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Cc: Fish File

### Upper Mosquito Lake Fish and Amphibian Evaluation Survey

On June 5, 2018, California Department of Fish and Wildlife (Department) completed a fish and amphibian evaluation at Upper Mosquito Lake (Upper Mosquito). 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.

Upper Mosquito is a small four acre lake in Alpine County located at 38.515571 N, 119.913148 W situated at 8,067 feet above mean sea level (Figure 1). The shoreline is a mix of rocks, sand, and conifer forest. The lake bottom appears mostly mud and various sized rock substrate. At the time of the survey Upper Mosquito was full and spilling over the dam into Lower Mosquito Lake (Lower Mosquito). When Upper Mosquito spills, water drains into Lower Mosquito and into Pacific Creek. Pacific Creek is a tributary to the North Fork Mokelumne watershed. Upper Mosquito receives water from rain and snowmelt runoff from the immediate area. Upper Mosquito historically received fingerling-size brook trout (*Salvelinus fontinalis*) from 1932 – 1953. Upper Mosquito has also received catchable-size rainbow trout (*Oncorhynchus mykiss*) with the last recorded allotment of rainbow trout in 2017.

From 10:50 – 11:11, Department staff conducted a hook and line survey to determine if there were any trout still inhabiting Upper Mosquito. One rainbow trout was caught, measuring 14.8 inches in total length (Figure 4).

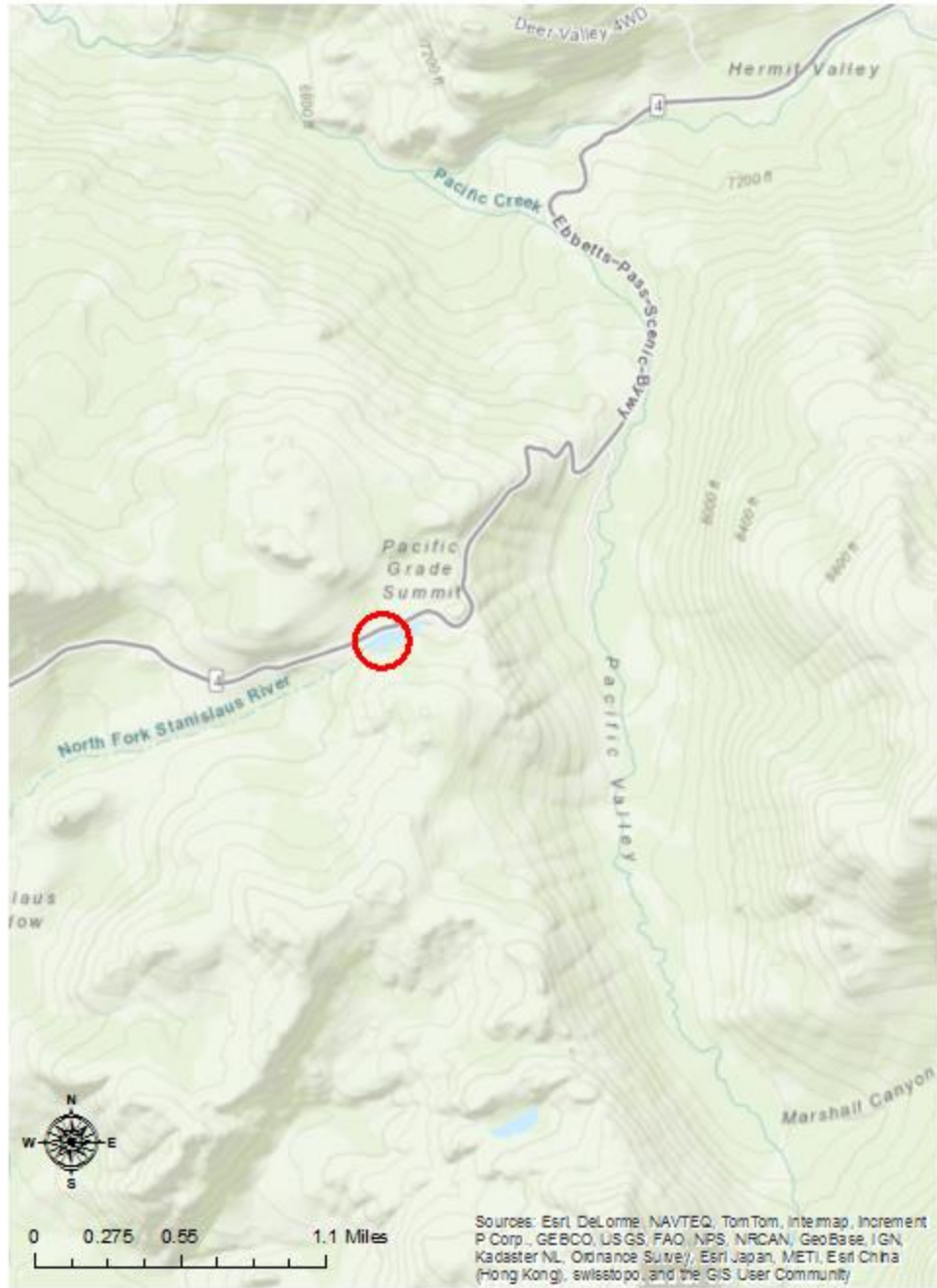


Figure 1. Upper Mosquito Lake (Alpine County, CA).



Figure 4. Rainbow trout collected from hook and line sampling at Upper Mosquito Lake on 6/5/18 (M. Mamola, 6/5/2018).

Department personnel conducted the Fellers and Freel 1995 Visual Encounter Survey (VES) Protocol as modified by the Department to conduct the amphibian survey at Upper Mosquito. The VES began at 10:50 and ended at 11:11 on June 5, where the entire lake shoreline was surveyed except the shoreline bordering Highway 4. No SNYLF were observed during the survey. On 8/2/2001 and 7/23/2010, Department staff conducted VES' and observed no amphibians (CDFW HML Database). Based on the results of the evaluations completed, a new pre-stocking evaluation will be written to keep Upper Mosquito on the Department fish stocking list.

#### Literature Cited:

1. 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).
2. California Department of Fish and Wildlife, High Mountain Lakes Database, North Central Region.





