



State of the Lake: Walleye

Moira Lake: Rebuilding a Great Walleye Lake.

Many long-time anglers have reported a noticeable decrease in the number of walleyes caught during the fishing season. Anglers recall that walleye were once abundant and easy to catch, but in recent years, their numbers have significantly diminished.

Walleye

Walleye are freshwater fish that are a part of the perch family.

They are a very popular game fish and also a favorite for the dining table. Walleye are long and thin and have a golden and olive coloring with white bellies.

One predominant feature of the walleye is the eyes, which have a silver eyeshine called the *tapetum lucidum*. This eyeshine greatly aids the walleyes when feeding in low-light conditions.

Walleye can live for decades, with the oldest recorded fish being 29 years old.

Many thanks to the MNR and Watersheds Canada for much of this material.

The MLPOA completed an analysis of the walleye population for Moira Lake.

The analysis is based on the data provided by the Ministry of Natural Resources (MNR) for the years 2010, 2016 and 2022. The report was presented to the MNR in February 2025, and although the MNR declined to re-stock the walleye population (for scientific reasons), they did agree that rebuilding the walleye spawning beds was a good idea.

What the Data Shows

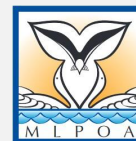
- A 76% decrease in walleye sample sizes between 2010 and 2022.
- A sharp decline in younger fish, indicating poor recruitment into the population.
- An aging population increasingly dominated by older fish.
- Additional stress from habitat degradation, invasive species, overfishing, and climate change.
- The fish community is changing, with increased dominance of non-walleye species, further complicating walleye recovery.

Why This Matters

Walleye are a key apex predator species in Moira Lake and play an important role in maintaining a balanced aquatic ecosystem. Their decline affects biodiversity and weakens the lake's ability to support healthy fish populations overall.

“As a 35-year resident of Moira Lake, I have spent countless hours fishing the mighty Moira, ... Over the past decade or so, it seems that the once so easy to catch walleye and bass, now take a lot more effort, and those lucky ones that you do catch, do not compare to the size that they once were” Brad McNevin, Lake Resident.





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Why This Matters (cont.)

The loss also impacts recreational fishing and the local economy that depends on it. Moira Lake is a vital economic resource, supporting a significant recreational fishing industry that draws anglers and tourists, contributing an estimated \$1.7 million per year to the local economy.



Spawning Walleye: Source: Bill Lidner

Action We're Taking: Rebuilding the Spawning Beds

Working with Watersheds Canada, the MLPOA is taking science-based action to restore historic walleye spawning habitat in Moira Lake.

What we are doing

- Cleaning existing beds of accumulated silt, algae, and mussels
- Adding clean, appropriately sized river rock to rebuild gravel-cobble spawning beds
- Assessing upstream sediment sources that contribute to habitat degradation

This approach has been successfully implemented in lakes such as Baptiste, Big Clear, Sharbot, Long, and White Lakes.

Project timeline

- Feasibility and site assessment: August 2025
- Permitting & design: Winter 2026
- Construction (rock placement and bed restoration): Late summer / early fall 2026
- Monitoring: Spring 2026 and ongoing

Why This Matters to Moira Lake

- Supports healthier walleye populations.
- Strengthens biodiversity and ecosystem balance.
- Improves recreational fishing and tourism.
- Helps stabilize forage fish populations.

Restoring these spawning beds is one of the most impactful actions the community can take to reverse the documented decline.

The detailed report & more information on the Walleye Spawning Beds project is available at: <https://www.moiralake.org/what-are-we-doing>