

State of California
Department of Fish and Wildlife

Memorandum

Date: August 25, 2020

To: Sarah Mussulman
Senior Environmental Scientist; Supervisor
Department of Fish and Wildlife
North Central Region
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670

Cc: CDFW North Central Region Fish Files

From: Mitch Lockhart; Environmental Scientist
Clyde "Cian" Hettrick; Scientific Aide
Department of Fish and Wildlife
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670

Subject: Pre-Stocking Evaluation at Lake Spaulding, Nevada County

Lake Spaulding (Lake ID 13198), Nevada County, is located north-west of the Interstate 80 and Highway 20 junction at an elevation of 5,014 feet above sea level. The 275-foot tall dam was completed in 1913 by the Pacific Gas & Electric Company (PG&E), which impounded the South Yuba River and created the 698-surface-acre reservoir. The dam is owned and operated by PG&E for hydropower generation as part of the Drum-Spaulding Hydroelectric Project (FERC# 2310-230). The

California Department of Fish and Wildlife (CDFW) has planted Lake Spaulding with inland Chinook Salmon (*Oncorhynchus tshawytscha*) since at least 2001. The most recent fish plant was on June 3, 2019 when CDFW planted 25,000 fingerling Chinook Salmon.

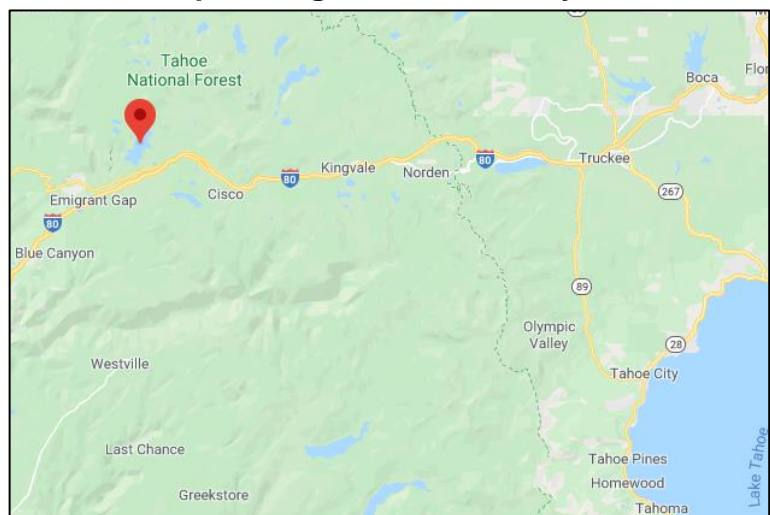


Figure 1: Google Map displaying Lake Spaulding (red pin) in relation to Lake Tahoe, California (retrieved 8/25/2020).

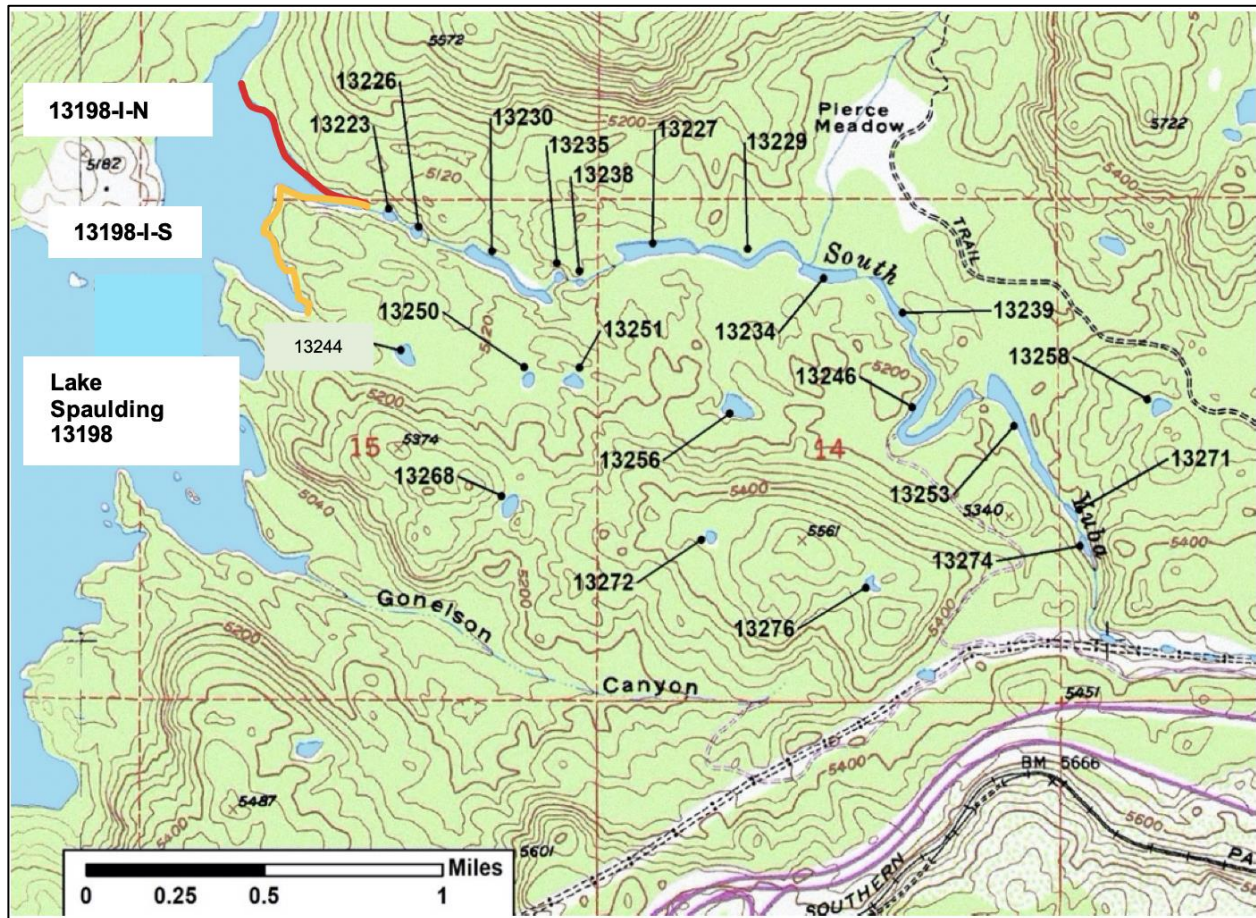


Figure 2: Topographic map of the portion of Lake Spaulding surveyed by CDFW July of 2020. Displayed on the map is Lake Spaulding, South Yuba River, and many unnamed ponds east of Lake Spaulding. The Red Line (13198-I-N) and the Yellow Line (13198-I-S) represent the surveyed portion of the Lake Spaulding shoreline. Lake IDs are provided for reference.

To determine if continued plants of Chinook Salmon are appropriate at Lake Spaulding, two CDFW Scientific Aides performed visual encounter surveys (VES) for diurnal herpetofauna on July 1 and July 2, 2020. The surveyed area included selected sections of the South Yuba River inlet, a part of Lake Spaulding shoreline, and grouping of ephemeral ponds near the South Yuba River (**Figure 2**). Specifically, VES efforts focused on federally endangered Sierra Nevada Yellow-legged Frogs (*Rana sierrae*; SNYLF). CDFW conducted all surveys discussed in this memorandum on 1–2 July 2020. CDFW did not detect any special status herpetofauna populations that would be adversely affected by continued Chinook Salmon plants at Lake Spaulding.

CDFW surveyed the South Yuba River north of the Highway 20 bridge to Lake Spaulding. The river was divided into thirteen sections (**Figure 2**) and surveyed over the course of two days during clear weather with calm to moderate wind. The water temperature range was 14–20 °Celsius (C). The air temperature range was 17–24 °C.

The surveyors saw three Sierran Chorus Frogs (*Pseudacris sierra*; PRSE) and four Sierra Gartersnakes (*Thamnophis couchii*; THCO). Herpetofauna observations per river section are displayed in **Table 1**.

Table 1. VES observations from Lake Spaulding area surveys conducted July 1 and July 2, 2020.

| Lake ID | Habitat Type | Species | Adult | Subadult | Metamorph | Eggmasses | Larvae |
|-----------|--------------|---------|-------|----------|-----------|-----------|--------|
| 13229 | stream | PRSE | 1 | 0 | 0 | 0 | 0 |
| | | THEL | 1 | 1 | 0 | 0 | 0 |
| 13244 | pond | PRSE | 0 | 1 | 1 | 0 | 97 |
| | | EMME | 1 | 0 | 0 | 0 | 0 |
| 13246 | stream | THCO | 0 | 1 | 0 | 0 | 0 |
| 13246 | stream | PRSE | 1 | 1 | 0 | 0 | 0 |
| 13250 | pond | PRSE | 0 | 0 | 0 | 0 | 102 |
| 13251 | pond | PRSE | 0 | 0 | 0 | 0 | 57 |
| 13253 | stream | THCO | 1 | 1 | 0 | 0 | 0 |
| 13256 | pond | THEL | 1 | 0 | 0 | 0 | 0 |
| 13258 | pond | THCO | 0 | 1 | 0 | 0 | 0 |
| 13258 | pond | PRSE | 0 | 0 | 0 | 0 | 515 |
| 13268 | pond | THSP | 1 | 0 | 0 | 0 | 0 |
| 13268 | pond | THCO | 0 | 1 | 0 | 0 | 0 |
| 13268 | pond | PRSE | 0 | 0 | 3 | 5 | 250 |
| 13268 | pond | TASI | 1 | 0 | 0 | 0 | 0 |
| 13274 | stream | THCO | 0 | 1 | 0 | 0 | 0 |
| 13198-I-S | reservoir | THCO | 1 | 0 | 0 | 0 | 0 |

CDFW staff surveyed a portion of the Lake Spaulding shoreline north (Lake ID 13198-I-N) and south (Lake ID 13198-I-S) of the South Yuba River inlet (**Figure 2**). In total CDFW staff surveyed 1,155 meters of the Lake Spaulding shoreline during clear skies, light wind, water temperature of 20 °C, and an air temperature of 20 °C. The team observed one adult THCO (**Table 1**). However, the water level in Spaulding was 30-feet below full capacity, which exposed a denuded substrate with effectively no cover or habitat for herpetofauna. In addition, the low waterline exposed a large canyon and impassible fish barrier where the South Yuba River descends into Lake Spaulding. While the feature was impassible during low water in July, 2020, during high water, the feature may be submerged and pass fish into the South Yuba River.

During VES of the ephemeral ponds to the north and south of the river, survey conditions were ideal, with clear skies and light wind. Air temperatures ranged 18–24 °C. Water temperatures ranged 16–22.5 °C. The surveyors documented large aggregations of PRSE larvae at several ponds (**Table 1**) and three life stages of PRSE at Lake ID 13268 (**Figure 2**). More notably, the surveyors found a single adult Western Pond Turtle (*Emys marmorata*; EMMA; **Picture 1**), a California Species of Special

Concern, at Lake ID 13244. Surveyors also observed an adult Sierra Newt (*Taricha sierrae*; TASI; **Picture 2**) at Lake ID 13268.

With no evidence of SNYLF populations in the area surrounding Lake Spaulding, CDFW may continue to plant Chinook Salmon fingerlings without the potential to adversely affect special status herpetofauna populations.

Table 2: CDFW stocking history for Lake Spaulding, Nevada Co.

| Year | Species | Size | Number |
|------|---------|------------|--------|
| 2001 | CHIN | Fingerling | 11,400 |
| 2002 | CHIN | Fingerling | 39,150 |
| 2004 | CHIN | Fingerling | 32,300 |
| 2005 | CHIN | Fingerling | 19,840 |
| 2006 | CHIN | Fingerling | 19,200 |
| 2007 | CHIN | Fingerling | 18,150 |
| 2008 | CHIN | Fingerling | 32,064 |
| 2010 | CHIN | Fingerling | 25,000 |
| 2011 | CHIN | Fingerling | 26,394 |
| 2012 | CHIN | Fingerling | 24,997 |
| 2019 | CHIN | Fingerling | 25,004 |



Picture 1: Western Pond Turtle (*Emys marmorata*) found at Lake ID 13244 on July 1, 2020.



Picture 2: Sierra Newt (*Taricha sierrae*) found at Lake ID 13268 on July 1, 2020.