

## Schroon Lake Centrarchid Electrofishing Survey (Survey #521026)

Chris Powers, Region 5 Fisheries 02/04/2022

Schroon Lake is a 4,107-acre lake located on the Warren and Essex County lines near the towns of Schroon and Pottersville. A NYS DEC boat launch exists at the southern end of the lake in the town of Horicon. The town of Schroon also maintains a boat ramp on the Northern end of the lake. The lake is a popular year-round destination for recreationists and anglers. Schroon Lake supports a two-story fishery comprised of both warm and cold-water fish species. The cold-water community is dominated by lake trout, Atlantic salmon and rainbow smelt. The warm/cool-water fishery of the lake is composed of largemouth bass, smallmouth bass, northern pike, yellow perch, bullhead and panfish. The last major fisheries survey on Schroon Lake occurred in 2014 and sought to evaluate the status of the lake trout fishery. A 2010 fisheries survey was aimed at determining the status of the salmonid and centrarchid (bass & sunfishes) fisheries in the lake; however, results were limited due to hot summer temperatures and associated abundant recreational boat traffic. The current survey was conducted to investigate the status of

the lake's centrarchid population following statewide protocols for centrarchid sampling (Brooking et al., 2017). The original intent was to sample sites in both the North and South basins of the lake in the same Spring; however, catch rate variability and limited staff hours allowed for only South Basin sites to be surveyed in 2021. North basin surveys are tentatively scheduled for the Spring of 2022. This technical brief serves as an interim report on the status of the lake's fishery until the remaining surveys are conducted and a comprehensive report written.

Nighttime boat electrofishing was conducted on June 15-17, 2021, at sixteen randomly selected locations in the southern basin of the lake. Eight, ten-minute "All Fish" runs where all species of fish are collected were alternated with eight, thirty-minute "Sport Fish" runs where only game fish species were captured. Nearshore water temperatures were in the high 60°F range during sampling. All sportfish were measured and weighed, and black bass scales were retained for age determination. The majority the non-sportfish were measured as well, however a subset of yellow perch was simply counted.

A total of 376 fish composed of 13 species were captured over three sampling nights (Table 1). Yellow perch were the most abundant species encountered, followed by smallmouth bass. Only four largemouth bass were captured during the survey, one of which was an adult fish over 20" in length (Figure 1).

**Table 1.** Total catch from 2021 electrofishing survey.

Species	Number Caught	Min. Length	Max Length
Chain Pickerel	3	7.2	9.3
Common Shiner	4	2.6	3.3
Fallfish	1	n/a	3.6
White Sucker	2	15.7	19.7
Yellow Bullhead	4	7.6	10.6
Brown Bullhead	7	6.2	14.6
Banded Killifish	1	n/a	2.8
Lepomis Spp.	1	n/a	51
Rock Bass	33	2.3	9.3
Redbreast Sunfish	9	4.0	6.5
Pumpkinseed	37	2.0	9.8
Yellow Perch	212	3.0	8.5
Largemouth Bass	4	8.1	20.3
Smallmouth Bass	58	2.7	18.6

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Smallmouth bass appear to be the most abundant nearshore sportfish species in the lake. Despite relatively low total catch rates (10.4 fish/hour of electrofishing) for smallmouth, the proportional (PSD) and relative preferred (RSD<sub>p</sub>) stock densities for quality (11") and preferred (14") size fish, respectively, appear to be above statewide averages for springtime electrofishing indicating a high proportion of these catchable sized fish. These stock density metrics do exhibit a significant amount of variability which additional sampling should help to reduce. Smallmouth bass relative weights were below statewide averages, particularly for fish greater than 11" indicating they are skinnier than what would be considered an average New York State smallmouth.

The most abundant panfish encountered during the survey were yellow perch, most of which were on smaller side with no fish captured over 8.5". Other panfish species encountered included pumpkinseed, rock bass and redbreast sunfish (Figure 2). Thirty-seven pumpkinseed sunfish were captured, most of which were between 3 and 7 inches, but a few large specimens over 8 inches were also captured.

Schroon Lake continues to support naturally reproduced populations of black bass and sunfish. Smallmouth bass are the dominant centrarchid in the system. Schroon Lake smallmouth are not as numerous or in as good of condition as bass in other New York lakes of similar size, but they are growing to quality length (11") and longer. A lack of weed growth and cover in the littoral zone may be limiting smallmouth bass growth and survival in the system. Furthermore, Schroon Lake is known to support a healthy population of fast-growing lake trout (NYSDEC, 2014), this may further contribute to the subpar smallmouth population. Boat electrofishing surveys should be conducted in the Northern basin of Schroon Lake in the future to further asses the lake's centrarchid population and to determine if fish populations differ between the basins.

Figure 1. Black Bass Length Frequency Distribution

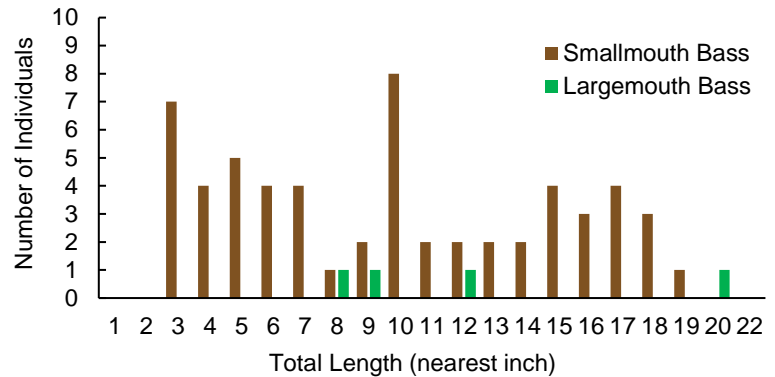
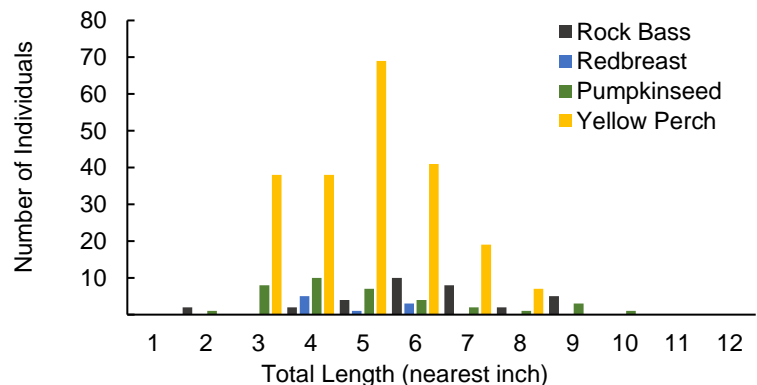


Table 2. Smallmouth bass stock densities with standard errors.

Stock Density Metric	Schroon Lake 2021	Statewide Average
PSD (≥11 in)	62.9 (19.7)	50 (2)
RSD <sub>p</sub> (≥14 in)	45.7 (20.3)	24 (1)
RSD <sub>m</sub> (≥17 in)	20.0 (16.8)	5 (0)

Figure 2. Panfish Length Frequency Distribution



Literature Cited:

Brooking, T., Loukmas, J., Jackson, R., VanDevalk, T. 2018. Black bass and sunfish sampling manual for lakes and ponds. New York State Department of Environmental Conservation, Federal Aid in Sportfish Restoration, F-63-R, Study 2, Job 2-2.3. Albany, New York.

New York State Department of Environmental Conservation Bureau of Fisheries. 2014. Statewide Fisheries Database: Survey#514027.