

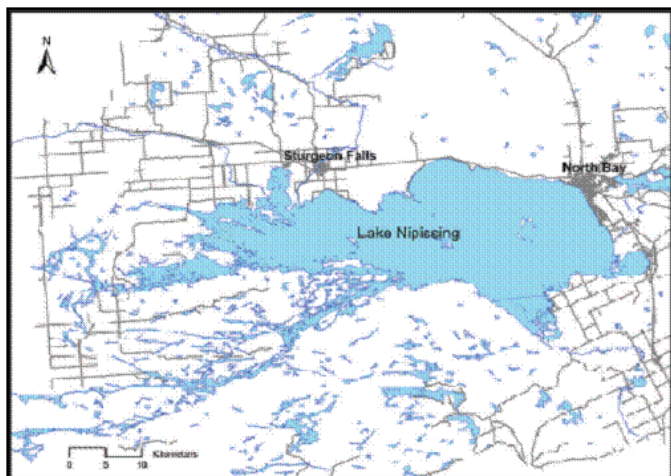
Natural. Valued. Protected.

FACT SHEET: NORTHERN PIKE IN LAKE NIPISSING

This fact sheet is part of a series prepared in support of the development of a new Fisheries Management Plan for Lake Nipissing.

LAKE NIPISSING FISHERIES MANAGEMENT PLANNING

Under the Ministry of Natural Resources' Ecological Framework for Fisheries Management, Lake Nipissing is a Specially Designated Water due to its large size and socio-economic importance. At 90,000 hectares, Lake Nipissing is Ontario's fourth largest lake, excluding the Great Lakes, and the seventh most fished lake, including the Great Lakes. Lake Nipissing has been a premier fishing destination in Northeastern Ontario for decades, and it is estimated that fishing activities contribute up to \$60 million annually into Ontario's economy. Ontario manages this valued resource through a lake specific management plan.



LAKE NIPISSING NORTHERN PIKE FISHERY

Northern pike ranks second in popularity to walleye for recreational fishing in the province and on the lake. On average, anglers spend 70,000 hours fishing for northern pike on Lake Nipissing.

NORTHERN PIKE BIOLOGY

Northern pike thrive in warm to cool water habitats and prefer vegetated bays, creek mouths and shoals.



Females are larger and tend to live longer than males. In the north, males first spawn at five years of age with females first spawning at six years of age. Spawning takes place as soon as the ice melts in April and continues on into early May. Spawning occurs in heavily vegetated floodplains of rivers, marshes, and bays of larger lakes.

Growth is very rapid in the first three years and only slows with sexual maturation. While growth in girth continues as the fish ages, size is highly variable and depends on the length of the growing season, the water temperature and food availability.

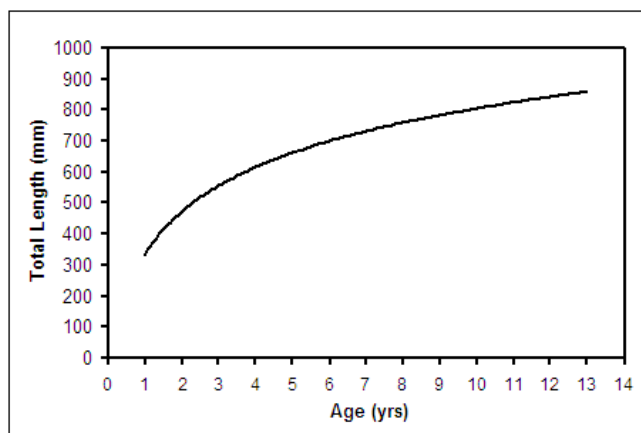


Figure 1: Northern pike growth pattern in Lake Nipissing as measured by mean length by year caught during Ice-out Trap Netting Surveys.

ASSESSING THE LAKE NIPISSING NORTHERN PIKE FISHERY

The key objectives for northern pike in the 2007-2010 Management Plan were:

- carefully monitor the pike population in terms of angler harvest and abundance;
- prevent an occurrence of over-harvest; and
- promote a high-quality fishery through protection of the larger individuals in the population.

To assess our achievement of these objectives, two types of fisheries assessment data are collected: fishery-independent and fishery-dependent data. Fall Walleye Index Netting (FWIN) and Ice Out Trap Netting Surveys, are assessment tools used to collect fishery independent data and provide measures of relative abundance, as well as information on growth and other life history characteristics.

Creel surveys, conducted during both open water and winter seasons, involve counting and interviewing anglers about their daily catches. Fishery-dependent data are used to estimate fishing pressure, catch and harvest rates. Together, these surveys help determine the overall health and sustainability of the population and whether current regulations are appropriate.

STATUS OF NORTHERN PIKE IN LAKE NIPISSING

Assessment data collected to 2004 suggested that the northern pike population was healthy and sustainable, although somewhat lower than expected considering the amount of available habitat. More recent results indicate a decline in northern pike abundance on the lake (see Figure 2). Reasons for the decline are currently being investigated in more detail. This will allow appropriate management strategies for the species to be incorporated into the new fisheries management plan for the lake.

Growth rates for the population have consistently exceeded those predicted by available habitat. As a result, Lake Nipissing continues to realize its potential by producing high quality “trophy-sized” fish.



Figure 2: Relative abundance of Northern pike in Lake Nipissing measured as catch per unit effort (CPUE) represented by the number of fish caught per net during FWIN (Fall Walleye Index Netting).

Studies show that northern pike were subjected to over-harvest on the lake in the 1980s. Figure 3 illustrates the recent harvest patterns on the lake dating back to 1998.

In 2009, over 30 000 fish were harvested. Although the highest harvest in the past 15 years, it is still below historical numbers from the 1970s and 1980s. In 2011, the total harvest for the species since 1998 reached a new low, with a total of 6,059 fish being harvested.

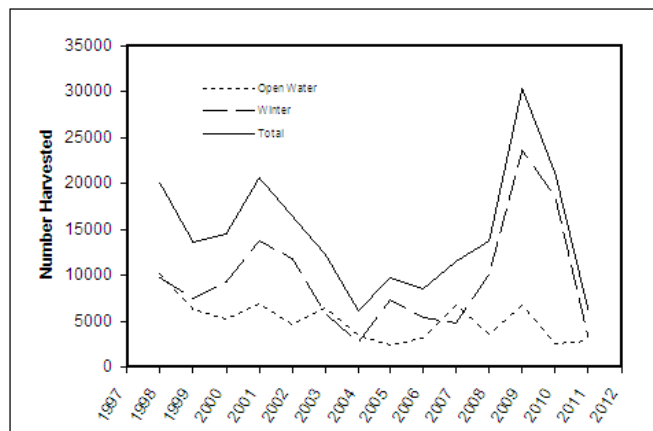


Figure 3: Annual harvest of northern pike in Lake Nipissing from 1998-2011 represented by number harvested per year as collected via the open water and winter creel surveys.

The stressed state of the walleye population on the lake appears to be leading to a compensating harvest of northern pike. Effective monitoring and management strategies will be required in the new management plan to ensure the long-term sustainability of the species.

For more information please contact:

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