

Memorandum

Date: 8/27/2021

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 Frog Lake Amphibian Survey**

On July 21, 2021, California Department of Fish and Wildlife (Department) completed an amphibian survey at Frog Lake. 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 pre-stocking evaluation could be re-approved.

Frog Lake is a small six-acre lake in Alpine County located at 38° 41' 16.06 N 119 59' 10.03 W situated at 8,865 feet above mean sea level. The shoreline is a mix of rocks, sand, and conifer forest (**Figures 1, 2, and 3**). The lake bottom appears mostly mud and various sized rock substrate. At the time of the survey the lake level was well below capacity. When Frog Lake spills, water drains into nearby Red Lake (**Figure 4**). Frog Lake receives water from rain and snowmelt runoff from the immediate area. The lake historically has received fingerling-sized stockings of Brook Trout (*Salvelinus fontinalis*), Rainbow Trout (*Oncorhynchus mykiss*), and Lahontan Cutthroat Trout (*Oncorhynchus clarkii henshawi*) with the last recorded stocking of Rainbow Trout in 2021.



Figure 1. Frog Lake (7/21/2021). Photo by CDFW staff



Figure 2. Frog Lake (7/21/2021). Photo by CDFW staff



Figure 3. Frog Lake (7/21/2021). Photo by CDFW staff



Figure 4. Frog Lake outlet looking downstream into Red Lake (7/21/2021). Photo by CDFW staff

CDFW personnel conducted the Fellers and Freel (1995) Visual Encounter Survey (VES) Protocol as modified by CDFW to conduct the amphibian survey at Frog Lake. The VES began at 11:27 and ended at 11:38 on July 21 where the entire lake shoreline was surveyed. No amphibians were observed. In 2018, CDFW performed a VES in which no amphibians were observed (Ewing 2018). In 2014, CDFW performed a VES in which one Pacific Tree Frog (*Pseudacris regilla*) was observed (Ewing 2014). In 2001 during a High Mountain Lakes survey at the lake, no amphibians were observed (CDFW HML Database 2021). Based on the results of the evaluations completed, a pre-stocking evaluation will be written to keep Frog Lake to the CDFW fish stocking list.

Literature Cited

California Department of Fish and Wildlife, High Mountain Lakes Database, North Central Region. Accessed 8/26/2021.

Ewing, B. 2014. Frog Lake Fish and Frog Evaluation Survey. California Department of Fish and Wildlife. Available from: <http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87503>

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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).

