

S.R. FARMER LAKE LARGEMOUTH BASS SURVEY, 2022



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Study Site: S.R. Farmer Lake

Sample Date(s): April 12, 26, & 27, 2022

Species: Largemouth Bass

Gear: Boat Mounted Electrofishing

Effort: 3.7 hours

Sample Size: n = 256

RESULTS

Catch Per Unit Effort (Mean): 70 fish/hr (SE = 7)

Length (mm): Minimum = 80	Maximum = 629	Mean = 341		
% \geq 356 mm = 49	% \geq 457 mm = 19	PSD = 78	PSD-P = 54	

Condition: Mean W_r = 89 % \geq 2.3 kg = 6.3

Growth: Length at Age 2 (mm) = 263 Max Age (years) = 16

BIOLOGICAL OBSERVATIONS

S.R. Farmer Lake (Farmer Lake) in Caswell County, NC continues to maintain a healthy Largemouth Bass population. The 2022 population stock size distribution is balanced where over half (54%) of the fish surveyed were >380 mm TL (Figure 1). Age structure indicates strong recruitment coupled with a robust spawning stock of Largemouth Bass aged two to four (Figure 2). Body conditions are healthy but remain under 100 for all stock densities, however lessened condition could be attributed to spawning activities during the survey (Figure 3). Growth is good for a lake of this size where fish reach 380 mm and longer by age 4 (Figure 4). CPUE of 70 fish/hr indicates a balanced population without an overabundance of fish. Both PSD and PSD-P were similar to the previous survey (Table 1). Overall, Farmer Lake hosts a stable and balanced Largemouth Bass population.

MANAGEMENT RECOMMENDATIONS

1. Maintain current statewide harvest regulation for minimum size limit and five fish daily creel limit on Largemouth Bass at Farmer Lake and promote the harvest of two individuals of any size to maintain the current size structure.
2. The first White Bass x Striped Bass hybrids were stocked during summer 2022. Continue to monitor the Largemouth Bass population within Farmer Lake every one or two years to evaluate potential effects of hybrid Striped Bass on resident sportfish.
3. There is a general lack of shoreline cover at this Farmer Reservoir. Consider recruiting local fishing clubs to start a shoreline habitat enhancement project for this lake to increase foraging efficiency for sit-and-wait predators as well as improve nursery habitat.
4. Increased development will undoubtedly occur within this watershed over the next ten years. Encourage lake management to maintain littoral buffers for decreased sedimentation and other habitat degradations.

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 two, and mean relative weight (W_r) of preferred sized Largemouth Bass collected from Farmer Lake with electrofishing in 2006, 2011, and 2022.

Year	CPUE (fish/h)	% \geq 356 mm	PSD-P	Mean length at age 2	Mean W_r
2006	97	40	40	250	102
2011	103	54	54	231	92
2022	70	49	54	273	89

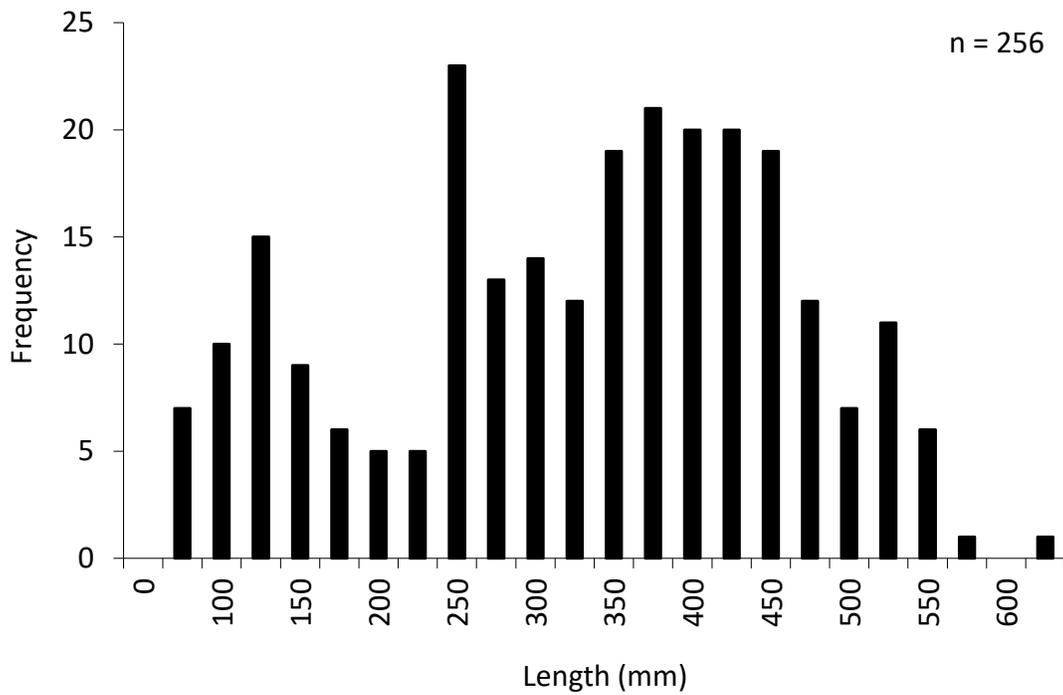


Figure 1.—Length frequency distribution of Largemouth Bass collected from Farmer Lake with electrofishing during April of 2022.

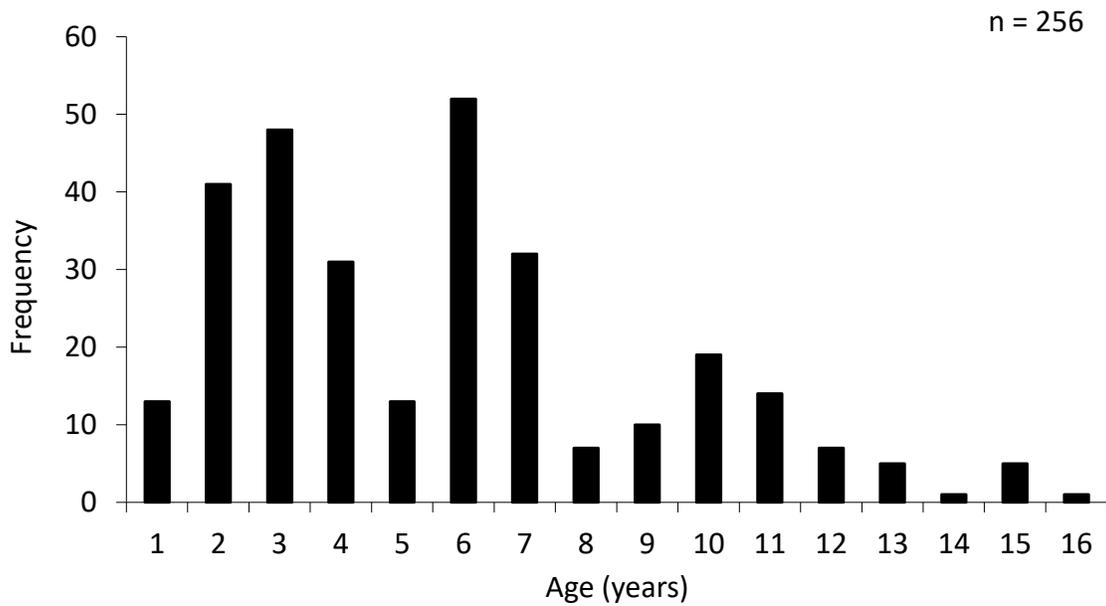


Figure 2.—Age frequency distribution of Largemouth Bass >150 mm TL collected from Farmer Lake with electrofishing during April of 2022.

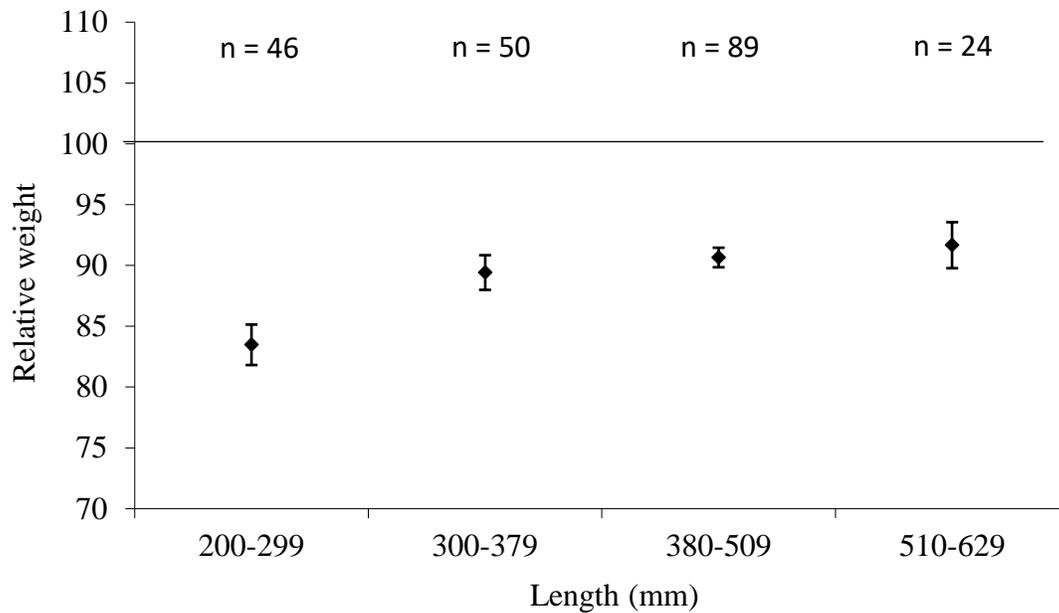


Figure 3.—Relationship between stock sizes and relative weight (*Wr*) of Largemouth Bass captured from Farmer Lake with electrofishing during April of 2022.

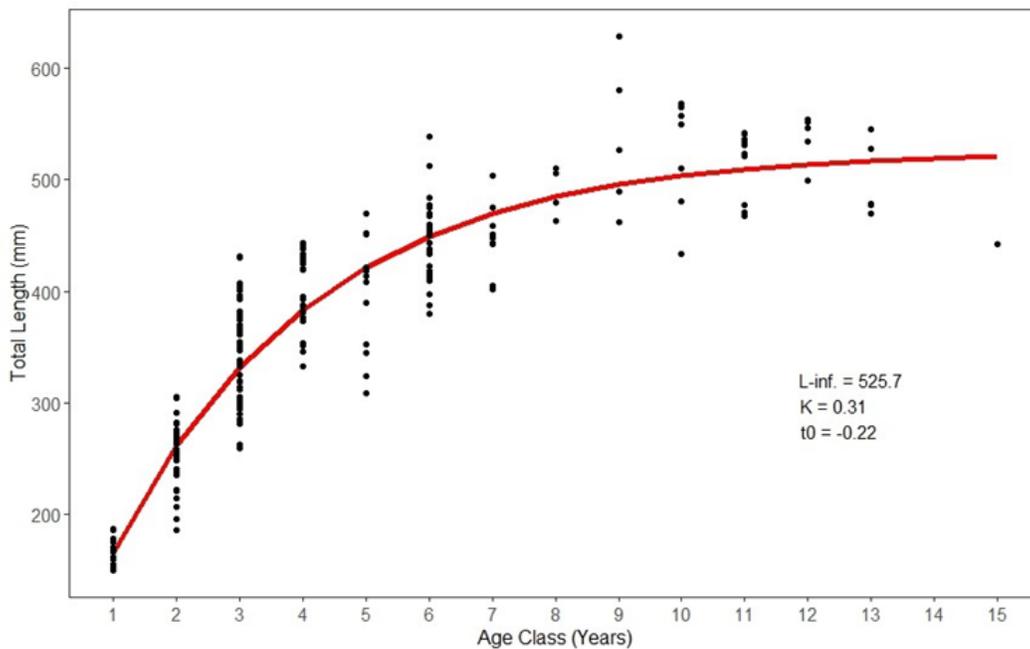


Figure 4.—von Bertalanffy growth curve for of Largemouth Bass collected from Farmer Lake with electrofishing during April of 2022.