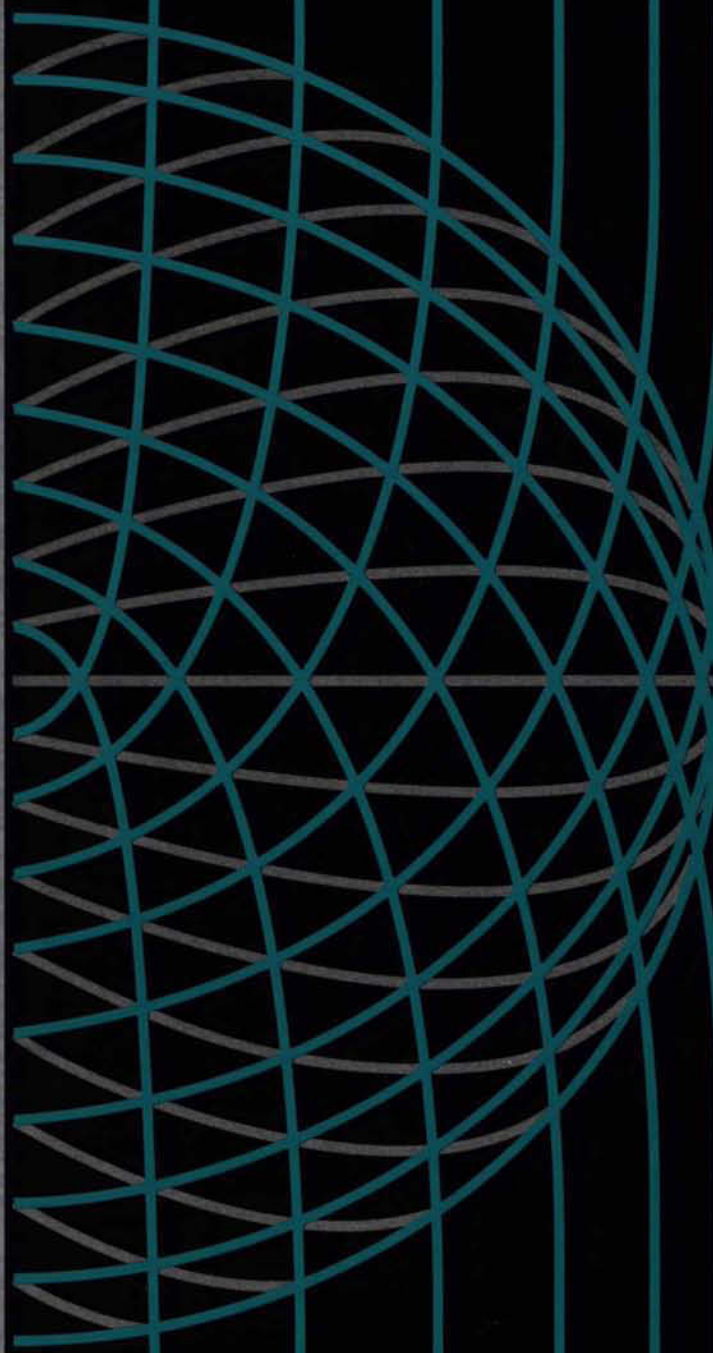


HD9505
.C3
I5
1990-91
S13 c.2

Seafood and Marine Products - Freshwater

IC



Industry, Science and
Technology Canada

Industrie, Sciences et
Technologie Canada

I
N
D
U
S
T
R
Y
P
R
O
F
I
L
E

Business Service Centres / International Trade Centres

Industry, Science and Technology Canada (ISTC) and External Affairs and International Trade Canada (EAITC) have established information centres in regional offices across the country to provide clients with a gateway into the complete range of ISTC and EAITC services, information products, programs and expertise in industry and trade matters. For additional information, contact one of the offices listed below:

Newfoundland

Atlantic Place
Suite 504, 215 Water Street
P.O. Box 8950
ST. JOHN'S, Newfoundland
A1B 3R9
Tel.: (709) 772-ISTC
Fax: (709) 772-5093

Prince Edward Island

Confederation Court Mall
National Bank Tower
Suite 400, 134 Kent Street
P.O. Box 1115
CHARLOTTETOWN
Prince Edward Island
C1A 7M8
Tel.: (902) 566-7400
Fax: (902) 566-7450

Nova Scotia

Central Guaranty Trust Tower
5th Floor, 1801 Hollis Street
P.O. Box 940, Station M
HALIFAX, Nova Scotia
B3J 2V9
Tel.: (902) 426-ISTC
Fax: (902) 426-2624

New Brunswick

Assumption Place
12th Floor, 770 Main Street
P.O. Box 1210
MONCTON, New Brunswick
E1C 8P9
Tel.: (506) 857-ISTC
Fax: (506) 851-2384

Quebec

Suite 3800
800 Tour de la Place Victoria
P.O. Box 247
MONTREAL, Quebec
H4Z 1E8
Tel.: (514) 283-8185
1-800-361-5367
Fax: (514) 283-3302

Ontario

Dominion Public Building
4th Floor, 1 Front Street West
TORONTO, Ontario
M5J 1A4
Tel.: (416) 973-ISTC
Fax: (416) 973-8714

Manitoba

Newport Centre
8th Floor, 330 Portage Avenue
P.O. Box 981
WINNIPEG, Manitoba
R3C 2V2
Tel.: (204) 983-ISTC
Fax: (204) 983-2187

Saskatchewan

S.J. Cohen Building
Suite 401, 119 - 4th Avenue South
SASKATOON, Saskatchewan
S7K 5X2
Tel.: (306) 975-4400
Fax: (306) 975-5334

Alberta

Canada Place
Suite 540, 9700 Jasper Avenue
EDMONTON, Alberta
T5J 4C3
Tel.: (403) 495-ISTC
Fax: (403) 495-4507

Suite 1100, 510 - 5th Street S.W.
CALGARY, Alberta
T2P 3S2
Tel.: (403) 292-4575
Fax: (403) 292-4578

British Columbia

Scotia Tower
Suite 900, 650 West Georgia Street
P.O. Box 11610
VANCOUVER, British Columbia
V6B 5H8
Tel.: (604) 666-0266
Fax: (604) 666-0277

ISTC Headquarters

C.D. Howe Building
1st Floor, East Tower
235 Queen Street
OTTAWA, Ontario
K1A 0H5
Tel.: (613) 952-ISTC
Fax: (613) 957-7942

EAITC Headquarters

InfoExport
Lester B. Pearson Building
125 Sussex Drive
OTTAWA, Ontario
K1A 0G2
Tel.: (613) 993-6435
1-800-267-8376
Fax: (613) 996-9709

Publication Inquiries

For individual copies of ISTC or EAITC publications, contact your nearest Business Service Centre or International Trade Centre. For more than one copy, please contact:

For Industry Profiles and other ISTC publications:

Communications Branch
Industry, Science and Technology Canada
235 Queen Street
OTTAWA, Ontario
K1A 0H5
Tel.: (613) 954-4500 or (613) 954-5716
Fax: (613) 954-4499

For EAITC publications:

InfoExport
Lester B. Pearson Building
125 Sussex Drive
OTTAWA, Ontario
K1A 0G2
Tel.: (613) 993-6435
1-800-267-8376
Fax: (613) 996-9709

Canada

1990-1991

SEAFOOD AND MARINE PRODUCTS — FRESHWATERINDUSTRY, SCIENCE AND
TECHNOLOGY CANADA
LIBRARY

OCT - 7 1993

BFGJ

BIBLIOTHÈQUE
INDUSTRIE, SCIENCES ET
TECHNOLOGIE CANADA**FOREWORD**

In a rapidly changing global trade environment, the international competitiveness of Canadian industry is the key to growth and prosperity. Promoting improved performance by Canadian firms in the global marketplace is a central element of the mandates of Industry, Science and Technology Canada and International Trade Canada. This Industry Profile is one of a series of papers in which Industry, Science and Technology Canada assesses, in a summary form, the current competitiveness of Canada's industrial sectors, taking into account technological, human resource and other critical factors. Industry, Science and Technology Canada and International Trade Canada assess the most recent changes in access to markets, including the implications of the Canada-U.S. Free Trade Agreement. Industry participants were consulted in the preparation of the profiles.

Ensuring that Canada remains prosperous over the next decade and into the next century is a challenge that affects us all. These profiles are intended to be informative and to serve as a basis for discussion of industrial prospects, strategic directions and the need for new approaches. This 1990-1991 series represents an updating and revision of the series published in 1988-1989. The Government will continue to update the series on a regular basis.



Michael H. Wilson
Minister of Industry, Science and Technology
and Minister for International Trade

Introduction

The Canadian seafood and marine products industry comprises firms engaged primarily in the processing and marketing of fish, shellfish and marine plants and animals as well as of by-products such as fish meal and fish oil. The industry may be divided geographically into east (Atlantic) coast, west (Pacific) coast and freshwater (inland) commercial fisheries. Establishments process fish taken by Canadian fish harvesters, produced by Canadian aquaculture (fish farming) operations or imported from foreign suppliers for further processing in Canada. Imported finished product is also marketed by the Canadian industry to complement its own product line.

Fish is perceived as being a healthful food. This perception is expected to sustain the increase in per-capita fish consumption since the late 1980s. Canadians in 1989 ate

an estimated 7 kilograms of fish, which is low relative to the 70 kilograms of red meat and 28 kilograms of poultry consumed per capita that year, but is approximately double the world average.¹

Canada, with the world's longest coastline and second-largest continental shelf, has important sovereign interests in three bordering oceans. In addition, some 7.5 percent of Canada's land surface is covered by fresh water, which represents 16 percent of the world's total surface area of fresh water.

The Canadian seafood and marine products industry is a major world exporter of such products. It provides hundreds of small communities with an important source of jobs and resources. The industry had a national output in 1990 worth about \$3.3 billion, less than 1 percent of the gross domestic product (GDP). However, the industry's economic importance in the regions where its activities are concentrated is much

¹Source: *Apparent Per Capita Food Consumption in Canada*, Parts I and II, Statistics Canada Catalogue Nos. 32-229 and 32-230, annual.

greater than this value suggests. In Newfoundland, where fishing and fishery processing provide the primary economic base for many communities, the industry accounts for 20 per cent of the gross provincial product (GPP). The fishery processing industries in both Prince Edward Island and Nova Scotia in 1989 accounted for 16 percent of the GPP, in New Brunswick 5 percent, in British Columbia 3 percent, and in Quebec less than 1 percent. In the Northwest Territories, the northern regions of the Prairie provinces and some communities in all the coastal provinces, the commercial fishery is one of the few, and often the principal, economic activities available to many people, including some members of the Aboriginal population.

This profile is one of six that describe the fishery processing industry:

- *Seafood and Marine Products — Overview*
- *Seafood and Marine Products — East Coast*
- *Seafood and Marine Products — West Coast*
- *Seafood and Marine Products — Freshwater*
- *Fish Meal and Fish Oil*
- *Aquaculture*

Structure and Performance

Structure

Although "seafood" refers to edible finfish and shellfish that come from the sea, the term also commonly embraces fish taken from rivers and lakes. Fresh water covers 750 000 square kilometres or 7.5 percent of Canada's land surface. The freshwater fish products industry consists of firms that harvest and process various fish species found in these waters. The resource is shared by three subsectors: the recreational, subsistence and commercial fisheries.

The largest user of the freshwater fish resource is the recreational subsector. Because it is not included as part of the fish processing industry in Statistics Canada's Standard Industrial Classification system,² data on this subsector are difficult to obtain.³ The recreational fishery nevertheless provides a significant economic base for the tourism and recreation industries (e.g., fishing lodges) and competes for a share of the resource upon which the commercial fishery also depends. For example, a mid-1980s survey⁴ indicates that 5.5 million

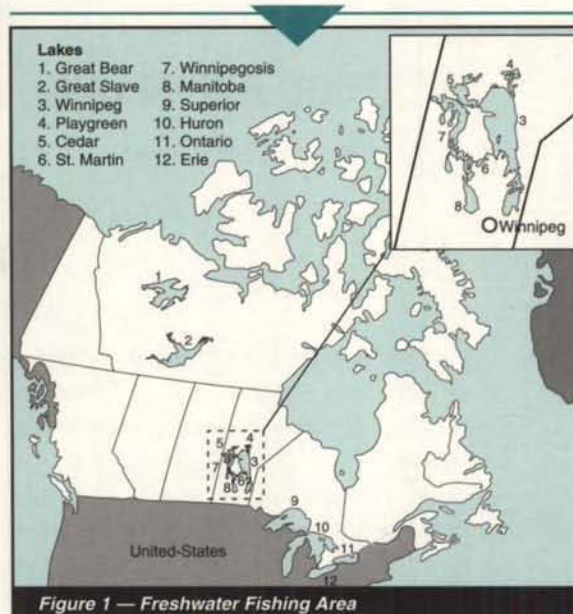


Figure 1 — Freshwater Fishing Area

Canadians and almost one million visitors annually spend an estimated \$4.4 billion on goods and services directly related to recreational or sport fishing. About 90 percent of all recreational fishing in Canada was directed toward freshwater species, the principal ones being northern pike, yellow pickerel (walleye), trout and bass. The quantity of fish caught annually by the recreational fishery is estimated to be about 125 000 tonnes, compared with commercial landings of about 50 000 tonnes of freshwater fish.

The subsistence fishery subsector is carried out principally among Aboriginal people. While subsistence fishing consumes a significant proportion of the resource it shares with the commercial fishery, the subsector is difficult to quantify because licences to participate are not generally required and the products are not recorded among commercial statistics. As guides or as operators of fishing lodges and supply stores, many Aboriginal people contribute to the infrastructure supporting the recreational or sport fishery. Other Aboriginal people also participate in the commercial fishery.

Commercial freshwater fishing is practised in most regions of Canada. Most of the activity is centred around the lower Great Lakes (lakes Erie, Huron and Ontario) in Ontario, and in the large lakes in southern Manitoba, including lakes Winnipeg, Playgreen, Cedar, St. Martin, Winnipegosis and Manitoba (Figure 1).

²For industry definitions, see *Standard Industrial Classification, 1980*, Statistics Canada Catalogue No. 12-501.

³Statistics provided in this profile are Industry, Science and Technology Canada (ISTC) estimates based on provincial or industry-supplied data.

⁴Department of Fisheries and Oceans, *1991-92 Estimates, Part III, Expenditure Plan*, Ottawa, 1991, page 29.



Some 78 percent of the freshwater tonnage and 85 percent of its value in 1990 were taken in Ontario and Manitoba (Table 1).

The freshwater commercial fishery is small relative to the Atlantic and Pacific coast fisheries. With landings of between 45 500 and 52 300 tonnes per year from 1985 to 1990, compared with just over 1.6 million tonnes for the marine fisheries in 1990, its importance to Canada lies in its economic importance to the regions of the country it serves and in the unique consumer appeal of some of its products.

The Great Lakes segment of the freshwater fishery is composed of private sector businesses that carry out harvesting and processing independently of each other. The number of commercial licences and the quotas are set by the Ontario Ministry of Natural Resources. Principal species in the Great Lakes are yellow pickerel and perch, which together accounted for 55 percent of the total value of the Canadian freshwater fishery in 1990 (Figure 2). Smelt, which make up between 35 and 40 percent of the tonnage of the Great Lakes portion of the freshwater fishery, are a lower-valued species and contributed about 5 percent of the value to the total freshwater fishery in 1990.

Harvesting and processing in most of the rest of the Canadian freshwater fishery are under the jurisdiction of a federal Crown corporation, the Freshwater Fish Marketing Corporation (FFMC). Established by Parliament in 1969, the FFMC is a single marketing organization representing many individuals who had previously tried to sell their product independently. Its jurisdiction extends over freshwater fishery areas in Manitoba, Saskatchewan, Alberta, the Northwest Territories and parts of northwestern Ontario, a vast, virtually

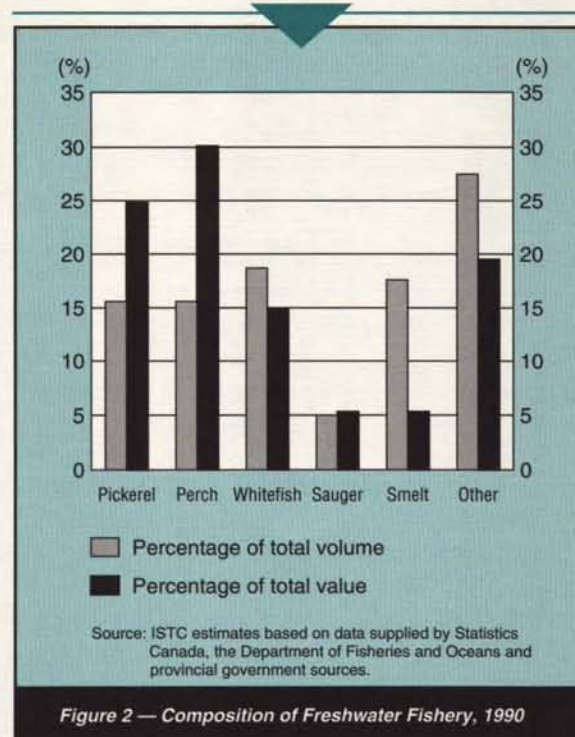


Figure 2 — Composition of Freshwater Fishery, 1990

uninhabited area. The FFMC was formed in response to low freshwater fish prices. The FFMC mandate gives it the exclusive right and responsibility to purchase all legally caught fish of 15 designated species commercially harvested within its territory (pickerel, whitefish and sauger are the principal species) and to market the fish interprovincially

Table 1 — Freshwater Fish Landing Volumes^a and Landed Values^b by province

Province	1985		1986		1987		1988		1989		1990	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Northwest Territories	1.3	1.5	1.5	1.4	1.5	2.3	1.7	2.8	1.9	2.7	1.8	2.0
Alberta	1.6	1.5	1.6	1.9	1.9	2.3	2.2	2.8	1.6	1.9	1.9	1.6
Saskatchewan	3.9	3.7	3.8	4.0	3.8	5.4	3.6	4.7	3.9	4.2	2.9	2.6
Manitoba	13.5	18.5	12.1	20.5	12.0	25.4	14.1	25.2	14.7	21.6	11.1	14.9
Ontario	26.3	31.9	24.4	46.4	27.8	48.3	27.7	54.7	25.6	48.1	25.0	42.4
Quebec	0.3	0.8	1.3	2.3	1.3	3.0	1.1	2.6	1.1	2.5	1.0	2.5 ^c
New Brunswick	1.2	0.5	0.8	0.4	1.1	0.5	1.9	1.0	2.4	1.7	2.4 ^c	1.7 ^c
Total	48.1	58.4	45.5	76.9	49.4	87.2	52.3	93.8	51.2	82.7	46.1^c	67.7^c

^aVolume is measured in thousands of tonnes.

^bValue is measured in millions of current dollars.

^cISTC estimates.

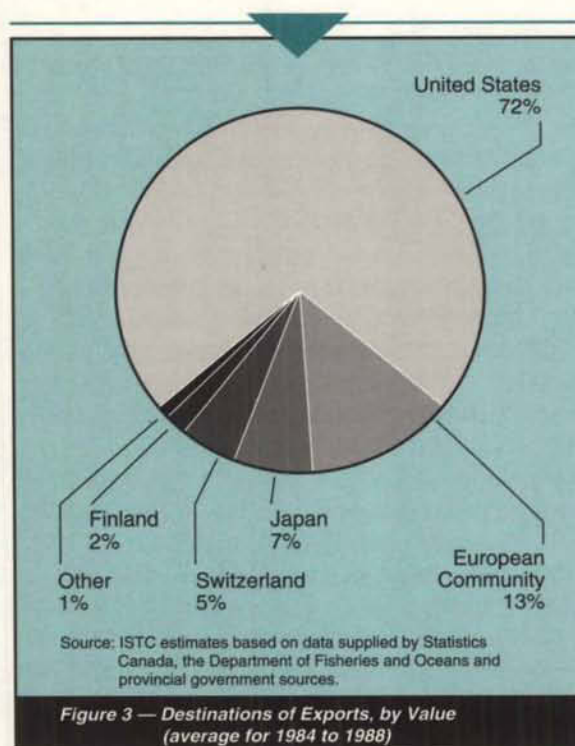
Source: Published and unpublished data supplied by Statistics Canada, the Department of Fisheries and Oceans and provincial government sources.

and internationally. In support of its mandate, the FFMC operates a large, modern fish processing plant in Winnipeg, Manitoba, and a smaller seasonal plant in La Ronge, Saskatchewan, as well as 80 lakeside fish-collection stations throughout its region. The FFMC serves about 4 000 fish harvesters and handles approximately 20 000 tonnes of fish annually.

Commercial freshwater fishing and processing are of lesser significance in Quebec and New Brunswick. In government statistics, salmon caught in New Brunswick rivers are considered part of the Atlantic coast fishery, not the freshwater fishery. Commercial harvesting and processing of freshwater species are virtually non-existent in the other Atlantic provinces and British Columbia.

Some 61 percent of the total Canadian landings of freshwater fish by volume in 1990 were exported (Table 2). The export value of those fish was \$102.8 million. From 1984 to 1988, about 72 percent of exports by value went to the United States, 13 percent to the European Community (EC), 7 percent to Japan, 5 percent to Switzerland, 2 percent to Finland, and 1 percent to other countries (Figure 3). Data on imports are not available.

The freshwater fishery generates about 8 400 harvesting jobs and about 1 000 processing jobs. Approximately 40 percent of all inland fish harvesters and plant workers are Aboriginal people. Processing occurs at about 203 plants, most of which are small packing operations. The industry is entirely Canadian-owned. The inland fishery in 1990 comprised 6 percent of total establishments and 4 percent of total employment of the fishery processing industry in Canada.



Performance

Yields of the freshwater fishery fluctuate annually according to changes in the stocks of each species (Table 3). When one species is scarce in a given year, fish harvesters will increase their landings of another. Also influencing performance are relative price changes between fish species on

Table 2 — Freshwater Fish Exports, Volumes^a and Values^b by Species

Species	1985		1986		1987		1988		1989		1990	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Pickereel	3.0	19.8	2.8	20.9	2.6	23.3	2.2	19.1	2.7	16.1	3.9	24.8
Perch	1.8	12.4	1.1	11.9	2.2	24.5	4.3	34.2	1.4	13.4	3.4	21.3
Whitefish	6.4	16.2	6.4	17.8	5.7	15.8	6.4	19.4	4.3	12.9	5.3	14.6
Sauger	0.8	5.8	0.7	5.2	0.6	5.1	0.9	7.9	0.8	5.6	0.4	3.0
Smelt	9.2	12.9	6.7	10.4	7.9	12.4	5.7	8.3	6.0	9.8	7.9	12.9
Pike	1.7	4.9	2.3	8.6	2.0	9.7	2.2	7.8	1.4	4.2	1.7	6.4
Other	3.9	8.2	3.7	9.5	7.5	15.3	4.2	16.2	2.2	6.9	5.4	19.8
Total	26.8	80.2	23.7	84.3	28.5	106.1	25.9	112.9	18.8	68.9	28.0	102.8

^aVolume is measured in thousands of tonnes.

^bValue is measured in millions of current dollars.

Source: ISTC estimates based on published and unpublished data supplied by Statistics Canada, the Department of Fisheries and Oceans and provincial government sources. The calculations for 1989 and 1990 are made on a different basis from those for earlier years, and hence are not strictly comparable with them.



international markets and shifts in consumer preferences. While the volume of freshwater fish landings rose by about 9 percent between 1985 and 1988, the landed value rose by nearly 61 percent. In 1990, however, freshwater fish landings fell to 4 percent below the 1985 level, while the landed value also declined, but remained 16 percent above the 1985 level. The largest average price increase during this period was for perch. The prices for the species exported have generally risen faster than those for the same species sold on the Canadian market.

Fishery activity also responds to longer-term cycles in climatic conditions such as water temperature, which may affect the food supply or the growth rate of the fish and fish stocks. For example, after several years of high yields, the Great Lakes segment is expected to enter a period of reduced harvest in the early 1990s because of natural climatic fluctuation.

Most products of the freshwater fishery are sold to consumers in frozen form. A system of seasonal price incentives to fish harvesters has helped the FFMC to balance supply with demand and to avoid devastating price fluctuations.

Strengths and Weaknesses

Structural Factors

In both segments of the freshwater fishery, many of the species that could be harvested are not generally well known nor accepted in either domestic or international markets. Moreover, the costs of transporting the product to market are too high for many components of the commercial fishery to be economically viable.

The Great Lakes segment operates within the normal parameters of private enterprise. Typically, a boat owner obtains a licence from the Ontario government to harvest one or more named species and hires a small crew to help in the harvest. The catch is then sold to a nearby processing firm that prepares the fish for marketing, either fresh or frozen. Activity in this segment is seasonal, with no harvesting and limited processing conducted between December and April. Many fish harvesters have little or no business or marketing experience.

Some problems facing the Great Lakes segment arise from the side effects of growing industrialization and increasing populations on lake shores adjacent to the major fishery areas. Run-off from these sources threatens the quality of the fish habitat. As a result, the eastern industry segment faces reductions in its total resource base.

Within the FFMC territory in Western Canada and Northern Ontario, on the other hand, almost as many fish harvesters work in winter as during the summer months. Nearly 40 percent of the area's total production is now delivered in winter. The distribution of the resource over a vast geographical area locates some harvesting operations as far as 3 000 kilometres from the FFMC's main processing plant in Winnipeg. The FFMC has overcome these difficulties by working with the fish harvesters to develop harvesting techniques and methods of transportation that minimize costs while protecting product quality. These twin objectives are achieved by establishing district buying stations and maintaining strong information links between diverse suppliers, the FFMC and key markets. The FFMC has also been able to centralize administrative control over the collection and processing of raw material

Table 3 — Freshwater Fish Landing Volumes^a and Landed Values,^b by Species

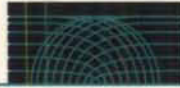
Species	1985		1986		1987		1988		1989		1990	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
Pickereel	7.5	18.6	7.6	24.7	7.0	28.6	8.2	28.3	8.5	19.8	7.2	16.8
Perch	5.0	11.4	6.1	23.4	6.2	20.7	7.7	25.8	8.6	27.2	7.2	20.4
Whitefish	9.3	9.3	9.2	9.6	9.0	12.1	9.7	14.2	9.4	13.2	8.6	10.1
Sauger	1.9	3.0	1.3	3.0	2.3	5.6	2.9	6.3	2.7	4.8	2.3	3.6
Smelt	11.2	3.1	8.1	3.0	11.6	4.2	9.3	3.5	7.4	2.8	8.1	3.6
Other ^c	13.2	13.0	13.2	13.2	13.3	16.0	14.5	15.7	14.6	14.9	12.7	13.2
Total	48.1	58.4	45.5	76.9	49.4	87.2	52.3	93.8	51.2	82.7	46.1	67.7

^aVolume is measured in thousands of tonnes.

^bValue is measured in millions of current dollars.

^cIncludes pike and white bass.

Source: ISTC estimates based on published and unpublished data supplied by Statistics Canada, the Department of Fisheries and Oceans and provincial government sources.



from a highly decentralized fishery covering an area spread over five million square kilometres. In addition, the FFMC is pursuing a marketing strategy that capitalizes on the remote, pristine nature of the fishery in Northern Canada.

Because the FFMC mandate includes centralized marketing of all product processed throughout the territory under its jurisdiction, it has systematically developed reliable export markets, principally in the United States. It has also taken the initiative to identify and pursue other markets, especially in Europe. Another potential avenue for market expansion would be to harvest fish that are not suitable for direct food use but that are otherwise valuable as a protein supplement for animal feed.

Market demand for the principal species has remained high throughout the 1980s, as have landed and processed prices. There seldom are surpluses of stock that could force a major reduction in market prices.

Trade-Related Factors

Freshwater species exported to the United States, Canada's largest market, enter tariff-free. The Canada-U.S. Free Trade Agreement (FTA), which was implemented on 1 January 1989, presents increased market potential for value-added products such as filleted and smoked fish. Tariffs set by other countries where Canadian freshwater fish are marketed are low and are not a serious impediment to trade. There is a possibility, however, that non-tariff barriers (NTBs) could increase in some markets, especially in the United States, where state boards are able to invoke their own inspection systems of fish imported from Canada.

Sales of freshwater fish are sensitive to the market pressures that affect other fish species. For example, the demand and world market prices for lake trout were depressed in 1989 and 1990 because of an oversupply of salmon on the world market. Fluctuations in currency exchange rates are also important price considerations in foreign markets.

On 12 August 1992, Canada, Mexico and the United States completed the negotiation of a North American Free Trade Agreement (NAFTA). The Agreement, when ratified by each country, will come into force on 1 January 1994. The NAFTA will phase out tariffs on virtually all Canadian exports to Mexico over 10 years, with a small number being eliminated over 15 years. The NAFTA will also eliminate most Mexican import licensing requirements and open up major government procurement opportunities in Mexico. It will also streamline customs procedures, and make them more certain and less subject to unilateral interpretation. Further, it will liberalize Mexico's investment policies, thus providing opportunities for Canadian investors.

Additional clauses in the NAFTA will liberalize trade in a number of areas including land transportation and other service sectors. The NAFTA is the first trade agreement to contain provisions for the protection of intellectual property rights. The NAFTA also clarifies North American content rules and obliges U.S. and Canadian energy regulators to avoid disruption of contractual arrangements. It improves the dispute settlement mechanisms contained in the FTA and reduces the scope for using standards as barriers to trade. The NAFTA extends Canada's duty drawback provisions for two years, beyond the elimination provided for in the FTA, to 1996 and then replaces duty drawback with a permanent duty refund system. Like the FTA, the NAFTA should have a moderately positive impact on trade in freshwater fish among the member countries.

Technological Factors

Techniques used in the inland fishery to harvest fish and maintain the product quality during transportation to central locations have effectively combined the lore of the Aboriginal fisheries in remote locations with the innovations of modern science and engineering, using cost-effective equipment. Canada's freshwater fishing and fish processing industries are as technologically sophisticated as their international competitors, and methods and technology are not significantly different from those used in the marine fisheries.

The FFMC plant in Winnipeg is one of the most modern fish processing facilities in the world. It uses technological innovation in its operation as well as in its administration to control overhead. Through the use of a state-of-the-art data processing system, the FFMC has been able to operate very efficiently and respond quickly to changes in market conditions and to resource fluctuations. In addition, the FFMC's implementation of improved winter harvesting technology has allowed fish harvesters to capitalize on market demand during the winter months when fish supplies are low and prices are high. The result has been increased incomes for FFMC fish suppliers. On the marketing side, although FFMC does not maintain a separate research and development department, it has developed a number of new products such as whitefish caviar. To broaden the use of its resource base, the FFMC has also developed markets for underutilized species such as mullet.

Other Factors

Water quality is an important consideration in any fishery. Fish can be harmed and their growth affected by water contaminants. In extreme cases, the fish may be considered unsafe for use as food. Although the likelihood of contaminants is perceived as being greater in inland waters than in



the ocean, Canada's freshwater fish are wholesome. This wholesomeness is ensured by one of the most rigorous fish inspection systems in the world. Fish from the Canadian North have a reputation for quality that is based on the purity of the water from which they are harvested. In regions where the risk of contamination has been perceived to be higher, such as the Great Lakes, Canadian public health officials follow a conservative inspection policy. At times, they have ordered the temporary closure of some fishery areas, even when no public health hazard is found. The inevitable result is at least a short-term loss of markets or market share. The diligence of industry quality-assurance personnel and government inspection services in their monitoring of product quality maintains both product reputation and public safety. It also heightens public awareness of the need for environmental protection in order to reduce the likelihood of contamination of the fishery resource.

In 1987, Canada and the United States updated the 1978 Great Lakes Water Quality Agreement to strengthen existing pollution controls and add new ones. This action reflected a renewed commitment by the two countries to "virtually eliminate" the flow of toxic substances into the Great Lakes basin. In addition to other ongoing programs, the Canadian government's Great Lakes Action Plan committed \$125 million over a five-year period designed to accelerate the clean-up of contaminated areas and prevent future pollution.

Each freshwater species has its own loyal core of consumers, especially in regional markets. Overall freshwater fish sales, however, respond to the same general economic conditions as marine fish and are sensitive to competition from other protein foods as well as from other fish. Therefore, as part of its overall marketing strategy, the FFMC is taking steps to avoid the negative publicity that could arise from public concern for environmental quality.

Evolving Environment

As consumers become increasingly price-conscious, the industry is responding in the short term by cutting costs where possible in order to reduce prices to wholesalers and retailers. Emphasis is on improving operational and organizational efficiency rather than on technological improvements involving extensive capital investment.

The federal government, through the Department of Fisheries and Oceans (DFO), has launched a policy initiative to promote the conservation, development and economic utilization of fishery resources at sustainable levels. Economic, environmental and scientific aspects of fishery management

are designed to stabilize incomes of workers whose livelihood depends on the fishery. Other initiatives, conducted through Industry, Science and Technology Canada (ISTC) and the International Trade Centres of External Affairs and International Trade Canada (EAITC), co-ordinate government and industry efforts to improve the long-run international competitiveness of the fish processing industry through market expansion as well as through development of technology and human resources.

Competitiveness Assessment

Although many freshwater species have distinct characteristics that have helped distributors establish niche markets of regular consumers in the retail and foodservices sectors, they do not have a large, clearly defined market. Suppliers of a particular species therefore compete with each other for a share of their particular niche market or with suppliers of other fish or other protein foods such as meat and poultry.

Canadian suppliers are maintaining a good competitive position. Although freshwater species comprise a very small part of the total world fish consumption, Canadian production levels are relatively high, and these products enjoy a favourable reputation for quality. Moreover, the marketing strategy of the FFMC and the major private sector suppliers has included aggressive promotions to gain new users in targeted markets whenever a strong harvest has threatened to result in excessive product supply. As a result of all these factors, supply and demand are generally kept in reasonable balance.

Certain Canadian products cannot compete in certain markets. Canadian rainbow trout, for example, cannot compete in the retail frozen pack market with the U.S. aquaculture product from such areas as Idaho. More favourable growing conditions in Idaho, including warmer water and a longer growing season, produce larger yields at lower production costs. However, in the fresh trout market, Canadian growers compete quite successfully in supplying hotels and restaurants in major Canadian and northern U.S. cities.

Competitiveness is also influenced by the availability of close substitutes. For example, lake trout is frequently purchased as an alternative to salmon. The price for one therefore closely tracks the other, with lake trout normally being priced just below salmon. However, even a substantial fall in the price of lake trout following the drop in salmon prices in 1988 and 1989 as a result of a worldwide salmon oversupply failed to prevent a fall in demand for lake trout, as consumers increased their salmon purchases. Salmon producers are now altering their marketing strategies to handle the new production levels, and lake trout marketers are adjusting



their strategies to the competition to maintain or increase market share.

Future competitive pressures on the Canadian freshwater fishery are likely to arise in the United States, where farmed (aquaculture) catfish and rainbow trout producers are expanding their market positions from a regional to a national scope. While the United States is likely to remain a net importer of freshwater fish, consumers are likely to be influenced by the price and the perceived value of Canadian freshwater fish relative to other species or to alternative food choices.

For further information concerning the subject matter contained in this profile or on the ISTC initiative listed on page 10, contact

Food Products Branch
Industry, Science and Technology Canada
Attention: Seafood and Marine Products — Freshwater
235 Queen Street
OTTAWA, Ontario
K1A 0H5
Tel.: (613) 941-4263
Fax: (613) 941-3776



MAJOR FIRM

Name	Country of ownership	Location of major plant
Freshwater Fish Marketing Corporation	Canada	Winnipeg, Manitoba

INDUSTRY ASSOCIATIONS

Canadian Association of Fish Exporters (CAFE)
Suite 602, 71 Bank Street
OTTAWA, Ontario
K1P 5N2
Tel.: (613) 232-6325
Fax: (613) 232-7697

Fisheries Council of Canada
Suite 806, 141 Laurier Avenue West
OTTAWA, Ontario
K1P 5J3
Tel.: (613) 238-7751
Fax: (613) 238-3542

Lake Erie Fish Packers and Processors Association
P.O. Box 153
ERIEAU, Ontario
N0P 1N0
Tel.: (519) 825-7120
Fax: (519) 825-3163

Ontario Fish Producers' Association
P.O. Box 2129
BLENHEIM, Ontario
N0P 1A0
Tel.: (519) 676-0488
Fax: (519) 676-0944



SECTORAL STUDIES AND INITIATIVES

For further information on the following initiative, contact Industry, Science and Technology Canada (see address on page 8).

Seafood and Marine Products Sector Campaign

In 1990, Industry, Science and Technology Canada (ISTC) launched a Seafood and Marine Products Sector Campaign. Sector campaigns are initiatives by ISTC conducted jointly with the private sector, other levels of government and other federal departments to improve the long-run international competitiveness of industry sectors. The Seafood and Marine Products Sector Campaign contains initiatives related to the development of markets, technology, aquaculture and human resources.

For copies of the studies and VHS videotapes prepared under this Campaign, contact

Food Products Branch
Industry, Science and Technology Canada
Attention: Seafood and Marine Products Directorate
235 Queen Street
OTTAWA, Ontario
K1A 0H5
Tel.: (613) 954-2926
Fax: (613) 941-3776

Printed on paper containing recycled fibres.

