

Memorandum

Date: 8/26/2021

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 Red Lake (14544) Amphibian Survey**

On July 28, 2021, California Department of Fish and Wildlife (Department) completed an amphibian survey at Red 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 Red Lake pre-stocking evaluation (PSE) could be re-approved.

Red Lake is an 85-surface acre reservoir in Alpine County located at 38.699065 N, 119.974521 W situated at 7,878 feet above mean sea level. The shoreline is a mix of rocks, sand, willows, and conifer forest (**Figure 1**). The lake bottom appears mostly mud and various sized rock substrate. When Red Lake spills, water drains into Red Lake Creek and into the West Carson River. Red Lake receives snow and rain runoff from the immediate area and multiple small tributaries. Red Lake has historically had stockings of Brook Trout (*Salvelinus fontinalis*) and Lahontan Cutthroat Trout (*Oncorhynchus clarkii henshawi*, LCT) with the last recorded stocking of LCT in 2021.



Figure 1. Red Lake's northern shoreline on July 28, 2021 (Photo by B. Ewing).

Department personnel conducted the Fellers Freel (1995) Visual Encounter Survey (VES) Protocol as modified by the Department to conduct the amphibian survey at Red Lake. The VES began at 10:35 and ended at 12:15 on July 28 where the majority of Red Lake's shoreline was surveyed. One Mountain Garter Snake (*Thamnophis elegans elegans*) was observed (**Figure 2**). In 2001 during a High Mountain Lakes survey at Red Lake, Mountain Garter Snakes were observed (CDFW HML Database 2021). No Sierra Nevada Yellow-Legged Frog have been observed at Red Lake since 1958 according to the California Natural Diversity Database (CNDDDB 2021). Based on the results of the evaluation completed, Red Lake is still appropriate for fish stocking. These data will be used to create a new PSE.



Figure 2. Mountain Garter Snake observed at Red Lake on July 28, 2021 (Photo by B. Ewing).

Literature Cited:

1. California Department of Fish and Wildlife, High Mountain Lakes Database. August 26, 2021. Accessed by B. Ewing.
2. California Natural Diversity Database. August 24, 2021. Accessed by B. Ewing, CDFW.
3. 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).