Lake Winnibigoshish Fisheries Information Newsletter

DEPARTMENT OF NATURAL RESOURCES

03/21/2017

An annual fisheries newsletter for Lake Winnibigoshish

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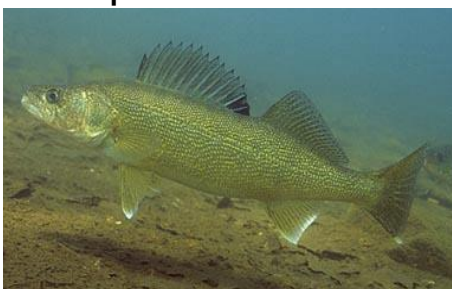
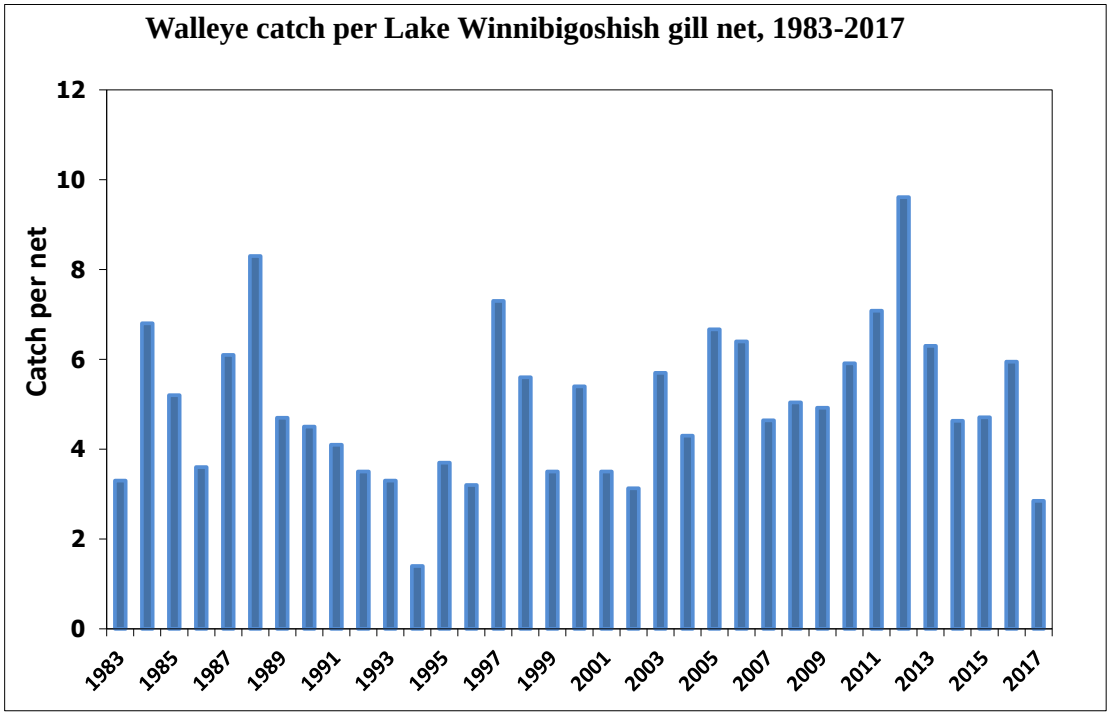
2017 Recap

Another year passes and water clearing continues. The most obvious change on Lake Winnibigoshish (Winnie) is the rapid water clearing as a result of zebra mussel expansion. Adult zebra mussel have spread throughout the lake and now cover nearly every hard surface. As a result, Walleye don't use shallow habitat anglers are accustomed to fishing as frequently as in the past. Walleye also have shorter feeding windows, typically early or late in the day, or on cloudy/windy days, so fishing low light periods increases the likelihood of success. Perch fishing was relatively consistent throughout the summer with good action and more large fish available much of the year. The perch population still has plenty of small fish that keep things interesting for the kids. Pike fishing was excellent throughout the year, with many fish in the mid to high 20 inch range and occasional fish up to 38 inches. Winnie is likely to be clear in 2018, so fishing early and late in the day, and on cloudy and windy days will probably be most productive for Walleye. Perch and pike fishing should keep things interesting during the middle of the day. Good luck fishing!

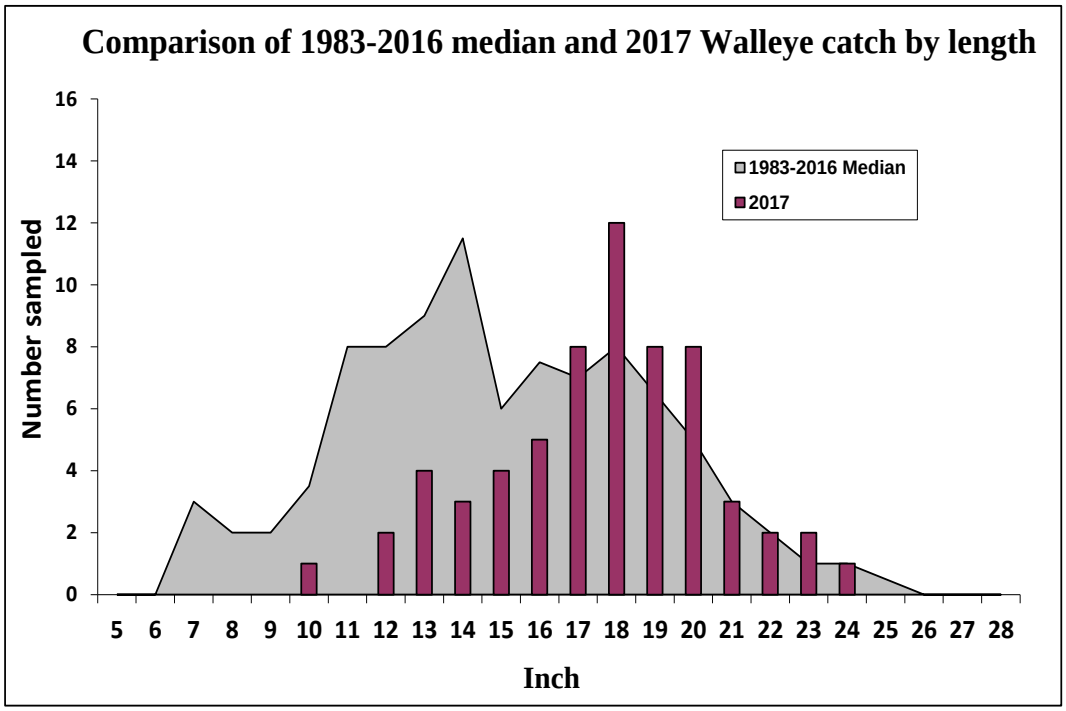
2017 Population Assessment



The 2017 summer gill net catch rate for Winnie Walleye decreased to 2.9 per net from 6.0 in 2016. This catch was well below average and not expected. Fall assessment of the Walleye population also indicated a reduction, however, much less than the summer assessment. Fish from the strong 2013 year class have grown faster than typical, averaging 19 inches in length, and should be commonly caught by anglers in 2018.



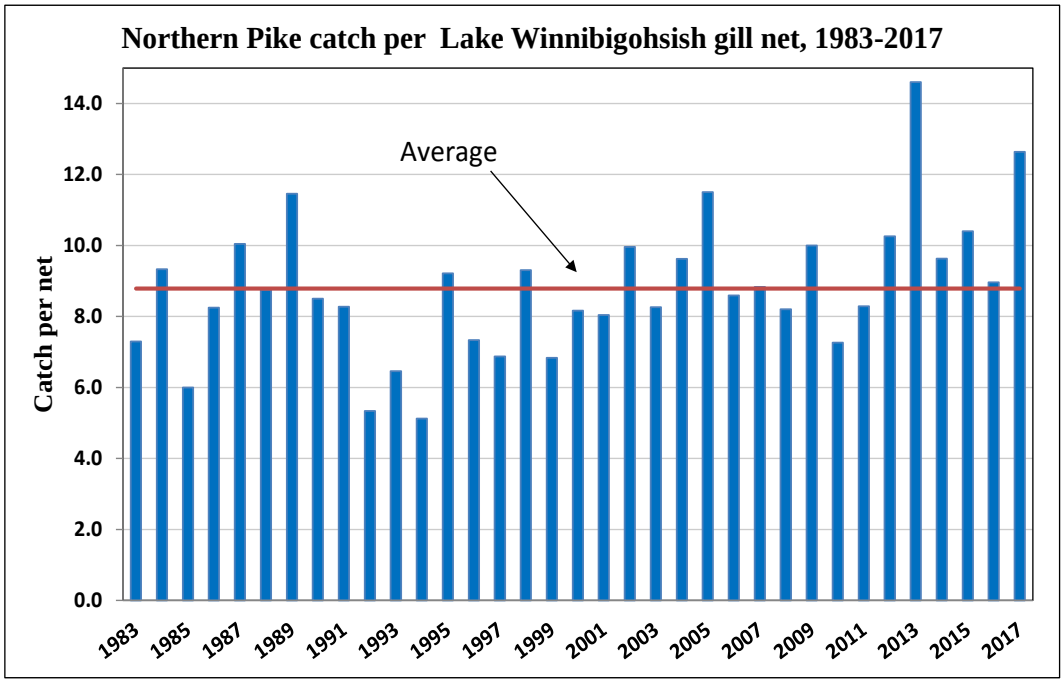
Walleye from the 2011 and earlier year classes should contribute to high angler catch rates, and the potential for a trophy catch. The 2015 year class is average, and along with older fish that have grown through the protected slot, should provide fish for the table. Weak Walleye year classes are occasionally expected, and seem to happen most frequently when ice out comes early. Historic early ice out (March 30, 2012), followed by a cold spring, resulted in the weakest year class seen on Winnie. The 2012, 2014 and 2016 year classes of Walleye appear weak. The weak 2014 year class should result in fewer 14 to 16 inch Walleye.



Sampled Walleye varied from 10.2 to 24.8 inches with an average length of 18.1 inches in the 2017 summer assessment. Electrofishing was completed from late

August through early October to evaluate abundance of the 2017 year class. Few Age-0 Walleye were sampled, however, low and clear water during sampling made electrofishing challenging. Assessment netting during the fall of 2018 will provide a better picture of 2017 Walleye recruitment.

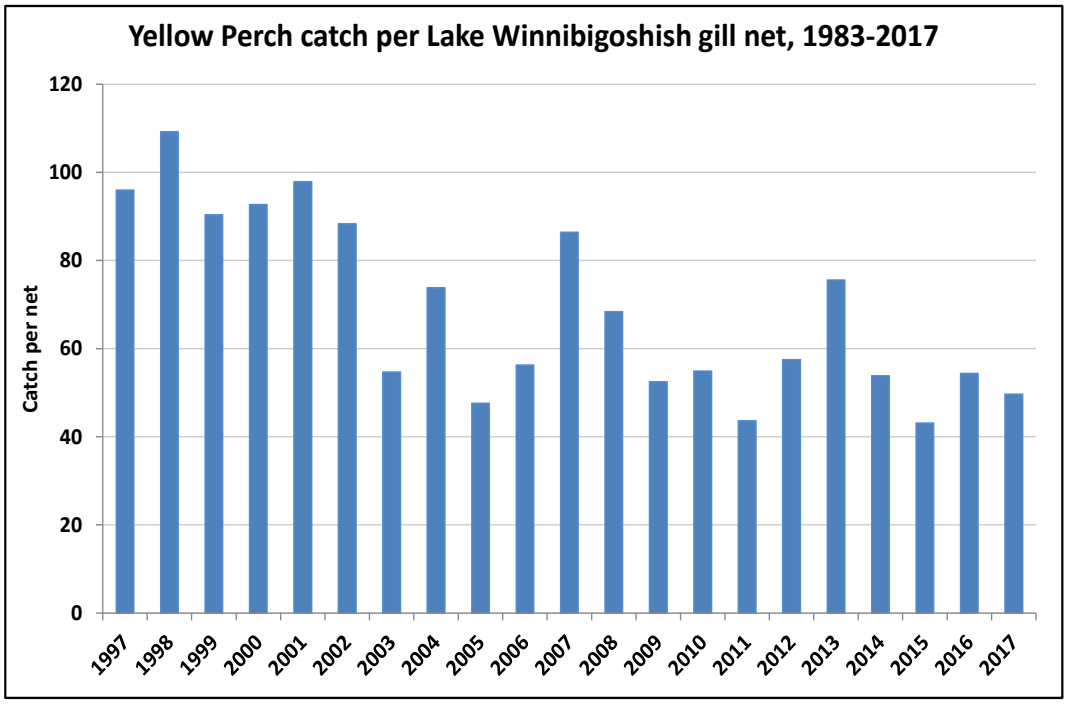
Northern Pike (pike) populations in lakes with high catch rates are typically dominated by small pike, and Winnie is no different. As gill net catch rate increases, the average length of pike decreases, and less large pike (over 30 inches) are present. Pike catch rates generally declined between 2005 and 2010. During that time, the number of large pike (over 30 inches) in the system increased. Between 2010 and 2013, the catch rate of pike doubled and the number of pike sampled over 30 inches decreased by 80%. The pattern of high pike abundance and few pike over 30 inches has repeated several times since large lake sampling began in 1983. The pike population has remained higher than average since 2013 and has seen 2 years with catch rates higher than the previous historic high.



Pike length varied from 14 to 36.1 inches with an average length of 22 inches in 2017. Five pike longer than 30 inches were sampled in 2017. Large pike can act as a regulating force in a pike population by competing with smaller pike. If high numbers of small pike stay in the lake over an extended period of time, growth rates can be reduced, which can make the problem worse. Statewide Northern Pike regulations will change on March 1, 2018. These regulations address different management concerns in three distinct areas of the state (zones). Winnie is located in the north-central zone, where the regulation is intended to tackle the issue of increased recruitment and an overpopulation of small pike. The daily and possession limit will be 10 fish with a 22 to 26 inch protected slot, and no more

than two longer than 26 inches for anglers. The regulation is slightly different for spearing since length is difficult to determine. Spearers may harvest one pike between 22 and 26 inches, however, if they choose to take one fish in the protected slot they can only take one fish longer than 26 inches. This should allow pike time to grow larger, and increase the chance of anglers catching larger fish.

Yellow perch (perch) are an important species both for anglers and as prey for predators. Perch have experienced a general decline in abundance, as seen in gill net catches since 2001. Reasons for this decline are unclear. Walleye and pike populations have increased during this time, which is likely increasing predatory pressure on the perch population. The Cisco population has also declined during this time due to increased water temperatures and resulting summer kills. Cisco provide a buffer to perch by providing larger predators with alternative prey.



Three species of invasive snails have become established in Winnie since 2000, however, there is no known negative relationship between perch and these snails. Although perch abundance has decreased in Winnie, the perch population is more robust than in most lakes. A higher proportion of small perch were seen in 2015 and 2016 netting. The size structure appears to be improving in 2017. An index of year-class strength was computed for all year classes sampled from 2009 through 2014. The 2009, 2010, 2012, and 2013 year classes were average, the 2014 year class was weak, however, evaluation of the 2014 year class will not be complete until 2018. Perch length varied from 5.2 to 11.7 inches with an average length of 7.0 inches.

Relative health of the perch population has been described by the percent of perch longer than 9 inches in the gill net catch. The catch of large perch declined to 6% in the early 1990's, driven by high angler harvest. Changes in Winnie and other lakes prompted a statewide change in the perch bag limit to 20 daily and 40 in possession in 2001. Several strong year classes were produced during the same time period and the catch of large perch increased to 30% in 2004. In 2005, the proportion of large perch sampled in near-shore gill nets declined for the first time since 1998. The proportion of large perch slowly declined from 2005 to 2015. A stronger year class of perch was produced in 2010. This resulted in increased catch rates of young fish and reduced the percent of large perch to 7.0% in 2014. Although small perch were still abundant in 2017, the percent of perch longer than 9 inches increased to 15.6%.

Creel Survey

Creel surveys were conducted from the summer of 2012, through the winter of 2013-2014. Results of these creel surveys are available at the Grand Rapids Fisheries Office. Winnie Creel Surveys were scheduled on a two of six year rotation, however, due to budget constraints the rotation was changed to one of every four years. A creel survey will be occurring during the summer of 2018, so you may be approached by DNR personnel and asked a few questions about your fishing trip. The data collected is very important in the management of Winnie. Thanks to all of you for participating in creel surveys, and contributing information that helps keep Winnie a great fishing destination.

Walleye Experimental Regulation

The 17 to 26 inch protected slot limit for Walleye was evaluated during the summer of 2010. Evaluation showed that the fishery had responded well to the regulation and that either the existing 17 to 26 inch regulation, or a 18 to 26 inch protected slot with a bag limit of six fish would likely maintain the fishery at a healthy level. Results of the evaluation were open to public review in the fall of 2010 and public meetings were held at three locations in October. Many comments were received through the public review period and meetings. These comments came from anglers varying from Winona to Baudette in Minnesota and eight other states from Wisconsin to Texas and Arizona. More than 85% of the comments received favored either the 17 to 26 inch or 18 to 26 inch protected slots with a small advantage to the 17 to 26 inch slot. Of those favoring these two options, more than 1/3 agreed with either regulation. The final decision was to keep the 17 to 26 inch protected slot limit with a bag limit of six fish. This regulation was biologically suited to Winnie and was viewed favorably by the majority of anglers.

The 17 to 26 inch slot limit was re-evaluated during the summer of 2014. An 18 to 25 inch protected slot limit was initially evaluated. After evaluation it appeared that a less restrictive regulation could be implemented and still maintain the healthy Walleye fishery. Further evaluation resulted in a protected slot limit of 18 to 23 inches with a bag limit of 6 being proposed. That regulation was viewed favorably by anglers and was implemented in March of 2015.

Aquatic Invasive Species

Invasive species are species that are not native to Minnesota *and* cause economic or environmental harm or harm to human health.

Several invasive species have been introduced into Winnie. Three species of snail: banded mystery, Chinese mystery, and faucet have become established since 2000. Both species of mystery snail appear to have no negative effect on the fishery at this time. The faucet snail carries a trematode parasite that can kill several species of ducks if ingested. Thousands of ducks were killed by these parasites during the falls of 2007 and 2008. The Faucet Snail is a filter feeder and may be responsible for clearing water prior to the introduction of Zebra Mussel. Juvenile Zebra Mussels (veliger) were discovered while sampling zooplankton during the summer of 2012. No zebra mussel veliger were found while sampling for zooplankton in 2013. Juvenile Zebra Mussel have been sampled each year since 2013. Near-shore areas of hard substrate were inspected for adult Zebra Mussel each year since 2012, and divers inspected likely offshore areas from 2014 through 2016. No adults were discovered until 2016. Adults were found on near-shore driftwood in the early summer, then found by divers on mid-lake rock structure during August. Adult zebra mussel appeared to cover every hard surface available in 2017. The most obvious change to Winnie has been water clearing, however, much is yet to be discovered about interactions between zebra mussel and the Winnie ecosystem.

Starry Stonewort (an algae) was discovered in Cass Lake during the summer of 2016. This discovery upstream of Winnie prompted an investigation on Winnie. Starry Stonewort was discovered in Winnie during the summer of 2016. Starry stonewort spread from its point of origin (presumably the Mississippi River inlet) north to the Third River and east to Tamarack Point. Emerald Shiners (often used as bait) are not native to Winnie, were first sampled in 2005, and have been sampled each year since. Rusty Crayfish are present in Cass Lake, and curly leaf pondweed is present in Dixon Lake. Both of these lakes are tributary to and upstream of Winnie. Introduction to Winnie in the near future is likely.

Each of these invasive species were likely introduced through human activities. Movement of any type of equipment (boats, boat trailers, boat lifts, docks, personal watercraft, bait containers, etc.) between lakes may transfer invasive species if precautions are not taken. To avoid being an accomplice to the spread of these unwanted species, make sure all equipment is thoroughly cleaned before moving it to a new body of water. For more information on invasive species, click the “Invasive Species” link at the top left corner of this newsletter.