



## 2013 Hungry Mother Lake Fisheries Management Report

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.

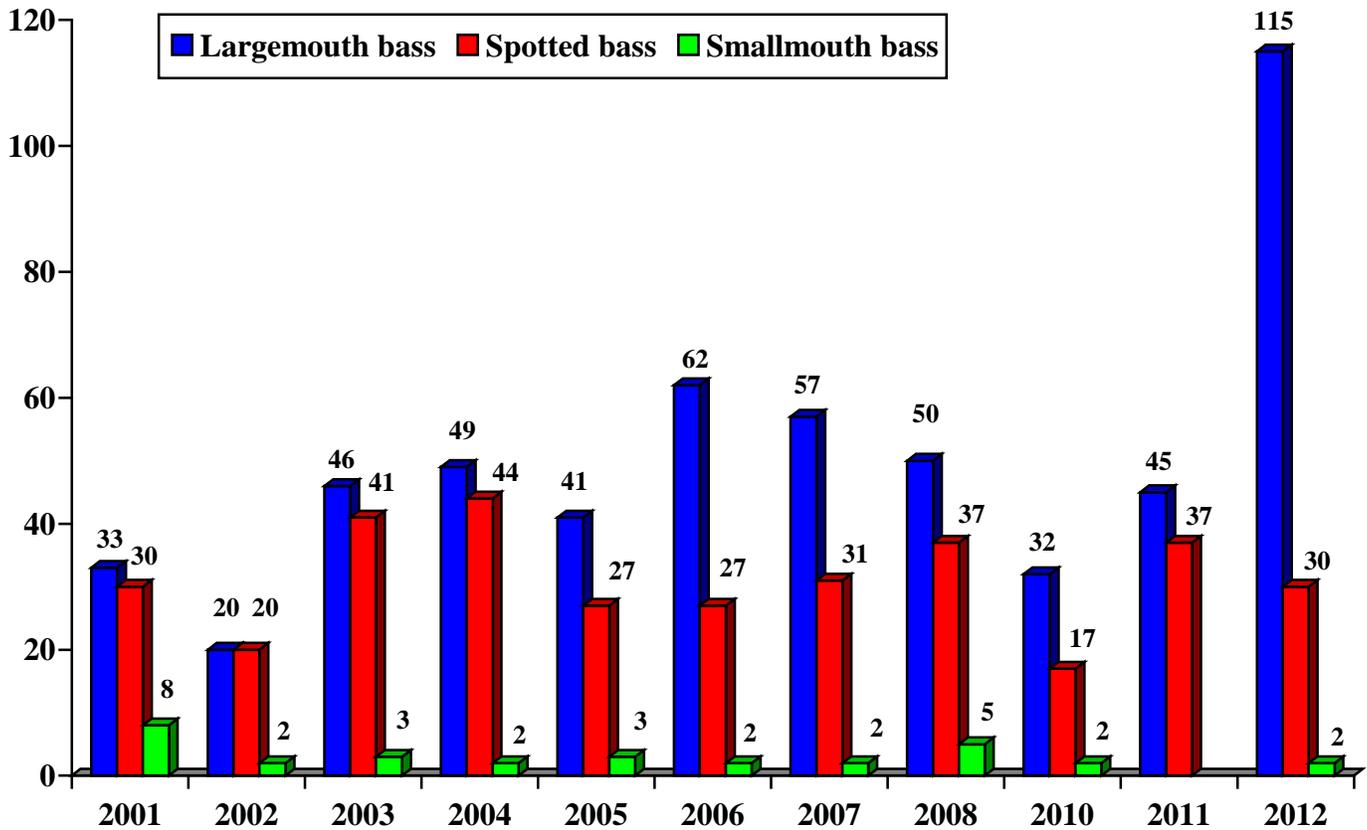
Biologists sample the fish populations in Hungry Mother Lake using an electrofishing boat. This boat delivers a controlled field of electric current into the water. As the boat moves slowly along the shoreline, fish within the current field (approximately 12 feet wide by eight feet deep) are temporarily 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 lots of 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 quite well in Hungry Mother Lake. Largemouth bass are the dominant bass species with spotted bass at a close second. There are not very

many smallmouth bass in Hungry Mother Lake, but there are some large ones in the 18 to 20-inch ranges. 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).

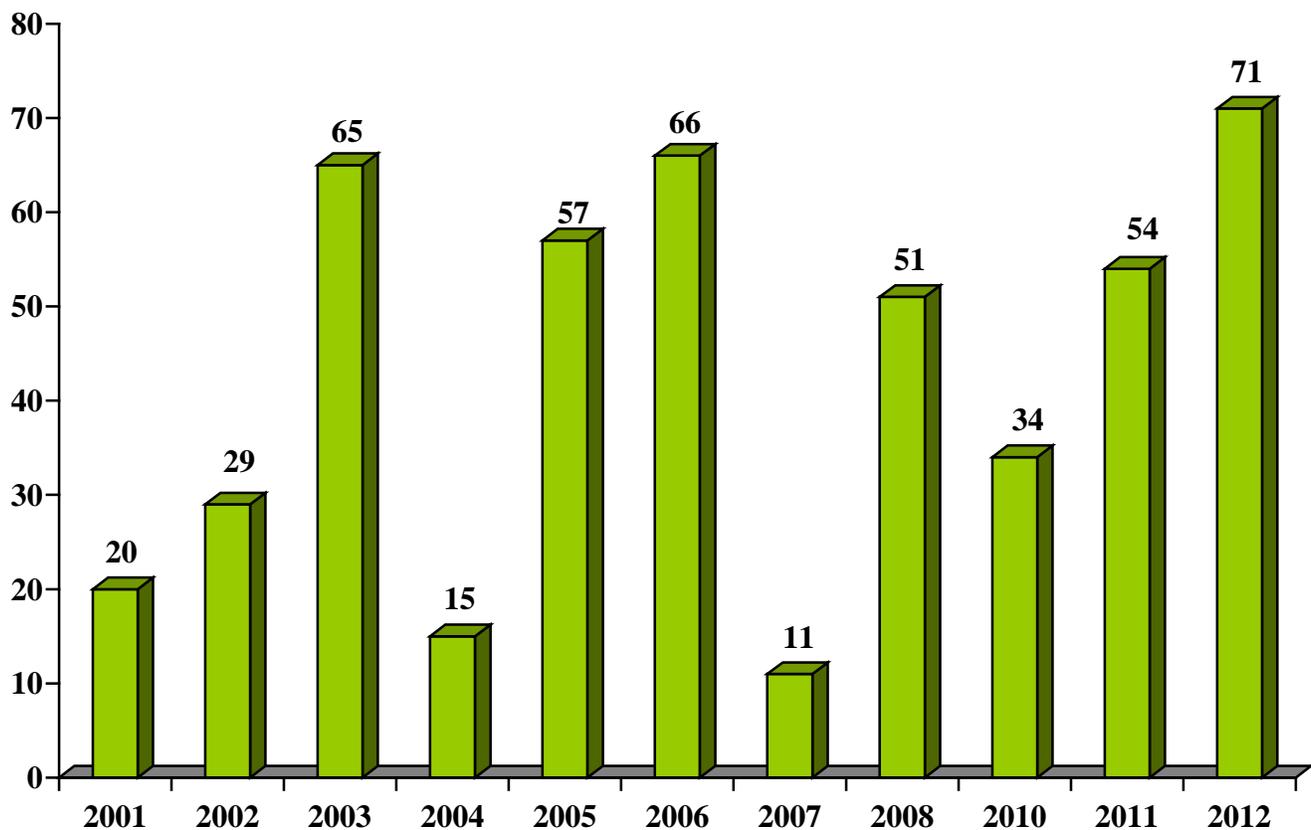


**Figure 1.** The number of bass collected per hour of electrofishing at Hungry Mother Lake 2001 – 2012.

The size structures of the bass populations are decent. Thirteen percent of adult largemouth bass exceeded the preferred size of 15 inches in the 2012 samples. Twenty-six percent of spotted bass collected were 12 inches or larger. These numbers describe the overall population; there are some larger fish present for the lucky or skillful angler to pursue.

### Crappie

The sampling catch rate for black crappie fluctuates considerably from year to year (Figure 2). The catch rate was very good in 2012. Size structure of black crappie was fair in 2012, with about 9 percent of the adult population over ten inches in length.



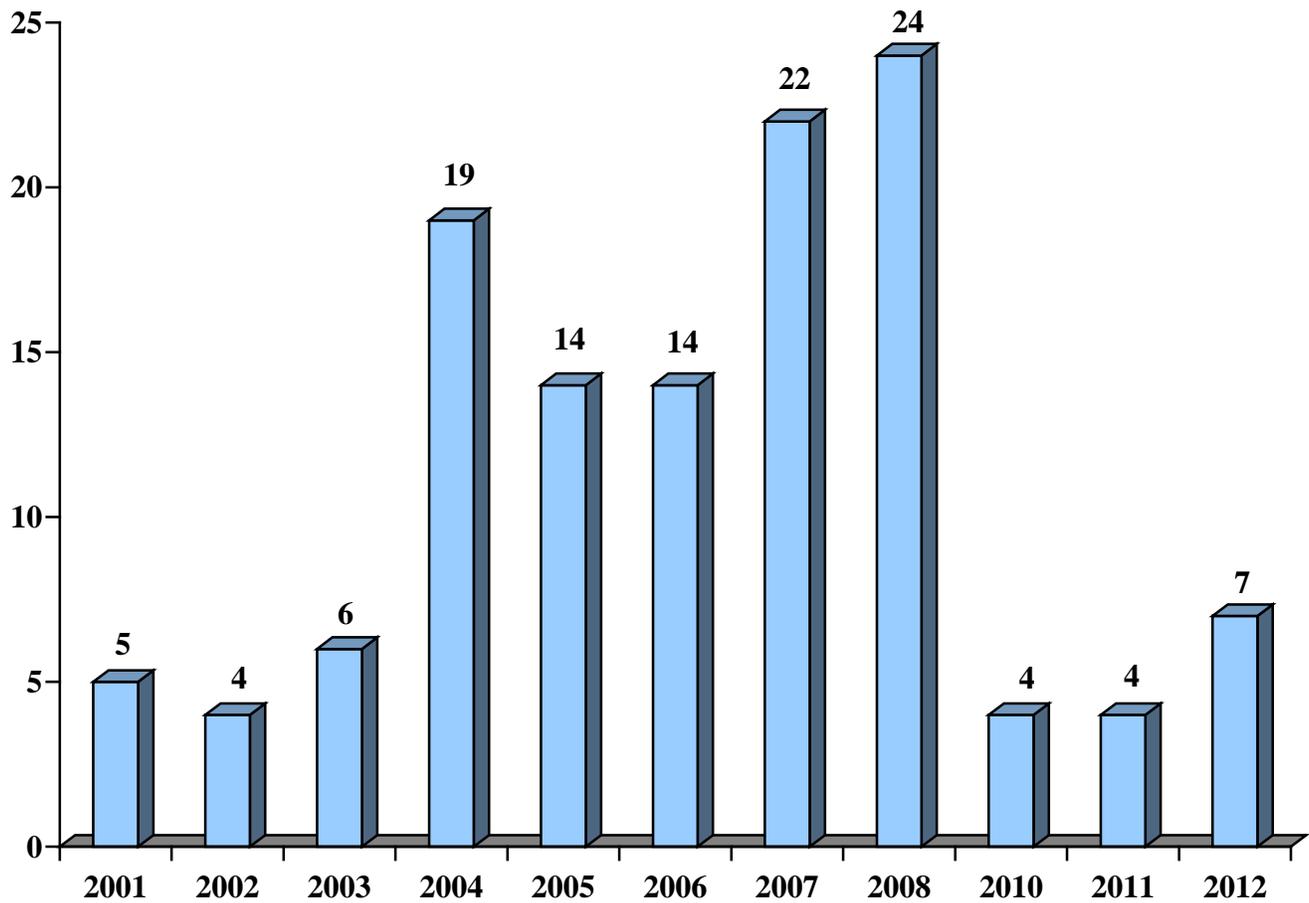
**Figure 2.** Number of black crappie collected per hour of electrofishing at Hungry Mother Lake from 2001– 2012.

### Sunfish

The sunfish population at Hungry Mother Lake is dominated by bluegills. The bluegill population is increasing in abundance, and the size structure is about average 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

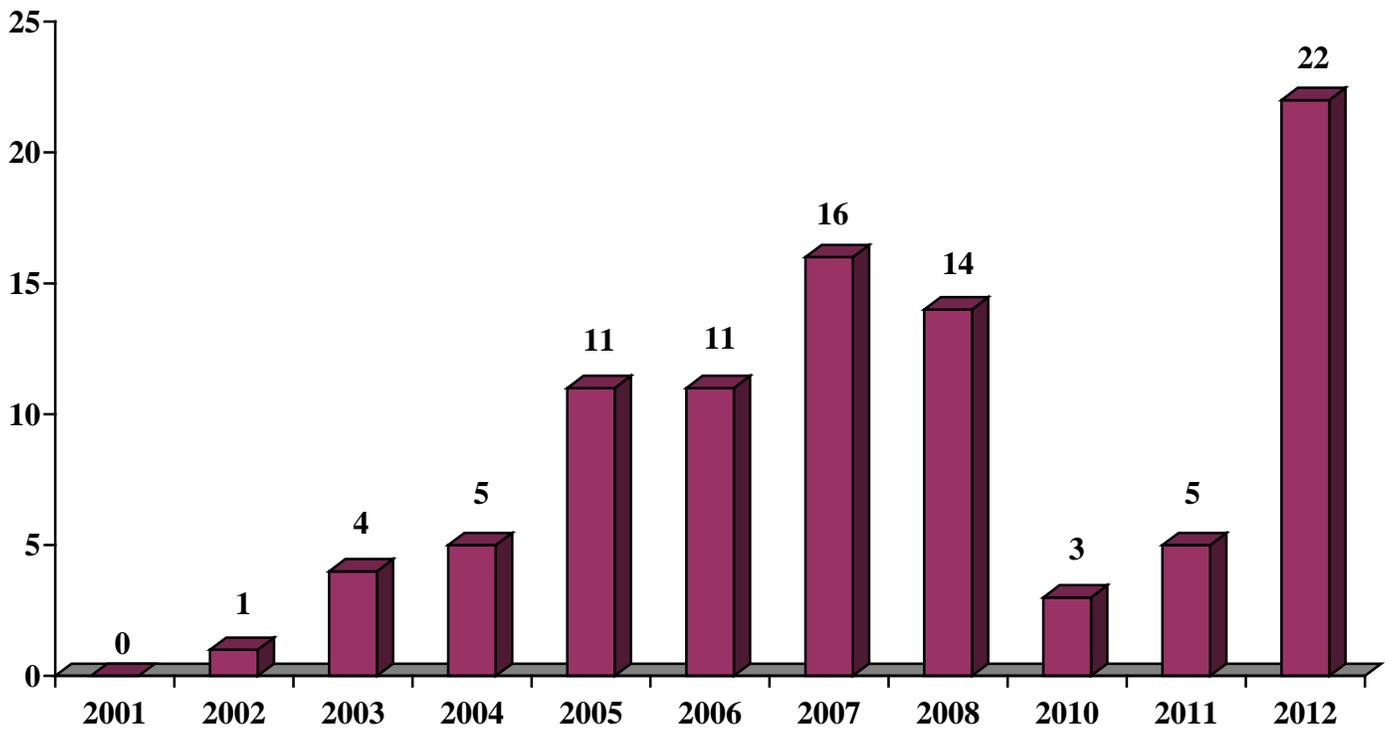
The walleye population in Hungry Mother Lake appears to be in very good shape. Walleyes have been stocked into Hungry Mother Lake since the 1980's, but an aggressive stocking plan was implemented in 2000. From 2001 to 2003, the relative abundance was stable at about five fish per hour of sampling (Figure 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 (2010-2012) have decreased in catch per hour. The size structure of the walleye population is good. Most of the walleyes collected each year range 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 2001-2012.

#### Catfish

The number of channel catfish collected per hour of electrofishing increased in 2012 samples (Figure 4.) Increased abundance of channel catfish can be attributed to changes in the stocking protocol. Beginning with the fall 2002 stocking, larger channel catfish (average size =10 inches) were stocked. These larger catfish survived and increased the fishable population. The size structure of the channel catfish population is improving as these fish reach older ages.



**Figure 4.** Number of channel catfish collected per hour of electrofishing at Hungry Mother Lake 2001-2012.

#### 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. Anglers have reported catching hybrids for the past couple of years. They are just reaching the sizes that should allow biologists to collect them in routine samples. Only a few have been collected thus far. Sample sizes are too small to provide meaningful data. Biologists are hopeful that the population will prosper and provide good angling opportunities in the near 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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