

Lake Nockamixon

Bucks County

2021 Largemouth Bass Survey

Staff from the Pennsylvania Fish and Boat Commission (PFBC) Area 6 fisheries management office conducted a routine survey of the Largemouth Bass population at Lake Nockamixon on June 14th and 16th, 2021. Lake Nockamixon is a 1,450 acre reservoir located within [Nockamixon State Park](#) in upper Bucks County. This black bass population is managed under the [Big Bass Program Special Regulations](#), which has a creel limit of 4 bass per day (combination of Largemouth and/or Smallmouth Bass) and a minimum size limit of 15 in. The Lake Nockamixon black bass population was a great candidate for the Big Bass Program due to an abundant forage base (Alewife and Gizzard Shad) and ample amount of near shore and offshore habitat. These conditions allow many bass in Lake Nockamixon to reach or exceed 15 in, which is evident in the following survey results.



Fisheries Biologist John Buzzar displaying a 21.75 in, 5.75 lb Largemouth Bass.

Pennsylvania Fish and Boat Commission Biologist Report

Lake Nockamixon has been surveyed numerous times in the past decade, primarily focusing on updating the PFBC’s [Muskellunge](#) and [Walleye](#) Management Plans. However, these species-specific surveys were conducted using trap nets during times of year when a representative sample of the bass population could not be collected. Therefore, a nighttime boat electrofishing survey was conducted during spring to evaluate the Largemouth Bass population. Biologists randomly selected 12 shoreline transects (300 – 400 yds long) to ensure that all available habitats could be sampled. Each site was sampled for 10 minutes, totaling two hours of effort across two nights. Totals of 117 Largemouth Bass and 2 Smallmouth Bass were collected during this survey. Largemouth Bass ranged from 6 to 21.75 in (Figure 1). The two Smallmouth Bass were 6 and 12 in, respectively.



Figure 1. Length frequency distribution of Largemouth Bass collected at Lake Nockamixon during June 2021.

Pennsylvania Fish and Boat Commission Biologist Report

Catch rates of total fish, fish ≥ 12 in, and fish ≥ 15 in greatly exceeded statewide objectives for the Big Bass Program (Figure 2). Of the total catch, 65% of Largemouth Bass exceeded 15 in.

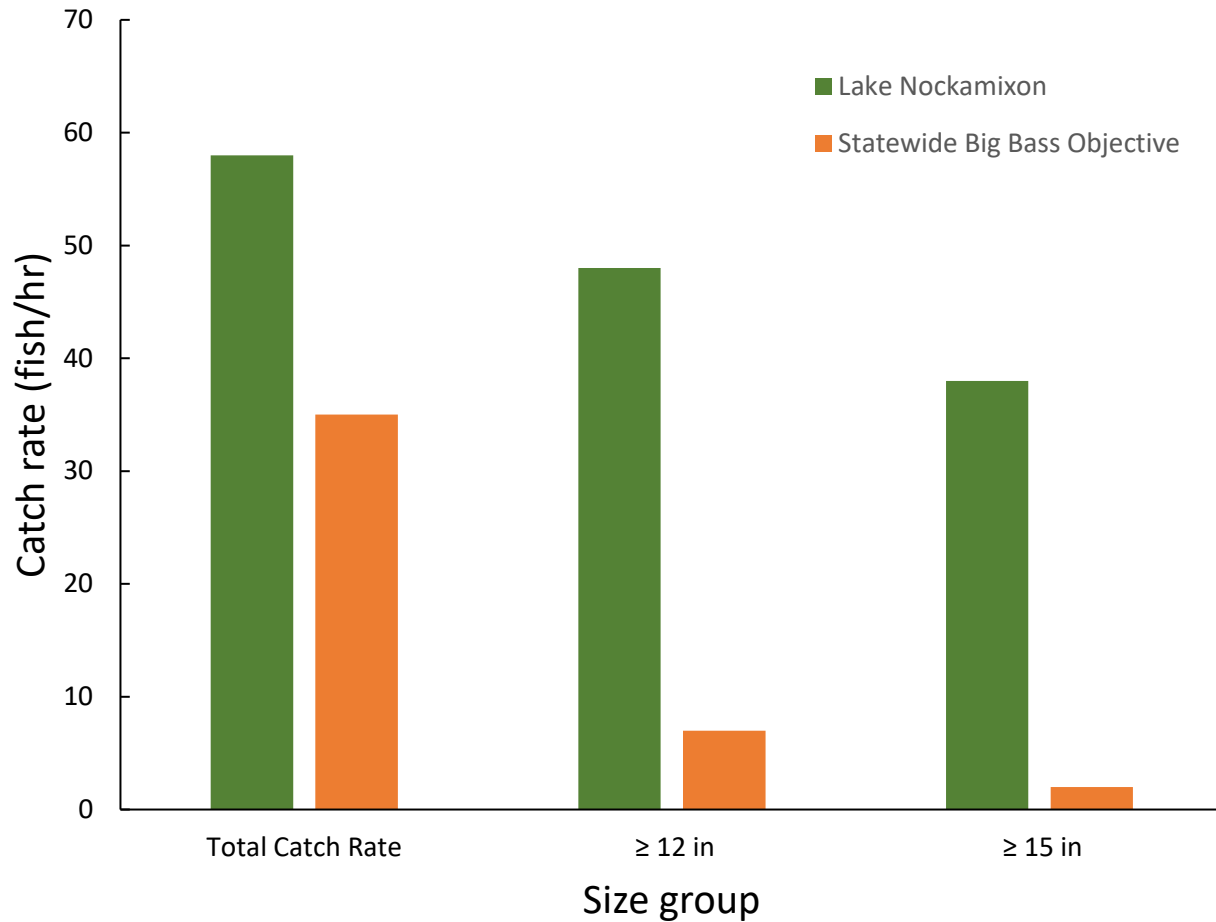


Figure 2. Catch rates of three size classes of Largemouth Bass collected from Lake Nockamixon during June 2021 compared to statewide Big Bass Program objectives.

These survey results highlight how effective Big Bass regulations can be, particularly on larger reservoirs that have abundant forage and habitat resources. Although the catch rate of large fish was impressive, we know that there are Largemouth Bass in this reservoir larger than those captured during this survey, based on angler reports. Electrofishing surveys rarely capture the largest bass in a population, and post-spawn movements into deeper water likely explains the observed largemouth Bass size structure and the lack of Smallmouth Bass in this sample. Biologists plan to consistently monitor this population to ensure the quality of this fishery remains high.

Pennsylvania Fish and Boat Commission Biologist Report

Anglers fishing by boat are reminded that Lake Nockamixon is a 20 horsepower-limited lake. Boats with motors larger than 20 hp can be used, but anglers must rely on the use of an electric trolling motor and the gas motor should never be started. Additionally, Lake Nockamixon is a very popular kayak fishing destination because of the ample access and nearshore structure surrounding the lake.

Tyler Grabowski – Area 6 Fisheries Biologist

Mike Porta – Area 6 Fisheries Manager