

State of California  
The Resources Agency  
Department of Fish and Wildlife

Emigrant Lake Fish Survey  
Fall 2018

By

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North Central Region

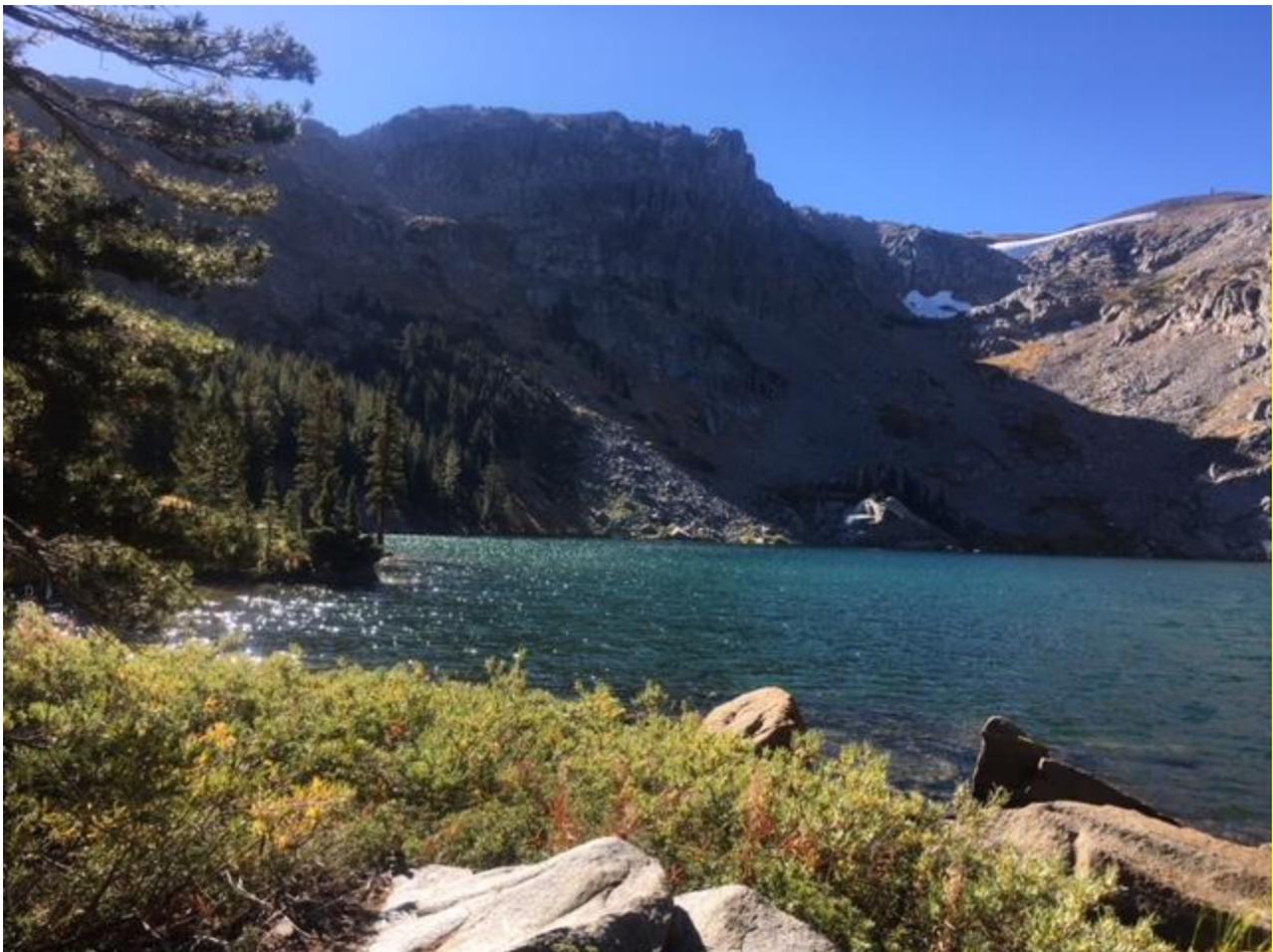


Photo by D. Kaffer (9/22/18)

## **Introduction**

In an effort to gather information on the fishery at Emigrant Lake (Alpine County), a fish survey was conducted on July 17, 2018.

The objectives of this survey were to:

- Determine the Brook Trout (*Salvelinus fontinalis*) (BK) age class distribution
- Determine the growth rates of BK

This data along with future efforts and data collected from other lakes will be used to monitor the status of this fishery, which historically has had a productive BK fishery.

## **Location and Description**

Emigrant Lake (Emigrant) is approximately a 23 surface acre lake in Alpine County located at 38.660622 N, 120.039082 W, situated at 8,600 feet above mean sea level (Figure 1). The shoreline is a mix of rocks, sand, willows, and conifer forest (Figure 2). Emigrant's lake bottom appears mostly mud and various sized rock substrate. Emigrant receives water from numerous small inlets that originate from the steep terrain encompassing the majority of the lake's shoreline. At the time of the survey, Emigrant was spilling. When Emigrant spills, water drains into Caples Lake via Emigrant Creek, eventually flowing into the South Fork American River. Brook trout were stocked into Emigrant from 1930 - 2000, while Rainbow Trout (*Oncorhynchus mykiss*) (RT) were stocked into Emigrant from 1932 - 1947 (Mussulman 2015).

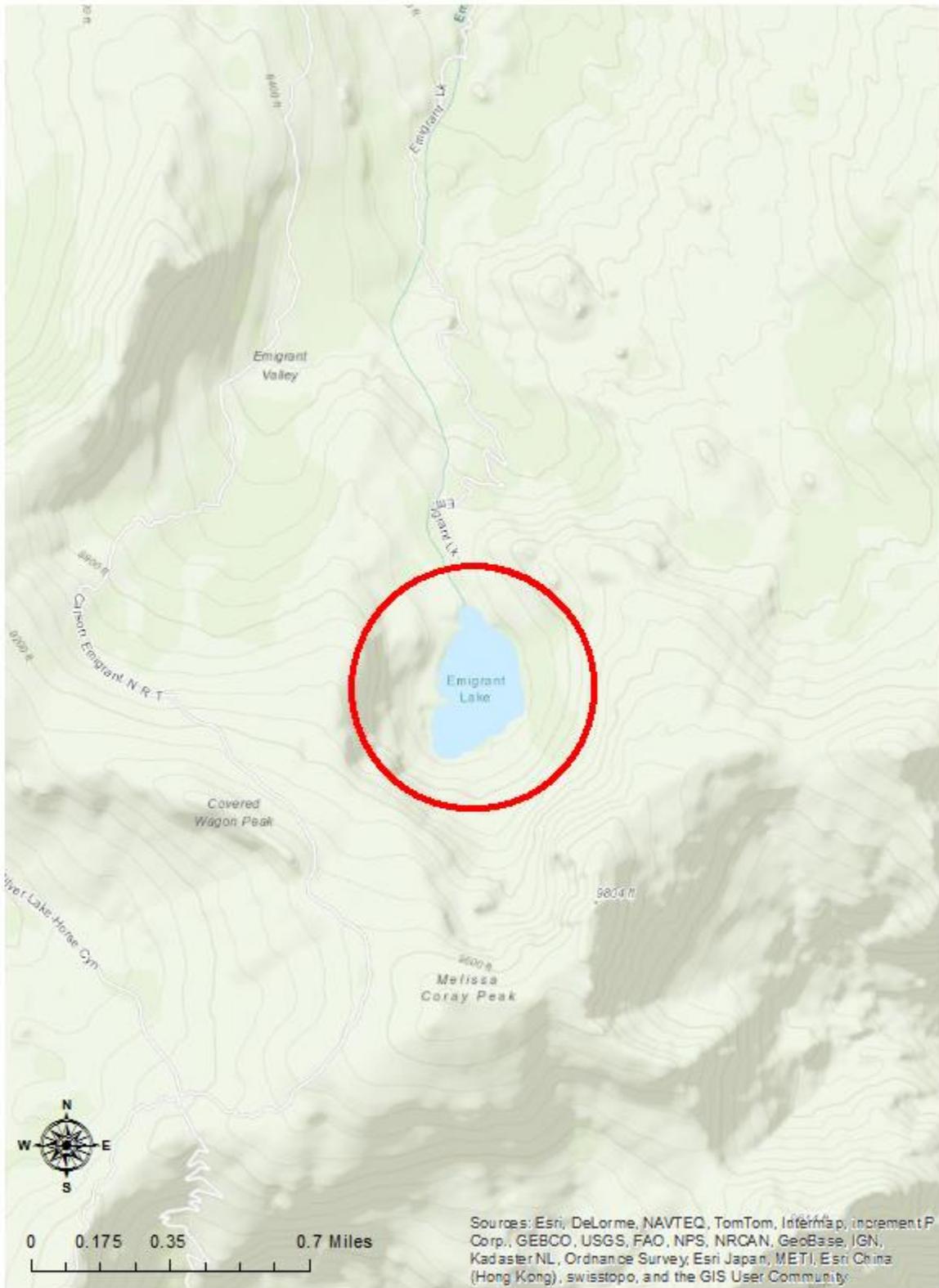


Figure 1. Emigrant Lake, Alpine County.

## Methods and Materials

To collect information on the growth rates of BK of a given age, the California Department of Fish and Wildlife (Department) needed to collect total lengths and scale samples from the lateral line area of BK. Collection of scale samples was accomplished by hook and line angling. Scale samples were placed in an envelope with the total length (inches), date, and sampling method recorded on the envelope. Any BK collected would be marked with a fin clip in the upper caudal fin to recognize newly captured BK from previously collected BK. The mean length and age ranges for any BK collected would be recorded. Age was determined by counting scale annulus where each annuli were assumed to be one year of age (L Koerber, Personal communication).

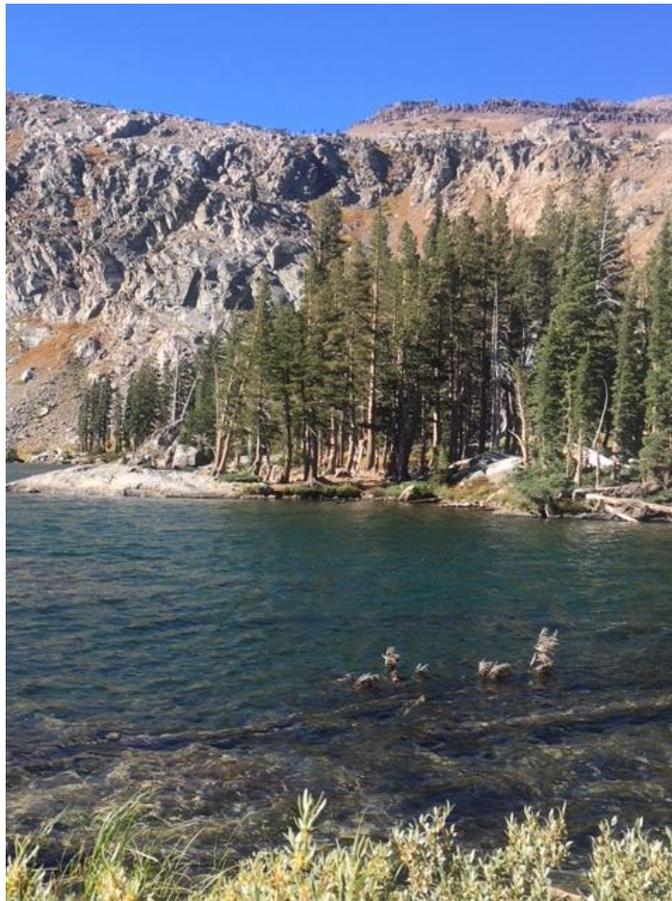


Figure 2. Emigrant Lake, Alpine County. Photo by D. Kaffer (9/22/18)

## Results

Three BK were caught on July 17, 2018. The average total length of BK

collected was 8.25 inches. Total lengths ranged from (7.0 in. – 9.0 in.). All three BK collected were two years of age. No age/length comparison figure with regression line for BK from Emigrant was made since only one age class was represented in the sample size.

## **Conclusions**

With only three samples collected and all samples aged to two years of age, determining a BK's age from a given total length was not reliable. By having more BK to age, it is possible an age/length comparison could have been made. Although the Department only collected three BK, the BK collected indicated that Emigrant has a self-sustaining population of BK. With Emigrant being a self-sustaining recreational fishery, the Department will not attempt to stock any trout into Emigrant at this time.

## **References**

Mussulman, S. Fisheries monitoring in Alpine County - Emigrant Lake (14604). CDFW; 11/23/2015. [Cited 2018 October 15]. Available from:  
<http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=112183>

