

CANE CREEK RESERVOIR LARGEMOUTH BASS SURVEY, 2022



Federal Aid in Sport Fish Restoration
Project F-108
Report Type: Survey



Seth Mycko
District 5 Fisheries Biologist II

North Carolina Wildlife Resources Commission
Inland Fisheries Division
Raleigh NC

2022

Keywords: Largemouth Bass, Cane Creek, Orange County, Electrofishing, Relative Abundance, Size Structure, Age and Growth, Condition, Piedmont Region

This project was funded under the Federal Aid in Sport Fish Restoration Program utilizing state fishing license money and federal grant funds derived from federal excise taxes on fishing tackle and other fishing related expenditures. Funds from the Sport Fish Restoration Program are used for fisheries management and research, aquatic education, and boating access facilities. The program is administered cooperatively by the N.C. Wildlife Resources Commission and the U.S. Fish and Wildlife Service.

Study Site: Cane Creek Reservoir

Sample Date(s): April 28 & May 2, 2022

Species: Largemouth Bass

Gear: Boat Mounted Electrofishing

Sample Size: n = 334

Effort: 1.5 hours

RESULTS

Catch Per Unit Effort (Mean): 105 fish/hr (SE = 11)

Length (mm): Minimum = 109 Maximum = 598 Mean = 318

 % \geq 356 mm = 41 % \geq 457 mm = 9 PSD = 86 PSD-P = 32

Condition: Mean W_r = 84 % \geq 2.3 kg = 2.4

Growth: Length at Age 2 (mm) = 257 Max Age (years) = 16

BIOLOGICAL OBSERVATIONS

The Largemouth Bass population at Cane Creek Reservoir in Orange County, NC has changed slightly since 2007. Around 2017 hydrilla (*Hydrilla verticillata*) was found within the lake and has remained at nuisance levels since. Currently, the lake contains more than eight surface acres of hydrilla which appears to have increased juvenile recruitment within the lake. The 2022 PSD is balanced, yet a large proportion (25%) of the population consist of Largemouth Bass <200 mm TL (Figure 1). Age structure indicates that Largemouth Bass age 10 and older are present, but not common in NCWRC surveys (Figure 2). Body condition is lower than optimal (<88) for all stock sizes (Figure 3). Growth is slow, taking more than five years to reach >380 mm or greater (Figure 4). Because this survey was performed over the course of two days in late spring, some proportion of the spawning population may have remained offshore during the survey. Both PSD and PSD-P have increased >10% since the last survey, whereas and catch per unit effort (CPUE) remains around 100 fish/hr, representing a hearty Largemouth Bass population for such a small reservoir (Table 1).

MANAGEMENT RECOMMENDATIONS

1. Maintain current statewide harvest regulation for Largemouth Bass at Cane Creek Reservoir. Promote the harvest of two individuals of any size from this lake to improve body conditions and growth.
2. Survey the lake again in 8–10 years or once hydrilla has been reduced from treatment.

TABLES AND FIGURES

TABLE 1.—Catch per unit effort (CPUE), percent of fish 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 Cane Creek Reservoir with electrofishing, 2007, 2015, and 2022.

Year	CPUE (fish/h)	% \geq 356 mm	PSD-P	Mean length at age 2	Mean W_r
2007	129	15	22	230	81
2015	98	30	23	249	86
2022	105	40	32	256	84

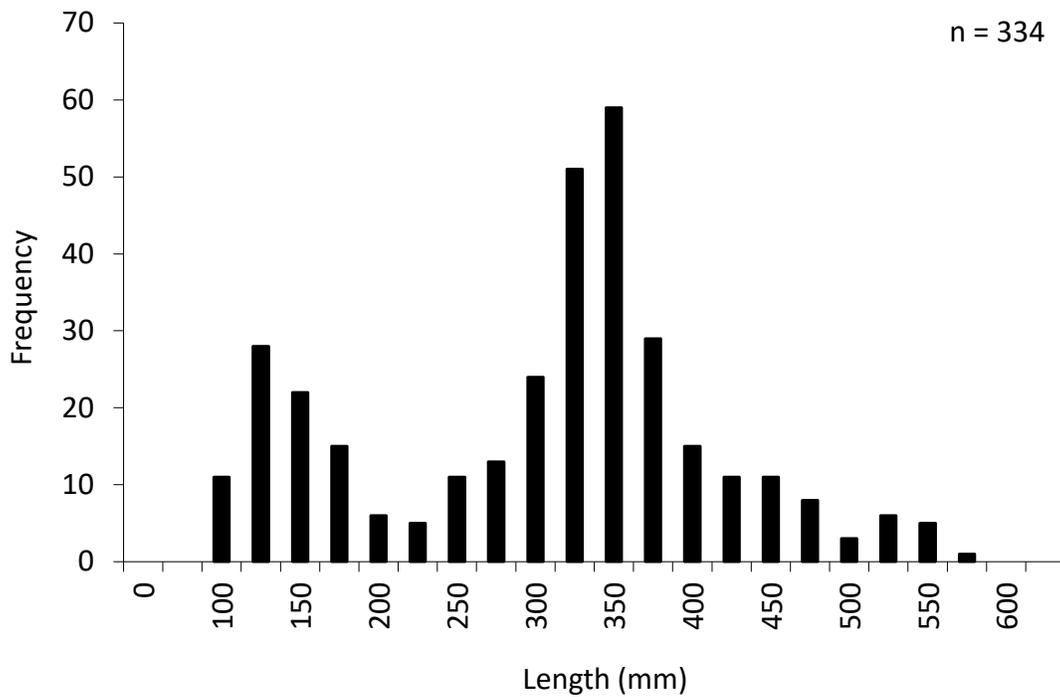


Figure 1.—Length frequency distribution of Largemouth Bass collected from Cane Creek Reservoir with electrofishing during April of 2022.

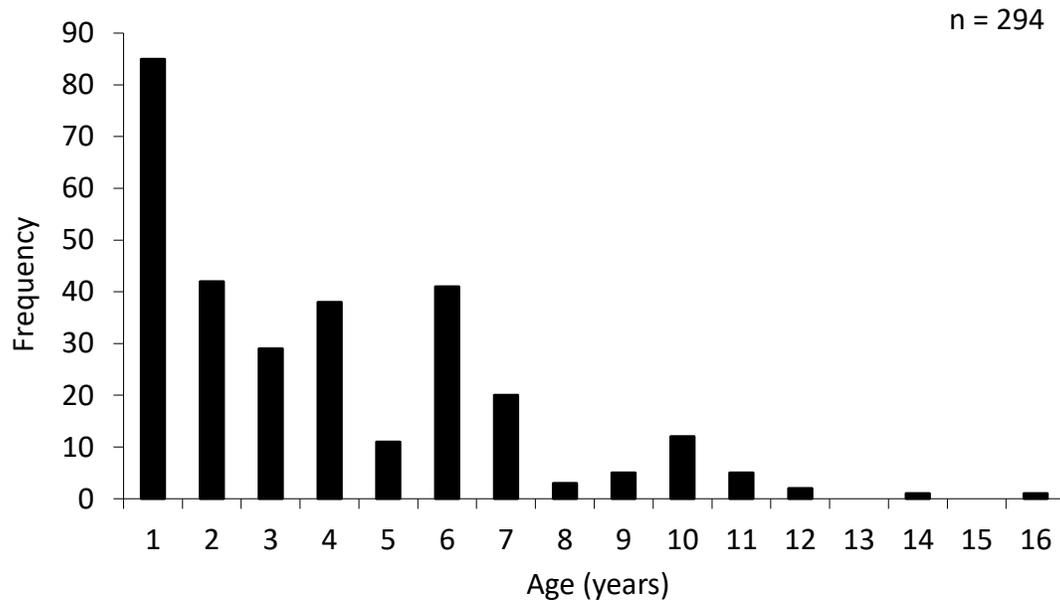


Figure 2.—Age frequency distribution of Largemouth Bass >150 mm TL collected from Cane Creek Reservoir with electrofishing during April of 2022.

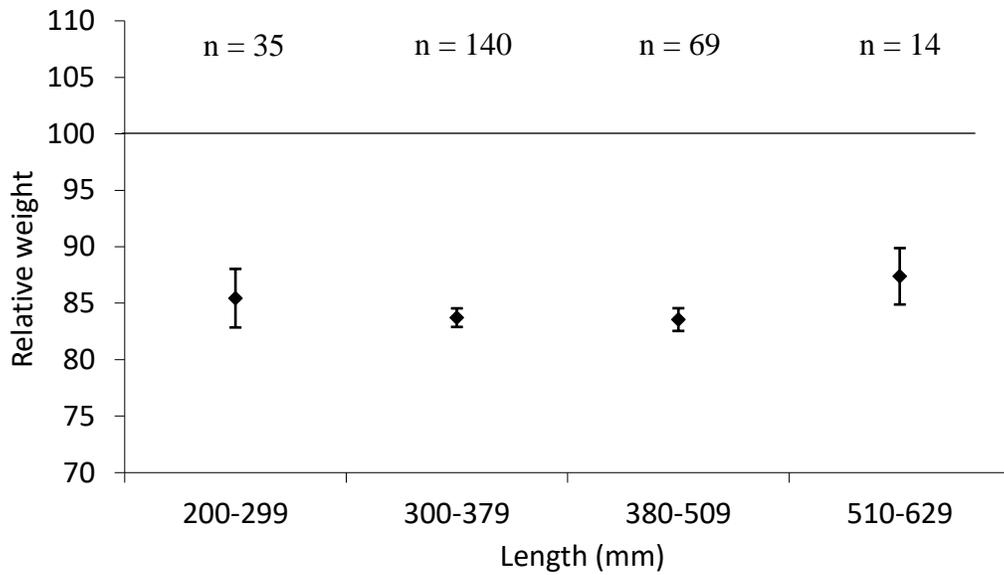


Figure 3.—Relationship between stock sizes and relative weight (W_r) of Largemouth Bass captured from Cane Creek Reservoir with electrofishing during April of 2022.

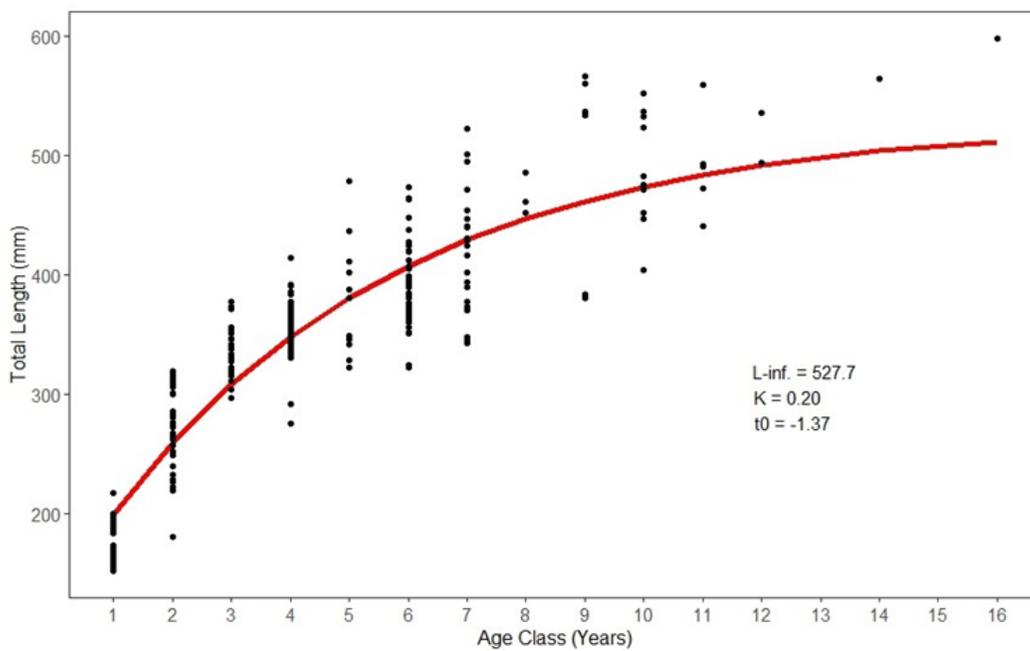


Figure 4.—von Bertalanffy growth curve for of Largemouth Bass collected from Cane Creek Reservoir with electrofishing during April of 2022.