

Memorandum

Date: 9/12/2019

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: **Rock Lake (15265) Fish and Amphibian Surveys**

On July 23, 2019, California Department of Fish and Wildlife (Department) personnel completed an amphibian and fish survey at Rock Lake. The purpose of the surveys were to determine if any Sierra Nevada yellow-legged frog (*Rana sierra*) and fish were present, and to assess if the lake could be added to the Department fish stocking list.

Rock Lake is a small lake in Alpine County located at 38.450841 N, 119.950971 W, situated at 7,335 feet above mean sea level (Figure 1). The majority of shoreline is a mix of rock, grasses, and conifers (*Pinopsida* class) (Figure 2). The lake bottom appears mostly made up of various sized rock substrate including bedrock. There does not appear to be a significant inlet or outlet to the lake. Rock Lake receives water from rain and snowmelt runoff from the immediate area and possibly an underground spring. Rock Lake has historically received fingerling-size stockings of brook trout (*Salvelinus fontinalis*), rainbow trout (*Oncorhynchus mykiss*), and golden trout (*Oncorhynchus mykiss aguabonita*), with the last recorded allotment of rainbow trout in 2000. A Department gill net survey in 2001 captured 13 rainbow trout. A Department visual encounter survey in 2001 found Sierran Treefrog (*Pseudacris sierra*) at Rock Lake (HML Database).

A 120 foot long variable mesh size gillnet was set at 11:38 on July 23, on the eastern part of the lake's shoreline extending towards the middle of the lake (Figure 3). Water temperature at 11:45 was 71.8°F. The gillnet was pulled at 17:37 on July 23. No fish were collected.

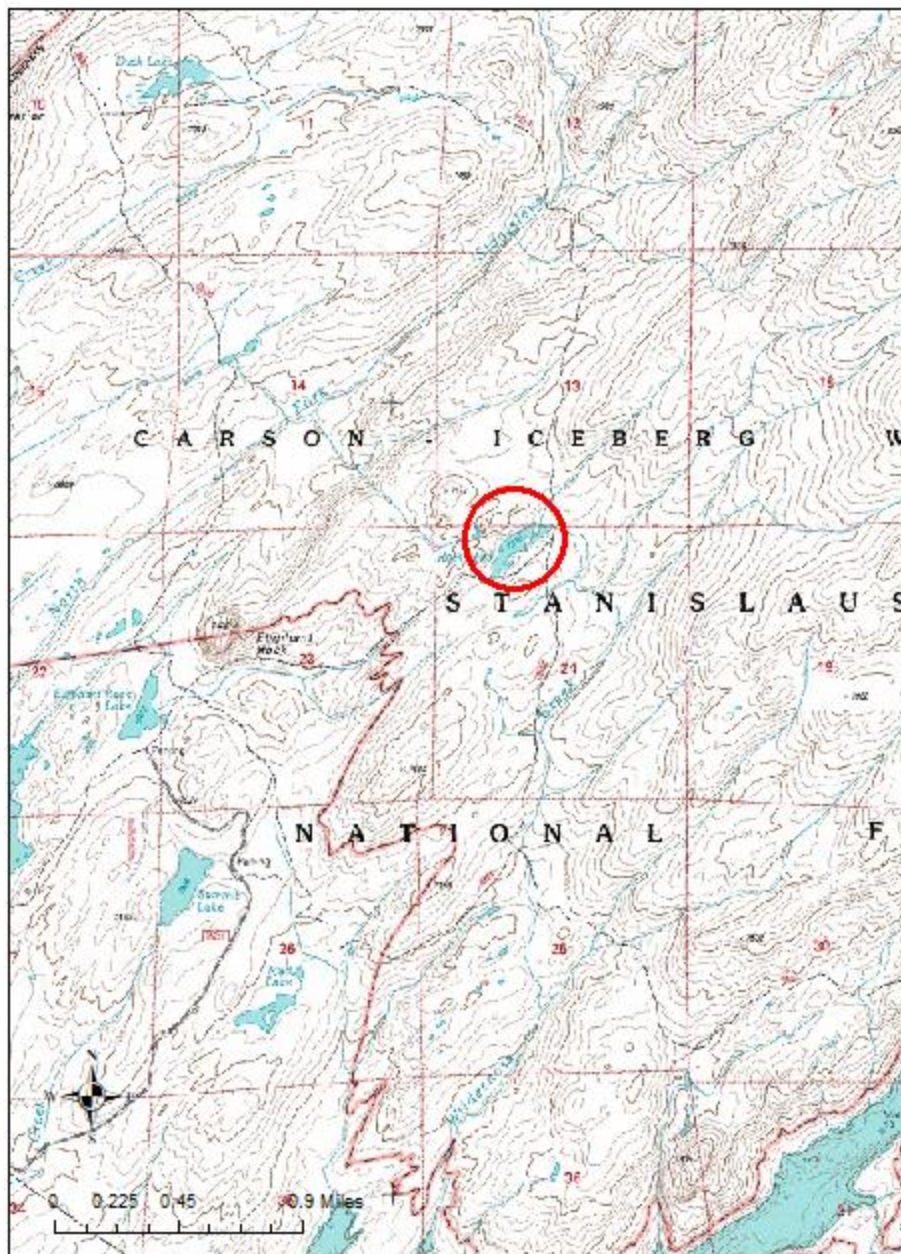


Figure 1. Rock Lake (Alpine County, CA)

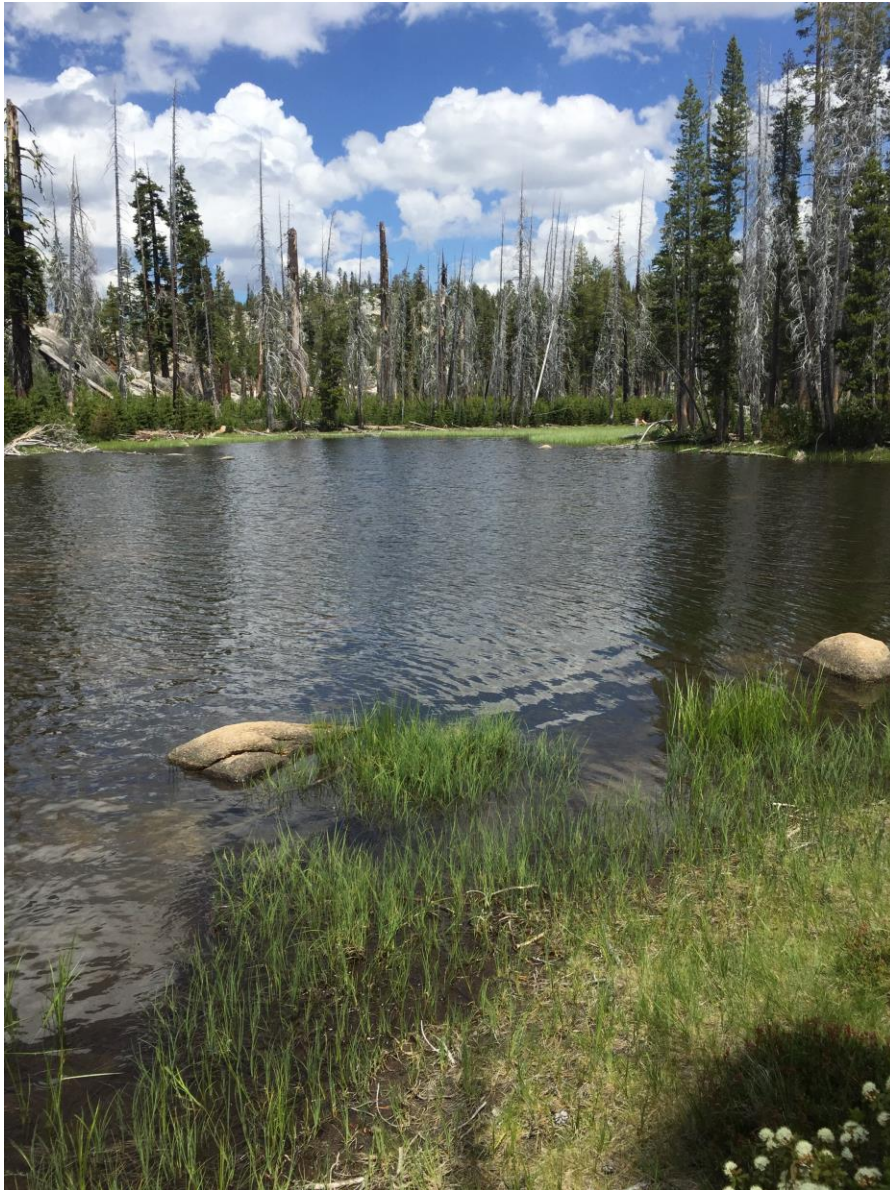


Figure 2. Rock Lake, Alpine County, CA (7/23/2019)(Photo by B. Ewing).



Figure 3. Rock Lake Gillnet Location on July 23, 2019.

Department personnel used the Fellers and Freel 1995 Visual Encounter Survey (VES) Protocol as modified by the Department to conduct the amphibian survey at Rock Lake. The VES for Rock Lake began at 13:11 and ended at 14:43 on July 23, where the entire lake's shoreline was surveyed. Fifteen Sierran Treefrog tadpoles were observed during the VES (Figure 4). No SNYLF have been documented at Rock Lake (CNDDDB 2019).



Figure 4. Sierran Treefrog tadpole observed at Rock Lake on 7/23/19 (Photo by B. Ewing).

Based on the results of the evaluations completed, a pre-stocking evaluation will be written to add Rock Lake back to the Department fish stocking list.

Literature Cited:

1. California Department of Fish and Wildlife, High Mountain Lakes Database, September 12, 2019 Accessed by B. Ewing, CDFW.
2. California Natural Diversity Database. 2019.
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).