



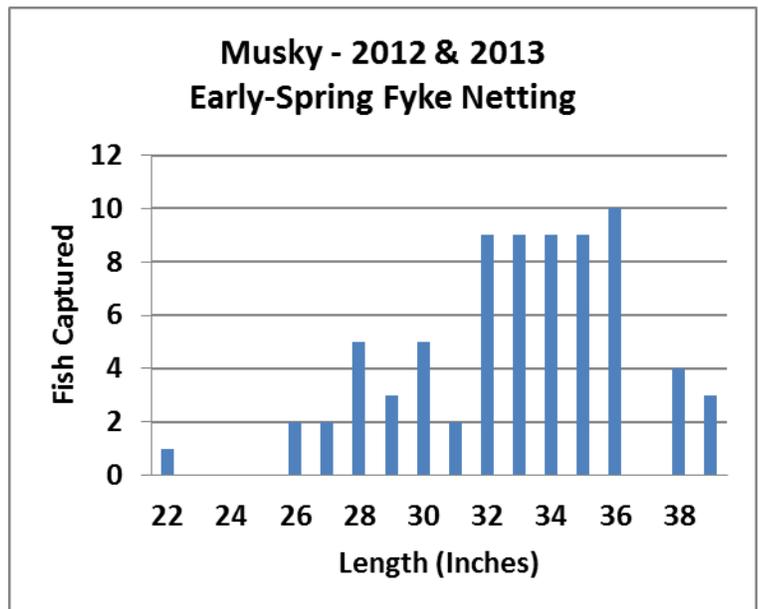
## Summary of Fishery Surveys Moose Lake, Iron County, 2012 - 2013

The Mercer DNR Fisheries Management Team conducted the following fishery surveys on Moose Lake in 2012: an early-spring fyke netting survey (April 11 – April 19) to assess the muskellunge and pike populations, and a late-spring electrofishing survey (May 22) to assess the bass and panfish populations. In 2013, an additional early-spring fyke netting survey (May 14 – May 17) was conducted to recapture previously marked muskellunge and complete an estimate of adult muskellunge abundance within Moose Lake. Quality, preferred, and memorable sizes referenced in this summary are based on standard proportions of world record lengths developed for each species by the American Fisheries Society.

### Muskellunge



Adult Musky Abundance = 0.4/acre	
Quality Size $\geq 30''$	82%
Preferred Size $\geq 38''$	10%
Memorable Size $\geq 42''$	0%

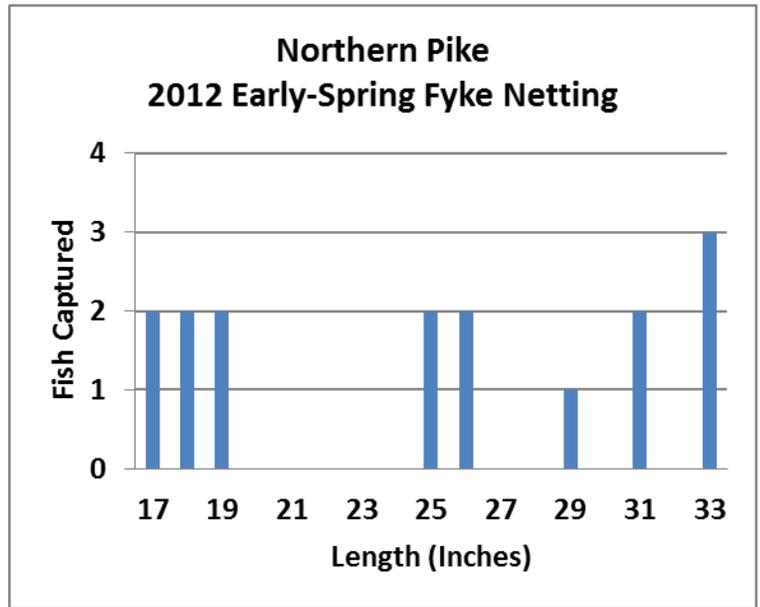


We captured 74 individual muskies during the 2012 and 2013 early-spring netting surveys at targeted rates of 1.2/net-night and 3.0/net-night, respectively. Using mark-recapture techniques, the population estimate for adult musky  $\geq 30$  inches was 111 fish (0.4 fish per surface acre of water; above average for class B1 musky fisheries), while the estimate for adult musky  $\geq 20$  inches was 150 (0.6 fish per acre). The size structure of the musky population is considered fair. Consistent natural reproduction and above average density may have led to increased competition, slower growth rates, and subsequently fewer large fish, although growth analyses have not yet been completed to confirm this assessment.

### Northern Pike



Captured 0.4 per net-night $\geq 14''$	
Quality Size $\geq 21''$	63%
Preferred Size $\geq 28''$	38%
Memorable Size $\geq 34''$	0%

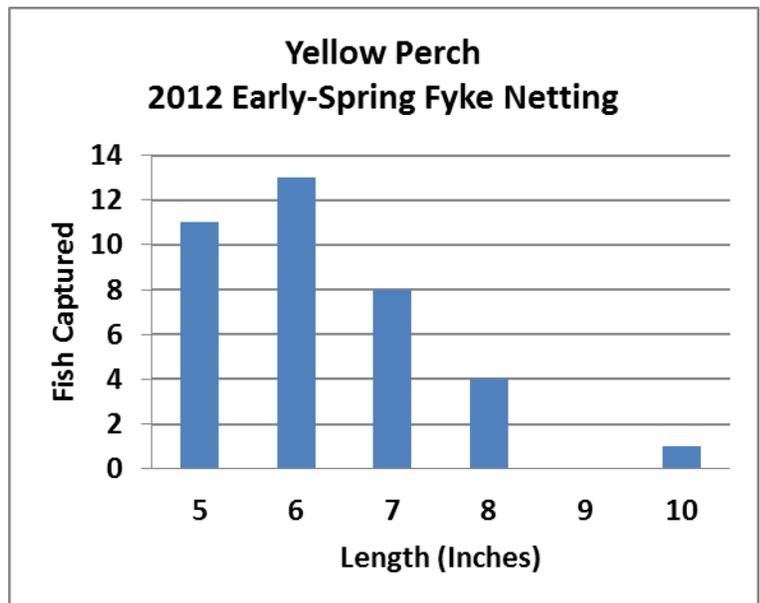


Northern Pike  $\geq 14$  inches were captured at a low rate of 0.4 per net-night during the 2012 early-spring fyke netting survey. However, it should be noted that pike were nearly finished with spawning during the survey, and therefore, catch rates may be biased slightly low. The size structure of the population sample is considered very good, with over a third of the fish sampled measuring greater than preferred size. The largest pike sampled during the survey measured 33.3 inches in length.

### Yellow Perch



Captured 1.4 per net-night $\geq 5''$	
Quality Size $\geq 8''$	14%
Preferred Size $\geq 10''$	3%

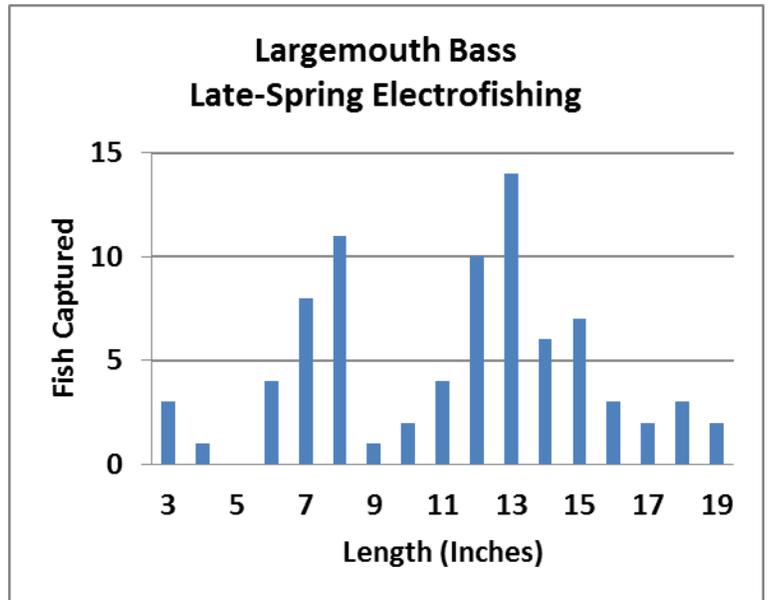


Yellow perch  $\geq 5$  inches were captured at a low rate of 1.4 per net-night during the 2012 early-spring fyke netting survey. The size structure of the population is considered poor, with very few fish of an acceptable size to anglers.

### Largemouth Bass



Captured 24 per mile $\geq 8''$	
Quality Size $\geq 12''$	72%
Preferred Size $\geq 15''$	26%
Memorable Size $\geq 20''$	0%

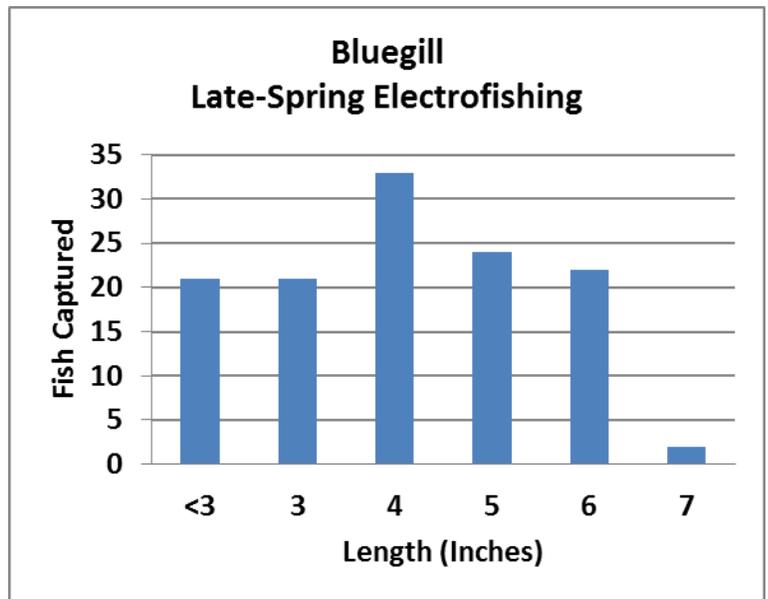


Largemouth Bass  $\geq 8$  inches were captured at a moderate rate of 24 per mile during the late-spring electrofishing survey. The size structure of the population is considered good, with respectable proportions of quality and preferred size fish. The largest largemouth bass seen during all surveys was a 20.9-inch fish captured incidentally in a fyke net in 2012.

### Bluegill

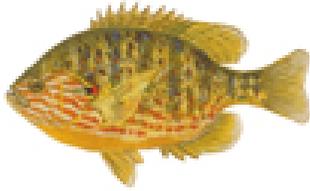


Captured 102 per mile $\geq 3''$	
Quality Size $\geq 6''$	24%
Preferred Size $\geq 8''$	0%

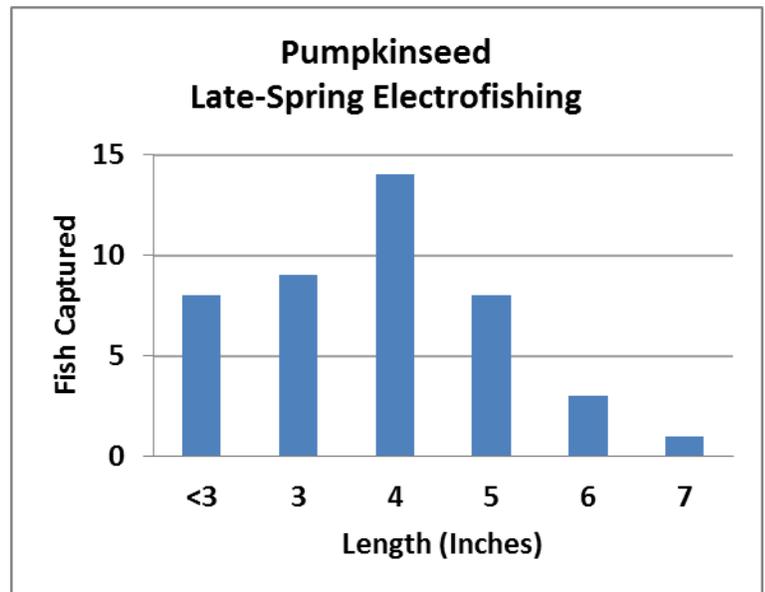


Bluegill  $\geq 3$  inches were captured at a moderate rate of 102 per mile during the late-spring electrofishing survey. The size structure of the population is considered poor, with a low proportion of fish of acceptable size to most anglers.

## Pumpkinseed



Captured 35 per mile $\geq 3''$	
Quality Size $\geq 6''$	11%
Preferred Size $\geq 8''$	0%



Pumpkinseed  $\geq 3$  inches were captured at a low-to-moderate rate of 35 per mile during the late-spring electrofishing survey. The size structure of the population is considered poor, with a low proportion of fish of acceptable size to most anglers.

### Conclusions

Moose Lake's fish community is dominated by muskellunge and largemouth bass. This keeps northern pike in check, but it also keeps yellow perch relatively scarce and small. Although Moose Lake is a relatively small, shallow lake, the largemouth bass and muskellunge fisheries provide quality opportunities for interested anglers (especially those interested in fishing a remote, undeveloped waterbody). Size-selective predation by esocids (muskellunge and northern pike) on the largest perch, along with assumedly slow growth rates of bluegill (yet to be analyzed) due to insufficient control by esocids and largemouth bass, may be limiting panfish size distributions.

Moose Lake's fishery is sustained through natural reproduction. The most recent stocking occurred in 1995 when a couple hundred muskies were stocked. Healthy habitats, along with a favorable fish community, allow muskellunge (and the other primary fish species) to sustain strong populations on their own.

White sucker, golden shiner, creek chub, logperch, and Iowa darter were other species captured during our surveys.

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