

Summary of the 2017 DNR Walleye and Yellow Perch monitoring on Big Sand by Doug Kingsley, DNR Fisheries, Park Rapids

This targeted sampling was conducted in 2017 to monitor Walleye and Yellow Perch populations with gill nets and fall electrofishing.

The Walleye catch rate of 11.93/gill net exceeded the current management goal of 8.5/gill net, and was above the interquartile range for class 22 (4.01 - 9.63/gill net). Walleye abundance from surveys since 2001 has been similar, exceeding the interquartile range and management goal. Sampled Walleye were a mean length and weight of 11.9 inches and 0.8 lbs., with fish measured up to 28.2 inches. The Proportional Stock Density (PSD) value of 39, the Relative Stock Density - Preferred (RSD - P) value of 8, and Relative Stock Density Memorable (RSD-M) value of 1 were with the current management goals. Size structure indices have been decreasing since 1992. Ten year-classes of Walleye were sampled and the most abundant year-classes were 2015 and 2016 year-classes. Walleye growth rates were similar to other class 22 lakes and consistent with previous sampling on Big Sand Lake, with an age five Walleye having a mean back-calculated length of 16.45 inches.

Natural reproduction has been very successful in Big Sand, so Walleye stocking was discontinued after 2004. Fall electrofishing was completed on September 21, 2017 to determine the abundance of young-of-year (YOY) Walleye from natural reproduction. Results of fall electrofishing help serve as an index of natural reproduction success in the Park Rapids area. The YOY Walleye catch rate was 119.95/hr, which was the highest ever at Big Sand.

Yellow Perch abundance (2.47/gill net) was the lowest of all surveys. This catch rate was below both the interquartile range for class 22 (7.06 - 33.87/gill net) and the management goal (12/gill net). Yellow Perch size structure index (PSD of 3) was poor, which has been declining since 1992.

At the White Sucker egg take site, the trap was deployed about one week earlier to capture Walleye to evaluate the current Walleye regulation on Big Sand Lake. The RSD - P values for female and male Walleyes were 49 and 9, respectively. These values were similar to the 2006, 2008, and 2011 findings but lower than findings from 1997 through 2001.