

Bureau of Fisheries Technical Brief #422022
Canadarago Lake (SR-204-P392)
Bi-annual Percid Survey
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Department of
 Environmental
 Conservation

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Canadarago Lake in Otsego Co., NY supports a diverse assemblage of warmwater fishes, including a persistent invasive alewife population (c. 1999) that negatively impacts Percid recruitment and growth (Brooking et al. 2016). To maintain the popular walleye fishery, DEC resumed annual spring stocking in 2014 using both pond-raised and 50-day raceway fingerlings at 20/acre. In 2017, the walleye harvest was restricted to an 18 in. minimum length, 3 fish/day limit for a recovering water. In 2018, the stocking rate was raised to 40/acre. Fall fingerling stocking has also occurred at random when fish are available (2017-22). Tiger musky stocking has continued each fall since the program was resumed in 2015 to provide added predation on alewife and a trophy Esocid fishery.

Every other year since 1972, the lake is surveyed by gill net from June-September to assess the Percid fishery. A water chemistry profile is recorded mid-lake each trip before nets are set. In 2022, surface water temperatures ranged from 68.0 to 77.6 °F and depths where dissolved oxygen (DO) was <5 mg/l were around 33, 26, 24, 23 feet of water (fow) in June-September, respectively. Nets set overnight averaged 21 h at eight sites in ten standard quadrants around the lake. Net depth ranged from 8-27 fow with shallow and deeper sets averaging 11.7 and 22.7 fow, respectively. All fish were processed after each net pull, often assisted by crew from SUNY Oneonta.

A total of 16 species and 561 fish were captured in the survey with yellow perch being most numerous, comprising nearly 40% of the total effort and a catch rate of 27 fish/net. Walleye ranked second with 101 fish (18%) with a catch rate of 12.6/net, followed by 82 alewife (14.6 %) and a catch rate just over 10 fish/net. No other species account for >8.6% of the catch (Table 1). Just over one-half of the yellow perch were ≥ quality size (≥ 8 in.), 13 of which were ≥ 10 in. (preferred size) and five of those fish were >13 in. The most numerous class of yellow perch was fish in the 7-8 in. range and largest individual measured 14.2 in. and weighed 1.6 lbs. (Fig. 1). Similarly, about one-half of walleye were of legal length for the lake (≥ 18 in.). Nineteen walleye were ≥ 20 in. (preferred size) with five fish > 22 in. (Fig. 1). The largest walleye measured 23.1 in. and weighed 5.5 lbs.

Table 1. Gill netting results for eight warmwater species in Canadarago Lake from June to September, 2022.

----- Numbers by total length category¹ -----

Fish Species	Total	Abundance	Fish/Net ²	YY/SY ³	≥Quality	≥Preferred	≥Memorable
Yellow perch	215	38.3%	26.9	102	75	25	13
Walleye	101	18.0%	12.6	24	58	19	0
Pumpkinseed	48	8.6%	6.0	3	16	29	0
Smallmouth bass	27	4.8%	3.4	13	8	2	3
Rock bass	19	3.4%	2.4	16	3	0	0
Brown bullhead	8	1.4%	1.0	0	3	5	0
Bluegill	3	0.5%	0.4	1	2	0	0
Chain pickerel	1	0.4%	0.3	0	1	1	0

¹Total length categories per species shown. ²Catch effort recorded as # of fish per species over eight nets. ³YY—young of year and SY—spring yearling or age-1-2 (immature) fish combined.

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

Adult pumpkinseed was the most numerous Centrarchid captured with 60% ≥ the new legal harvest length (≥ 8 in.); see other technical briefs for the lake concerning the new statewide BPI or Big Panfish Initiative program at <https://www.dec.ny.gov/outdoor/124966.html>.



For various reasons smallmouth bass, rock bass, and bluegill are rarely netted in this survey, thus had low catch rates of 3.4, 2.4, and 0.4 fish/net, respectively. Around 37% of the smallmouth bass were legal length (≥ 12 in.) with three fish > 18 in. and the largest measuring nearly 20 in. (Fig. 1) and weighing 4.0 lbs. Most all the rock bass were immature fish, while all brown bullhead, two of three bluegill, and both chain pickerel were adults (Table 1). Three brown trout were collected comprising a smaller 12.7 in. stocked fish in June, along with two larger adults in June and August measuring just over 24 and 27 in., and both weighing around 8 lbs. Only seven golden shiner were collected, along with six carp, and three rudd. White sucker (mostly adults) ranked fourth in abundance with a catch rate of 4.4 fish/net. One yellow bullhead and black crappie (both adults) rounded out the survey.

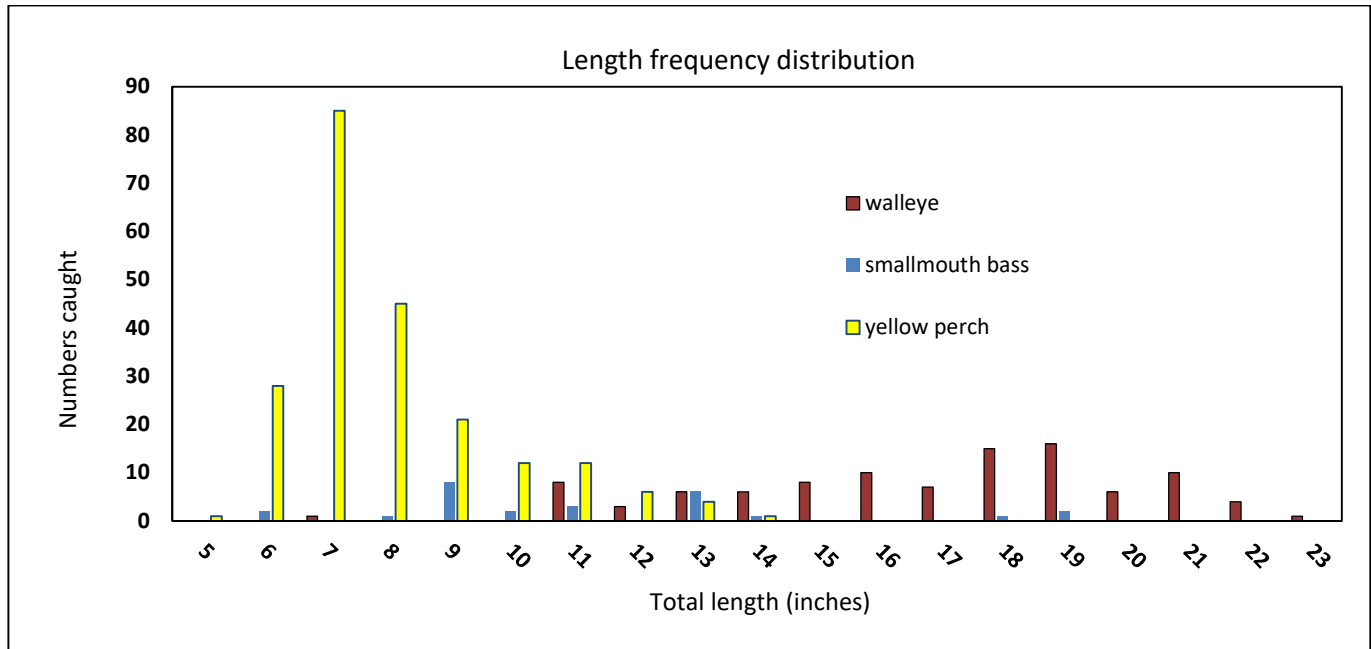


Figure 1. Gill netting results for three popular fishes in Canadarago Lake from June to September, 2022.

Netting results for the lake continue to show a more balanced Percid fishery. There is an increase of larger/older perch and smaller/immature walleye compared to previous surveys, indicating better growth and survival for each important species. Nearly two-thirds of yellow perch collected in the 2018 netting were in the 6-7 in. range, which has shifted to 40% in the larger 7-8 in. range in 2022 (Fig. 1). The walleye catch rate of 12/net is normal and twice that of Otsego Lake, the closest Percid water in the county. More immature walleye showing up in the survey confirms that some stocked fish are surviving high predation in the lake. Recruitment of these stocked fish in the presence of alewife is essential to maintaining a viable walleye fishery. A few clipped fish from older (DEC) and more recent (Hickling) fall fingerling stockings are now common in DEC surveys.

Oddly, after a banner year for collecting rudd during the BPI trap nettings in May of 2022, only three fish were collected during this entire 4-month survey. Perhaps removing over 1100 rudd from the lake has reduced the population of this invasive herbivore. BPI netting in the lake will be repeated in Spring 2023.

Angler harvest rates of adult walleye are unknown but likely moderate to high for this very popular sportfish. Walleye feeding on abundant yellow perch and alewife in the lake can be difficult to catch, as reported by some anglers, while other anglers remain quiet when successful. The experimental boost-stocking of walleye is likely to continue each spring (by DEC) due to favorable results in recent years. Similarly, bonus stocking of larger fall fingerlings provided by Hickling's Fish Farm (when available) through funding from the CLIA—Canadarago Lake Improvement Association has increased walleye recruitment (clipped fish common in surveys). Walleye will continue to be managed under the minimum 18 in. length, 3 fish/day limit to maintain this productive Percid fishery in one of Region 4's top waters that provides high quality year-round fishing opportunities for multiple sportfishes.

References

Brooking, T. E., J. R. Jackson, L. G. Rudstam, and A. J. VanDeValk. 2016. Fisheries surveys of Canadarago Lake, NY 1972-2014. New York Federal Aid in Sport Fish Restoration Grants F-56-R, Job 1-2 and F-61-R, Study 2, Job 2-6. Cornell University Warmwater Fisheries Program. Bridgeport, NY. 101 pp.