

## Eye On Fish Week 4

In the past few weeks I have tried to inform you of some of the major fisheries surveys that have been done the last year or so in Florence and Forest Counties. So far these have all been comprehensive lake surveys, where we look at all different fish species and try to get a good snapshot of the fishery's composition. This week I want to talk about one of our other types of surveys, the kind that are not scheduled. These are typically surveys that will target one or two species of fish when we think that something might be out of whack. So here is the story of Trump Lake, a 172 acre lake located just north of Wabeno in Forest County.

Trump Lake has historically been a bass-panfish fishery, with background species of walleye, northern pike, and muskellunge. All of these fish, except walleye, control their own population via natural reproduction. Trump Lake is what we would call an infertile system, one that does not have a lot of nutrients, fairly clear water and a very low amount of vegetation in the main lake. These infertile lakes tend to have slower than normal growth rates for many fish because the bottom of the food chain may not be quite what is necessary to have a healthy fishery. In the previous surveys slow growing and overabundant panfish were the main challenge to Trump Lake. So in the early 1990's a regulation change was written to increase the minimum size limit on largemouth bass to 18-inches and reduce the bag limit to 1 fish per day.

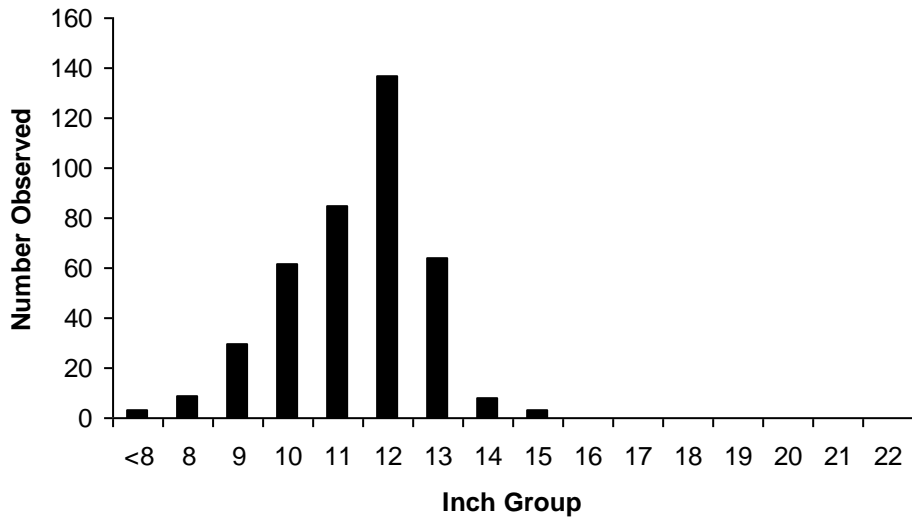
This regulation was put in place to hopefully improve the fishery in two ways. The main reason was to reduce the number of panfish by increasing the number of predators (largemouth bass). Once the panfish numbers were reduced there would be more food for the remaining panfish and the size structure of panfish should increase. The second effect we expected to see was to increase the size structure of largemouth bass to provide a quality angling opportunity.

Well to make a long story short, let's just say things didn't go as expected in Trump Lake. So one of my first regulation evaluations after arriving in Florence was to figure out how this regulation was affecting the fishery and if any changes should be made. So in 2011, we did two surveys with our electrofishing boat, and here is what we found:

### **Largemouth Bass**

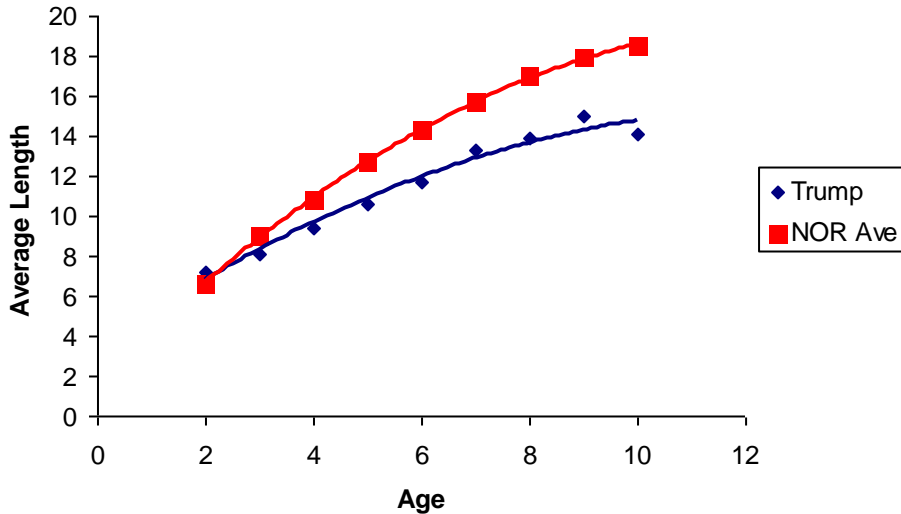
We captured a total of 417 bass in just over 4 hours of electrofishing. This catch rate of 103 bass per hour is the highest catch rate I have seen in 5+ years of working in fisheries. After analyzing the data I realized that the population of bass had grown to an estimated 2,141 bass  $\geq$  8.0 inches (13.64/acre) under the restrictive 18-inch minimum size limit.

After measuring 401 different bass it was no wonder why the population had grown so high... fish were not even reaching the minimum size limit. In fact, the size structure of largemouth bass in Trump Lake was so poor that less than 3% of the fish measured were  $\geq$  14.0 inches and only 3 fish were  $\geq$  15.0 inches with the largest being 15.3 inches long (Figure 1).



**Figure 1.** Length frequency of largemouth bass captured during electrofishing surveys of Trump Lake, Forest County, 2011 (N=401).

Scales were removed from a subsample of fish to estimate age and infer growth using average length at age. When I was done analyzing the growth of largemouth bass the picture became much clearer. Bass growth rates were well below the Northern Region Average (Figure 2). In fact, 10 year old bass did not even average 14 inches in length. It was easy to draw a conclusion from this data that the current largemouth bass population was not being served well by the restrictive regulation. Overabundance increased competition for resources causing poor growth rates and size structure.



**Figure 2.** Average length at age for a subsample of largemouth bass collected during 2011 surveys of Trump Lake, Forest County, compared to the Northern Region average.

**My Perspective**

This is a clean-cut example of how some regulations sound good as an idea, look good on paper, but just do not have the intended affect. I mean, if someone told me that all bass were going to be released under 18 inches, I would at least expect there to be more fish from 14 to 18 inches, but that did not happen for Trump Lake. This just goes to show you that more restrictive size limits are not always the answer to getting bigger fish. In this situation, I believe the limiting factor is the relative infertility of the system.

Last year I wrote a regulation change proposal to remove the 18-inch minimum size limit with a daily bag of 1 fish and put a no minimum size limit, with fish between 14 and 18 inches protected, and a 3 fish daily bag. The thought process is simple, if we went to the statewide regulation (14 inches) very few fish would be eligible for harvest, which would not change the current situation, so going to a “no minimum” is vital. However, we do still want to try to increase the average size of bass, and we want them around to increase predation on panfish. So by protecting the 14 to 18 inch fish we hopefully will be able to accomplish our goals. This regulation change will be voted on at the 2013 spring hearings and if it gets a favorable vote it will be in effect opening day 2014.

Trump Lake, even in its current status, provides a unique fishing experience. The abundance of bass makes it a great place to get some action. I would recommend bringing beginner fishermen to Trump Lake so that they can enjoy the sport of fishing!

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