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Cc: Region 2 Fish Files

Lower Mosquito Lake Fish and Amphibian Survey

On June 5, 2018, California Department of Fish and Wildlife (Department) completed a fish and amphibian evaluation at Lower Mosquito Lake (Lower 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 pre-stocking evaluation could be re-approved.

Lower Mosquito is a four acre lake in Alpine County located at 38.515892 N, 119.910958 W situated at 8,067 feet above mean sea level with a maximum depth of 15 feet (Figure 1). The shoreline is a mix of rocks, sand, and conifer forest. The lake bottom appears mostly mud and various sized rock substrate. When Lower Mosquito spills, water drains into Pacific Creek. Pacific Creek is a tributary to the North Fork Mokelumne watershed. Lower Mosquito receives water from rain and snowmelt runoff from the immediate area as well as from Upper Mosquito Lake. Lower Mosquito historically received fingerling-size brook trout (*Salvelinus fontinalis*) from 1932 – 1953. Lower Mosquito has also received catchable-size rainbow trout (*Oncorhynchus mykiss*) with the last recorded allotment of rainbow trout (*Oncorhynchus mykiss*) in 2017.

From 11:46 – 12:23, Department staff conducted a hook and line survey to determine if there were any trout still inhabiting Lower Mosquito. No rainbow trout were caught, but one rainbow trout was caught earlier the morning of June 5 from Upper Mosquito Lake. Although Upper and Lower Mosquito Lakes are two separate waters, it would not be difficult for rainbow trout in either lake to move back and forth when conditions allow. Lower Mosquito is a small, roadside lake, with summer occupied dwellings along the shore. Lower Mosquito is managed purely as a recreational, put and take fishery, due to its easy accessibility and high recreational usage in the summer. There is likely minimal, if any natural recruitment in the lake for stocked fish.



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

Department personnel conducted the Fellers and Freel 1995 Visual Encounter Survey (VES) Protocol as modified by the Department to conduct the amphibian survey at Lower Mosquito. The VES began at 11:12 and ended at 11:36 on June 5, where the entire lake shoreline was surveyed except some of the shoreline bordering Highway 4. No SNYLF were observed during the survey. On 8/2/2001 and 7/22/2010, Department staff conducted VES' and observed one mountain garter snake (*Thamnophis elegans elegans*) in the 2010 survey (CDFW HML Database). Based on the results of these surveys, a new pre-stocking evaluation will be written to continue stocking hatchery rainbow trout at Lower Mosquito.

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.

