

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

Woods Lake, Alpine County
2023 Angler Survey Box Analysis



Photo by D. Kaffer

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August 2025

Introduction

Woods Lake is a 16-surface acre lake in Alpine County situated at 8,211 feet above mean sea level. Woods Lake is located off Highway 88, one mile southwest of the Carson Pass and 18 miles south of Lake Tahoe (**Figure 1**). Woods Lake receives runoff from rain and snowmelt from its immediate watershed and small tributaries. Woods Lake drains into Woods Creek, a five-mile-long creek that flows into Caples Lake. Woods Lake is open all year to the public and has a five trout bag limit with a 10 in possession sport-fishing regulation.



Figure 1. Woods Lake, Alpine County. Woods Lake is also indicated by the red dot in the smaller insert frame in relation to Lake Tahoe.

California Department of Fish and Wildlife (CDFW) has stocked Woods Lake annually since 1930 for recreational fishing. CDFW historically stocked Woods Lake

with Brook Trout (*Salvelinus fontinalis*; BK), Rainbow Trout (*Oncorhynchus mykiss*; RT), and Lahontan Cutthroat Trout (*Oncorhynchus clarkii henshawi*; LCT) with the last recorded stocking of RT on September 27, 2023.

To assess the fishery, CDFW installed an angler survey box (ASB) at Woods Lake on August 4, 2020 (**Figure 2**). Anglers voluntarily complete a survey form after they complete their fishing trip and then deposit their survey in the box. CDFW uses these data to assess angler satisfaction, species composition of the catch, and general angler statistics at Woods Lake. This report covers the data collected from Woods Lake's ASB from 2020–2023.



Figure 2. The red dot denotes the location of the Woods Lake Angler Survey Box (Alpine County).

Methods

Participating anglers complete a voluntary survey form about their fishing experience. The survey asks anglers for information regarding the number of hours they fished, type of gear and method used, and the number of landed fish. Anglers are also asked the size (total length, TL, inches, in.), species of fish (RT, BK, Brown Trout (*Salmo trutta*, BN) or Other) fish landed, and whether they kept or released their catch. Finally, anglers are asked three questions addressing their satisfaction with their overall angling experience, fish size, and number of fish caught. Their answers were recorded on a scale of “-2 to +2”, with “+2” representing most satisfied and “-2” representing least satisfied. The back of the survey form was reserved for anglers who had additional comments (**Appendix 1**).

Results

In 2023, Woods Lake had nine respondents compared to 15 in 2022, seven in 2021 and 13 in 2020 (**Table 1**). These anglers caught 21 fish and fished for 25.5 hours, compared to 16 fish caught and 42 hours fished in 2022 (Ewing 2025), 21 fish caught and 28 hours fished in 2021 (Ewing 2023) and 53 fish caught and 47 hours fished in 2020 (Ewing 2021). The 2023 catch per angler was 2.33, compared to 1.07 in 2022, 3.00 in 2021, and 4.08 in 2020. In 2023, hours fished per angler was 2.83, compared to 2.80 in 2022, 4.00 in 2021, and 3.62 in 2020.

Table 1. Collection of average effort and catch statistics recorded from the 2020–2023 angler survey box (ASB) at Woods Lake.

Year	Respondents	Hours Fished	Fish Landed	Catch/ Hour	Catch/ Angler	Hours/ Angler
2020	13	47	53	1.13	4.08	3.62
2021	7	28	21	0.75	3.00	4.00
2022	15	42	16	0.38	1.07	2.80
2023	9	25.5	21	0.82	2.33	2.83

In 2023, five anglers (55.6%) reported fishing from shore/wading. This is the first time in the four years of monitoring that shore/wading resulted in the highest average catch per angler (**Table 2**). The second highest catch per angler was reported by one angler (11.1%), who did not report their fishing method. In 2023, one boat angler (11.1%) and two float tube anglers (18.2%) both had a 1.00 catch per angler value. This

is the lowest value for float tube anglers and the second lowest for boat anglers in the four years of monitoring included in this report.

Table 2. The number of anglers and catch per angler based on angling method at Woods Lake from 2020–2023.

	2020		2021		2022		2023	
Method	No. of Anglers	Catch/Angler	No. of Anglers	Catch/Angler	No. of Anglers	Catch/Angler	No. of Anglers	Catch/Angler
Boat	2	7.00	3	5.33	3	0.33	1	1.00
Float tube	2	3.50	NA	NA	7	1.86	2	1.00
Shore or Wading	9	3.56	4	0.80	3	0.67	5	2.67
Multiple	NA	NA	NA	NA	2	0.00	NA	NA
Unidentified	NA	NA	NA	NA	NA	NA	1	2.00

In 2023, anglers used various types of gear while fishing at Woods Lake (**Table 3**). For the second time in four years, bait anglers reported the highest average catch rate per angler (3.20) in 2023, compared to 3.50 in 2021. Two fly anglers had the second highest catch rate (1.50) for the first time in four years. Two lure anglers had the third highest catch rate (1.00) for the second consecutive year.

Table 3. The frequency of anglers that used each angling gear and their corresponding catch rates 2020–2023.

	Catch/Angler (No. of Anglers)			
Angling method	2020	2021	2022	2023
Bait	3.75 (8)	3.50 (6)	0.67 (3)	3.20 (5)
Lure	NA	NA	0.50 (2)	1.00 (2)
Fly	4.60 (5)	NA	1.63 (8)	1.50 (2)
Multiple	NA	0.00 (1)	0.00 (2)	NA

In 2023, 61.9% (n = 13) of fish landed were RT, and 38.1% (n = 8) were BK. In 2022, 43.8% (n = 7) of fish landed were RT, 37.5% (n = 6) were BK, and 18.8% (n = 3) were BN. In 2021, 66.7% (n = 14) of fish landed were BK, 28.6% (n = 6) were RT, and 4.8% (n = 1) were Other. In 2020, 94.3% (n = 50) of fish landed were RT while the remaining 5.7% (n = 3) were Other (**Table 4**).

In 2023, anglers released 15.4% of RT compared to 100% in 2022, 33.3% in 2021 and 66.0% in 2020 (**Table 4**). Anglers also released 12.5% of BK compared to 83.3% in 2022 and 21.4% in 2021.

Table 4. Kept and released fish at Woods Lake from 2020–2023.

	Species	Kept	Released	Total Caught	%of Total Catch	% Released
2020	RT	17	33	50	94.3	66.0
	Other	0	3	3	5.7	100.0
	Total	17	36	53		
2021	RT	4	2	6	28.6	33.3
	BK	11	3	14	66.7	21.4
	Other	1	0	1	4.8	0
	Total	16	5	21		
2022	RT	0	7	7	43.8	100.0
	BK	1	5	6	37.5	83.3
	BN	0	3	3	18.8	100.0
	Total	1	15	16		
2023	RT	11	2	13	61.9	15.4
	BK	7	1	8	38.1	12.5
	Total	18	3	21		

In 2023, 52% (n = 11) of the landed fish measured <10 in. TL while three fish landed measured between 12 and 16 in. TL (**Figure 3**). In 2022, 69% (n = 11) of the landed fish measured <10 in. TL while zero fish landed measured between 12 and 16 in. TL. In 2021, 100% (n = 21) of landed fish measured were < 10 in. TL. In 2020, 70% (n = 37) of landed fish measured < 10 in. TL while 9% (n = 5) of landed fish measured between 12 and 16 in. TL. No fish ≥16 in. TL and greater have been reported in the four years of ASB monitoring.

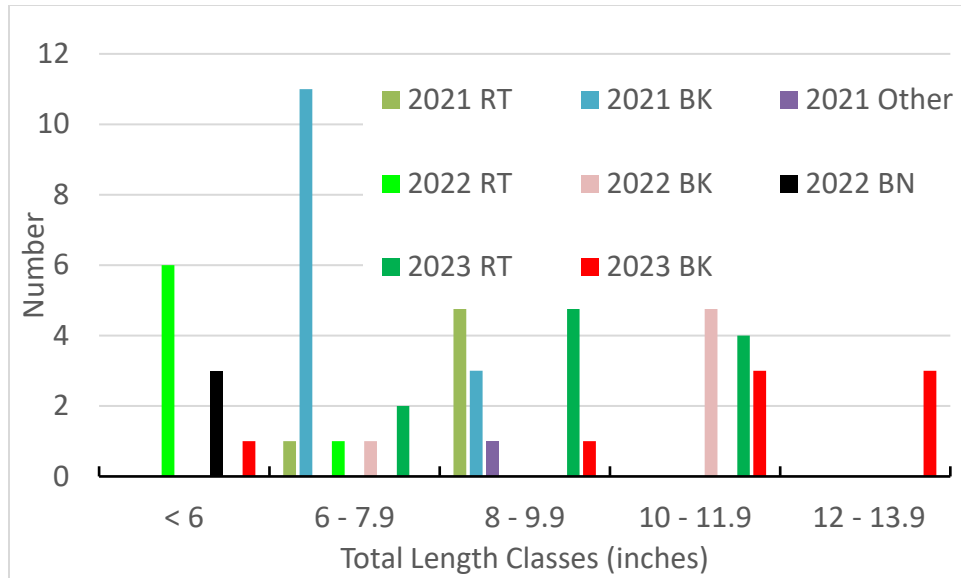


Figure 3. Frequency of fish in each size class that anglers reported landing at Woods Lake from 2021–2023.

Anglers reported being satisfied with their overall angling experience (1.11) for a fourth consecutive year and 2023 was the highest on record (**Table 5**). In 2023, angler satisfaction for fish size (-0.29) decreased from the 2022 value of 0.38 and was a record low value. In 2023, the angler satisfaction for number of fish caught (0.29) was the lowest of the four years, but remained positive for a fourth consecutive season.

Table 5. Angler satisfaction response averages for the Woods Lake fishery from 2020–2023.

Year	Overall angling experience	Size of the fish	Number of fish
2020	0.55	-0.11	0.67
2021	0.60	0.50	0.75
2022	0.21	0.38	0.88
2023	1.11	-0.29	0.29

Discussion

In 2023, reporting anglers in the Woods Lake sport fishery had increased catch per hour and catch per angler when compared with 2022. The 2023 values were indicative of a relatively good fishery. The increase in catch rates from the previous two years is likely due to the return of trout stocking by CDFW in 2023. Prior to 2023, the last trout stocking into Woods Lake was July 2020, with 2,625 RT. The evacuation of trout at American River Hatchery in June 2021 with concerns over elevated water

temperatures contributed to a decrease in availability of catchable-size trout for Woods Lake and many North Central Region waters.

For the second time in four years, the greatest number of fish caught were in the 8.0 – 9.9 in. TL size class (Ewing 2021). 2020 and 2023 anglers reported being unsatisfied with the size of their catch. These fish were likely three to four fish to the pound in size, which many anglers would consider small for a lake population. Fish at these smaller sizes do not possess the same value to anglers as a larger-sized fish. It is possible that anglers were expecting to catch larger fish than the previous two years because of the lack of stocking. Eighty-six percent of fish caught in 2023 were kept, compared to six percent in 2022, 76% in 2021, and 32% in 2020. The high number kept in 2023 seems reasonable considering the record high inflation for the cost of food in California and the rest of the country. Anglers were satisfied with the numbers of trout caught for a fourth consecutive year, however, 2023 had the lowest value seen on record. The decreased percentage of the combined catch of BK and BN in 2023 compared to 2021 and 2022 may have contributed to the reduction in angler satisfaction for numbers of fish caught, since anglers may place a higher value on wild and self-sustaining BK and BN in Woods Lake. No BN were reported caught in 2023. Future monitoring of Woods Lake's fishery will likely assist in determining if there is a persistent BN population, since 2022 is the first report of BN caught in four years with no prior stockings on record.

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). For a fourth consecutive year, the overall fishing experience for anglers was positive at Woods Lake, and that experience was of record high value for anglers responding to the ASB. The positive value in overall satisfaction in 2023 was likely influenced by anglers being satisfied with the number of fish caught. 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.

CDFW is the only public agency or organization that stocks Woods Lake. RT currently stocked by CDFW are catchable-sized fish. These catchable trout are stocked under a put and take (2–3 trout/pound) catchable-size management strategy due to the combination of high angler usage and proximity to a state highway.

The number of respondents in the 2023 survey was nine, a decrease from 2022. This is a low number for an ASB, but an increase from 2021, when there were widespread forest closures due to the Caldor Fire during late summer and early fall. There continues to be a \$10.00 day use fee charged by Royal Elk Park Management,

Inc., the concessionaire that contracts with the Eldorado National Forest to run day use areas and campgrounds. These fees may detract some anglers from fishing Woods Lake.

It is essential CDFW maintain the trend of increasing angler participation in the ASB survey. More respondents are needed to provide CDFW with a robust set of data on angler success and satisfaction in the fishery. This information helps inform management of the fishery. CDFW staff should continue to notify anglers of the ASB location at Woods Lake and communicate the importance of ASBs to fisheries management.

Recommendations

- 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 develop more accurate information on the Woods Lake fishery.
- Continue to stock Woods Lake for at least the next five years with available, catchable-sized RT.

Literature Cited

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Appendix 1.

Woods Lake

The California Department of Fish and Wildlife is conducting an evaluation of the fishery at Woods Lake. 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 Woods Lake 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		Brook trout		Other:	
	Kept	Released	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.