

Environmental
Committee

Upper Saranac Lake
Association

Upper Saranac Lake

2019 Angler Diary Report

February 17, 2020

By Larry Nashett, Chair, Environmental Committee



Fish on! - Upper Saranac Lake, 8/3/19



Smallmouth bass - Upper Saranac Lake, 6/2/19

Photos provided by Will Main

Introduction

The Upper Saranac Lake Association (USLA) Environmental Committee manages a voluntary angler diary program to monitor the lake's fishery. The program documents trends by calculating annual catch rates and establishing length-frequency distributions for important fish species. The diary program can monitor the lake's coldwater, warmwater and ice fisheries.

New diaries, funded by the USLA and printed specifically for its Angler Diary Program, were distributed in 2019. No problems with their use were reported. A paperless method of recording data via mobile devices may be implemented in the future. First, a streamlined means must be developed to get newly recruited cooperators logged-in on a website where data can be recorded. Then a lake steward or an experienced angler cooperator could provide the information to any cell phone-toting angler at the boat launch site or on the water, and she or he could begin recording data immediately on their phone.

Seven cooperators returned records of their fishing trips in 2019. Angler diary cooperators have been assigned numbers 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.

To allow comparison of data in future years, angler diary cooperator numbers remain the same. 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 diary arrived too late to be included in the data summary. As you read through this report, please note 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 518-637-2885 or lnashett@roadrunner.com.

Results

Most fishing trips made by cooperators were in pursuit of bass, northern pike or both. A dedicated lake trout angler joined our group of volunteers in 2019, and two additional cooperators spent time targeting lake trout.

Please note that the number of bass reported in length frequency plots (Figures 2 and 3) may not be equal to those listed in Table 1. This is because the length frequency distributions are based on all bass caught that had recorded lengths. Alternatively, bass numbers reported in Table 1 are based only on the number caught that could be associated with an angler's effort (catch per hour).

Smallmouth Bass

Smallmouth Bass Catch and Creel Rates

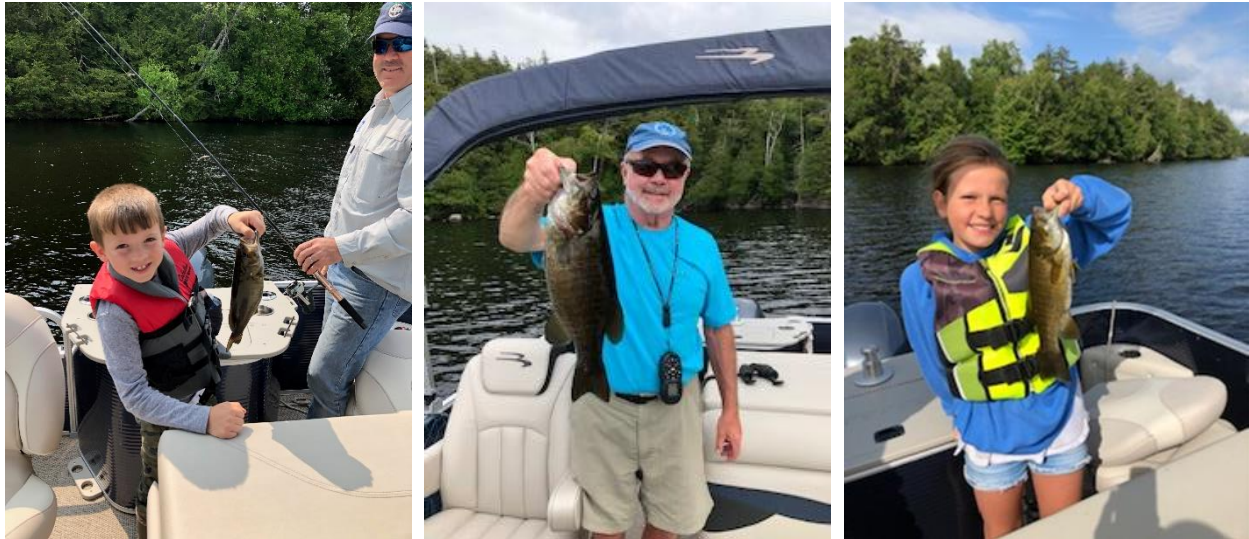
Diary keepers reported a total of 206 angler-trips and 372.5 angler-hours over 123 days of fishing for this species (Table 1). Cooperators caught 260 smallmouth bass in 2019 while specifically targeting them, resulting in a catch rate of 0.70 fish/hour. All were released.

Table 1. Targeted bass fishing effort and catch rates of smallmouth and largemouth bass by Upper Saranac Lake angler diary cooperators in 2019.

Angler	Overall Number Days Fished	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	17	21	3.47	72.00	57	0.79	21	0.29
2	17	17	3.47	59.00	41	0.69	24	0.41
3	31	71	1.86	135.50	143	1.06	11	0.08
6	42	78	1.63	91.75	9	0.10	3	0.03
7	9	7 ^a	1.61	12.25	9	0.73	5	0.41
8	4	8	5.63	0	(1) ^b	N/A	0	N/A
9	3	4	1.17	2	1	0.50	0	0
Total	123	206	2.33	372.5	260	0.70	64	0.17

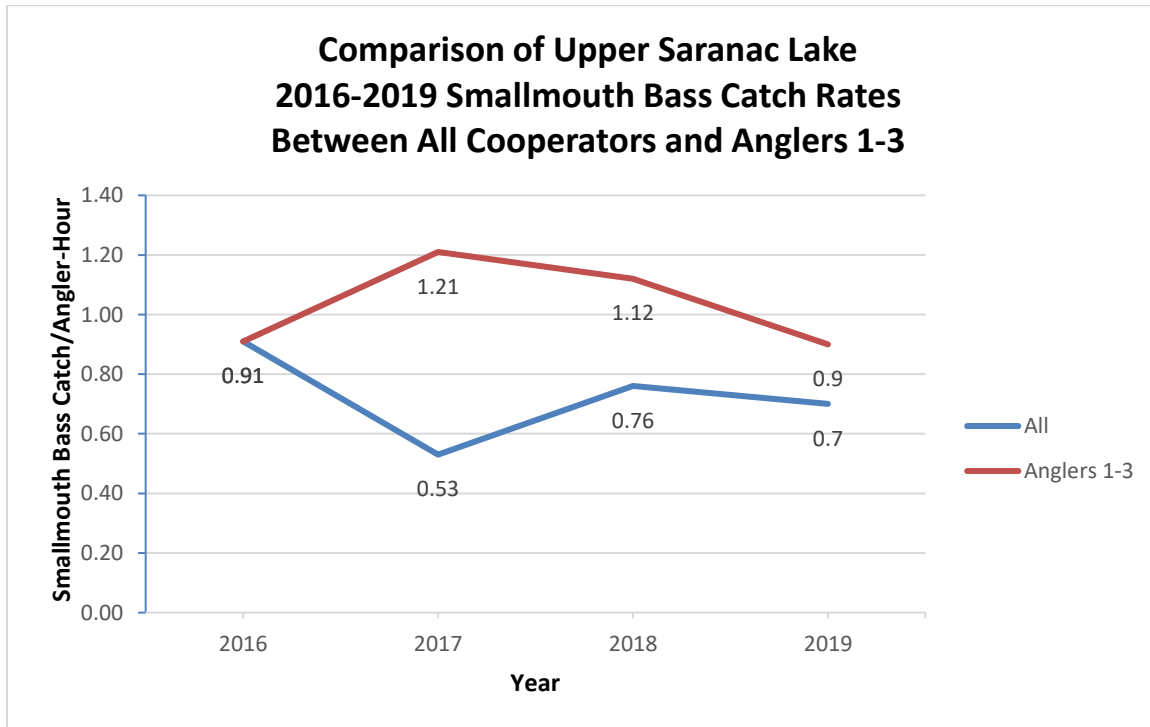
Table 2. 2016-2019 Comparison of Upper Saranac Lake targeted bass fishing effort and smallmouth catch rates by angler diary cooperators who provided data in each of the program's four years.

	Year	Angler 1	Angler 2	Angler 3	Total
Overall Number Days Fished	2016	13	13	8	34
	2017	16	16	18	50
	2018	18	18	19	55
	2019	17	17	31	65
Overall Number Angler Trips	2016	13	13	18	44
	2017	16	16	34	66
	2018	18	18	37	73
	2019	21	17	71	109
Angler-Hours Targeting Bass	2016	44.50	44.50	28.50	117.50
	2017	46.50	46.50	66.50	159.50
	2018	40.50	40.50	66.75	147.75
	2019	72.00	59.00	135.50	266.50
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
Number Caught	2016	41	49	17	107
	2017	47	49	97	193
	2018	34	37	95	166
	2019	57	41	143	241
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



2019 Upper Saranac Lake smallmouth bass photos (provided by Will Main).

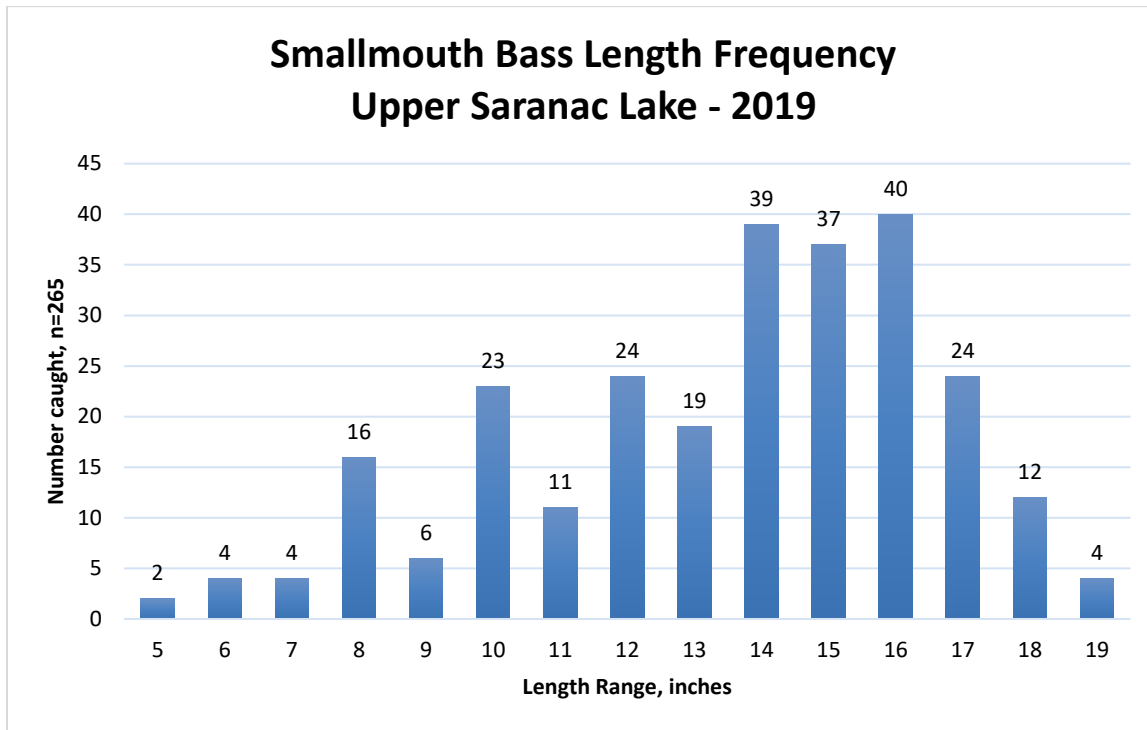
Figure 1. 2016-2019 Trend Comparison in Upper Saranac Lake smallmouth bass catch rates.



Smallmouth Bass Length Frequency Distribution

Figure 2 illustrates the smallmouth bass length frequency distribution based on 2019 angler cooperator data. Length ranges listed in the figure are abbreviated. That is, only the lower number in the 1.0-inch interval range is displayed. For instance, in the figure below, the 16.0-16.9-inch length range, which contains the highest number (40) of smallmouth bass in the overall catch, is simply depicted by the number 16.

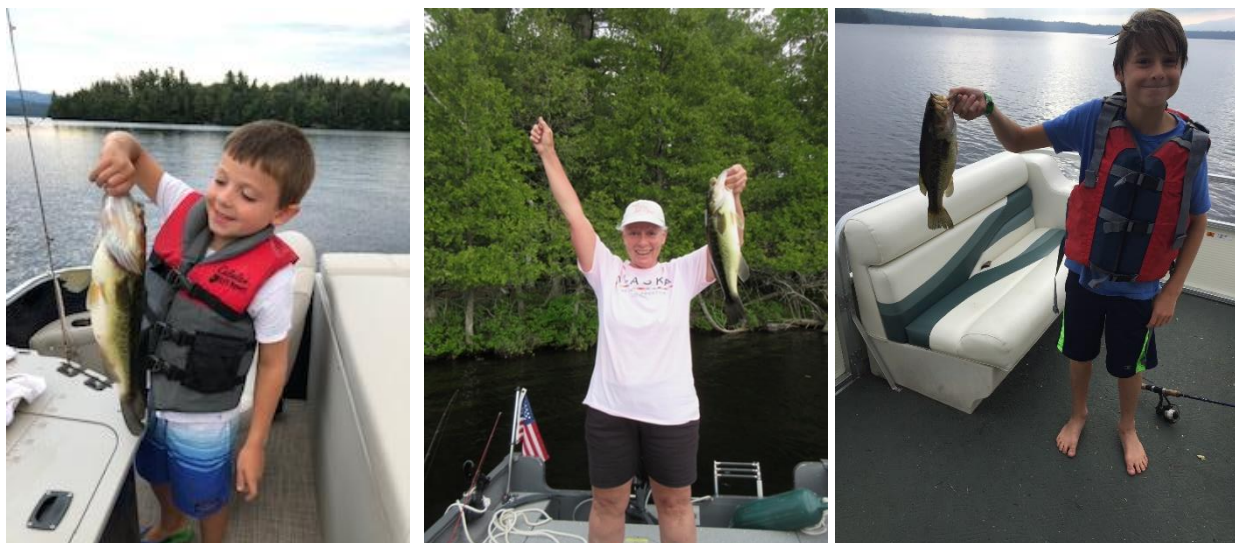
Figure 2. 2019 Upper Saranac Lake smallmouth bass length frequency distribution resulting from angler diary cooperator data.



Largemouth Bass

Largemouth Bass Catch and Creel Rates

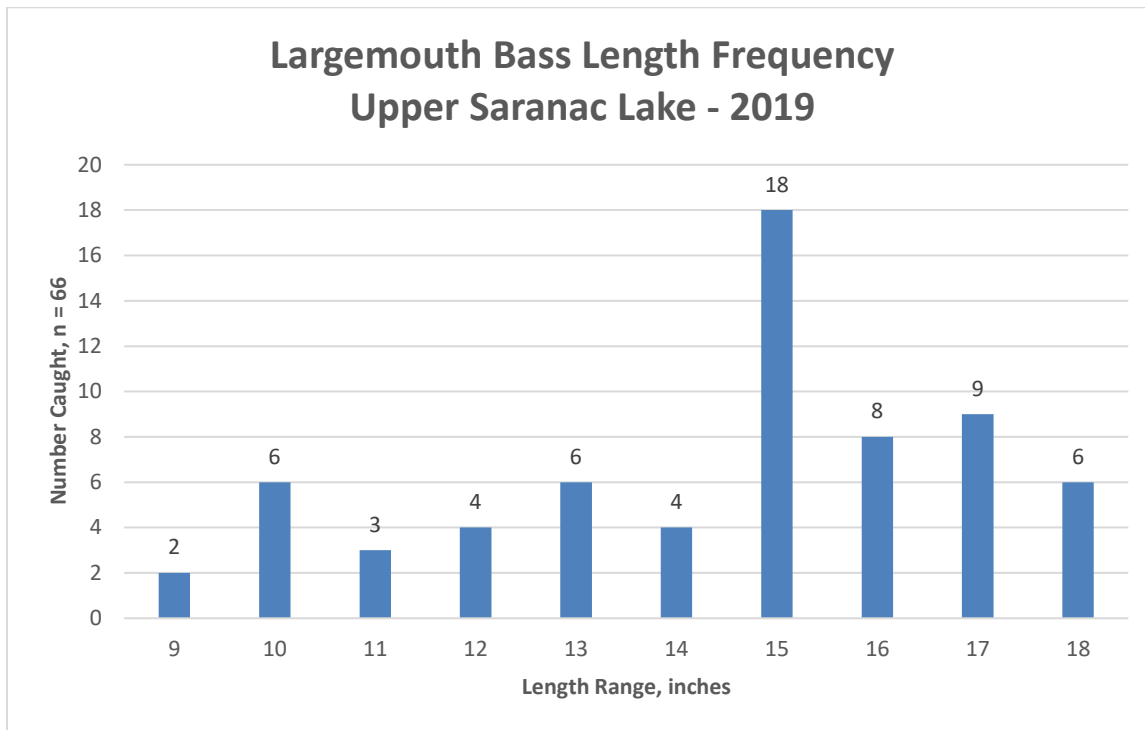
While smallmouth bass dominated the targeted catch, 64 largemouth bass were also landed. Angler-hours spent targeting bass were used in the rate calculations for both species. Slightly more than 0.17 largemouth bass were caught per hour.



Anglers with Upper Saranac Lake largemouth bass caught in 2019.
(Center photo by Ari Harris, others provided by Will Main)

Largemouth Bass Length Frequency Distribution

Figure 3. 2019 Upper Saranac Lake largemouth bass length frequency distribution resulting from angler diary cooperator data.



Lake Trout

Lake Trout Catch and Creel Rates

In 2019, three angler diary cooperators recorded six outings and ten angler-trips targeting lake trout. Two made one trip each, and spent a total of 2.5 angler-hours pursuing this species without success. The third, a new cooperator, and his angling guest(s) logged four trips and directed 45 angler-hours at lake trout in 2019. They caught five lakers, generating a catch rate of 0.11 lake trout per angler-hour. Two were kept; three were released. The released lake trout measured 21, 25 and 27.5-inches. Length measurements were not recorded for the remaining two lake trout. However, their weights were 6 lbs., 8 oz. and 8 lbs., 2 oz., and their lengths can be estimated at 26.5 and 28-inches, respectively, using length-weight relationships found in the scientific literature.

Northern Pike

Northern Pike Catch and Creel Rates

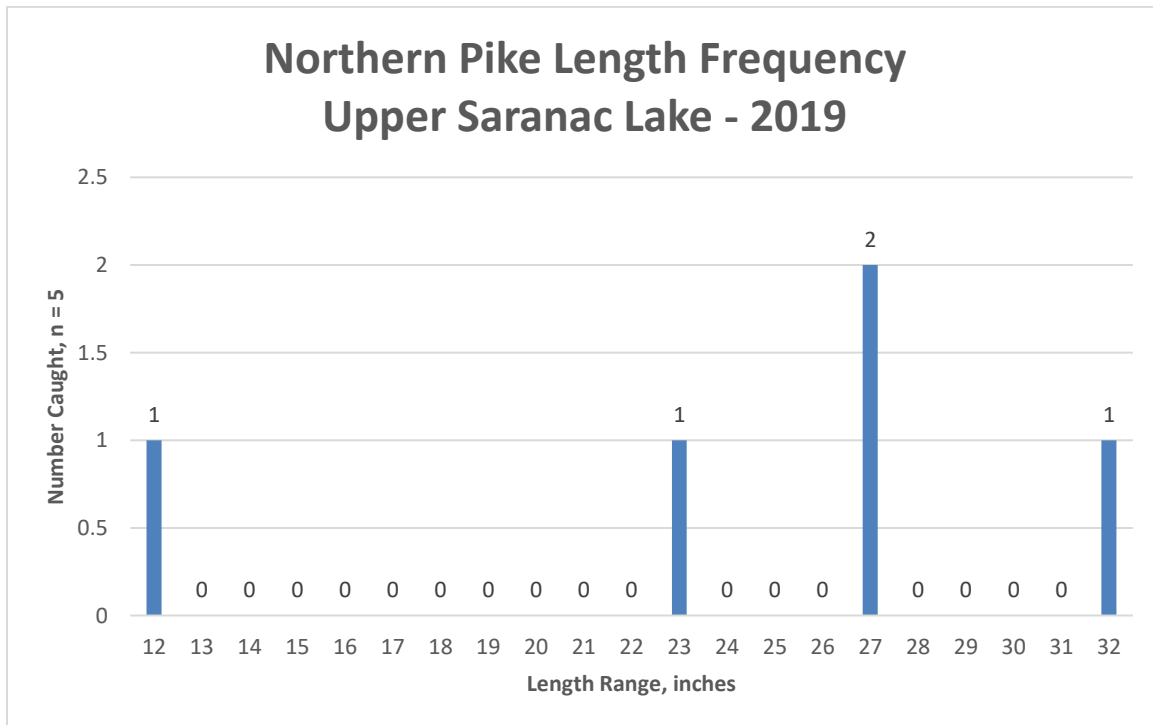
Two cooperators reported fishing specifically for northern pike in 2019. They logged 28 angler-trips, 69.5 angler-hours, and they caught three northern pike for their efforts. Their combined catch rate was 0.04 northern pike per angler-hour. In addition, other cooperators reported catching two pike while targeting bass.



Northern pike photos from the 2019 catch.
 (Photo on left provided by Ari Harris and. Photo on right by author)

Northern Pike Length Frequency Distribution

Figure 4. 2019 Upper Saranac Lake northern pike length frequency distribution resulting from angler diary cooperator data.



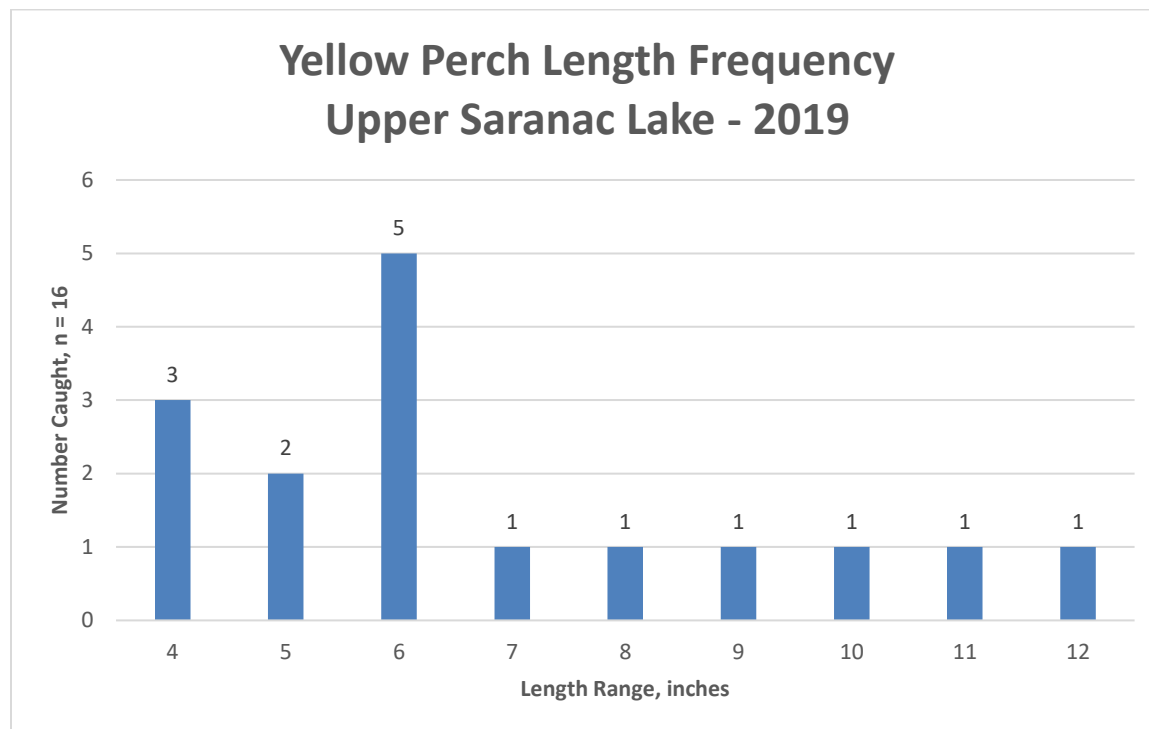
Yellow Perch

Yellow Perch Length Frequency Distribution

Angler cooperators reported catching only 16 yellow perch in 2019, compared to the 29 reported a year earlier. Yellow perch were caught while the anglers were focusing efforts on other species. To help

detect changes and trends, this program is currently monitoring their length-frequency distribution over time. The 2019 distribution, of limited utility due to a very small sample size, is presented in Figure 5.

Figure 5. 2019 Upper Saranac Lake yellow perch length frequency distribution resulting from angler diary cooperator data.



White Perch

In 2019, Angler Cooperators reported catching one 11-inch white perch. This species, believed to be present in Upper Saranac Lake since 2016, is the result of an unauthorized introduction. White perch length frequency distributions, and possibly their catch rates, may be monitored in future summaries. There is concern that the species may have adverse effects on the yellow perch and smelt fisheries.

Discussion and Conclusions

Smallmouth Bass

The overall 2019 catch rate of 0.70 smallmouth bass per hour in Upper Saranac Lake is similar to the 0.76 rate calculated for 2018, and higher than 2017's 0.53 fish per hour. These are good catch rates, yet they are lower than the excellent, 0.91 fish-per-hour rate reported for 2016. The lower rates appear to be associated with different cooperators participating over the four years. Comparing the average catch rates of the identical set of anglers who contributed useful data in 2016, 2017, 2018 and 2019, removes this variable. Both Figure 1 and Table 2 show their average catch rate increased from 0.91 fish per hour in 2016 to 1.21 in 2017, dropped slightly to 1.12 fish per hour in 2018 and returned to 0.90 in 2019. These are outstanding catch rates, indicative of an abundant smallmouth bass population.

As mentioned in earlier reports, length frequency distributions generated with angler diary data are similar to those constructed by biologists using 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.

One hundred ninety-nine, or 75 per cent of the 265 smallmouth bass in this year's length frequency distribution were 12-inches (the minimum length limit) or greater in length. Inspection of the distribution reveals a nearly undiscernible peak at 6-inches. More prominent peaks occur at 8, 10, 12, 14 and 16-inches. It is likely that these peaks signify smallmouth bass of ages 2, 3, 4, 5, 6 and 7, respectively. Interestingly, the highest peak, representing 40 fish, is at 16-inches. These fish are probably 7 years old, and the peak denotes a very strong year-class that will provide exciting fishing for quality-sized smallmouth bass over the next few years. A strong peak at the 14-inch length interval also bodes well for future smallmouth bass angling.

Largemouth Bass

Sixty-six largemouth bass were caught by angler cooperators in 2019 (Figure 3). Eleven were below the legal size limit of 12-inches; 55 were 12-inches or longer. The greatest number (18) of largemouth bass in the catch fell into the 15-inch length interval.

The ratio of largemouth bass to smallmouth bass in the 2019 catch was 1:4. That is, approximately four smallmouth bass were caught for every largemouth brought to hand. In 2018, the catch ratio was 1:9 compared to 1:7 in 2017. Despite some fluctuation, the ratio of largemouth bass to smallmouth bass in the catch appears to be increasing. The increasing trend was first noted by an angler cooperator who has maintained long-term, personal records showing the ratio was 1:20 in 1998 and 1:10 in 2016.

Lake Trout

Six outings that focused on lake trout were recorded by three cooperators in 2019. Their catch rate of 0.11 lake trout per angler-hour compares to 0.19 in 2018, 0.00 in 2017 and 0.33 in 2016. No meaningful conclusions can be drawn from these estimates because so little angler effort was directed at the lake trout population. More anglers who fish for lake trout are needed as diary cooperators.

In the course of fishing for lake trout, one cooperator boated a 14-inch landlocked salmon. This fish was likely an out-migrant from Follensby Clear Pond, where salmon have been stocked annually for many years. Landlocked salmon have not been stocked in Upper Saranac Lake since 2013.

Table 3. Recent stocking history of lake trout in Upper Saranac Lake, 2013-2018 (records for 2019 are expected to be available in May, 2020).

Source: <http://www.dec.ny.gov/outdoor/30467.html>

Species	Year	Month	Number	Size (inches)
lake trout	2018	May	10,500	6.4
lake trout	2017	April	10,500	6.5
lake trout	2016	May	2,000	6.9
lake trout	2016	April	5,900	7.0
lake trout	2015	May	10,500	6.3
lake trout	2014	April	10,500	6.5
lake trout	2014	June	4,000	6.7
lake trout	2013	May	7,590	7.1

Northern Pike

Only two cooperators targeted northern pike in 2019. They landed three of these toothy predators measuring 12, 27 and 27.5-inches in length. Two others caught northern pike with lengths of 23 and 32-inches (Figure 4), while bass fishing.

Yellow Perch

The yellow perch length frequency distribution, or catch curve, in Figure 5 illustrates that most of the yellow perch caught were less than 9-inches long. None of the cooperators were specifically targeting yellow perch, but the by-catch while fishing for other species is trending downward. Only 16 were caught in 2019, compared to 29 in 2018, and 59 in 2017. Based on very limited data, the proportion of yellow perch 9-inches and longer in the catch has increased from 8 percent in 2017 to 17 percent in 2018 and 25 percent in 2019. The decreasing numbers of yellow perch in the catch, and the increasing proportions of those greater than or equal to 9-inches in length, appears to indicate a changing population structure. Perhaps greater predation on perch less than 9-inches long is occurring, or the presence of white perch in the lake's fish community is producing these changes.

White Perch

During 2019, an angler diary cooperator provided an 11-inch long white perch that was transmitted through the USLA Environmental Committee to the New York State Department of Environmental Conservation. In turn, this fish has been registered as a voucher specimen with the New York State Museum's collection, officially documenting the species' presence in Upper Saranac Lake. The appearance of white perch is of concern because this species may have adverse effects on the existing fisheries resources.

Other Species

Four fallfish (6, 10, 12 and 14 inches in length) and one 6-inch pumpkinseed sunfish were recorded.

Recommendations

1. 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.
2. 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.
3. 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. Provide business-type cards and angler diaries for them to distribute to anglers who plan to fish in Upper Saranac Lake.
4. Monitor the by-catch of yellow and white perch in the fishery and note obvious trends.
5. Hold an angler diary cooperator meeting annually to respond to questions, recruit new cooperators and encourage proper completion of diary pages.
6. Share these Angler Diary Reports with NYSDEC and the Upper Saranac Foundation.

A hearty thank you is extended to all angler cooperators who contributed to this effort. Your efforts are greatly appreciated. Good luck on the water during the 2020 season!