*Fisheries Research Fact Sheet*

# An Overview of the Shearon Harris Reservoir Largemouth Bass Fishery (2007-2017)

September 2017

*8-lb Largemouth Bass collected during survey at Shearon Harris*

Shearon Harris Reservoir is a 4,151-acre impoundment in the upper Cape Fear river drainage, located approximately 20 miles southwest of Raleigh, N.C. Shearon Harris is primarily a cooling source for Duke Energy Progress's nuclear powered electric generating facility; however, its close proximity to the Triangle makes it a popular destination for anglers. The reservoir also supports one of North Carolina's premier Largemouth Bass fisheries. In 2017, back-to-back tournaments were won with five-fish limits weighing in at over 40 pounds. This record level of success will likely increase fishing pressure on the Largemouth Bass fishery, and any resulting changes within the fishery will be documented by routine surveys conducted by biologists with the N.C. Wildlife Resources Commission (NCWRC).

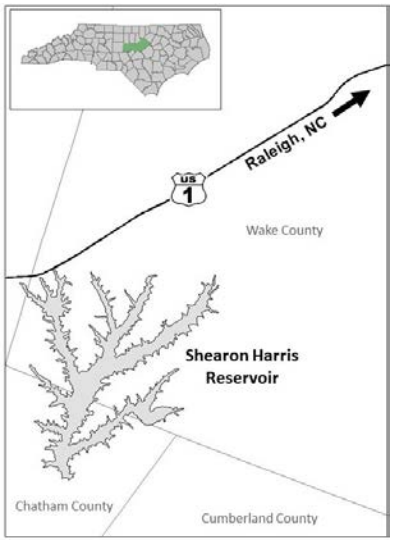
The NCWRC has been conducting routine surveys of the Largemouth Bass fishery on Shearon Harris Reservoir since the early 1990s. These routine surveys allow NCWRC biologists to monitor the fishery and ensure that size and creel regulations are appropriate for achieving management goals. Currently, the Largemouth Bass fishery at Shearon Harris Reservoir is managed by a minimum size limit of 14 inches and a daily creel limit of five fish, with the exception that two fish may be less than 14 inches and no fish between 16 and 20 inches may be possessed. Analysis of multi-year data is important to determine long-term trends and changes to a fishery due to varying environmental factors or increased fishing pressure.

## Project Objectives:

- Give an overview of the Largemouth Bass fishery in Shearon Harris Reservoir over the past decade (2007–2017).
- Monitor changes in size structure, condition, recruitment, and growth within the Largemouth Bass fishery to determine if current size and creel regulations are adequately protecting the fishery.

## Methods:

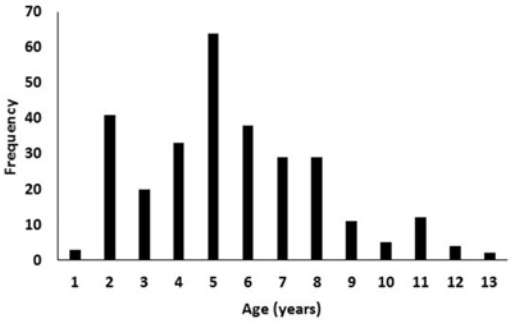
- Survey the Largemouth Bass fishery every other year (2007–2017) by electrofishing the shoreline during spring season.
- Collect and analyze data needed to assess the population to determine relative abundance, body condition, age and length distribution, and growth. Age and growth data are collected every 4 years by sacrificing a sub-set of Largemouth Bass and removing the otoliths (ear bones).




*Shearon Harris Reservoir, located in the upper Cape Fear drainage*

| | 2007 | 2009 | 2011 | 2013 | 2015 | 2017 |
|---|---|---|---|---|---|---|
| Sample Size | 307 | 305 | 409 | 467 | 406 | 358 |
| Relative Abundance (fish/hour) | 73 | 59 | 94 | 96 | 74 | 72 |
| % Below Slot (less than 16 in) | 50 | 55 | 62 | 48 | 54 | 50 |
| % Within Slot (16 in – 20 in) | 37 | 34 | 34 | 43 | 38 | 41 |
| % Above Slot (Over 20 in) | 13 | 11 | 4 | 9 | 8 | 9 |
| Largest Fish | 23 in 8.3 lbs | 25 in 8.7 lbs | 23 in 6.2 lbs | 24 in 9.3 lbs | 23 in 7.3 lbs | 23 in 7.7 lbs |

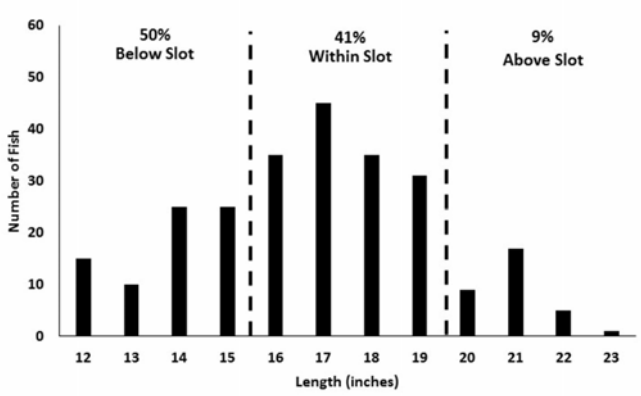
*Survey results from the past 10 years (2007–2017) of Shearon Harris Reservoir Largemouth Bass.*



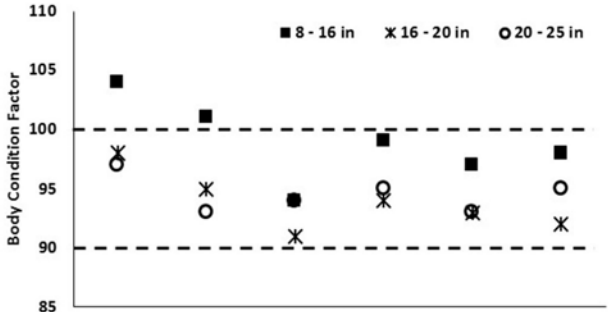

*Age structure for the 2015 Shearon Harris Largemouth Bass survey. Age at length data from the sub-set of fish that were sacrificed to collect age data was used to estimate the age of those fish released back into the system.*

## Results so Far:

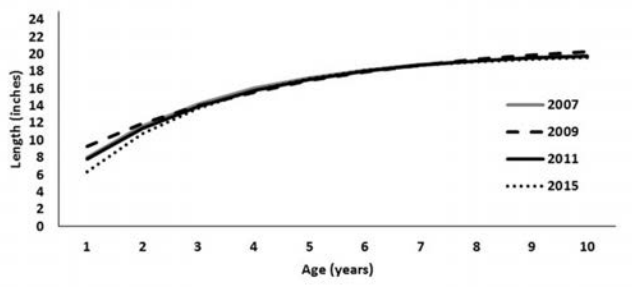
- Shearon Harris Reservoir supports an excellent Largemouth Bass fishery, which is being protected properly by current regulations.
- Survey results indicate that the abundance of Largemouth Bass and the size structure of the fishery have remained fairly stable over the past 10 years. Slight fluctuations are normal and usually represent strong age classes within the fishery.
- The 2017 Largemouth Bass survey indicates a large percent of the fishery within the protected slot limit (41% within protected slot), but there is still a large quantity of harvestable fish (50% less than 16 inches and 9% greater than 20 inches).
- Body Condition, a term that describes the weight of a fish relative to its length, can be translated into a numerical value where the average range for Largemouth Bass in a North Carolina piedmont reservoir is between 90 and 100. Overall, Largemouth Bass in Shearon Harris Reservoir display average or above average condition. Overall, smaller bass typically had higher values of condition when compared to larger size classes.
- Growth rates have not changed over the past 10 years. Largemouth Bass reach 14 inches around age 3, which is an average growth rate for a piedmont reservoir. Growth rates also indicate that it takes about 10 years for fish to grow out of the 16-to 20-inch protective slot.
- Age analysis from the 2015 survey shows healthy Largemouth Bass recruitment and some fish surviving up to 13 years in Shearon Harris Reservoir.




*Length distribution for the 2017 Shearon Harris Reservoir Largemouth Bass survey. The percentage of fish surveyed that were below, within, and above the protective slot limit are shown above.*




*Body condition of Shearon Harris Largemouth Bass over the past 10 years (2007–2017). The dotted lines indicate the upper and lower range of average body conditions for Largemouth Bass in a piedmont reservoir. Largemouth Bass were grouped by those below, within, and above the 16-to 20-inch protective slot.*




*Growth rates for Shearon Harris Largemouth Bass over the past 10 years (2007–2017). Growth was only calculated for survey years where age data was collected.*

## What's next?:

- Continue monitoring Largemouth Bass in Shearon Harris Reservoir every two years to ensure proper management of the fishery.
- The next survey is scheduled for 2019, when additional otoliths will be collected for age and growth analysis.

## For more information, contact:

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