

BIOLOGICAL OBSERVATIONS

The Largemouth Bass population at Lake Tillery continues to be in above-average condition. The CPUE was within range of what is normally seen in Piedmont reservoirs (30-60 fish/h). While the CPUE was lower in this survey compared to previous years, the fish captured were, on average, larger and grew faster (Table 1). The percentage of fish above 356 mm TL was 42% indicating many quality fish are available to anglers and that mortality is not excessive (Table 1). Additionally, many small, and younger, fish in the population show successful recruitment (Figure 1; Figure 2). There were no apparent correlations between size of fish and relative weight however, the majority of fish (92%) did have relative weights under the ideal value of 100, indicating forage may not be adequate and overcrowding may be occurring (Figure 4). Future surveys will determine if overcrowding is occurring but at this time the overall population appears to be in good condition with no management changes recommended.

MANAGEMENT RECOMMENDATIONS

1. Maintain current Largemouth Bass 356-mm size limit and creel limit of 5 fish per day, where 2 fish may be less than 356 mm, for Largemouth Bass at Lake Tillery.
2. Continue to sample Lake Tillery every three years during the spring with electrofishing gear to examine temporal trends in population and recruitment variability and evaluate the current regulation.

TABLES AND FIGURES

TABLE 1.—Catch per unit effort (CPUE), percent of fish that were 356 mm and longer, Proportional Size Distribution-Preferred, mean length (TL mm) at age 3, and mean relative weight (W_r) of Largemouth Bass collected from Lake Tillery with electrofishing, April-May 2006, 2009, 2012, 2015, 2018, and 2022. Parentheses are one standard error.

| Year | CPUE (fish/h) | % \geq 356 mm | PSD-P | Mean length at age 3 | Mean W_r |
|------|---------------|-----------------|-------|----------------------|------------|
| 2006 | 103 (8) | 30 | 34 | 366 | 97 |
| 2009 | 102 (13) | 33 | 25 | 351 | 96 |
| 2012 | 92 (7) | 35 | 30 | 359 | 95 |
| 2015 | 104 (11) | 29 | 25 | 347 | 88 |
| 2018 | 77 (6) | 40 | 28 | 351 | 91 |
| 2022 | 58 (7) | 42 | 32 | 364 | 90 |

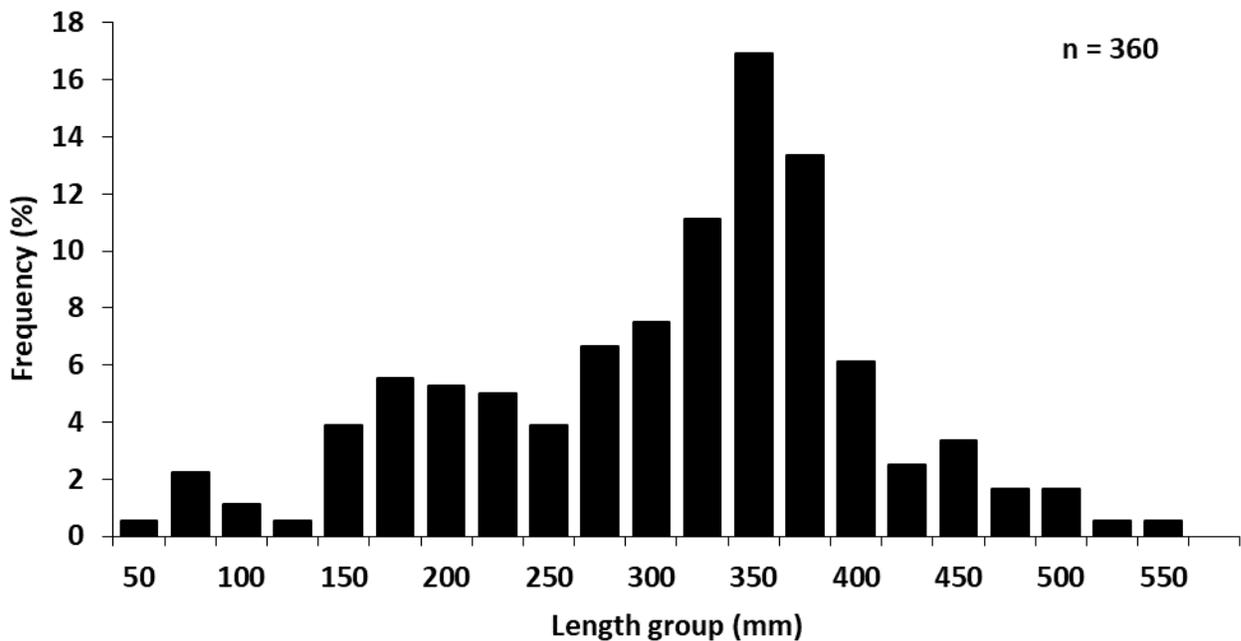


FIGURE 1.—Length frequency distribution of Largemouth Bass collected from Lake Tillery with electrofishing, April 2022.

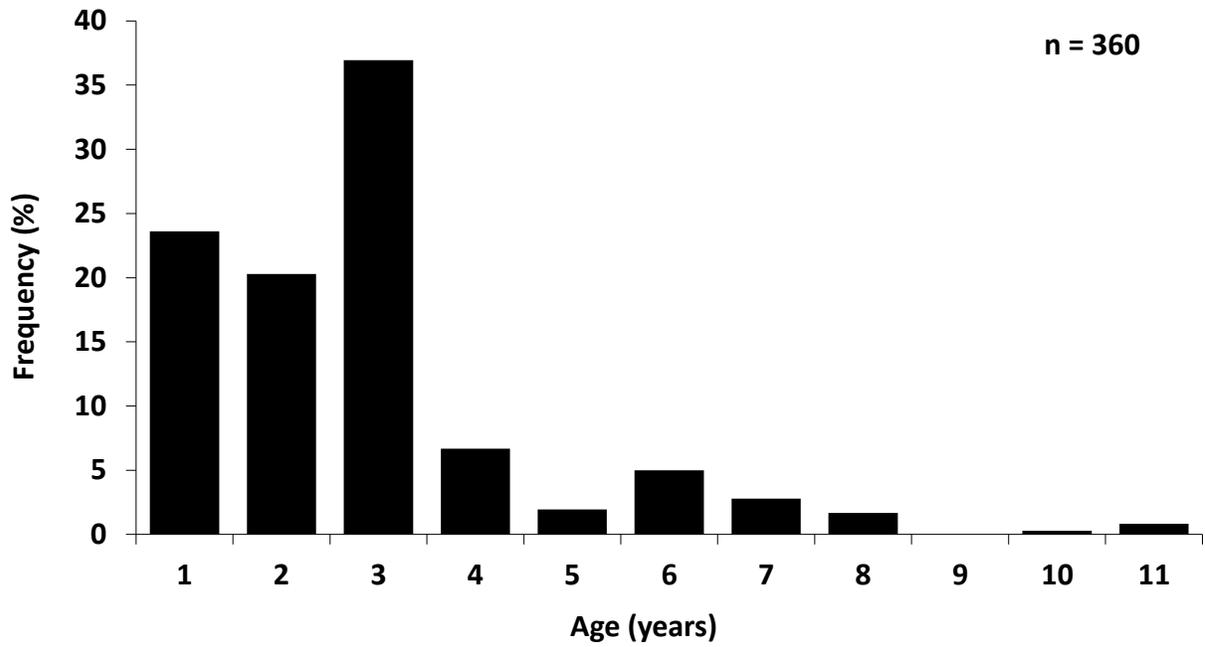


FIGURE 2.—Age frequency distribution of Largemouth Bass collected from Lake Tillery with electrofishing, April 2022. Ages were expanded from a subsample using an age-length key.

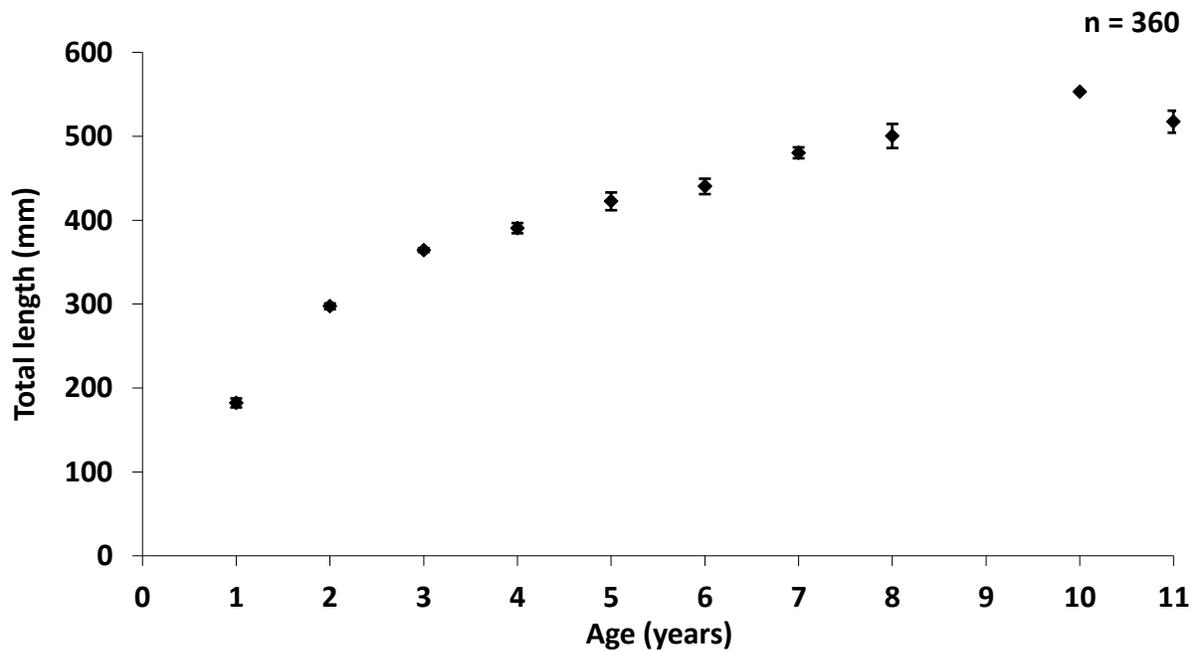


FIGURE 3.—Mean total length at age (± 1 SE) at time of capture for Largemouth Bass collected from Lake Tillery with electrofishing, April 2022.

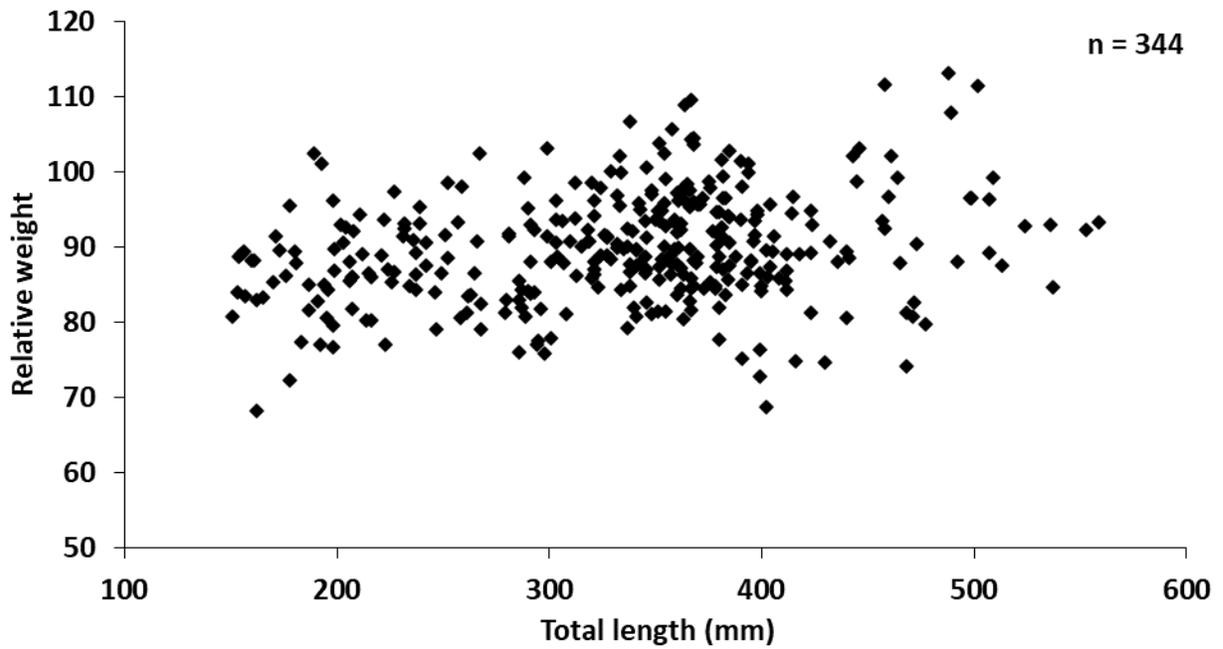


FIGURE 4.—Relationship between length and relative weight of Largemouth Bass collected from Lake Tillery with electrofishing, April 2022.

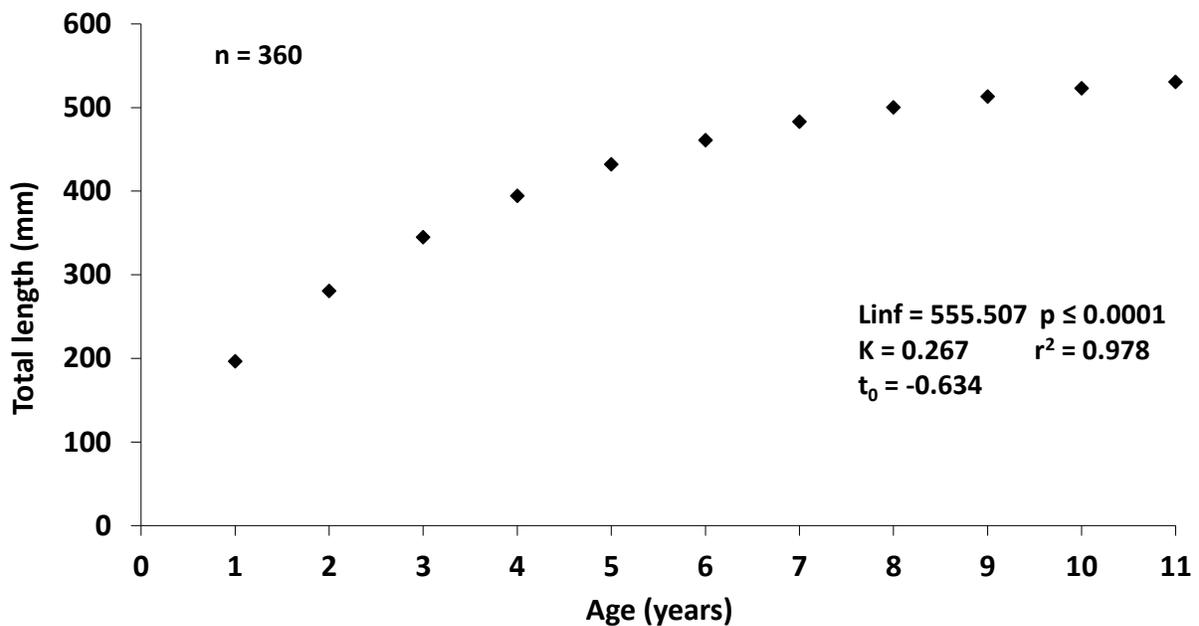


FIGURE 5.—von Bertalanffy growth curve for Largemouth Bass collected from Lake Tillery with electrofishing, April 2022.

APPENDIX

