

AQUASTATS - 1991

Ontario Aquacultural Production in 1991

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In 1991, the Ontario aquaculture industry produced 2,255 tonnes of Rainbow trout for human consumption, with a farm-gate value of nearly \$10 million. The industry generated some 300 person-years of direct employment, as well as a further 250 person-years of indirect employment. The total economic value of the industry is estimated to be in the order of \$40 million. The average wholesale price of trout in 1991 was \$4.39 per kilogram. The industry expects to expand annual production to 2,750 tonnes in 1992.

INTRODUCTION

This factsheet summarizes data collected through an annual survey conducted by the Aquaculture Extension Centre at the University of Guelph, in consultation with federal and provincial government agencies and representatives of the private sector trout industry in Ontario¹. The information compliments our earlier reports on production statistics for Ontario². There is a significant production of non-food fish species in government culture facilities in Ontario, however, they are not included in our survey.

A total of 249 private fish production facilities were identified from Ontario Ministry of Natural Resources license records, as well as in-house data files. These farms consisted of 45 hatcheries, 134 production trout farms, 191 fee-fishing preserves and 11 bait-fish or other farms. Six fish farms in Ontario are dedicated hatcheries producing only seedstock - i.e. eggs, fry or fingerlings. Many of the 249 fish farms are diverse operations, and were cross-classified under more than one type of facility description.

Rainbow trout continues to dominate food-fish production in Ontario, although 25 private farms raise other species including: Brook trout, Large and Smallmouth bass, Arctic charr, Atlantic salmon, Brown trout, cyprinid bait-fish and Chinook salmon.

ANNUAL PRODUCTION

In 1991, Ontario fish farms produced at least 2,255 tonnes (4.97 million pounds) of rainbow trout for human consumption. This value was determined from a survey conducted between January and March, 1992 of the 249 known fish farms and fee-fishing operations. Survey questionnaires were returned by 61 respondents (24% response).

Complete data was reported by 44 production farms and 17 fee-fishing or other operations, in total accounting for 1,167 tonnes (2.57 million pounds) of the 1991 production output. In previous years, these same 61 farms accounted for 50.4%, 55.8% and 49.2% of the total industry production in 1988, 1989 and 1990, respectively (average value 51.77%). This historical data was used to help estimate total production for 1991 by assuming that these same farms again represented 51.77% of the current years production. Total output of market-sized rainbow trout in Ontario was therefore estimated to have been at least 2,255 tonnes in 1991.

In recent years there has been a trend towards producing rainbow trout larger than the traditional 12 ounce, single portion size. This is due to the fact that fillets are becoming the marketed product of choice, requiring a larger fish for processing. Consequently, the 1991 survey separated total production into three size ranges; 1) 10 to 16 ounces, 2) 1 to 2 pounds and, 3) over 2 pounds. The industry uses imperial units almost exclusively, and a conversion to metric size classes is currently regarded as unwarranted. In 1991, one third of the total production was in the traditional 12 ounce size class (Table I). This size class, as well as the 1 to 2 pound class are expected to decrease further in 1992, with fish exceeding two pounds increasing to 27% from the current 17% of total production.

Table I. Summary of trout production reported in the Ontario Aquaculture Survey - 1991.

Size Class - live weight	Actual Production 1991			Projected Production 1992		
	No. farms	tonnes	(%)	No. farms	tonnes	(%)
10 - 16 oz	30	386	(33)	25	436	(30)
1 - 2 lbs	26	579	(50)	22	608	(43)
over 2 lbs	12	202	(17)	11	384	(27)
TOTAL		1,167	(100)		1,428	(100)

Farms which reported data for 1991 and gave projections for 1992, suggest that collectively, their production will increase from 1,167 tonnes to 1,428 tonnes (22% increase) in 1992. Assuming that projections are accurate, and that these farms fairly represent the industry, total production of rainbow trout is expected to exceed 2,750 tonnes in 1992.

PRICE AND ECONOMIC VALUE

In 1991, the average farm-gate price of Ontario trout was \$4.39 per kg (\$1.99 per pound). The average prices for trout under 1 pound, 1 to 2 pounds and over 2 pounds were \$4.37, \$4.14 and \$5.16 per kilogram (\$1.98, \$1.88 and \$2.34 per pound), respectively. The price of fish under 1 pound has remained almost unchanged in comparison to the \$4.40 per kilogram reported for 1990. Using these figures, the total farm-gate value of the 2,255 tonnes produced in 1991 is estimated to be \$9.91 million.

In 1991, the industry generated a total of 283 person-years of on-farm employment. This consisted of 176 person-years of full-time employment (ie. 40 hours and over per week for 12 months of the year) and 107 person-years of employment as part-time labour (ie. all other employment schedules). Indirect employment generated off the farm is conservatively estimated at 250 person-years.

FUTURE DEVELOPMENTS

Total trout production in Ontario declined from 2,470 tonnes in 1990 to the current 2,255 tonnes in 1991. This 9% decrease was due to a variety of factors, but was primarily the result of a few larger farms suffering production problems, which significantly reduced their output. The Ontario industry is dominated by a few major producers. Nearly 30% of the total production in 1991 came from only four farms, and provincial performance is therefore sensitive to their output capacity. While several small to mid-sized farms (ie. 25 to 75 tonnes per year) showed very large increases in production, these were not sufficient to offset reductions at the larger farms. Nevertheless, present indications suggest that specific problems have been addressed, and the industry is sufficiently resilient to continue its growth and development.

Opportunities exist for exploiting certain alternate species for commercial food-fish culture. For example, Arctic charr seedstock have been distributed through technology transfer agreements between government

and industry, to several Ontario hatcheries. Subsequent broodstock development and increased availability of eggs to production farms, will at least permit pilot scale production of this species. Assuming that production challenges with Charr can be overcome, and that new markets will be developed, the industry should be able to expand and diversify over the next few years, reducing dependence on the highly competitive trout market. Significant numbers of market-sized Charr should be available in early 1994, hopefully in harmony with a well planned marketing approach.

Still, many experts believe that rainbow trout remain the strongest candidate for largescale industry exploitation in future. Trout production could expand several fold in Ontario, since there are, at least, no obvious technical constraints to this. Significant shifts in per capita consumption of seafood are expected in North America, and a well executed marketing strategy for trout could capture a sizable percentage of this increasing share of the animal protein food market. We have extensive trout culture skills in Ontario, and a well established research and service network which can assist continued growth. In addition, rainbow trout contain certain essential dietary fatty acids, and have many health benefits which have not been highlighted in promotional or advertising campaigns. All combined, the trout industry has, in our opinion, tremendous opportunity for profitable growth in the future, as does the Ontario aquaculture industry in general.

Finally, there is an immediate and serious need for re-evaluation of our provincial marketing, sales and promotional strategies. As well, certain legislative barriers to growth need to be removed if investor confidence is to improve. Further organization and cooperation within the private sector is also necessary to help better coordinate production and marketing efforts, and ensure Ontario's competitiveness in an aggressive, global business environment.

¹Department of Fisheries and Oceans, Ontario Ministry of Agriculture and Food, Ontario Ministry of the Environment, Ontario Ministry of Natural Resources, Ontario Aquaculture Research & Services Co-ordinating Committee, Ontario Aquaculture Association and the Ontario Trout Producers Co-operative Ltd.

²Moccia, R.D. and D.J. Bevan. 1988 Aquastats (FS89-113); 1989 Aquastats (FS91-007); 1990 Aquastats (FS91-050).