

Keuka Lake Centrarchid Survey 2019 (Survey #: 819012)

Brad Hammers, Region 8 Fisheries

6/8/20

Keuka Lake, a y-shaped, western Finger Lake nestled in between Penn Yan, Hammondsport and Branchport, occupies 11,548 acres. The lake is relatively deep, with steep sloped sides and depth averaging 101 feet with a maximum depth of 185 feet. Littoral habitat is mostly concentrated at the northern ends of y-shaped lake. Public boating access is limited to Keuka Lake State Park in Branchport and Village of Penn Yan Boat Launch on Keuka Outlet, both at the northern ends of the lake. There is a small DEC launch on Sugar Creek with access to the lake for small boats on the northern end of the northwest arm of the lake. Keuka Lake is a two-story lake supporting a fishery for both coldwater and warmwater fishes. The coldwater fishery has been routinely assessed, however the warmwater fishery has received little attention.

A night-time boat electrofishing survey, utilizing two electrofishing boats each night, was conducted over five nights in June 2019. A total of 10 all-fish and 13 gamefish runs were conducted following New York State Centrarchid Sampling Plan protocol (Brooking et al. 2018). This was the first survey of this type on Keuka Lake; its primary purpose was to assess black bass population parameters. Although scales were collected, fish age has not been determined and growth and age structure not yet evaluated for various species collected.

A total of 1,065 fish representing 20 species were collected or observed. Yellow perch were the most numerous species caught (52%) followed by smallmouth bass (22%), rock bass (8%) and largemouth bass (5%) (Table 1). Overall catch-per-unit-effort (CPUE) of smallmouth bass was higher than 71% of New York lakes of similar size. CPUE for quality and preferred size groups of smallmouth bass were higher than 86% of other New York Lakes. Smallmouth bass relative weights, a measure of fish condition, for stock-quality, quality-preferred, preferred-memorable, and > memorable size groups were 96, 94, 95, and 89 respectively, indicating good fish condition.

Table 1. Total catch and catch per unit effort CPUE (fish/h) of selected gamefish and panfish species during nighttime, shoreline electrofishing from Keuka Lake, June 2019.

Species	Total catch	CPUE (fish/h; Standard error)			
		All	>Stock ¹	>Quality ¹	>Preferred ¹
Smallmouth bass	236	29.4 (5.0)	25.9 (1.0)	19.8 (2.0)	10.8 (1.7)
Largemouth bass	57	7.1 (1.8)	6.4 (0.3)	5.9 (0.6)	4.1 (1.1)
Rock bass	81	47.6 (12.5)	42.4 (7.1)	19.4 (2.8)	9.4 (3.2)
Bluegill	15	8.8 (4.2)	8.8 (0.6)	8.2 (3.7)	1.8 (0.9)
Pumpkinseed	30	17.6 (7.5)	17.6 (1.8)	14.7 (6.3)	2.9 (1.8)
Yellow perch	552	73.4 (13.9)	52.7 (6.1)	14.1 (1.2)	7.6 (1.5)
Chain pickerel	23	2.9 (0.6)	2.7 (0.4)	2.4 (0.4)	0.9 (0.4)

¹For definition of stock, quality, and preferred size groups please see [fisheries dictionary](#).

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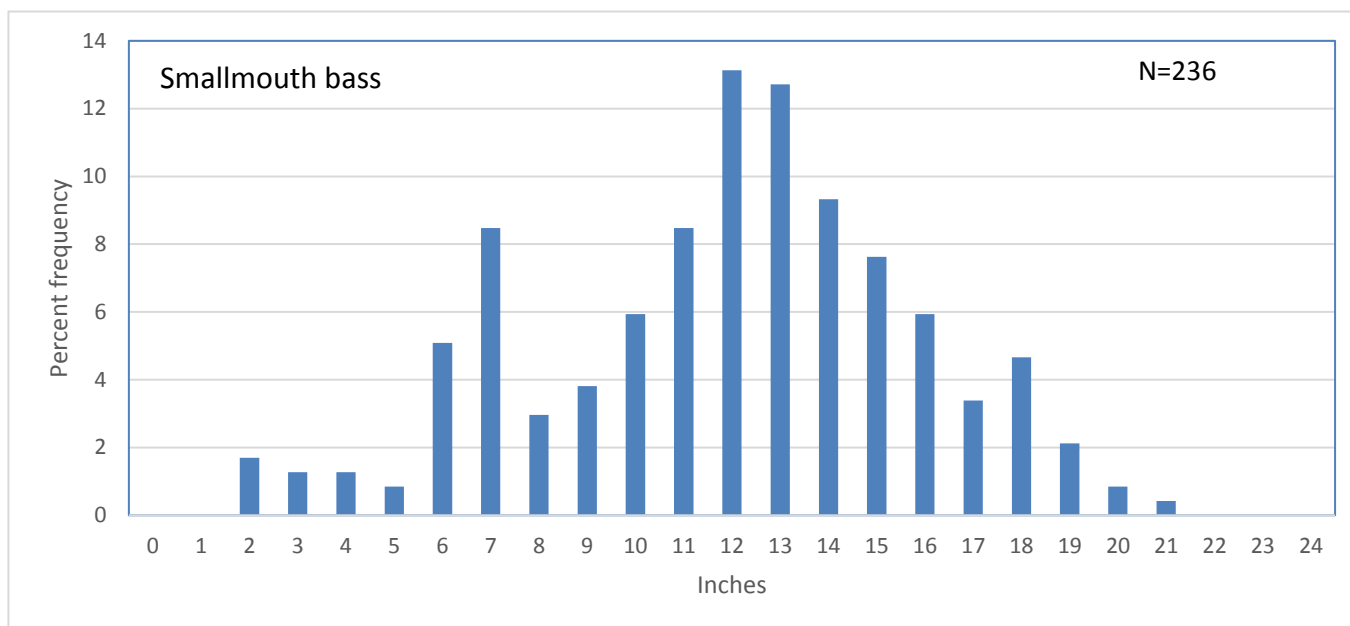


Figure 1. Length frequency distribution of smallmouth bass from Keuka Lake, June 2019.

Size indices used to compare various size classes of smallmouth bass were PSD (76.8), RSDp (42.7), RSDm (13.7), and RSDt (1.4). For a detailed description of these size indices please see the [fisheries dictionary](#). Size indices indicate a balanced smallmouth bass population, with the opportunity to catch trophy sized bass. Sixty-percent of smallmouth bass were legal size (≥ 12 in) with three over 20 in collected (Figure 1). A 6.3 lb largemouth bass was the largest black bass collected.

This survey provided the first comprehensive look at the black bass fishery in Keuka Lake establishing baseline data for future comparisons. Currently, the black bass fishery, primarily smallmouth bass, appears to be healthy and should provide bass anglers with excellent fishing opportunities for several more years.

Literature Cited:

Brooking, T., Loukmas, J., Jackson, R. and T. VanDevalk. 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.

