



FLOATING ISLAND LAKE 2022 TREND NET SURVEY

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BACKGROUND: Floating Island Lake is a small natural lake located in the Solomon Basin area of Thousand Lake Mountain. The lake covers just 2.5 acres, but has a maximum depth of 22 feet. The lake is filled by in-basin springs. Fertile brook trout dominated the fishery for many years, producing high density and small average sized fish. Brook trout were removed in 1989 and replaced by tiger (TG), splake (SPL), and cutthroat (CTT) trout. Bonneville cutthroat trout were stocked for 15 years because the Dougherty Basin brood did not produce enough Colorado River cutthroat trout (CRCT) to meet all requested quotas. The improvement of the Duck Fork brood allowed all CRCT sport fish quotas in the Southern Region to be filled since 2014. At the same time, the CRCT quota was reduced due to complaints from anglers that CTT were too abundant in Floating Island Lake (Table 1). Quotas have been reduced in recent years, the current annual quotas include 150 TG, 150 SPL, and 300 CRCT. Since the reduction of the stocking numbers, this survey was conducted in 2022 to evaluate the effect of those reductions.

METHODS: One diving experimental gill net was set in Floating Island Lake on June 20, 2022, and was allowed fish overnight. The net measured 6 ft. x 80 ft., with eight panels of randomly-arranged mesh size (1.5", 2.25", 1", 0.75", 2.5", 1.25", 2") and was set on the west shoreline (Figure 1). Fish caught were removed from the net on the morning of June 21 and all fish were measured to the nearest millimeter (total length [TL]) and weighed to the nearest gram. Trout body condition was measured by the calculation of Fulton's K_{TL} (generated from total length):

$$K_{TL} = (Weight/Length^3) \times 100,000$$

Results of the 2022 trend net survey were compared with historic trend net surveys.

RESULTS: A total of 29 trout were collected in one net at Floating Island Lake on June 21, 2022 (Table 2). Tiger trout were most abundant species, with a total of 11 collected in the netting. The mean total length (TL) for TG was 446 mm (17.55 in.) and weight was 875 g (1.92 lbs.), with a condition factor (K_{TL}) ranging from 0.87-1.09. TG made up 54% of the total biomass (Table 2, Figure 6). The rest of the netting collection was comprised of nine SPL and nine CRCT (Table 2). Splake had a mean total length (TL) of 373 mm (14.68 in.) and mean total weight was 504 g (1.1 lbs.)(Figure 5). Splake made up 26% of the total biomass and had a condition factor (K_{TL}) ranging from 0.83-1.20. The mean total length (TL) for CRCT was 311 mm (12.2 in.) and the mean weight was 409 g (0.90 lbs.)(Table 2, Figure 7). CRCT constituted for 19% of the biomass. The condition factor (K_{TL}) for CRCT ranged from 0.84-1.66 (Table 2).

DISCUSSION: The mean total length (TL) for the TG and SPL collected in 2022, was greater than those collected in the 2018 netting survey, with CRCT collected in 2022 averaging less than the previous in 2018 (Table 3). Even though stocking numbers were lowered since the previous survey, CRCT were more abundant and had a greater size distribution since 2003. Total length (TL) of TG has also increased since the 2018 survey when the TG sampled did not exceeded 422 mm (16.61 in.) in TL (Figure 4, Table 3). In 2022, TG were observed up to 483 mm (19.05 in.)

(Figure 4). The net catch rate has historically varied over the years, but the 2022 catch rate was higher than the long-term mean (Table 3). The net catch rate was lower than the 2018 survey (Table 3), which was expected due to the lowering of stocking quota numbers since the last netting survey. Stocking quotas were reduced by 50% for TG and SPL in 2019, and CRCT in 2021. Although the net catch was high, it was just about evenly split between all species. All trout are to be considered in fair condition, the trend net survey found condition factors (K_{TL}) ranging from 0.83-1.66. The highest length and weight ever recorded for TG and SPL -as well as CRCT being above the long-term means- indicate that the stocking reductions are trending towards a more balanced fishery. It is anticipated that the next netting survey will see a more optimal growth and condition of fish. It is recommended that trend net survey next be conducted between 2025-2027 to continue to monitor and assess the stocking quotas.

RECOMMENDATIONS:

1. Continue to monitor and assess the annual stocking quotas (150 TG, 150 SPL, and 300 CRCT).
2. Conduct trend net survey to assess stocking adjustments in 3-5 years (2025-2027).



Figure 1. Location of gill net set at Floating Island Lake during the 2022 trend net survey.

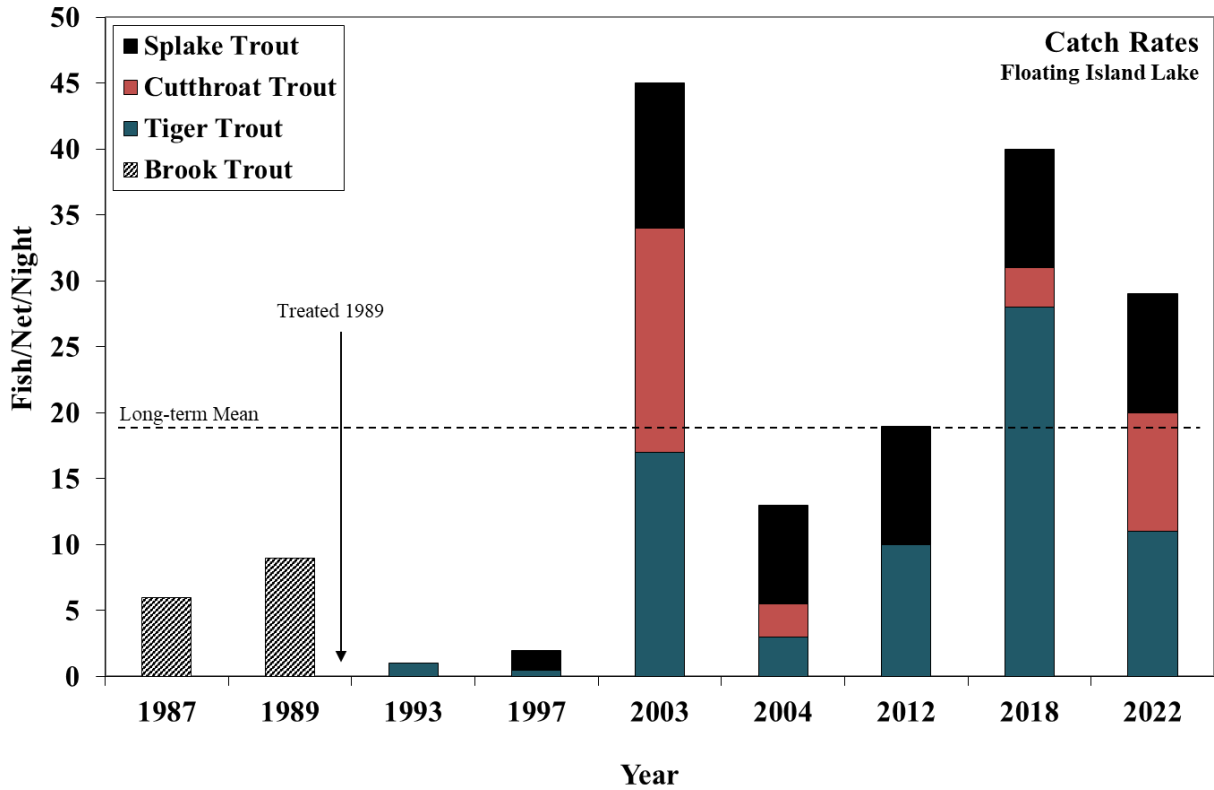


Figure 2. Trout catch rates during trend net surveys at Floating Island Lake, from 1987-2022.

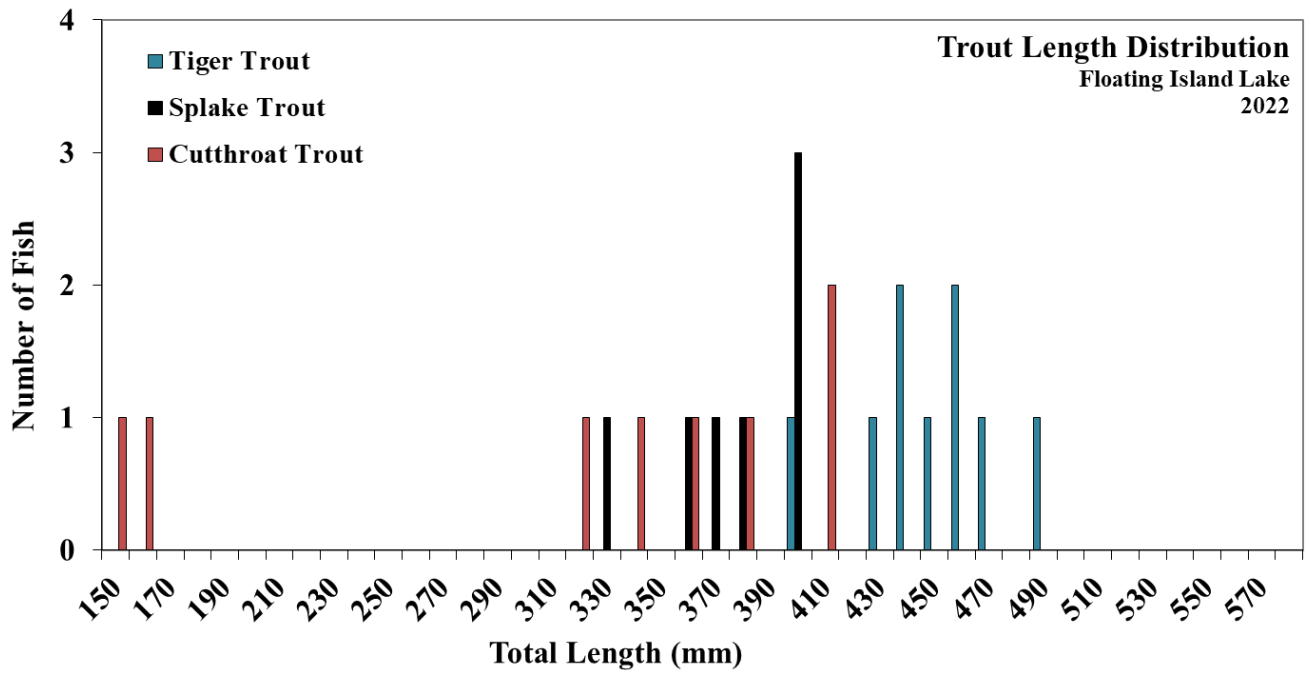


Figure 3. Length distribution of trout collected at Floating Island Lake on June 21, 2022.

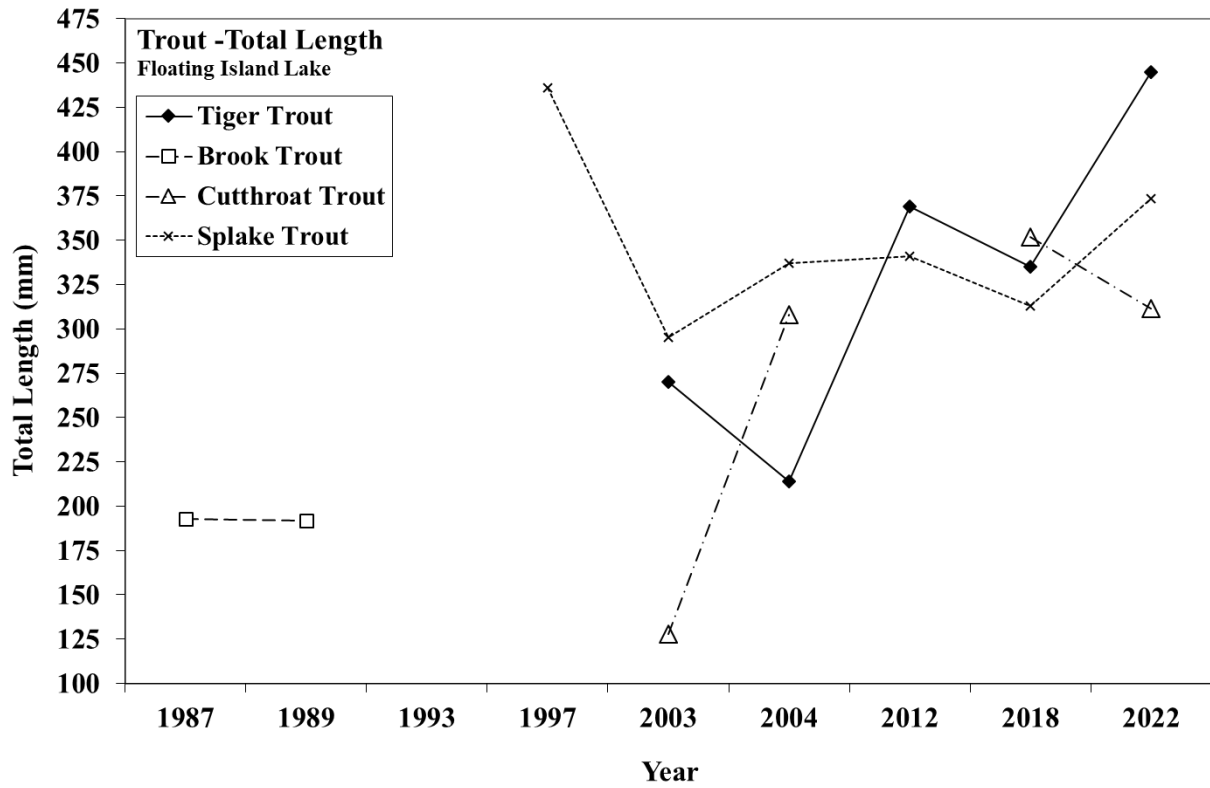


Figure 4. Mean total length of trout collected during trend net surveys at Floating Island Lake, from 1987-2022.



Figure 5. Splake collected in trend net survey at Floating Island Lake on June 21, 2022.



Figure 6. Tiger trout collected in trend net survey at Floating Island Lake, on June 21, 2022.



Figure 7. Cutthroat trout collected in trend netting survey at Floating Island Lake, on June 21, 2022.

Table 1. Record of tiger, splake, and cutthroat trout stocking in Floating Island Lake from 2015 to 2022.

Year	Tiger Trout		Splake Trout		Cutthroat Trout	
	Number	Size (in)	Number	Size (in)	Number	Size (in)
2015	540	5.3	199	3.5	--	--
2016	512	4.4	204	3.6	1,000	1.8
2017	501	3.8	211	3.4	526	1.6
2018	300	2.85	202	2.91	500	2.43
2019	152	3.04	--	--	535	1.75
2020	151	2.85	153	3.05	--	--
2021	186	4.47	126	3.49	366	1.98
<i>2022 Quota</i>	<i>150</i>	<i>3.0</i>	<i>150</i>	<i>3.0</i>	<i>300</i>	<i>2.0</i>

