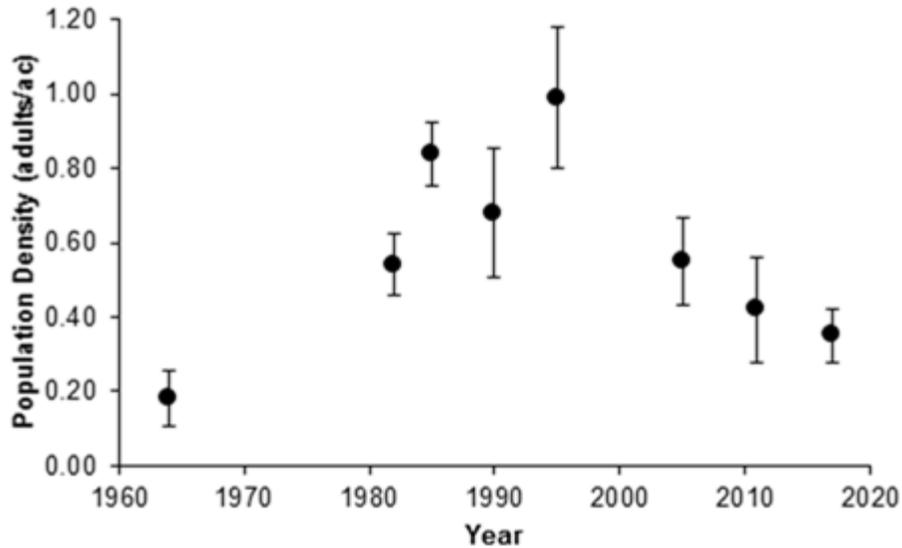


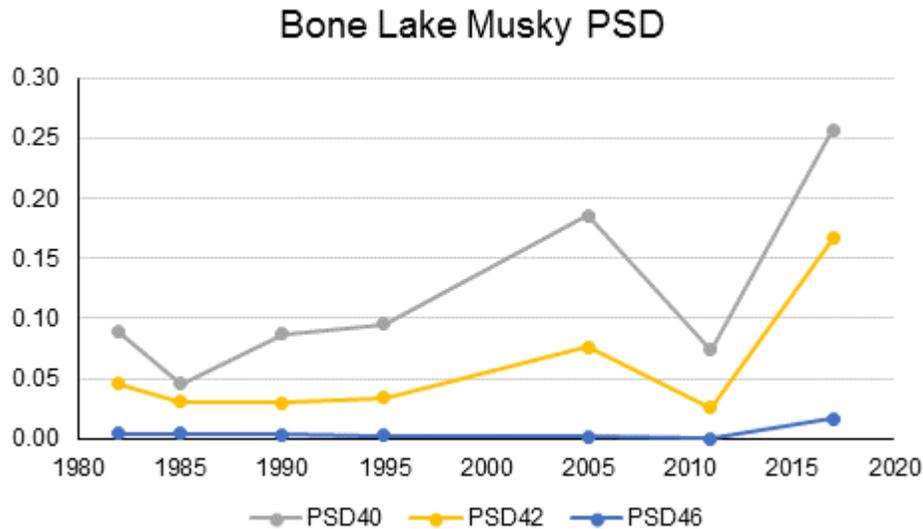
We did a musky population estimate on Bone Lake during the springs of 2017 and 2018. Our musky population estimate surveys are two-year mark and recapture surveys. The first year serves as the marking year, where all musky handled in the fyke nets are given a fin clip. The second year is considered the recapture year, where we look for fin clips of fish handled the previous year. We then estimate the population size from the number of fish marked during 2017 and the number of fish handled in 2018 that were marked (fin clipped) and not marked.

During the 2017-2018 musky survey, we estimated the adult ( $\geq 30$ " ) musky population on Bone Lake to be 0.35 fish/ac. Between the two years of netting, we handled 435 musky that range from 12.0 to 48.0 inches in length. The population density declined slightly compared to the last two surveys: 0.42 fish/ac in 2011 and 0.55 fish/ac in 2005; however, the current Bone Lake musky population is considered to be a moderate density compared to other Wisconsin musky populations. The current density is a density that will provide good angling action while still producing large fish. Historically, the Bone Lake musky population had an adult density as high as 0.99 fish/ac in

1995; however, that was considered too high and the lake has been managed for a lower density since then.



The decline in adult density is not necessarily a bad thing, especially in terms of size structure. With the decreasing density, the size structure of the population has continued to improve. Simply put, the size structure of the Bone Lake musky population has never looked better! We assess size structure of fish populations by different methods, one of which is through PSD (Proportional Size Distribution). For PSD we look at the number of fish that are at least 30 inches and determine the proportion of those fish that are also larger than a specified size (40 inches: PSD40, 42 inches: PSD42, etc.). The PSD values for all common size groups (34", 38", 40", 42", 44", 46") were the highest they have ever been on Bone Lake.



This was also the first Bone Lake musky survey where we put Passive Integrated Transponder (PIT) tags into all musky we handled. These PIT tags are the size of a grain of rice and they each have a unique 15 digit number associated with them. These are the same types of tags that people are putting into pets for identification. PIT tagged musky do not have any external identification that they were tagged. You need to have a special reader that detects the tags and displays the tag number. We took a fin ray sample from all musky we PIT tagged and are able to age each musky by looking at the fin ray under a microscope. Once musky get over 10 years old they become more difficult to age. However, since musky can live 20+ years, we should find many of these fish we handled, PIT tagged, and aged in future surveys. By PIT tagging Bone Lake musky, we will get a better handle on the age, growth, mortality, longevity, etc. of this population which will help with future management.

We handled at least one musky that was over 20 years old during this survey. This fish was a 45.2" female that had a floy tag

(a plastic tag the sticks out of fish). This fish was last handled during our 2006 survey and was 41.6” then. Although this fish was not aged during the 2006 survey, it would have been at least years old based on its length. Which made it at least 20 years old in 2018. You could tell by looking at it that it was one old fish that had been around the block. It was blind in one eye, had a deformed mouth from old hooking injuries, and had no shortage of old scars and scrapes.

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