

Environmental
Committee

Upper Saranac Lake
Association

Upper Saranac Lake Angler Diary Report April 20, 2018

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Introduction

The Upper Saranac Lake Association (USLA) Environmental Committee manages a voluntary angler diary program to monitor the lake's fishery. The overall goal of the program is to document trends by annually calculating catch rates and establishing length-frequency distributions for important fish species caught and recorded by angler cooperators. These include warm water species such as smallmouth bass, largemouth bass and northern pike, as well as coldwater fish like lake trout.

Lake trout are currently stocked by the New York State Department of Environmental Conservation (NYSDEC) in Upper Saranac Lake. Other species sustain themselves by natural spawning.

Brown bullhead, yellow perch, pumpkinseed sunfish and rainbow smelt also contribute to the lake's fishery. Recently, the presence of white perch has been reported in the lake. This is a new introduction to the ecosystem and may change the dynamics of the fish populations.

The diary program monitors the lake's coldwater, warmwater and ice fisheries, on a calendar year basis. In 2016, NYSDEC's Region 5 Fisheries Management Unit agreed to provide several dozen coldwater angler diaries for our use (no warmwater diaries were available), and the Environmental Committee offered to share its data summaries with the NYSDEC.

In 2017 nine cooperators volunteered to keep records of their fishing trips. 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 sent to each cooperator for the upcoming 2018 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

All nine cooperators, who agreed to keep a diary in 2017, returned useable records. We extend our sincere thanks to each of them. Anglers seemed to be targeting smallmouth bass, or sometimes smallmouth bass and northern pike on most of their trips, regardless of whether a target species was recorded. Only one cooperator reported targeting lake trout. Keeping track of the target species in the future is important because it will allow a more meaningful comparison of the Upper Saranac Lake fishery to those in other waters.

Sample sizes reported in length frequency plots in this report may not be equal in size to those in the catch tables. This is 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. On some trips, angler diary cooperators recorded a length range rather than individual fish lengths, so that only the smallest and largest lengths in the range could be utilized in the length frequency tables.

Smallmouth Bass

Smallmouth Bass Catch and Creel Rates

Assuming that cooperators were targeting smallmouth bass when they caught warm water species, our nine diary keepers reported a total of 218 angler trips and 427.75 angler hours over 135 days of fishing for this species (Table 1). Cooperators 1 and 2 always fished together, but returned separate data records. They went fishing 16 times, accounting for 32 angler days and 93 angler hours.

A horizontal, double line in Table 1 separates “guest cooperators” (hosted by Cooperators 1 and 2) who maintained individual records from standard cooperators. Guest cooperator data is presented below the double line. Altogether, cooperators caught 225 smallmouth bass in 2017 resulting in a catch rate of 0.53 fish/hour, and all were released.

Table 1. 2017 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	16	16	46.50	3.10	47	1.01
2	16	16	46.50	3.10	49	1.05
3	18	34	66.50	2.00	97	1.46
6	77	144	249.50	1.70	24	0.10
4	2	2	4.50	2.25	5	1.11
7	1	1	2.00	2.00	1	0.50
8	2	2	6.00	3.00	2	0.33
9	2	2	6.00	3.00	0	0.00
10	1	1	0.25	0.25	0	0.00
Total	135	218	427.75	1.96	225	0.53

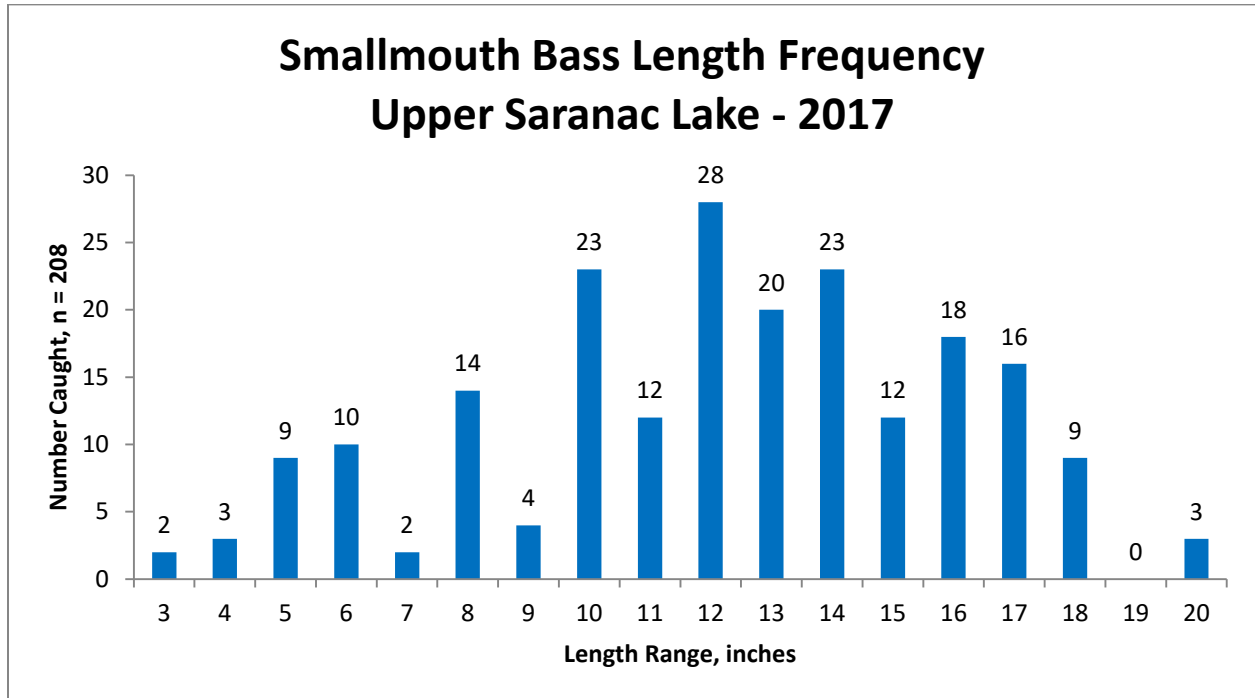
Table 2. 2016-2017 Comparison of Upper Saranac Lake smallmouth bass fishing effort and catch rates by angler diary cooperators who provided data in both years.

Angler	Number Days Fished		Number Angler Trips		Number Hours Fished		Mean Trip Length		Number Caught		Catch Per Hour	
	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017
1	13	16	13	16	44.50	46.50	3.42	3.10	41	47	0.92	1.01
2	13	16	13	16	44.50	46.50	3.42	3.10	49	49	1.10	1.05
3	8	18	18	34	28.50	66.50	1.50	2.00	17	97	0.60	1.46
Total	34	50	44	66	117.5	159.50	2.97	2.42	107	193	0.91	1.21

Smallmouth Bass Length Frequency Distribution

The smallmouth bass length frequency distribution, generated from the data provided by angler diary cooperators in 2017, 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 12.0-12.9 inch length range, which contains the highest number (28) of smallmouth bass in the overall catch, is simply depicted by the number 12.

Figure 1. 2017 Upper Saranac Lake smallmouth bass length frequency distribution resulting from angler diary cooperator data.



Largemouth Bass

Largemouth Bass Catch and Creel Rates

Five of nine cooperators reported catching largemouth bass in 2017. The data again suggests 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 32 largemouth bass in 2017.

Table 3. 2017 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	16	16	46.50	3.10	8	0.17
2	16	16	46.50	3.10	17	0.37
3	18	34	66.50	2.00	0	0
6	77	144	249.50	1.70	1	>0
4	2	2	4.50	2.25	4	0.89
7	1	1	2.00	2.00	0	0
8	2	2	6.00	3.00	2	0.33
9	2	2	6.00	3.00	0	0
10	1	1	0.25	0.25	0	0
Total	135	218	427.75	1.96	32	0.07

Largemouth Bass Length Frequency Distribution

Figure 2. 2017 Upper Saranac Lake largemouth bass length frequency distribution resulting from angler diary cooperator data.

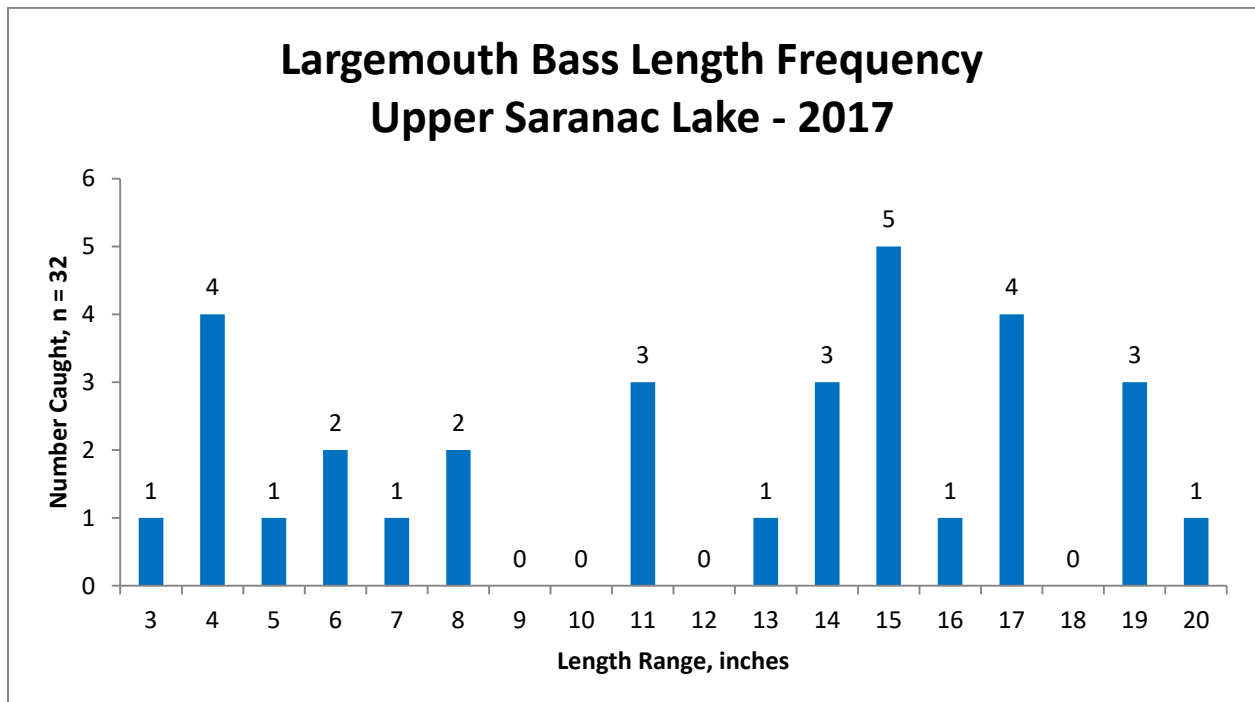


Figure 3. An angler displays a pair of beautiful largemouth bass caught and released in Upper Saranac Lake, 2017.



Photo by Ari Harris

Lake Trout and Landlocked Salmon

Lake Trout Catch and Creel Rates

One angler diary cooperator recorded two trips (in standard format) with a cumulative duration of 4 hours targeting lake trout. In addition, in the last entry of the diary in narrative form, this angler recorded spending a total of 28 hours trolling for lake trout. Whether the first 4 hours were included in this 28-hour total is unknown, but since no lake trout were caught, both the catch and catch rate equaled zero.

Landlocked Salmon

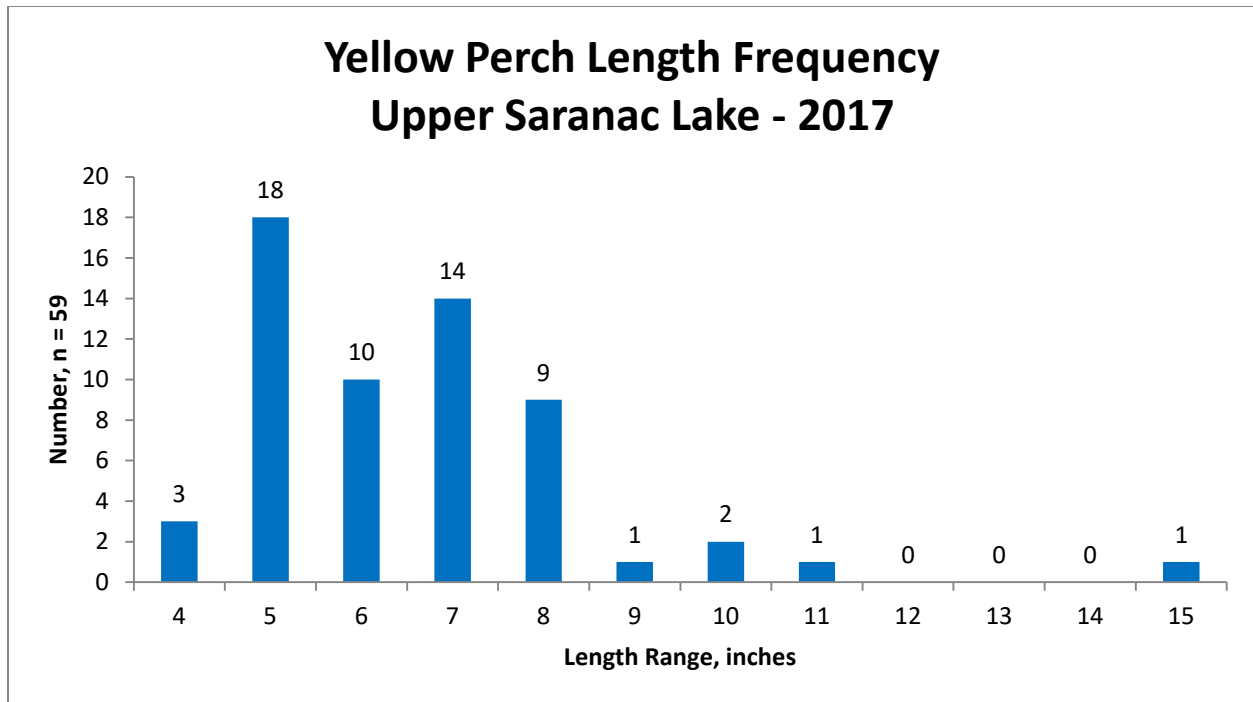
A landlocked salmon was caught during one of the aforementioned lake trout trips reported in standard format. This fish was a 20-inch specimen, and it was creeled. A photograph of the landlocked salmon was included in the returned diary. The fish sported a large kype, or elongated and hooked lower jaw, indicating it was a male. They are no longer stocked in Upper Saranac Lake, so this could be a downstream migrant from Follensby Clear Pond, where stocking occurs.

Yellow Perch

Yellow Perch Length Frequency Distribution

Six angler cooperators reported catching fifty-nine yellow perch in 2017. 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, it may be worthwhile to monitor their length-frequency distribution over time. The 2017 distribution is presented in Figure 4.

Figure 4. 2017 Upper Saranac Lake yellow perch length frequency distribution resulting from angler diary cooperator data.



White Perch

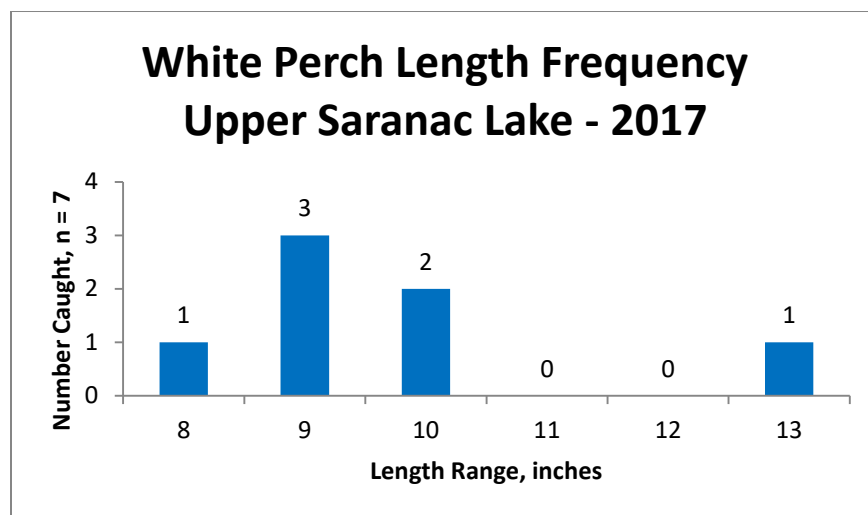
The white perch is a relatively new addition to the fish community of Upper Saranac Lake. Two cooperators reported catching white perch, and one submitted the photo in Figure 5. A third cooperator reported catching “whitefish”, but it is likely these were also white perch, as this angler fished relatively shallow areas and reported most of the “whitefish” lengths to be about 9 inches. Young whitefish are rarely caught, and they prefer cold, deep, well-oxygenated water. Also, it is believed that only a remnant whitefish population exists in Upper Saranac Lake, composed of just a few, large, old individuals. Therefore, the fish reported as whitefish were deemed to be white perch in this report.

Due to their potential to overpopulate and stunt, as well as the possibility that they may have adverse competitive effects on the yellow perch population, length frequency distributions of white perch, and possibly their catch rates, will be monitored in future summaries.

Figure 5. White Perch caught in Upper Saranac Lake, 2017. Photo by Ari Harris.



Figure 6. 2017 Upper Saranac Lake white perch length frequency distribution resulting from angler diary cooperator data.



Discussion and Conclusions

Length frequency distributions formed using angler diary cooperator data are generally comparable to those generated 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.

Three “guest cooperators” identified in Table 1 were age ten or under. Their participation is warmly welcomed. Youngsters often fish with dissimilar methods (for instance, using bobbers and worms, etc.) compared to adult anglers, and therefore, the sizes and species of fish they catch and their catch rates can often be quite different. Table 1 allows some interpretation of these possible differences by identifying “guest cooperators”.

Smallmouth Bass

The overall, 2017 catch rate of smallmouth bass in Upper Saranac Lake was 0.53 fish per hour. This catch rate is reasonably good, but not nearly as spectacular as the 0.91 fish per hour reported for 2016. To make a more valid comparison between years, I compared the average catch rates of the anglers who contributed useful data in 2016 to the same anglers who again participated in 2017. Table 2 shows their average catch rate increased from 0.91 fish per hour in 2016 to 1.21 fish per hour in 2017. These are excellent catch rates, representative of a strong population.

One hundred twenty-nine, or 62%, of the 208 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 (28 fish) contained in a single length interval fell into the 12.0-12.9 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 that were probably age 5. Other peaks in the length frequency distribution occur at 6, 8, 10, 14, 16 and 20 inches. It is possible that these peaks represent smallmouth bass of ages 2, 3, 4, 6 and 7, as well as three truly geriatric individuals.

Largemouth Bass

Thirty-two largemouth bass were caught by the angler cooperators in 2017. Eighteen were as long as, or longer than, the legal size limit of 12 inches. Fourteen were below 12 inches in length. Six of the largemouths landed, and included in the numbers above, were caught by the age 10-and-under cooperators, and all were less than 12 inches in length.

The ratio of largemouth bass to smallmouth bass in the overall 2017 catch was 1:7. This supports the observations of one of our angler cooperators who reported a trend of increasing proportions of largemouth bass in the catch. According to this cooperator's personal records, the ratio of largemouth bass to smallmouth bass was 1:20 in 1998 and 1:10 in 2016. This may represent a change in the bass community structure. Alternatively, it could reflect changes in fishing techniques, locations fished or some other variable.

Lake Trout

One cooperator spent at least 28 hours fishing specifically for lake trout in 2017. He targeted them on at least three occasions. No lake trout were caught. Last year's catch rate was 0.33 lake trout per hour. Hopefully, the poor 2017 lake trout fishery was just an anomaly. 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.

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 in Figure 3 illustrates that most (over 86 percent) of the yellow perch caught ranged in length from 5 up to 9 inches. This preponderance of small yellow perch may indicate an overabundant, stunted population, or one that is heavily harvested in the length ranges above 8 inches. It will be interesting to see what happens to their length frequency distribution as white perch become more abundant.

White Perch

The white perch, now present in Upper Saranac Lake, is the result of an unauthorized introduction. Whether it was established accidentally or intentionally is unknown. Its presence was first reported to the Region 5 Fisheries Office of the New York State Department of Environmental Conservation (NYSDEC) about 2 years ago by an angler who happened to catch one. NYSDEC would like to obtain a

voucher specimen for their collection. 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.

White perch raise concerns because, as a new introduction, they may have adverse effects on the existing fisheries resources.

Other Species

Angler cooperators reported catching three northern pike ranging in length from 25 to 31 inches. This tally includes a fish lost at the boat by an angler in the age 10-and-under group. Unfortunately the fish broke the line, and took with it the young angler's lucky lure! Six fallfish, members of the true minnow family, Cyprinidae, were recorded, and ranged in length from 4 to 15 inches. One diary keeper reported a catch of two "catfish". These fish were 13 and 14 inches long, and were likely brown bullhead instead of bona fide catfish. Two fish identified by the anglers as a "sunfish" and a "bluegill" were also registered. These were 3 inches and 5 inches long, respectively, and both were probably pumpkinseeds.

Recommendations

1. 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.
2. Continue to monitor catch rates and length frequency distributions for both the smallmouth bass and largemouth bass fisheries. Foster the maintenance of these outstanding fisheries by encouraging responsible fish handling techniques, including catch and release angling, and reporting any observed habitat destruction such as unmitigated disturbance of near-shore spawning areas.
3. Make additional efforts to recruit new angler diary cooperators, especially those targeting lake trout, to increase the number of participants in the program.
4. Encourage cooperators to list the species they are targeting (which will allow more reliable catch rate analyses) and to report length measurements to the nearest inch for each individual fish caught.
5. Develop and print angler diaries specific to this Upper Saranac Lake Association program.

A hearty thank-you is extended to all of the angler cooperators who contributed to this effort. Please continue the fine work. We hope to see you on the water during the 2018 season.