Fisheries Research Fact Sheet

Assessing Blue Catfish Population Dynamics in Lake Gaston

March 2017

Blue Catfish and Striped Bass entangled in a gill net during sampling at Lake Gaston

The N.C. Wildlife Resources Commission (NCWRC) is conducting a Blue Catfish survey on Lake Gaston to gain a better understanding of abundance, diet, and growth rates. Catfish were the second most popular species during a 2008 Lake Gaston creel survey, behind Largemouth Bass.

Lake Gaston can claim 3 consecutive state records since December 2015 with the established, non-native Blue Catfish; the latest weighing 117 pounds caught in June 2016. With this flurry of broken state records, targeting trophy catfish will likely continue to increase in angler popularity. These large fish are another predator at Lake Gaston competing for limited food supplies and although the NCWRC samples Largemouth Bass, crappie, and Striped Bass on a regular basis at Lake Gaston, little data exists for catfish. However, during routine Striped Bass sampling, the number of Blue Catfish incidentally collected has increased over the past 10 years (Figure 1). Biologists aim to determine a more accurate estimate of the Blue Catfish population with directed surveys.

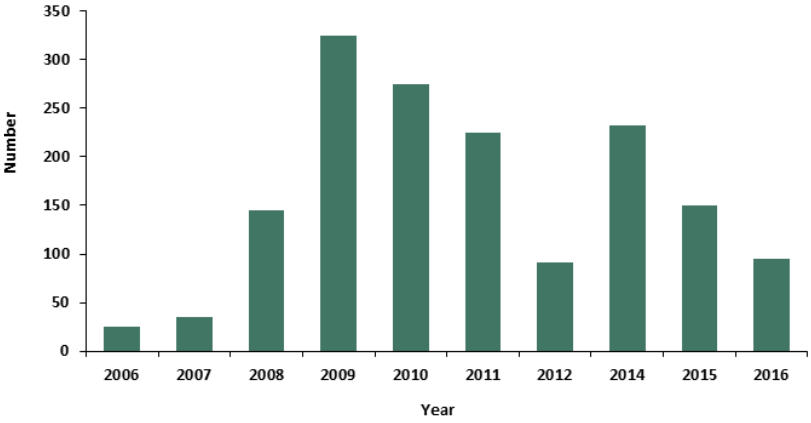

FIGURE 1.—Number of Blue Catfish incidentally captured while sampling Striped Bass at Lake Gaston since 2006.

Map of Lake Gaston. Part of the lake is in the North Carolina counties of Halifax, Northampton and Warren. The part extending into Virginia lies in Brunswick and Mecklenburg counties.

District 2 Assistant Fisheries Biologist Kelsey Lincoln with a ~ 20-lb Blue Catfish.

Project Objectives:

- Assess the catfish population and specifically: document species composition, along with relative abundance, stomach contents, and growth rates for Blue Catfish at Lake Gaston.
- Determine if any catfish species specific regulations are necessary in North Carolina waters of Lake Gaston.

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Methods:

- The NCWRC will sample catfish populations with electrofishing and gill nets.
- Catfish sampled are identified, counted, measured, and weighed. A subsample of stomach contents will be analyzed and ear bones, called otoliths, will be removed for ageing purposes.

Results:

- Approximately 30 small White Catfish, 1 Channel Catfish, and 3 Yellow Bullheads were sampled via electrofishing in August 2016, with no Blue Catfish collected.
- A total of 95 Blue Catfish, 5 Channel Catfish, 11 White Catfish, and 1 Flathead Catfish were sampled with various mesh gill nets in November 2016 and January 2017 at Lake Gaston. Blue Catfish ranged from 2–27 lbs. and from 17–39 inches (Figure 2).
- Otoliths were removed from approximately 20 Blue Catfish, while stomach contents were examined from approximately 35 Blue Catfish. So far, most of stomachs have been empty with shad and unidentified fish making up the majority of contents in the remainder.

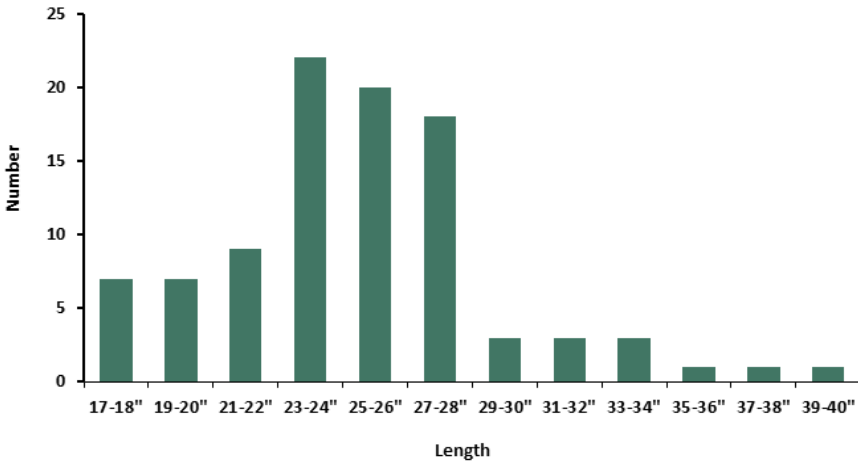

FIGURE 2.—Length distributions for Blue Catfish collected during 2016–2017 sampling at Lake Gaston.

What's next?:

- Continue sampling via gill nets to collect and analyze additional catfish during various seasons at Lake Gaston.
- Age otolith samples to determine age structure and growth rates.
- Explore methods to collect and analyze larger, trophy-sized catfish in the lake.

Blue Catfish otolith used for ageing in comparison with the much larger otolith for Striped Bass. There are three different types of otoliths in fish. Their main functions are for detecting sounds and gravitational force to assist with hearing and equilibrium.

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.