

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

Lake Alpine, Alpine County

2015 Angler Survey Box Analysis



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Introduction

Lake Alpine is a Northern California Power Agency (NCPA) managed reservoir in Alpine County. At full capacity it covers 173 surface acres and is situated at approximately 7,305 feet above mean sea level. It is located off Highway 4, approximately one mile west of Bear Valley and 31 miles south of Lake Tahoe (Figure 1). Silver Creek is the main source of inflow for the lake which is part of the North Fork Stanislaus River watershed. A portion of the releases from Lake Alpine are diverted into New Spicer Meadow Reservoir at the North Fork Diversion Dam approximately 2.5 miles downstream of Lake Alpine (NCPA files). Alpine Lake is open all year to the public to fishing as well as other recreational opportunities.



Figure 1. Lake Alpine (Alpine County).

California Department of Fish and Wildlife (CDFW) fish files indicate Lake Alpine has been stocked since 1930 by the then California Department of Fish and Game (CDFG) for recreational fishing. Historically, Lake Alpine has been planted with rainbow trout (*Oncorhynchus mykiss*) (RT), brook trout (*Salvelinus fontinalis*), brown trout (*Salmo trutta*), and Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*). Currently only RT are planted in Lake Alpine by CDFW as well as the Alpine County Fish and Game Commission (ACFG).

In order to assess the fishery, CDFW installed an angler survey box (ASB) at the public launch ramp (Figure 2). Anglers voluntarily fill out a survey sheet after they complete their fishing trip, and deposit it in the box. CDFW uses the data collected to assess angler satisfaction, species composition/sizes, and general angler statistics at the lake. This report covers data collected from Lake Alpine's ASB in 2015.



Figure 2. Location of Angler Survey Box at Lake Alpine.

Methods

Anglers were asked to fill out a voluntary survey form about their fishing experience. The survey asks anglers for information regarding hours fished, type of gear used and the number of landed fish. This information was used to measure the Catch per Unit of Effort (CPUE) as defined by the number of fish caught per hour. They were also asked the size and species of the landed fish and whether they kept or released their catch. Finally, anglers were asked three questions, and their answers were recorded on a scale of -2 to 2, with “2” representing most satisfied and “-2” representing least satisfied. The questions pertain to satisfaction of overall angling experience, size and number of fish. The back of the survey form is reserved for anglers who have any additional comments.

Results

In 2015, a total of seven anglers responded to the survey (Table 1). These anglers landed a total of 19 rainbow trout over a period of 28.75 hours of fishing (0.66 fish/hour). The average catch per angler was 2.71.

Table 1. Collection of average effort and catch statistics recorded from the ASB 2015 at Lake Alpine.

Respondents	Hours Fished	Fish Landed	Catch per angler	Catch per hour	Hours per angler
7	28.75	19	2.71	0.66	4.11

Anglers used either bait, lures, or flies while fishing Lake Alpine (Table 2). Two anglers (29%) used bait to catch trout, landing 2.5 fish per angler. The least frequent method was fly fishing as only 14% of anglers attempted to fish with flies. Fly anglers had a two fish per angler catch rate, which was the same rate as the two anglers who used multiple gear types to catch fish. Two anglers (29%) using lures had the greatest fish per angler rate with four.

Table 2. The frequency of anglers that used each angling method and their corresponding catch rates in 2015.

Angling method	Number of anglers	Catch per angler
Bait	2	2.5
Lure	2	4.0
Fly	1	2.0
Multiple	2	2.0

ASB data showed that 47% (9 fish) of the landed trout measured less than 10.0 inches in total length (Figure 3). Forty seven percent of landed fish measured between 10.0 and 17.9 inches, and approximately 5% of fish caught were greater than 18.0 inches. The modal size class for RT (6 fish) was in the 8.0 - 9.9 inch size class (Table 3). The second highest frequency was in the 12.0 - 13.9 inch size.

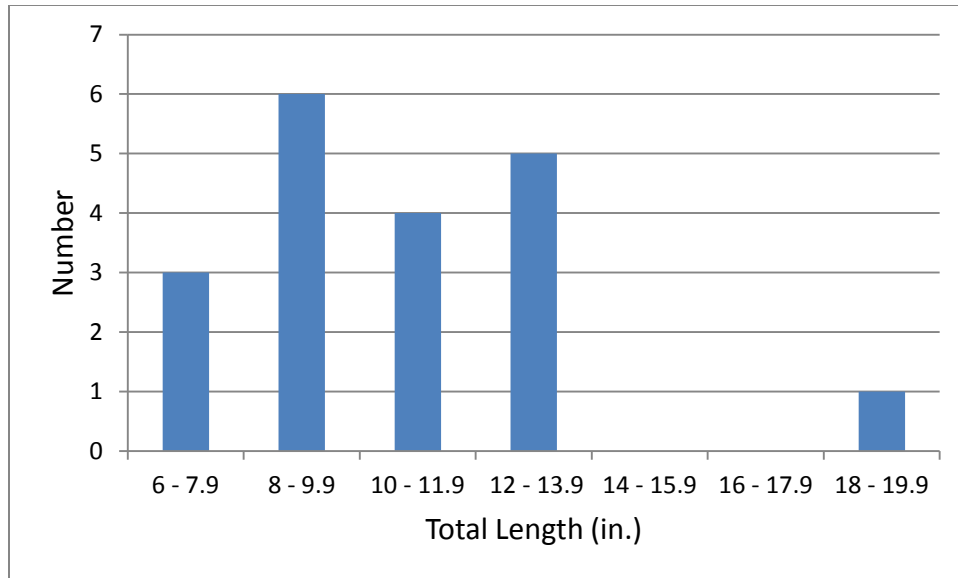


Figure 3. Frequency of rainbow trout in each size class that anglers reported landing at Lake Alpine in 2015.

Table 3. Data on kept and released rainbow trout and the corresponding modal size class in Lake Alpine in 2015.

Kept	Released	Total Caught	Percent Released	Modal Size Class
12	7	19	36.8	8.0 - 9.9

Anglers had a positive average response of 0.3 with regards to their overall fishing experience. When reporting their satisfaction with the number and size of fish caught, anglers had positive experiences (0.6 and 0.6, respectively).

Discussion

The data gathered from the Lake Alpine ASB has shown anglers to have caught over two fish on average per day. Catch per unit effort was 0.66 fish/hour. The number of respondents in the survey was only seven, which may not provide CDFW a true representation of the fishery. Ideally, the more respondents, the more feedback it provides CDFW on angler success at the fishery. It is essential CDFW maintain the trend of increasing angler participation in the ASB survey, especially since 2015 was the first year at Lake Alpine and anglers might not have been aware of the ASB. CDFW staff should continue to notify anglers of how helpful angler participation in the survey is when possible. This may be accomplished by personal communication in and/or around the lake community and/or posted signage.

Catch rates for anglers using lures was higher than other forms of identified gear. The ASB survey showed that all fish caught by anglers were RT, which is consistent with the stocking records (Appendix 1).

The greatest number of trout caught in 2015 was in the 8.0 - 9.9 in. size class. Ninety five percent of fish caught in Lake Alpine measured less than 18 inches in total length. ACFG planted 3,600 lbs. of catchable-size RT into Lake Alpine in 2015. Many of these fish were greater than two pounds in weight. It is not known whether the one RT caught over 18.0 inches was a CDFW holdover or ACFG stocked fish. Anglers were satisfied with the size and number of fish they were catching, as well as their overall fishing experience. It is often difficult to manage a fishery to satisfy both high catch rates and large size of fish caught but in 2015 it appears that this was accomplished.

The overall fishing experience for anglers was positive at Lake Alpine. One of the reasons anglers were generally satisfied could be the fact that 86% of them caught fish.

Recommendations

- CDFW should continue to encourage anglers to fill out the ASB forms when possible.
- Collect more years' worth of data and have more respondents to the survey in order to help CDFW gather more reliable information on the Lake Alpine fishery.
- Add question pertaining to whether angler fished from boat, shore, or float tube/kayak.
- Add more ASB locations and/or signage around Lake Alpine where anglers will likely walk by them.

Literature Cited

1. Northern California Power Agency Hydroelectric Project Referral

Appendix 1. Stocking history at Lake Alpine since 2014 for CDFW and 2015 for ACFG. ACFG allotment is in red lettering.

Date	Species	Number	Weight (lbs.)	Size-Class
4/24/2014	ELT	3000	2500	Catchable
6/25/2014	ELT	3450	1500	Catchable
7/2/2014	ELT	1800	1000	Catchable
7/28/2014	ELT	1610	700	Catchable
2015	RT		3600	Catchable
4/29/2015	RT	1500	1500	Catchable
6/3/2015	RT	1530	900	Catchable
7/17/2015	RT	2300	1000	Catchable
7/27/2015	RT	4830	2300	Catchable