Environmental Committee

Upper Saranac Lake Association

Upper Saranac Lake

Angler Diary Report

February 27, 2019

By Larry Nashett, Chair, Environmental Committee

Smallmouth bass - caught and released while jigging for yellow perch, 2/17/19

Photo by Author

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 has the capability to monitor the lake's coldwater, warmwater and ice fisheries, on a calendar year basis. To date most angler effort has focused on bass fishing during the late spring and summer months.

In 2016, the New York State Department of Environmental Conservation's (NYSDEC's) Region 5 Fisheries Management Unit provided several dozen coldwater angler diaries for our use (no warmwater diaries were available), and the Environmental Committee has shared its data summaries with the NYSDEC. The supply of NYSDEC diaries has been depleted, and the USLA will fund the printing of new diaries, printed specifically for the USLA Angler Diary Program. The new diaries will be distributed for use in 2019.

Also, a new method of recording data directly to a web page via mobile devices, laptop or desktop computers will be available in 2019. This method may replace the use of the paper diaries, and allow for real-time data compilation in future years.

Five cooperators volunteered to keep records of their fishing trips in 2018. Angler diary cooperators have been assigned numbers so that if individual catch and fishing effort statistics are reported, the cooperators can remain anonymous. The angler diary cooperator number is located on the cover of the new diary provided to each cooperator for the upcoming 2019 season.

To allow comparison of data in future years, angler diary cooperator numbers will remain the same, so be sure to keep a record of your angler number. Also, if you maintained a diary, it is possible that some data which you submitted was not used because an essential ingredient was lacking, or the diary arrived too late to be included in the summaries. As you read through the report, please note that the "Number of Hours Fished" and the "Number of Angler Hours" refer 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 518-359-2198 or lnashett@roadrunner.com.

Results

Four of the five cooperators, who agreed to keep a diary in 2018, returned useable records. We extend our sincere thanks to each of them. Most fishing trips made by the cooperators were in pursuit of smallmouth bass, northern pike or both. One cooperator reported a trip in which his party targeted lake trout. Recording the target species is important to allow a meaningful comparison of the Upper Saranac Lake fishery to those in other waters.

Sample sizes reported in length frequency plots in this report are coincidentally equal in size to those in the catch tables. This may not always be the case because the length frequency distributions are based on all fish caught that had recorded lengths. Alternatively, sample sizes reported in the catch summary tables are based on the number of fish caught that could be associated with an angler's effort (catch per hour), regardless of whether fish length was recorded.

Smallmouth Bass

Smallmouth Bass Catch and Creel Rates

Assuming that cooperators were targeting smallmouth bass when they caught warm water species unless otherwise specified, our four diary keepers reported a total of 138 angler trips and 244 angler hours over 80 days of fishing for this species (Table 1). Cooperators 1 and 2 always fished together, but returned separate data records. They went fishing 18 times, accounting for 36 angler days and 81 angler hours. Cooperators caught 185 smallmouth bass in 2018, while specifically targeting them, resulting in a catch rate of 0.76 fish/hour. Three of these were creeled (kept), and the rest were released.

Table 1. 2018 Upper Saranac Lake smallmouth bass fishing effort and catch rates by angler diary cooperators.

Angler	Number Days Fished	Number Angler Trips	Number Hours Fished	Mean Trip Length	Number Caught	Catch Per Hour
1	18	18	40.50	2.25	34	0.84
2	18	18	40.50	2.25	37	0.91
3	19	37	66.75	1.80	95	1.42
6	25	65	96.25	1.48	19	0.20
Total	80	138	244	1.77	185	0.76

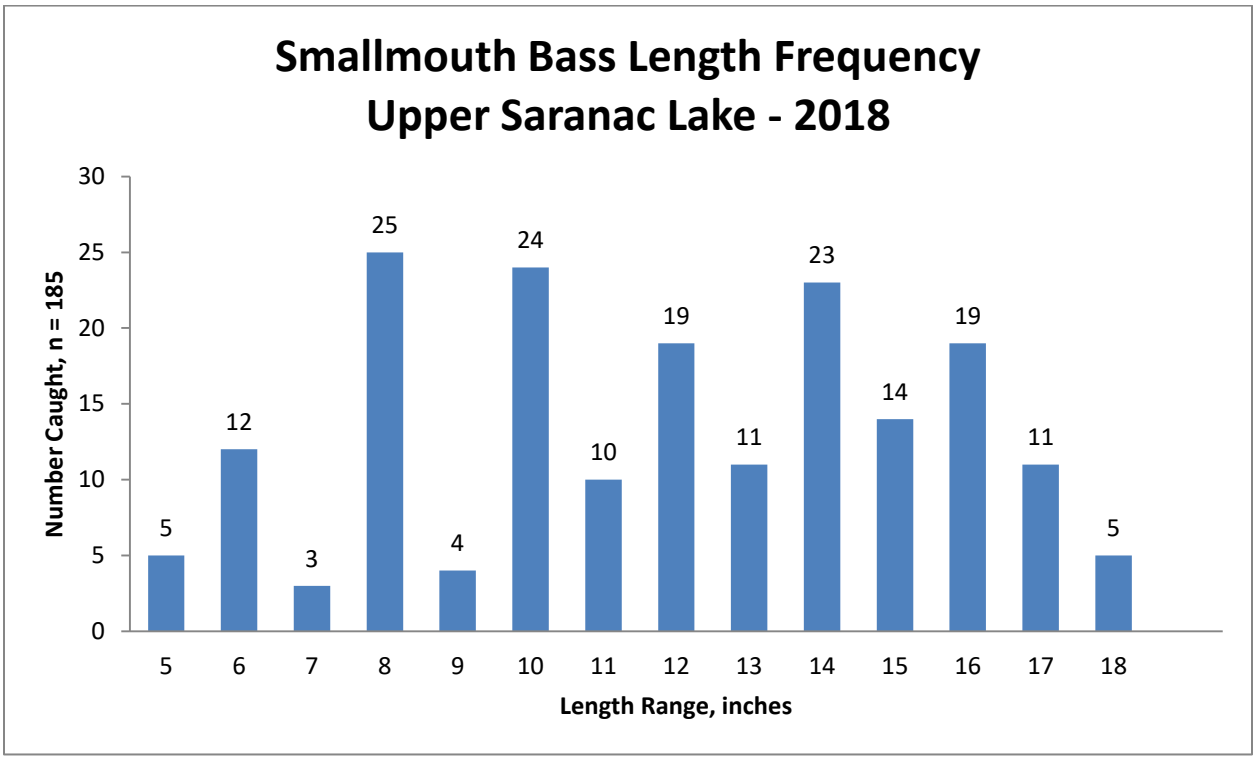
Table 2. 2016-2018 Comparison of Upper Saranac Lake smallmouth bass fishing effort and catch rates by angler diary cooperators who provided data in each of the three years.

	Year	Angler 1	Angler 2	Angler 3	Total
Number Days Fished	2016	13	13	8	34
	2017	16	16	18	50
	2018	18	18	19	55
Number Angler Trips	2016	13	13	18	44
	2017	16	16	34	66
	2018	18	18	37	73
Number Hours Fished	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
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
Number Caught	2016	41	49	17	107
	2017	47	49	97	193
	2018	34	37	95	166
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

Smallmouth Bass Length Frequency Distribution

The smallmouth bass length frequency distribution, generated from the data provided by angler diary cooperators in 2018, is shown in Figure 1. 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 8.0-8.9 inch length range, which contains the highest number (25) of smallmouth bass in the overall catch, is simply depicted by the number 8.

Figure 1. 2018 Upper Saranac Lake smallmouth bass length frequency distribution resulting from angler diary cooperator data.



Largemouth Bass

Largemouth Bass Catch and Creel Rates

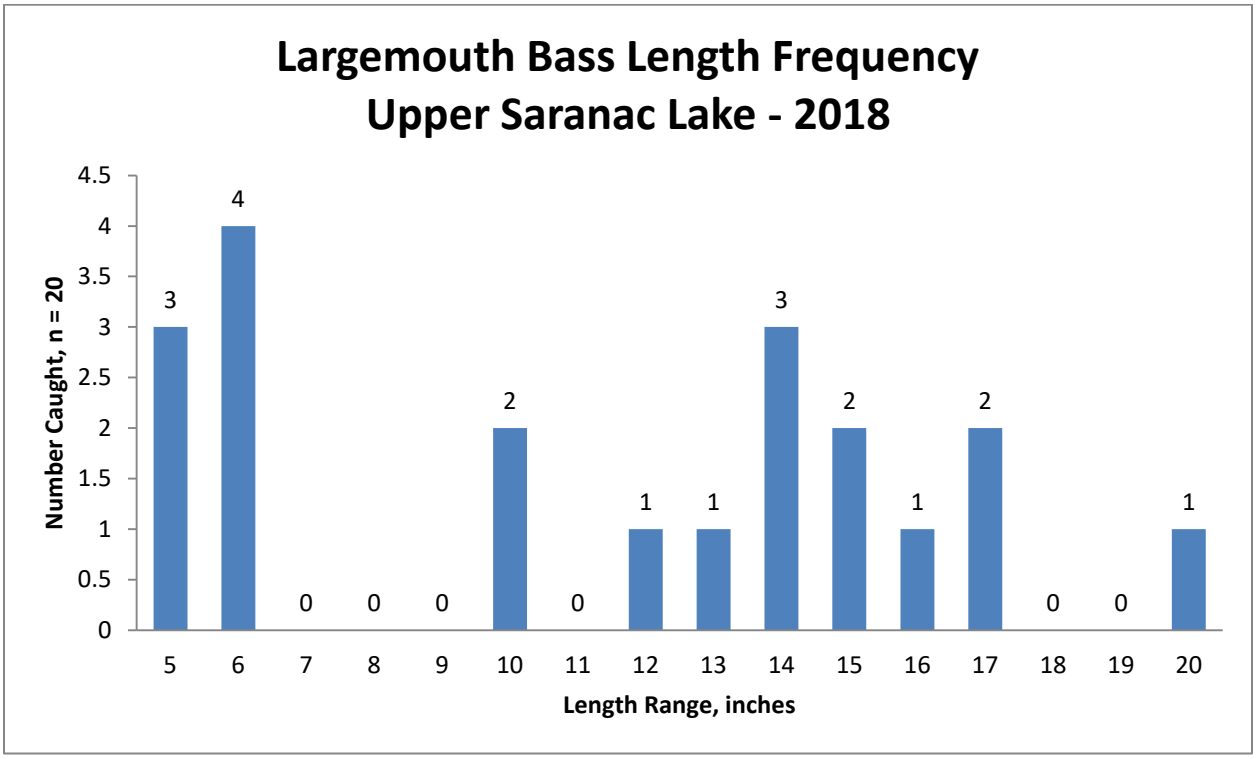
All four cooperators active in 2018 reported catching largemouth bass. The data shows that these were caught on trips which yielded mostly smallmouth bass. Despite indications that largemouth bass were not targeted on these trips, catch rates were calculated for them. The hours fished for smallmouth bass were used in the rate calculations. Cooperators reported catching 20 largemouth bass in 2018.

Table 3. 2018 Upper Saranac Lake largemouth bass fishing effort and catch rates by angler diary cooperators.

Angler	Number Days Fished	Number Angler Trips	Number Hours Fished	Mean Trip Length	Number Caught	Catch Per Hour
1	18	18	40.50	2.25	11	0.27
2	18	18	40.50	2.25	4	0.10
3	19	37	66.75	1.80	2	0.03
6	25	65	96.25	1.48	3	0.03
Total	80	138	244	1.77	20	0.08

Largemouth Bass Length Frequency Distribution

Figure 2. 2018 Upper Saranac Lake largemouth bass length frequency distribution resulting from angler diary cooperator data.



Lake Trout

Lake Trout Catch and Creel Rates

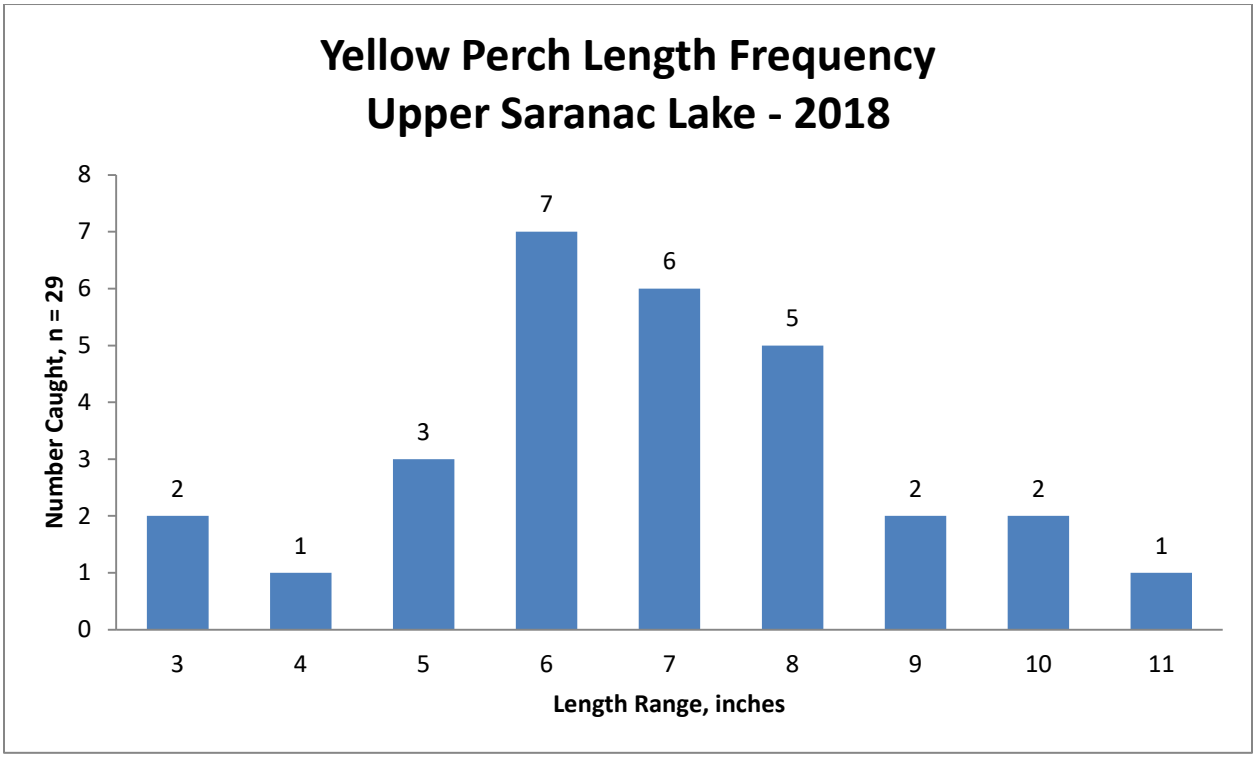
In 2018, one angler diary cooperator recorded a single trip targeting lake trout. There were three anglers on the 1.75-hour trip, resulting in a cumulative effort of 5.25 angler-hours focused on this species. A 10-year-old member of the party caught and released a 22.0 inch lake trout during the trip in nearly 50 feet of water. Although not meaningful in a statistical sense due to the small sample size, the catch-per-unit-effort calculation yields a respectable 0.19 lake trout per angler-hour.

Yellow Perch

Yellow Perch Length Frequency Distribution

Angler cooperators reported catching twenty-nine yellow perch in 2018. Yellow perch are abundant in the lake, and 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 2018 distribution is presented in Figure 3.

Figure 3. 2018 Upper Saranac Lake yellow perch length frequency distribution resulting from angler diary cooperator data.

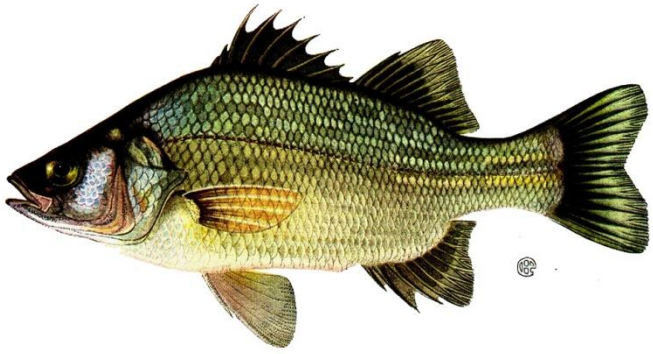


White Perch

The white perch, believed to be present in Upper Saranac Lake since 2016, is the result of an unauthorized introduction. Last year's Angler Diary Report (dated April 20, 2018) stated that length frequency distributions of white perch, and possibly their catch rates, would be monitored in future summaries. There is concern that they may have adverse effects on the yellow perch and smelt fisheries.

Angler Cooperators reported no white perch caught in their 2018 records, but were aware of catches made by other anglers. Lacking recorded data, no catch rate or length frequency summary has been prepared here for this species in 2018.

Figure 4. White Perch Illustration. Source: Kraft, C.E., D.M. Carlson, and M. Carlson. 2006. Inland Fishes of New York (Online), Version 4.0. Department of Natural Resources, Cornell University, and the New York State Department of Environmental Conservation.



Discussion and Conclusions

The summer of 2018 was a hot one by Adirondack standards! High winds and high water temperatures made successful fishing a challenge for cooperators. Many reported seeing numbers of large fish on their sonar systems, hugging the bottom, but refusing to bight despite use of a variety of techniques and offerings. Regardless of these problems, cooperators provided data indicating that Upper Saranac Lake continues to provide a high quality, premier, smallmouth bass fishery.

Smallmouth Bass

The overall 2018 catch rate of 0.76 smallmouth bass per hour in Upper Saranac Lake is a higher than 2017's 0.53 fish per hour. These are both 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 three years. Comparing the average catch rates of the identical set of anglers who contributed useful data in 2016, 2017 and 2018, removes this variable. Table 2 shows their average catch rate increased from 0.91 fish per hour in 2016 to 1.21 in 2017 then dropped slightly to 1.12 fish per hour in 2018. These are exceptional catch rates, and they suggest that Upper Saranac Lake's smallmouth bass population is abundant.

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 the age classes in a fish population, or the proportion of fish in a particular size range. One hundred-two, or 55%, of the 185 smallmouth bass used to generate the length frequency distribution depicted in Figure 1, were 12 inches (the minimum legal length) or longer. The largest number of smallmouth bass (25 fish) contained in a single length interval fell into the 8.0-8.9 inch bracket. Inspection of the length frequency distribution (Figure 1), along with the assumption that age 1 smallmouth bass are not likely to be recruited into the fishery, suggests that this peak in the distribution corresponds to fish of age 3. Other peaks in the length frequency distribution occur at 6, 10, 12, 14 and 16 inches. These peaks likely represent smallmouth bass of ages 2, 4, 5, 6 and 7. Another way of phrasing this, if assignment of ages to the peaks in the distribution is correct, would be to say it takes 7 years to grow a bass approximately 16 inches long in Upper Saranac Lake. The length frequency distribution also suggests there are several strong year classes in the population that should provide high quality fishing for future years.

Largemouth Bass

Twenty largemouth bass were caught by the angler cooperators in 2018 (Figure 2). Nine were below the legal size limit of 12 inches. Eleven were equal to or greater than 12 inches in length. A 20-inch largemouth topped the measured lengths.

The ratio of largemouth bass to smallmouth bass in the 2018 cooperator catch was 1:9 compared to 1:7 in 2017. This may indicate that an uptick in the ratio of largemouth bass to smallmouth bass in the catch is beginning to stabilize. 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

A single outing focusing on lake trout was recorded by a cooperator in 2018. His party of three spent less than 2 hours targeting lakers. They were successful in catching and releasing a 22-inch lake trout, just shy of the 23-inch minimum length limit. Their trip resulted in a catch rate of 0.19 lake trout per angler-hour. No lake trout were reported caught by cooperators in 2017 despite substantial effort. The catch rate for this species in 2016 was 0.33 lake trout per hour. More anglers who direct efforts at lake trout are needed as diary cooperators.

Table 4. Stocking history of lake trout in Upper Saranac Lake, 2013-2017; 2018 records not available. Source: http://www.dec.ny.gov/outdoor/30467.html

Species	Year	Month	Number	Size (inches)
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

Yellow Perch

The yellow perch length frequency distribution, or catch curve, in Figure 3 illustrates that most of the yellow perch caught were less than 9 inches long in 2018. This information is similar to that collected in 2017. Cooperators reported catching totals of 59 yellow perch in 2017 and 29 in 2018. In these years, 92 and 83 percent, respectively, were less than 9 inches long. Except for a much higher incidence of yellow perch in the 5.0-5.9 inch interval in 2017, the catch curves look quite similar. The high proportion of small yellow perch in the catch may indicate an overabundant, stunted population, or one that is heavily harvested in the length ranges above 8 inches. The latter scenario, attributed to size-selective, heavy harvest, seems unlikely, given what appears to be a very low pressure fishery.

White Perch

NYSDEC would like to obtain a voucher specimen for their collection documenting this species' presence in Upper Saranac Lake. If you catch one, please keep it refrigerated, not frozen, and contact me. I'll make sure it gets to the Ray Brook NYSDEC office.

The appearance of the white perch in the fish community is of concern because this species may have adverse effects on the existing fisheries resources.

Other Species

One angler cooperator reported catching and releasing two northern pike, each 27 inches in length while fishing for other species. Another cooperator specifically targeted pike for a total of 59 angler hours without success. Five fallfish were recorded, ranging in length from 6 to 13 inches. One diary keeper reported a catch a 10-inch bullhead. Four pumpkinseed sunfish, each 5 inches in length, were also registered.

Recommendations

1. Continue to monitor catch rates and length frequency distributions for the excellent smallmouth bass and largemouth bass fisheries present in Upper Saranac Lake. These are outstanding fisheries deserving of our care and attention. Continue to 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. Distribute newly printed diaries, funded by the USLA and specific to Upper Saranac Lake's fishery, to angler diary cooperators for use during 2019.

3. Encourage use of a new, cell-phone-accessible, virtual "diary", that will allow cooperators to enter fishing trip and catch information into a data base in real time.

4. Work with lake stewards at the Upper Saranac Lake and Fish Creek Campground Boat Launch Sites to recruit new angler diary cooperators, especially those targeting lake trout, to the program through the distribution of relevant information printed on business-type cards.

5. Keep tabs on the white perch catch and length frequency distribution via this angler diary program, and attempt to collect a voucher specimen for NYSDEC.

6. Hold an angler diary cooperator meeting annually to respond to questions and encourage proper completion of diary pages.

The angler cooperators who contributed to this effort deserve our many thanks. Please continue your excellent work; and good luck on the water during the 2019 season!