Lake Manitoba:

A Fishery on the Road to Sustainability

Introduction

Lake Manitoba is Manitoba's third-largest lake, with a surface area of 4,660 square kilometers—making it the thirty-third largest freshwater lake on Earth. The lake supports Manitoba's second-most valuable mixed use fishery. Lake Manitoba's commercial and recreational fisheries are valued at approximately $9 million per year, split more or less evenly between the two sectors. Indigenous subsistence harvest contributes further to the fishery's value. Lake Manitoba is fed by three primary inflows: the Waterhen River, the Whitemud River, and the Portage Diversion (Assiniboine River).

Manitoba

Brief History of the Fishery

An Indigenous subsistence fishery was present before the first commercial fishery. The first written account of Indigenous subsistence fishing of an abundant lake whitefish stock dates to 1804. Records of the managed commercial fishery begin in 1895 when a railhead at Westbourne made commercial exports from Manitoba possible.

In 1905, Lake Manitoba became a winter-only fishery. Advantages of winter fishing include less spoilage of fish, and in the days before commercial refrigeration, cold Manitoba winters made long distance distribution possible. Winter fishing also fit into the annual agricultural cycle around Lake Manitoba: producers could supplement their summer farm income with winter fishing income. The Lake Manitoba fishery is thus primarily an income supplement fishery.

The initial target species of the fishery was lake whitefish, caught in five to six-inch stretched mesh nets. As whitefish were depleted and smaller mesh sizes permitted, harvest shifted to walleye and sauger, where 3.75-inch mesh gillnets proved effective. The development of the walleye and sauger fishery and the subsequent reduction in their populations allowed their main prey, yellow perch, to grow in numbers. By the mid-1980s, fishers began using 3-inch mesh to catch yellow perch, to the detriment of sauger and walleye populations.

In 2013, perch stocks were so low that few fishers used three-inch mesh, and thus the walleye fishery began to recover. In the 2016-2017 fishing year, fishers took the initiative to formally request a return to a minimum mesh size of 3.75 inches. The results have been spectacular. Walleye production has averaged 780,000 kgs in the most recent three years and the sauger stock has begun to recover.

Commercial Fisheries Management

Eligible Fishers

There are 414 eligible fishers on Lake Manitoba, of whom roughly 300 have been active in recent years.

In 1987, a licensing structure was established that defined two types of commercial fishing licenses: Category A and Category B. Fishers that had delivered an average of at least 200 kilograms per year in the preceding three years were granted Category A licenses. All other fishers were granted Category B licenses.

Category A licenses are transferrable. Eligibility to acquire a Category A license includes a minimum age of 18 years, two years fishing experience and residency in a rural municipality or an unorganized territory adjacent to Lake Manitoba.

Category B licenses cannot be transferred. Once the holder exits the fishery, the license is retired. Of the 414 Lake Manitoba licenses, 16 of them are Category B.

Seasons

Regulation of Lake Manitoba's commercial fishery began in 1895. In 1905, the fishery began to operate as a winter fishery only. The fishing season is open from "*when ice makes on or after November 1 to March 31*."

There is a limited spring creek mullet fishery, conducted under a separate license, which is approved annually. This fishery's opening depends on annual snowmelt and runoff conditions, and it generally closes before the start of the angling season.

A lake carp fishery, conducted under a separate carp license, is permitted year-round (Closed Oct. 31)

A Delta Marsh carp fishery is also permitted on a limited entry basis. Season opening depends on spring snowmelt and runoff conditions, and the fishery generally closes in mid-July.

Lake Quota

The Lake Manitoba commercial fishery has a maximum allowable lake quota of 907,200 kgs in round weight of walleye and sauger combined. There are no quotas in place for other species.

Annual Monitoring of Fish Stocks

Manitoba Fisheries Branch conducts annual index gill net surveys to assess the status of the fish stocks in Lake Manitoba using the following mesh sizes: 1.5”, 2.0”, 2.5”, 3.0”, 3.5”, 3.75”, 4.25”, 5”, and 6”. The program, in its current form, has been in place since 2009. There are five sampling locations: Manipogo, Whitemud, Lundar, Steeprock and The Narrows (added in 2021). Manitoba Fisheries Branch also tracks and monitors commercial production for quota and non-quota species.

Historic Production in 2024

The 2023-24 year saw exceptionally high deliveries, with Lake Manitoba fishers producing 922,000 kgs of walleye alone; exceeding the lake quota even before sauger deliveries are included. The total combined production for walleye and sauger in the last year’s season was 1,028,000 kgs — surpassing the two species’ quota by 121,000 kgs. This was the highest volume of Lake Manitoba walleye and sauger produced since 1966. The average delivery size for both quota species increased from the 2022-23 fishing season (Table 1).

Average Delivery Size (kgs)		
Fishing Season	Walleye	Sauger
2022-23	97.4	12.1
2023-24	138.8	14.6

Table 1. Comparison of average delivery sizes between the 2022-23 season and the 2023-24 season.

Status of Quota Species

Maximum Sustainable Yield

Maximum sustainable yield is the maximum level of harvest that can take place without negatively impacting the long-term sustainability of the fish stock. The maximum sustainable yield for Lake Manitoba for 2024-25 is estimated to be **875,000 kgs** for walleye and **90,000 kgs** for sauger. MSY fluctuates year to year and is based on annual stock assessments.

Sauger

A recovery of the sauger population is underway since the implementation of the change in minimum mesh size in 2016-17 (Figure 1). Sauger stock biomass is smaller than the size required to produce the maximum sustainable yield, but the stock is growing. Sauger growth rates are slower than average for the species across North America. This is more likely a result of intensive cropping of the stock due to overharvest, rather than from food limitation, because relative weights of sauger show no evidence of a lack of food. Fast-growing sauger are being removed from the stock through the commercial fishery.

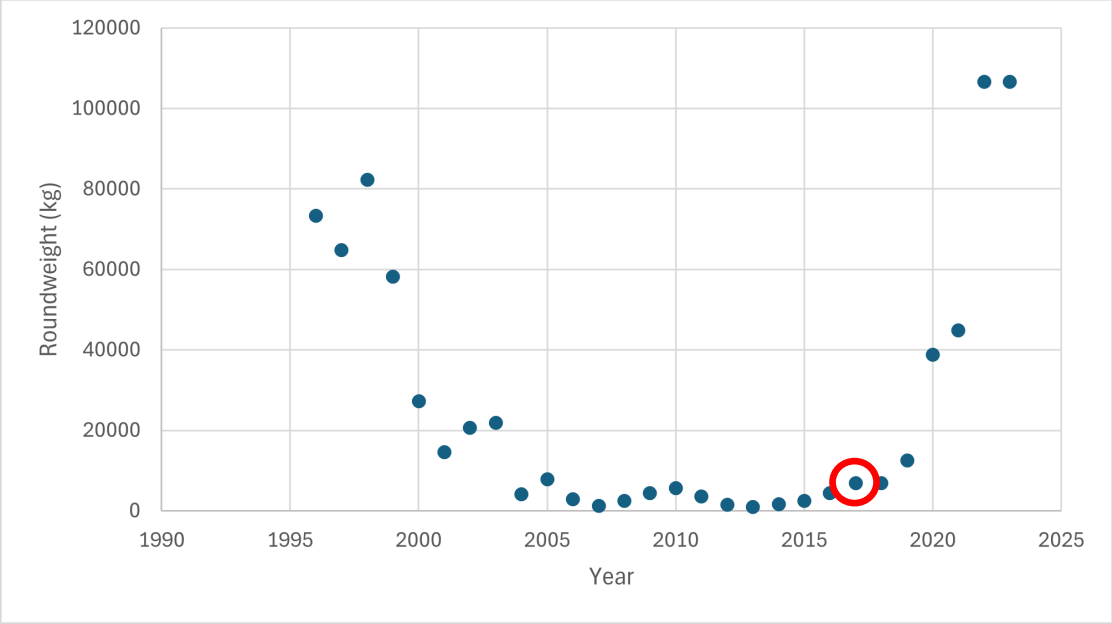

Figure 1. Time series of Lake Manitoba sauger commercial deliveries since 1996. Three-inch mesh was used up until 2017 (indicated by the red circle), where the minimum mesh size has been set at 3.75-inch stretched mesh.

Walleye

Walleye abundance is high, supporting an increase in commercial production in recent years. Lake Manitoba walleye have high growth rates and good body condition suggesting there is no food limitation; in fact, the average walleye from Lake Manitoba grows faster and gets fatter than an average Lake Winnipeg walleye. The maximum sustainable yield for walleye is currently estimated at **875,000 kgs**. The current estimated mortality rate for walleye is above the level that would produce maximum sustainable yields, meaning the walleye stock is not currently being managed to secure its highest long-term yields. Analysis of index netting data estimates the average walleye generation time is 9.64 years.

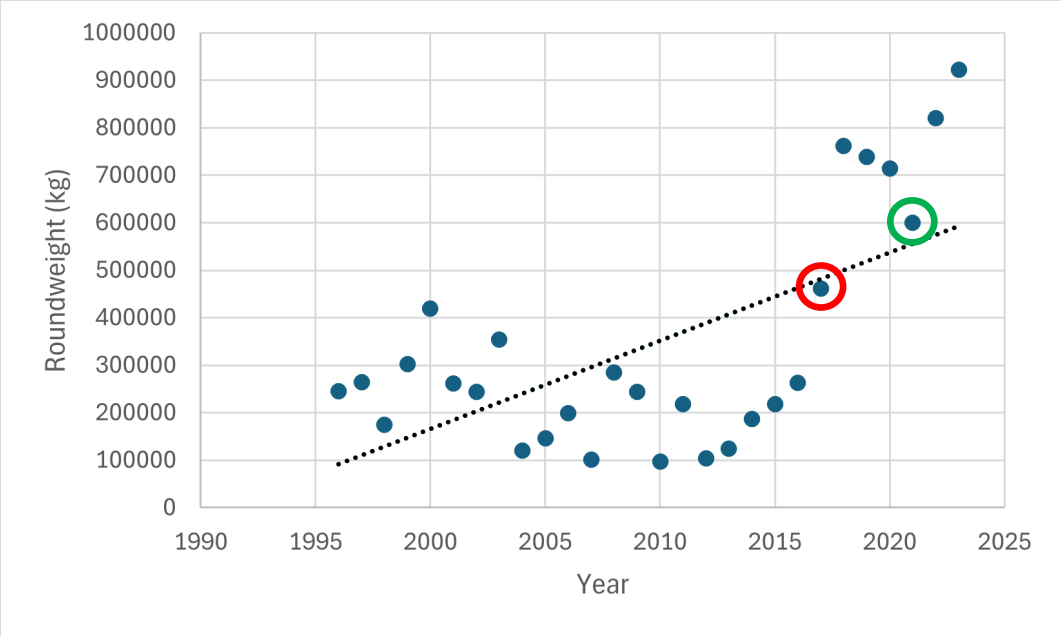

Figure 2. Time series of Lake Manitoba sauger commercial deliveries since 1996. Three-inch mesh was used up until 2017 (indicated by the red circle), where the minimum mesh size has been set at 3.75-inch stretched mesh. Harvest was restricted in the 2021-22 season due to the COVID-19 pandemic (indicated by the green circle). Trendline shows long term average in production.

Eco-Certification: Lake Manitoba Pre-Certification Assessment Report

Global demand for sustainably harvested fish products continues to grow. Fish buyers and markets continue to communicate the need for Manitoba commercial fisheries to make progress towards achieving sustainable fishing certification, as known as eco-certification, to maintain access to markets and prevent future market loss. In summer of 2024, the Manitoba government partnered with the Lake Manitoba Commercial Fisherman's Association to complete a pre-certification assessment of the Lake Manitoba walleye fishery. Ocean Outcomes, a third party organization, conducted an independent assessment of the Lake Manitoba walleye fishery against the Marine Stewardship Council's standards to achieve sustainable fishing certification. The fishery was assessed against Performance Indicators on Stock Status, Habitat Impacts, and Fisheries Management.

Currently, the Lake Manitoba walleye fishery would not achieve an unconditional or conditional pass against the Marine Stewardship Council standards.

Strengths of the walleye fishery are as follows:

- Limited habitat disturbance from commercial fishing gear.
- Enforcement mechanisms are in place.
- Manitoba Fisheries Branch and the Lake Manitoba Commercial Fishermen's Association are actively cooperating and working to improve stakeholder engagement.

Weaknesses of the walleye fishery are as follows:

- The lack of a sustainable fisheries management plan with fishery-specific management objectives, harvest strategies, and ecosystem strategies. Management of the fishery must be responsive to the status of the fish stocks.
- The impacts on bycatch species are not tracked or reported.
- Fishers are not required to fill out logbooks.

In order to successfully achieve eco-certification of the Lake Manitoba walleye fishery, the Manitoba government and the Lake Manitoba commercial fishing industry must work together to resolve these weaknesses in the fishery.

The Road Ahead

The regulations governing the modern Lake Manitoba fishery are a legacy of the fishery's evolution. A series of community meetings a decade ago made it clear that most fishers wanted the return of a vibrant, high-yielding walleye fishery and the recovery of the sauger fishery. The first step in achieving these goals was taken when commercial fishers ended small mesh fishing in 2016-17. The benefits of the change have been impressive.

The current regulation of the Lake Manitoba commercial fishery does not fit easily into the framework of eco-certification schemes required by today's marketplace. In particular, eco-certification requires that the fishery is managed in a way that is responsive to the status of the fish stock, meaning that harvest levels must be adjusted on an annual basis depending on how the fish stock is doing.

The completion of the pre-certification assessment was a positive first step in the process to achieve eco-certification. The next consideration is entering into a Fisheries Improvement Project to create an action plan to address the weaknesses identified in the pre-certification assessment report.

Eco-certification is an opportunity to modernize the Lake Manitoba fishery to create a better future for subsistence harvesters, commercial fishers and recreational anglers. The task ahead is to continue to build on the recent success of improved walleye stock and the recovering sauger stock. This will lead to enhanced cultural, social and economic benefits from the Lake Manitoba fishery for this and future generations.

For more information on the Lake Manitoba fishery, please visit www.manitobafisheries.com.

Available in alternative format upon request.

Please contact fish@gov.mb.ca or email commercialfishing@gov.mb.ca to inquire.