

Memorandum

Date: 9/17/2021

To: Sarah Mussulman
Senior Environmental Scientist, Supervisor
Department of Fish and Wildlife

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

Subject: **2021 Lost Lake (Upper) (14648) Amphibian Survey**

On June 18, 2021, California Department of Fish and Wildlife (Department) personnel completed an amphibian survey at Lost Lake (Upper) (Upper Lost). The purpose of the survey was to determine if any Sierra Nevada Yellow-Legged Frog (*Rana sierra*) were present, and to assess if the lake could stay on the Department fish stocking list.

Upper Lost is a small, seventeen-acre lake in Alpine County located at 38.645345 N 119.946211 W, situated at 8,678 feet above mean sea level (**Figure 1**). The majority of shoreline is a mix of rocks, with a few conifers (*Pinopsida* class) and willows (*Salix* genus) in the lake vicinity (**Figure 2**). The lake bottom appears mostly made up of various sized rock substrate. A depth of 9.0 meters was taken at one area of the lake in 2016 (Ewing 2016). At the time of the survey the lake was down significantly due to a poor snowpack in the 2020/2021 winter. When Upper Lost spills, water drains into nearby Lost Lake (Lower). Upper Lost receives water from rain and snowmelt runoff from the Nipple Peak area. Upper Lost historically has received fingerling stockings of Brook Trout (*Salvelinus fontinalis*), Golden Trout (*Oncorhynchus mykiss aquabonita*), Rainbow Trout (*Oncorhynchus mykiss*), and Lahontan Cutthroat Trout (*Oncorhynchus clarkii henshawi*) with the last recorded plant being Rainbow Trout in 2021.

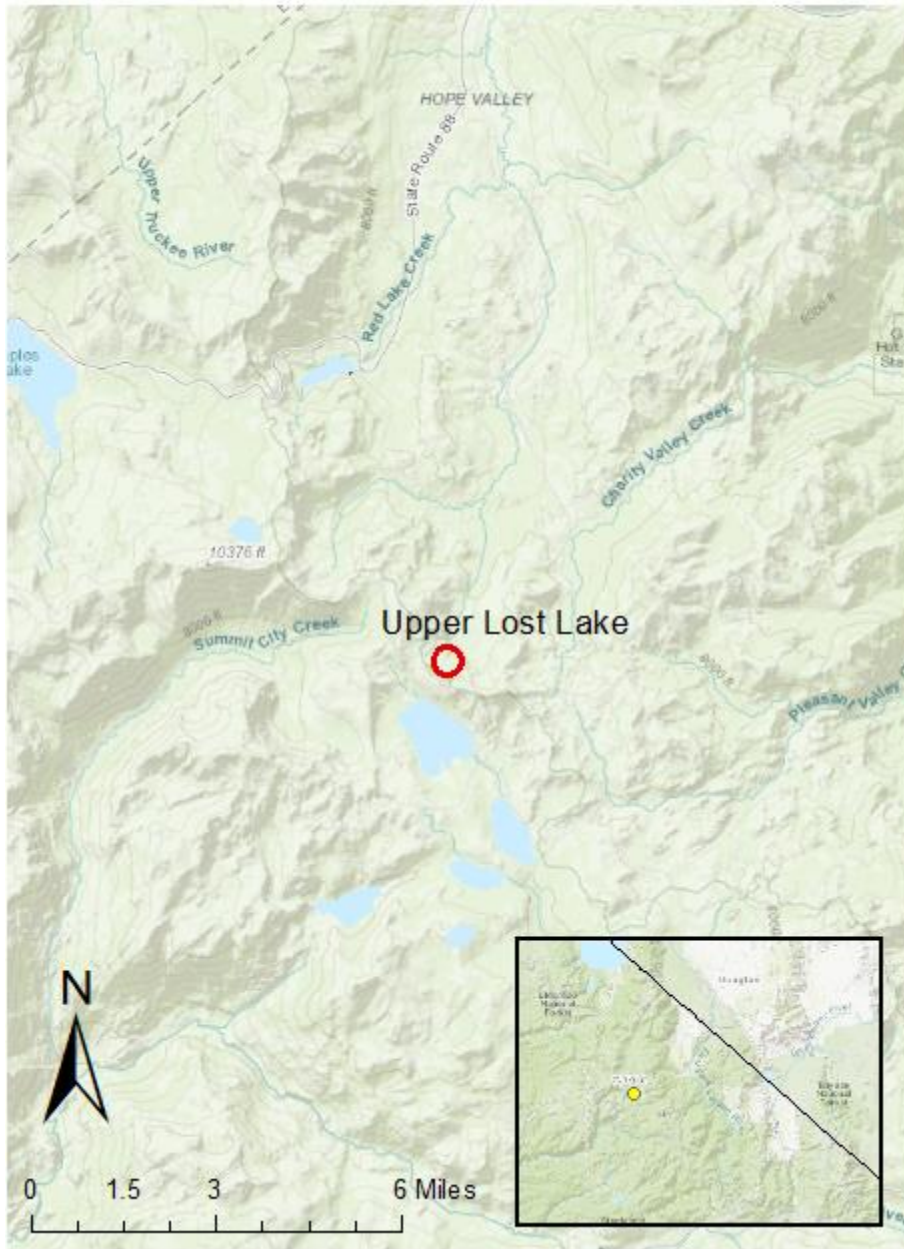


Figure 1. Upper Lost Lake (circled in red), Alpine County. Upper Lost Lake is also indicated by yellow dot in smaller data frame in relation to California.



Figure 2. Lost Lake (Upper), Alpine Co. (B.Ewing, 6/18/2021).

Department personnel utilized the Fellers and Freel (1995) Visual Encounter Survey (VES) Protocol as modified by the Department to conduct the amphibian survey at Upper Lost. The VES began at 13:07 and ended at 14:03 where the entire lake shoreline was surveyed. Surface temperature of the lake was 62.4° F at 13:06. No amphibians were seen during the survey, however Rainbow Trout and Speckled Dace (*Rhinichthys osculus*) were observed. In 2001 during a High Mountain Lakes survey at Upper Lost, no herpetofauna were observed (CDFW HML Database 2021). In 2015, during a VES conducted a VES at Upper Lost, one Mountain Garter Snake (*Thamnophis elegans elegans*) was observed (Ewing 2015). No Sierra Nevada Yellow-Legged Frog have been documented at Upper Lost according to the California Natural Diversity Database (CNDDDB 2021). Based on the results of the evaluation completed, a pre-stocking evaluation will be completed to continue to include Upper Lost on the Department fish stocking list.

Literature Cited:

1. California Department of Fish and Wildlife, High Mountain Lakes Database. September 17, 2021. Accessed by B. Ewing.
2. California Natural Diversity Database. September 17, 2021. Accessed by B. Ewing, CDFW.
3. Ewing, B. 2016. Upper Lost Lake Gillnet Survey. California Department of Fish and Wildlife. Available from:
<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=129488>
4. Ewing, B. Lost Lake (Upper) Amphibian Survey. 2015. California Department of Fish and Wildlife. Available from:
<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=108774>
5. 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).