

State of California
Department of Fish and Wildlife

Memorandum

Date: November 9, 2020

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Cc: CDFW North Central Region Fish Files

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Subject: Pre-Stocking Evaluation at Upper Lindsey Lake, Nevada County

Upper Lindsey Lake (Lake ID: 12654) is located in Nevada County north of Emigrant Gap on Interstate 80 at an elevation of 6,438 feet above sea level (**Figures 1 & 2**). The lake is accessed by foot via the Lindsey Lake Trailhead at Lindsey Lake Campground. The lake is managed by Pacific Gas & Electric Company (PG&E) as part of the Drum-Spaulding Hydroelectric Project (FERC# 2310). The California Department of Fish and Wildlife (CDFW) has planted Upper Lindsey Lake since at least 1950. CDFW most recently planted the lake in 2018 with fingerling Rainbow Trout (*Oncorhynchus mykiss*; RT) (**Table 1**).

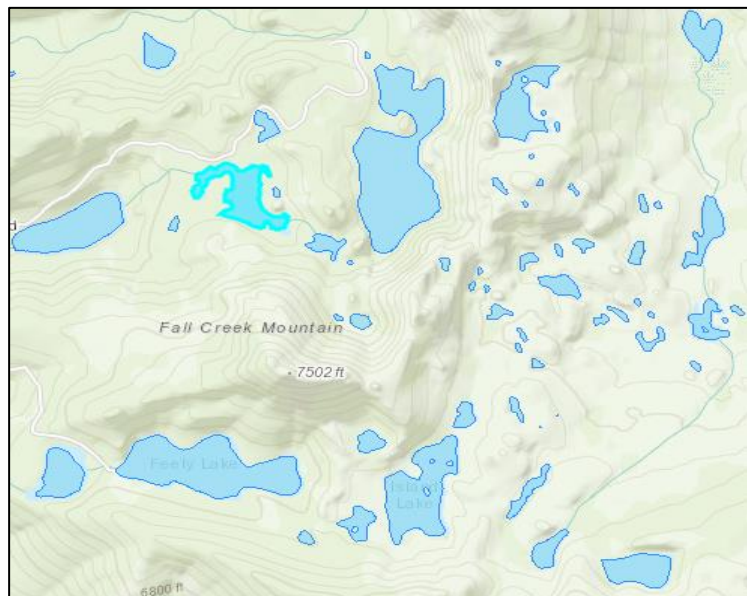


Figure 1. Close-up overview map of Grouse Ridge Non-Motorized Area, Nevada County. Upper Lindsey Lake is in cyan (CDFW BIOS Viewer, retrieved August 25, 2020).

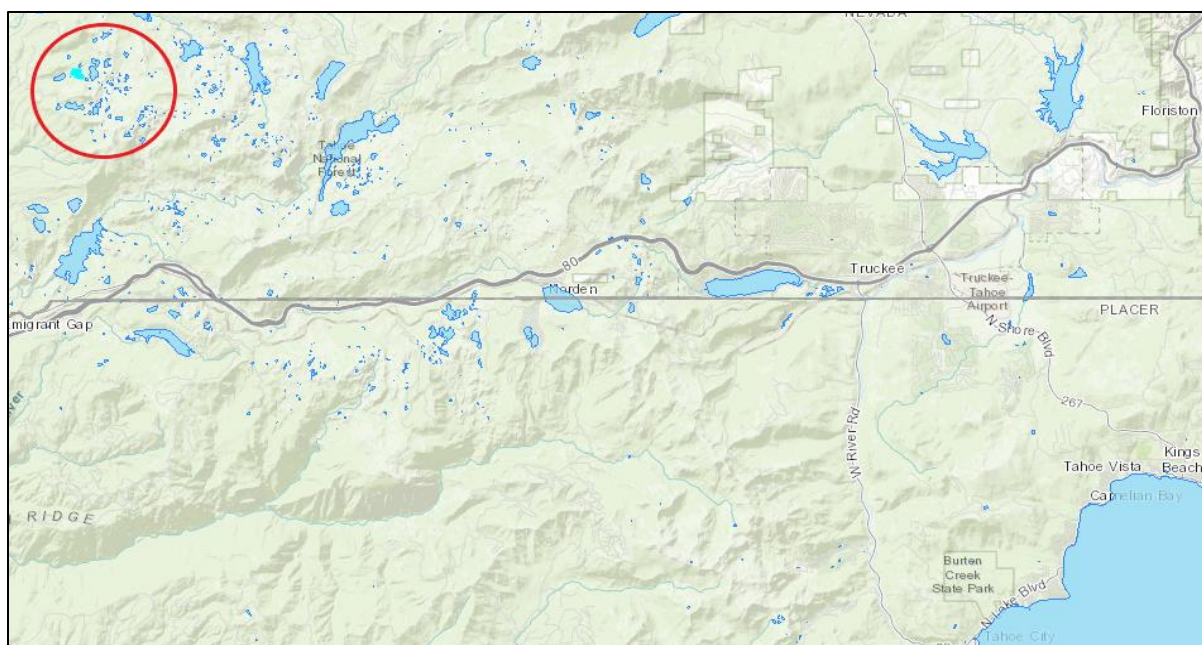


Figure 2. Overview map of Grouse Ridge Non-Motorized Area, Nevada Co. (red circle), in relation to Lake Tahoe and Truckee, California. Upper Lindsey Lake is highlighted in cyan (CDFW BIOS Viewer, retrieved. 8.25.20).

Table 1. CDFW Stocking History for Upper Lindsey Lake, Nevada County, from 2006 to 2018.

Year	Species	Number of Fish Planted	Size
2006	RT	4,000	Fingerling
2007	RT	4,000	Fingerling
2009	RT	6,400	Fingerling
2011	RT	4,000	Fingerling
2012	RT	4,000	Fingerling
2013	RT	4,000	Fingerling
2017	RT	4,000	Fingerling
2018	RT	4,000	Fingerling

To assess the current status of the sports fishery at Upper Lindsey Lake and determine if continued fish plants are warranted, three CDFW Scientific Aides surveyed Upper Lindsey Lake on June 09-10, 2020. A monofilament gillnet was set overnight (June 9-10, 2020) for 12 hours. The gillnet contained two RT, four Brook Trout (*Salvelinus fontinalis*; BK), four Lahontan Redside (*Richardsonius egregius*; LRS) and eight Brown Bullhead (*Ameiurus nebulosus*; BB) (**Table 2, Figure 3**).

Table 2. Length, weight, sex, and egg stage of trout captured during a gillnet survey at Upper Lindsey Lake, Nevada County, on June 9-10 2020.

Species	Length (mm)	Weight (g)	Sex (F/M/U)	Egg Stage
RT	348	400	-	-
RT	257	198	M	-
BK	389	590	M	-
BK	302	236	M	-
BK	112	149	F	E
BK	178	52	U	-

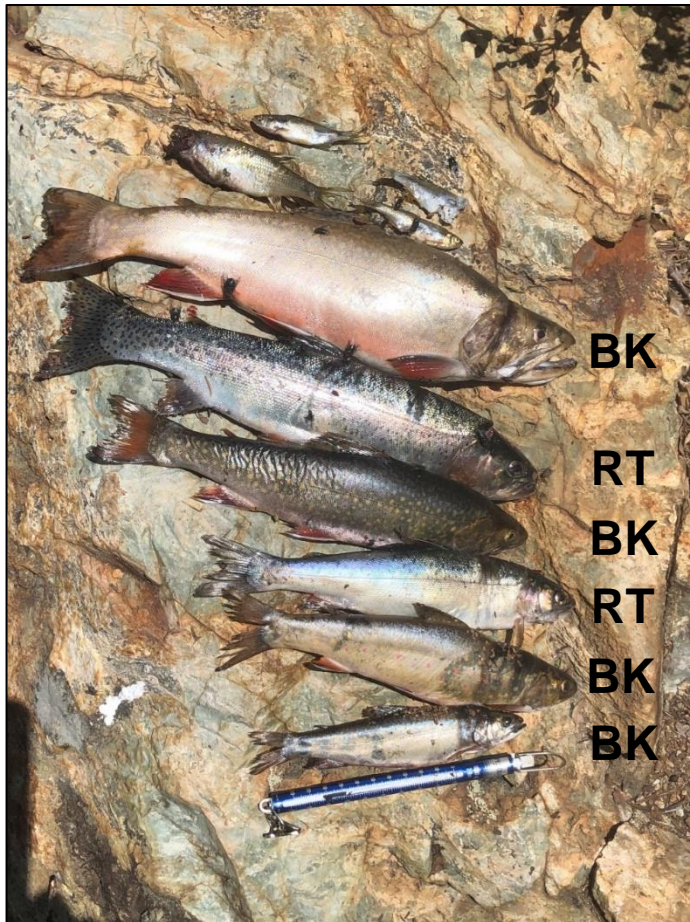


Figure 3. Photograph of Brook Trout (BK) and Rainbow Trout (RT) captured during a gillnet survey of Upper Lindsey Lake, Nevada County, on June 09, 2020 (CDFW).

Scientific Aides conducted a visual encounter survey (VES) of Upper Lindsey Lake on June 09, 2020, searching for diurnal herpetofauna, specifically the Federally Endangered Sierra Nevada Yellow-Legged Frog (*Rana sierrae*, SNYLF). During the survey, the air temperature was 20 degrees Celsius under clear skies. We observed no herpetofauna although BB were observed in the shallows (**Figure 4**). Later in the day, a Scientific Aide incidentally observed a single Sierra Gartersnake (*Thamnophis couchii*; THCO) (**Figure 5**) along the Upper Lindsey Lake dam.

Gillnet data collected in 2020 show Upper Lindsey Lake continues to supply recreational angling opportunities to backcountry anglers. BK persist even though CDFW has not planted BK at Upper Lindsey Lake since 1993.

CDFW most recently stocked Upper Lindsey Lake with 4,000 aerially planted fingerling RT in 2018 (**Table 1**). The RT that appeared in the gillnet are likely holdovers from

previous stocking events, as all RT stocked after 2012 are triploid and incapable of creating a self-sustaining population.



Figure 4. A BB captured in an amphibian dipnet from Upper Lindsey Lake, Nevada County. (CDFW, June 09, 2020).

Additional monitoring is necessary to better understand RT fingerling survival and growth at Upper Lindsey Lake. Monitoring surveys should be conducted annually for one to three years after the next planting event to determine the rates at which RT survive to adult life stages. It is important that the monitoring surveys utilize alternative sampling methods, such as hook-and-line and backpack electrofishing, in addition to gillnets.



Figure 5. A Sierra Gartersnake (THCO) adult observed at the dam of Upper Lindsey Lake, Nevada County (CDFW, June 09, 2020).