

# Fisheries Research Summary

Division of Inland Fisheries

N.C. Wildlife Resources Commission



## Lake Lucas Largemouth Bass Assessment

Lake Lucas is a 232-acre impoundment that is used by the city of Asheboro as a source of recreation and water supply. Lake Lucas contains many fish species of interest to anglers including sunfish, catfish, white crappie, black crappie and largemouth bass.

The largemouth bass fishery in Lake Lucas is governed by a minimum size limit of 14 inches with a creel limit of five fish per day, with two fish allowed below 14 inches. Periodic sampling of largemouth bass populations is needed to determine if current size and creel regulations are adequately protecting the fisheries. The objective of this survey was to obtain stock assessment data needed to evaluate and manage largemouth bass in Lake Lucas.



Largemouth bass were sampled in early April 2010 by N.C. Wildlife Resources Commission biologists using shoreline electrofishing. All fish collected were measured (total length, inches) and weighed (lbs). A subsample of fish were sacrificed for age determination using sagittal otoliths (ear bones) and the remaining fish were returned to the reservoir.

In general, Lake Lucas supports a good largemouth bass fishery. Harvestable sized fish represented 72 percent of the largemouth bass collected (Figure 1).

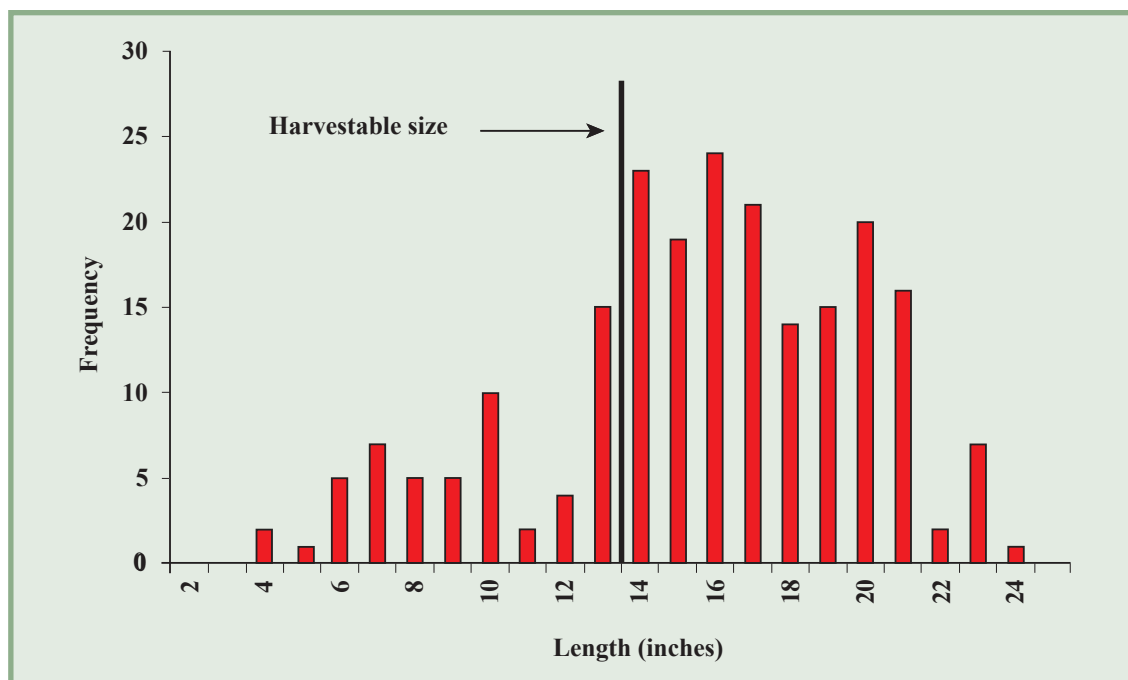


Figure 1 - Largemouth bass size structure at Lake Lucas in 2010. The black line represents the 14 inch minimum size limit.



Growth rates are similar to those reported previously at Lake Lucas as largemouth bass reached 14 inches between 3 and 4 years of age and suggests average growth (Figure 2).

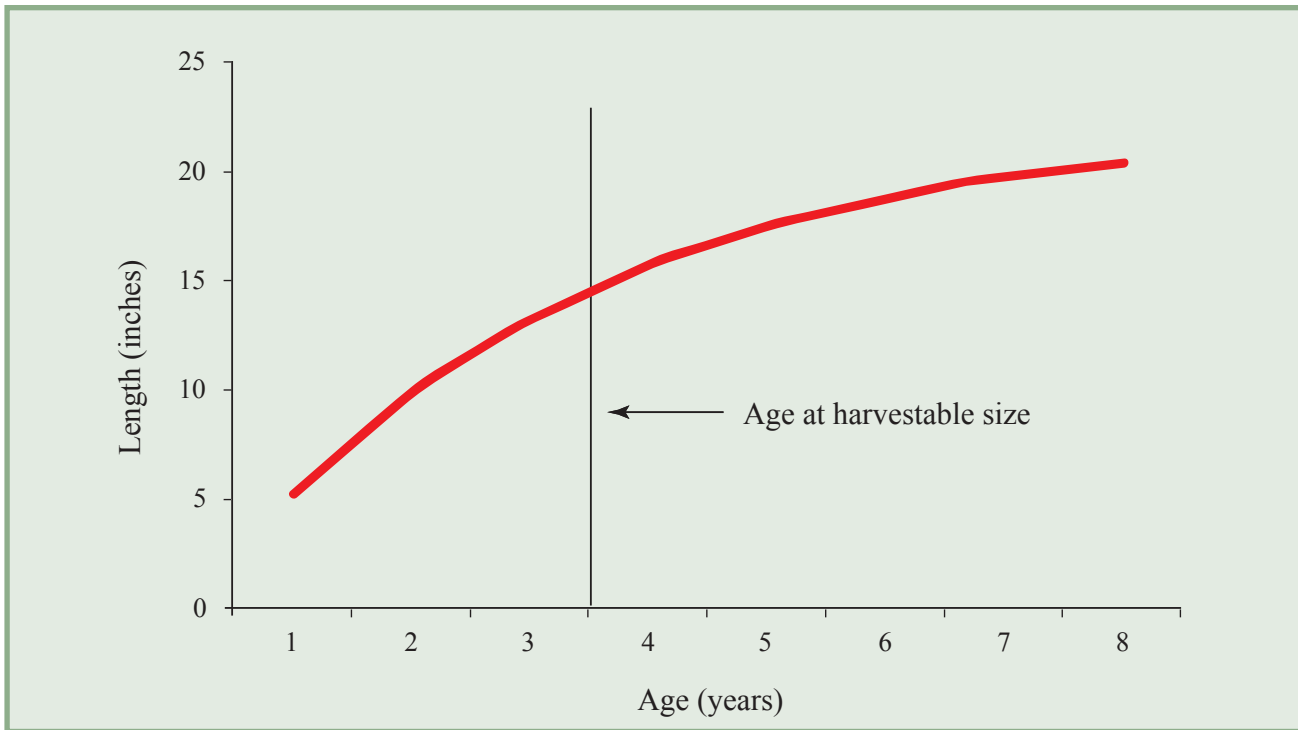


Figure 2 - Growth curve for largemouth bass at Lake Lucas in 2010. The black line represents the age largemouth bass reach 14 inches.

Mean relative weight values, a measure of plumpness, were close to or above the ideal value of 100 for all size classes. These results indicate that the fish are in good body condition and that there is an ample source of forage within the lake. The largest fish captured measured 23.5 inches and weighed 8.5 pounds.



The largemouth bass population at Lake Lucas is in great shape. Jessica Baumann, a fisheries biologist with the Commission, holds two largemouth bass that are in excellent condition.

Overall, the largemouth bass population appears to be in great shape with good recruitment, average growth rates, good body condition, and a large percentage of harvestable size fish. Current size and creel regulations are adequately protecting the largemouth bass fishery in Lake Lucas. Biologists recommend that Lake Lucas continue to be managed under the general statewide regulation of a 14-inch minimum length limit with a creel limit of five largemouth bass per day including two fish less than 14 inches. They also recommend that Commission personnel resample Lake Lucas in 4-5 years.