

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

Woods Lake, Alpine County
2022 Angler Survey Box Analysis



Photo by D. Kaffer

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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 July 27, 2020.

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 deposit it 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 2020–2022.



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

Table 1. Summary of average effort and catch statistics recorded from the 2020–2022 angler survey box (ASB) at Woods Lake.

Year	Respondents	Hours Fished	Fish Landed	Catch per Hour	Catch per Angler	Hours per 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

In 2022, seven anglers (46.7%) reported fishing from a float tube, which resulted in the highest average catch per angler for the first time in the three years of monitoring (**Table 2**). Three anglers (20.0%) reported fishing from shore or wading, which resulted in the second highest rate in terms of catch per angler (0.67) for a third straight year, compared to 0.80 in 2021 and 3.56 in 2020. In 2022, three boat anglers (20.0%) had a 0.33 catch per angler value, the lowest in three years, compared to 5.33 in 2021 and 7.00 in 2020. In 2022, two anglers (13.3%) reported fishing using multiple methods, but reported zero fish caught.

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

Method	2020		2021		2022	
	Number of Anglers	Catch per Angler	Number of Anglers	Catch per Angler	Number of Anglers	Catch per Angler
Boat	2	7.00	3	5.33	3	0.33
Float tube	2	3.50	0	NA	7	1.86
Shore or Wading	9	3.56	4	0.80	3	0.67
Multiple	NA	NA	NA	NA	2	0.00

In 2022, anglers used various combinations of gear while fishing at Woods Lake (**Table 3**). For the second time in three years, fly anglers reported the highest average catch rate, which was 1.63 catch per angler in 2022, compared to 4.60 in 2020. Three bait anglers had the second highest catch rate (0.67 catch per angler) for the second time in three years (3.75 catch per angler in 2020). Two lure anglers had the third highest catch rate (0.50 catch per angler) while two anglers using multiple gear types caught zero fish for the second consecutive year.

Table 3. The frequency of anglers that used each angling gear and their corresponding catch rates 2020–2022.

Angling gear	2020	2021	2022
	Catch per Angler (Total Anglers)	Catch per Angler (Total Anglers)	Catch per Angler (Total Anglers)
Bait	3.75 (8)	3.50 (6)	0.67 (3)
Lure	NA	NA	0.50 (2)
Fly	4.60 (5)	NA	1.63 (8)
Multiple	NA	0.00 (1)	0.00 (2)

In 2022, 43.8% (n = 7) of fish landed were RT, 37.5% (n = 6) were BK, and 18.8% (n = 3) were Brown Trout (*Salmo trutta*; 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 2022, anglers released 100% of RT compared to 33.3% in 2021 and 66.0% in 2020 (**Table 4**). Anglers also released 83.3% of BK compared to 21.4% in 2021. For the first time in three years, BN were reported caught, with 100% of them released.

Table 4. Numbers of fish kept and released fish at Woods Lake from 2020–2022.

	Species	Kept	Released	Total Caught	Percent of Total Catch	Percent 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	0.0
	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		

In 2022, 69% (n = 11) of the landed fish measured <10 in. TL while zero fish landed measured between 12 and 16 in. TL (**Figure 3**). 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 three years of ASB monitoring.

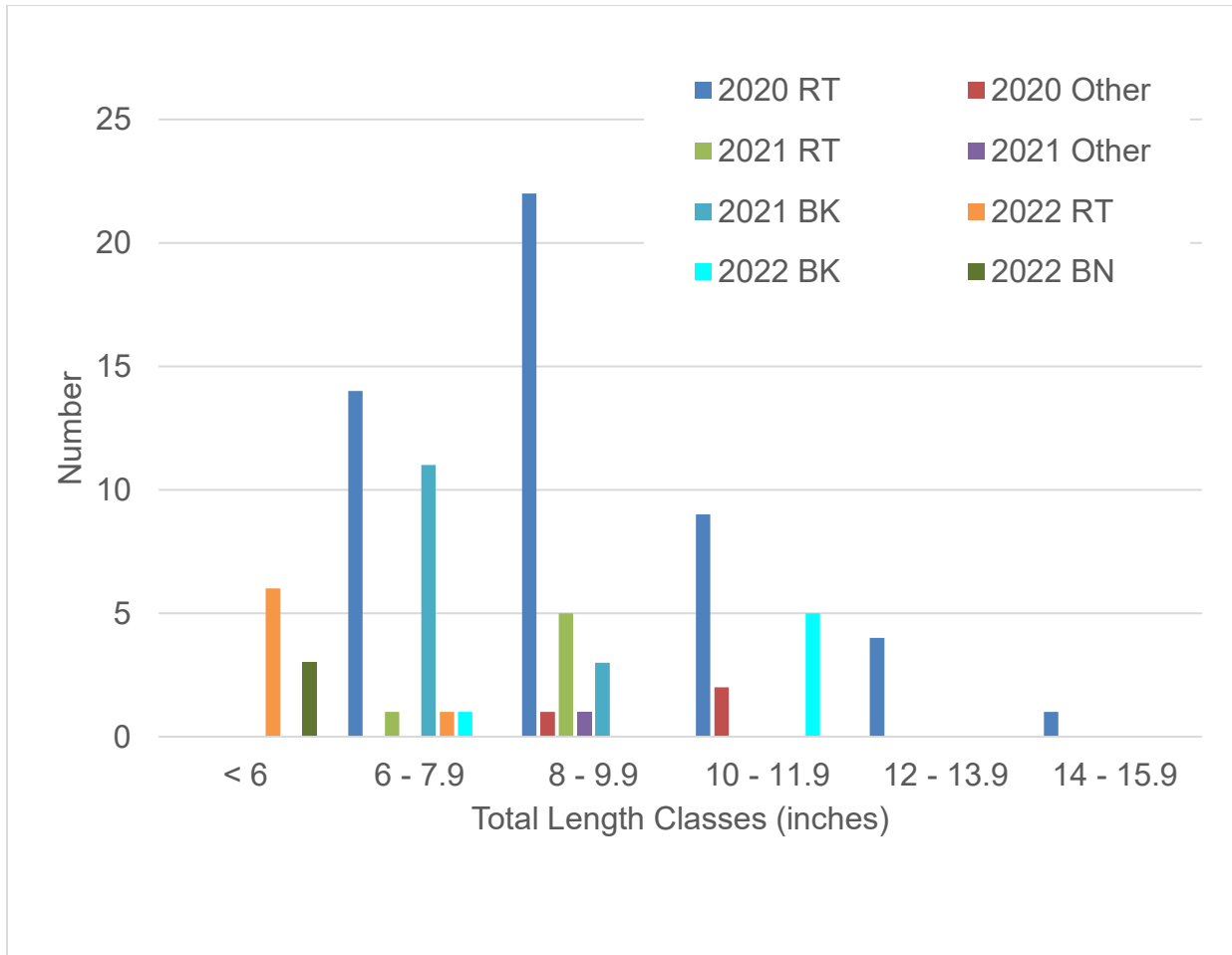


Figure 3. Frequency of fish in each size class that anglers reported landing at Woods Lake from 2020–2022.

Anglers reported being satisfied with their overall angling experience (0.21) for a third consecutive year (**Table 5**). In 2022, angler satisfaction for fish size (0.38) decreased from 2021 (0.50) but remained positive for a second consecutive year. In 2022, the angler satisfaction for number of fish caught (0.88) was the highest of the three years.

Table 5. Mean angler satisfaction response for the Woods Lake fishery from 2020–2022.

	Overall angling experience	Size of 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

Discussion

In 2022, reporting anglers in the Woods Lake sport fishery had lower catch per hour and catch per angler rate than in 2020 and 2021. The 2022 values were indicative of relatively poor fishery success. The decrease in catch rates from the previous two years is likely due to curtailment of trout stocking by CDFW in 2021 and 2022 while 2,625 RT were stocked into Woods Lake in July 2020. The evacuation of trout at American River Hatchery in June 2021 contributed to a decrease in availability of catchable size, trout for not only Woods Lake, but many North Central Region waters.

For the first time in three years, the greatest number of fish caught were in the <6.0 in. TL size class. However, unlike 2020, when anglers reported being “unsatisfied” with the size of their catch, anglers reported being satisfied with the size of their catch for a second consecutive year even though the majority caught were <6 in. TL. These fish were likely three to four to the pound in size, which many anglers would consider small for a lake population and do not possess the same value as a larger-sized fish. It is possible that anglers were simply satisfied with catching any sized fish since catching a fish, especially a RT in 2022 would be more of a challenge than the previous two years because of the lack of stocking. Six percent of fish caught were kept compared to 76% in 2021, and 32% in 2020. The low number kept in 2022 seems reasonable considering the small size of landed trout. Anglers were satisfied with the numbers of trout caught for a third consecutive year with the highest value seen in 2022. The larger percentage of the combined catch of BK and BN compared to RT caught in 2022 may have helped contribute to angler satisfaction for numbers of fish caught since a higher value may be placed on BK and BN of wild and self-sustaining origin in Woods Lake. However, future monitoring of Woods Lake’s fishery will likely assist in determining if there is a BN population since this is the first report of BN caught in three years and 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 third consecutive year, the overall fishing experience for anglers was positive at Woods Lake. The positive value in overall satisfaction in 2022 was likely influenced by anglers being satisfied both with the size and 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 2022 survey was 15, an increase from the prior two years. 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 imposed by the United States Forest Service, which may detract some anglers from fishing Woods Lake. Ideally, the more respondents, the more feedback it provides CDFW on angler success in the fishery. It is essential CDFW maintain the trend of increasing angler participation in the ASB survey, which provides useful information on the results of fishing trips, and 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

- 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 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.