

Environmental  
Committee

Upper Saranac Lake  
Association

# Upper Saranac Lake 2023 Angler Diary Report February 11, 2024

By Larry Nashett, Environmental Committee



Smallmouth Bass- Upper Saranac Lake, 2023

Photo by Suzanne Carrillo Kern

## Introduction

This report summarizes data collected in 2023 via the Upper Saranac Lake Association (USLA) voluntary angler diary program. USLA's Environmental Committee has managed this program for eight consecutive years. It tracks fishery trends through calculation of catch rates and determination of length-frequency distributions for important Upper Saranac Lake fish species.

From 2016 through 2018 "coldwater angler diaries" donated by the New York State Department of Environmental Conservation were used. Quickly, it became apparent that most Upper Saranac Lake volunteers targeted warmwater species, like bass and pike. New diaries were developed, funded by the USLA and printed specifically for its Angler Diary Program. These have been distributed each year from 2019 through 2023. USLA Angler Diary Reports, dating back to 2016 are available on line at [https://uppersaranac.com/index.php?section=fishing\\_diary](https://uppersaranac.com/index.php?section=fishing_diary).

Eight cooperators returned records of their fishing trips in 2023. Each has been assigned a number so they remain anonymous when individual catch and fishing effort statistics are reported. The number is the same, year after year, and is located on the cover of the diary provided to the cooperator.

If you maintained a diary, it is possible that some data which you submitted were 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](mailto:lnashett@roadrunner.com).

## Results

By far, the majority of angling effort reported by cooperators in 2023 targeted bass. Four diary keepers fished occasionally for northern pike. Two recorded some time spent fishing for yellow perch. One targeted white perch on three occasions and spent a few hours pursuing lake trout.

Length frequency distributions for a given species are based on recorded lengths of each fish caught of that species. Numbers of fish reported in catch rate tables are based on fish that could be associated with an angler's effort to target that species. Since time spent fishing was not always recorded, the catch rate table for a particular species may list fewer fish than the length frequency distribution.

### 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 2023, angler cooperators targeting bass reported a total of 189 angler-trips and 240.25 angler hours over 122 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 127 smallmouth bass in 2023 while specifically targeting them, resulting in a catch rate of 0.53 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 2023.

Angler	Overall Number of Outings	Overall Number of 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	14 <sup>a</sup>	14	2.25	31.5	34	1.08	8	0.25
2	14 <sup>a</sup>	14	2.25	31.5	24	0.76	8	0.25
3	22	45	1.61	49.25	44	0.89	17	0.35
6	46	83	1.17	99.0	5	0.05	2	0.02
7	5	9	1.10	5.50	4	0.73	0	0
9	6	7	1.42	0	0	0	0	0
18	14	16	1.38	23.25	15	0.65	14	0.60
21	1	1	1.50	0.25	1	4.00	0	0
Total	122 <sup>b</sup>	189	1.52	240.25	127	0.53	49	0.20

<sup>a</sup> Cooperators 1 and 2 always fished together, but maintained separate diaries.

<sup>b</sup> The number of fishing outings above excludes those reported without a trip length.

Figure 1. 2016-2023 Trend comparison in Upper Saranac Lake smallmouth bass catch rates.

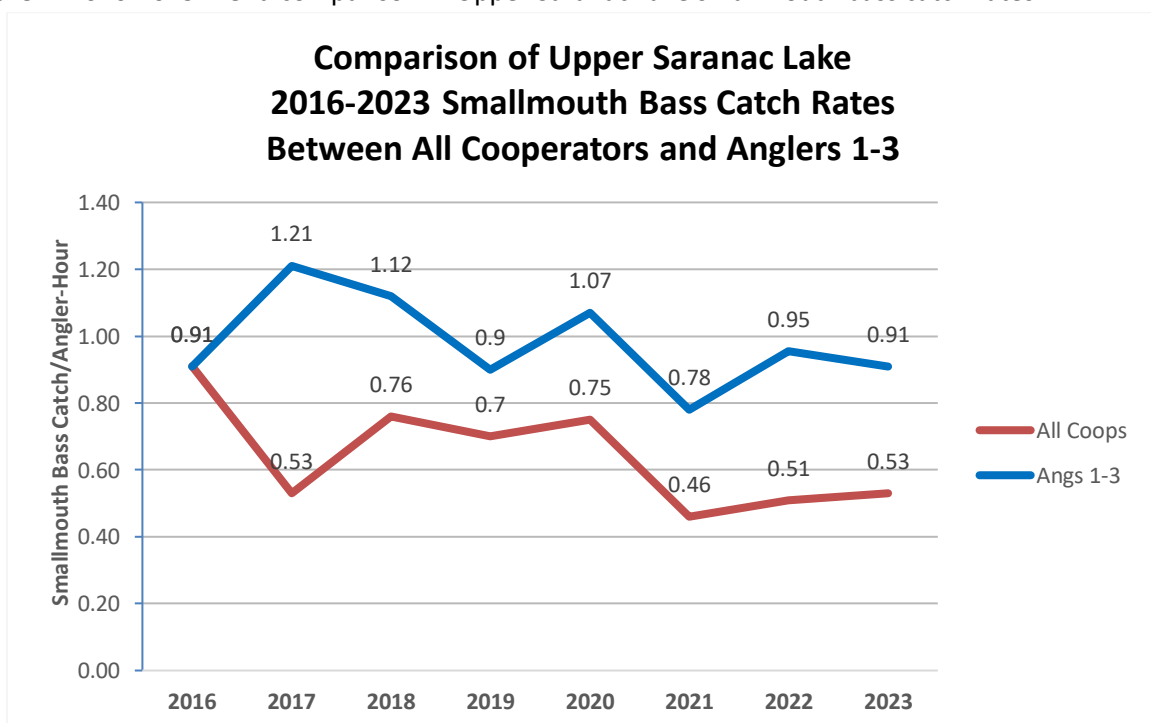


Table 2. 2016-2023 Comparison of Upper Saranac Lake targeted bass fishing effort by angler diary cooperators, numbers 1-3<sup>a</sup>, over the program's eight years.

	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
	2023	14	14	22	50
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
	2023	14	14	45	73
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
	2023	31.5	31.5	49.25	112.2
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
	2023	2.25	2.25	1.61	1.97

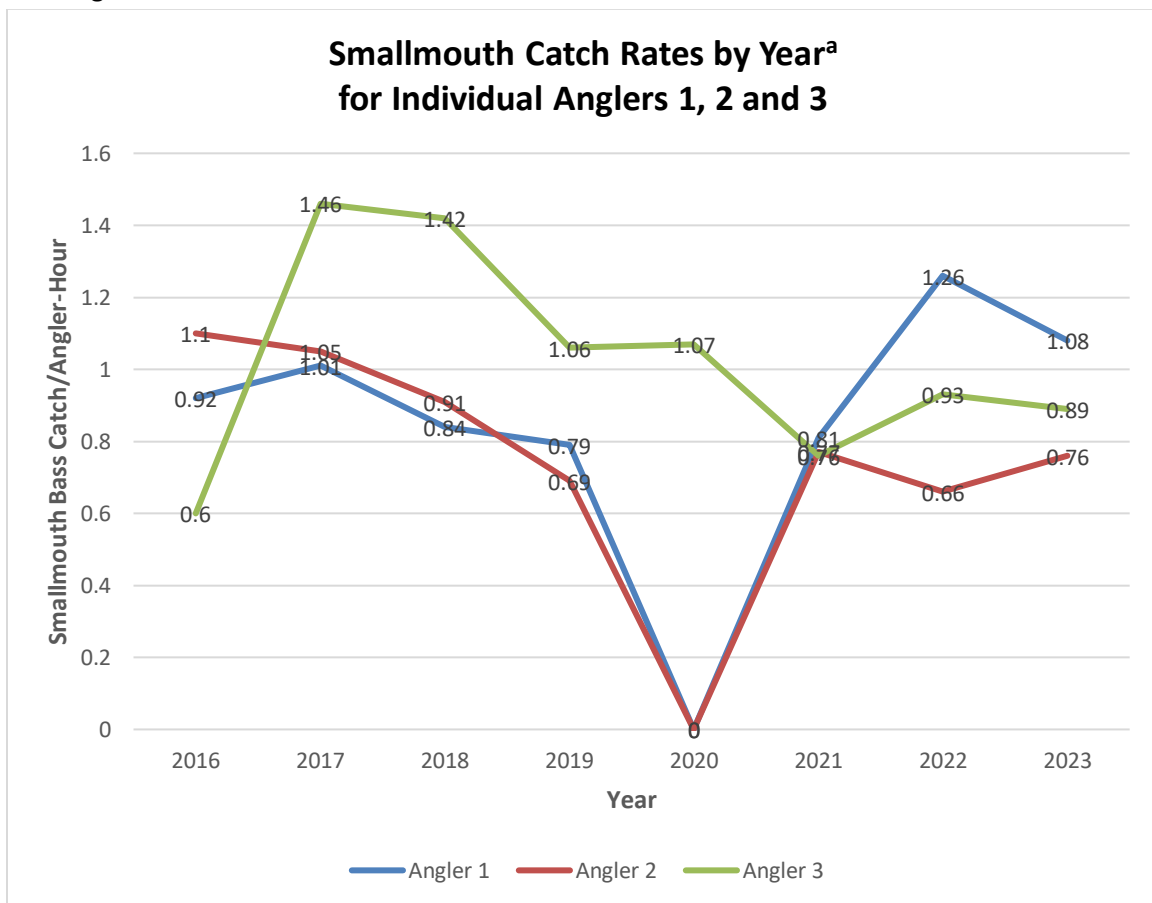
<sup>a</sup> Anglers 1 and 2 did not fish during 2020, but they were included to maintain comparison continuity.

Table 3. 2016-2023 Comparison of Upper Saranac Lake smallmouth bass numbers caught by angler diary cooperators, numbers 1-3<sup>a</sup>, over the program's eight years.

Number Caught	Year	Angler 1	Angler 2	Angler 3	Total
	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
	2023	34	24	44	102

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

Figure 2. Individual Upper Saranac Lake smallmouth bass catch rate trends for anglers 1<sup>a</sup>, 2<sup>a</sup> and 3 from 2016 through 2023.

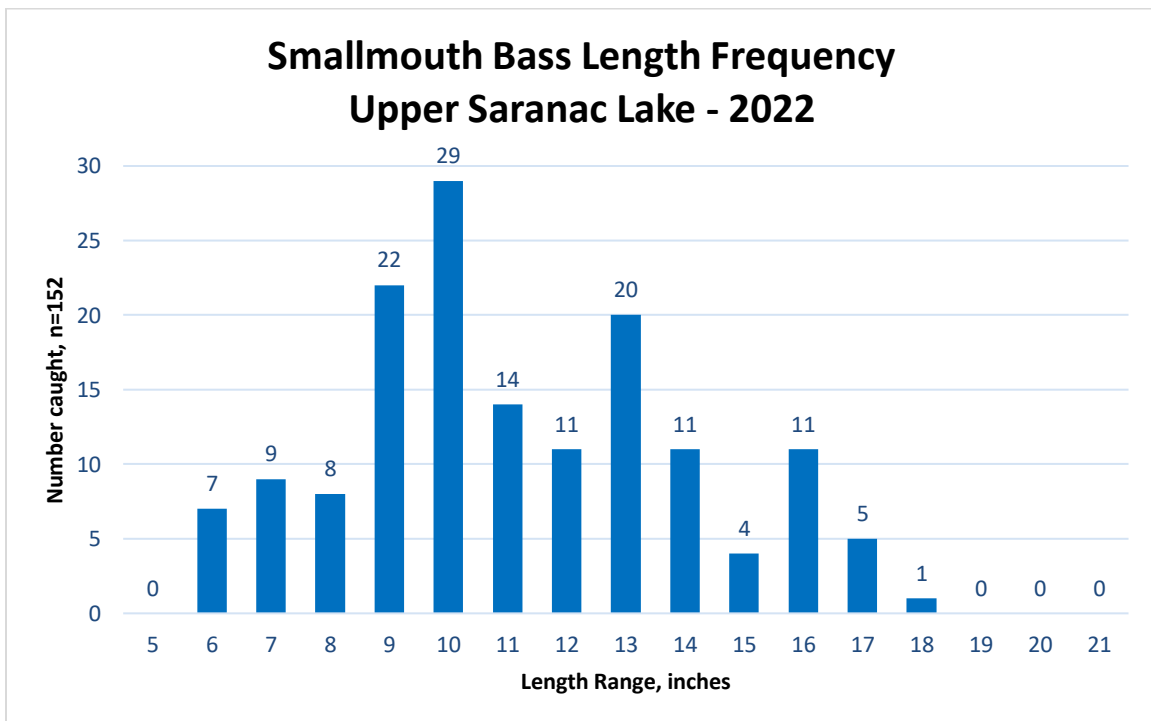
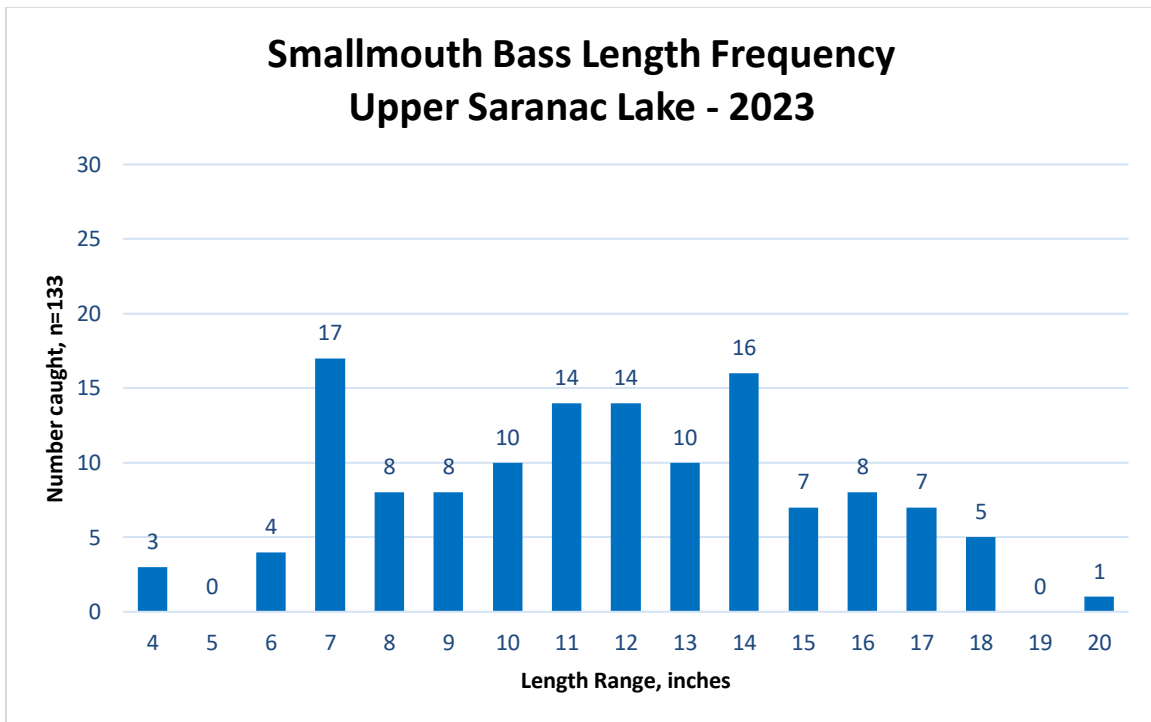


<sup>a</sup> Anglers 1 and 2 did not fish during 2020, but they were included to maintain comparison continuity.

Smallmouth Bass Length Frequency Distribution

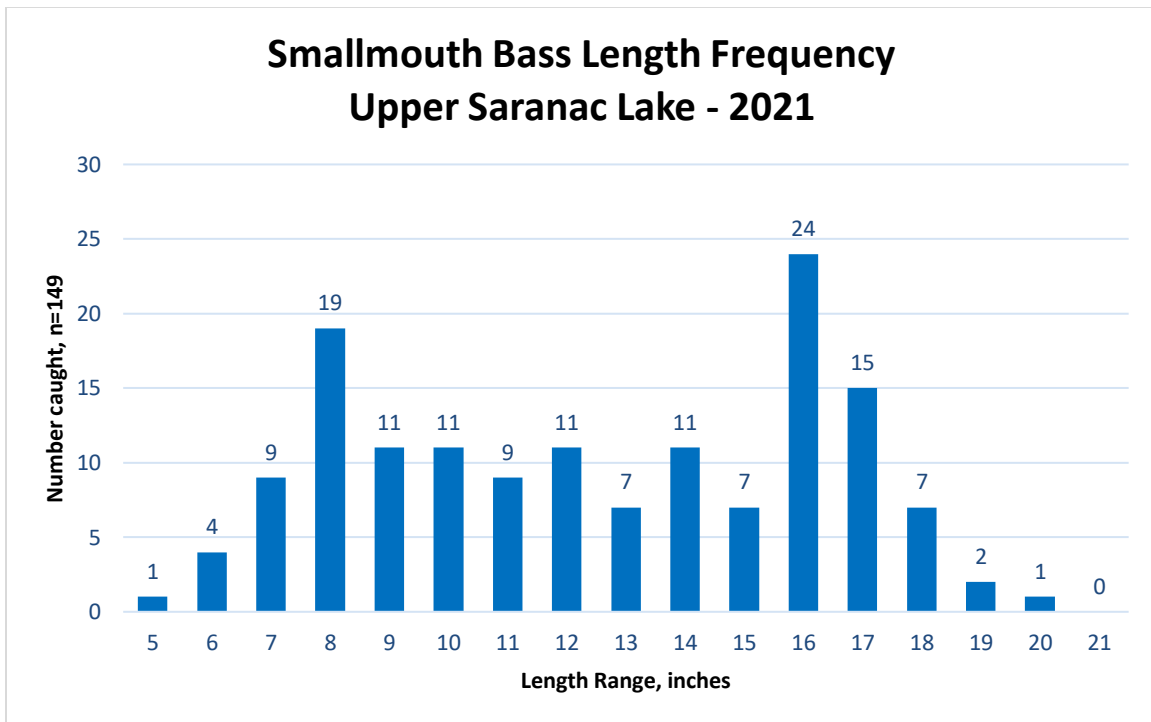
Figure 3 compares the smallmouth bass length frequency distributions for 2023 and 2022. Length ranges listed in the figure are abbreviated. Only the lower number in the 1.0-inch interval range is displayed.

Figure 3. A comparison of 2023 and 2022 Upper Saranac Lake smallmouth bass length frequency distributions resulting from angler diary cooperator data.



The length frequency distributions for 2023 and 2022 look far different than the one developed for 2021, especially in the length ranges above 15 inches. See Figure 4, below.

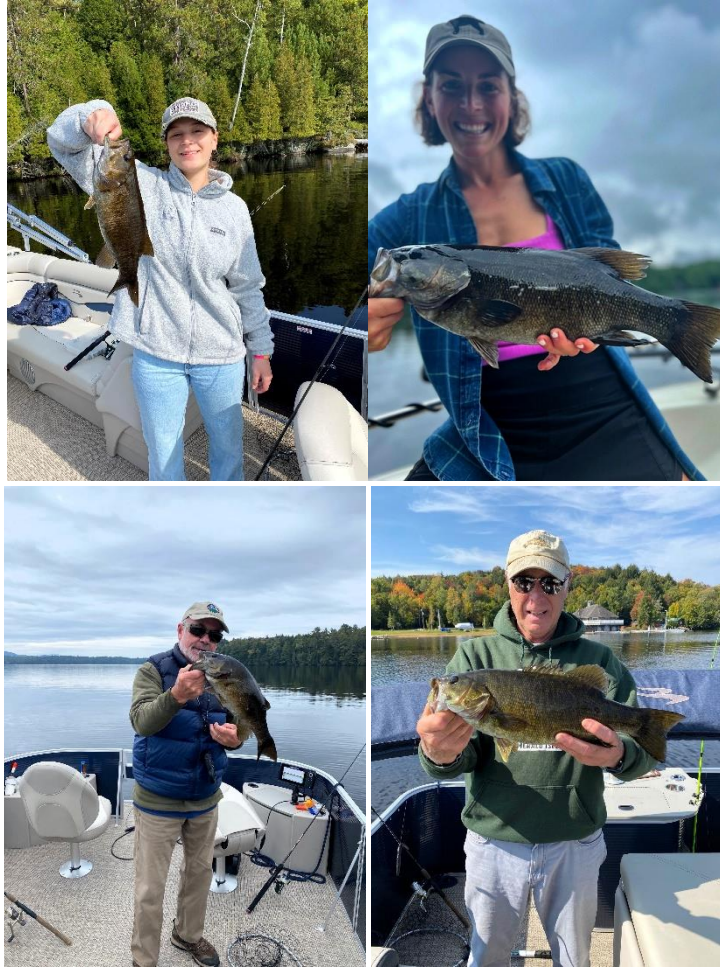
Figure 4. 2021 Upper Saranac Lake smallmouth bass length frequency distributions resulting from angler diary cooperator data.



As reported last year, fish in the 18-inch through 20-inch intervals nearly disappeared from the catch between 2021 and 2022. The good news is they're back in 2023, but in slightly smaller numbers. The length interval containing the highest number of smallmouth bass in the distributions fell from 16 inches in 2021 to 10 inches in 2022 to 7 inches in 2023. However, the second highest number of fish in the 2023 distribution fell into in the 14-inch interval. From an angler's perspective, this may offset the increased number of small, 7-inchers caught.



Anglers and Upper Saranac Lake smallmouth bass, 2023  
(Photos provided by Suzanne Carrillo Kern and Ari and Nancy Harris)



More Anglers and Upper Saranac Lake smallmouth bass, 2023  
(Photos provided by Will Main and Tom Swayne)

## Largemouth Bass

### Largemouth Bass Catch Rates

Forty-nine largemouth bass were boated and measured in the 2023 targeted catch. Diary contributors caught 0.20 largemouth bass per angler-hour (Table 1). This is very similar to rates documented over the past five years. The 2023 catch rate was higher than the 0.17 fish per angler-hour calculated for both 2019 and 2020, but lower than the 0.22 and 0.25 rates recorded in 2022 and 2021. As in previous years, angler-hours spent targeting bass, regardless of whether the angler was primarily fishing for largemouth or smallmouth bass, were used in the rate calculations for both species.





Upper Saranac Lake largemouth bass, 2023  
(Photos provided by Ari and Nancy Harris and Will Main)

Largemouth Bass Length Frequency Distribution

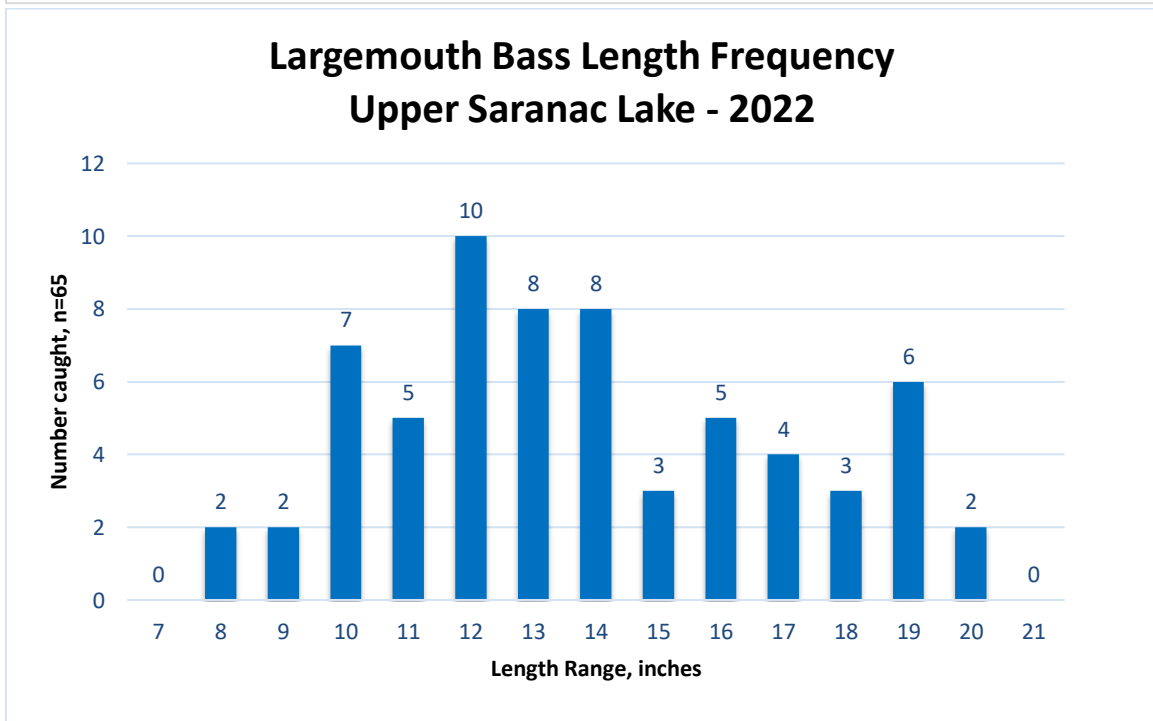
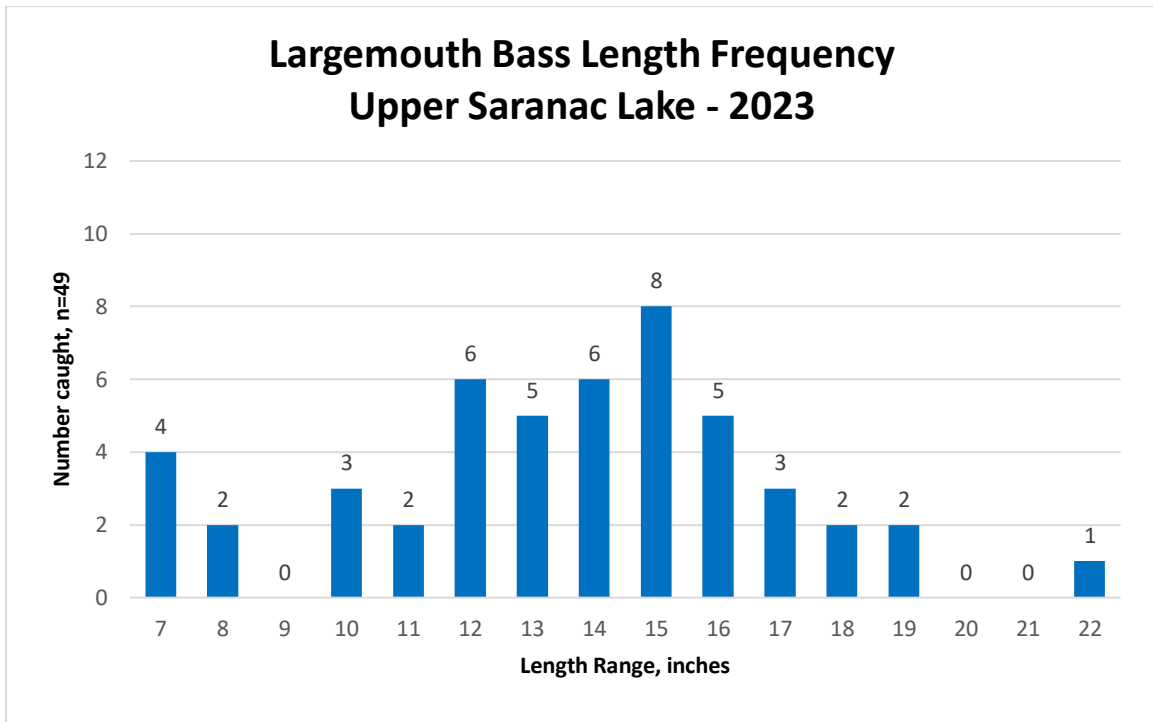
Figure 5 compares the largemouth bass length frequency distributions derived from the 2023 and 2022 data logged by angler cooperators. As with the smallmouth distributions, length ranges listed in the figure are abbreviated.

A largemouth bass measuring 22 inches was the longest bass of either species caught in 2023. Chart appearances show normal, multi-modal distributions present in both years, and fish progressing through the length-intervals as expected. That is, the 10-inch largemouth bass of 2022 (then probably age 3) appear to have grown into the 12-inch interval (probably age 4) in 2023.



Anglers and Upper Saranac Lake largemouth bass, 2023  
(photos provided by Ari and Nancy Harris Dave Powalyk and Will Main).

Figure 5. A comparison of 2023 and 2022 Upper Saranac Lake largemouth bass length frequency distributions resulting from angler diary cooperator data.



## Lake Trout

### Lake Trout Catch Rates and Sizes

One angler cooperater fished specifically for lake trout in 2023 during a single 5-hour trip. He was successful in catching and releasing a 21-inch lake trout, resulting in a catch rate of 0.20 fish per hour.

## Northern Pike

### Northern Pike Catch Rates and Sizes

Cooperators tallied only 8 outings for northern pike in 2023, or less than half of the number of outings they made for this species in 2022. Also, in 2023 four volunteer anglers logged 11.5 angler-hours in pursuit of northern pike compared to five who spent 38.15 angler-hours during the previous year. Not surprisingly, fewer northerns were caught.

The small amount of effort aimed at northern pike in 2023 resulted in the catch of a single, 29.5-inch specimen. Two other pike, an 18-incher and a 22-incher, were caught and released by cooperators targeting bass. The overall catch rate for the four anglers who targeted pike was 0.09 fish per hour.



Dave Powalyk



Ethan Glessner (l) & Ari Harris (r)

Anglers and Upper Saranac Lake northern pike, 2023  
(Photos provided by Dave Powalyk and Ari Harris)

## Yellow Perch

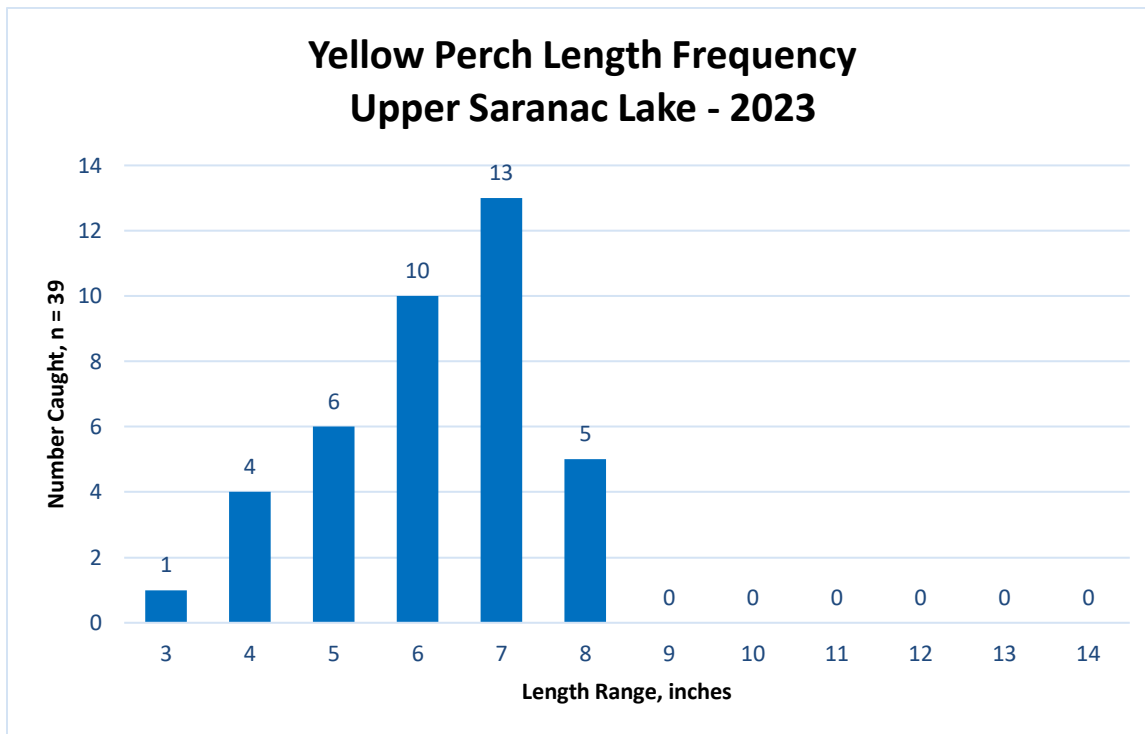
### Yellow Perch Catch Rates

Angler cooperators reported catching a total of 114 yellow perch in 2023. That's up from 71 the previous year. Of these, 17 were caught while specifically fishing for them, resulting in a catch rate of 1.55 yellow perch per angler-hour.

### Yellow Perch Length Frequency Distribution

Thirty-nine yellow perch caught in 2023 were individually measured and used in constructing the length frequency distribution (Figure 6) for this species. None were 9 inches or longer.

Figure 6. 2023 Upper Saranac Lake yellow perch length frequency distributions resulting from angler diary cooperator data.



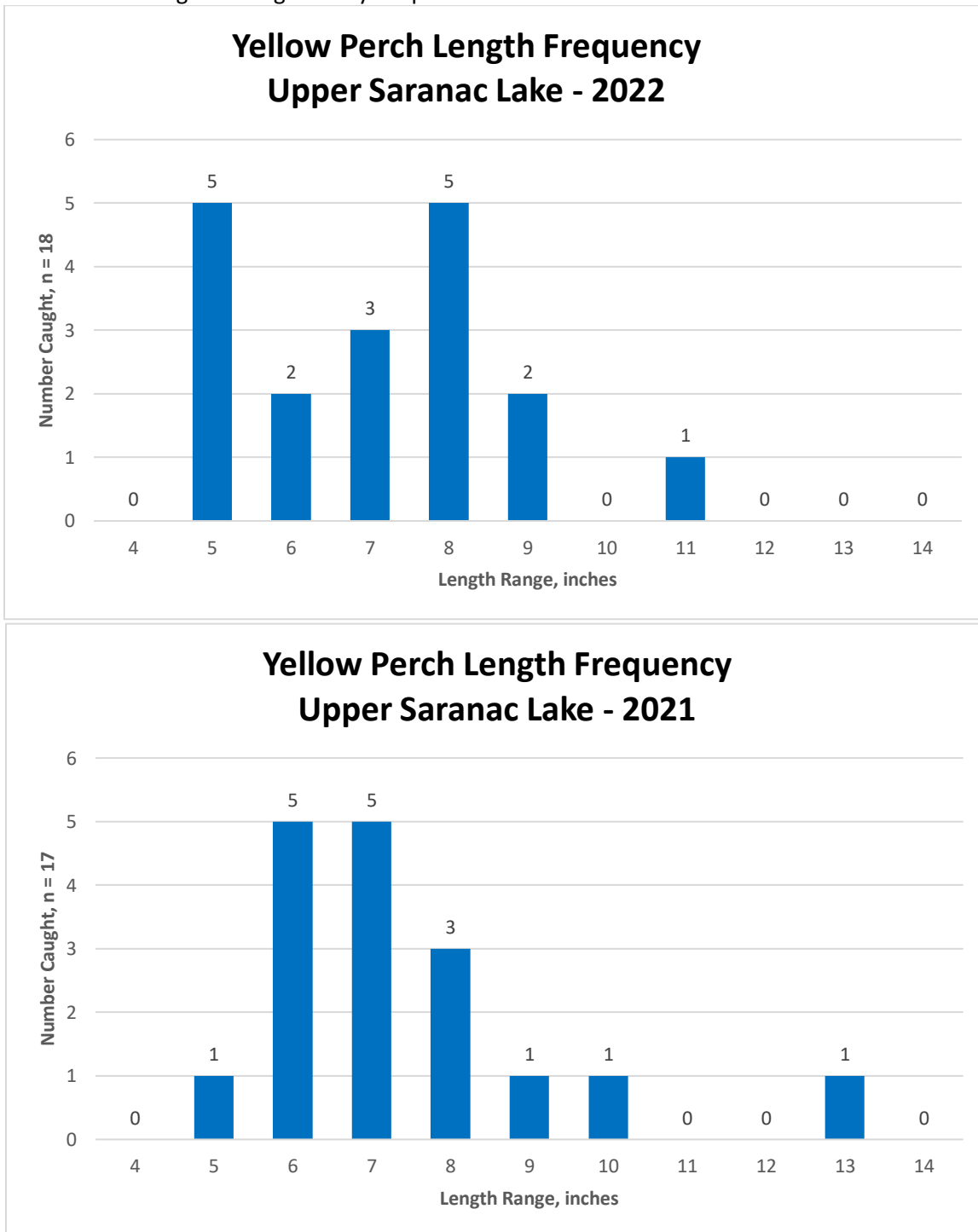
To track changes and trends, yellow perch length-frequency distributions are developed when adequate data are available. Although relatively small in sample size, the 2022 and 2021 distributions are shown in Figure 7, and they include a few larger individuals.

Angler cooperators grouped the 75 yellow perch not individually measured in 2023 into length ranges as follows: Fourteen were 5 to 7 inches long, 12 were 6 to 8 inches long and 49 were 5 to 9 inches in length.



Young Angler and Upper Saranac Lake yellow perch, 2023 (photo provided by Will Main).

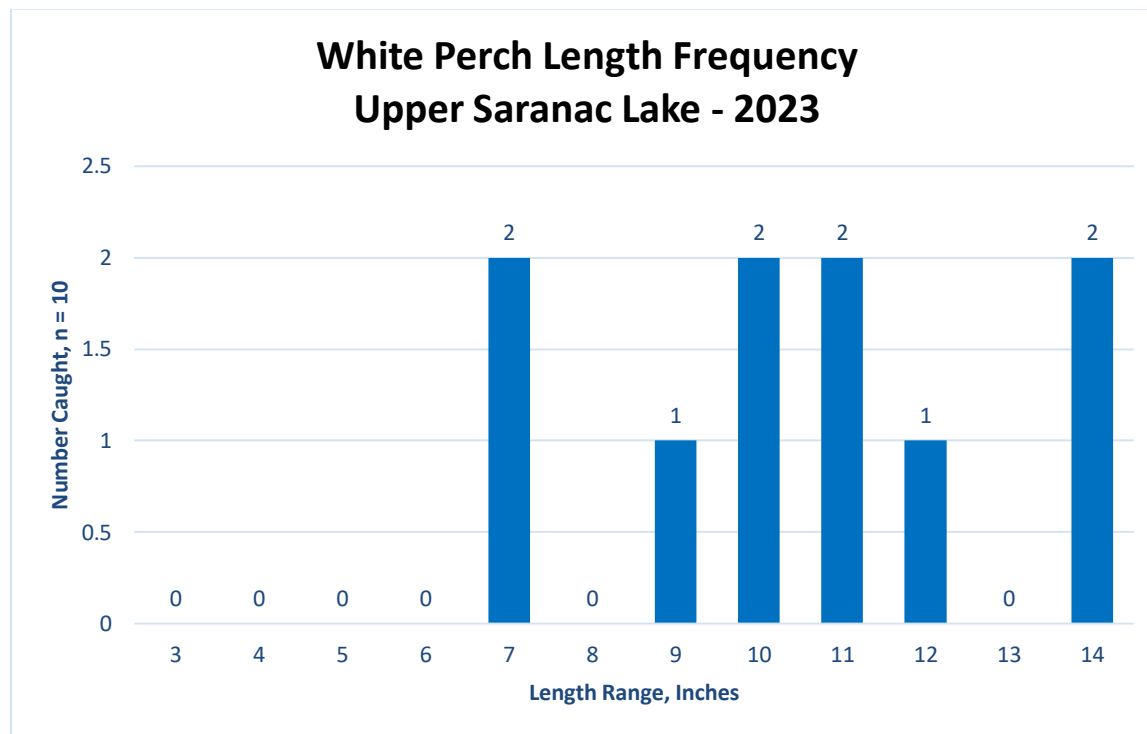
Figure 7. A comparison of 2022 and 2021 Upper Saranac Lake yellow perch length frequency distributions resulting from angler diary cooperator data.



### White Perch

Two angler cooperators reported catching 10 white perch that they measured in 2023, and a length frequency distribution (Figure 8) has been prepared with these data. 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.

Figure 8. 2023 Upper Saranac Lake white perch length frequency distribution resulting from angler diary cooperators data.



## 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.

Table 4 and Figure 9 present the proportions of smallmouth bass and largemouth bass in the 2016-2023 angler cooperators catches greater than or equal to 12 inches in length. For smallmouth bass, these proportions ranged from a high of 77 percent in 2020 to a low of 41 percent in 2022. The long-term average from 2016 through 2022 of the proportion of smallmouth bass greater than or equal to 12 inches is 63 percent. In the 2023 sample, only 51 percent of the smallmouth catch was greater than or equal to 12 inches in length. Over the last three years this proportion has been below the long-term average.

Inspection of the 2023 smallmouth bass length frequency distribution in Figure 3 reveals four discernable peaks. The peak at the 7-inch interval likely represents three-year-old smallmouth bass. Smallmouth bass that are younger and smaller are probably not very vulnerable to the tackle and techniques most often used.

Taken together, the 11- and 12-inch intervals form the second peak probably contain mostly four- and five-year-old fish. Six-year-olds are likely scattered among the 11-, 12- and 13-inch length intervals.

Experience based on aging bass by counting annuli on their scales has taught me that most 14-inch smallmouth bass in the Saranac Lake chain are in their seventh year of growth. There is a prominent peak in the 2023 smallmouth bass length frequency distribution at the 14-inch interval. If most of these fish are indeed age 7, they hatched in 2016 during the very first year of the USLA angler diary program.

Figure 3 also contains the 2022 length frequency distribution for smallmouth bass. Another strong year class is evident there in the 10-inch length interval. These are probably age 4 fish hatched in 2018.

I anticipate that these two seemingly strong year-classes will sustain good fishing for 14- and 16-inch smallmouth bass in 2024.

The smallmouth bass catch rate of only 0.53 per hour for all cooperators in 2023 is disappointing. It is tied with 2017's for fifth place overall in the 8 years since the USLA Angler Diary program began. It shows very gradual improvement over the lowest catch rate of 0.46 per hour 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 2022 is approximately 1.00 fish per hour. Their mean catch rate in 2023 was 0.91 smallmouth bass per hour. Only 2019 and 2021 yielded lower rates (0.90 and 0.78 fish per hour). However, compared to other smallmouth bass fisheries in New York, this catch rate denotes a good smallmouth bass fishery in Upper Saranac Lake.

## Largemouth Bass

Forty-nine largemouth bass were landed and measured by angler cooperators in 2023 (Figure 5). Eleven were below the legal size limit of 12-inches, and 38 were 12-inches or longer. Eight largemouth bass occurred in the 15.0 to 15.9-inch length interval, generating a peak at this location in the distribution. A true slammer of a largemouth, measuring 22 inches, was boated by one angler cooperator!

An angler cooperator who has maintained long-term, personal records noticed 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. The USLA angler diary program has corroborated and monitored that trend. See Table 4 and Figure 11. There has clearly been a downward trend in the catch ratio of smallmouth to largemouth bass since 2016. This now seems to be stabilizing, but its cause is unknown.

Table 4. Percent of cooperator bass catch greater than or equal to 12 inches and the number of smallmouth bass (SMB) caught per largemouth bass (LMB) in annual length frequency distributions from 2016 through 2023.

Year	2016	2017	2018	2019	2020	2021	2022	2023
% SMB $\geq$ 12"	75	62	55	75	77	57	41	51
% LMB $\geq$ 12"	100	56	55	83	79	89	75	78
SMB per LMB	12.00	6.50	9.25	4.02	4.37	1.86	2.34	2.71

Figure 9. Percentage of smallmouth and largemouth bass, in the 2016-2023 angler cooperator catch greater than or equal to 12 inches in length.

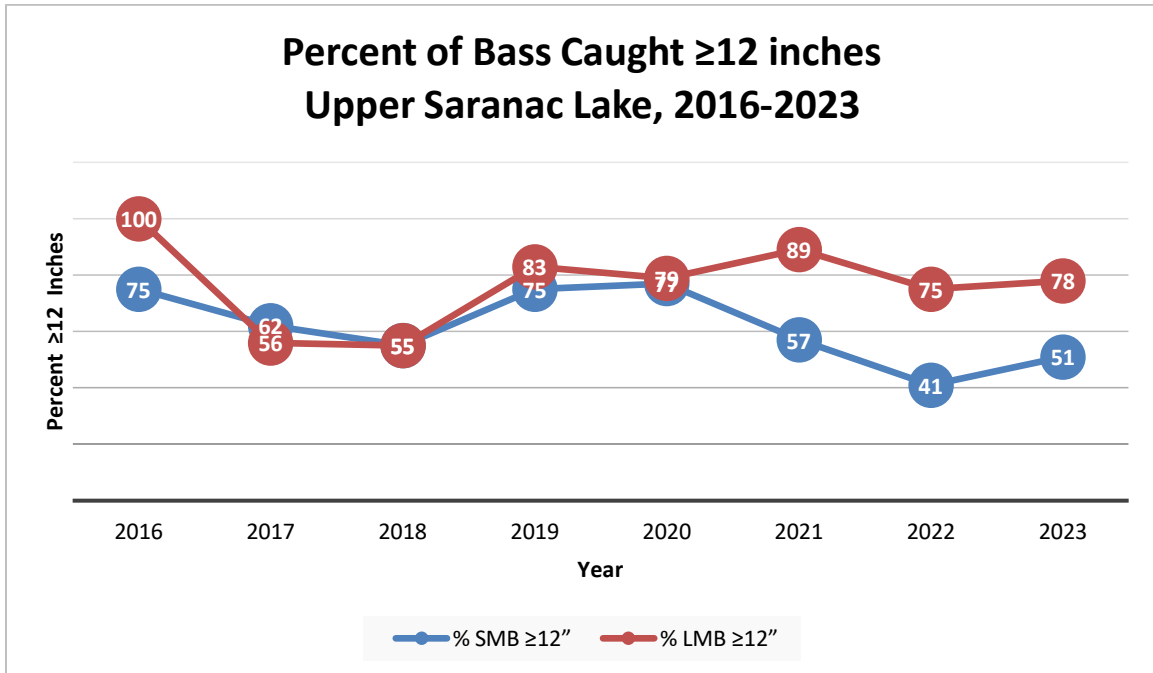
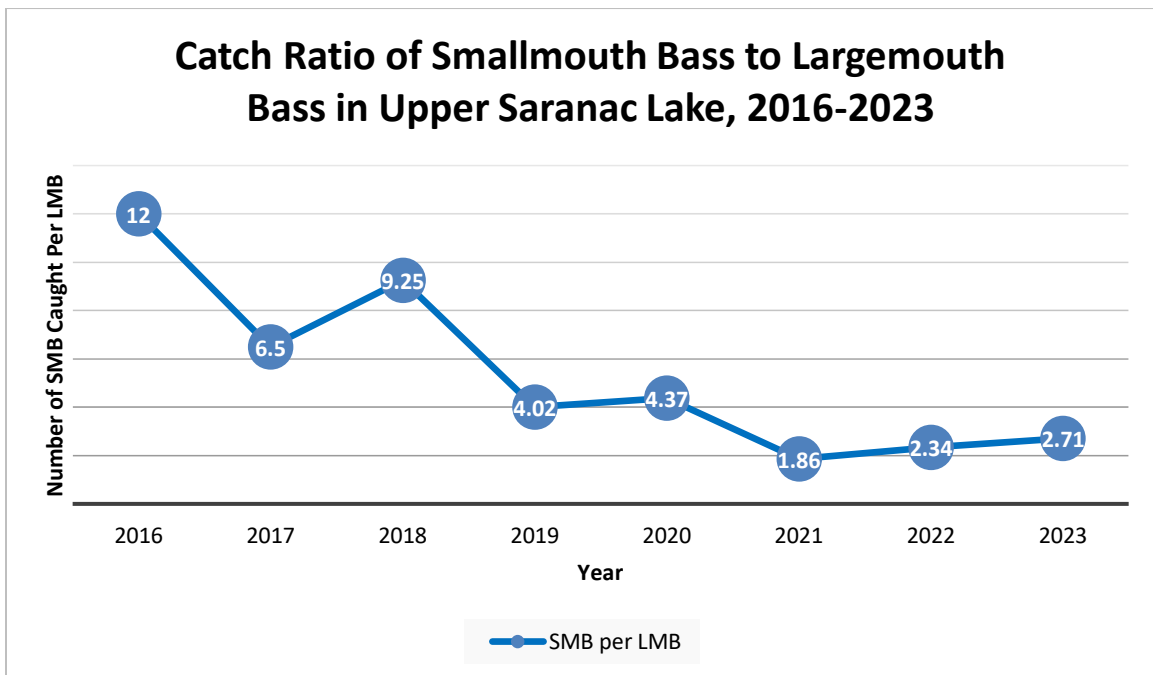


Figure 10. Ratio of smallmouth bass to largemouth bass in the 2016-2023 angler cooperator catch.





## Lake Trout

There has been very little angler cooperators effort made to catch lake trout throughout the duration of the USLA Angler Diary program. NYSDEC continues to stock lake trout annually in Upper Saranac Lake as it has for decades. See Table 5, below.

Table 5. Recent stocking history of lake trout in Upper Saranac Lake, 2013-2022 (records for 2023 are expected to be available in May, 2024).

Source: [https://data.ny.gov/Recreation/Fish-Stocking-Lists-Actual-Beginning-2011/e52k-ymww/data\\_preview](https://data.ny.gov/Recreation/Fish-Stocking-Lists-Actual-Beginning-2011/e52k-ymww/data_preview)

Year	Month(s)	Number	Size (inches)
2022	April	10,500	6.5
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 2023, the catch rate for northern pike was calculated at 0.09 per angler-hour. That is, it took USL Angler Diary cooperators a little over eleven hours of targeted effort to catch a northern pike. A total of three pike was recorded in 2022, but only one of these, measuring 29.5 inches, was caught by an angler specifically pursuing this species. All northern pike recorded in 2023 were greater than or equal to the minimum size limit, and all were released. As previous reports state, Upper Saranac Lake appears to support a low density, but high-quality, northern pike population.

## Yellow Perch

Seventy-five of the yellow perch boated by cooperators (about 2/3) were not individually measured. Therefore, they could not be used in the length frequency distribution shown in Figure 6. However, as described earlier, they were grouped into three slightly overlapping length ranges – all small. Yellow perch in such small sizes do not provide a quality fishery. Curiously, the by-catch of yellow perch shown in Table 6, below, has increased since 2021 and surpassed earlier records

Year	2017	2018	2019	2020	2021	2022	2023
Number	59	29	16	3	8	40 <sup>a</sup>	97 <sup>b</sup>

<sup>a</sup> Twenty-four of these were caught while a cooperators and his guests were targeting white perch

<sup>b</sup> Sixty-one of these were caught while a cooperators and his guests were targeting white perch

While still abundant, the yellow perch population's size 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

Ten white perch were caught by cooperators in 2023. Seven of these were caught during outings specifically targeting them. Three were caught while fishing for other species. Eight white perch were equal to or greater than 9 inches in length, and two of these measured 14 inches. This is an excellent size range for this species, and it is interesting to note that now some effort is being made specifically to target white perch. White perch were first reported in Upper Saranac Lake in 2016.

## Other Species

Angler cooperators also reported catching 19 pumpkinseeds (4-8 inches long), one 14-inch bullhead and one fallfish in 2023.



Young Angler and Upper Saranac Lake pumpkinseed, 2023 (photo provided by Ari Harris).

## Recommendations

1. The Angler Diary Cooperator program completed its eighth year of operation at the end of 2023. In two more years, after the 2025 fishing year closes, the USLA Environmental Committee will have recorded 10 years of Angler Diary data and provided reports for each of those years. If the program documents no drastic changes in the fishery between now and then, it would be reasonable to discontinue the effort at the close of 2025. If anglers note a substantial change in the quality of the fishery after the program ends, it could be reinstated and new data could be compared to the 2016-2025 results to provide documentation of the change. This evidence could be utilized to encourage NYSDEC fisheries management staff to investigate and remedy the situation. If reinstated, the use of a cell-phone-accessible, virtual “diary” could then be implemented.
2. Continue monitoring catch rates and length frequency distributions for the lake’s bass fisheries through 2025. 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. Monitor the catch of yellow and white perch in the fishery, and note obvious trends through 2025.

4. Explore the possibility of lake stewards at the Upper Saranac Lake and Fish Creek Campground Boat Launch Sites helping to recruit new angler diary cooperators. Provide business-type cards and angler diaries for them to distribute to anglers who plan to fish more than once in Upper Saranac Lake.
  5. Hold an angler diary cooperator meeting annually to respond to questions, recruit new cooperators and encourage proper completion of diary pages.
  6. Investigate the idea of obtaining additional data through bass tournaments held on the lake.
  7. Promote the Angler Diary Program through posters on USLA Bulletin boards and Zone Parties.
  8. Share Angler Diary Reports with NYSDEC and the Upper Saranac Foundation.
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Nancy Harris with a huge Upper Saranac Lake largemouth bass, 22 inches in length and weighing 4.2 pounds, caught on 8/5/2023. (Photo by Ari Harris)

The Environmental Committee extends its gratitude to all of the angler cooperators who contributed to this effort in 2023 and past years. We wish you tight lines in 2024!