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Cc: Fish File

Lower Sunset Lake Fish and Frog Evaluation Survey

On September 14, 2017, California Department of Fish and Wildlife (Department) completed a fish and frog evaluation at Lower Sunset Lake (Lower Sunset). The purpose of the survey was to determine if there were any trout inhabiting the lake from prior stockings, determine if any Sierra Nevada mountain yellow-legged frog (SNYLF, *Rana sierra*) were present, and to assess if the lake could be added to the Department fish stocking list.

Lower Sunset is a small 15 acre lake in Alpine County located at 38.609972 N, 119.876036 W situated at 7,818 feet above mean sea level (Figure 1). The shoreline is a mix of rocks, sand, willows, and conifer forest (Figures 2 and 3). The lake bottom appears mostly mud and various sized rock substrate. At the time of the survey Lower Sunset looked approximately four feet down from the high water mark. When Lower Sunset spills, water drains into the Pleasant Valley Creek watershed. Lower Sunset receives water from rain and snowmelt runoff from the immediate area. Lower Sunset has historically received fingerling-size stockings of brook trout (*Salvelinus fontinalis*) and Lahontan cutthroat trout (*Oncorhynchus clarki henshawi*) with the last recorded allotment of brook trout in 2000.

A 100 foot long variable mesh size gillnet was set at 10:15 on September 14, on the southern part of the lake's shoreline extending towards the middle of the lake (Figure 1). The gillnet was pulled at 16:15 on September 14 in which the water temperature was 64°F. Twenty-three Lahontan reddsides (*Richardsonius egregius*) were recovered in the net (Figure 4).

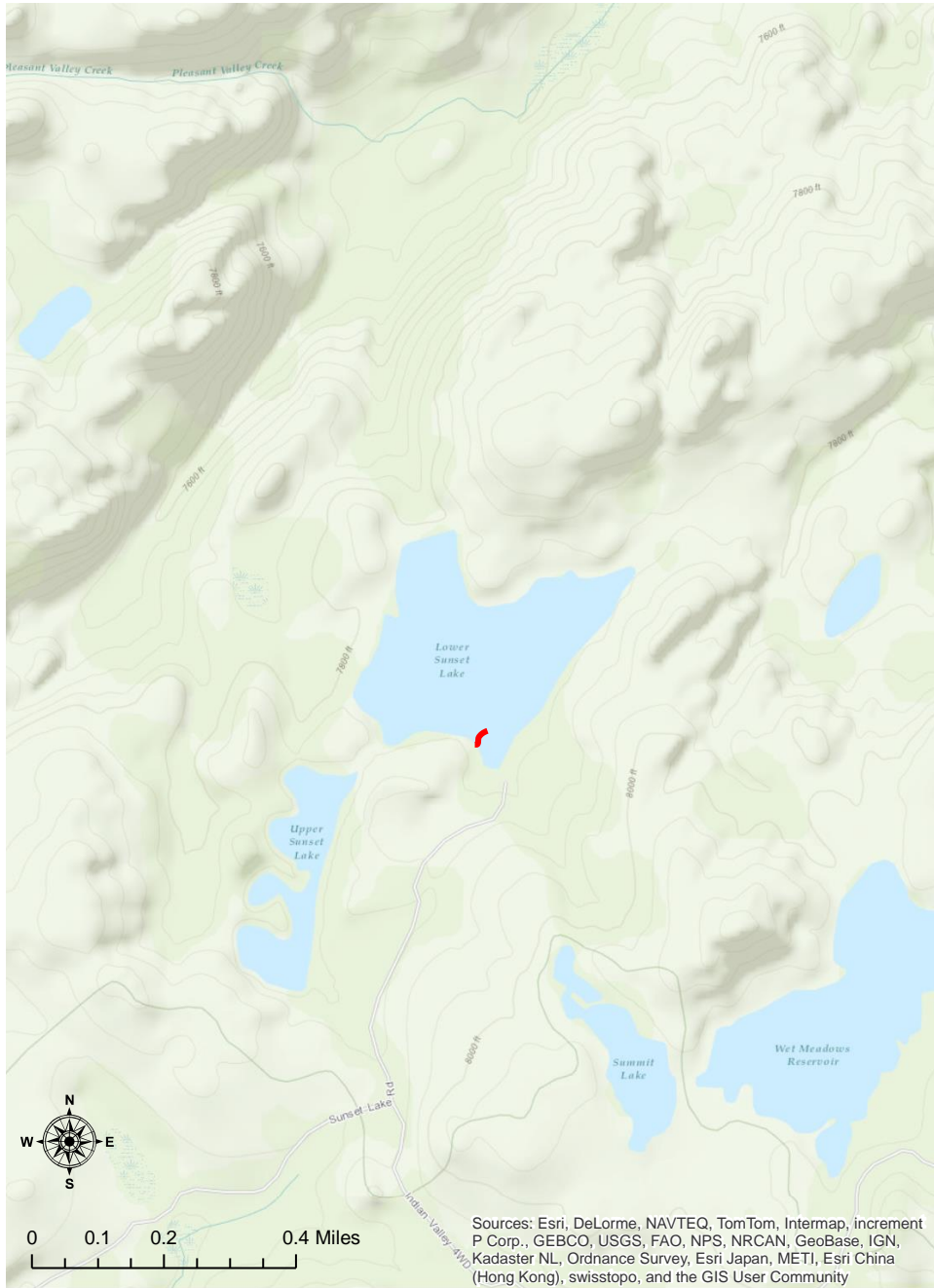


Figure 1. Lower Sunset Lake (Alpine County) with gillnet placement transect on September 14, 2017.



Figure 2. Lower Sunset Lake shoreline (B. Ewing, 9/14/2017).



Figure 3. Lower Sunset Lake (B. Ewing, 9/14/2017).



Figure 4. Lahontan redband collected from gillnet at Lower Sunset Lake on 9/14/17 (M. Mamola, 9/14/2017).

Department personnel conducted the Fellers Freel 1995 Visual Encounter Survey (VES) Protocol as modified by the Department to conduct the amphibian survey at Lower Sunset Lake. The VES began at 10:22 and ended at 11:10 on September 14, where the entire lake shoreline was surveyed. Two SNYLF were observed during the survey (Figures 5 and 6). On May 31, 2012, United States Forest Service observed SNYLF at Lower Sunset Lake (CNDDDB 2017). Based on the results of the evaluations completed, a pre-stocking evaluation will not be written to add Lower Sunset Lake to the Department fish stocking list.



Figure 5. Sierra Nevada yellow-legged frog observed during V.E.S. at Lower Sunset Lake, Alpine Co. (M.Mamola, 9/14/2017).



Figure 6. Sierra Nevada yellow-legged frog observed during V.E.S. at Lower Sunset Lake, Alpine Co. (M. Mamola, 9/14/2017).

Literature Cited:

1. California Natural Diversity Database. 2017.

