



Industry Overview

| | |
|---|--|
| Major Species | Rainbow Trout |
| Minor | Arctic Char, Coho Salmon |
| Other (stocking, fee-fishing, stock rehabilitation, education/research) | Atlantic Salmon, Brown Trout, Lake Whitefish, Smallmouth Bass, Walleye |
| Total Rainbow Trout Produced | 5058.6 tonnes |
| Farm-gate Value of Rainbow Trout | \$28.63 million |
| Total Other Fish Production | 12.4 tonnes |
| Farm-Gate Value Other Fish | \$77,749 |
| Value of Eggs, Fry and Fingerlings | \$8.13 million |
| Total Value of Farmed Species | \$36.84 million |
| Job Creation | 140 person-years direct; 150 person-years indirect |

Overview

Aquaculture plays a crucial role in Ontario’s economy. To assess the current state of aquaculture production, an electronic survey was conducted involving all fish farms and aquaculture license holders who provided an email address with their application. This group included 93 entities, ranging from commercial fish farms to research centres and community hatcheries.

Survey

The survey targeted diverse operations, reflecting the broad spectrum of aquaculture in Ontario. Key participants included:

- **Community Hatcheries:** 25 hatcheries were surveyed, with five (5) responses. These programs contribute to biodiversity and stock rehabilitation but are challenging to quantify in terms of production and economic value.
- **Commercial Fish Farms:** All 18 registered commercial fish farms provided a response to the survey. These farms are the backbone of Ontario’s aquaculture industry, particularly in the production of rainbow trout.
- **Pond Sales:** No responses were received from the 20 entities focused on pond sales.
- **Other Uses:** The remaining 29 operations include personal use, fee-for-fishing, classroom activities, and research. The operations producing fish for personal use were not included in this analysis.

Major Species Production

- **Rainbow Trout:** Rainbow trout remains the dominant species produced in Ontario, with a total production of 5,059 tonnes, valued at \$28.6 million. Most of this production occurs in lake-based, net-pen systems in Georgian Bay and Lake Huron.
- **Arctic Char and Coho Salmon:** These species accounted for a combined 12.4 tonnes of production, valued at \$78,000.
- **Eggs, Fry and Fingerlings:** These products represent \$8.13 million in the Ontario industry and are essential as the starting point for fish farming. This income supports hatcheries and breeding facilities, enabling them to invest in research, development, and improved breeding techniques, which in turn benefit the broader industry.

Changes from 2022

While aquaculture production in 2023 has not yet rebounded to pre-pandemic levels, there has been notable growth compared to 2022. Rainbow trout production increased by 33.5% from the previous year, rising from 3,790 tonnes in 2022 to a significant total in 2023 (Moccia and Burke 2023). However, the total production of other fish species, primarily Arctic char and coho salmon, remains low. This category experienced a dramatic decline, dropping from 268 tonnes in 2022 to just 12.4 tonnes in 2023—a 95% decrease. This decline is largely attributed to the closure of several recirculating aquaculture systems (RAS) in Ontario, which had previously produced locally grown tilapia, barramundi, and shrimp.

Industry Challenges

The 2023 production year was expected to be a recovery year following the disruptions caused by the COVID-19 pandemic. However, the industry faced several hurdles:

- *Market Instability:* High food inflation has led some consumers to leave fish on grocery store shelves, as it remains less familiar and is often perceived as a specialty or premium option compared to more common meal choices like beef, pork or chicken. This reduction in demand has further strained farmers who are already facing challenges with production costs.
- *High Input Costs:* Farmers have reported rising costs for inputs, particularly fish feed, which has become more expensive due to the high cost of fish meal. This increase in feed prices adds to the overall cost of production, making it difficult for farmers to maintain profitability.
- *Interest Rates on Loans:* High interest rates have negatively impacted farmers who rely on loans to finance their operations. The increased cost of borrowing has added financial pressure, limiting the ability of farmers to invest in their operations or expand production.
- *Supply Chain Issues:* Lingering effects of the pandemic continued to impact the supply chain, disrupting both production and distribution.
- *Fish Pathogens:* A novel fish pathogen outbreak that began causing problems in 2021 has continued to cause substantial losses across various farms, exacerbating the decline in production.
- *RAS Farm Closures:* The closure of RAS farms, due to either difficulties in importing seed stock or high operational costs, further contributed to reduced production.
- *Regulatory Hurdles:* A new RAS farm development was stalled when the chosen species was deemed not permissible in Ontario.
- *Delayed Expansion:* The expansion of trout production into Lake Superior was also delayed, limiting growth opportunities.

Employment Impact

The Ontario aquaculture industry is estimated to have generated:

- **Direct Employment:** 140 person-years of on-farm employment, including 118 person-years of full-time jobs and 22 person-years of part-time jobs.
- **Indirect Employment:** An additional 150 person-years of indirect employment, reflecting jobs created in related industries such as feed suppliers, transportation, and equipment maintenance.

Economic Contribution

The total farm-gate sales of Ontario aquaculture amounted to \$36.84 million. This includes \$7.2 million in egg, fry, and fingerling sales. In addition, farm-gate revenues from small-scale operations are estimated at \$1.5 to \$2.0 million annually (Moccia and Burke 2023). The overall economic contribution of the aquaculture industry extends beyond these figures, as the industry also supports recreational and aquaria trade, with indirect economic benefits previously estimated to be \$98 million dollars/year (Moccia and Burke 2023).

Future Prospects

Despite the challenges faced in 2023, the Ontario aquaculture industry continues to innovate and adapt. Consumer demand for locally grown products remains strong, particularly for species like coho salmon and Arctic char. Additionally, collaborative efforts are underway to develop lake whitefish as a commercially viable species in Ontario, involving partnerships between Indigenous communities, government, research institutions, and the private sector. Some commercial farmers, both indigenous and land-based RAS, have expressed interest in expanding production with lake whitefish.

While some farmers are seeking to maintain production, others have reported they are adding more rearing space, including open-water net pens, gravel pits, and land-based tanks, to increase production capacity.

A recent market research analysis reveals the potential for the industry to triple production in the next five years. In line with this potential, a growth plan has been completed by the Ontario Aquaculture Association (OAA) to sustainably expand the sector into the future.

Moreover, ongoing research in the province is exploring alternative feed ingredients, novel species, and enhanced monitoring and management of net pen aquaculture, all of which will contribute to the sustainable growth of the industry.

The Ontario aquaculture industry is resilient, and with continued support and innovation, it is poised to overcome current challenges and expand in the coming years.

Reference

Moccia, R., Burke, M. 2023. [AQUASTATS](#). Ontario Aquacultural Production in 2022.