

**State of California  
California Department of Fish & Wildlife  
North Central Region**

**Lake Pillsbury,  
Lake County**

**2016 Creel Census and Trout Evaluation Study**



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## Introduction

In 2016, the California Department of Fish and Wildlife (CDFW) conducted a creel census at Lake Pillsbury (Pillsbury), Lake County. The creel survey was conducted to gather information on the fishery at Pillsbury which will better assist CDFW manage the recreational fishery present at the lake. Data was collected from anglers for the purpose of assessing rainbow trout (*Oncorhynchus mykiss*) (RT) planting, as well as overall stocking strategies for the lake.

Lake Pillsbury, formed by Scott Dam on the Eel River, is in northern Lake County, California, 22 miles northeast of Ukiah and 17 miles north of Upper Lake (Figure 1). The drainage basin comprises the upper 288 square miles of the Eel River basin and lies wholly within the boundaries of the Mendocino National Forest (Porterfield and Dunnam 1964).

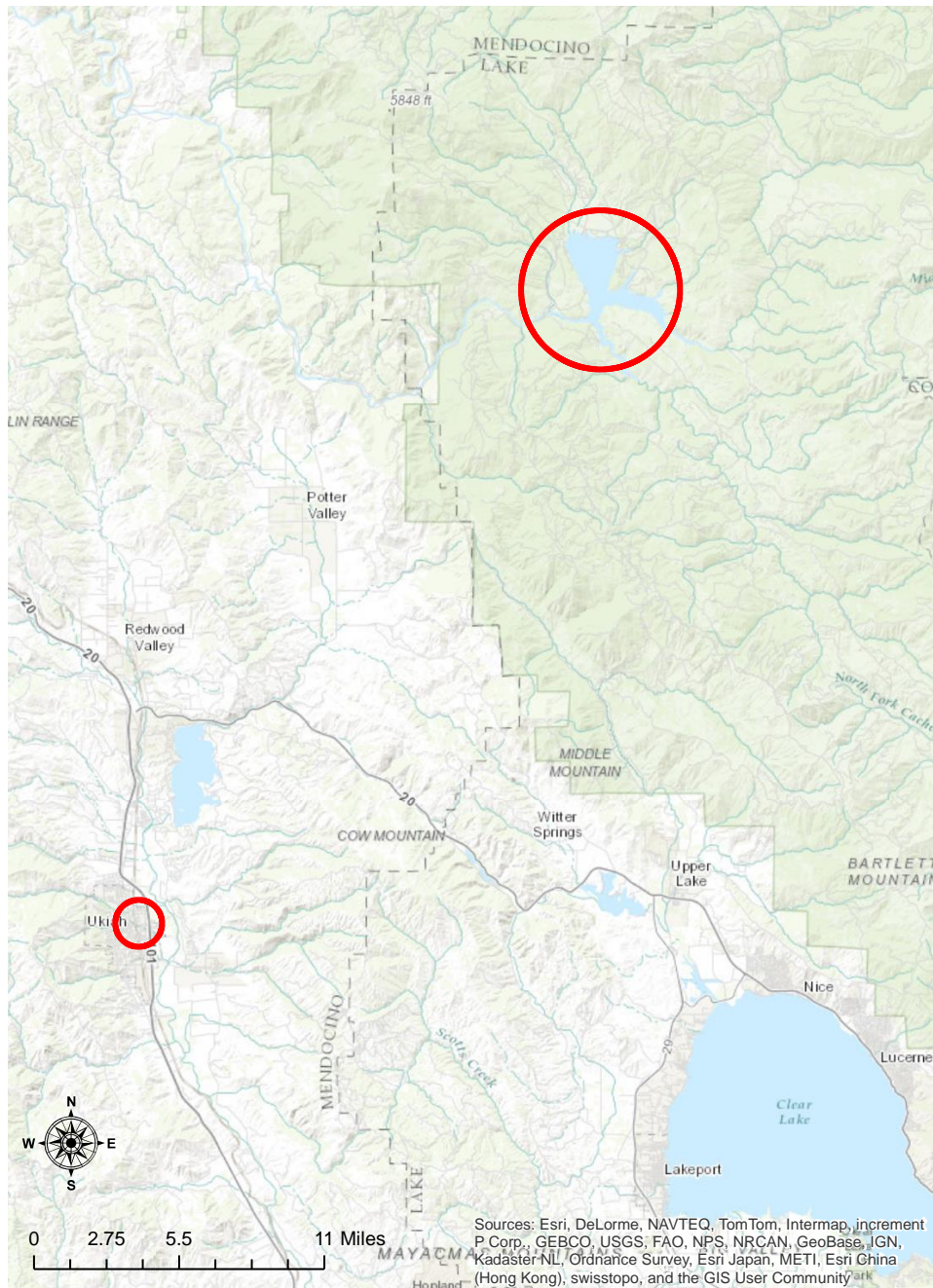


Figure 1. Map of Lake Pillsbury in relation to Ukiah and Lake County, CA.

Most of the land within the drainage basin is administered by the United States Forest Service . Pillsbury and some of the adjoining land are privately owned. The lake is operated as

a holdover-storage facility, and the water is utilized for power (Pacific Gas and Electric-PG&E) and irrigation (Porterfield and Dunnam 1964).

Pillsbury sits at an elevation of approximately 1828 feet above mean sea level (CDEC 2012). At maximum pool the lake occupies 2,280 surface acres (USDA 2012) and has 80,500 acre-feet of water storage (DWR 2012). Pillsbury was first filled in 1956 (DWR 2012) and now supports a significant warmwater and coldwater sport fishery including black bass (*Micropterus* species), bluegill (*Lepomis macrochirus*), catfish (*Ictalurus* species), and a hatchery and wild rainbow trout fishery. Sacramento suckers (*Catostomus occidentalis*) and Sacramento pikeminnow (*Ptychocheilus grandis*) (SPK) also populate the lake.

Pillsbury and surrounding area are used year round for recreational activities including: hunting, fishing, hiking, off-highway vehicle use, swimming, and wildlife viewing. Recreational boating is permitted and the lake has ramp access at two locations (Figure 2).

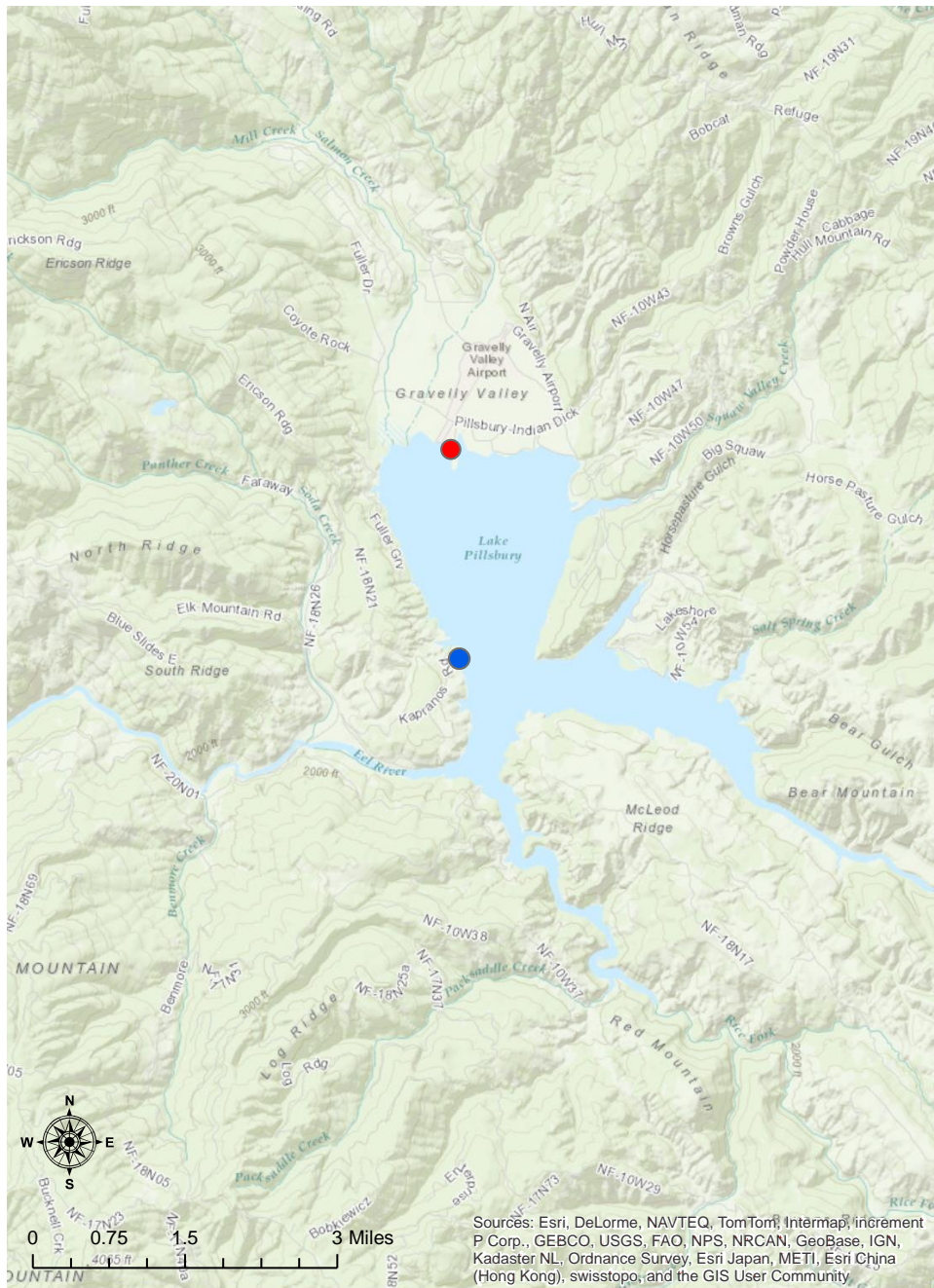


Figure 2. Lake Pillsbury Boat Launch Locations (Lake County, CA).

- Public Boat Launch
- Private Boat Launch

Table 1 indicates the total number and weight, as well as individual fish size, for RT stocked in Pillsbury from 2009 - 2015. Over the six year period, only catchable-size (approximately 0.5 lb.) rainbow trout were stocked.

Table 1. Rainbow trout stocking data for Lake Pillsbury, Lake County (2002 - 2015).

Date	Number	Weight (lbs.)	Size
4/9/2015	3230	1900	Catchables
4/11/2014	3300	1500	Catchables
3/11/2014	1800	1000	Catchables
4/25/2013	2400	1000	Catchables
4/15/2013	1500	1000	Catchables
3/27/2013	1900	1000	Catchables
4/18/2012	2100	1000	Catchables
4/4/2012	2300	1000	Catchables
3/20/2012	1200	1000	Catchables
6/22/2011	4000	2000	Catchables
4/4/2011	1800	1000	Catchables
5/20/2009	2000	1000	Catchables
5/6/2009	4400	2000	Catchables
4/14/2009	4000	2000	Catchables
3/24/2009	1500	1000	Catchables

## Methods

For this survey, a total of 10 days were sampled in 2016 from February through May. Data was collected on hours fished, species and number of fish caught, fishing method, tackle used and angler satisfaction. The numbers of days in which the creel census occurred varied from month to month and survey start and end times were randomly stratified. Due to this survey being implemented while two other CDFW projects in Lake County were occurring, survey days were restricted to weekdays only. When anglers had fish in possession and were willing to allow data collection, census takers determined total length (mm) and species. A standard series of questions was asked to determine angling effort, catch rate, size of fish, and species of fish released. In addition, each angler was asked a series of between one and three “yes or no” questions to determine angler satisfaction. Each angler was asked, “Are you satisfied with your angling experience today?” Anglers that caught fish were also asked “Are you satisfied with the size of the fish?” and “Are you satisfied with the number of fish?” Results were compiled to calculate percent of anglers satisfied with these criteria.

## Results

A total of 21 anglers were surveyed over the 10 day survey period. The surveyed parties combined for a total angling effort of 47.5 hours and 31 fish reported caught. This equated to 2.3 hours fished per angler and a catch per unit effort (CPUE) of 0.7 fish per hour (Table 2).

Table 2. Catch Statistics for Lake Pillsbury, Lake Co. (2016).

Total Hours Fished	47.5
Total Number of Anglers	21
Average Hours Fished per Angler	2.3
Total Fish Caught	31
Number of Fish per Angler	1.5
Total CPUE (Fish per Hour)	0.7

The primary angling gear used by anglers was lures at 71%. Fishing with multiple gear types was the second most popular response at 24%. The use of bait was cited by 5% of respondents. No anglers reported using flies as a type of gear used (Figure 3).

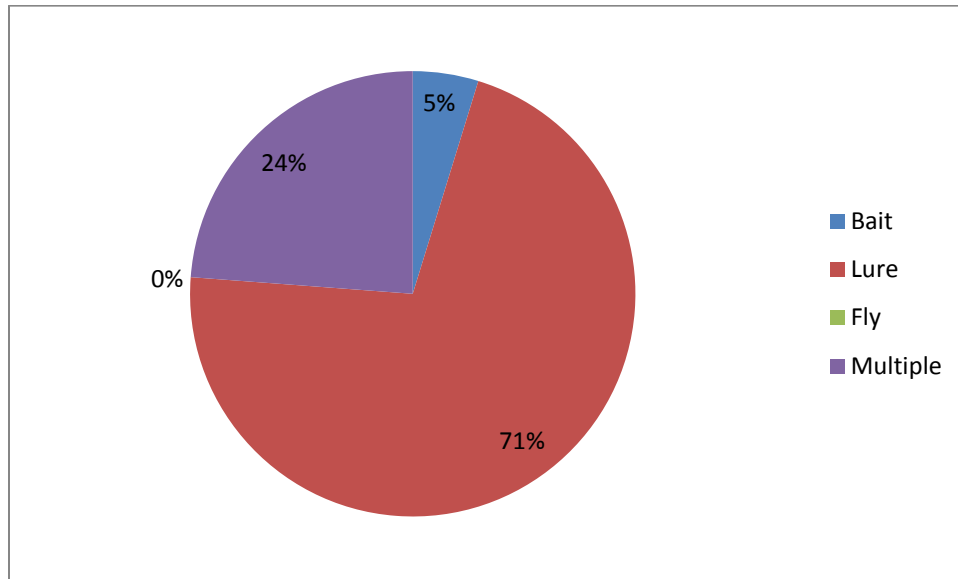


Figure 3. Gear used by anglers at Lake Pillsbury, Lake County, 2016.

Only one angler reported fishing from a boat while the remaining anglers fished from shore. A total of 31 fish and three different species were caught during the survey period. All 31 fish were released. Largemouth bass (*Micropterus salmoides*) (LMB) was the greatest single specie caught during the survey period with 15 (48% of catch), followed by SPK (n = 14) (45% of catch), and RT (n=2) (6% of catch).

Overall, 90% of anglers surveyed reported that they were satisfied with their fishing experience. For anglers who caught fish, 82% were satisfied with the size of their fish and 91% were satisfied with the number of fish they caught (Table 3).

Table 3. Angler Satisfaction as a Percentage Answering Yes or No, Lake Pillsbury, Lake Co. (2016).

	<u>Yes</u>	<u>No</u>	<u>Percent Satisfied</u>
Overall Angling Experience	19	2	90%
Size of Fish	9	2	82%
Number of Fish	10	1	91%

## Discussion

SPK were introduced into Pillsbury in the late 1970's by persons unknown (CDFG 1985). CDFW has received numerous complaints spanning many years of all the SPK in Pillsbury. The public has argued that there is an overpopulation of SPK that prey on all the RT and LMB in the lake. In the early 1980's CDFW introduced LMB from Clear Lake into Pillsbury with hope that, through predation, they and their progeny would be able to control the size of the younger age groups of SPK. In the mid - 1980's, the California Conservation Corps set upstream migrant traps on two of Pillsbury's tributaries and harvested 620 SPK (Emig 1987). The then CDFG was entertaining the idea of chemically treating the lake but the environmental and political hurdles involved closed that method of reducing the SPK population (CDFG 1985). In the spring of 2013, CDFW performed a boat-based electrofishing survey on Lake Pillsbury. SPK dominated the total catch, making up 86% of the total catch (Ewing 2013) which supported the overpopulation argument by the public and the historic records of SPK in Pillsbury. Lake Pillsbury has and currently operates a SPK derby every year in which prizes/money are awarded to anglers that catch and keep SPK. As part of the overall stocking strategy, CDFW is looking at stocking larger-size RT in order to try and reduce the number of RT that are eaten by SPK and likely LMB. The effect may or may not be noticeable until a few years of the new stocking practices. It will likely continue to be very difficult to control the SPK population in Lake Pillsbury due to the time, funding, political, and environmental constraints that would need to be overcome to move forward on the eradication process. There is no limit currently on the size and number of SPK a licensed angler can catch. At this time, CDFW recommends keeping all SPK caught, continue, with the SPK derbies, and plant larger-sized RT when possible. Only one angler out of the 21 anglers surveyed was from the public and not a CDFW employee. This might suggest that angler usage, which would be helpful to eradicate SPK, is very low during this time of the year.

The CPUE was 0.7 fish per hour, which is fair. Only two RT were caught. These RT appeared to be wild, RT. It is difficult to evaluate the success of the RT stocking program due to the low angler usage and lack of yearly RT monitoring. If feasible, CDFW will consider gathering angler usage data on weekend days rather than weekdays in the future. The angler satisfaction questions provided minimal input on the public's opinion of the fishery at Lake Pillsbury due to only one member of the public being interviewed during the entire survey period. Overall satisfaction of the fishery, size of the fish caught, and numbers of fish caught were all high



(90%, 82%, and 91%, respectively). Unfortunately, these values may or may not reflect the general public's opinion due to the fact only one angler from the public answered the satisfaction questions while the rest were CDFW employees angling while performing the survey.

Due to the low angler participation seen in 2016, CDFW postponed an early season trout plant until later in the season. This was done in order to plant fish when the public would better be able to utilize the stocking. Overall, Lake Pillsbury offers a beautiful conifer, mid-elevation lake setting with a diverse list of fish species to catch.

### **References**

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