



Largemouth Bass Stunting and the Prevalence of Small Bass

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North Carolina's black bass species are some of the most popular inland sport fish in the state. From the depths of Lake Chatuge to the shallows of the Chowan River, anglers across the state frequently go to their local waters in pursuit of black bass. Every year the N.C. Wildlife Resources Commission (Commission) receives numerous questions about black bass populations throughout the state.

Black bass anglers are a diverse group and have different goals when it comes to what they target. Some anglers enjoy catching lots of fish regardless of size while others are more interested in trophy fish. For trophy anglers, it can be frustrating to spend a lot of effort only to catch small fish. Although angler experience, gear, and technique can play a role in what size fish are caught, sometimes the issue is with the reservoir. Factors including prey abundance, individual competition, and angler harvest impact size distribution and in extreme cases lead to stunting of black bass in the lake.

When other conditions (e.g., habitat and water quality) are favorable, the overall size of black bass such as Largemouth Bass, *Micropterus salmoides*, Smallmouth Bass, *M. dolomieu*, Alabama Bass, *M. henshalli*, and Spotted Bass, *M. punctulatus*, is dependent on the amount and quality of available food. In reservoirs with a high abundance of small or medium sized bass, fish growth is often limited due to competition with other bass or other species. Larger bass are often found in lakes with less competition and more available food. Lower abundance of black bass often leads to increased size, but anglers may experience lower catch rates. Rarely do both conditions persist where there are high catch rates of very large fish. For example, in lakes like Townsend near the city of Greensboro, each year, anglers consistently catch large fish although catch rates are lower.

Reservoirs managed for trophy Striped Bass fisheries stock fewer stripers per acre than other lakes, which are not considered trophy lakes. This practice is aimed to decrease competition and allow for greater growth and size of fish in the lake. Alternatively, reservoirs with higher abundance mean more competition on the relatively fixed amount of food sources

often resulting in an overcrowded or stunted population. This is a common phenomenon in North Carolina reservoirs. For example, note the dominance of small fish, less than 12-in long, in Figure 1 from a Commission survey conducted in spring 2017 at Lake Cammack in Alamance County (Figure 2). This small lake is popular with bass fishermen, but it likely receives little to no harvest of bass which is one factor that can lead to stunting.

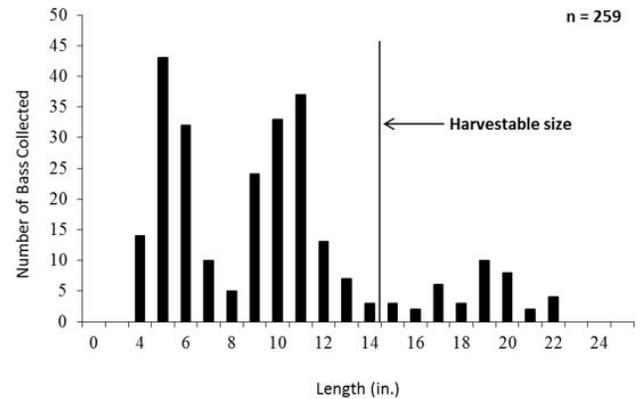


Figure 1. Size distribution of a stunted population of Largemouth Bass in Lake Cammack, Alamance County.

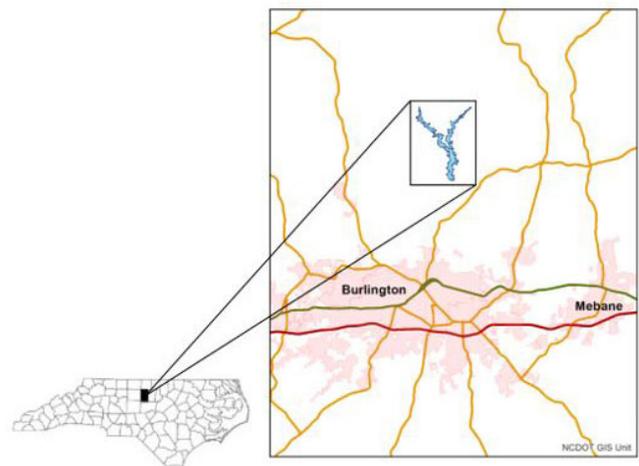


Figure 2. Map of NC counties with the general location of Lake Cammack.



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While harvesting a Largemouth Bass may sound like a cardinal sin for most avid anglers, research and long-term surveys indicate compounding negative effects, such as limited growth rates and catchability, of continued catch-and-release angling practices. After tournament organizations like B.A.S.S. and F.L.W. pioneered live release tournaments and boat manufacturers designed advanced livewell systems, it became the norm for almost every black bass caught from a boat to be released back into the lake instead of onto a dinner plate. These catch-and-release campaigns originated with the necessary and noble ethic to conserve bass fishing resources for future generations. Such campaigns allowed for a decrease in bass harvest around the country despite the rise in popularity of tournament and recreational fishing during the 1970s and early 1980s. Fish were becoming relied on less for food and more for recreation by the 1980s and 1990s. While lower harvest rates from the catch-and-release mentality originally led to bass population growth and expansion throughout the nation, there is still a valuable need to harvest bass from many of our lakes and rivers to prevent stunting.

The right amount of harvest from a population can reduce the spread of diseases, and, when all other environmental variables are favorable, boost individual fish growth. There will of course, always be a fear of over-harvest that many anglers will discuss at the ramp and in bass club meetings, but that situation is very rare in most bass lakes with normal reproduction and an



District 5 Fisheries Biologist Seth Mycko holding a nice Largemouth Bass collected in 2018.

adequate prey base. Commission biologists perform routine surveys of black bass populations and monitor population trends throughout the state. Indications of overharvest would be apparent from these surveys and regulations would be modified accordingly. Overall, increasing harvest should reduce competition and increase the chances of catching larger fish. Many anglers know that a 14-inch minimum length limit is used to protect small fish that will recruit into the harvestable population someday, but it also serves to promote harvest of the medium sized bass that can be big competitors with each other and limit growth potential of a lake.

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