

Memorandum

Date: 7/31/2015

To: Kevin Thomas
Senior Environmental Scientist, Supervisor
Department of Fish and Wildlife

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

Subject: **Sword Lake Amphibian Survey**

On July 30, 2015, California Department of Fish and Wildlife (Department) personnel completed an amphibian survey at Sword Lake. 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 be added to the Department fish stocking list.

Sword Lake is a nine acre lake in Alpine County located at 38° 24' 26.12 N 119° 56' 03.99 W situated at 6,859 feet above mean sea level (Figure 1). The majority of shoreline is a mix of granite bedrock, and conifer (*Pinopsida* class) forest (Figures 2, 3, and 4). At the time of the survey the lake appeared to be at full capacity. When Sword Lake spills, water drains into nearby New Spicer Meadow Reservoir. The lake receives water from rain and snowmelt runoff from the immediate area. The lake historically has received fingerling stockings of brook trout (*Salvelinus fontinalis*) and rainbow trout (*Oncorhynchus mykiss*), with the last recorded plant being brook trout in 2000.

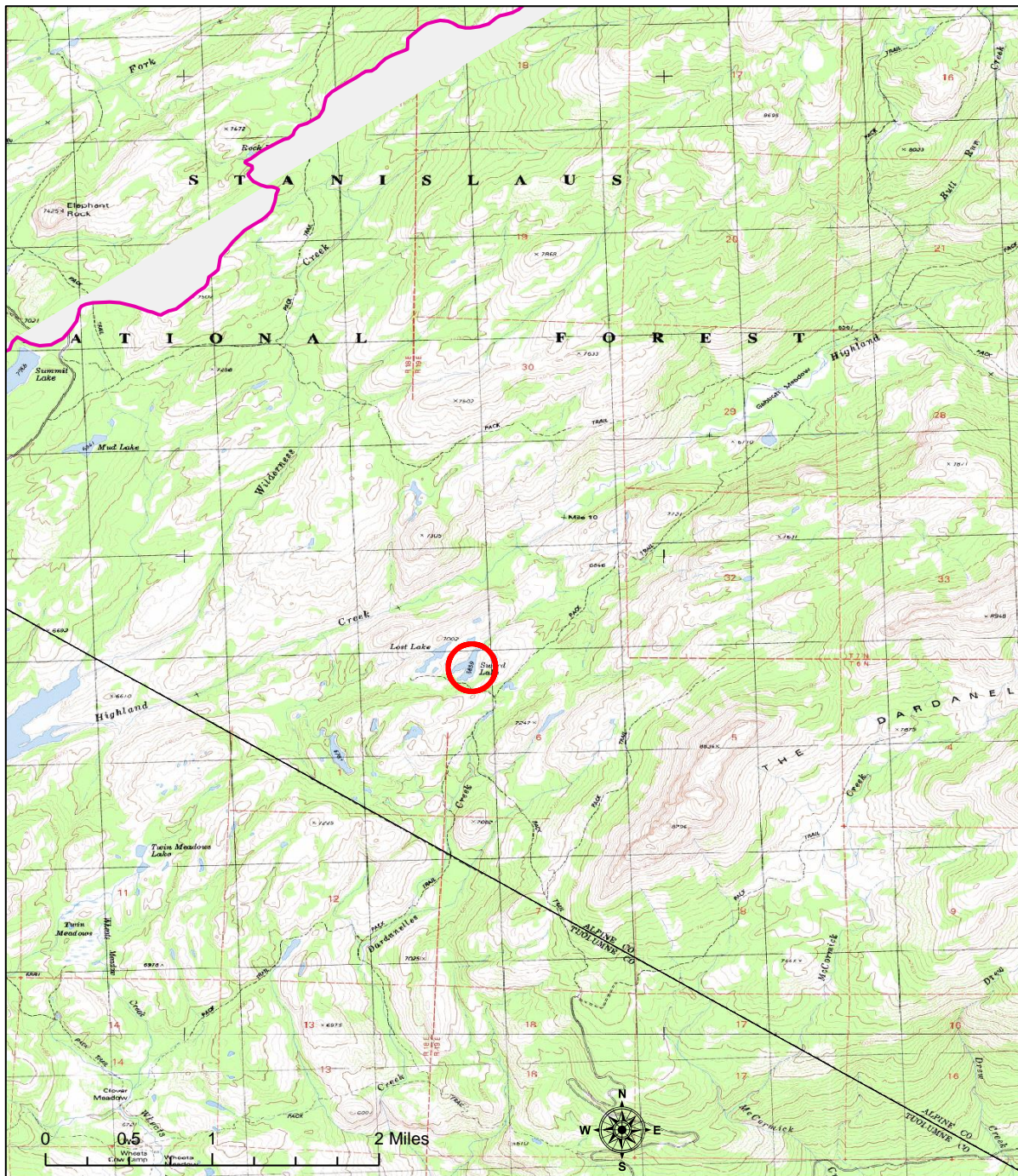


Figure 1. Sword Lake (Alpine County, CA).

Department personnel utilized the Fellers Freel 1995 Visual Encounter Survey (VES) Protocol as modified by the Department to conduct the amphibian survey at Sword Lake. The VES began at 13:00 and ended at 13:45 where much of the lake shoreline was surveyed.

Due to steep rock walls, the entire shoreline could not be surveyed. One Sierra gartersnake (*Thamnophis couchi*) was seen during the survey. In 2001 during a High Mountain Lakes survey at the lake, no amphibians were observed while five brook trout were recovered in the gillnet (CDFW HML Database 2015). It is possible there are still trout in Sword Lake, but the lack of suitable spawning habitat suggests this fishery is not self-sustaining. Based on the results of the evaluations completed, a pre-stocking evaluation will be completed to add Sword Lake to the Department fish stocking list.



Figure 2. Sword Lake, Alpine Co. (B.Ewing, 7/30/2015).



Figure 3. Sword Lake, Alpine Co. (B.Ewing, 7/30/2015).



Figure 4. Sword Lake, Alpine Co. (B.Ewing, 7/30/2015).