

Buckhorn Lake Bass Assessment 2022

Buckhorn Lake, located in Leslie and Perry counties, is a 1,230-acre multipurpose reservoir on the Middle Fork of the Kentucky River. Buckhorn is one of four lakes in Kentucky that provide the opportunity to catch muskellunge. Buckhorn Lake is also popular for largemouth bass, white crappie, bluegill, channel catfish, and flathead catfish. The following graphs show trends and rankings for each of the five population parameters used in the largemouth bass assessment. The lake was not sampled in the spring of 2011, 2013 and 2016 due to heavy rainfall and flooding and again in 2020 due to COVID-19 restrictions.

Please see the [Sportfish Assessments](#) page for an explanation of how the assessment works and for a list of other lakes with largemouth bass assessments.

Please note that the minimum size limit for largemouth bass on this lake is 15.0 inches.



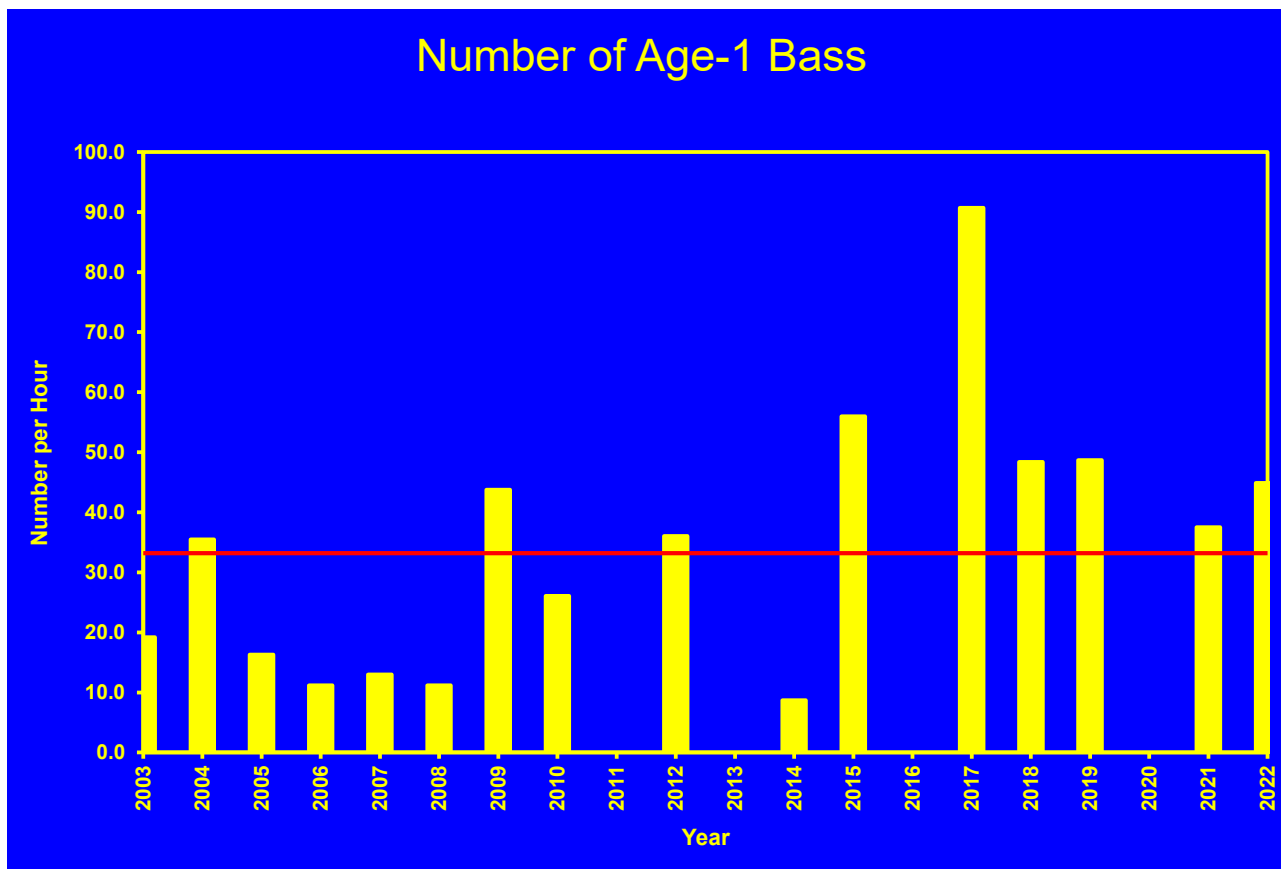
Parameter 1 – Length at Age-3 (growth rate)

At Buckhorn Lake, the length of an age-3 largemouth bass has averaged 12.6 inches since 2000 (see red line). Compared to other reservoirs of similar size, largemouth bass generally exhibit fair to good growth at Buckhorn Lake. Growth rates can be variable and are generally related to factors such as population density, food resources, and weather patterns. The most recent aging of largemouth bass at Buckhorn Lake was in 2020 and found that 3-year-old largemouth experienced fair growth, averaging 11.7 inches. Growth rates are evaluated every 5 years to monitor any changes. KDFWR biologists are planning to re-evaluate the growth rates of largemouth bass at Buckhorn Lake during their 2025 fall sampling.



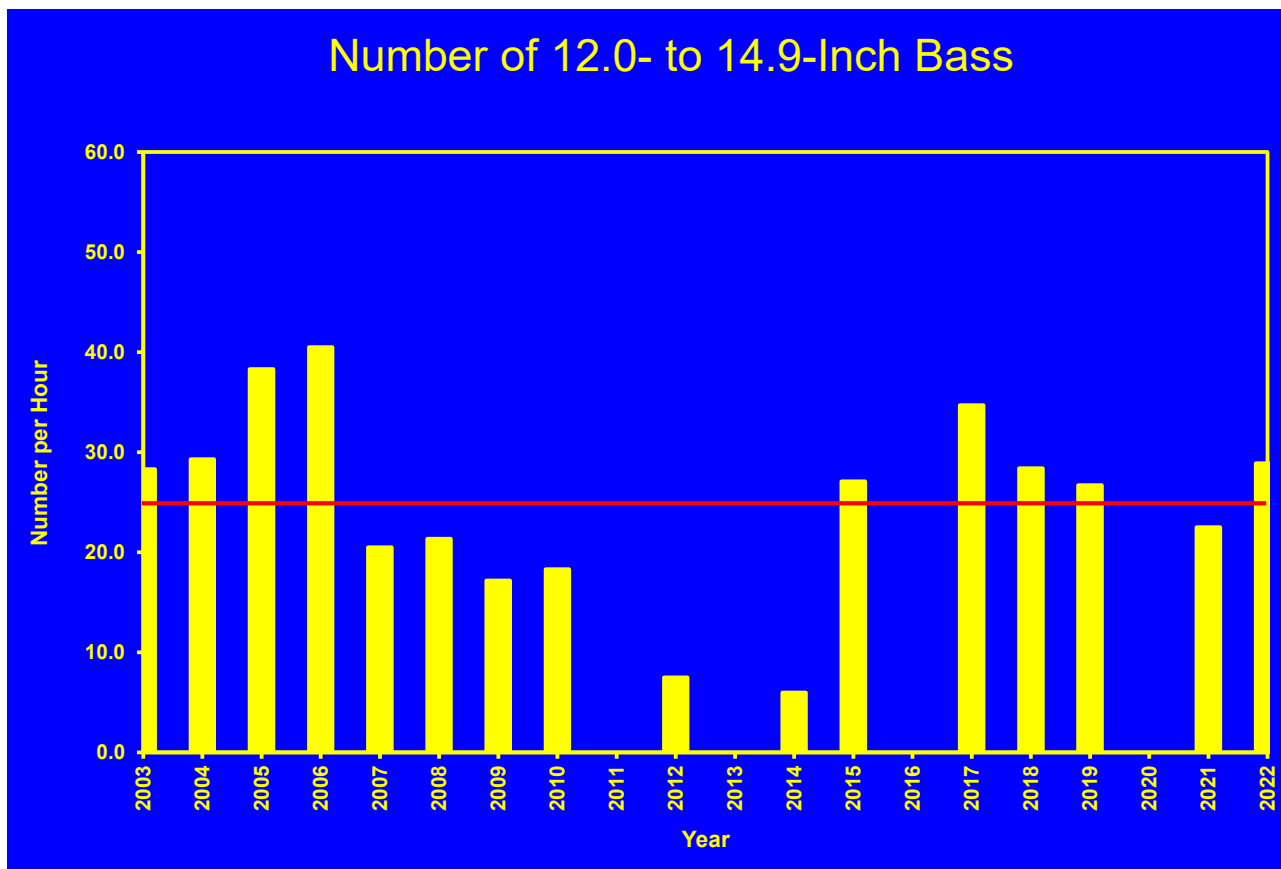
Parameter 2 – Number of Age-1 Bass (how good the spawn was)

KDFWR looks at the spring catch rates of age-1 largemouth bass to assess the success of the spawn that occurred in the prior year. This is an important parameter because the number of age-1 bass produced represents how good the fishing will be once these fish grow large enough for anglers to catch. At Buckhorn Lake, the combined catch rate of wild and stocked age-1 largemouth bass averaged 33.4 fish per hour of electrofishing since 2001 (red line) which is considered “good” compared to similar-sized lakes. Age-1 catch rates have increased recently with 2017 having the highest catch rates in the last 20 years. Due to these increases, no supplemental stockings have occurred since 2015.



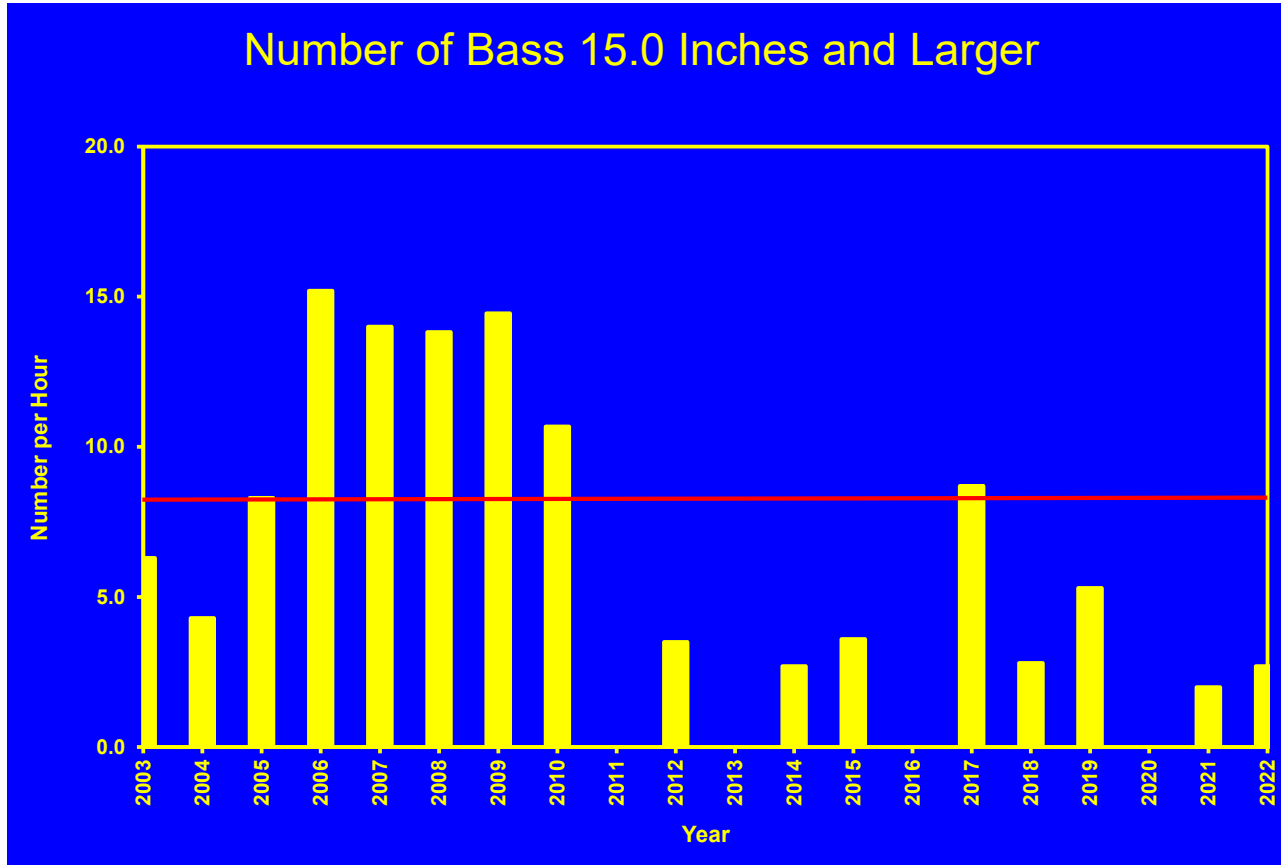
Parameter 3 – Number of 12.0- to 14.9-Inch Bass

The electrofishing catch of 12.0- to 14.9-inch largemouth bass has averaged 25.0 fish per hour as indicated by the red line. As compared to other lakes, this is a “good” catch rate for this size group of bass. From 2009-2014 catch rates for this size group of bass were below average. High water events during this time period likely led to a loss of these fish from the fishery. Good conditions from the spring of 2015 to present have yielded consistently average samples. This number is important because it is a good predictor of how bass fishing will be in years to come when these fish grow above the 15.0-inch size limit. The upcoming year classes are showing signs of good recruitment and size structure.



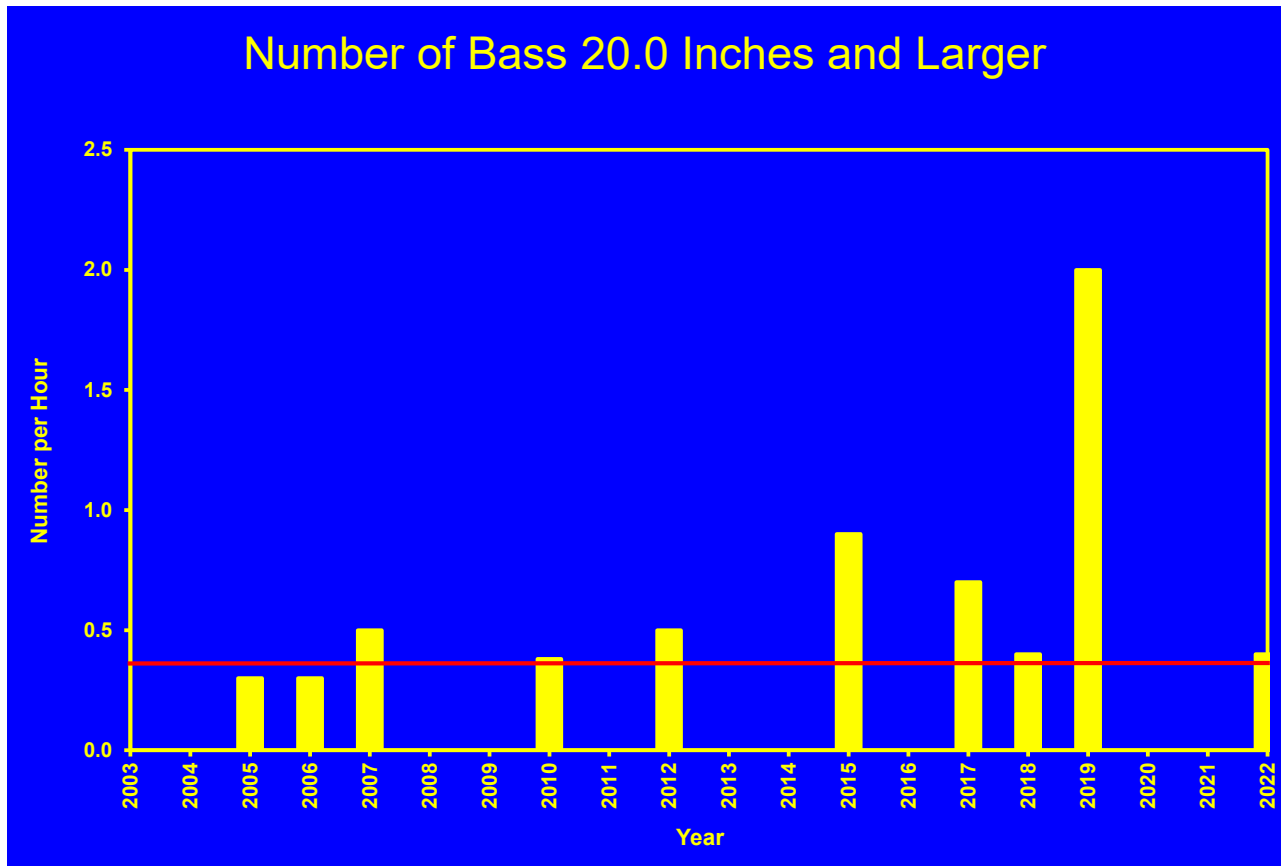
Parameter 4 – Number of Bass 15.0 Inches and Larger

The catch rate of 15.0 inch and larger largemouth bass at Buckhorn Lake has averaged 7.5 fish per hour of electrofishing since 2000 (red line). As compared to other lakes, this is a “poor” catch rate for this size group and has remained mostly low since 2010. Numbers of 12.0- to 14.9-inch bass remain slightly above average and stable from year to year. Those year classes from 2021-2022 should eventually increase the numbers of these harvestable fish within the population.



Parameter 5 – Number of 20.0-Inch and Larger Bass

The electrofishing catch of 20.0-inch and larger largemouth bass has averaged about 0.4 fish per hour (red line) at Buckhorn Lake since 2000. This catch rate has decreased slightly in recent years and is considered “fair” when compared to other lakes in this size range. Since 2019, catch rates have decreased slightly, following a similar trend of 15.0-inch and larger size classes. Improved sampling conditions for 2022 showed an improved catch rate over the 2021 survey. With a decrease in catch rates of fish over 15.0 inches, anglers may see a lower than average catch rate of fish over 20.0 inches as well for the immediate future. KDFWR partners with the USACE on habitat improvement projects annually. The increase in available fish habitat should help these numbers improve soon.



Overall – Total Assessment Score (all five parameters added together)

Overall, the largemouth bass fishery at Buckhorn Lake has averaged a “fair” assessment score of 11.9 since 2001 (red line). The overall assessment score for the largemouth bass population at Buckhorn Lake has bounced back and forth between fair and good in the past. Good sampling conditions in 2022 revealed better than average scores in recruitment and the 12.0- to 14.9-inch size class. With recent increases in the strength of upcoming year classes, this assessment is expected to rise slightly and settle into the “good” category. Habitat improvement projects can make significant improvements to fisheries in aging reservoirs such as Buckhorn Lake and provide anglers better opportunity to find legal-sized fish. KDFWR will continue their habitat partnership with the USACE in hopes of having a positive impact on this fishery.

