

**Bureau of Fisheries Technical Brief #422018**  
**Snyder's Lake (H-235-11-PN377)**  
**2023 Sportfish Survey**  
**Scott Wells, Region 4 Fisheries**



Department of  
 Environmental  
 Conservation

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Snyder's Lake is a shallow 108-acre waterbody with a mean depth of only 18 ft. located in mid-eastern Rensselaer Co., NY. The lake supports a typical warmwater fish community containing black bass, walleye, chain pickerel, black crappie and various panfish like yellow perch and bluegill. Public access is limited to a town park beach in the SE corner and an unimproved boat ramp in the SW corner. The DEC stocks around 2000 fingerling walleye every other spring to help maintain this popular sport fishery.

The perimeter of the lake was sampled by boat electroshocking in accordance with Brooking et al. (2018) on the night of May 12, 2022, totaling four runs or 1.34 hours (h) of power on-time. Surface water temperature was 65.2 °F at 8:40 pm and water conductivity was 350 µS/cm on a cool, calm evening. Arrival time was too late to record a secchi depth, though turbidity was low in this relatively clear lake.

A total of 273 fish comprising 10 species were captured, plus another 228 fish were observed in the survey. Largemouth bass was most numerous, accounting for nearly 35% of the collection, followed by smallmouth bass (22%), and yellow perch (15.4%). Catch rates were around 71, 45, and 124 fish/h, respectively (Table 1). All other species accounted for < 9% of the catch (Table 1).

Black bass catch rates were very high for such a small waterbody in NYS as noted in Brooking et al. (2018), with adult bass dominating the catch. All largemouth and nearly 61% of smallmouth measured ≥12 in. (legal size). Over 81% of the largemouth bass were ≥15 in. (preferred size), with one memorable fish that measured 20.4 in. (Fig. 1) and weighed 4.4 lbs. Only 30% of the smallmouth were ≥14 in. (preferred size) with eight memorable fish, the largest measured 18.3 in. (Fig. 1) and weighed 3.3 lbs. Only 23 immature bass (all smallmouth) were caught, 85% being stock size (≥8 in.) subadults (Table 1).

Table 1. Night electrofishing survey results for eight fishes from Snyder's Lake on May 12, 2022.

----- Numbers by total length category<sup>1</sup>-----

Species	Captured	Abundance	Time(h)	Fish/h <sup>2</sup>	YY/SY <sup>3</sup>	≥Stock	≥Quality	≥Preferred	≥Memorable
Largemouth bass	95	34.8%	1.34	70.9	0	0	18	76	1
Smallmouth bass	60	22.0%	1.34	44.8	3	20	11	18	8
Yellow perch	42	15.4%	0.34	123.5	13	21	0	5	3
Bluegill	24	8.8%	1.34	17.9	12	10	1	1	0
Walleye	21	7.7%	1.34	15.7	0	18	2	1	0
Brown bullhead	8	2.9%	0.34	23.5	0	1	1	5	1
Pumpkinseed	6	2.2%	1.34	4.5	0	2	0	4	0
Rock bass	5	1.8%	0.34	14.7	0	0	4	1	0

<sup>1</sup>Total length categories per species. <sup>2</sup>Effort recorded in h—hours of on-time. <sup>3</sup>YY—young of year and SY—spring yearling or age 1-2 (immature) fish combined.

	Largemouth bass	Smallmouth bass	Walleye	Rock bass	Yellow perch/ Brown bullhead	Pumpkinseed/ Bluegill
Stock	≥8 in	≥7 in	≥10 in	≥4 in	≥5 in	≥3 in
Quality	≥12 in	≥11 in	≥15 in	≥7 in	≥8 in	≥6 in
Preferred	≥15 in	≥14 in	≥20 in	≥9 in	≥10/11 in	≥8 in
Memorable	≥20 in	≥17 in	≥25 in	≥11 in	≥12/14 in	≥10 in

Only eight adult yellow perch were collected, with five in the ≥10 in. (preferred) and three in the ≥12 in. (memorable) size classes as the majority were immature fish. Similarly, only three walleye were ≥15 in. or legal size with one preferred size fish measuring 23.7 in. and weighing 4.6 lbs. (Table 1, Fig. 1).



Sunfish were poorly represented in the survey combining for only about 10% of the collection despite extra effort to collect them on all four runs (~1.34 h). Bluegill were more numerous but smaller/younger than pumpkinseed with only six adults ( $\geq$  quality size) captured between the species. Less effort on shorter all-fish runs (~0.34 h) resulted in fewer brown bullhead and rock bass, mostly adults (Table 1).

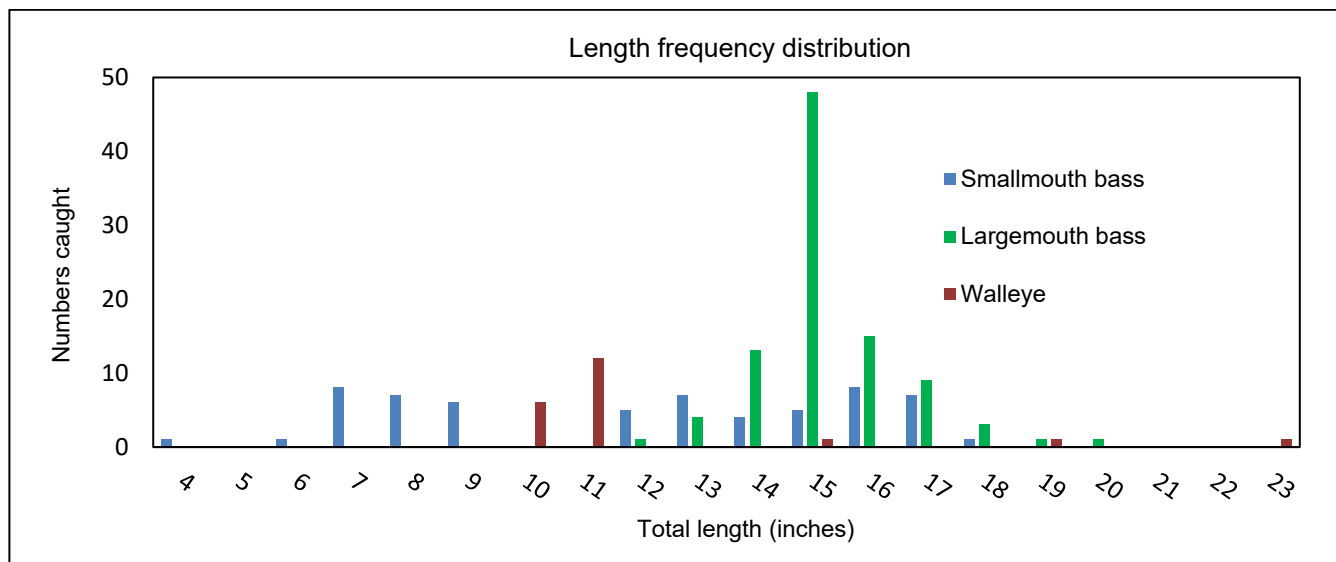


Figure 1. Night electrofishing survey results for three sportfish from Snyder's Lake on May 12, 2022.

Other fishes captured in the survey included nine adult common carp and three older American eel. The bulk of the observed data included >150 subadult yellow perch, around 20 adult brown bullhead, 16 older American eel, a few dozen black bass, five carp, and two walleye (all older adults) that were estimated visually and not captured. A lone adult black crappie rounded out the (observed) survey data.

Black bass were very abundant in the survey with high catch rates, though a lack of young fish suggest recruitment issues. Some findings were similar to a night survey at the lake in October 2017. Most walleye were immature (likely yearling) fish, generally good news for a stocked, put and take sport fishery. High fishing pressure, especially during winter may account for the lack of adult walleye present. Another local concern at the lake was the scarcity of adult sunfish, which was confirmed by very low numbers of both bluegill and pumpkinseed (Table 1).

Results show that the lake is experiencing a lack of forage and immature fishes (i.e., prey items). Golden shiner were common in the 2017 survey as were immature bluegill, and chain pickerel. All of which were largely absent in this survey conducted just five years later. Almost no SAV-submerged aquatic vegetation was present around the perimeter of the lake minus the shallow outlet area in the NE corner. Consequently, a mass herbicide treatment was organized by the lake association in 2019. ProcellaCOR EC was applied to the lake's perimeter by Lake Solitude Management to reduce Eurasian watermilfoil between May 20 - June 27. The treatment appears to have greatly reduced aquatic plant life in the lake.

Furthermore, locals reported at least one winterkill a few years ago where some fish were dead upon ice out, but that incident was never documented. These results emphasize the importance of protecting critical rearing habitat for forage/immature fishes, which is often provided by aquatic plants in a lake ecosystem. Snyder's Lake has likely lost several year classes of multiple species from over-predation due to limited SAV habitat left in the lake after the 2019 herbicide treatment. Some fishes may be able to rebuild their stocks (i.e., bluegill, pickerel) once more SAV returns. This popular fishery will continue to be stocked with walleye, monitored for sustainability, and managed under the statewide freshwater fishing regulations to provide a variety of fishing opportunities near the capitol district.

## References

Brooking, T., Loukmas, J., Jackson, R., and T. VanDeValk. 2018. Black bass and sunfish electrofishing protocol for lakes and ponds. NYSDEC. Fed. Aid in Sportfish Rest. F-63-R, Study 2, Job 2-2.3, Albany, NY. 22pp.