

Memorandum

Date: 9/7/2021

To: Sarah Mussulman
Senior Fisheries Supervisor, Region 2 Sierra District
Department of Fish and Wildlife

From: Ben Ewing
District Fishery Biologist (Alpine, Amador, Calaveras, and Lake Counties)

Subject: **2021 Lost Lake (Lower) (14635) Amphibian Survey**

On August 17, 2021, California Department of Fish and Wildlife (Department) completed an amphibian survey at Lost Lake (Lower), hereafter referred to Lower Lost. The purpose of the survey was to determine if any Sierra Nevada Mountain Yellow-Legged Frog (*Rana sierra*) were present, and to assess if the Lower Lost pre-stocking evaluation (PSE) could be re-approved.

Lower Lost is an 15-surface acre reservoir in Alpine County located at 38.647008 N, 119.949940 W situated at 8,631 feet above mean sea level. The shoreline is a mix of rocks, sand, willows, and conifer forest (**Figures 1, 2, and 3**). The lake bottom appears mostly mud and various sized rock substrate. When Lower Lost spills, water drains into the West Carson River. Lower Lost receives snow and rain runoff from the immediate area and multiple small tributaries. Lower Lost has historically had stockings of Brook Trout (*Salvelinus fontinalis*), Golden Trout (*Oncorhynchus mykiss aquabonita*), Lahontan Cutthroat Trout (*Oncorhynchus clarkii henshawi*, LCT), and Rainbow Trout (*Oncorhynchus mykiss*, RT) with the last recorded stocking of LCT in 2020.



Figure 1. Looking northeast along Lower Lost Lake' shoreline on July 28, 2021 (Photo by B. Ewing).



Figure 2. Looking north along Lower Lost Lake' shoreline on July 28, 2021 (Photo by B. Ewing).



Figure 3. Looking north along Lower Lost Lake' shoreline on July 28, 2021 (Photo by B. Ewing).

Department personnel conducted the Fellers and Freel (1995) Visual Encounter Survey (VES) Protocol as modified by the Department to conduct the amphibian survey at Lower Lost. The VES began at 12:15 and ended at 12:41 on August 17, where Lower Lost's entire shoreline was surveyed. No herpetofauna were observed. In 2001 during a High Mountain Lakes survey at Lower Lost, no herpetofauna were observed (CDFW HML Database 2021). In 2012, a VES conducted by the Department observed no herpetofauna (Ewing 2012). No Sierra Nevada Yellow-Legged Frog have been documented at Lower Lost according to the California Natural Diversity Database (CNDDDB 2021). Based on the results of the evaluation completed, Lower Lost is still appropriate for fish stocking. These data will be used to create a new PSE.

Literature Cited:

1. California Department of Fish and Wildlife, High Mountain Lakes Database. September 7, 2021. Accessed by B. Ewing.

2. California Natural Diversity Database. September 2, 2021. Accessed by B. Ewing, CDFW.
3. Ewing, B. 2012. Lower Lost Lake Pre-Stocking Evaluation Survey. California Department of Fish and Wildlife.
4. Fellers, G. M. and K. L. Freel. 1995. A standardized protocol for surveying aquatic amphibians. National Biological Service Cooperative Park Studies Unit, University of California Division of Environmental Studies, Davis, CA. Technical Report No. NPS/WRUC/NRTR95-01 (UC CPSU TR # 58).