

**Oakland Lake Centrarchid Survey (#221002)**  
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Oakland Lake is a 10.5-acre, spring-fed lake in northeast Queens, in the Long Island Watershed. The lake has a self-sustaining population of fish publicly accessible to anglers, although shoreline access is limited. New York City regulations require anglers to use barbless hooks and non-lead weights; both NYC and New York State fishing regulations require catch-and-release, only. The Bureau of Fisheries (BOF) surveys the fish population of Oakland Lake every three to four years with the last survey in 2017. On May 11th, 2021, BOF executed an evening boat electrofishing survey in accordance with the DEC Black Bass and Sunfish Electrofishing Protocol for Lakes and Ponds (Brooking et al. 2018). Water visibility was high (Secchi depth was 5.5 feet), water temperature was 17.5°C, pH was 7.7, and dissolved oxygen was 4.3 mg/l. Most of the shoreline was fished in three, ten-minute runs although access to shallow shoreline areas was somewhat limited due to in-water woody debris. Excessive growth of aquatic macrophytes limited boat access in previous surveys therefore this survey was scheduled relatively early in the season.

Six species of fish were caught including largemouth bass, brown bullhead, black crappie, pumpkinseed, bluegill, and chain pickerel. Bass lengths ranged from 3.7 to 15.4 inches and most were approximately ten inches long, with the largest over 15 inches (Figure 1). Size indices<sup>1</sup> of Proportional Stock Density (PSD) and Relative Stock Density (RSDp) were 35.7 and 3.6, respectively. Bass weights ranged from 0.04 to 1.3 pounds, and overall mean relative weight was 85.2. Chain pickerel lengths ranged from 7.9 to 17.6 inches, weights ranged from 0.1 to 0.6 pounds, and overall mean relative weight was 81.7. Oakland Lake is one of two NYC lakes where anglers can fish for chain pickerel; the other being Ohrback Lake on Staten Island. In addition to the six species captured, five American eels and six common carp were observed. Scale samples for subsequent aging were collected from largemouth bass and bluegill sunfish.

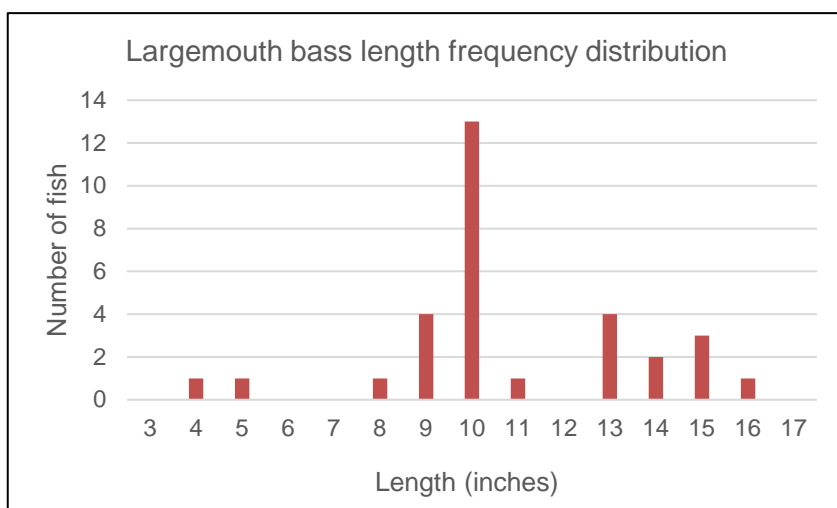


Figure 1. Length frequency distribution of largemouth bass from a 2021 electrofishing survey of Oakland Lake, Queens

Bluegill had the highest catch rate of the survey with 159 fish per hour (Table 1). Largemouth bass had the second highest catch rate with 61 fish per hour. Bluegill PSD (68) and RSDp (19.7) were high, especially for NYC. Fifteen bluegill over 7.9 inches in length were captured, the largest was 8.9 inches. Scales will be aged to determine growth rates for comparison with those from other water bodies. Anglers looking for a place with shoreline access to a thriving population of largemouth bass and relatively large bluegill sunfish should try Oakland Lake.



Table 1. Evening boat electrofishing survey catch rates from Oakland Lake, May 11, 2021. Values are means of catch per hour of electrofishing runs, with standard error in parentheses.

Species	Total Catch	On Time (h)	All Sizes	Age - 1	≥ Stock	≥ Quality	≥ Preferred
Largemouth bass	31	0.51	61 (16)	6 (3.4)	55 (14)	20 (5)	2 (2)
Black Crappie	5	0.51	10 (2)	0 (0)	10 (2)	8 (2)	8 (2)
Brown Bullhead	2	0.51	4 (4)	0 (0)	4 (4)	4 (4)	4 (4)
Pumpkinseed	18	0.51	35 (10)	2 (2)	33.3 (12)	29.4 (13.6)	8 (5.2)
Bluegill	83	0.51	159 (21)	12 (3.4)	147 (25.5)	100 (30.6)	27.5 (12)
Chain Pickerel	13	0.51	26 (4)	9.8 (3.9)	15.7 (7)	5.9 (3.4)	0 (0)

#### 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.

<sup>i</sup>PSD (Proportional Stock Density) and RSD (Relative Stock Density) are indices that allow for standardized comparisons of size classes of fish and provide measures of fish population balance. PSD is the percent of the stock-sized population that are quality size, and RSD<sub>p</sub> is the percent of the stock-sized population that are preferred size. Populations of bass that are well-balanced (i.e., have good size distributions) have PSDs of 40-70 and RSD<sub>p</sub>s of 10-25.