



2015 North Fork Pound Lake Fisheries Management Report

North Fork of Pound Lake is a 154-acre reservoir located in Wise County. The lake, which was formed in 1966, has a shoreline length of 13.5 miles, a maximum depth of 55 feet and an average depth of 19 feet. The area surrounding the lake is almost completely forested. Some mature oak and hemlock stands are visible, and poplar trees now stand where mountain families once raised corn on steep hillsides. The U.S. Forest Service now owns most of the land surrounding the lake. The dam is owned and operated by the U.S. Army Corps of Engineers. The lake supports a diverse assemblage of fish species. Largemouth, smallmouth and spotted bass are available. Bluegill, black and white crappie, rock bass, walleye, musky, channel catfish, flathead catfish, bullheads and carp are also present. The primary forage fishes are alewives and gizzard shad, which were stocked in the late 1990's. The Department stocked alewives in 1997, and the gizzard shad originated from an anonymous source.

In order to provide quality fishing opportunities, fish populations need to offer both abundance and good size structure. Each spring, VDGIF fisheries biologists sample the fish populations in North Fork Pound Lake using boat-mounted electrofishing gear to assess abundance and size structure. Fish abundance is measured in terms of how many fish are collected per hour of electrofishing. Size structure is measured by looking at the proportion of adult fish in the sample that are larger than a given size. For example, we consider the proportion of adult largemouth larger than 15 inches, or the proportion of adult black crappie that are over 10 inches. Catch rates and size structure data provide a standardized means of comparing this year's fish sample to previous years' catch, as well as to the samples collected at other lakes. Size structure measures give information about the sizes of fish available in the population.

Black Bass

Largemouth bass were the most abundant black bass species (and fish species overall) collected in the 2014 electrofishing sample. The 2014 sample produced catch rates of 85 fish/hr for largemouth bass and 6 fish/hr for spotted bass (Figure 1). Only one smallmouth bass was observed during the 2014 sample. The long-term trend data suggests a steady decline in the abundance of spotted bass, especially since 2005, while largemouth bass appear to have increased substantially in the last couple of sample years. Although these trends could reflect true changes in these black bass populations, the apparent changes might also be partially explained by a difference in timing of sampling efforts in 2013 and 2014. Prior to 2013 annual samples on North Fork of Pound Lake were generally conducted during the second week of May. However, in 2013 and 2014 the sample was

conducted during the last week of April. Therefore, the increased abundance of largemouth bass observed in the last two samples may indicate greater use of shallow, near-shore habitat by this species during late April compared to later in May. The difference in sample timing does not fully explain the trend observed for spotted bass since the decline in abundance appears to have begun in 2005.

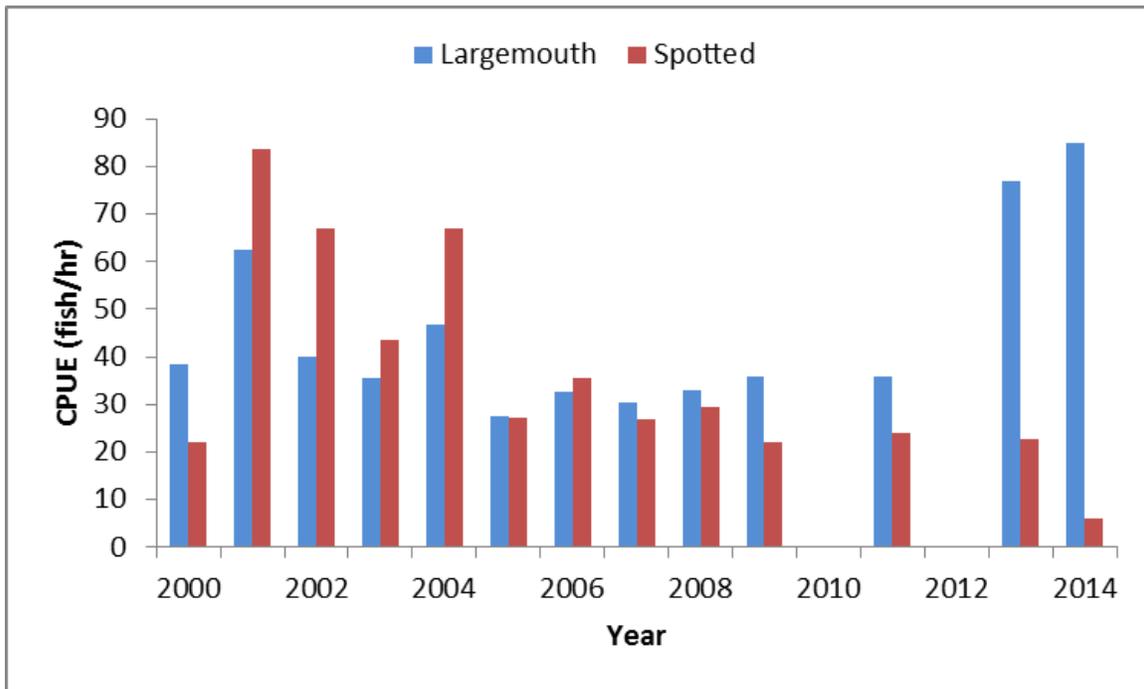


Figure 1. Number of largemouth bass and spotted bass collected per hour of sampling on North Fork of Pound Lake 2000-2014. The lake was not sampled in 2010 or 2012.

Largemouth bass observed in the 2014 sample ranged in length from 2 –22 inches with an average length of 12.2 inches (Figure 2). Approximately 75% of the adult largemouth bass observed in 2014 were ≥ 12 inches and 34% were ≥ 15 inches. The decline in abundance of fish ≥ 18 inches suggests substantial harvest mortality once these fish grow outside of the protected slot.

The size structure of the largemouth bass population in North Fork Pound Lake has shown a modest improvement since the 14 to 18-inch protective slot limit was established in 1999 (Figure 3). The catch rates for largemouth bass ≥ 12 inches and ≥ 15 inches have increased compared to pre-regulation levels, although the abundance of fish ≥ 20 inches has shown little change. The dramatic increase in the abundance of larger fish in 2013 and 2014 is likely attributable to the difference in sample timing discussed earlier rather than the slot limit regulation.

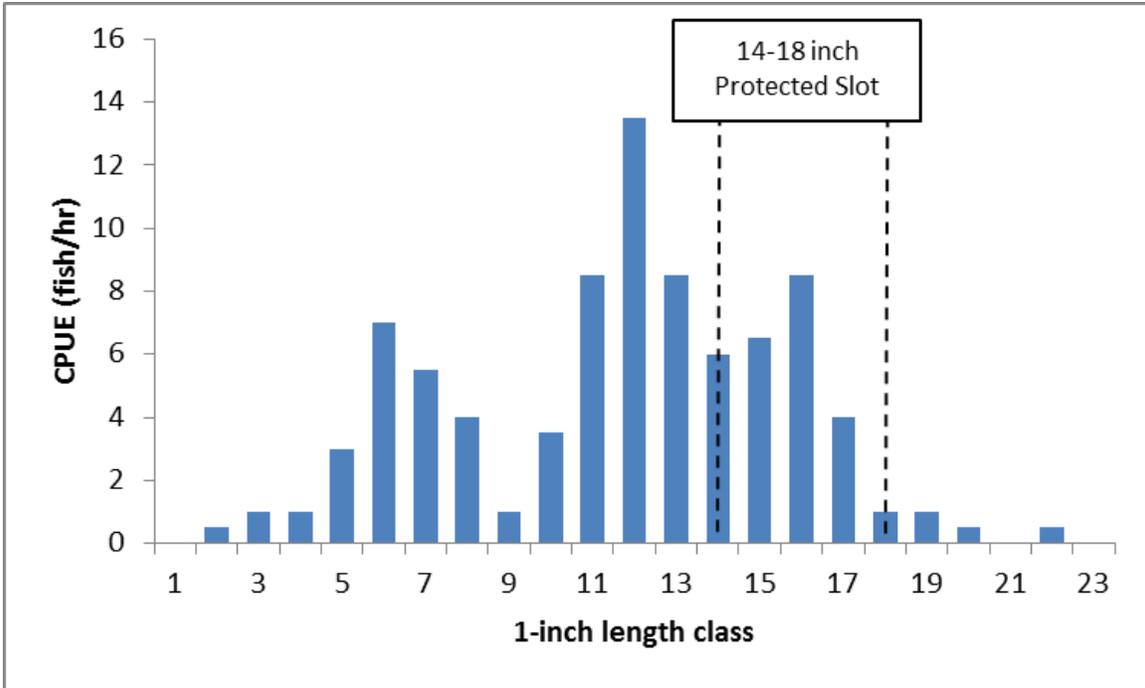


Figure 2. Length frequency distribution of largemouth bass sampled from North Fork of Pound Lake during electrofishing samples in spring 2014.

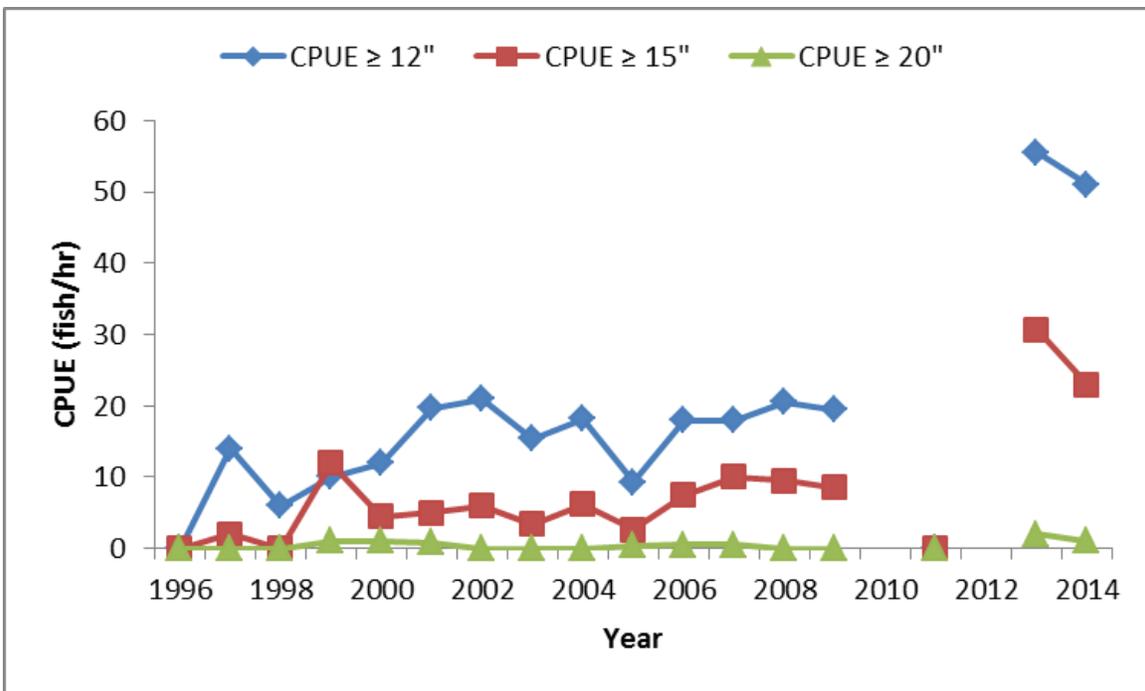


Figure 3. Number of largemouth bass of various length groups collected per hour of sampling on North Fork of Pound Lake 1996-2014. The lake was not sampled in 2010 or 2012.

Crappie

The relative abundance of crappie populations varies considerably from year to year and crappie are often characterized as having “boom and bust” cycles of abundance. This variability in abundance is generally the result of inconsistent spawning success. When the crappie population has a really good spawn, that year class of fish will increase the population abundance and provide good fishing for several years. Poor spawning success creates missing year classes that have the opposite effect. The “boom and bust” pattern is evident in the sampling catch rates for crappie at North Fork Pound Lake, as seen in Figure 4. Black crappie (12 fish/hr) were more abundant than white crappie (5 fish/hr) in the 2014 sample. Black crappie abundance in 2014 was the highest abundance observed for this species since 2003 and may be attributable to the stocking of black crappie fingerlings in recent years by VDGIF and implementation of a 10-inch minimum length limit. White crappie were also more abundant than in the past 5 years suggesting a recent strong year class.

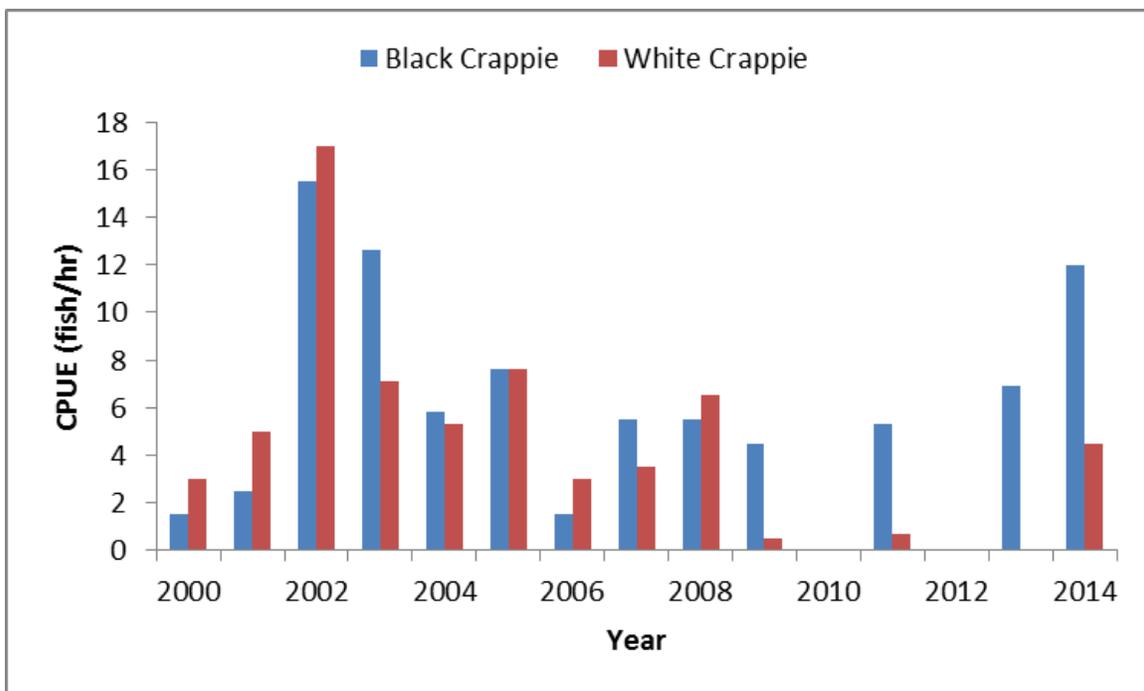


Figure 4. Number of black crappie and white crappie collected per hour of sampling on North Fork of Pound Lake 2000-2014. The lake was not sampled in 2010 or 2012.

The crappie population in Pound Lake has good size structure with the number of preferred-size (≥ 10 in) crappie following the same general trend as population abundance. The abundance and sizes of crappie available in North Fork Pound Lake should provide good fishing opportunities.

Walleye

North Fork of Pound Lake was initially stocked with walleye fingerlings from 1999 to 2004. VDGIF biologists evaluated the performance of stocked walleyes from 2000 to 2004 in lakes across the state. Although the walleyes in North Fork Pound Lake survived and grew well, they did not produce the relative abundance of walleyes observed in some other impoundments, like Flannagan Reservoir. Because VDGIF only has a limited number of

walleye to stock each year, the decision was made to stop stocking walleyes at North Fork Pound Lake in order to concentrate fish in lakes where they were most likely to produce the best populations. However, sampling from 2005 to 2007 indicated higher abundances observed in earlier samples. As a result North Fork Pound Lake was added back to the walleye stocking list in 2007. The lake may not receive walleye fingerlings every year, but fingerlings will be stocked when available.

Compared to bass, walleyes are less likely to be associated with shoreline habitat during daytime spring electrofishing, the method used in annual samples on North Fork Pound Lake. As a result, the relative abundance of walleye observed may not accurately represent the true population abundance. However, the annual sampling efforts can still provide information on trends in the walleye population. The abundance of walleye observed in 2014 (8 fish/hr) was similar to that observed in 2013 and was the highest observed since 2000. Whether this reflects a true change in abundance or the difference in timing of the 2013 and 2014 samples is difficult to say at this time. However, all future spring electrofishing efforts on North Fork Pound Lake will be conducted during the last week of April. Additionally, a pilot effort to sample the walleye population using gill nets was initiated in fall 2014. Although a low number of walleye were collected during this initial effort, additional work will be done in the future to assess gill nets as a gear for better sampling walleye in North Fork Pound Lake.

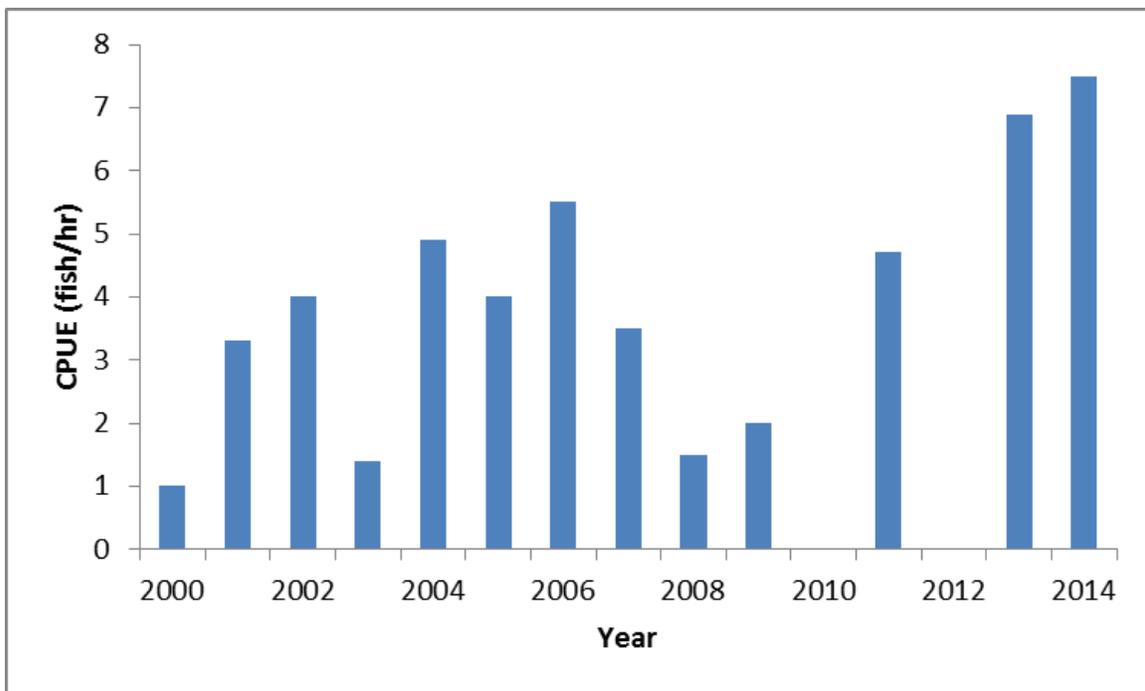


Figure 5. Number of walleye collected per hour of sampling on North Fork of Pound Lake 2000-2014. The lake was not sampled in 2010 or 2012.

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