

## Memorandum

Date: 7/20/2021

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 Indian Creek Reservoir (2439) Amphibian Survey**

On July 13, 2021, California Department of Fish and Wildlife (Department) completed an amphibian survey at Indian Creek Reservoir (ICR). 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 ICR pre-stocking evaluation (PSE) could be re-approved.

ICR is a 110 surface acre reservoir in Alpine County located at 38.746423 N, 119.779463 W situated at 5,612 feet above mean sea level. The shoreline is a mix of rocks, sand, willows, and conifer forest (**Figures 1 and 2**). The reservoir bottom appears mostly mud and various sized rock substrate. When ICR spills, water drains into Indian Creek and into the East Carson River. ICR receives the majority of its inflow from a diversion from the West Fork Carson River. ICR has historically had stockings of Brook Trout (*Salvelinus fontinalis*), Rainbow Trout (*Oncorhynchus mykiss*, RT), and Lahontan Cutthroat Trout (*Oncorhynchus clarki henshawi*, LCT) with the last recorded stocking of RT and LCT in 2021.



**Figure 1.** Indian Creek Reservoir's southern shoreline on July 13, 2021 (Photo by B. Ewing).



**Figure 2.** Indian Creek Reservoir's northern shoreline on July 13, 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 ICR. The VES began at 16:27 and ended at 17:45 on July 13 where the majority of ICR's shoreline was surveyed. One Mountain Garter Snake (*Thamnophis elegans elegans*) was observed (**Figure 3**). In 2004 during a High Mountain Lakes survey at ICR, no herpetofauna were observed (CDFW HML Database 2021). The Department conducted a VES in 2018 in which no decision species were observed (Ewing 2018). No decision species have been observed at ICR according to the California Natural Diversity Database (CNDDDB 2021). Based on the results of the evaluation completed, ICR is still appropriate for fish stocking. These data will be used to create a new PSE.



**Figure 3.** Mountain Garter Snake observed at Indian Creek Reservoir on July 13, 2021 (Photo by B. Ewing).

Literature Cited:

1. California Department of Fish and Wildlife, High Mountain Lakes Database. July 20, 2021. Accessed by B. Ewing.

2. California Natural Diversity Database. July 20, 2021. Accessed by B. Ewing, CDFW.
3. Ewing, B. 2018. 2018 Indian Creek Reservoir Pre-Stocking Evaluation Report. California Department of Fish and Wildlife; 7/19/2018. Available from: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=160295>
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).