

Trophy Bass Lake No Longer

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In 2008 and 2009, NH Fish & Game studied the black bass population, which includes both largemouth bass (*Micropterus dolomieu*) and smallmouth bass (*Micropterus salmoides*), in Gregg Lake and several other lakes in our area. Since NH lakes are not stocked for bass, and therefore bass populations are managed only by natural reproduction, Fish & Game was seeking to identify lakes in which bass grew the fastest for a study on managing lakes for trophy bass. The idea was to test whether by changing bass harvest limits, the bass population could be enhanced for large fish.

In the 2008 and 2009 studies, Fish & Game compared overall fish condition, the size of the bass population, the number of bass of different sizes, the sizes of the young-of-the-year and the bass growth rates for each lake. Based on higher bass growth rates identified in the initial study, Gregg Lake was selected as one of four Quality Bass Waters in southwestern New Hampshire, and new regulations were put in place in 2011 to see if changes in bass management would create trophy bass waters, that is, increase the number of black bass over 15" in length.

Interestingly, Fish & Game reports that, although some bass are harvested from NH lakes during the open-water season, the bass harvest is much greater through the ice, and that harvest tends to focus on larger fish. In a 2007 report, Fish & Game found that 69% of largemouth bass harvested through the ice were 15" or more in length. The new regulations put in place for Gregg Lake in 2011 stipulated that no black bass between 15 and 20 inches in length could be taken between January 1 and March 31, but increased the number of bass that could be taken each day to three, with only one being greater than 20" in length. Would allowing more small bass to be taken, while restricting harvest of moderately-sized bass, lead to an increase in the population of large bass in the lake?

To assess the effects of the new regulations on the bass population, NH Fish & Game performed a follow-up survey in the summer of 2018. They sampled Gregg Lake three times by electrofishing after sunset and three times during the day with volunteer anglers using artificial lures. Anyone who saw the brightly-lit electrofishing apparatus out on the lake at night could be forgiven for thinking Martians had landed on Gregg Lake. Fish & Game sampled a total of 229 largemouth bass and 150 smallmouth bass, and used the data to estimate bass populations by length and age. They took scale samples to determine age and growth rates. For largemouth bass, the average length at age was found to be lower than the state average for fish at age 1 year and above the state average for fish aged 2–6 years old. Largemouth bass in Gregg Lake took an average of 3.57 years to reach quality size (about 12 inches), whereas the statewide average is 3.74 years. Although the survey results suggested that the population of largemouth bass greater than 15" in

length increased between the 2011 and 2018 studies, the results were not statistically significant, and largemouth bass growth rates appeared to decrease slightly. The number of smallmouth bass caught was too small for data comparisons to be made.

Fish & Game concluded that the goals of management for quality bass were not achieved—that there was no increase in the number of black bass greater than 15 inches in length, and growth rates did not significantly increase, during the seven years of the change in bass harvest practices. Therefore, Fish & Game has recommended that Gregg Lake revert to statewide black bass general rules. This means that the January 1 to March 31 regulation will go back to a two-fish daily limit, with only one fish greater than 16" in length.

Jason Carrier of the NH Fish & Game Department kindly provided the results of the fish studies performed in 2008–2009 and in 2018. ❁



Largemouth bass



Smallmouth bass

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