

# Memorandum

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**Cc:** Region 2 Fish Files

**Subject: Fisheries monitoring in Placer County – Little Needle Lake (13631).**

On August 11–12, 2016, California Department of Fish and Wildlife (CDFW) conducted fisheries monitoring surveys at Little Needle Lake (CA Lakes ID 13631, Figures 1 and 2) located in Placer County. One gill net was set for 12 hours and returned three brook trout (*Salvelinus fontinalis*). Due to visual observations of larval Southern Long-toed Salamanders (*Ambystoma macrodactylum sigillatum*), habitat composition, and limited number of brook trout captured, CDFW will not resume fish stocking, and manage Little Needle Lake as an amphibian resource.



Figure 1: Little Needle Lake, looking east, on 8/12/2016. (CDFW)



Figure 2: Meadows located adjacent to the southwest edge of Little Needle Lake, looking south. The stone pinnacle on the ridgeline just southwest of Little Needle Lake is visible (CDFW).

## INTRODUCTION

Little Needle Lake is a small lake located at the headwaters of the Middle Fork American River in Granite Chief Wilderness, Placer County (Figure 3). CDFW planted Little Needle Lake with fingerling brook trout between 1951 and 1966. Later, between 1968 and 1970, CDFW planted Little Needle Lake with golden trout (*Oncorhynchus mykiss aguabonita*). After more than 20 years without fish stocking, CDFW completed one additional plant of fingerling brook trout in 1991. CDFW has not surveyed Little Needle Lake since initiation of the High Mountain Lakes program, so a preliminary survey was necessary to determine the status of the fishery.

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 will be incorporated into the High Mountain Lakes database and made available to both federal and state agencies. Data from this memorandum will benefit CDFW in future efforts for fish stocking and wild trout management in the North Central Region.

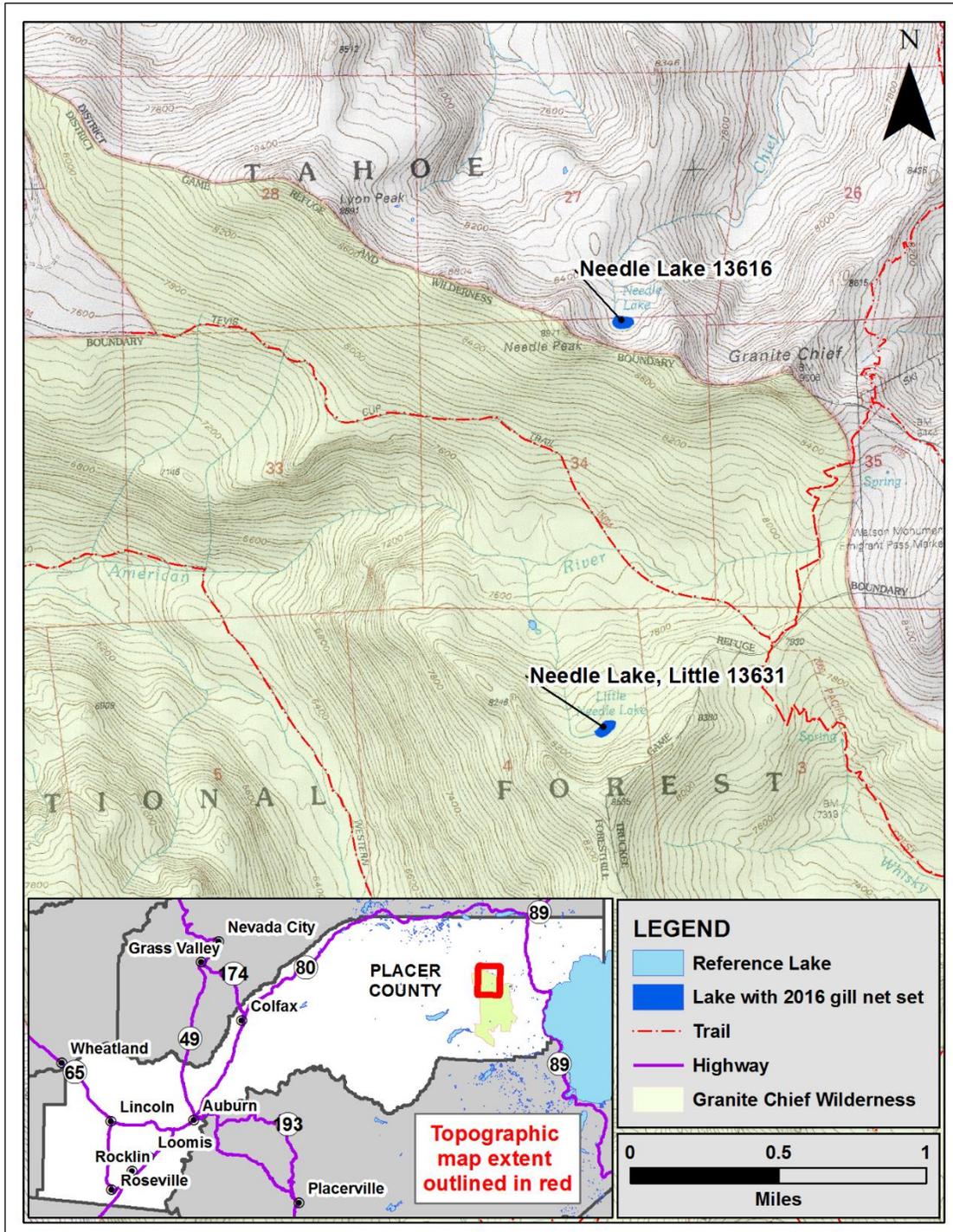


Figure 3: Location of the survey area in eastern Placer County, CA. Little Needle Lake was surveyed on August 11–12, 2016.

## ENVIRONMENTAL SETTING

Little Needle Lake has a surface area of 0.64 hectares and a maximum recorded depth of 1 meter. Littoral zone habitat is limited, and the substrate consists primarily of silt. Little Needle Lake is composed of two nearly separate areas of open water connected by a small stream channel that flows through thick willow and emergent wetland vegetation (Figure 4). One of the areas (to the southwest) is the main pond and the other area (to the northeast) is a smaller, more vegetated pond. Although the two waterbodies are technically connected, the marshy habitat between the two sections is likely often difficult for fish to navigate. Late in the summer, or during dry years, fish may not be able to navigate between the two areas. Terrestrial habitat consists of mixed conifer forest, several connected meadows, and rocky cliffs at an elevation of approximately 2450 meters above mean sea level.

Access to Little Needle Lake is via an off-trail hike due west of the Pacific Crest Trail in the northwest portion of Granite Chief Wilderness. Access to the off-trail section is provided by the Five Lakes trailhead, which is located off Alpine Meadows Road, just south of Squaw Valley Ski Resort. The Five Lakes Trail connects to the Pacific Crest Trail, which leads north to the off-trail section, soon before the Pacific Crest Trail crosses the Middle Fork American River. Little Needle Lake sits in a small, north-facing bowl. The ridgeline just southwest of Little Needle Lake contains a distinct rock pinnacle (Figure 2), which looks similar to the pinnacle above Needle Lake (CA Lake ID 13616). Little Needle Lake has no perennial inlet, but the lake does have one outlet stream, which flows directly into the Middle Fork American River. Tahoe National Forest manages the land in the watershed.

## RESULTS

On August 11, 2016, one standard, variable mesh sinking gill net was set in the main lake (Figure 4) for a total of 12 hours and returned three brook trout (Figure 5). Based on the number of trout captured during the 2016 survey (Figure 6), CDFW does not know if brook trout will persist in Little Needle Lake in the long-term. The habitat of Little Needle Lake is not ideal for a lentic fishery (limited spawning substrate, uniformly shallow water, and small dimensions). However, it has been over 25 years since the last official fish stocking, so a low density, self-sustaining brook trout population may be able to persist in Little Needle Lake. Given the presence of Southern Long-toed Salamanders (a state species of special concern), CDFW will manage the lake as an amphibian resource, but active fish removal efforts are not currently being considered.



Figure 4. Aerial image of Little Needle Lake from July 2016. The gill net was set in the main lake (anchor point at the yellow icon) and most observed herpetofauna were in the small pond to the northeast (orange arrow), including all Southern Long-toed Salamanders.



Figure 5: Brook trout captured during an overnight gill net set at Little Needle Lake, Placer County, CA on August 11–12, 2016.

Incidentally, CDFW conducted a visual encounter survey for herpetofauna on August 12, 2016. CDFW biologists observed four larval Southern Long-toed Salamanders, numerous (~1,000) larval Sierran Treefrogs (*Hyllola sierra*, formerly *Pseudacris regilla*, Pacific Chorus Frog), and an adult Mountain Gartersnake (*Thamnophis elegans elegans*). Most of the herpetofauna observed, including all Southern Long-toed Salamanders, were located in the shallow pond (connected by a small stream channel flowing through a highly vegetated section of meadow) to the northeast of the main lake where the brook trout were captured (Figure 4).

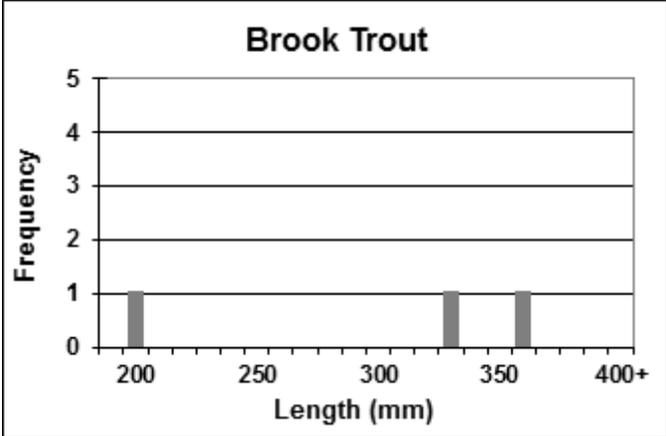


Figure 6: Brook trout histogram from August 11–12, 2016, gill net survey at Little Needle Lake, Placer County, CA.

LITERATURE CITED:

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