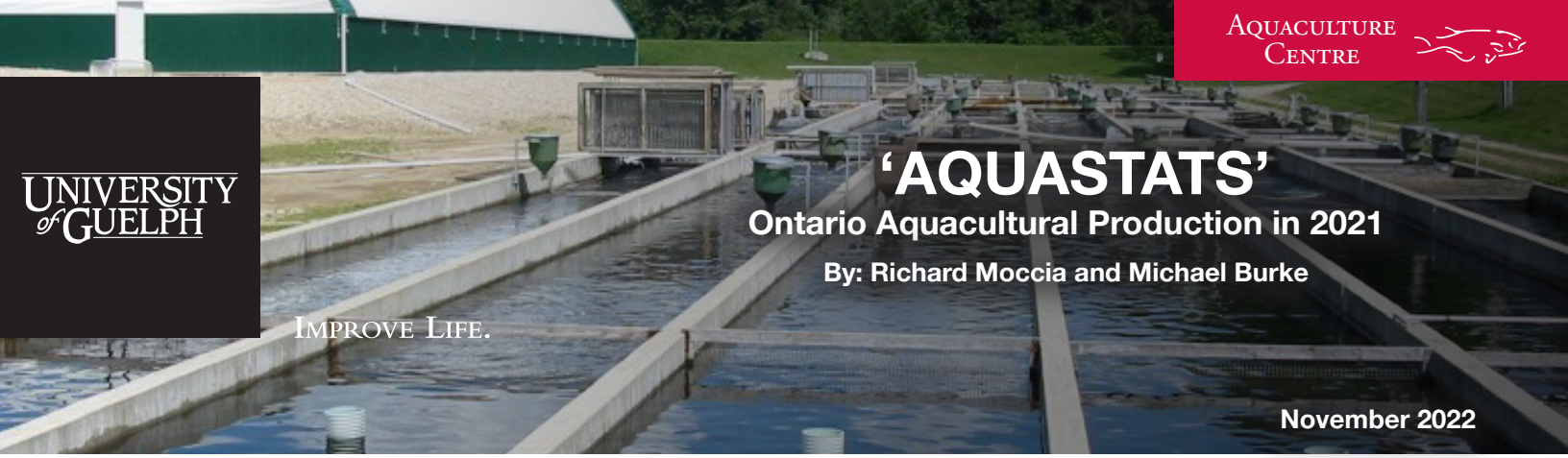

Aquaculture Centre

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'AQUASTATS'

Ontario Aquacultural Production in 2021

By: Richard Moccia and Michael Burke

November 2022

INDUSTRY SNAPSHOT 2021	
Major Species Produced	rainbow trout
Minor Species Produced	Arctic charr, tilapia, barramundi
Other Species Produced (for stocking, fee-fishing, stock rehabilitation and aquaponics)	salmon (Atlantic, coho and chinook), brook trout, brown trout, bass (smallmouth and largemouth), lake whitefish, sunfish (crappie, bluegill and pumpkinseed), cyprinid baitfish, lake sturgeon, walleye
Total Rainbow Trout Production	5,873 tonnes
Farm-gate Value of Rainbow Trout	$34.1 million
Total Other Fish Production	242 tonnes
Farm-gate Value of Other Fish	$1.5 million
Value of Eggs, Fry and Fingerlings	$2.8 million
Total Value of Farmed Species	**$38.3 million**
Economic Contribution	$125 million
Job Creation	152 person-years direct 160 person-years indirect employment
Projected Production of Rainbow Trout	Approximately 6,460 tonnes in 2022

OVERVIEW

We estimate that in 2021, Ontario aquaculture facilities produced 6,115 tonnes of fish in total, primarily for human consumption (Figure 1). This is a 8.6% increase over the 5,629 tonnes produced in 2020. The majority of the production was in rainbow trout @ 5,873 tonnes, (12.9 million pounds), which was a 10.4% increase over the 5,318 tonnes produced in 2020. Lake-based, net-pen production of rainbow trout in Georgian Bay and Lake Huron continues to dominate all other land-based production systems, accounting for 98.6% of the total production (Figure 2). This production was generated from 10 net pen operations. In Ontario, land-based production of Arctic charr, tilapia, barramundi and coho salmon is limited to a few facilities in southern Ontario. Our records indicate that only three facilities cultured one or more of those species, with an estimated total production of 242 tonnes in 2021. More than 122 smaller-scale facilities produce trout (rainbow, brook and brown trout), Atlantic and Pacific salmon, lake sturgeon, bass, walleye, sunfish, crappie, baitfish and other fish species primarily directed towards pond stocking, sports-fishing and restoration/ or rehabilitation efforts. These operations provide an important diversity to the Ontario aquacul-ture industry, although quantifiable information to measure production and economic value has been limited, and difficult to collect. Surveys were sent to 122 smaller-scale farms, as well as an additional 25 larger-scale facilities that were estimated to have the most significant aquaculture production. All 147 farms surveyed held valid cultured fish licenses in Ontario. We had a survey response rate of 52% of the larger facilities which captured production data representing approximately 98% of Ontario's total output.

The total farm-gate value of the 5,873 tonnes of rainbow trout produced is estimated to be $34.1 million, with an average price of $2.75/lb ($6.06/kg). This is a notable increase over the 2020 average price of $2.55/lb ($5.62/kg). The sale of eggs, fry and fingerlings that support rainbow trout production is valued at an additional $2.8 million. Other fish, primarily Arctic charr, tilapia and barramundi, are estimated to add an additional $1.5 million in farm-gate revenues. More than 120 of these private sector facilities were also involved with pond stocking, stock rehabilitation and fee fishing, typically with walleye, rainbow trout, brook trout and/or bass species. The value of this aquaculture sector is conservatively estimated to be at least $1.5 million annually in farm-gate revenues.

The Ontario aquaculture industry is estimated to have generated a total of 152 person-years of direct, on-farm employment, consisting of 107 person-years of full-time employment (40 hours/ week for 12 months) and 45 person years of part-time employment. Indirect employment is conservatively calculated at an additional 160 person-years. In total, the annual contribution that aquaculture makes to the Ontario economy is estimated to exceed $125 million, with additional and significant economic value realized via the recreational and aquaria trade.

Figure 1. Ontario aquaculture production between 1988 and 2021.

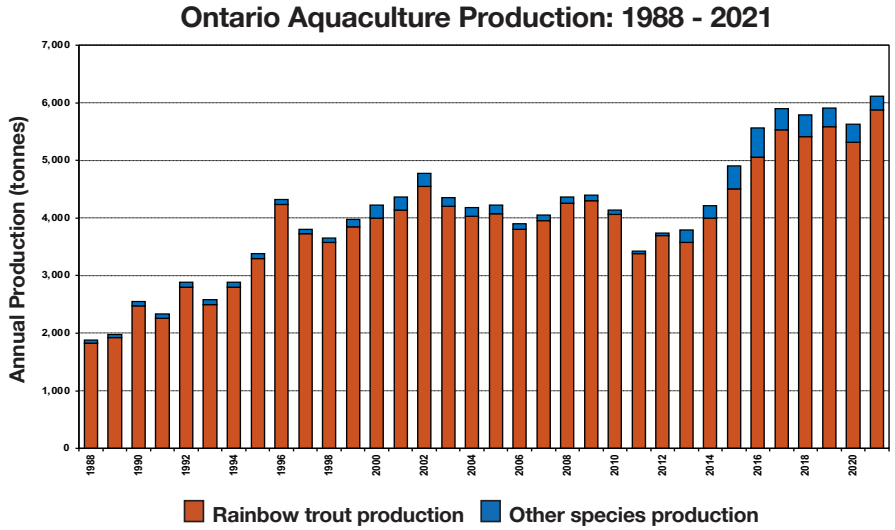
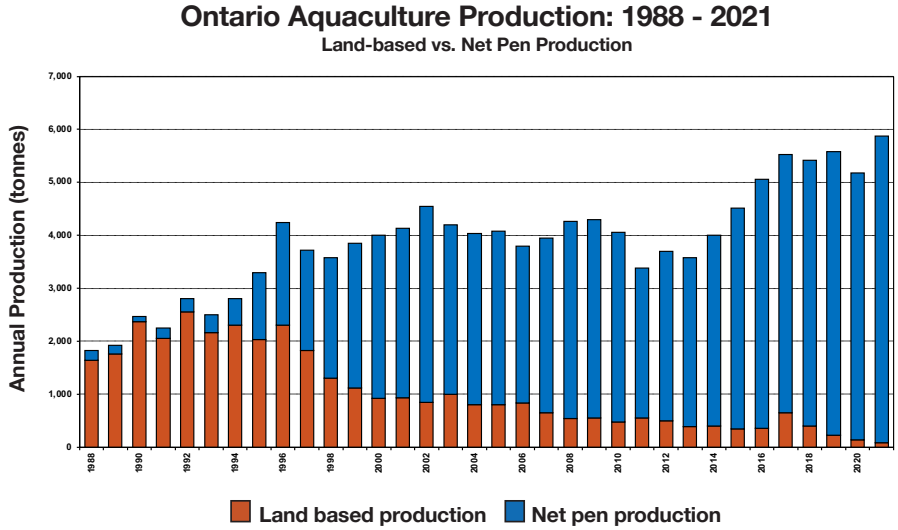


Figure 2. Land-based vs. net pen production in Ontario between 1988 and 2021.



SITUATION OUTLOOK

In the year 2021 and into 2022, it continued to be a roller coaster period for Ontario aquaculture. COVID impacts continued, global economies were in turmoil due to COVID recovery and the war in Ukraine, inflationary increases raised costs for everything from gas, diesel, electricity, feed, labour, insurance, and maintenance and repairs, and all were exacerbated by ongoing supply chain issues. Prices for farmed trout jumped in response, with some significant recovery in production output from the losses experienced in 2020. We are however, still behind in our predictions for growth and well below Ontario's potential for the sector. There were a couple of notable farm closures due to the combined impacts of higher production costs and the growing challenges in the retail marketplace, and this led to eliminating much of the production in some of the alternate species like tilapia, barramundi and shrimp. There was also little activity in the aquaponics subsector, in contrast to considerable interest in the area in previous years.

On a more positive note, early expansion of net pens into Lake Superior was underway, there was growing interest by several indigenous groups in whitefish culture, and the 'direct to consumer' sales pathways that newly emerged in 2020 were doing very well. There was still significant interest in expanding production in land-based recirculation facilities at both the smaller and large-scale levels, although it will be a long while before the production trend to net pens is reversed from the 30 year pattern seen in Figure 2. Of significance, Ontario aquaculture also celebrated achieving 4 star status in the Best Aquaculture Practices program, as well as introducing more transparency in water quality data at the public sites. Both real achievements. In 2021, we also saw the release of Canada's first ever code of practice for salmonid aquaculture, which in the longer-term will support improved fish health and social acceptability of fish farming.

In summary, the sector was highly volatile in 2021, but still with ample potential for significant growth and market penetration over the next 5 years.

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Earlier factsheets available at:
http://www.aps.uoguelph.ca/aquacentre/information/publications.php

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