2019 Hungry Mother Lake Fisheries Management Report

CONSERVE. CONNECT. PROTECT.

Hungry Mother Lake is a 108-acre reservoir located within Hungry Mother State Park in Smyth County, Virginia. The reservoir has a maximum depth of 32 feet and an average depth of 16 feet. Six miles of shoreline offer a variety of habitats ranging from gentle sloping clay banks to rock bluffs. The water is moderately clear, with visibility ranging from less than three feet in spring to over 10 feet during the summer.

In a typical year the lake is covered with ice from late December through January. Surface water temperatures climb into the 40's during February and the 50's during March. The lake stratifies into several different temperature layers during the summer. A maximum annual surface temperature of about 80 degrees is reached in July or August. During the months of July and August there is not enough dissolved oxygen to support fish life at depths greater than 15 feet. Fall turnover begins in September, and by early December the lake is the same temperature (40's) from top to bottom.

The lake supports self-sustaining populations of largemouth, smallmouth, spotted bass, bluegill, black crappie, rock bass, and common carp. Walleye, hybrid striped bass, musky, and channel catfish populations are maintained with periodic fingerling stockings. Grass carp are occasionally stocked to control vegetation. Alewives provide the primary forage for most sport fish in the lake.

Hungry Mother Lake is managed to provide a diversity of sport fishing opportunities. Routine management activities include fish population sampling, fish habitat enhancement, angler surveys, and sport fish stocking.

Biologists sample the fish populations in Hungry Mother Lake using an electrofishing boat which delivers a controlled field of electric current into the water. As the boat moves slowly along the shoreline, fish within the current field (approximately 12 feet wide by eight feet deep) are temporarily stunned and can be dipped with a long-handled net. After the fish are removed from the current field they quickly recover and can be released unharmed. Each year in May the general fish community is sampled. Biologists collect all species of fish and weigh and measure individuals. This sample provides a good annual "check up" for bass, sunfish, and crappie populations.

Fish population samples provide valuable information to the biologist, but the relative abundance of a fish species and the size structure of the population are two of the most important pieces of data. By looking at the relative abundance of a particular species through time, you can determine if a population is stable, increasing or decreasing in abundance. By looking at the size structure of a fish population, you can get a general picture of the sizes of fish present in the fishery.

Bass

Black bass populations are doing well in Hungry Mother Lake. Largemouth bass remain the dominant bass species present with spotted bass at a close second. Smallmouth bass numbers are low in Hungry Mother Lake, but there are some large fish in the 18 to 20-inch range. Black bass relative abundance (number of fish collected per hour of sampling) varies from year to year, but the total catch rate (all black bass species) is very good for lakes in Southwest Virginia (Figure 1).

The size structures of the bass populations are decent and anglers should have good success in 2019. Twelve percent of adult largemouth bass exceeded the preferred size of 15 inches in the 2018 samples. Four percent of the spotted bass collected were 12 inches or larger. These numbers describe the overall population.

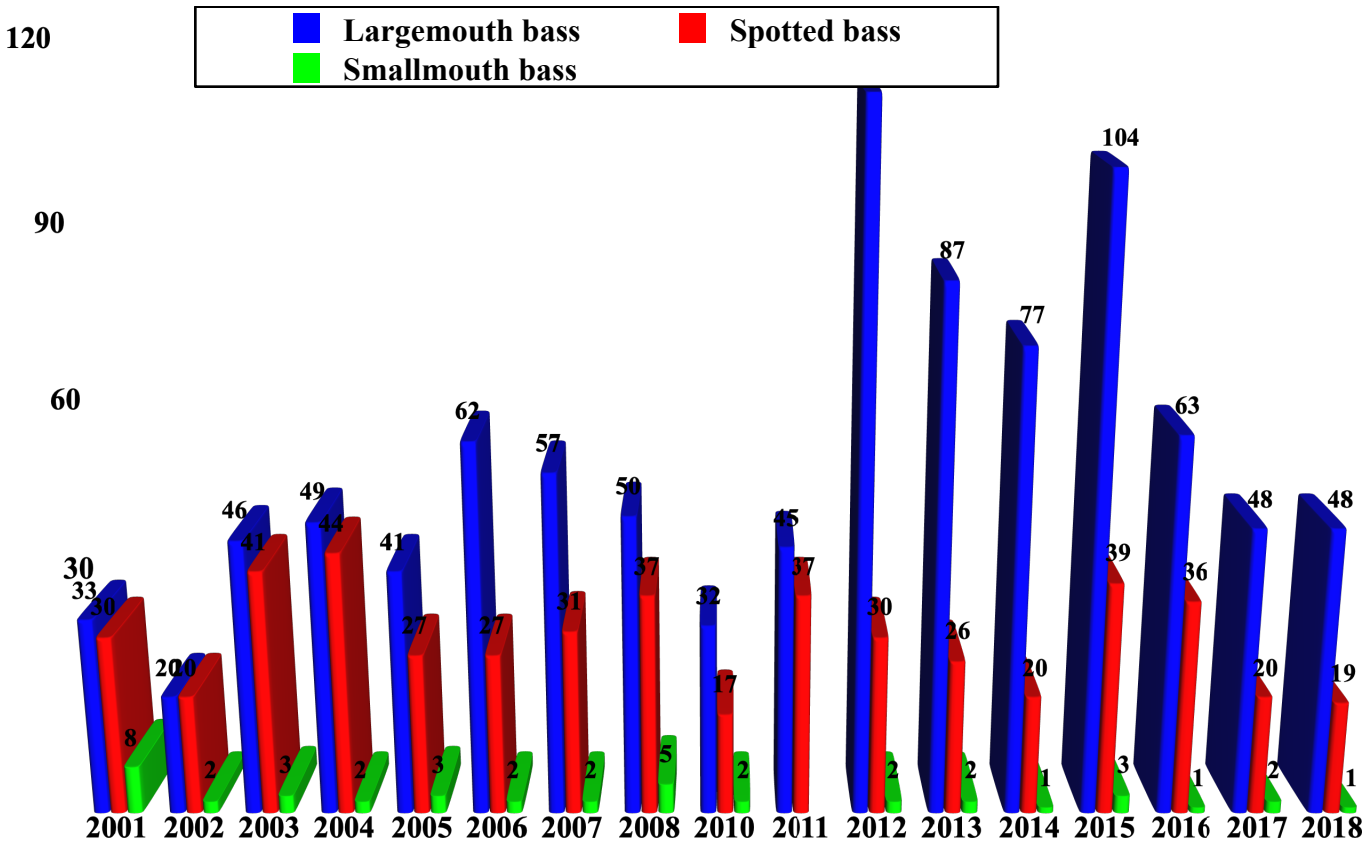

Figure 1. The number of bass collected per hour of electrofishing at Hungry Mother Lake 2001 – 2018.

Crappie

Black crappie populations fluctuate from year to year due to variable spawning and recruitment, which impacts the resultant sampling catch rates (Figure 2). The 2018 catch rate of 17 fish/hr was well below the historical average of 45 fish/hr. Despite variable recruitment, Hungry Mother Lake maintains a desirable size structure as we look to 2019. Thirty-six percent of black crappie exceeded the preferred size of 10 inches in 2018 and four percent exceeded 12 inches.

Anglers pursuing crappie should focus on numerous fallen trees and artificial habitat (Christmas trees, pallet teepees, and porcupine blocks) that can be found throughout the lake. Sampling indicates that the highest numbers of crappie are generally found in the mid-lake region. Anglers vying for crappie during the spring time should concentrate on depths between 3-6 feet.

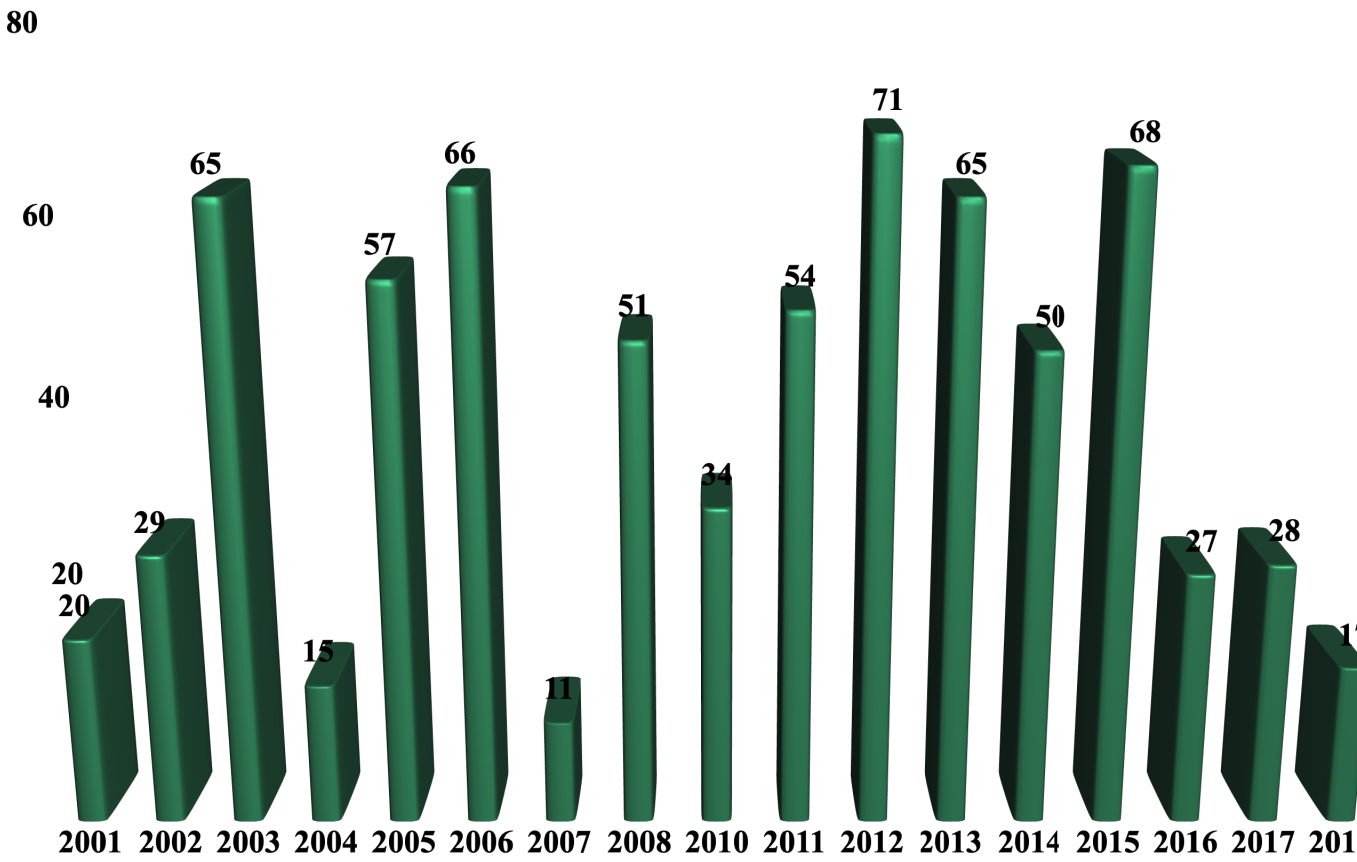

Figure 2. Number of black crappie collected per hour of electrofishing at Hungry Mother Lake from 2001– 2018.

Sunfish

The sunfish population at Hungry Mother Lake is dominated by bluegills, with a few green sunfish and redbreast sunfish present. The abundant bluegill population has an average size structure for small impoundments in Southwest Virginia. This scenario is much better than in the past when the bluegill population was overabundant and stunted at small sizes.

Walleye

The walleye population in Hungry Mother Lake appears to be in very good shape and offers anglers that would like to pursue walleyes in a small impoundment an excellent chance at success. Walleyes have been stocked into Hungry Mother Lake since the 1980's, but an aggressive stocking plan was implemented in 2000 to more fully develop a fishery with a better size structure and more consistent catch rates. From 2001 to 2003, the relative abundance was stable at about five fish per hour of sampling (Figure 3). The catch rate jumped to 19 per hour in 2004, and ranged from about 14 to 23 per hour from 2004-2008. Recent samples (up to 2018) have stabilized around 15 fish/hour, which seems to be a stable population for Hungry Mother Lake. The size structure of the

walleye population is good, with most walleyes collected each year ranging from 16 to 20 inches, with a few fish up to 24 inches.

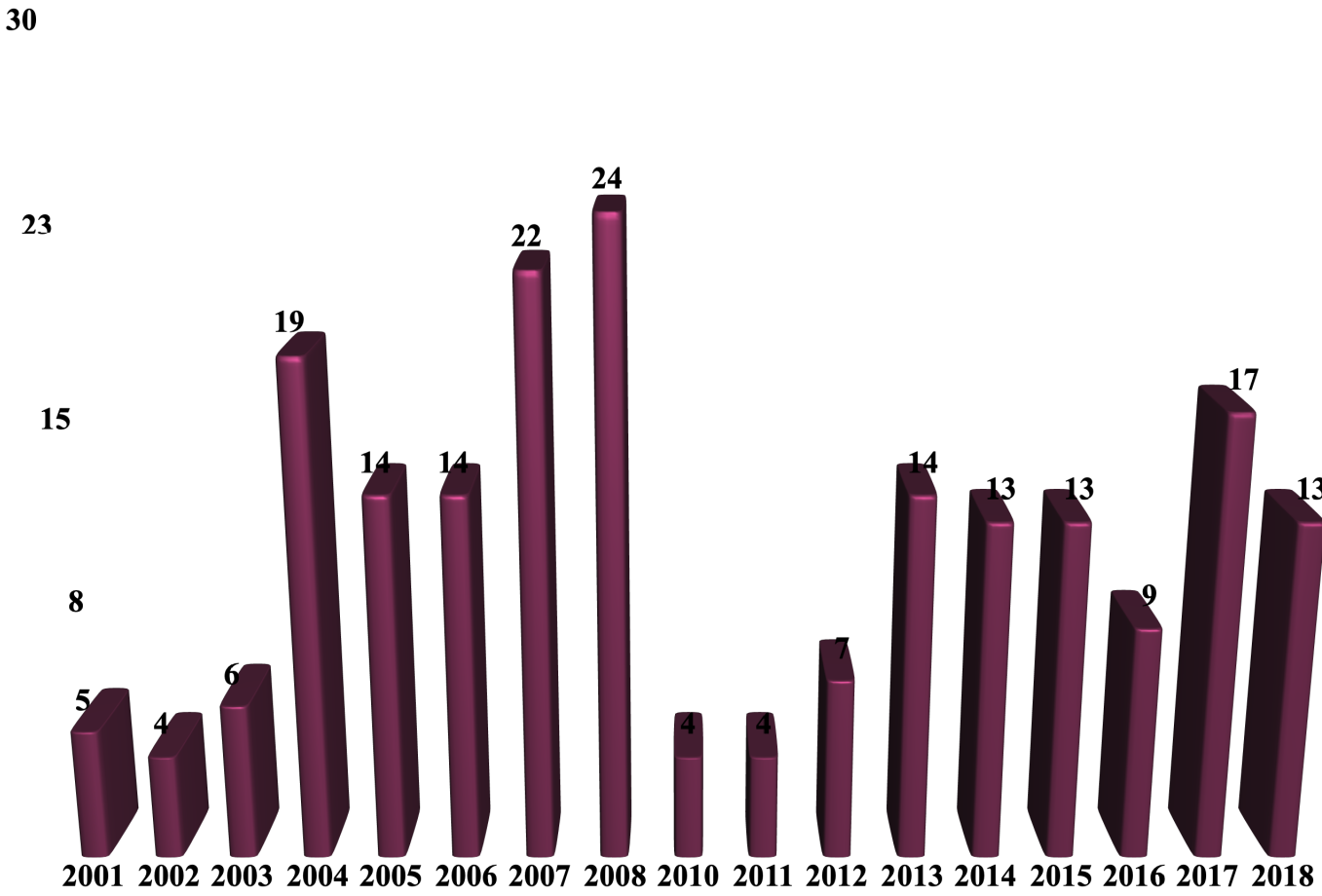

Figure 3. Number of walleyes collected per hour of electrofishing at Hungry Mother Lake 2001-2018.

Catfish

The number of channel catfish collected per hour of electrofishing was stable in 2018 samples (Figure 4.) Beginning with the fall 2002 stocking, larger channel catfish (average size =10 inches) have been stocked annually to improve survival post stocking. These larger catfish survived better and increased the fishable population. The size structure of the channel catfish population has been improving as these fish reach older ages.

Natural reproduction and recruitment of channel catfish in small impoundments is limited in most systems due to a lack of cavities for spawning and largemouth bass predation. During the late spring of 2015, fifteen hemlock catfish spawning boxes were constructed and deployed in shallow areas of the lake in an effort to boost natural reproduction in an effort to augment our stocking program. Initial results have shown

channel catfish have utilized and nested in these boxes; however, it is not known whether the catfish fry produced will be able to survive predation to a size that limits predators (8-10").

Hungry Mother Lake continues to be a very popular destination for anglers to pursue channel catfish. Most of the pressure occurs at night, where anglers have excellent success for both channel catfish and hybrid striped bass.

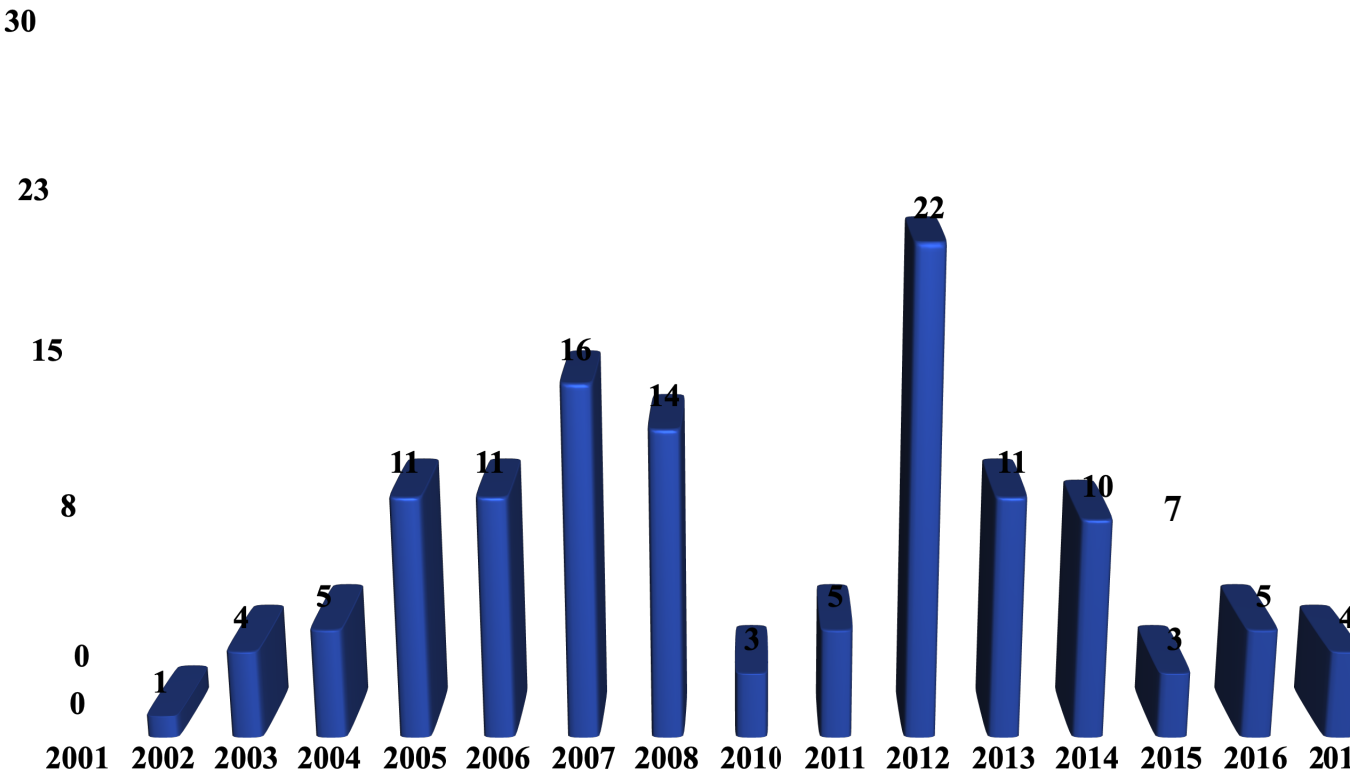

Figure 4. Number of channel catfish collected per hour of electrofishing at Hungry Mother Lake 2001-2018.

Hybrid striped bass

Hybrid striped bass were first stocked into Hungry Mother Lake in 2007. These fish are produced by crossing a striped bass and a white bass. They grow quickly, reach trophy proportions, can be caught by a variety of techniques and provide a spirited fight for any angler who connects with one. Biologists are hopeful that the population will continue to build and provide good angling opportunities into the future.

Several other species of fish including musky, common carp, grass carp, rock bass, hybrid sunfish and alewives were collected. However, the low number of fish collected does not provide enough data to make meaningful comments about the status of these fish populations.

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