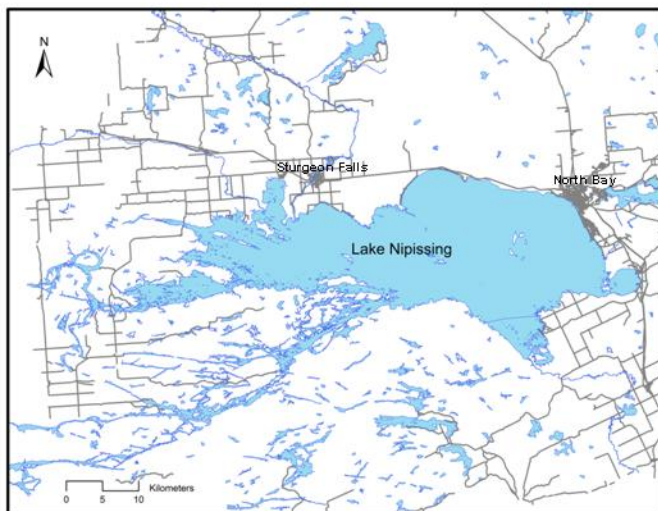


Natural. Valued. Protected.

Status of the Lake Nipissing Walleye (Pickerel) Fishery

At 90,000 hectares, Lake Nipissing is the fourth largest lake in Ontario (outside of the Great Lakes). It averages under 5 metres deep, its water that has a transparency of about 2.5 metres. Its east-west fetch allows the wind to continuously mix the water, keeping oxygen levels high. These factors combine to make Lake Nipissing ideal walleye habitat.

Lake Nipissing is the seventh most fished lake in the province (including the Great Lakes), and has remained the premier fishing destination in Northeastern Ontario for decades. More than 3/4 of recreational angling targets walleye. In addition, the lake also supports a commercial walleye fishery and subsistence fishing by two First Nation communities.

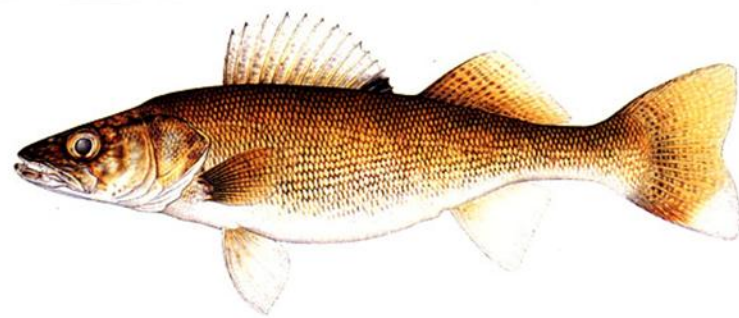


ANGLING REGULATIONS FOR WALLEYE ON LAKE NIPISSING

SEASON: Jan. 1 to Mar. 15; 3rd Saturday in May to Oct. 15.

LIMIT: Sport Licence 4, Conservation Licence 2

PROTECTED SLOT: None between 40-60cm



FISHERIES ASSESSMENT ON LAKE NIPISSING

The MNR assessment program monitors the walleye population on Lake Nipissing using the province's standard technique called Fall Walleye Index Netting (FWIN). This gives managers an unbiased assessment of the health of the walleye population. FWIN occurs in the fall when water temperatures drop to 15°C. Gillnets are set at random locations around the lake between 2 and 15 metres deep, are fished for 24 hours, and moved daily. A variety of information is collected including fish length, weight, age, sex, and whether they will spawn the following spring.

Creel surveys are also conducted during the winter and open water angling seasons. These surveys count the number of anglers fishing in an area at one time, and a sub-sample of anglers are interviewed about their day's catch. This information is extrapolated to give estimates of the amount of fishing pressure and the number of fish harvested throughout the year.



WALLEYE POPULATION HEALTH

In general, the health of Lake Nipissing's walleye population has been defined by the abundance of spawning sized fish. Figure 1 shows the abundance of spawners (walleye greater than 40cm per FWIN net) was increasing from 2004 to 2008, with a sudden and dramatic decline in the abundance of spawners in 2009, and a further decline in 2010.

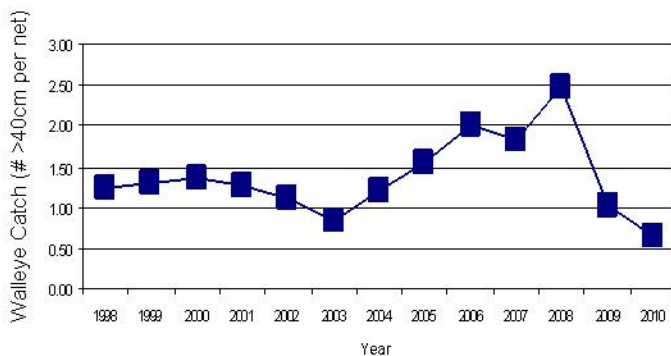


Figure 1: Relative abundance (no./net) of walleye greater than 40cm from FWIN surveys on Lake Nipissing.

As of 2010, there was a 88% chance the number of walleye in Lake Nipissing was below the sustainable minimum. In addition, some biological characteristics such as growth rates and maturity schedules show sign of over-harvest. However, other measures of population health, such as the number of age classes in the population, were in the healthy range. Weak year classes moving into the spawning stock may explain some of this decline, however it is clear that the mortality rate of spawning sized fish is exceeding replenishment rates.

WALLEYE HARVEST

Maximum sustainable yield (MSY) is the upper limit of harvest (defined by kilograms of walleye per hectare of surface area) that should not be exceeded. In Lake Nipissing, the MSY limit is estimated at 1.13 kilograms of walleye per hectare per year. As a safety precaution and in an attempt to build the walleye stock, the 2007-2010 Lake Nipissing Fisheries Management Plan set a target harvest at 2/3 of the MSY limit (0.75kg/ha).

Since the implementation of the protected slot size in the recreational fishery and management of the

commercial fishery by Nipissing First Nation, total measured walleye harvest from the lake (recreational and commercial) has been at the harvest target, or in the case of 2010, well below the target. Measured harvest over this time period has not exceed the MSY limit.



Figure 2: Total measured walleye yield (kilograms of walleye harvested per hectare per year) from Lake Nipissing commercial and recreational fisheries.

Lake Nipissing's walleye population is in a highly stressed condition, even though measured harvest seems safe.

Reasons for the unexplained decline in adult walleye abundance may include:

- Unaccounted for harvest
- Weak year classes
- Ecosystem changes

The Ministry of Natural Resources is in the process of developing a new Fisheries Management Plan for Lake Nipissing. Public input into this plan is important to its success.

For more information, including a detailed technical document, please contact:

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 3301 Trout Lake Rd., North Bay
 705-475-5500 or email: lake.nipissing@ontario.ca