

Environmental
Committee

Upper Saranac Lake
Association

Upper Saranac Lake

2022 Angler Diary Report

February 11, 2023

By Larry Nashett, Environmental Committee



19.5-inch Largemouth Bass - Upper Saranac Lake,
9/30/22

Photo by Leslie Main

Introduction

The Upper Saranac Lake Association (USLA) Environmental Committee's voluntary angler diary program has completed seven consecutive years of operation, and 2023 will mark its eighth. The program documents fishery trends by calculating annual catch rates and establishing length-frequency distributions for important fish species. The diary program is focused on Upper Saranac's warmwater fishery, but is capable of tracking the lake's coldwater and ice fisheries too.

The New York State Department of Environmental Conservation offered its coldwater angler diaries for use from 2016 through 2018. New diaries, funded by the USLA and printed specifically for its Angler Diary Program, have been distributed each year from 2019 through 2022. USLA Angler Diary Reports, dating back to 2016 are available on line at https://uppersaranac.com/index.php?section=fishing_diary.

Nine cooperators returned records of their fishing trips in 2022. Each angler diary cooperator has been assigned a number so that when individual catch and fishing effort statistics are reported, the cooperators can remain anonymous. The number is located on the cover of the diary provided annually to each cooperator, and it remains the same, year after year.

If you maintained a diary, it is possible that some data which you submitted was not used because an essential ingredient was lacking, such as the amount of time you fished on a particular day, or the selection of a target species was absent from the record. As you read through this report, please keep in mind that the "Number of Angler-Hours" refers to the combined effort of the cooperator and any accompanying guests who have data recorded in the cooperator's diary. Should you have any questions, please contact Larry Nashett at lnashett@roadrunner.com.

Results

Once again, Upper Saranac Lake angler cooperators focused most of their efforts on bass fishing. Two recorded a few hours spent fishing for yellow perch, and only one spent minimal effort pursuing lake trout.

The number of fish reported in length frequency plots (the bar graphs that appear later) may not be equal to those listed in tables showing catch rates. This is because the length frequency distributions are based on all fish caught that had recorded lengths. Alternatively, numbers reported in catch rate tables are based solely on the number caught that could be associated with an angler's effort to target that species.

Smallmouth Bass

Smallmouth Bass Catch Rates

Biologists often speak of fishing effort in terms of angler-trips and angler-hours. An outing by an angler who fished alone would be tallied as one angler-trip. If that same angler was accompanied by a fishing guest, the outing would be counted as two angler-trips. Angler-hours are totaled similarly. Let's say a family of four fishes together from 8:00 am to 11:00 am. Each would have spent 3 hours actively fishing, but the effort they made would be tallied as 12 angler-hours.

In 2022, angler cooperators targeting bass reported a total of 188 angler-trips and 291.35 angler-hours over 124 outings. If a cooperator recorded two separate fishing periods on the same date, separated by some non-fishing time, these two periods would have been listed as two separate outings (Table 1). Cooperators caught 148 smallmouth bass in 2022 while specifically targeting them, resulting in a catch rate of 0.51 fish/hour. This catch rate was lower than those calculated for 2018, 2019 and 2020.

Table 1. Targeted bass fishing effort and catch rates of smallmouth and largemouth bass by Upper Saranac Lake angler diary cooperators in 2022.

Angler	Overall Number of Outings	Overall Number Angler-Trips	Overall Mean Trip Length	Angler-Hours Targeting Bass	Number Smallmouth Bass Caught	Smallmouth Bass Catch Per Hour	Number Largemouth Bass Caught	Largemouth Bass Catch Per Hour
1	15 ^a	15	3.12	46.75	59	1.26	16	0.34
2	15 ^a	15	3.12	46.75	31	0.66	13	0.28
3	21	38	1.27	37.50	35	0.93	17	0.45
6	43	83	1.47	121.10	9	0.07	2	0.02
7	8	8	1.38	5.50	4	0.73	1	0.18
9	6	8	1.42	3.50	0	0	0	0
17	3	3	1.67	4.00	1	0.25	0	0
18	8	11	1.39	13.25	4	0.30	15	1.13
21	5	7	1.50	13.00	5	0.38	0	0
Total	124	188	1.85	291.35	148	0.51	64	0.22

^a Cooperators 1 and 2 always fished together, but maintained separate diaries.

Figure 1. 2016-2022 Trend Comparison in Upper Saranac Lake smallmouth bass catch rates.

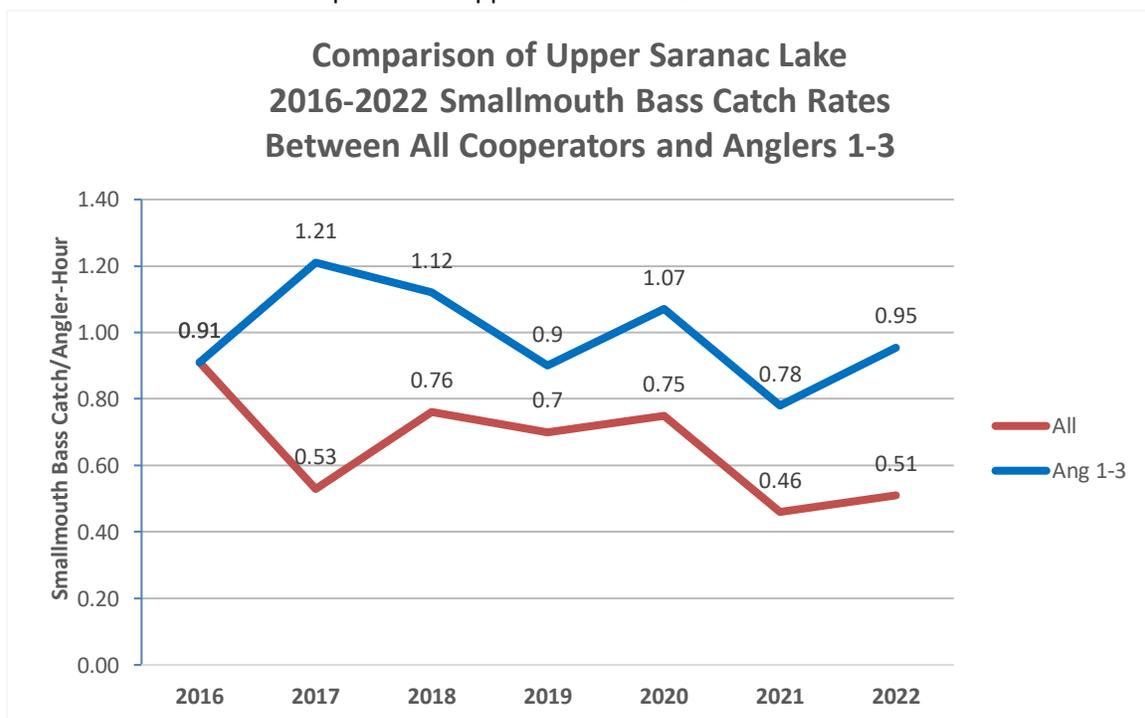


Table 2. 2016-2022 Comparison of Upper Saranac Lake targeted bass fishing effort and smallmouth catch rates by angler diary cooperators, numbers 1-3^a, over the program's seven years.

	Year	Angler 1	Angler 2	Angler 3	Total
Overall Number Outings Fished	2016	13	13	8	34
	2017	16	16	18	50
	2018	18	18	19	55
	2019	17	17	31	65
	2020	0	0	33	33
	2021	17	19	22	58
	2022	15	15	21	51
Overall Number Angler Trips	2016	13	13	18	44
	2017	16	16	34	66
	2018	18	18	37	73
	2019	21	17	71	109
	2020	0	0	86	86
	2021	18	24	43	85
	2022	15	15	38	68
Angler-Hours Targeting Bass	2016	44.5	44.5	28.5	117.5
	2017	46.5	46.5	66.5	159.5
	2018	40.5	40.5	66.8	147.8
	2019	72.0	59.0	135.5	266.5
	2020	0	0	133.5	133.5
	2021	45.8	54.5	65.8	166.1
	2022	46.8	46.8	37.5	131.1
Overall Mean Trip Length	2016	3.42	3.42	1.50	2.67
	2017	3.10	3.10	2.00	2.42
	2018	2.25	2.25	1.80	2.02
	2019	3.47	3.47	1.86	2.70
	2020	0	0	1.60	1.60
	2021	2.57	2.30	1.56	2.10
	2022	3.12	3.12	1.27	2.36
Number Caught	2016	41	49	17	107
	2017	47	49	97	193
	2018	34	37	95	166
	2019	57	41	143	241
	2020	0	0	143	143
	2021	37	42	50	129
	2022	59	31	35	125
Catch Per Hour	2016	0.92	1.10	0.60	0.91
	2017	1.01	1.05	1.46	1.21
	2018	0.84	0.91	1.42	1.12
	2019	0.79	0.69	1.06	0.90
	2020	0	0	1.07	1.07
	2021	0.81	0.77	0.76	0.78
	2022	1.26	0.66	0.93	0.95

^a Anglers 1 and 2 did not fish during 2020, but they were included to maintain comparison continuity.



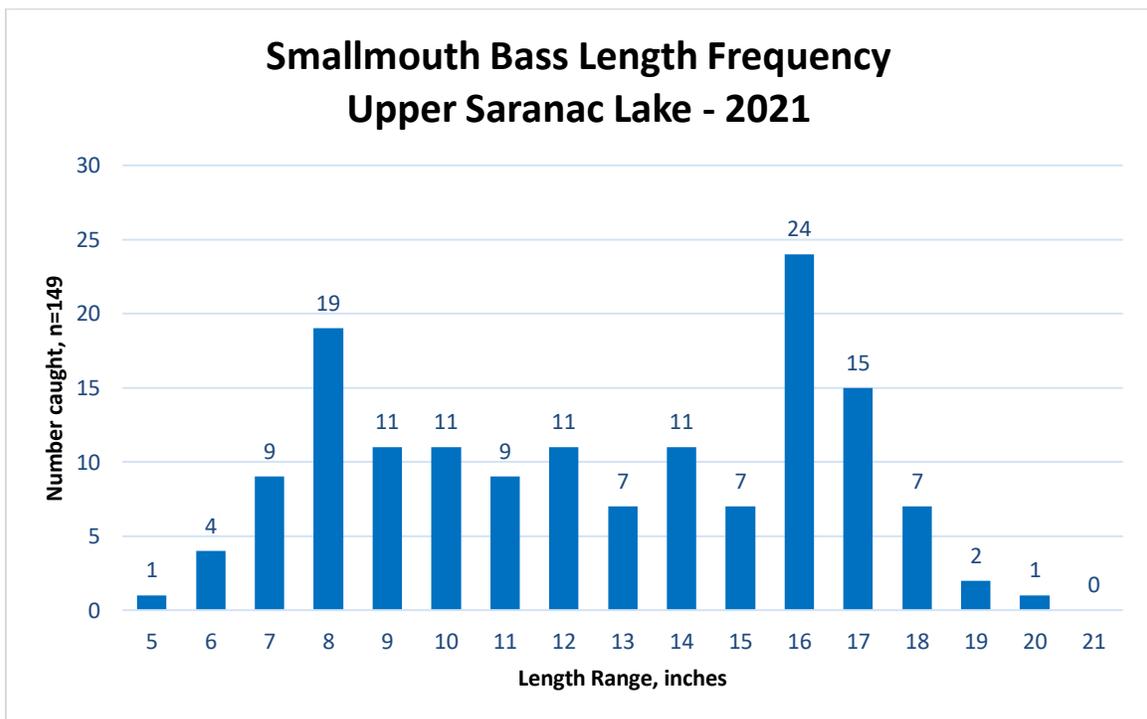
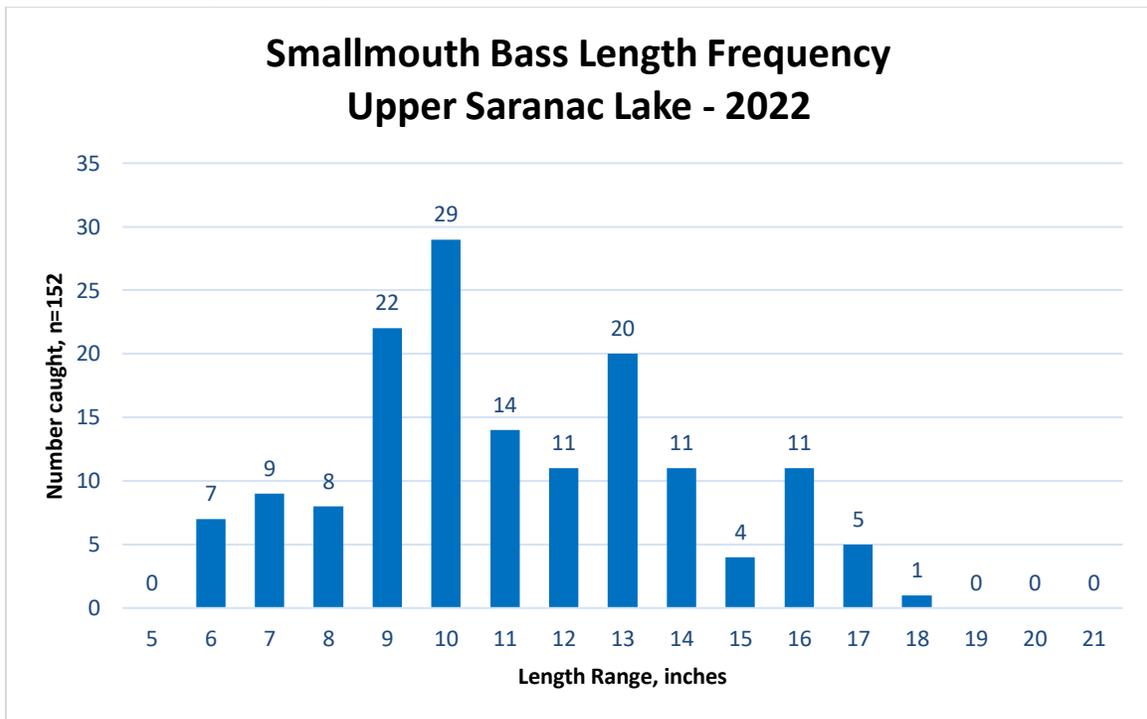
2022 Upper Saranac Lake smallmouth bass photos (provided by Will Main).

Smallmouth Bass Length Frequency Distribution

Figure 2 shows the smallmouth bass length frequency distributions based on angler cooperator data collected in 2022 and in 2021. Length ranges listed in the figure are abbreviated. Only the lower number in the 1.0-inch interval range is displayed.

It may be noted that fish in the 18-inch through 20-inch intervals virtually disappeared from the catch from 2021 to 2022. The mode of each distribution, or that length interval containing the highest number of smallmouth bass in the distributions, also changed from 16 inches in 2021 to 10 inches in 2022.

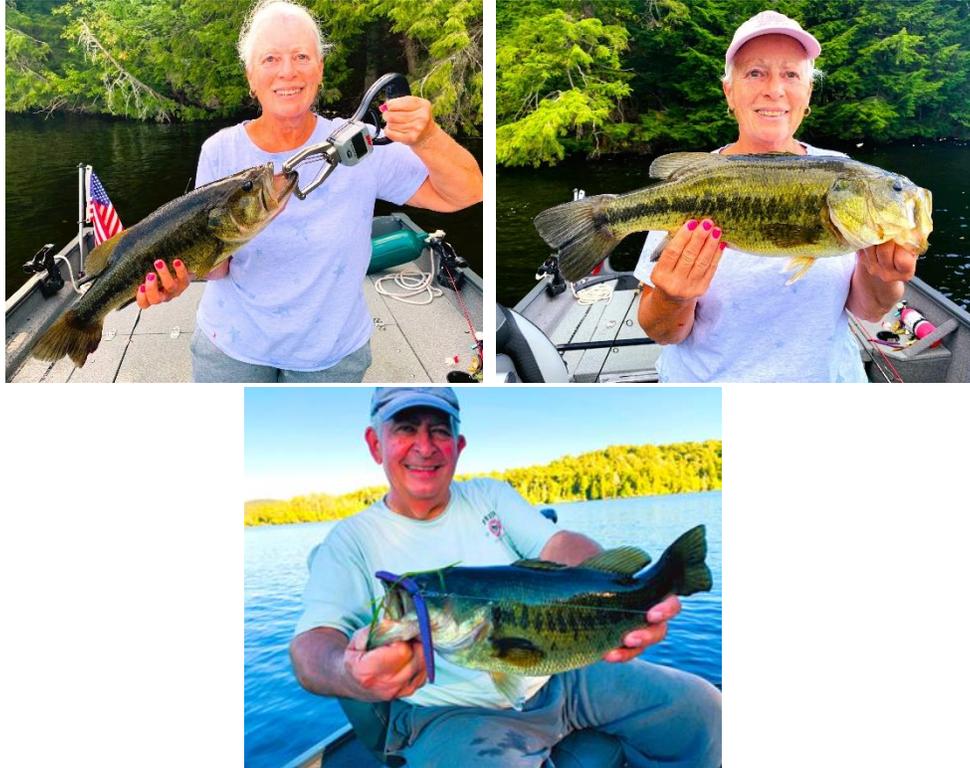
Figure 2. A comparison of 2022 and 2021 Upper Saranac Lake smallmouth bass length frequency distributions resulting from angler diary cooperator data.



Largemouth Bass

Largemouth Bass Catch Rates

Once again, smallmouth bass dominated the angler cooperator catch in 2022, yet 64 largemouth bass were boated and measured in the targeted catch. Angler-hours spent targeting bass were used in the rate calculations for both species. About 0.22 largemouth bass were caught per angler-hour. The largemouth catch rate was higher than the 0.17 fish per angler-hour calculated for both 2019 and 2020, but lower than the 0.25 rate recorded in 2021.



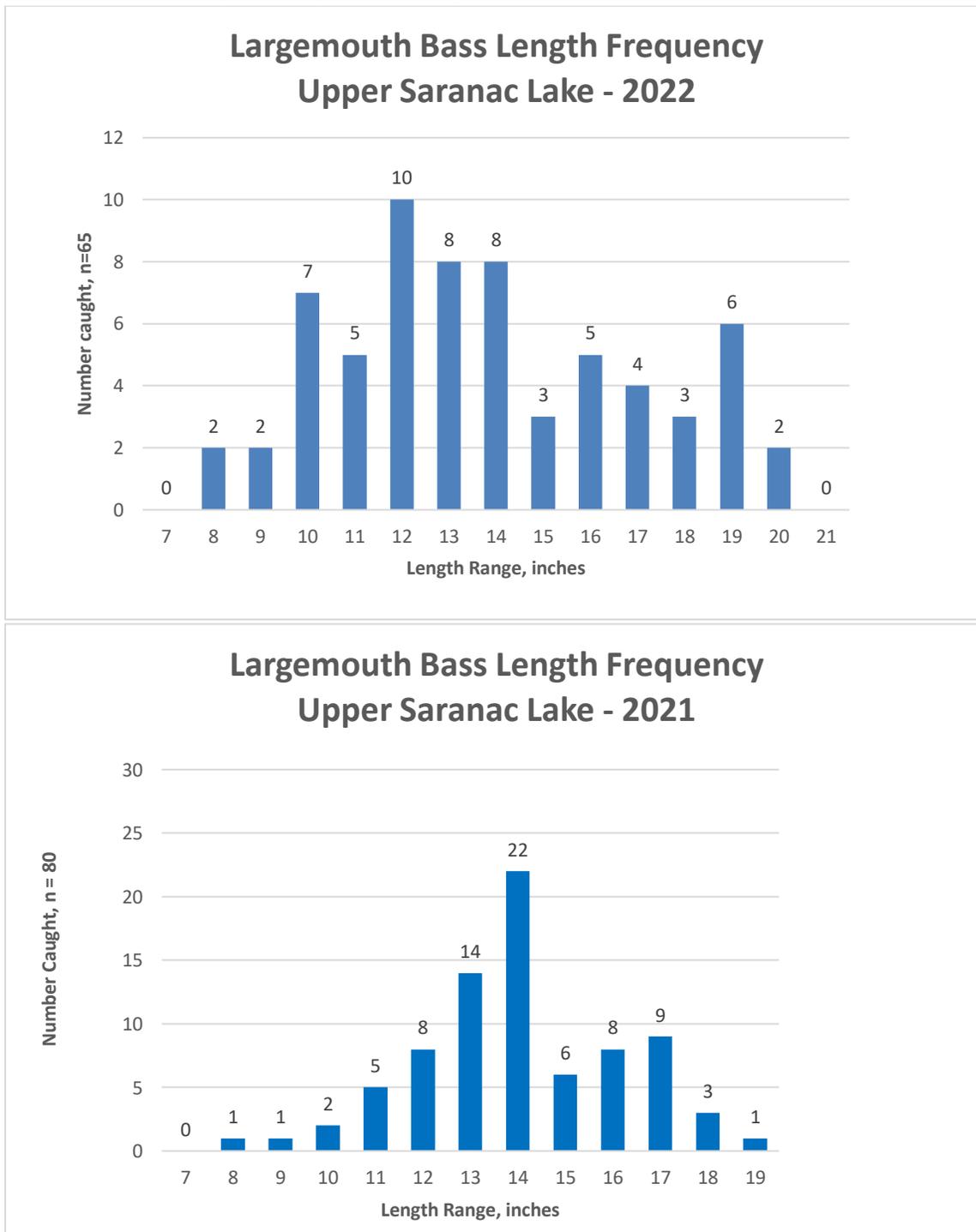
Anglers and Upper Saranac Lake largemouth bass, 2022 (photos by Ari and Nancy Harris).

Largemouth Bass Length Frequency Distribution

Figure 3 compares the largemouth bass length frequency distributions derived from the 2022 and 2021 data recorded by angler cooperators. As with the smallmouth distributions, length ranges listed in the figure are abbreviated.

Conversely, in comparison to the smallmouth bass length-frequency distributions, the largemouth bass distributions show an increased presence of larger fish from 2021 to 2022. Modes of the largemouth bass distributions, however, shifted downward, from 14 inches in 2021 to 12 inches in 2022.

Figure 3. A comparison of 2022 and 2021 Upper Saranac Lake largemouth bass length frequency distributions resulting from angler diary cooperator data.



Lake Trout

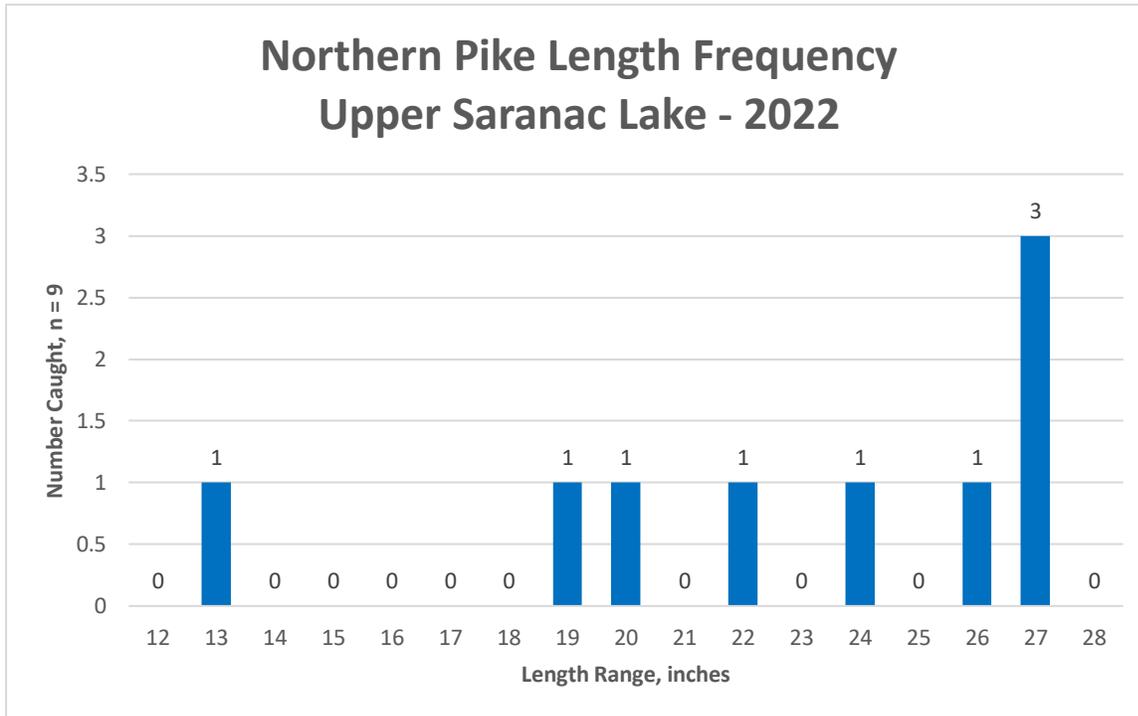
Lake Trout Catch Rates and Sizes

Only one angler cooperator attempted, unsuccessfully, to catch lake trout in 2022. Over the course of three short outings this cooperator and his guests expended a total of 4.25 angler-hours in their pursuit.

Northern Pike

Northern Pike Catch Rates and Sizes

Cooperators tallied 17 outings for northern pike in 2022. They logged 38.15 angler-hours, and they caught and released nine northern pike. Their catch rate was 0.18 pike per angler-hour. Three pike measured within the 27 to 28-inch length interval. Only one pike, a 13-incher, was shorter than the legal minimum length of 18 inches.



Yellow Perch

Yellow Perch Catch Rates

Angler cooperators reported catching a total of 71 yellow perch in 2022. Of these, 31 were caught while specifically fishing for them, resulting in a catch rate of 3.10 yellow perch per angler-hour.

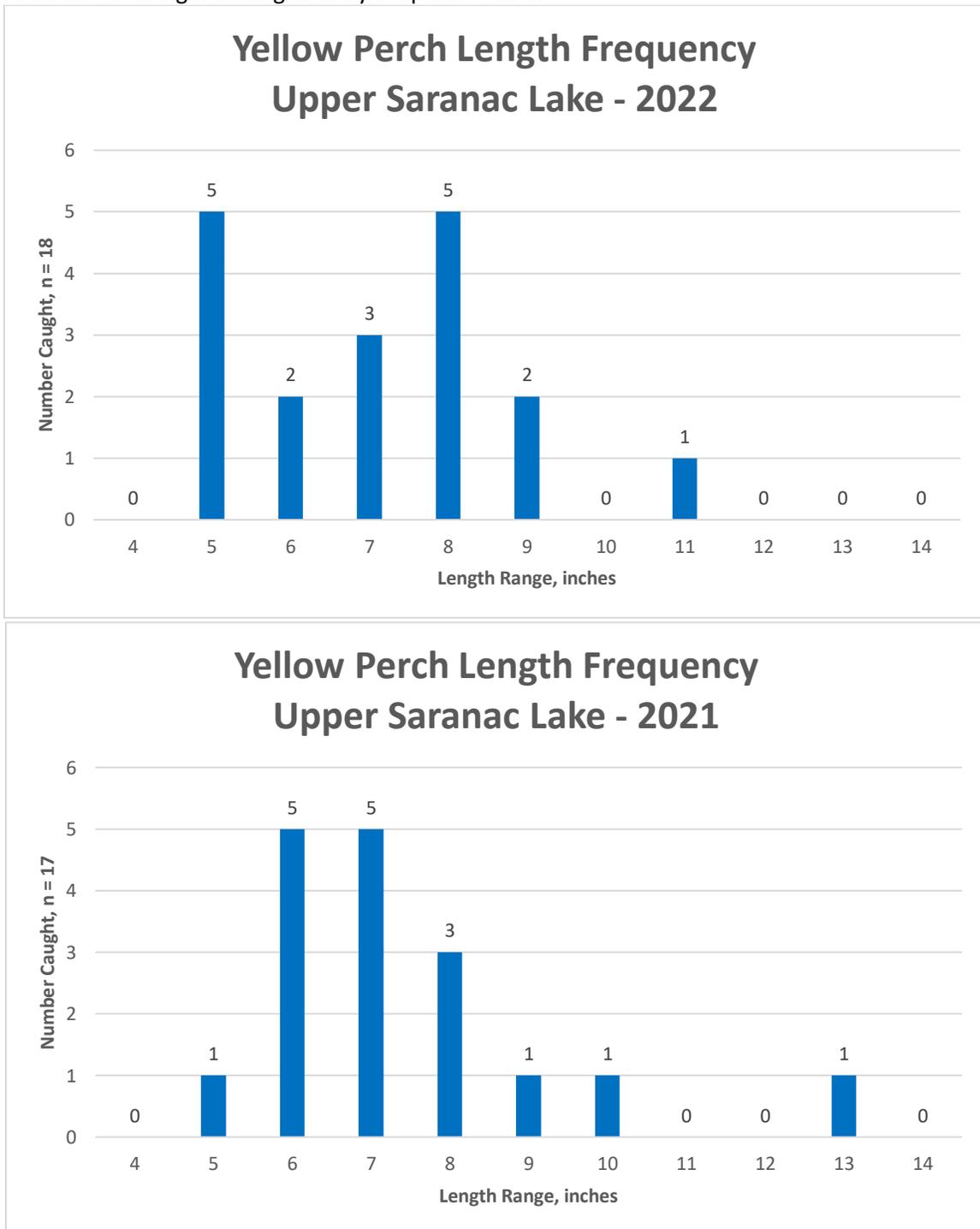
Yellow Perch Length Frequency Distribution

Twenty-nine of the 31 yellow perch were caught by one cooperator. Twenty-two of these were between 6 and 8 inches in length. No length data were available for the remaining seven. Because individual lengths were not listed, they were not used in the length frequency distribution below.

On a different outing, the same cooperator caught 24 yellow perch, up to 7 inches in length, while targeting white perch. Needless to say, although yellow perch are delicious table fare, such small sizes are not consistent with a high-quality yellow perch fishery.

To track changes and trends, the yellow perch length-frequency distribution is being tracked when data are available. Although relatively small in sample size, the 2022 and 2021 distributions can be compared in Figure 4.

Figure 4. A comparison of 2022 and 2021 Upper Saranac Lake yellow perch length frequency distributions resulting from angler diary cooperator data.



White Perch

Only two angler cooperators reported catching white perch in 2022. Two of these fish were caught during outings specifically targeting them. One was an incidental catch. They measured 9, 12 and 12.5 inches in length. White perch length frequency distributions, and possibly catch rates, may be monitored in future years if they become more prevalent in the lake's fishery.

Discussion and Conclusions

Smallmouth Bass

Length frequency distributions of smallmouth and largemouth bass generated with angler diary data are similar to those constructed by biologists employing scientific sampling gear. They can be used to describe age classes in a fish population, or the proportion of fish in a particular size range.

In 2022, 63 of the 152 smallmouth bass, or 41 percent, were 12-inches (the minimum legal length limit) or greater in length. This figure was substantially lower than the proportion (57 percent), of legal-sized smallmouth bass recorded in the 2021 catch. Comparison of the 2021 and 2022 length frequency distributions of smallmouth bass in Figure 2 suggests that the fish present in the 8-inch interval in 2021 grew into the 10-inch length interval in 2022. In 2022 these fish were probably four-year-olds. Inspection of the 2022 length frequency distribution indicates this is an extremely strong year class that likely resulted from good spawning conditions in 2018. I expect it will provide a very high-quality smallmouth bass angling experience by 2024.

Subsequent peaks in the distribution are obvious at the 13-inch and 16-inch intervals. Unfortunately, smallmouths that made up the relatively strong year class observed in the 2021 distribution that were between 16 and 18 inches in length appear to have succumbed to forces of natural mortality and have aged out of the fishery.

The smallmouth bass catch rate of only 0.51 per hour for all cooperators in 2022 is the second lowest recorded since the USLA Angler Diary program began. However, it is an improvement over that recorded in 2021. As mentioned in previous reports, there are three anglers who have been part of the program since its inception. The long-term average of this trio's smallmouth bass catch rates from 2016 through 2021 is approximately 1.00 fish per hour. Their mean catch rate in 2022 was 0.95 smallmouth bass per hour, almost identical to the long-term average (Table 2), and an indicator of the continued, high-quality smallmouth bass fishery in Upper Saranac Lake.

This "bounce-back" of the three charter members' mean catch rate in 2022, and the fact that a large number of young smallmouth bass were recorded in the 10-inch length interval, bodes well for smallmouth bass fishing in the future.

Largemouth Bass

Sixty-five largemouth bass were landed and measured by angler cooperators in 2022 (Figure 3). Sixteen were below the legal size limit of 12-inches, and 49 were 12-inches or longer. Ten largemouth bass occurred in the 12.0 to 12.9-inch length interval, generating a peak at this location in the distribution. Last year's (2021's) peak occurred at the 14-inch length interval, and those fish moved into the 16- and 17-inch intervals in 2022.

One angler cooperator who has maintained long-term, personal records observed a trend of increasing largemouth bass numbers in his catches relative to smallmouth bass over the years. The ratio of largemouth bass to smallmouth bass in catches he recorded was 1:20 in 1998. By 2016 the ratio was 1:10. In 2017, the approximate catch ratio was 1:7 compared to 1:9 in 2018. Ratios of about 1:4 were calculated in 2019 and 2020. Then, suddenly, in 2021, for every largemouth caught, nearly two smallmouths were landed. The exact ratio was 1:1.84. This is likely due to the participation of a new angler cooperator who joined the program in 2021, and who probably uses techniques and fishes

locations more appealing to largemouth bass. His diary accounted for 46 of the 80 largemouth bass tallied in 2021. This year, it accounted for 15 of 64 largemouths in the targeted catch. The ratio of largemouth bass to smallmouth bass in the 2022 targeted catch was about 1:2.31. That is, 2.31 smallmouth bass were caught for every largemouth landed in 2022.

Lake Trout

USLA angler cooperators caught no lake trout in 2022. Only one angler diary cooperator and his guests fished specifically for them for only 4.25 angler-hours. More anglers who fish for lake trout are needed as diary cooperators.

Table 3. Recent stocking history of lake trout in Upper Saranac Lake, 2013-2021 (records for 2022 are expected to be available in May, 2023).

Source: <https://data.ny.gov/Recreation/Fish-Stocking-Lists-Actual-Beginning-2011-Data-Len/9hpx-asd8>

Year	Month(s)	Number	Size (inches)
2021	October	4,700	5.1
2020	April, May, October	10,500; 3,500; 5,000	6.5, 6.7, 5.4
2019	April	9,840	8.0
2018	May	10,500	6.4
2017	April	10,500	6.5
2016	April, May	5,900; 2,000	7.0, 6.9
2015	May	10,500	6.3
2014	April, June	10,500; 4,000	6.5, 6.7
2013	May	7,590	7.1

Northern Pike

In 2022, the catch rate for northern pike was calculated at 0.18 per angler-hour. That is, it took USL Angler Diary cooperators about 5-and-a-half hours of targeted effort to catch a northern pike. A total of nine pike was recorded in 2022, and only one was shorter than the minimum legal length limit of 18 inches. Three fell in the 27-inch to 28-inch length interval. Upper Saranac Lake appears to support a low density, but high-quality, northern pike population.

Yellow Perch

Eighteen yellow perch caught in 2022 were used to construct the length frequency distribution shown in Figure 4. More than half of the yellow perch depicted in this distribution were in the 5-, 6-, and 7-inch length intervals. The sizes of most yellow perch caught by angler cooperators this year were disappointing. Only two cooperators spent time fishing specifically for yellow perch in 2022.

Yellow perch catch records have been maintained by this angler diary program since 2017. Excluding the targeted catch (32 specimens in 2020, 14 in 2021 and 31 in 2022), the by-catch was trending downward from 2017 through 2020. In 2022, 40 yellow perch were tabulated in the by-catch. However, 24 of these were caught while a cooperator and his guests were targeting white perch, and apparently using methods that also appeal to yellow perch. None of these 24 yellow perch exceeded 7-inches in length.

Year	2017	2018	2019	2020	2021	2022
Number	59	29	16	3	8	40 ^a

^a Twenty-four of these were caught while a cooperator and his guests were targeting white perch

The yellow perch population structure has changed, and I believe it is due to the illegal introduction of white perch. A downward trend in size is evident.

White Perch

White perch were first reported in Upper Saranac Lake in 2016. Their presence is probably detrimental to the yellow perch population. Quite frankly, I expected white perch would be over-abundant and stunted six years after first learning of their introduction. Yet, only three were reported in the angler diary program catch in 2022. As stated above, these three fish were measured at 9, 12 and 12.5 inches. Those are good sizes for this panfish species. Let's hope they remain sizable and low in density.

Other Species

Angler cooperators reported catching five pumpkinseeds (three 8-inchers and two 6-inchers), one 6-inch bluegill and seven fallfish from 9-13 inches long in 2022.

Recommendations

1. Determine expectations and a reasonable duration for continuing the Angler Diary Program.
2. Utilize the USLA Angler Diary program to monitor catch rates and length frequency distributions for the lake's smallmouth bass and largemouth bass fisheries. These exceptional fisheries deserve conservation and care. Encourage responsible fish handling techniques, including catch and release angling, and the reporting of any observed habitat destruction, such as unmitigated disturbance of near-shore spawning areas.
3. Continue to investigate use of a cell-phone-accessible, virtual "diary", that will allow cooperators to record fishing trip and catch information in real time.
4. Focus additional effort on working with lake stewards at the Upper Saranac Lake and Fish Creek Campground Boat Launch Sites to recruit new angler diary cooperators. Perhaps, provide business-type cards and angler diaries for them to distribute to anglers who plan to fish in Upper Saranac Lake.
5. Monitor the catch of yellow and white perch in the fishery and note obvious trends.
6. Hold an angler diary cooperator meeting annually to respond to questions, recruit new cooperators and encourage proper completion of diary pages.
7. Investigate the possibility of obtaining additional data through bass tournaments held on the lake.
8. Promote the Angler Diary Program through posters on USLA Bulletin boards and Zone Parties.
9. Share these Angler Diary Reports with NYSDEC and the Upper Saranac Foundation.

Angler cooperators who contributed to this effort in 2022 and past years deserve a huge “thank you”. Good luck fishing in 2023!

Ethan Glessner with big grin and a good smallmouth bass caught in 2022 (Photo by Ari Harris).

