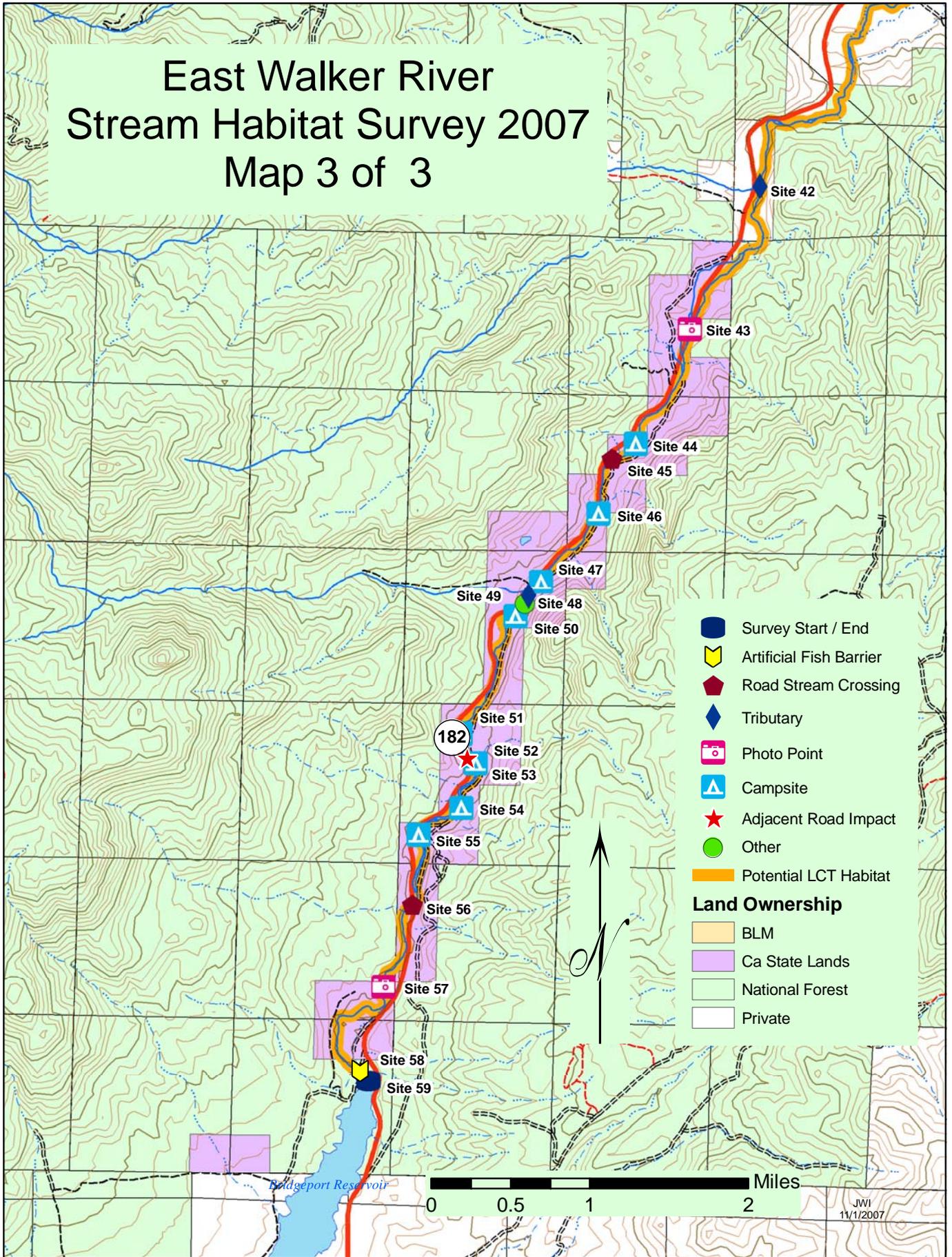
East Walker River Stream Habitat Survey 2007 Map 2 of 3



- E** Erosion Concern
 - Fish Sighting
 - Other
 - Road Stream Crossing
 - Tributary
 - Weeds Concern
 - Photo Point
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- Land Ownership**
- BLM
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0 0.5 1 2 Miles

East Walker River Stream Habitat Survey 2007 Map 3 of 3



- Survey Start / End
- Artificial Fish Barrier
- Road Stream Crossing
- Tributary
- Photo Point
- Campsite
- Adjacent Road Impact
- Other
- Potential LCT Habitat

- Land Ownership**
- BLM
 - Ca State Lands
 - National Forest
 - Private

0 0.5 1 2 Miles

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Site 1: East Walker River, Bridgeport Ranger District. Survey starts just upstream of the Flying M Hunting Club. This site is located at UTM: N: 4268222 & E: 330134, Elev. 1551m.



Site 2: East Walker River, Bridgeport Ranger District. A barbed wire fence stretches across the river reaching from the surface to 1.5m above water. This site is located at UTM: N: 4268222 & E: 330134, Elev. 1551m.



Site 3: East Walker River, Bridgeport Ranger District. Looking downstream from a bridge that crosses the river. This bridge is wide enough for one vehicle to cross at a time. Some riprap can be seen on river left downstream of the bridge. This site is located at UTM: N: 4268222 & E: 330134, Elev. 1551m.



Site 4: East Walker River, Bridgeport Ranger District. A diversion canal with a gate to regulate flow is set up to irrigate a downstream ranch. This site is located at UTM: N: 4267900 & E: 330433, Elev. 1551m.



Site 5: East Walker River, Bridgeport Ranger District. Tracks shown on both sides of the river are evidence of heavy machinery crossing at this point. This site is located at UTM: N: 4267564 & E: 330157, Elev. 1564m.



Site 5 (cont'd): East Walker River, Bridgeport Ranger District. Barbed wire fence stretches across the river on both sides of tracks approx. 20m apart. This site is located at UTM: N: 4267564 & E: 330157, Elev. 1564m.



Site 6: East Walker River, Bridgeport Ranger District. Big mound of dirt moved by heavy machinery is placed in the middle of the river in order to divert some of the water to the left. Machinery tracks appear to be fresh. This site is located at UTM: N: 4267410 & E: 330026, Elev. 1560m.



Site 7: East Walker River, Bridgeport Ranger District. A campsite with two large fire rings and lots of trash nearby. This site is located at UTM: N: 4266643 & E: 329595, Elev. 1572m.



Site 8: East Walker River, Bridgeport Ranger District. A small campsite shaded by cottonwoods is located on river right 10m from the water's edge. This campsite has road access. This site is located at UTM: N: 4265610 & E: 329073, Elev. 1583m.



Site 9: East Walker River, Bridgeport Ranger District. Campsite containing 1 fire ring, stumps for sitting, and extra firewood is located 30m from water on river right. Wood looks as though it has been cut from a nearby tree. Lots of broken glass and tall whitetop were also seen near this area. This site is located at UTM: N: 4265517 & E: 229013, Elev. 1585m.



Site 10: East Walker River, Bridgeport Ranger District. ATV tracks on river right along with trampled vegetation seen on river left suggest this location is being used frequently to cross the river. This site is located at UTM: N: 4265290 & E: 329034, Elev. 1589m.



Site 11: East Walker River, Bridgeport Ranger District. Small campsite with one fire ring is located 3m from the water on river right. This site is located at UTM: N: 4265121 & E: 329047, Elev. 1590m.



Site 12: East Walker River, Bridgeport Ranger District. Photo point shows an upstream view as the river flows through a large canyon. Downstream shows few rocks creating little rapids and heavily vegetated stream banks. This site is located at UTM: N: 4263429 & E: 328725, Elev. 1603m.



Site 13: East Walker River, Bridgeport Ranger District. Campsite contains 1 fire ring, debris such as a mattress, propane tank, and several shotgun shells. Campsite is 50m from water with road access and ATV tracks leading to site. This site is located at UTM: N: 4261923 & E: 328076, Elev. 1626m.



Site 14: East Walker River, Bridgeport Ranger District. One fire ring over 50m from water is found with a barrel punctured by gunshots. The campsite has road access. This site is located at UTM: N: 4261866 & E: 327987, Elev. 1628m.



Site 15: East Walker River, Bridgeport Ranger District. Photo is of the invasive Tamarisk, a species which changes the salinity of the soil and chokes out native plants. Tamarisk can be seen all along this stretch of river bank. This site is located at UTM: N: 4261824 & E: 327907, Elev. 1629m.

Site 16: East Walker River, Bridgeport Ranger District. One 10 inch fish of unknown species is seen briefly along with a large school of small juvenile fish. No picture is taken due to lack of visibility of small fish through camera. This site is located at UTM: N: 4260989 & E: 326006



Site 17: East Walker River, Bridgeport Ranger District. Photo depicts large campsite with fire ring 2m from the water on river right. Campsite includes 5 wood structures including a zip line across the river and a sign that reads “Welcome to Refuge”. This site is located at UTM: N: 4260310 & E: 325830, Elev. 1662m.



Site 18: East Walker River, Bridgeport Ranger District. Stream bank on river left shows massive erosion at this site with dimensions of approx. 15m in height and 100m in length. This site is located at UTM: N: 4259748 & E: 325532, Elev. 1666m.



Site 19: East Walker River, Bridgeport Ranger District. One large fire ring 30m from water defines this campsite which also includes a tire swing, extra firewood, and road access. This site is located at UTM: N: 4259503 & E: 325711, Elev. 1666m.



Site 20: East Walker River, Bridgeport Ranger District. This photo depicts what is believed to be hoary cress, an invasive species which outcompetes native vegetation. We found this weed on river right. This site is located at UTM: N: 4259409 & E: 324922, Elev. 1669m.



Site 21: East Walker River, Bridgeport Ranger District. Thick willows surround the river as it passes through private property. Because of the thick vegetation and trespassing laws we skipped this section of river. We suspect that some diversions may occur within this section of river. This site is located at UTM: N: 4258368 & E: 324737, Elev. 1678m.



Site 22: East Walker River, Bridgeport Ranger District. Rough Creek drains into river right and contributes 5% to the overall river flow. This site is located at UTM: N: 4255771 & E: 324354, Elev. 1693m.



Site 23: East Walker River, Bridgeport Ranger District. Campsite containing one fire ring 15m from water is filled with empty bottles and cans. Mountain bike tracks can be seen on the trail leading to the main road 15m away. This site is located at UTM: N: 4255631 & E: 324167, Elev. 1695m.



Site 24: East Walker River, Bridgeport Ranger District. Massive erosion approx. 2.5m high and 35m long is seen along a meander in the river that is almost 180°. This site is located at UTM: N: 4255022 & E: 323360.



Site 25: East Walker River, Bridgeport Ranger District. Two fire rings are located 10m from water on river right. This campsite is accessible by road. This site is located at UTM: N: 4254727 & E: 322762, Elev. 1704m.



Site 26: East Walker River, Bridgeport Ranger District. Campsite lies 10m from water's edge on river right with road access and a path leading to the river. This site is located at UTM: N: 4254700 & E: 322565, Elev. 1705m.



Site 27: East Walker River, Bridgeport Ranger District. 3 fire rings with road access and a path to river for fishing/swimming is located on river right. The closest ring is 15m from the water. This site is located at UTM: N: 4254683 & E: 322403, Elev. 1705m.



Site 28: East Walker River, Bridgeport Ranger District. A recent wildfire burned the vegetation along the river bank. Although the fire appears recent, new vegetation is evident along the bank. This site is located at UTM: N: 4254903 & E: 321714, Elev. 1708m.



Site 29: East Walker River, Bridgeport Ranger District. Several campsites with road access are surrounded by burned vegetation from a recent fire (also see Site 28). The closest fire ring is approx. 25m from water's edge on river right. This site is located at UTM: N: 4255359 & E: 321833, Elev. 1711m.



Site 30: East Walker River, Bridgeport Ranger District. A few small bunches of tall whitetop (hoary cress) is found on the river right stream bank. This site is located at UTM: N: 4256748 & E: 319189, Elev. 1735m.



Site 31: East Walker River, Bridgeport Ranger District. Larger clumps of the noxious weed hoary cress are found at this location on river right. This site is located at UTM: N: 4256816 & E: 318589, Elev. 1737m.



Site 32: East Walker River, Bridgeport Ranger District. This photo point shows a calm river with few rocks or rapids as the river runs semi-meandering with a few small islands. An old diversion for irrigation enters river right. This site is located at UTM: N: 4256812 & E: 318334, Elev. 1738m.



Site 33: East Walker River, Bridgeport Ranger District. Heavy erosion marks this site at a length of 80m and a height of 1.5m. This site is located at UTM: N: 4256586 & E: 318138, Elev. 1740m.



Site 34: East Walker River, Bridgeport Ranger District. Two electric fences cross the river enclosing an area of approx. 25m x 80m. Fences are presumably to keep cattle off a muddy area. This site is located at UTM: N: 4256550 & E: 317731, Elev. 1743m.



Site 35: East Walker River, Bridgeport Ranger District. As the river braids and flows around an island on river left a large school of juvenile fish can be seen in the vegetation under the water. This site is located at UTM: N: 4256595 & E: 317247, Elev. 1746m.



Site 36: East Walker River, Bridgeport Ranger District. Massive erosion is seen along the river bank at a height of 2m and a length of 100m. This site is located at UTM: N: 4256506 & E: 316767, Elev.1747m.



Site 37: East Walker River, Bridgeport Ranger District. Another area is found to be inhabited by the noxious weed hoary cress. This site is located at UTM: N: 4256613 & E: 316698, Elev. 1749m.



Site 38: East Walker River, Bridgeport Ranger District. Sweetwater Road crosses over the river via a bridge that is wide enough for two vehicles. Some riprap can be found along the bank to keep the bridge from being washed away. This site is located at UTM: N: 4256613 & E: 316235, Elev. 1755m.



Site 39: East Walker River, Bridgeport Ranger District. The effects of erosion can be seen on the river right stream bank at a length of 30m and a height of 1.5m. This site is located at UTM: N: 4255834 & E: 314363, Elev. 1765m.



Site 40: East Walker River, Bridgeport Ranger District. Sweetwater Creek enters river left contributing 10% to the overall flow of the river. Sweetwater Creek is fairly large and may provide potential habitat for LCT. This site is located at UTM: N: 4256070 & E: 314175, Elev. 1770m.



Site 41: East Walker River, Bridgeport Ranger District. Looking at a wired fence that stretches across the river as it hits private property. A sign reads “NO TRESSPASSING, HUNTING OR FISHING. VIOLATORS WILL BE PROSECUTED UNDER PENALTY OF LAW.” This forces us not to survey a section of river that appears to have many diversions. This site is located at UTM: N: 4256071 & E: 313924, Elev. 1770m.



Site 42: East Walker River, Bridgeport Ranger District. Fryingpan Creek enters river left and adds less than 5% to the overall river flow. Fryingpan Creek is small and shallow but is still large enough to provide potential LCT habitat. This site is located at UTM: N: 4253175 & E: 310661, Elev. 1823m.



Site 43: East Walker River, Bridgeport Ranger District. Photo point shows a fast flowing river. Banks of river are heavily vegetated making surveying difficult. This site is located at UTM: N: 4251729 & E: 309953, Elev. 1849m.



Site 44: East Walker River, Bridgeport Ranger District. One large fire ring is located 15m from water on river left. There is a road off Hwy182 that leads towards river but there is no direct access to the campsite. The only tracks seen are that of bikes. This site is located at UTM: N: 4250572 & E: 309410, Elev. 1872m.



Site 45: East Walker River, Bridgeport Ranger District. A dirt road off Hwy182 crosses over the river via a bridge and proceeds upstream along river right. Bridge is wide enough for one vehicle. This site is located at UTM: N: 4250421 & E: 309166, Elev. 1880m.



Site 46: East Walker River, Bridgeport Ranger District. One fire ring 25m from river right is accessible by a dirt road. Campsite also has a cleared trail to the river. This site is located at UTM: N: 4249861 & E: 309034, Elev. 1889m.



Site 47: East Walker River, Bridgeport Ranger District. This campsite located 20m from water's edge on river right has road access along with a steep grade leading to the river. This site is located at UTM: N: 4249175 & E: 308452, Elev. 1910m.



Site 48: East Walker River, Bridgeport Ranger District. Murphy Creek enters river left from under Hwy 182. This tributary cascades down some rocks before it adds less than 5% to overall flow of the river. This site is located at UTM: N: 4249032 & E: 308327, Elev. 1917m.



Site 49: East Walker River, Bridgeport Ranger District. Murphy's pond is created on river right as river coves outward. This site is located at UTM: N: 4248952 & E: 308290, Elev. 1923m.



Site 50: East Walker River, Bridgeport Ranger District. Two small campsites are located on river right. This area also has a small area for parking. This site is located at UTM: N: 4248822 & E: 308195, Elev.1923m.



Site 51: East Walker River, Bridgeport Ranger District. A large open area contains an old dismantled fire ring and appears to be used for parking only. This site is located at UTM: N: 4247635 & E: 307638, Elev. 1923m.



Site 52: East Walker River, Bridgeport Ranger District. As the river flows next to the road, its flow is redirected by riprap in order to keep the road from being washed away. This site is located at UTM: N: 4247385 & E: 307705, Elev. 1923m.



Site 53: East Walker River, Bridgeport Ranger District. A small campsite about 5m from the river has a fire ring and an area for tents and parking. This site is located at UTM: N: 4247337 & E: 307790, Elev. 1924m.



Site 54: East Walker River, Bridgeport Ranger District. A single fire ring marks this campsite that is right off the road and very close to the river (3m). This site is located at UTM: N: 4246885 & E: 307647, Elev. 1927m.



Site 55: East Walker River, Bridgeport Ranger District. Another campsite is located 15m from the edge of the river. No garbage is present and the site appears to receive little use. This site is located at UTM: N: 4246614 & E: 307215, Elev. 1932m.



Site 56: East Walker River, Bridgeport Ranger District. A major bridge crosses the river to allow Hwy 182 to pass. The bridge incorporates a large section of riprap to control the flow of water beneath the bridge. This site is located at UTM: N: 4245907 & E: 307153, Elev. 1942m.



Site 57: East Walker River, Bridgeport Ranger District. This photo point depicts the river's flow at this section. Here the flow is slow as the river is deeper than other places along the river. This site is located at UTM: N: 4245077 & E: 306858, Elev. 1945m.



Site 58: East Walker River, Bridgeport Ranger District. This spillway is a permanent artificial fish barrier. The spillway comes from Bridgeport Reservoir and this is where the East Walker River originates. Several tributaries drain into Bridgeport Reservoir upstream of this site. This site is located at UTM: N: 4244222 & E: 306632, Elev. 1947m.



Site 59: East Walker River, Bridgeport Ranger District. Survey ends at Bridgeport Reservoir which is where the river begins. This site is located at UTM: N: 4244125 & E: 306706, Elev. 1967m.