

Memorandum

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To: Kevin Thomas
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Cc: Region 2 Fish Files

Subject: Fisheries monitoring in Placer County – High Loch Leven Lake (13524).

On June 8-9, 2016, California Department of Fish and Wildlife (CDFW) conducted fisheries and amphibian monitoring surveys at High Loch Leven Lake (CA Lakes ID 13524, Fig. 1) in northeastern Placer County. An overnight gill net was set for 17.7 hours and returned no fish. The lake has a maximum recorded depth of 3.1 meters and may not provide overwintering habitat for fingerling trout, therefore CDFW will not resume fish plants at High Loch Leven Lake.



Figure 1: High Loch Leven Lake looking northeast on September 7, 2003 (CDFW).

INTRODUCTION

High Loch Leven Lake is one of four associated lakes formerly planted with fingerling trout by CDFW in a small watershed in northern Placer County (Fig. 2). Due to lack of recent fish surveys uncertainty existed about the status of fisheries at High, Upper and Lower Loch Leven Lakes. As directed by the Hatchery Operations EIS/EIR (Jones and Stokes 2010) CDFW is currently evaluating the location and status of stocked and formerly stocked backcountry fisheries. All data gathered as part of this study are incorporated into the High Mountain Lakes database and made available to both federal and state agencies. Data from this memorandum will benefit the Department in future efforts for fish

stocking and wild trout management in the North Central Region. High Loch Leven Lake is addressed in this memo: the other lakes in the watershed will be addressed in separate memos.

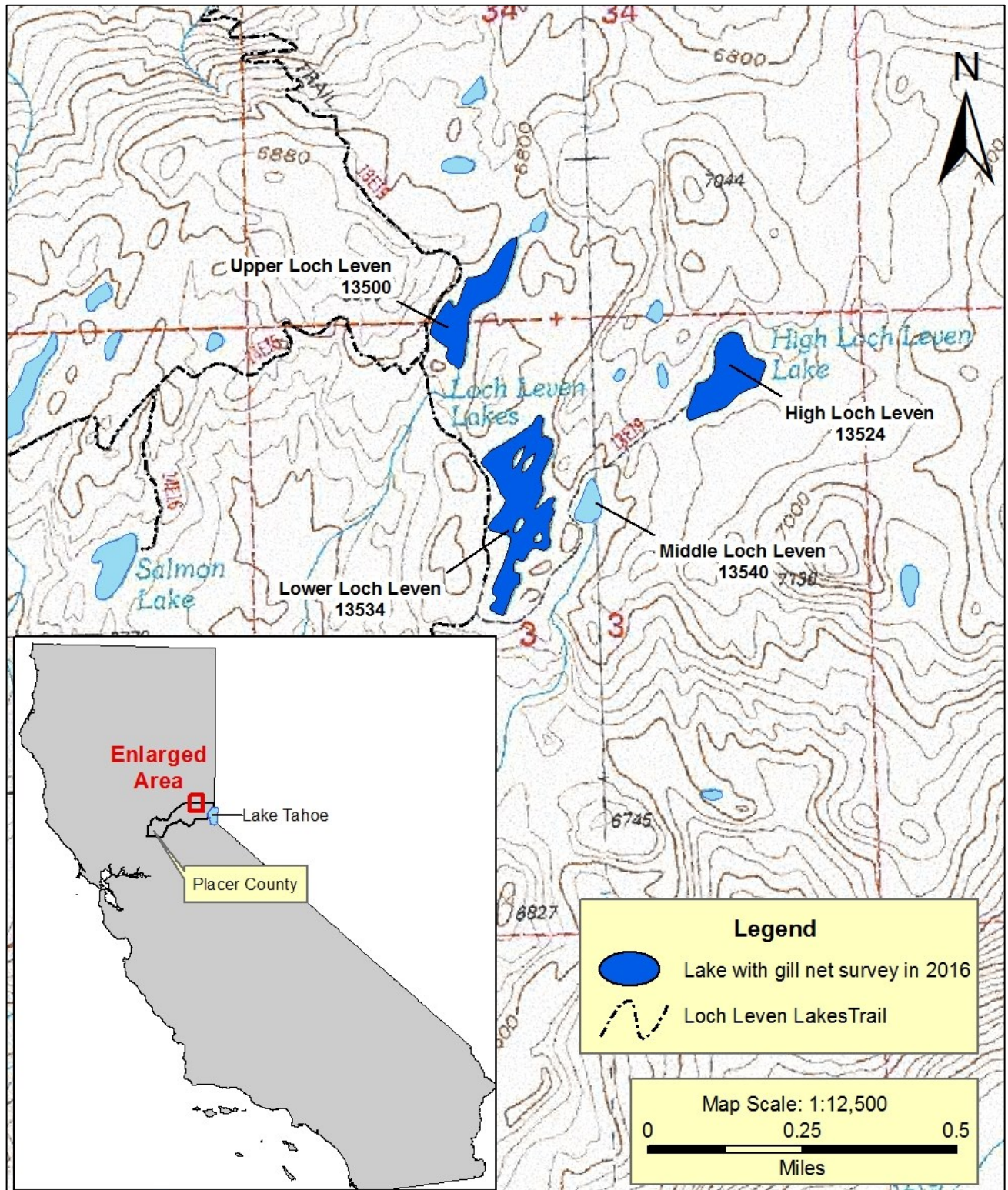


Figure 2: Location of the survey area in northeastern Placer County. Dark blue lakes had gill net surveys in 2016.

ENVIRONMENTAL SETTING

High Loch Leven Lake has a surface area of 2.28 hectares and a maximum recorded depth of 3.1 meters. Surveyors observed a tributary flowing out of the lake but no channelized inlets, although a large marshy area on the eastern shore drains into the lake. Terrestrial habitat consists of mixed conifer forest and meadows at an elevation of approximately 2109 meters above mean sea level. The Loch Leven Lakes are easily accessed from a popular trailhead next to Interstate 80 and a well-maintained hiking trail. Incidentally, crews observed visitors at the lake on both days and multiple campsites are present around the lake. The watershed drains into the North Fork American River via Little Granite Creek. Tahoe National Forest manages the land in the watershed.

HISTORY

Due to their location near Interstate 80 Loch Leven Lakes have a documented history of management for trout fishing dating back to the 1930s. General fish surveys conducted in 1938 indicate species present at that time included brown trout (*Salmo trutta*), brook trout (*Salvelinus fontinalis*) and chub (probably *Gila bicolor*) (Curtis, 1938). Between 1930 and 1967 multiple attempts were made to remove chub from the lakes including an unsuccessful attempt to remove fish with dynamite in 1936; however a general fish survey in 1982 captured no chub and chub appear to have been eradicated from the system (Curtis, 1938, Richards, 1954 and 1982). At various times throughout the last century the lakes were known for their trout fishing, although as early as 1954 biologists noted that most likely trout are unable to reproduce in the system (Curtis, 1938, Richards, 1954 and 1982).

RESULTS

On June 8-9, 2016 a 6-panel, variable mesh gill net was set overnight for 17.7 hours and returned no fish; due to the gill net survey results, CDFW believes the lake is fishless. Most recently, High Loch Leven Lake was planted with brook trout between 1939 and 2000. Rainbow trout (*Onchorynchus mykiss*) were occasionally planted from 1945 through 1969, and a single brown trout plant occurred in 1938. No fish were observed during a 2003 gill net survey, but due to the size and depth of the lake uncertainty remained about the presence of fish. Because no fish were captured in either 2003 or 2016 it is unlikely that trout can reproduce in High Loch Leven and due to the lake depth there may no longer be enough deep water habitat to support overwintering fish; therefore CDFW will not resume fish plants at High Loch Leven at this time.

Incidentally, CDFW conducted amphibian monitoring surveys at High Loch Leven Lake on June 9, 2016 and observed 146 Pacific tree frog (*Psuedacris regilla*) egg masses and 3 garter snakes (*Thamnophis spp*). Water temperature at the surface of the lake was 16° C at the time of survey.

LITERATURE CITED:

Curtis, B. Loch Leven Lakes fish survey, 1938. CDFW; 8/1938. Available from: <http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=128258>

Jones & Stokes. 2010. Hatchery and Stocking Program Environmental Impact Report/Environmental Impact Statement. State clearinghouse #2008082025.

Richard, J. B. Loch Leven Lakes fish survey, 1954. CDFW; 6/1954. Available from:
<http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=128259>

Richard, J. B. Loch Leven Lakes fish survey, 1982. CDFW; 9/7/1982. Available from:
<http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=128260>