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Québec Walleye Management Plan 2016•2026

For a quality, sustainable fishery

ENSEMBLE  
on fait avancer le Québec

Québec 

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Ministère des Forêts, de la Faune et des Parcs

Legal Deposit

Bibliothèque et Archives nationales du Québec, 2017
ISBN : 978-2-550-79179-9 (PDF)

French version

Legal Deposit - Bibliothèque et Archives nationales du Québec, 2016
ISBN : 978 2-550-75532-6 (printed version)
ISBN : 978 2-550-75533-3 (PDF)

Québec Walleye Management Plan 2016-2026

Management plans allow us to evaluate the status of a species in Québec, allowing us to establish measures for improving its status and promoting client satisfaction and economic development.

The different steps of a management plan include:

- Determining the status of a species and its exploitation and, if necessary, establishing sustainable exploitation objectives;
- Determining the factors that explain the status of the species;
- Defining objectives, orientations and markers;
- Establishing methods for reaching population objectives and promoting client satisfaction;
- Consulting with clients and stakeholders;
- Implementing the management plan and regulatory changes;
- Measuring the effectiveness of the management plan's methods.

For walleye, a first management plan was adopted in 2011. The present document aims to assess the effectiveness of the management methods that were put in place, determine the level of satisfaction among fishermen and to update the new regulatory framework governing the walleye fishery for the whole of Québec. This process was coordinated by the Ministère des Forêts, de la Faune et des Parcs, in collaboration with the stakeholders involved in walleye management in Québec.

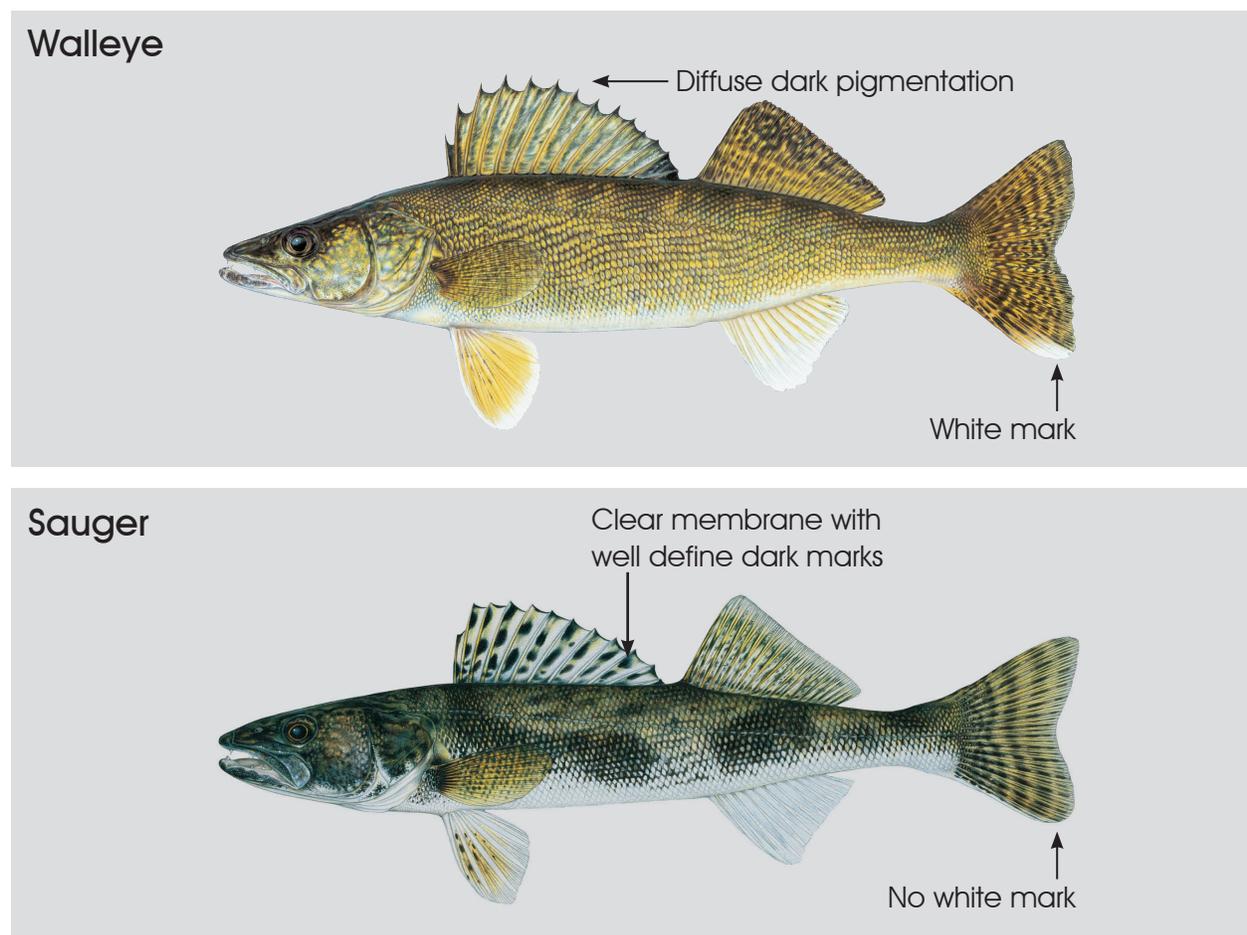
Walleye Distribution

In Québec, there are two species of walleye: Yellow walleye (*Sander vitreus*) and sauger (*Sander canadense*). These two species are distinguishable by their behaviour, range and preferred habitats. Both are similar in appearance, which means that many fishermen confuse them. Nonetheless, a number of distinguishing characteristics make it possible to easily recognize individuals of each species (see box below).

According to our current understanding, yellow walleye is found in at least 1,578 Québec lakes, representing a total range of just over 30,000 km². Sauger, on the other hand, is restricted to certain lakes in the Nord-du-Québec and Abitibi-Témiscamingue regions, the Ottawa River and the St. Lawrence River and its tributaries up to the estuarial freshwater boundary near the Île aux Grues archipelago.

Yellow walleye is more popular among fishermen, since individuals reach an attractive size even before reaching sexually mature. This contrasts with sauger, which remains small even at maturity. Consequently, many yellow walleyes are kept by the fishermen before they are able to reproduce for the first time.

Walleye and sauger : Learn to recognize it!



Ecology of the walleye

Food supply: Young walleyes consume zooplankton and benthic invertebrates while adults prefer fish.

Growth: In Québec, walleye grow slowly in cold water and quickly in warm water.

Reproduction: Spawning occurs in spring, especially at the mouths of rivers and sometimes in lakes, when the water temperature is between 5.6°C and 11.1°C. Females are mature when they have reached between 35 cm and 45 cm in length for yellow walleye, and at least 30 cm for sauger.

Habitat: Shallow, murky lakes, larger than 100 hectares, the freshwater section of the St. Lawrence River and its tributaries.

Limiting factors: Over-fishing, acidification of bodies of water, increased water clarity, increased presence of phosphorous, introduction of exotic species, diseases and pathogens.



Managing the Walleye Fishery

The goal when managing the Québec fishery is to maximize the social and economic benefits associated with the exploitation of wildlife while ensuring the conservation of animal species. Depending on the status of the resource, different forms of exploitation can be carried out according to a predetermined order of priority. This allocation of the resource first ensures the protection of the spawning stock, then allows for subsistence, ritual and social fishing, sport fishing, and finally, commercial fishing.

Subsistence, Ritual and Social Fishing

Food, ritual and social fishing for yellow walleye is very important to the First Nations peoples, particularly in the Abitibi-Témiscamingue, Lanaudière, Laurentides, Mauricie, Montérégie, Nord-du-Québec, Outaouais and Saguenay-Lac-Saint-Jean regions.

Sport fishing

According to the 2010 Survey of Recreational Fishing in Canada, 8 million yellow walleyes are caught annually, of which 4 million are retained, making it the second most caught species in Québec, after brook trout. Walleye fishing is largely practised in inland waters (85%) and accounts for one third of the recorded number of fishing days in Québec. Walleye fishing is a major regional economic driver, with an estimated annual economic impact of \$359 million.

Commercial Fishing

Commercial walleye fishing was formerly common on many large bodies of water and on the whole of the St. Lawrence River. However, this fishery was drastically reduced in the early 1970s as a result of mercury contamination, which violated fish product marketing standards. Since 1971, commercial walleye fishing is only authorized in the St. Lawrence River between the Pont Laviolette (near Trois-Rivières) and the eastern tip of Île d'Orléans. In 2014, 8 tons of yellow walleye and 3 tons of sauger were commercially harvested.

Walleye Population Status

For about twenty years, the Ministère des Forêts, de la Faune et des Parcs has been particularly concerned about the status of walleye populations. In 2009, a netting survey of 60 lakes containing walleye throughout Québec was established. These lakes are surveyed every six years to monitor population trends and assess the effectiveness of management measures. Since 1995, the Ministère has also benefited from a monitoring network that tracks fish population trends in the St. Lawrence River.

The implementation of the first Québec Walleye Management Plan in 2011 significantly changed the walleye fishery's profile. The regulations governing walleye exploitation were greatly modified by the introduction of size limits throughout every Québec fishing zone where walleye is found. The biological findings that lead to the management plan's implementation revealed that 30% of the lakes in southern Québec were considered to be over-fished and that the average mass of walleye had decreased by 30% in 20 years. In the St. Lawrence River, the situation was no better. Yellow walleye populations were considered "at risk" or "declining" in the majority of the areas surveyed. In contrast, sauger populations in the St. Lawrence were considered "healthy" over its entire range. Therefore, the focus was placed on yellow walleye.

The measures that were introduced in April of 2011 were intended to reduce the number of yellow walleye kept from sport and commercial fishing (only permitted in the St. Lawrence River below Trois-Rivières) to:

- Foster the reproductive potential of the species and ensure population renewal;
- Improve catch quality and provide a product that meets the expectations of fishermen.

Effectiveness of the Walleye Management Plan 2011-2016

Inland Waters

In Québec lakes, the walleye management plan's effectiveness can only be partially evaluated because a netting survey throughout Québec was only recently implemented (the first lakes in this netting survey were sampled in 2009). However, the data currently available reveals trends and allows qualitative assessment of the walleye management plan's effectiveness. The observed trends show an overall increase in the abundance of yellow walleye, while the average weight has decreased (Table 1). The decrease in average weight can be attributed to an increase in the abundance of small walleye, promoted by their release back into the water. The catch and release of large individuals also appears to have borne fruit as the abundance and average weight of mature females have increased (Table 1). A greater number of large, mature females results in an increased number of eggs produced that are, on average, larger. Larger eggs have a higher hatching and survival rates for fries than the smaller eggs produced by small females. In short, a larger number of large females means better breeding success for the species.

Table 1. Assessment of the biological response of yellow walleye populations according to regulatory method following the implementation of the first management plan.

Indicators	Inland waters*			St. Lawrence River
	Minimum length 32 cm	Between 32-47 cm	Between 37-53 cm	Between 37-53 cm
Fishing quality				
General abundance	↑	↑	↓	↑
Average weight	↑	↑	↓	↑
Reproductive potential				
Abundance of mature females	↓	Stable	↑	↑
Average weight of mature females	↑	↑	Stable	↑

* In inland waters, the effectiveness of the size limits can only be partially evaluated due to the recent establishment of a monitoring network throughout Québec.

The increase in signs of abundance and the average weight of mature females has an impact on the quality of the fishery. The increased proportion of yellow walleye longer than 38 cm, the lower North America threshold for considering a walleye a quality catch, demonstrates an improvement in the fishery's quality. Before the management plan was introduced, this indicator showed a steady decline, from 41% in 1985 to 29% in 2010. Forecasts suggested that if nothing were done to improve the quality of the walleye fishery, this indicator would continue to decline to 21% by 2020. Since size limits were imposed in 2011, this trend has completely been reversed. Thus, the current quality of the walleye fishery is better than it was in the 1990s. In inland waters, although the available data suggest a decline in abundance and average weight when there is a range of managed walleye sizes between 37 cm and

53 cm (Table 1), these trends should be interpreted with caution. To assess the effectiveness of this management measure, it is important to more closely examine the state of changes in the St. Lawrence River because of the greater accuracy of the data available.

St. Lawrence River

Due to a history of monitoring walleye populations and the smaller geographic span of the surveyed areas, changes in walleye populations in the St. Lawrence River are currently easier to quantify than in inland waters. The inventories show that implementing a range of managed sizes has allowed the walleye fishery quality and the spawning stock status to improve (Table 1). Indeed, for the majority of scientifically surveyed sectors, a trend toward increasing overall abundance, abundance of mature females and average size of the walleyes caught (Figure 1) has been observed. In Lac Saint-Louis, near Montréal, yellow walleye populations now offer a higher quality fishery than in the late 1990s. In Lac Saint-Pierre, in the Mauricie region, population recovery has been slower. A detailed analysis of the data reveals that the decline observed before the management plan was implemented has slowed down. The sauger population, however, is still considered healthy. Its abundance and average length have increased over the last decade.

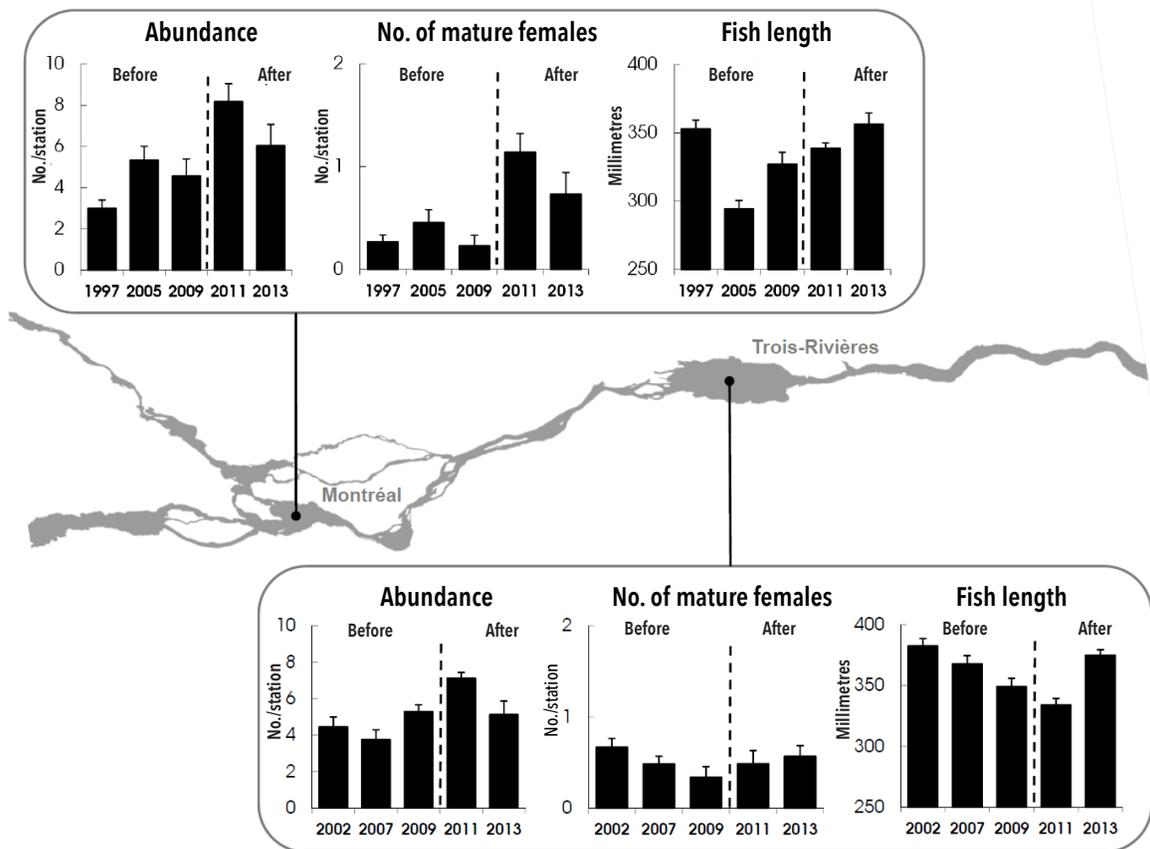


Figure 1. The change in yellow walleye populations in the St. Lawrence River following the implementation of the 2011 Management Plan.

Walleye Management Plan 2016-2026

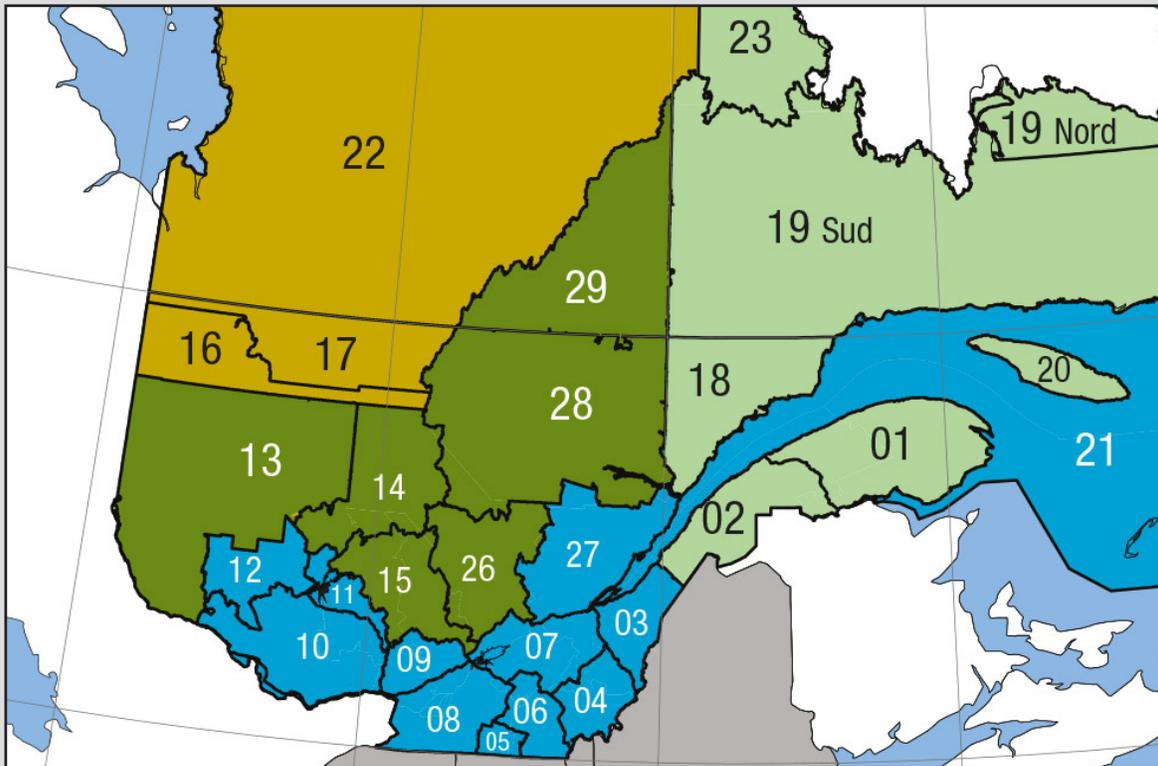
Although these results are very encouraging, as part of the management plan's renewal for 2016–2026, regulatory changes are needed to efficiently restore the fishing quality in certain areas and to standardize regulations (see box: New harvesting conditions for the Québec walleye fishery). These changes make minor modifications overall for Québec and replace the size limits for fishing zones 13, 16, 17 and 22. National and regional consultations held throughout 2015, allowed support to be obtained from partners who are directly affected by the new regulatory changes that will be in force from April 1, 2016, to March 31, 2026. Please note that exceptions may apply.

The main regulatory changes include:

1. **The 32 cm minimum size will be replaced by a range of managed sizes from 37 cm to 53 cm, with the possibility of keeping one walleye larger than 53 cm in northern Québec (zones 16, 17 and 22).** The objective is to set a size limit which allows the quality of the fishery to be preserved (trophy fish) to keep the North attractive to fishermen. When fishing pressure increases, large specimens disappear from bodies of water within a few years if no regulations protect them. With the current and anticipated developments in the area caused by the Plan Nord, brood stocks should be protected to maintain reproduction levels, which are naturally low due to the cold temperature.
2. **The 32 cm minimum size limit will be replaced by a range of managed sizes from 32 cm to 47 cm for the Abitibi-Témiscamingue region (zone 13).** Besides the Nord-du-Québec region, only the Abitibi Témiscamingue (zone 13) region had a general regulation with a minimum size of 32 cm for the 2011–2016 management plan. All of the other zones had a range of managed sizes. To make enforcing the regulations easier and to ensure consistency, the zone 13 size limit has been made consistent with the neighbouring zones, i.e. a range of managed sizes from 32 cm to 47 cm.
3. Certain regulatory exceptions will be abolished. For example, the 32 cm minimum size limit at the Gouin reservoir will be replaced by a range of managed sizes from 32 cm to 47 cm.
4. There is no size limit for sauger, as the populations of this species are healthy and offer a high-quality fishery.

New management regulations for the Québec wallaye fishery

These methods will be in force from April 1, 2016, to March 31, 2026; however, exceptions may apply.

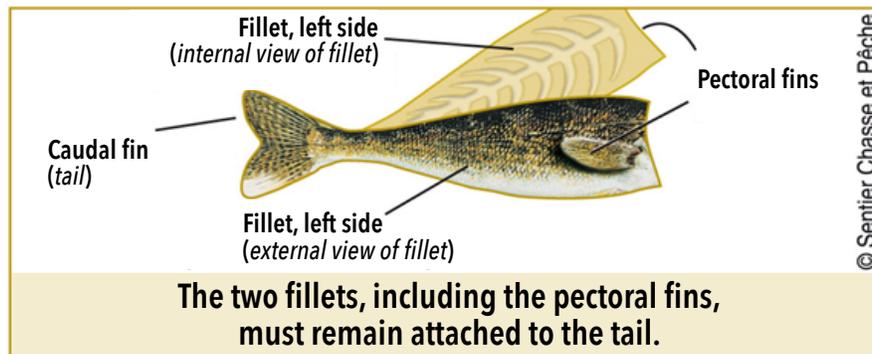


Fishing zones	Species	Permitted length (cm)	Transport
1, 2, 18, 19, 20, 23, 24	Neither		
13, 14, 15, 26, 28, 29	Walleye	32 to 47 cm	Complete fish or wallet fillet
	Sauger	No length restriction	
3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 21, 27	Walleye	37 to 53 cm	Complete fish or wallet fillet
	Sauger	No length restriction	
16, 17, 22	Walleye	37 to 53 cm	Complete fish or wallet fillet
	Sauger	A fish longer than 53 cm may be kept No length restriction	

Transporting Walleye

To help wildlife protection officers enforce the new regulations, fishermen must transport their catch either whole or as wallet fillet to allow officers to identify the walleye species and determine the total length of individuals. A survey of clients indicated that 70% of fishermen were satisfied with this method of transportation.

A short video demonstrating how to cut fish into wallet fillet is available on the Ministère's Website at: www.mffp.gouv.qc.ca/faune/peche/plan-gestion-dore.jsp.



Conclusion

After a few years, the first walleye management plan for 2011–2016 has allowed the quality of the fishery and the status of this species to significantly improve. The management procedures retained as part of the walleye management plan's renewal for 2016–2026, will help to maintain these gains and continue improving the quality of the walleye fishery throughout Québec. To ensure continuous monitoring of the population's status, the Ministère will continue its netting survey in both inland waters and the St. Lawrence River over the coming years. This will help ensure the conservation and development of walleye populations for years to come.



Photo : MFP

For more information on the regulation of the sport fishery in Québec:
mffp.gouv.qc.ca/english/publications/online/wildlife/fishing-regulations/index.asp

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W28-02A-1708