

HYCO LAKE LARGEMOUTH BASS SURVEY, 2022



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Study Site: Hyco Lake

Sample Date(s): April 04–06, 2022

Species: Largemouth Bass

Gear: Boat Mounted Electrofishing

Effort: 3.5 hours

Sample Size: n = 453

RESULTS

Catch Per Unit Effort (Mean): 129 fish/hr (SE = 10)

Length (mm): Minimum = 104	Maximum = 600	Mean = 312		
% \geq 356 mm = 22	% \geq 457 mm = 3	PSD = 72	PSD-P = 14	

Condition: Mean *Wr* = 82 % \geq 2.3 kg = 0.4

Growth: Length at Age 2 (mm) = 272 Max Age (years) = 12

BIOLOGICAL OBSERVATIONS

The Largemouth Bass population at Hyco Lake continues to produce an abundance of sub-legal length fish (≤ 356 mm). The 2022 population size distribution is balanced, yet only 22% of Largemouth Bass surveyed were ≥ 356 mm in total length (Figure 1). Age structure indicates that Largemouth Bass age eight and older are present in Hyco Lake, but are not common in NCWRC surveys (Figure 2). Body conditions remain adequate (80-86) for all stock sizes (Figure 3). Growth is satisfactory as it takes 4–5 years for Largemouth Bass to reach >356 mm or greater (Figure 4). Lake water clarity in 2022 was exceptional thus detection of some fish could have been reduced. The survey was also performed in early April and some of the largest Largemouth Bass could have remained offshore during the survey. However, this is the fourth survey in eight years that has indicated high densities of fish ≤ 356 mm (Table 1). Low body conditions and consistently high CPUE (> 100 fish/hr) indicate this population would benefit from more harvest.

MANAGEMENT RECOMMENDATIONS

1. Maintain current statewide harvest regulation for minimum size limit and five fish daily creel limit on Largemouth Bass at Hyco Lake and promote the harvest of two individuals of any size from this lake.
2. Continue to sample the Largemouth Bass population at Hyco Lake every three to five years and monitor for the presence/absence of Alabama Bass (*Micropterus Henshalli*), an invasive species that has been positively identified in lakes 50 miles to the east.
3. A littoral habitat enhancement project has been underway at Hyco Lake since 2019. Continue attempts to establish shoreline habitat for the benefit of sit-and-wait predators.

TABLES AND FIGURES

TABLE 1.—Catch per unit effort (CPUE), percent of fish that were 356 mm and longer, Proportional Size Distribution-Preferred (PSD-P), mean length (TL mm) at age 2, and mean relative weight (W_r) of preferred sized Largemouth Bass collected from Hyco Lake with electrofishing in April 2016, 2017, 2018, and 2022. Parentheses are one standard error.

Year	CPUE (fish/h)	% \geq 356 mm	PSD-P	Mean length at age 2	Mean W_r
2016	87 (11)	24	16	272	86
2017	141 (13)	22	13	283	88
2018	96 (9)	22	14	273	84
2022	129 (9)	21	14	272	82

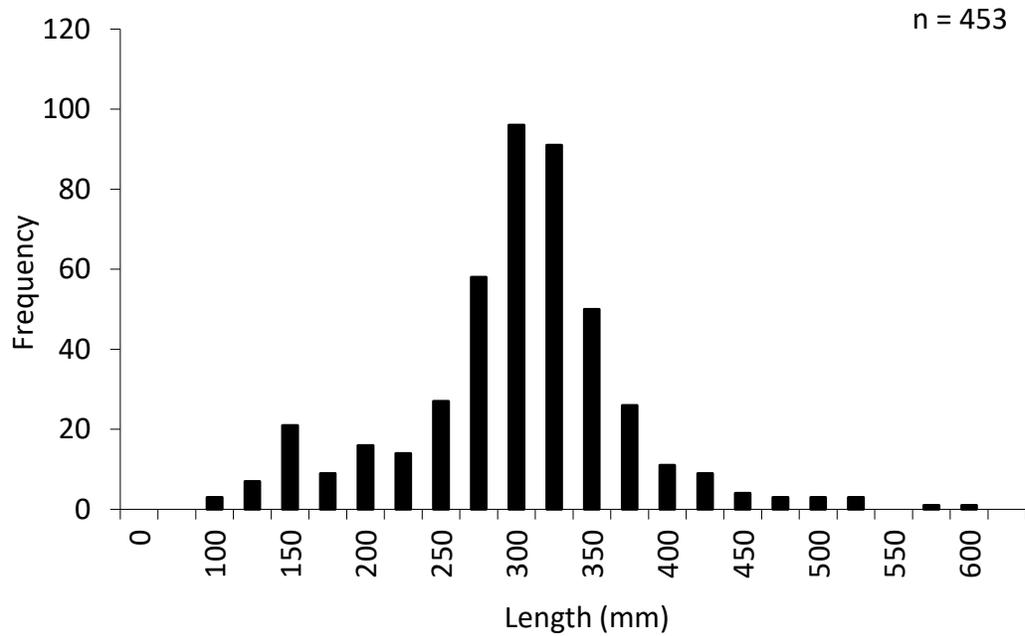


Figure 1.—Length frequency distribution of Largemouth Bass collected from Hyco Lake with electrofishing during April of 2022.

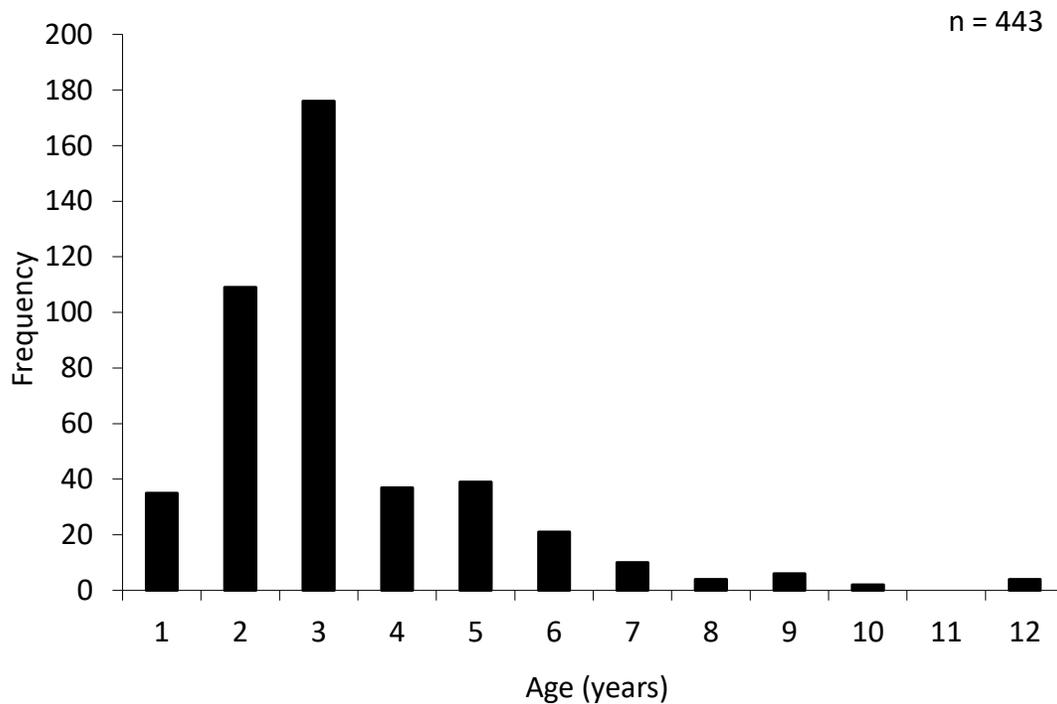


Figure 2.—Age frequency distribution of Largemouth Bass collected from Hyco Lake with electrofishing during April of 2022.

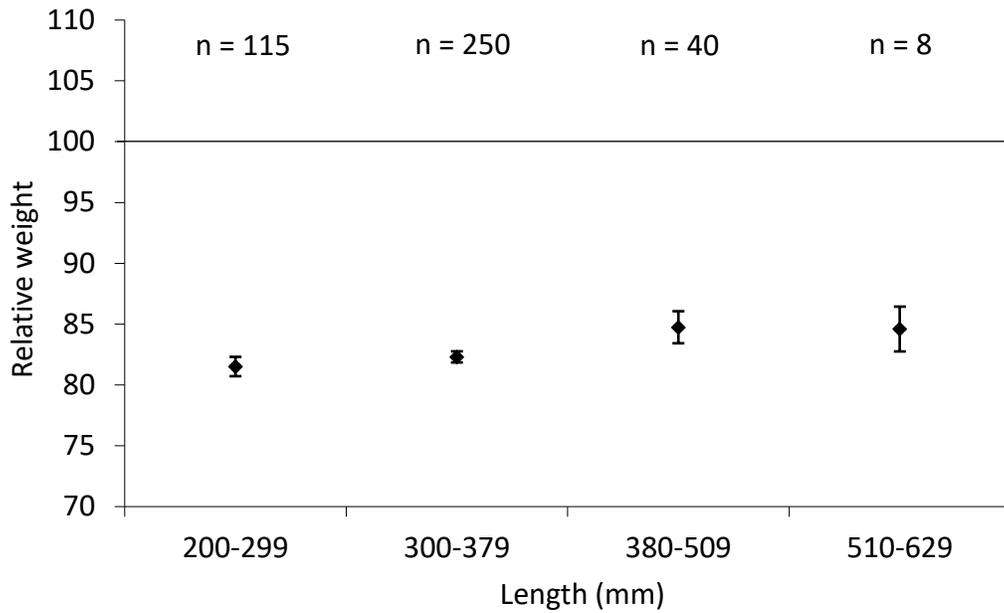


Figure 3.—Relationship between stock sizes and relative weight (*Wr*) of Largemouth Bass captured from Hyco Lake with electrofishing during April of 2022.

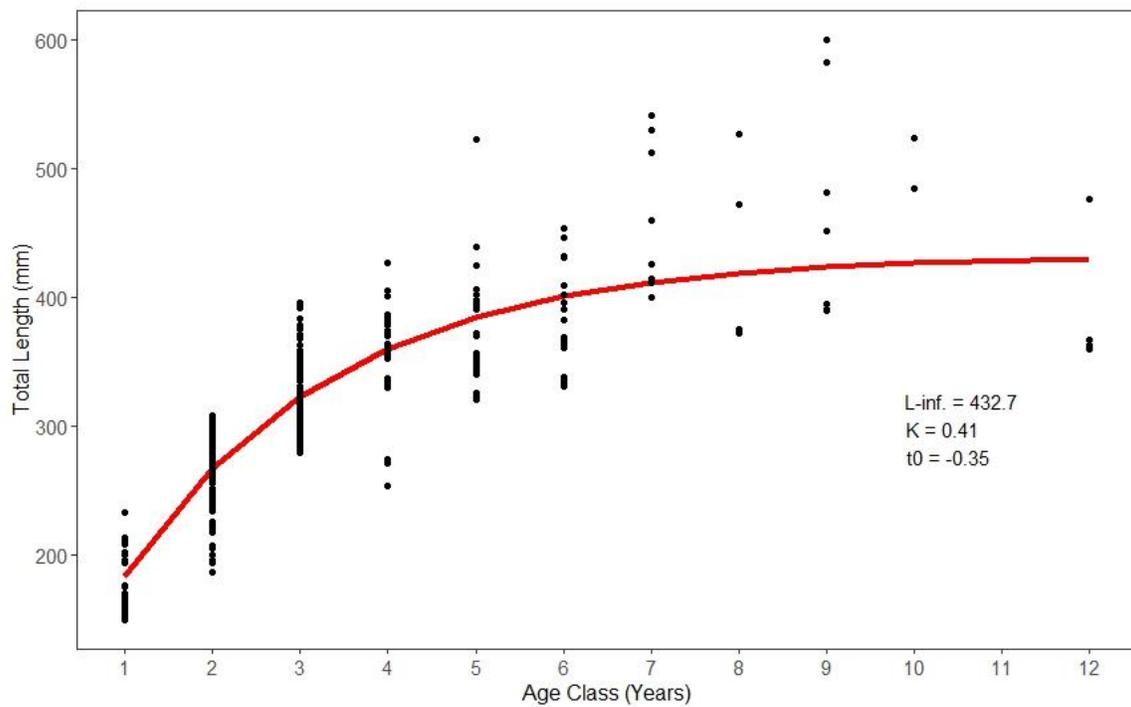


Figure 4.—von Bertalanffy growth curve for of Largemouth Bass collected from Hyco Lake with electrofishing during April of 2022.