

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

New Spicer Meadow Reservoir, Alpine and Tuolumne Counties

2015 Angler Survey Box Analysis



Ben Ewing

District Fisheries Biologist: Alpine, Amador, Calaveras, and Lake Counties

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Introduction

New Spicer Meadow Reservoir (Spicer) is formed by New Spicer Dam on Highland Creek (NCPA 2012), small tributaries, and additional water which is diverted from the North Fork Stanislaus River. Spicer is in both eastern Tuolumne County and western Alpine County, California, 39 miles south of South Lake Tahoe (Figure 1).

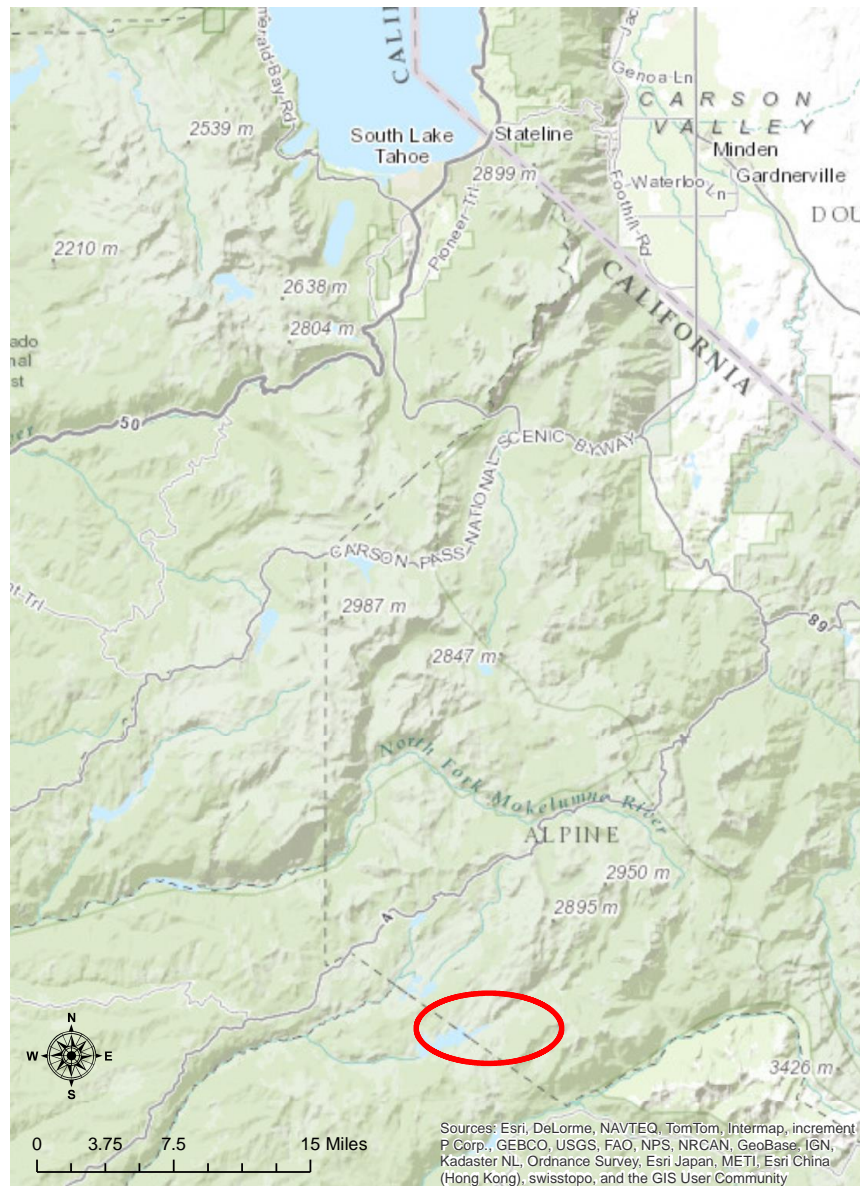


Figure 1. New Spicer Meadow Reservoir (Alpine County, CA)

Spicer is owned by Calaveras County Water District (CCWD), operated by Northern California Power Agency (NCPA) and permitted by the United States Department of Agriculture (USDA) and United States Forest Service (USFS). The lake is operated under Federal Energy Regulatory Commission (FERC) Project 2409 with water being used for electric power and recreation.

Spicer sits at an elevation of approximately 6,614 feet above mean sea level. In 1990, CCWD replaced Pacific Gas and Electric's (PG&E) old dam on Spicer with a new one that increased lake volume. The new dam increased maximum pool in the lake from 215 surface acres and 4,062 acre-feet to 2,000 surface acres and 189,000 acre-feet of water storage (NCPA 2012). Spicer currently has a recreational fishery including brook trout (*Salvelinus fontinalis*) (BK), Lahontan cutthroat trout (*Oncorhynchus clarki henshawi*) (CT-L) and a combination of hatchery and wild rainbow trout (*Oncorhynchus mykiss*) (RT) (CDFW Fish Files 2013). Spicer also has historically had a brown bullhead (*Ameiurus nebulosus*) (BBH) fishery CDFW Fish Files 1991).

Spicer drains into Highland Creek, which flows into the North Fork Stanislaus River watershed. Spicer is open all year to the public with a five trout bag limit with 10 in possession regulation.

California Department of Fish and Wildlife (CDFW) fish files indicate Spicer has been stocked since 1953 by then the California Department of Fish and Game (CDFG) for recreational fishing. Historically, Spicer has been planted with RT and BK. Currently only fingerling RT are planted in Spicer by CDFW and Spicer is considered a "put and grow" fishery.

In order to assess the fishery, CDFW installed an angler survey box (ASB) at the public launch ramp in 2015. 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, and general angler statistics at the lake. This report covers the data collected from Spicer's ASB for 2015.

Methods

Anglers were asked to fill out a voluntary survey form related to their fishing experience. The survey asks anglers for information regarding hours fished, type of gear used, and the number of landed fish. They were also asked the size and species of the fish landed 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 four anglers responded to the survey. Cumulatively, these anglers landed a total of 23 fish, while recording 15 hours of fishing (1.5 fish/hour) (Table 1). The catch per angler was 5.75.

Table 1. Collection of average effort and catch statistics recorded from the ASB 2015 at New Spicer Meadow Reservoir.

Respondents	Hours Fished	Fish Landed	Catch per angler	Catch per hour	Hours per angler
4	15	23	5.75	1.5	4.11

Anglers used bait and a combination of lures/flyes while fishing at Spicer (Table 2). Two anglers (50%) used bait to catch trout landing 6.0 fish per angler. The two other anglers (50%) used a combination of flyes/lures, averaging 5.5 fish per angler. No anglers reported using only flyes or only lures as methods to catch fish.

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	6.0
Lure	0	0.0
Fly	0	0.0
Multiple	2	5.5

In 2015, 69.6% of trout landed were RT, 21.7% were LCT, while 8.7% were BN, respectively. The reported catch rates do not correspond with stocking records as only RT have been planted in Spicer since 2001 by CDFW and there are no records of BN or LCT stockings.

ASB data showed that 73.9% (17 fish) of the landed trout measured less than 16 inches in total length (Figure 2). The greatest number of RT and LCT were in both the 12.0 – 13.9 in. and 16.0 – 17.9 in. length classes (Table 3). The greatest number and only BN were in the 12.0 – 13.9 in. (Table 3). The length-frequency class with the greatest overall number of trout was the 12.0 - 13.9 inch size class.

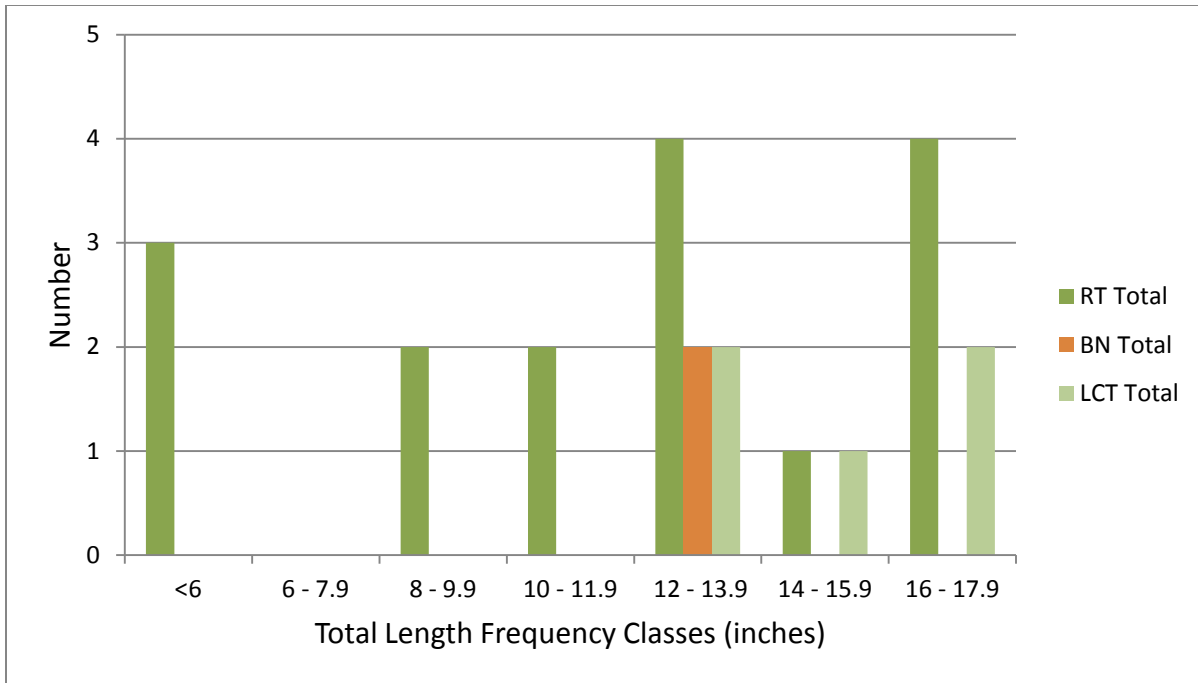


Figure 1. Frequency of trout in each size class that anglers reported landing on New Spicer Meadow Reservoir in 2015.

Table 3. Data on kept and released rainbow trout and the corresponding modal size class in New Spicer Meadow Reservoir in 2015.

Species	Kept	Released	Total Caught	Percent of Total Catch	Percent Released	Modal Size Class
RT	10	6	16	69.6	38.0	12.0 - 13.9" and 16.0 - 17.9"
BN	1	1	2	8.7	50.0	12.0 - 13.9"
LCT	4	1	5	21.7	20.0	12.0 - 13.9" and 16.0 - 17.9"
Totals	15	8	23			

Anglers had a very positive response with their overall fishing experience as well as the number of fish caught (2.0 and 2.0, respectively). Anglers were also satisfied with the size of the trout caught (1.3).

Discussion

The data gathered from the Spicer ASB has shown anglers to have caught almost six fish on average per angler when fishing at Spicer, which is very successful. The number of respondents in the survey was only four, which may or may not have provided CDFW with an accurate assessment on the recreational fishery. CDFW staff should continue to notify anglers when possible, of the presence and location of the ASB at Spicer, and how helpful angler participation in the survey is, especially since many anglers might not be aware of ASBs and its recent installation at the lake.

Catch per angler for anglers using bait was higher than any other forms of tackle. The ASB survey showed the majority of fish caught by anglers were RT, which is consistent with the stocking records. To ensure anglers are properly identifying their catch, CDFW should install a species identification sign listing all of the fish known to be present in Spicer. This sign could include a few words explaining how the lake is a diverse recreational fishery.

Approximately 74 percent of fish caught in Spicer measured less than 16 inches in total length. This corresponds with stocking data, as 100% of fish stocked by CDFW have been less than 16 inches in recent years (Appendix 1). Anglers were satisfied with the size and number of fish they were catching, as well as their overall fishing experience. Spicer not only has a “put and grow” hatchery supplemented fishery, but it also has a wild trout component. Spicer has multiple tributaries where trout come into the lake as well where trout spawn. Anglers fishing Spicer have the opportunity to catch a variety of catchable-size salmonids that are in great physical shape and often fight with greater force than a “put and take” hatchery trout. Having more anglers respond to the survey, filling them out completely, and having more than one year’s worth of data could help with managing the fishery in order to continue to satisfy the needs of the anglers.

Recommendations

- CDFW staff should install a species identification board on the ASB at New Spicer Reservoir, in order to minimize species misidentification by anglers.
- CDFW should continue to encourage anglers to fill out the ASB forms in future trips, when possible.
- Collect additional years’ worth of ASB data and encourage more anglers to participate in the survey to help CDFW gather more reliable information on the New Spicer Meadow fishery.
- Add question pertaining to whether angler fished from boat/kayak, shore, or float tube.
- Add more ASB locations and/or signage around New Spicer Meadow Reservoir.

References:

California Department of Fish and Wildlife Fish Files. 1991. Spicer Meadows Reservoir Management Plan. Unpublished. Page 3.

Ewing, Ben. 2013. New Spicer Meadow Reservoir General Fish Survey. California Department of Fish and Wildlife Fish Files. Unpublished.

Northern California Power Agency. 2012. Northern California Power Agency Hydroelectric Project. Unpublished.

Appendix 1. Stocking history at New Spicer Meadow Reservoir since 2001.

Date	Species	Number	Weight (lbs.)	Size-Class
6/18/2001	ELT	51,000	150	Fingerling
7/9/2002	RT	39,872	89	Fingerling
7/9/2002	RT	34,668	107	Fingerling
7/29/2003	ELT	50,224	584	Fingerling
6/21/2004	RT	51,900	300	Fingerling
6/23/2005	RT	50,000	93.3	Fingerling
8/8/2006	RT	21,090	38	Fingerling
8/8/2006	RT	28,959	49	Fingerling
8/13/2007	RT	50,050	715	Fingerling
7/21/2008	RT	50,000	133	Fingerling
6/17/2009	RT	50,018	70.3	Fingerling
6/30/2010	RT	50,336	121	Fingerling
7/8/2011	RT	50,050	455	Fingerling
7/13/2012	RT	41,646	631	Fingerling
6/4/2013	RT	25,000	40.9	Fingerling
6/3/2014	RT	25,000	250	Fingerling
7/6/2015	RT	21,060	450	Fingerling