

Kissena Lake Bass and Sunfish Survey (#222005)

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Kissena Lake, located in Flushing, Queens, is an approximately nine-acre freshwater pond in the Long Island Watershed. Fishing is accessible to the public and subject to both NYC and NYS recreational fishing regulations, both of which are catch and release, only. Like most NYC freshwater bodies, Kissena Lake is eutrophic and often suffers from Harmful Algal Blooms (HABs) in warmer months.

Region 2 Fisheries staff have performed semi-annual evening boat electrofishing surveys of Kissena Lake since 2005, with all but one of the previous surveys occurring during the Fall season. The subject survey was executed the evening of May 24th, 2022. Survey objectives included estimates of relative species abundance, catch rates, and documentation of exotic species. Additionally, 10 bluegill sunfish and 10 brown bullhead catfish were collected for contaminant-testing as part of NYS’s Toxic Substance Monitoring Program. Most of the shoreline was covered in three, ten-minute electrofishing runs. Water temperature was 75°F, slightly higher than the 72°F specified in the Black Bass and Sunfish Electrofishing Protocol for Lake and Ponds (Brooking et al. 2018). Conductivity was 315 $\mu\text{S}/\text{cm}^3$, pH 7, dissolved oxygen 5.3 mg/L and Secchi depth was 2.5 ft.

A total of 162 fish of five species were captured and measured. One American eel and two common carp were observed but not netted. One weather loach was collected and not returned. Largemouth bass ranged in length from 4.7 inches to just over 19 inches, and in weight from 0.6 ounces to 3.8 pounds; the one black crappie captured was seven inches in length and 2.7 ounces. Bluegill were the predominant sunfish and ranged from 1.4 inches to just over seven inches in length. Sunfish Proportional Stock Density (PSD) was 45, largemouth bass PSD was 36, and bass Relative Stock Density (preferred) (RSDp) was 7. Largemouth bass relative weight was 85.

Table 1. Catch rates per size category for fish collected during a 2022 Kissena Lake electrofishing survey

Species	Catch rate (fish/hour; standard error) for 2022 survey						
	Total catch	Time (h)	All sizes	YOY	≥Stock	≥Quality	≥Preferred
Largemouth bass	30	0.51	59(15)	4(2)	55(14)	20(12)	4(2)
Bluegill	88	0.51	173(5)	16(5)	153(7)	69(14)	0
Pumpkinseed	7	0.51	14(14)	0	14(14)	0	0
Brown bullhead	36	0.51	71(30)	0	71(30)	71(30)	47(18)
Black crappie	1	0.51	2(2)	0	2(2)	0	0

Table 2. Catch rates per size category for fish collected during a 2019 Kissena Lake electrofishing survey

Species	Catch rate (fish/hour; standard error) for 2019 survey						
	Total catch	Time (h)	All sizes	YOY	≥Stock	≥ Quality	≥ Preferred
Largemouth bass	48	0.51	94(12)	59(3)	35(12)	2(2)	2(2)
Bluegill	160	0.51	314(41)	145(34)	169(15)	55(4)	0(0)
Pumpkinseed	18	0.51	35(17)	0(0)	35(17)	2(2)	0(0)
Brown bullhead	26	0.51	51(10)	0(0)	51(10)	51(10)	2(2)
Black crappie	11	0.51	22(5)	0(0)	22(5)	8(2)	0(0)



Largemouth bass overall catch rates in 2022 were lower than in the previous, 2019, electrofishing survey due to Fall catches of young-of-the-year (YOY) fish (Tables 1 and 2). Catch rates for stock, quality and preferred-size bass were all higher in 2022 than in 2019. Bluegill catches also differed between 2019 and 2022, mainly due to catches of Fall YOY fish.

Size indices indicate near-balanced, but undersized, bass and sunfish populations. Largemouth bass of this survey were greater in length than in 2019 (Figure 1). Relative weight, however, was low ($W_r = 85$).

Largemouth bass catch rate of this survey was greater than that in 77% of NYS lakes in the Statewide Fisheries Database; however, black crappie catch rate was extremely low (one fish was caught). It may be worthwhile to deploy fyke nets to further explore this fish population of Kissena Lake. Anglers should be able to enjoy fishing for bluegill sunfish, brown bullhead catfish and largemouth bass.

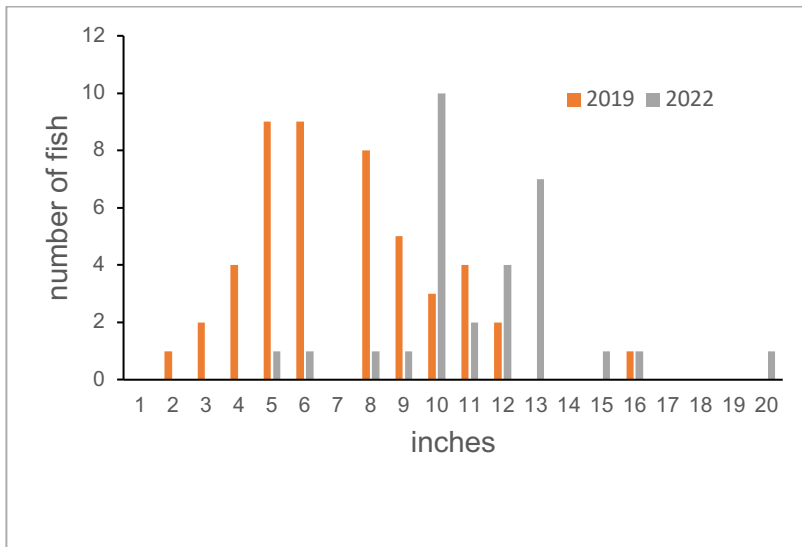


Figure 1. Largemouth bass length frequency distribution

Literature Cited

Brooking, T., Loukmas, J., Jackson, R., VanDeValk, T. 2018. Black bass and sunfish electrofishing protocol 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.