



## Fisheries Research Fact Sheet

# Badin Lake Largemouth Bass Population Assessment-2017

June 2018



The N.C. Wildlife Resources Commission (Commission) recently conducted an electrofishing survey at Badin Lake to determine the status of the Largemouth Bass population and to evaluate the management of the fishery. The 5,355-acre impoundment is located on the Yadkin River in Stanly and Montgomery counties and is a popular destination for North Carolina anglers. The creel limit for Largemouth Bass at Badin Lake is five fish per day, two of which may be less than 14 inches.

Commission biologists have over 20 years of Largemouth Bass survey data from Badin Lake. Routine surveys are critical for documenting potential changes (positive or negative) to a population. Sometimes these changes can be anticipated, such as when a moratorium is implemented, but larger changes are often the result of an unplanned occurrence such as a disease outbreak, new species introduction, pollution event, or natural event like a hurricane or extreme drought. Historical data from routine surveys allow biologists to quantify a population's response to such events. Over the course of many years, even gradual population changes may be detected using historical data, although the contributing factors might be more difficult to pinpoint.

### Objectives:

- Determine the status of the Largemouth Bass population by analyzing relative abundance, length distribution, age distribution, and growth.
- Compare these parameters with those from previous surveys to monitor population trends and develop potential management actions to maintain or improve the fishery.

### Methods:

- In late April–early May 2017, nine shoreline sites were sampled at Badin Lake using a boat-mounted electrofisher.
- Largemouth bass were collected, weighed, and measured. Otoliths (ear stones) were removed from a subsample of the catch to determine age and the rest of the fish were released back into the lake unharmed.



*Badin Lake is located in Stanly and Montgomery counties in the Piedmont of North Carolina.*



*Fisheries biologists Lawrence Dorsey and Troy Thompson electrofishing for Largemouth Bass.*



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## Results:

- Fisheries biologists collected 363 Largemouth Bass at a rate of 87 fish per hour. Although poor visibility from muddy water likely reduced the catch rate somewhat, it was higher than average (30–60 fish per hour) for a Piedmont reservoir. Catch rates have fluctuated over the past 15 years at Badin Lake but this is probably due more to variable sampling conditions rather than population changes since the size structure has remained fairly consistent.
- Growth was relatively fast, with Largemouth Bass reaching 14 inches before age 3. This is comparable to previous surveys at Badin Lake but is above average for Piedmont reservoirs, where 14 inches is normally reached between age 3 and age 4. The largest and oldest fishes collected were 6.4 pounds and 14 years (Figure 1), respectively. Growth can be highly variable among older fish. For example, among the age-6 Largemouth Bass collected, length ranged from 14.4 to 21.7 inches and weight from 1.2 to 6.4 pounds.
- Length distribution analysis indicates that 64% of the total population was greater than 14 inches (Figure 2). This is considered excellent and probably reflects the fast growth at Badin Lake as well as the limited harvest of Largemouth Bass in general.
- Although there has been some variation over time, indices of abundance, growth, size distribution, and age distribution have consistently been above average at Badin Lake. This is reflected in its popularity and status as one of the better Largemouth Bass fisheries in North Carolina.

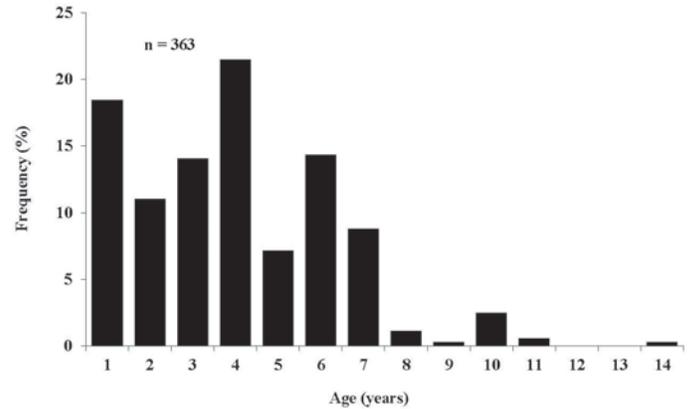


Figure 1: Age frequency distribution of Largemouth Bass collected from Badin Lake by electrofishing, April 2017.

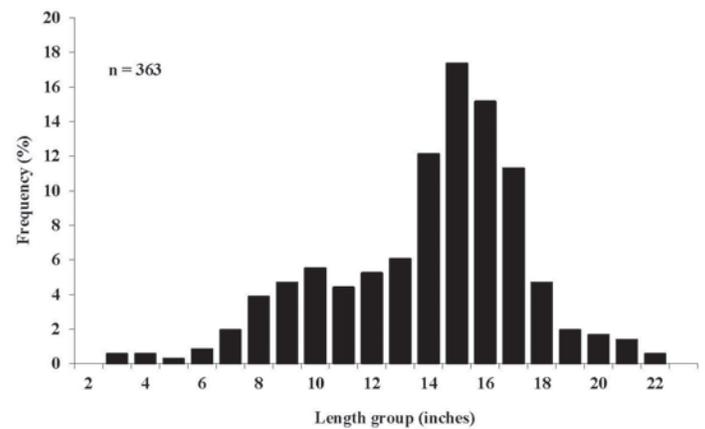


Figure 2: Length frequency distribution of Largemouth Bass collected from Badin Lake by electrofishing, April 2017.

## What's next?:

- No regulation changes are recommended at this time. Badin Lake's regulations are currently consistent with several nearby reservoirs that share the statewide default Largemouth Bass limits.
- Fisheries biologists will continue to monitor the Largemouth Bass population at Badin Lake. Currently the reservoir is sampled every three years and the next survey is planned for the Spring of 2020.

## For more information, please contact:

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### How You Can Help

Your purchase of fishing tackle, fishing licenses and motorboat fuel helps support fisheries work conducted by N.C.

Wildlife Resources Commission fisheries biologists through the Sport Fish Restoration Program administered by the U.S. Fish and Wildlife Service.

