

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

Kinney Reservoir, Alpine County

2022 Angler Survey Box Analysis



Ben Ewing
District Fisheries Biologist: Alpine, Amador, Calaveras, and Lake Counties
March 2025

Introduction

In August, 2020, the California Department of Fish and Wildlife (CDFW) installed an angler survey box (ASB) at Kinney Reservoir, located along Highway 4, to evaluate the fishery (**Figure 1**). Anglers voluntarily completed a survey form after their fishing trip and deposited it in the ASB. CDFW uses these data to assess angler satisfaction, species composition/sizes, and general angler statistics at Kinney Reservoir.

Environmental Setting

Kinney Reservoir is located in the Humboldt-Toiyabe National Forest of the Sierra Nevada Mountain range in Alpine County. Kinney Reservoir is within the Carson River watershed. Much of the surrounding habitat consists of open bedrock, shrubs, hardwood forest, and coniferous forest (CalFire 2021).

Kinney Reservoir

Kinney Reservoir is an approximately 40-acre reservoir in Alpine County (38.553725 N, 119.810028 W), situated at 8,369 feet above mean sea level (**Figure 1**). The shoreline is a mix of rocks, sand, and conifer forest. The lake bottom appears to be primarily composed of mud and various-sized rock substrate. Water leaving Kinney Reservoir flows into Kinney Creek and eventually into the East Carson River. Kinney Reservoir receives water from Kinney Creek, and rain and snowmelt runoff from the immediate area. Only CDFW stocks Kinney Reservoir. CDFW historically stocked Kinney Reservoir with fingerling and catchable-sized Lahontan Cutthroat Trout (*Oncorhynchus clarkii henshawi*; LCT), fingerling-sized Brook Trout (*Salvelinus fontinalis*; BK), and catchable-sized Rainbow Trout (*Oncorhynchus mykiss*; RT), with the last recorded stocking of RT in June 2021. Due to a change in stocking practices as well as availability, no BK and LCT are stocked into Kinney Reservoir. CDFW currently manages Kinney Reservoir as a “put and take” fishery. CDFW currently stocks catchable-sized RT due to the combination of high angler usage, low natural recruitment, and immediate proximity to a state highway.

Kinney Reservoir is open all year for fishing and other recreational opportunities, but has limited access during the winter season when there is snow. CalTrans closes

the Ebbetts Pass area of Highway 4 during winter and the road is not plowed (CalTrans 2025).

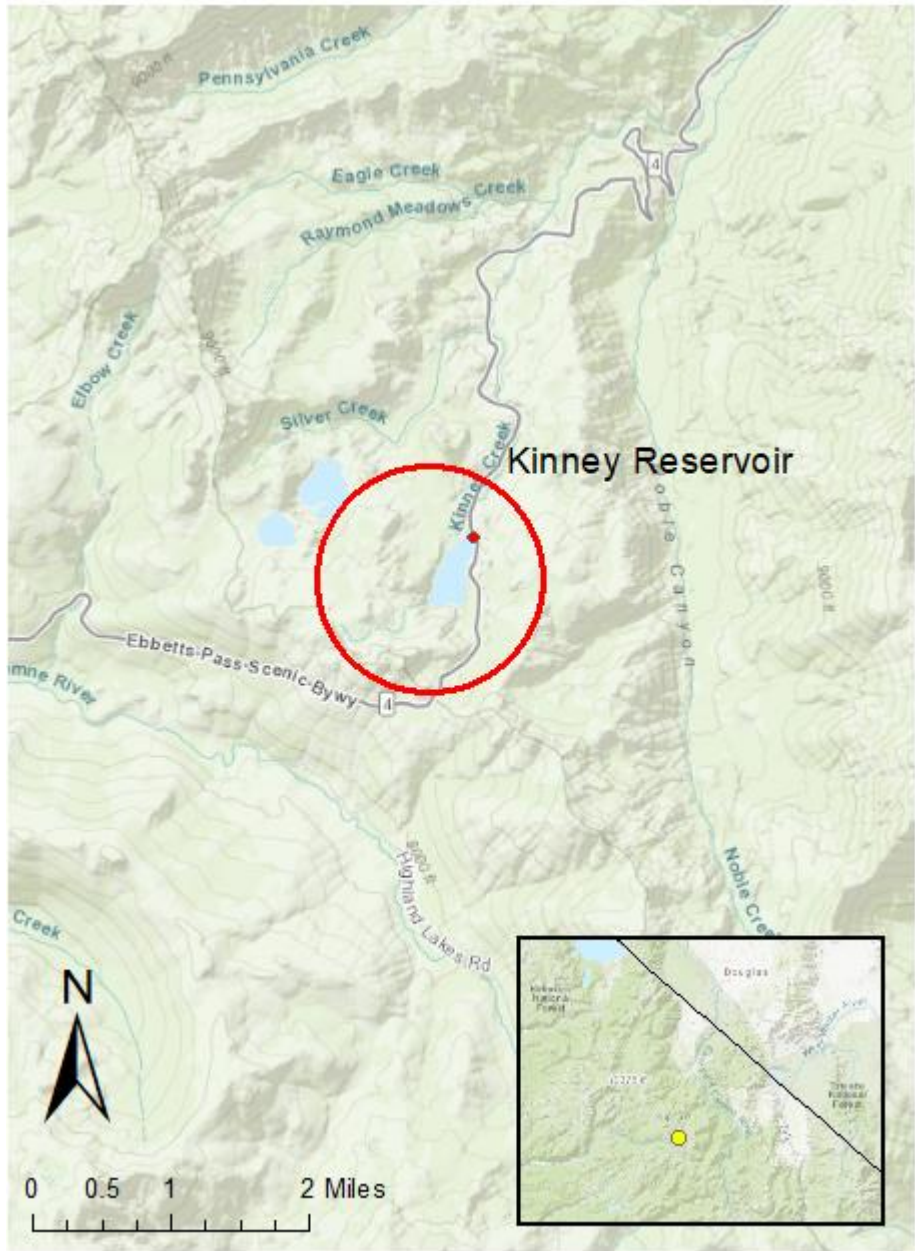


Figure 1. Kinney Reservoir (circled in red), Alpine County. Location of the Angler Survey Box is indicated by the red dot withing red circle. Kinney Reservoir is also indicated by yellow dot in smaller data frame in relation to Lake Tahoe.

Methods

The survey asked anglers for information regarding hours fished, type of gear used, angling method, and the number of landed fish. This information was used to calculate catch per angler and catch per unit effort (in this case, CPUE). Anglers were also asked the size and species of landed fish and whether they kept or released their catch. Lastly, 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 pertained to the level of satisfaction with their overall angling experience, and with the size and number of fish they caught. Anglers were able to use the back of the survey form to include additional comments (**Appendix 1**).

Results

In 2022, Kinney Reservoir had 11 respondents compared to 19 in 2021 (Ewing 2024) and 20 in 2020 (Ewing 2021) (**Table 1**). These anglers landed 26 fish and fished for 32.0 hours compared to 58 fish and 76.5 hours in 2021 (Ewing 2024), and 18 fish caught and 56 hours fished in 2020 (Ewing 2021). The 2022 CPUE was 0.81, compared to the 2021 CPUE of 0.76, and 0.32 in 2020. The 2022 catch per angler was 2.36, compared to 3.05 in 2021, and 0.90 in 2020.

Table 1. Collection of average effort and catch statistics recorded from the 2020-2022 angler survey box (ASB) at Kinney Reservoir.

Year	Respondents	Hours Fished	Fish Landed	Catch/Hour	Catch/Angler
2020	20	56.0	18	0.32	0.90
2021	19	76.5	58	0.76	3.05
2022	11	32.0	26	0.81	2.36

Four anglers (36.4%) reported fishing from a boat/kayak, which resulted in the best success in terms of catch per angler for the first time (3.50) in last three years (**Table 2**). Additionally, CPUE was 1.17, and highest in this category. Seven anglers (63.6%) reported fishing from shore/wading, which resulted in the second highest rate in

terms of catch per angler (1.71). These shore/wading anglers also recorded the second highest CPUE value of 0.60.

Table 2. The number of anglers and catch per angler based on angling method at Kinney Reservoir from 2020–2022.

Method	2020			2021			2022		
	Number of Anglers	Catch/Angler	Catch/Hour	Number of Anglers	Catch/Angler	Catch/Hour	Number of Anglers	Catch/Angler	Catch/Hour
Boat/Kayak	3	0.33	0.22	1	6.00	1.50	4	3.50	1.17
Float tube	1	4.00	0.57	2	7.50	0.56	0	NA	NA
Shore/Wading	13	0.46	0.17	12	2.50	0.85	7	1.71	0.60
Multiple	3	2.33	0.70	1	0.00	0.00	0	NA	NA
No Record	0	NA	NA	3	2.33	1.14	0	NA	NA

In 2022, anglers used various combinations of gear while fishing at Kinney Reservoir (**Table 3**). Five anglers (45.5%) used multiple gear types to catch fish and reported the highest catch rate (3.20 catch per angler) for the first time in three years. The CPUE value was 1.10, also an increase from any prior year. In 2022, bait anglers had the second highest catch per angler value (2.00) and CPUE value of 0.65. In 2022, one fly angler recorded no fish caught for the first time in the last three years.

Table 3. The number of fish landed by the type of gear from 2020–2022 at Kinney Reservoir.

Gear	2020			2021			2022		
	Number of Fish	Catch/Angler	Catch/Hour	Number of Fish	Catch/Angler	Catch/Hour	Number of Fish	Catch/Angler	Catch/Hour
Bait	8 (44.4%)	0.89	0.27	39 (67.2%)	3.90	1.24	10 (38.5%)	2.00	0.65
Lure	6 (33.3%)	0.86	0.50	13 (22.4%)	4.33	2.17	NA	NA	NA
Fly	4 (22.2%)	4	0.57	6 (10.3%)	6.00	0.25	0 (0.0%)	0.00	0.00
Multiple	0 (0.00%)	0	0	0 (0.00%)	0	0	16 (61.5%)	3.20	1.10
No Record	NA	NA	NA	0 (0.00%)	0	0	NA	NA	NA
Total	18			58			26		

In 2022, 100% (n = 26) of fish landed were RT. In 2021, 96.4% (n = 53) of identified fish landed were RT, while BK and LCT each made up 1.8% (n = 1) each, respectively. In 2020, 100% (n = 18) of fish landed were RT.

In 2022, fish landed ranged from 8.0–9.9 inches (in.) (n = 1) to 12–13.9 in. (n = 20) **Figure 2**). In 2021, fish landed ranged from <6 inches (in.) to one caught that was over 26 in. In 2020, all landed fish (n = 18) that were measured at Kinney Reservoir were less than 18.0 in. in total length. In 2022, the modal length class at Kinney Reservoir was the 12.0–13.9 in. (n = 20) which is similar to 2020, when the modal length classes were the 10.0–11.9 in. (n = 6) and 12.0–13.9 in. (n = 6) length classes, respectively. In 2021, the modal length class was the 10.0–11.9 in. (n = 28) length class.

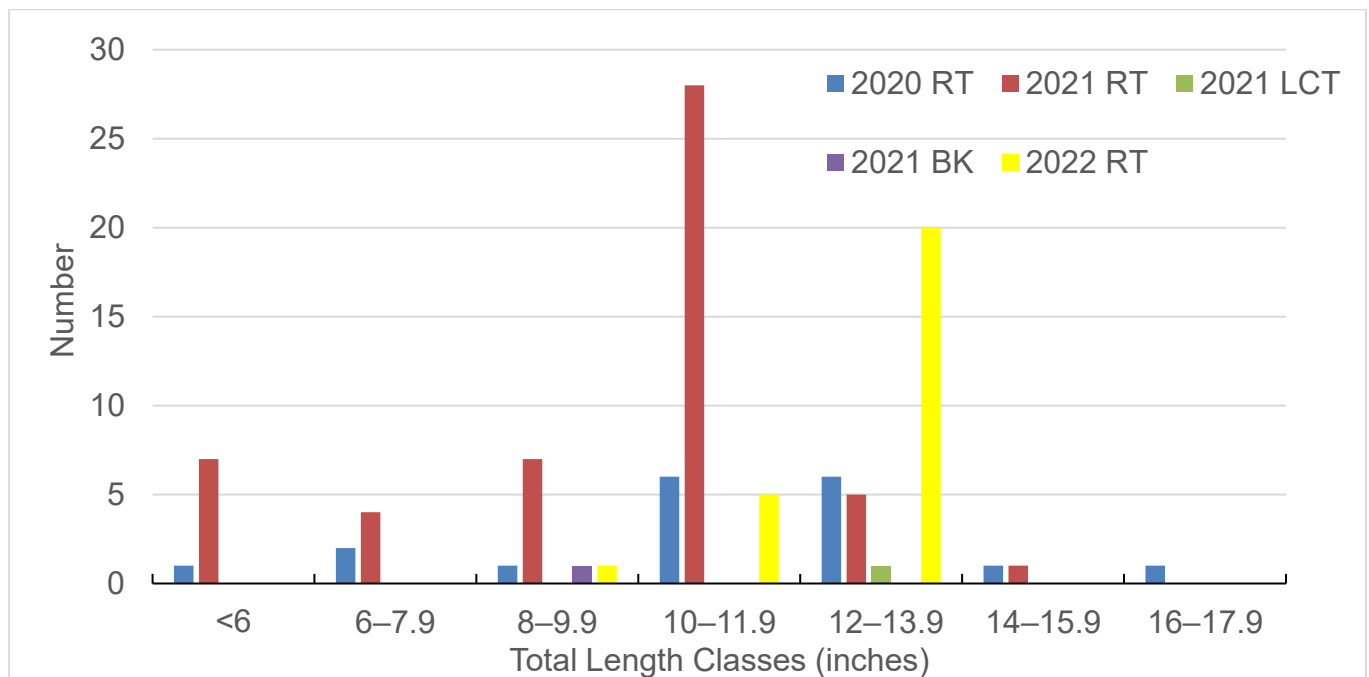


Figure 2. Frequency of fish in each length class that anglers reported landing at Kinney Reservoir from 2020-2022. One RT caught over 26 inches in 2021 was left off the figure to assist in figure scaling.

In 2022, anglers released 15% of RT caught, a decrease from 2021 and 2020 when 36% and 33% of RT were released, respectively (**Table 4**). No LCT or BK were reported caught. Sixty-seven percent of unidentified fish were released in 2021, compared to no unidentified fish being caught in 2020.

Table 4. Kept and released fish at Kinney Reservoir from 2020–2022.

Year	Species	Kept	Released	Total Caught	% of Total Catch	% Released
2020	RT	12	6	18	100.0%	33.3%
2021	RT	32	21	53	91.4%	36.2%
	LCT	1	0	1	1.7%	0.0%
	BK	1	0	1	1.7%	0
	Other	1	2	3	5.2%	66.7%
TOTAL						
2021		35	23	58		39.7%
2022	RT	22	4	26	100.0%	15.4%

Anglers reported being satisfied with their overall angling experience (0.75) for a third consecutive year and highest in three years (**Table 5**). Angler satisfaction for both the size and the number of fish caught were also positive for a third consecutive year with identical record numbers for both (1.67).

Table 5. Angler satisfaction response averages for the Kinney Reservoir fishery from 2020–2022.

	Overall Angling Experience	Size of Fish	Number of Fish
2020	0.16	1.00	0.38
2021	0.69	0.64	0.91
2022	0.75	1.67	1.67

Discussion

Kinney Reservoir anglers caught 2.36 fish on average in 2022, compared to over three fish on average in 2021, and less than one fish on average per trip in 2020. In 2022, Kinney Reservoir anglers had an average CPUE of 0.81 fish per hour, higher than any previous year (0.76 in 2021, 0.32 in 2020). It is possible the increases in CPUE rate are because of the 36% of RT released in 2021. CDFW stocked 1,600 RT in June of 2021, but did not stock any RT into Kinney in 2022 or 2020 (**Appendix 2**).

The greatest number of RT caught in 2022 were in the 12.0–13.9 in. length class which is similar to 2020 when RT were equally represented in the 10.0–11.9 in. and 12.0–13.9 in. size classes. Additionally, 85% of trout caught were kept. The combination of sizes caught and number kept corresponds with anglers being “satisfied” with the size and of their catch. There may be a sustainable balance between number of fish and available resources in Kinney, thus allowing the trout in Kinney to grow large, since many of the trout stocked were less than 10.0 in. Anglers were also “satisfied” with the numbers of trout caught in 2022 for a third consecutive year and highest on record. This may have been due to CDFW stocking Kinney Reservoir in 2021, in combination with enough holdovers/released fish.

The primary objective when managing recreational fisheries is often to improve the quality of fishing or optimize human benefit (Pollock et al. 1994; Weithman 1999). The overall fishing experience for anglers was positive at Kinney Reservoir for a third consecutive year. The positive “size” and “number” values for a third consecutive year likely contributed to the positive overall fish experience value. However, angler trip satisfaction can also be influenced by factors other than fishing success (McCormick and Porter 2014). For some anglers, satisfaction with the overall fishing experience may have been due less to the fishing itself, and more to outside factors, such as weather, fishing access, lack of crowds, and scenery. Kinney Reservoir is located over 8,000 feet elevation, with magnificent views (**Figure 3**) and although next to Highway 4, does not receive as much tourist and angler usage as nearby waters.



Figure 3. View north from Ebbetts Peak in September 2021. Kinney Reservoir is visible at right, while Sherrold Lake is in the foreground, at bottom left. (CDFW)

The number of respondents in the 2022 survey was 11, a notable decrease from 19 in 2021 and 20 in 2020. The reason for a decrease in anglers in 2022 is unclear, especially considering that the area was closed for a portion of the summer in 2020 and 2021 due to wildfires in the vicinity. Anglers may have chosen to not fish Kinney Reservoir because there weren't any scheduled stockings. Ideally, the more respondents, the more data CDFW has available on angler success at the fishery. Angler participation is essential for CDFW to provide useful information on the results of fishing trips, and help directly inform management of the fishery.

Recommendations

- When possible, CDFW should continue to encourage anglers to fill out the ASB forms.

- Collect a minimum of five years' worth of ASB data to look at fishery trends over time. Data will help CDFW gather more accurate information on the Kinney Reservoir fishery.
- Continue to stock Kinney Reservoir for at least the next five years.

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Appendix 1.

Kinney Reservoir

The California Department of Fish and Wildlife is conducting an evaluation of the fishery at Kinney Reservoir. We request your help in this evaluation by providing the following information in this survey. Please use this form for one day's fishing at Kinney Reservoir by one angler only.

Date Fished: _____ # Hours Fished: _____
mm/dd/yyyy

Primary gear type used (check one):
 Bait Lure Fly

Primary method or location (check one):
 shore/wading float tube boat/kayak

Enter the total number of fish caught by species and size class:

Size	Rainbow trout		Other	
	Kept	Released	Kept	Released
Less than 6"				
6"-7.9"				
8"-9.9"				
10"-11.9"				
12"-13.9"				
14"-15.9"				
16"-17.9"				
18"-19.9"				
20"-21.9"				
22"-23.9"				
24"-25.9"				
26" and Greater				

Please indicate your level of satisfaction with the following statements regarding your fishing experience today:

	Least satisfied		Neutral	Most satisfied	
Overall angling experience today:	-2	-1	0	+1	+2
Size of fish:	-2	-1	0	+1	+2
Number of fish:	-2	-1	0	+1	+2

Please use the back of this form for any additional comments. Thank you for helping us manage and protect California's wild trout resources.

If you would like a copy of the most recent Kinney Reservoir Angler Survey Report, contact 530 906 3934

Appendix 2.

CDFW stocking events at Kinney Reservoir from 2017–2021.

Rainbow Trout		
Year	lbs.	Number
2017	800	2,400
2018	400	400
2019	800	1,520
2021	485	1,600

