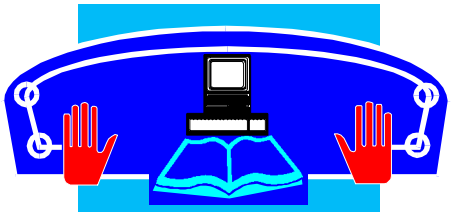

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FORWARD

Early in 1992 various commercial fishermen from Hay River made presentations to the Town Council of Hay River. These included requests for assistance, suggestions on actions which could be taken, and requests for support. Often these requests were conflicting in nature.

The Town Council of Hay River is very supportive of the commercial fishermen in this community and recognize the value of the commercial fishery to the economic well-being of Hay River.

In an effort to offer some concrete assistance to the fishermen, Council formed a Sub-Committee of Council to examen the issue jointly with the Economic Development Committee. These committees requested that information be put together which would explain the present circumstances of this industry and look for possible solutions and/or recommendation which might help.

This report is the first step in this effort.

INDEX

GLOSSARY OF TERMS

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Crew Hand

A crew hand is an individual hired by the self-employed fishermen. Crew hands may or may not require a commercial fishing licence, depending on the area of jurisdiction.

Delivery Point

A delivery point is a fish facility where fishermen sell their catches to the FFMC or agents of the FFMC.

Fiscal Year

A fiscal year refers to the period from May 1 through to April 30 of the subsequent year. There are two fishing seasons in a fiscal year. Thus, 1980-90 refers to the period May 1, 1989 to April 30, 1990. The summer season, which is the open water fishery, begins May 1 and ends October 30. The winter season is an ice fishery that begins when the lakes freeze, around November 1, and continues until spring thaw, usually about April 30.

Gillnetters

Gillneters are boats that range from 10 meters to 14 meters (38 to 50 feet). They generally have steel hulls, although some are made of aluminium or wood. These boats may have mechanical net-lifting equipment, refrigerated storage areas, and accommodations that permit operation in remote areas. These types of fishing enterprises usually have 2 to 3 hired crew members, in addition to the owner/operator.

Landed Quantity

The landed quantity is an estimate reflecting the weight of fish marketed to the FFMC by commercial fishermen. (Federal and provincial law requires fishermen to sell their catches, excluding sales made directly to final consumers, to the FFMC.) This estimate expresses the catch as if it were all harvested in one form, the live weight equivalent. Because fishermen actually sell fish in a variety of forms (round, gutted, and gutted with head off), conversion factors are used to determine the live weight equivalent.

Landed Value

The landed value represents the payments received by fishermen for fish sales to FFMC. The payments are generally recorded f.o.b. lakeside although in some cases, especially

in the north, payments are f.o.b. a central delivery point which may be some distance from the lake where fish" are harvested. Fishermen receive both initial and final payments for their catches, the final payment dependent on the FFMC's net earnings for the period. The landed values reported here include both the initial and final payments.

Marketed Value

The marketed value estimates the value of the year's catch as the product of the landed quantity of each species and the average market selling price for the year. Because the estimate neglects the carryover of inventory from year to year, it differs from the FFMC's statement of annual fish sales.

Nominal Dollars

Nominal dollars are the current dollar amounts paid or received at the time of harvest or sale. Nominal dollars are not adjusted for inflation.

Product Weights

Product weights are the actual weights of the final product sold. Fish are sold in a variety of products forms (round, dressed fillets, deboned blocks, etc.), and product weights should not be confused with the live equivalent weights.)

Self-Employed Fishermen

A self-employed fishermen is generally the owner/operator of the fishing business. All self-employed fishermen must be licensed for commercial fishing. Note that in the tables reporting the distribution of landed values the "rule of three" is used to protect the identities of fishermen who fall within an income interval that contains three or less fishermen. In such cases, the symbol ≤4 is used.

Skiff

The term skiff is used to describe all small open boats ranging in size from about 4 to 7 meters (14 to 24 feet). These are generally powered by either one or two outboard motors or inboard motors with stern drives. Canoes powered by outboard motors are also included as skiffs.

Snow Vehicles

The term snow vehicles is used to describe bombardiers, trucks, and other vehicles, except power toboggans, that are used to travel and fish on frozen lakes.

EXECUTIVE SUMMERY

This report is an attempt to distinguish the problems of the freshwater fishery in the Northwest Territories from those of the whole Canadian fishing industry and the whole freshwater fishing industry in particular, in the belief that it is only by clearly separating the real problems from the symptoms, that the road to solutions can be found.

The whole Canadian fisheries, although large, is a small player on the world stage, ranking sixteenth in terms of catch. It is not large enough to influence the world price of any kind of fish product. Even in its principal export market, the United States; to which it exports almost one and a half billion dollars worth yearly, it accounts for only 21% of total U.S. imports, which in turn accounts for slightly over half of the total consumption of fish in the United States.

The Canadian freshwater fisheries in turn produces only 5.7% (approximately 20,000 tonnes) of the Canadian total exports to the U.S. and produces only 39% of the total freshwater commercial landings of Canada and the United States combined

The Freshwater Fish Marketing Corporation (FFMC) in turns accounts for approximately 45% of the total freshwater fish exported by Canada, with almost all of the remaining 55% being exported from the Great Lakes fisheries. Neither the freshwater fishery or the Freshwater Fish Marketing Corporation can influence the price of freshwater fish products, either in Canada or in the export market.

The FFMC was created as a crown corporation in 1969, in an attempt to solve the many problems then occurring in the freshwater commercial fisheries of Western Canada. The Corporation was given a monopoly on all the inter-provincial and

export trade in freshwater fish harvested in the provinces of Manitoba, Saskatchewan, Alberta and the north-western portion of Ontario and the Northwest Territories. In return for this monopoly; it was obligated to accept all fish presented to it by commercial fishermen within the territory. Since its inception, the FFMC has been the subject of debate and has undergone four reviews, none of which recommended the replacement of the FFMC or the marketing of the harvest through other channels or methods.

The FFMC, by its above noted obligation, is a 'production' driven company, not a 'market' driven one. It has no power to accept only the type and species of fish the market is looking for, but must accept, and therefore, sell all of its production, regardless of the market. This results in the price it receives for its products becoming the deciding factor in both its net return and that of the harvesters.

The FFMC markets 15% to 17% of its volume domestically and exports the balance, principally to the United States. This is in line with the performance record of the whole Canadian fishing industry. But it does force this relatively small company to compete against both large American domestic suppliers and world class foreign companies for a share of the consumer market. It also subjects both its pricing of product and return on sales to fluctuations in the value of the Canadian dollar against the American dollar and fluctuations in the value of the American dollar against other world currencies.

While the harvesters of freshwater fish in Western Canada have a guaranteed sale for their catch; the return received is dictated by the above. This return has not kept up with inflation, nor their costs of operations. But the return received is not only a result of price alone; rather it is a combination of what species is caught, what percentage of the fisherman's total harvest it represents, and which season in which it was caught in, as well

as how much effort the fisherman puts in during a given season.

The Northwest Territory fisheries are dominated by the harvest of Whitefish, which account for approximately 75% of the total catch. Fluctuations in the price for any other species do not compensate for the relatively low value received for this one species as none of them account for a sufficiently large portion of the total catch.

The above findings have led to the conclusion that a number of actions can be taken to help improve the situation of all freshwater harvesters as well as those of the Northwest Territories. The majority of these have been suggested before in other inquiries and many of them are common to all the various fisheries in Canada, not just the freshwater fisheries or that of the N.W.T. Most are beyond the ability of any Canadian business on its own, including the FFMC, to implement on its own. Most are also beyond the ability of a provincial/territorial government on its own to implement.

Recommendations of this report are as follows:

The fishing industry is a part of the economy of virtually every province and territory of Canada. While it does not play a large part in the Gross Provincial Product on any province (0.210% for the N.W.T. in 1982/83) it is important to a large segment of the population in every province/territory and provides the economic backbone of many communities in every province.

This is a national problem and should be recognized as such.

It is recommended that the Government of the Northwest Territories consult with its counterparts in all the rest of Canada to develop a joint approach to the federal government.

It is further recommended that all start with the recommendations made by the Standing Senate Committee on Fisheries on all three fisheries and that those that are common to all fisheries be acted upon immediately.

For more immediate action, it is recommended that, in consultation with the Freshwater Fish Marketing Corporation; that the appropriate officials of the Department of External Affairs be consulted with and their officials be invited to become more familiar with the Corporation and the fisheries in the Western Region.

For more immediate action, it is also recommended that the Government of the Northwest Territories join with FFCM in attendance at the appropriate trade shows, as is done by most provincial governments, both to increase the presence at these shows and to use the uniqueness of the territories as an additional marketing tool.

It is also recommended that the Government of the Northwest Territories take immediate steps to initiate the Senate Committee's recommendation No. 9b and commence a stock enhancement program in Great Slave Lake. Species of a higher commercial value, such as Northern Pike and Pickerel should be expanded and/or introduced; and the reliance on Whitefish reduced.

Methodology

This report has been complied almost in its entirety from public information produced by the Government of Canada - more specifically, the Department of Fisheries and Oceans, the Department of External Affairs and the Senate.

A review of the place the whole Canadian fishing industry has within the global picture is followed by an examination of the part played by the freshwater fisheries. This is followed by an examination of the Western Region freshwater fishery and then a review of the Freshwater Fish Marketing Corporation.

The affects of the above on the return to the fishermen is then discussed, and this is followed by a number of recommendations”

The Appendices is divided into four separate appendix, providing additional information on Statistics, Previous Inquiries/Reviews, Marketing, and World Competition and Markets.

The appendix *on* Marketing provides a review of the extent of the efforts of others in this area. The appendix on Competition provides a review of the world fishing markets and production. Both of these appendices have been complied from information provided by the Department of External Affairs, and are provided as further backdrop material to the contents of the report.

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The two following tables show, "that while Canada has been one Of the world's most important seafood exporters, it certainly is not alone as a world supplier. Indeed, Canadian shipments made up only 7.5% of the total value of international trade in fish products in 1987. Canada also ranked sixteenth in terms of catch, or about 1.6% of the global total. The Canadian industry, therefore, has little power in world markets; the combined catches of Japan, the Soviet Union and China, on the other hand, accounted for approximately 35% of the world's total harvest"[1]

TABLE 1.1
VALUE (IN MILLIONS $U.S.) OF FISHERIES TRADE BY SELECTED COUNTRIES

	1977	RANK	1987	RANK
EXPORTS:				
Canada	762	2	2,092	1
United States	508	6	1,836	2
Denmark	629	5	1,751	3
Rep. of Korea	706	3	1,506	4
Norway	805	1	1,475	5
Thailand	177	17	1,2661	6
Iceland	381	7	1,071	7
Netherlands	315	8	953	8
China	158	18	912	9
Japan	631	4	890	10
United Kingdom	197	14	718	11
France	151	20	654	12
Soviet Union	204	12	637	13
Chile	124	23	635	14
Mexico	193	15	570	15
TOTAL WORLD	9,416		28,076	

[1] "Proceedings of the Standing Senate Committee on Fisheries", Wednesday, December 20, 1989, Issue No. 4, page 49

IMPORTS:	1977	RANK	1987	RANK
Japan	2,333	1	8,308	1
United States	2,086	2	5,662	2
France	655	4	2,022	3
Italy	425	6	1,738	4
United Kingdom	556	5	1,387	5
Spain	156	14	1,322	6
Fed. Rep. of Germany	666	3	1,270	7
Denmark	175	13	842	8
Hong Kong	215	10	794	9
Belgium	256	8	530	10
Canada	206	11	511	11
Netherlands	258	7	509	12
Portugal	88	18	425	13
Sweden	218	9	405	14
Switzerland	139	15	333	15
TOTAL WORLD	10,228		30,509	

United Nations, Food and Agriculture Organization, Yearbook of Fishery Statistics, 1986 Vols 63 and 64, Rome, 1988 and 1989.

TABLE 1.2 NOMINAL CATCHES (IN 000 TONNES) 151 SELECTED COUNTRIES

	1977	RANK	1987	RANK
Japan	10,128	1	11,841	1
Soviet Union	9,226	2	11,160	2
China	4,463	3	9,346	3
United States	2,980	5	5,736	4
Chile	1,317	15	4,814	5
Peru	2,503	6	4,584	6
India	2,311	7	2,893	7
Rep. of Korea	2,085	9	2,876	8
Indonesia	1,568	11	2,610	9
Thailand	2,189	8	2,165	10
Philippines	1,509	12	1,989	11
Norway	3,407	4	1,929	12
Dem. P. Rep. Korea	1,190	17	1,700	13
Denmark	1,806	10	1,696	14
Iceland	1,374	14	1,633	15
Canada	1,235	16	1,453	16
Mexico	514	27	1,419	17
Spain	1,389	13	1,393	18
South Africa	541	24	902	19
Viet Nam	588	23	871	20
TOTAL WORLD	68,076		92,693	

United Nations, Food and Agriculture Organization, Yearbook of Fishery Statistics, 1986 and 1987. Vols 63 and 64, Rome, 1988 and 1989.

After ten consecutive years as the world's leading exporter of seafoods (in terms of value), Canada was replaced by the United States in 1988. But the export of seafood continues to be an important part of the Canadian economy and the backbone of the fishing industry.

TABLE 1.3
DESTINATION OF CANADIAN SEAFOOD EXPORTS (IN $MILLIONS)
1986-198

	1986		1987		1988	
	$	%	$	%	$	%
United States	1,431	58.8	1,624	58.6	1,418	52.5
Japan	445	18.3	481	17*3	603	22.3
European Community	354	14.5	437	15.7	447	16.5
All other countries	203	8.3	231	8.3	233	8.6
TOTAL	2,433	100%	2,773	100%	2,701	100%

:partment of Fisheries and Oceans, - - ional Trade, - 11, 1987 and 19(19

According to trade categories, exports consisted of:[2]

Fresh or frozen shellfish	25.3%
Fresh or frozen fillets and blocks	24.2%
Fresh or frozen whole or dressed fish	19.6%
Roe products	9.5%
Smoked, salted, dried or cured fish	8.3%
Canned fish	6.7%
Other products	6.3%

As stated in the Standing Senate Committee on Fisheries' Interim Report on the Freshwater Fisheries, (page 3), 'Today, over 100 costal states, both developed and developing, control 99% of the world's marine fishery resource, in marked contrast to the

[2] "Proceedings of the Standing Senate Committee on Fisheries', Wednesday, December 20, 19891 Issue No. 4, page 34

situation just a decade ago when it was dominated by a handful of powerful maritime countries. The structure of the world fishery had undergone many changes as a number of nations have seized the opportunity to develop the marine resources off their shores. The result has been an increasingly competitive and at times unstable marketplace".

More information on Canada's export markets is contained in Appendix One. Only one market will be examined further here - the United States market. As the United States accounts for over 50% of both Canada's total seafood export and the freshwater fish industry's export market, it is important to understand something about it.

"In round weight, the American supply of seafood (domestic landings and imports combined) was a record 4.79 million tonnes in 1987, but declined to 4.76 million tonnes in 1988 (Table 3). As well, the value of imports, which were at its highest ever at $US 5.7 billion in 1987, or 18.6% more than the previous record established in 1986, dropped by 4.4%. Although Canada continues to be the largest supplier of seafood to the United States (21.3% of the total value of imports in 1988), this country's share of the market decreased by 0.4%. Others registered rates of growth during this period, such as Ecuador which more than doubled the value of its shipments between 1985 and 1988 (Table 4). Interestingly, American fish exports (edible) were at a record level (US$2,2 billion in 1988), with major markets being Japan (67.0% of value, Canada (10.0%), France (4.6%) and the United Kingdom (4.3%)."[3]

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[3] "Proceedings of the Standing Senate Committee on Fisheries", Wednesday, December 20, 1989, Issue No. 4, page 39

TABLE 1.4
UNITED STATES SUPPLY OF EDIBLE COMMERCIAL FISHERY PRODUCTS, 1981-1988
(Round Weight)

	Domestic Landings		Imports		Total	
	(000 Tonnes)	%	(000 Tonnes)	%	(000 Tonnes)	
1981	1,609.3	42.9	2,141.6	57.1	3,750.9	
1982	1,490.5	41.2	2,124.7	58.8	3,615.2	
1983	1,469.1	38.2	2,348.1	61.5	3,817.2	
1984	1,506.4	39.1	2,349.3	60.5	3,855.7	
1985	1,494.6	35.3	2,741.8	64.7	4,236.4	
1986	1,539.5	35.5	2,825.3	64.5	4,364.8	
1987	1,790.4	37.4	3,001.3	62.5	4,791.7	
1988	2,081.7	43.7	2,684.6	56.3	4,766.3	

United States Department of Commerce, 'Fisheries of the United States for 1985, 1986, 1987 and 1988, Current Fisheries Statistics', Nos. 8368,8385, 8700 and 8800.

"In the mid-1980's, a number of factors pushed the demand 'or seafood in the United States well beyond the level that traditional suppliers of North Atlantic cod fillets and blocks could meet. This led to the introduction of such non-traditional and often exotic-sounding species as orange roughy, mahi, hoki, oreo, dory, grenadiers and mako shark. The result was an estimated decline in the market share of cod by about 10% between 1984 and 1987. For blocks, the figure may be closer to 15% In fact, Canadian producers of cod and other groundfish, who had about 40% of the United States market in 1987, are now pitted not only against traditional competitors (Iceland, Danish and Norwegian) in the mid-and high-priced strata, but also against a growing number of non-traditional suppliers, notably New Zealand, the Republic of Korea, Poland and South America in the lower price range.

The possibility that new species of fish will be further substituted for cod should be of grave concern to Canadian producers because of the sheer size of some of those stocks and the favorable economics of harvesting them. Argentine hake, for example, (also known as whiting) is found off the coasts of many countries, and their huge quantities are only beginning to be tapped. A very large groundfish resource (well over 2 million tonnes annually) is available within the United States Exclusive Economic Zone (EEZ) in the North Pacific Ocean. American domestic landings of Alaska pollack inside the American 200-mile limit (the biggest single species harvested in the world) rose to about 1.4 million tonnes in 1988, or about 370,000 tonnes more than the TAC for all species of groundfish on the East Coast of Canada that year. American landings of Pacific cod increased from about 137,000 tonnes in 1987 to 232,700 tonnes in 1988."[4]

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[4] "Proceedings of the Standing Senate Committee on Fisheries", Wednesday, December 20, 1989, Issue No. 4, page 40

TABLE 1.5

LEADING SEAFOOD SUPPLIERS TO THE UNITED STATES BY REGION AND COUNTRY 1985-1988

(Value in $US'000)

Origin	1985	1986	1987	1988
North America				
Canada	840.8	1,020.0	1,240.8	1,161.7
Mexico	319.8	372.4	475.9	382.0
Other	265.4	324.4	335.1	297.5
Sub-Total	1,426.0	1,716.8	2,051.8	1,841.2
South America				
Ecuador	191.6	307.6	415.1	420.8
Brazil	141.2	123.8	129.7	125.5
Other	249.4	295.3	308.8	257.1
Sub-Total	582.2	726.7	853.6	803.4
Asia				
Japan	333.3	325.8	277.8	211.9
Thailand	206.8	241.0	244.5	345.9
Taiwan	175.3	256.7	351.9	285.3
Other	416.2	558.8	813.5	1,023.1
Sub-Total	1,131.6	1,382.3	1,687.7	1,866.2
Europe				
Iceland	207.7	209.9	234.1	164.8
Norway	139.1	165.7	196.6	172.4
Denmark	100.9	104.6	159.9	112.9
Other	180.1	201.0	230.4	173.0
Sub-Total	627.8	681.2	821.0	623.1
Africa	70.9	68.1	32.0	41.1
Australia/Oceania	225.8	238.4	265.1	284.4
TOTAL	4,064.3	4,813.5	5,711.2	5,459.4

nited States Department of Commerce, 'Fisheries of the United States',for 1985, 1986, 1987 and 1988, Current Fisheries statistics Nos. 8368,8385,8700 and 8800

THE FRESHWATER FISHERIES

THE FRESHWATER FISHERIES

Canadats freshwater fishing industry is concentrated in two regions, called the Central Region and the Western Region. The Central Region consists of all of Ontario except a small portion (northwestern) and is predominated by the Great Lakes. The Western Region consists of the provinces of Manitoba, Saskatchewan, Alberta, a small portion of Ontario and the Northwest Territories.

TABLE 2.1

LANDINGS BY PROVINCE/TERRITORIES
(live equivalent tonnes)

	1985	1986	1987	1988	1989
Ontario	26,301	24,358	27,759	27,591	25,610
Manitoba	13,481	12,143	12,151	14,094	14,699
Saskatchewan	3,886	3,789	3,860	3,680	3,904
Alberta	1,564	1,613	1,866	2,185	1,594
N.W.T.	1,299	1,530	1,572	1,747	1,954
TOTAL	46,531	43,433	47,208	49,224	47,760

Department of Fisheries and Oceans. 1991. 'Anneal Summary of Fish Harvesting Activities, Western Canadian Freshwater Fisheries, 191)9-1990, Volume 8:viii t 67 p.

TABLE 2.2

Value ?

LANDINGS BY PROVINCE/TERRITORY
($000's) ?

	1985	1986	1987	1988	1989
Ontario	31,885	46,317	48,340	54,710	48,123
Manitoba	18,477	20,564	25,313	25,196	21,538
Saskatchewan	3,745	3,968	5,153	4,672	4,165
Alberta	1,449	1,891	2,263	2,842	1,912
N.W.T.	1,507	1,406	2,628	2,763	2,730
TOTAL	57,063	74,146	83,697	90,182	78,468

Department of Fisheries and Oceans. 1991. 'Annual Summary of Fish Harvesting Activities, Western Canadian Freshwater Fisheries, 1989-1990, Volume 8:viii + 67 p.

Both freshwater fish regions depend on exports as their main source of sales. Historically approximately 85% of the catch is exported.

TABLE 2.3

MARKETS FOR FRESHWATER FISH, BY PRODUCING REGION
1984/85
(Product weight in tonnes)

Market	FFMC		Ontario		Total	
U.S.A.	7,224	72.2%	8,734	75,4%	15,958	73.9%
Japan			2,383	20.6%	2,383	11.0%
Finland	1,052	10.5%			1,052	4..9%
France	1,050	10.5%			1,050	4.9%
Germany	468	4.7%			468	2.2%
Switzerland	5	0.04%	246	2.1%	251	1.2%
Sweden	154	1.0%	60	0.5%	214	1.0%
England	48	0.5%			48	0.2%
Others			166	1.4%	166	0.8%
TOTAL	10,001		11,589		21,590	

Freshwater Fish Marketing Corporation, special compilation
Statistics Canada, special compilation of freshwater fish exports by province of landing.

The following quote from the 'Interim Report' on the Freshwater Fisheries" of the Standing Senate Committee on Fisheries, September 1986 (page 15) puts this in a proper Perspective"

> In 1985 Canadian exports to the U.S. of all fishery products (edible and non-edible) amounted to a record 340.4 thousand tonnes (750 million lb.) valued at U.S.$832.2 million. Of this total, 19.5 thousand tonnes (43 million lb.), valued at U.S.$51.9 million, were freshwater fish exports. Canadian freshwater fish exports therefor accounted for 5.7% of the volume and 5.2% of the value of Canadian exports of fish to the United States. The fisheries of the Western and Ontario Region accounted for over 92% of these exports. Of this, the FFMC supplied approximately 45% and the Ontario Region 55%, as shown in Table 6. However, neither of these two fisheries is a dominant force if one considers overall freshwater fish production in the U.S.

According to the U.N. Food and Agriculture Organization, commercial landings of freshwater fish in the United States were in the order of 75.8 thousand tonnes (167 million lb.) in 1983, which is at a level consistent with the average of landings over the past 10 years. By comparison, Canada's freshwater commercial landings were in the order of 48.8 thousand (107.5 million lb.) in 1983. Therefore Canadian commercial freshwater landings represented approximately 39% of total freshwater landings of Canada and the United States.

In addition to commercial landings, a substantial quantity of freshwater fish is produced through aquiculture in the United States, possibly up to 156 thousand tonnes (344 million lb.) in 1983, approximately 60% of which was catfish. Other freshwater species produced through aquiculture in the U.S. include trout, sturgeon and certain varieties of carp. By comparison, freshwater fish aquiculture in Canada largely consists of approximately 1.5 thousand (3.3 million lb.) of trout produced mainly in Quebec and Ontario.

Thus, the harvests of natural stocks from Canada's major freshwater fisheries, although important, do not figure prominently in the total U.S. fish supply picture. However, the FFMC is a major supplier of two species: it accounts for up to 60% of the total North American production of whitefish and for as much as 75% of pickerel production, depending on annual harvest conditions. Lake Michigan is the second largest source of production of whitefish, the Canadian Great Lakes being a distant third. On the other hand, Ontario is a major supplier of perch and smelt with large amounts of these species being harvested from Lake Erie.

It is within the context of the above overview that the Freshwater Fish Marketing Corporation and the Northwest Territories' participation in the freshwater fisheries will be reviewed.

THE WESTERN REGION FISHERIES

THE WESTERN REGION FISHERIES

The area covered by the Freshwater Fish Marketing Corporation (FFMC) includes all of the provinces of Alberta, Saskatchewan and Manitoba, the northwestern sector of Ontario, and all of the Northwest Territories. The area encompassed is 5.34 million km^2 (some 333,000 km^2 of which are inland water), yet it has a total population of only 4.43 million.

'The implication of this relatively low population is a lack of sufficiently developed local markets to absorb the substantial quantities of freshwater fish landed in the region. Even though the Canadian rate of consumption of fishery products is above the average world rate, this consumption is composed mostly of salt water fish. Only 4% of fishery products consumed in Canada is freshwater fish and this portion has been decreasing as seafood consumption increases."=

By contrast, the Ontario Region includes a population of 8.2 million people and is adjacent to a hugh market, the United States, which is, by rule-of-thumb, ten times the size of the Canadian market. Furthermore, the highest concentration of Canada's population is within easy access from the major fishing locations.

The Freshwater Fish Marketing Corporation (FFMC) was established in 1969 by ***The Freshwater Fish Marketing Act,*** a federal statute which gave it the exclusive right to process and market the freshwater fish harvested from the Western ***Region in*** the domestic and export trade. The purpose of this mandate was to:

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[5] "The Marketing of Fish in Canada, An Interim Report On The Freshwater Fisheries", Standing Senate Committee on Fisheries, September, 1986, Page 3

a) market fish in an orderly manner, i.e. process according to market specifications,
b) maximize returns to fishermen, and
c) increase domestic and export trade in freshwater fish.

With the creation of the FFMC, many of the existing processing facilities in the Western Region became redundant. The number of packing stations was reduced from over 200 to about 100. A highly efficient processing was installed in Transcona, Winnipeg, to process the bulk of the harvest of the whole Western Region. This facility replaced the capacity of 506 other plants, which were subsequently closed.

In contrast, the Ontario Region has, " some 79 processing facilities, employing up to 1,500 people on a seasonal basis, process 93% of the Ontario catch of freshwater fish, Approximately 85% of this is exported to the neighboring U.S. market, or to other overseas destinations. . .

One of the characteristics of the industry in the Ontario Region is the presence of integrated fishing enterprises. According to figures obtained from the Ontario Department of Natural Resources, some 18 of these firms out of a total of 79 hold commercial licenses. . . .Most of the 931 authorized commercial fishing licences in Ontario ‘are issued to independent fishermen who account for well over 70% of landings in’ the Ontario Region.

Integrated fishing companies can stabilize their supply of raw material, to a certain extent, through the use of their own licences plus the option of increasing their quota by buying additional licences. They also augment their supply of raw material by bidding for the catches of the independents on the open market. In some instances, independent fishermen enter into agreements to sell all of their catch on a regular basis to one or two of the principal processors. Usually some formula is set

out in the agreement whereby the independent can be certain of a fixed price on a sliding scale depending on the state of the total market. These 'loyalty' agreements help reduce the uncertainty for both the independents and the major suppliers, who are concerned about having adequate supplies.

In addition to having well developed relationships with the fish processors, the independent fishermen also do some processing and marketing. Many licence holders ship fresh fish, with minimal amount of processing, direct to the U.S. market. Also, a substantial proportion of the 15% of the total Ontario harvest which is marketed in Canada is sold directly to Ontario consumers by the fishermen at lakeside stalls."[6]

HARVESTING RESULTS:

FFMC's mandate gives it both a monology on the marketing of fish and an obligation to accept all freshwater fish offered. The following information is based on the harvest delivered to FFMC and does not include product sold locally or within the same province/territory directly by the harvesters.

As the following tables indicate, Manitoba accounts for approximately 65% of the total harvest and of this amount, over 45% is produced from the three major lakes of Winnipeg, Manitoba and Winnipegosis. In contrast, the Northwest Territories supplies under 9% of the total harvest, mostly from the Great Slave Lake.

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[6] "The Marketing of Fish in Canada, An Interim Report On The Freshwater Fisheries", Standing Senate Committee on Fisheries, September, 1986, Page 8

Table 3.1 Ten Year Trend By Major Western Lakes[7]
(live weight equivalent tonnes)

Lake	80/81	81/82	82/83	83/84	84/85	85/86	86/87	87/88	88/89	89/90
Winnipeg	5,563	5,605	5,453	5,617	6,147	5,620	5,726	6,017	6,309	6,083
Manitoba	1,769	2,934	3,545	1,815	1,713	1,587	1,528	1,726	1,988	1,757
Winnipegosis	2,508	1,954	2,597	1,592	1,873	1,814	1,282	1,544	1,075	1,694
GREAT SLAVE	1,603	1,304	1,356	987	1,208	1,341	1,669	1,583	1,530	1,800
All Others	12,387	10,147	9,625	7,621	9,676	10,179	10,235	10,086	10,720	9,329
TOTAL- LAKES	23,830	21,944	22,576	17,632	20,616	. 20,541	20,441	20,956	21,622	20,663

TABLE 3.1.1 Ten Year Trend by Percentage
(live weight equivalent tonnes)

Lake	80/81	81/82	82/83	83/84	84/85	85/86	86/87	87/88	88/89	89/90
Winnipeg	23.3%	25.5%	24.1%	31.8%	29.8%	27.3%	28.0%	28.7%	29.2%	29.4%
Manitoba	7.4%	13.4%	15.7%	10.3%	8.3%	7.7%	7.5%	8.2%	9.2%	8.5%
Winnipegosis	10.5%	8.9%	11.5%	9.0%	9.1%	8.8%	6.3%	7.4%	5.0%	8.2%
GREAT SLAVE	6.7%	5.9%	6.0%	5.6%	5.8%	6.5'%	8.2%	7.5%%	7.1%	8.7%
All Others	60.0%	46.2%	42.6%	43.2%	46.9%	49.5%	50.1%	48.1%	49.6%	45.1%
TOTAL- LAKES	100%	100%	100%	100%	100%	100$	100%	100%	100%	100%

TABLE 3.2

Landings By Region
Tonnes

REGION	82/83	83/84	84/85	85/86	86/87	87/88	88/89	89/90
Alberta	5.3%	5.7%	7.3%	8.8%	9.3%	9.9%	7.6%	6.5$
Saskatchewan	15.5%	15.4\	16.9%	19.1%	19.9%	18.5%	19.2%	17.2%
Manitoba	70.2%	71.2%	67.7%	63.4%	61.1%	63.0%	65.09	66.4%
NW Ontario	2.4%	1.6%	1.8%	1.8%	1.3%	0.6$	0.7*	0.6%
N W T	6.69	6.2%	6.3%	7.0%	8.5%	7.9a	7.6%	9.3%
TOTAL	22,575	17,632	20,616	20,541	20,441	20,956	21,622	20,663

[7]Department of Fisheries and Oceans. 1991.'Annual Summary of Fish Harvesting Activities, Western Canadian Freshwater Fisheries, 1983-1990, Volume 8:viii t 67 p.

The above tables also show that the three lakes: Winnipeg, Manitoba and Great Slave Lake have increased their share of the total catch from 37.4% in the 1980/81 season to 46.6% in the 1989/90 season, at the expense of Lake Winnipegosis and all the other lakes.

The Regional Analysis (Table 3.2) also indicates that Alberta, Saskatchewan and the Northwest Territories increased their share of the total catch from 27.4% to 33.0% in the same period, at the expense of Manitoba and NW Ontario. This would seem to indicate that the fisheries in Manitoba, outside of the major lakes, has decreased, in relative terms.

A breakdown by species harvested for the 1989/90 season follows. (A complete trend breakdown of landings by species is provided in the Appendices.)

Six species: Whitefish, Pickerel, Northern Pike, Sauger, Mullet and Lake Trout accounts for approximately 94% of the total harvest.

Whitefish accounted for 30% (6,199 tonnes) of the total harvest in the Western Region, but only accounted for 8.76% of the Ontario Region harvest. The Ontario Region accounted for 23.96% of all whitefish harvested in the freshwater fisheries in 1989. (See Appendices for complete breakdown). This would indicate that while whitefish are relatively un-important to the Ontario fishery, their share of the harvest is large enough to allow for a direct influence on pricing.

The importance of whitefish to the various fisheries of the Western Region is demonstrated in the following table. While the percentage of the total catch for Great Slave Lake was 75.9% in 1989, it has fluctuated between 74.6% in 1985, 79.5% in 1986,

81.8 % in 1987 and 82.3% in 1988.

TABLE 3.3 LANDINGS BY SPECIES BY MAJOR LAKES

Year	Species	Great Slave Lake		Winnipeg		Manitoba		Winni-pegosis		All Others		Total	
		Tonne	$	Tonne	$	Tonne	$	Tonne	$	Tonne	$	Tonne	$000s
989/90	Whitefish	22%	19.2%	21.4%	23.9%	0.3%	0.3$	1.8$	1.9%	54.5%	54.6%	6,199	6,140′
	Pickerel	0.4%	0.4%	48.0$	45.9%	7.1:	8.0%	2.1%	2.1%	42.5%	48.6%	4,938	9,247
	Sauger	0	0	77.5%	75.2%	21.6%	24.0%	0.1:	0.1%	0.8%	0.7%	2,686	4,404
	Lake Trout	17.6%	18.8%	0	0	0	0	0	0	82.4%	81.2%	749	658
	Northern Pike	5.4a	4.8%	4.2%	4.4a	3.4:	3.6%	8,6a	8.8%	78.4%	78.3%	3,339	2,146
	Tullibee	0	0	0	0	0	0	0	0	100a	100%	98	41
	Perch	0	0	26.2%	25.1%	53.2%	54.4%	17.8%	18.1%	2.7%	2.5%	511	1,136
	Mullet	0	0	0.3%	0.2%	18.3%	17.8%	58.3%	59.4%	23.1%	22.6%	1,562	461
	Carp	0	0	0.3%	0	42.8\	43.6%	55.4\	54.3%	1.5$	2.1%	325	94
	Arctic Char	0	0	0	0	0	0	0	0	100a	100%	82	444
	Inconnu	99.0%	100a	0	0	0	0	0	0	0	0	102	148
	Sturgeon	0	0	0	0	0	0	0	0	100%	100$	9	87
	Others	0	0	43.1%	39.9%	0	0	9.2%	10.5%	46.1%	49.7%	65	143
	total	8.7%	6.3%	29.4%	37.6%	8.5%	10.5%	8.2%	6.3$	14.1%	41.4:	20,663	25,148

TABLE 3.4 PERCENTAGE BREAKDOWN BY t4AJOR SPECIES, WESTERN LAKES (1989/90)

Species	Great Slave	Winnipeg	Manitoba	Winni-pegosis	All Others
Whitefish	75.9%	21.8%	1.0%	6.7%	36.2%
Pickerel	1.1%	38.9%	19.9%	6.00%	22.5%
Northern Pike	9.9%	2.3%	6.5%	17.0%	28.0%
Sauger	nil	34.2%	33.0%	0.2%	0,2%
Mullet	nil	0.1%	16.3%	53.8%	3.9%
Lake Trout	7.3%	nil	nil	nil	66.6%

HARVEST VALUES :

Table 3.5 presents an overview of the total Western Canadian Freshwater harvest. 74.1% of the total harvest is represented by five species which are also harvested in the Great Slave Lake: Whitefish, (and Whitefish Roe), pickerel, Lake Trout, Northern Pike and Inconnu. Collectively these species account for 72.9% of the total landed value and 74.5% of the total final marketed value received by FFMC.

While Great Slave Lake's share of this has grown from 5.1% in the 1980/81 season to 6.3% in 1989/90, Lake Winnipeg remains the dominate revenue producer with 37.6% of the total landed value. (Table 3.6.1). On a Regional basis, the Northwest Territories accounts for 9.3% of the landings, 9.6% of the landed value and 10.0% of the total marketed value; while Manitoba accounts for 66.4%, 71.4% and 71.6% respectively, as indicated in Table 3.8.

TABLE 3.5 Landings, Landed and Marketed Values by Species
Western Canadian Freshwater Fisheries, 1989/90
(quantities in live weight equivalent tonnes and values in $000s)

Species	Quantity		Landed Value		Marketed Value	
Whitefish	6,194	30.0%	$6,121	24.3%	$13,084	24.3%
Whitefish Roe	5	.0%	19	.1%	142	.3%
Pickerel	4,938	23.9%	9,247	36.8%	19,208	35.6%
Sauger	2,686	13.0%	4,404	17.5%	9,185	17.0%
Lake Trout	749	3.6%	658	2.6%	1,326	2.5%
Northern Pike	3,338	16.1'%	2,146	8.5%	6,109	11.3'%
Tullibee	98	.5%	41	.2%	146	.3%
Perch	511	2.5%	1,136	4.5%	2,258	4.2%
Mullet	1,562	7.5%	461	1.8%	1,046	1.9%
Carp	325	1.6%	94	.4%	201	.4%
Arctic Char	82	.4%	444	1.8%	588	1.1%
Inconnu	102	.5%	148	.6%	267	.5%
Sturgeon	9	≤.1%	87	.3%	101	.2%
Others	65	.3%	143	.6%	219	.4%
TOTAL	20,663	100%	$25,148	100%	$53,881	100%

Amounts from: Department of Fisheries and Oceans. 1991, Annual Summary of Fish Harvesting Activities, Western Canadian Freshwater Fisheries, 1989-1990, Volume 8:viii + 67 p.

TABLE 3.6 Ten Year Trend By Major Western Lakes
($000s)

Lake	80/81	81/82	82/83	83/84	84/85	85/86	86/87	87/88	88/89	89/90
Winnipeg	8,437	9,039	6,484	8,604	9,735	9,975	13,736	15,219	11,804	9,464
Manitoba	2,193	2,397	1,874	2,155	2,261	1,817	3,263	4,361	3,875	2,634
Winnipegosis	1,338	984	1,143	1,235	1,514	1,078	1,244	1,345	914	1,049
GREAT SLAVE	1,319	1,117	997	763	1,216	1,283	1,645	2,100	1,998	1,591
All Others	12,381	11,000	7,402	8,881	11,917	11,332	13,732	16,915	14,730	10,410
TOTAL-LAKES	25,668	24,637	17,900	21,638	26,642	25,485	33,620	39,941	33,321	25,148

Department of Fisheries and Oceans. 1991. Annual Summary of Fish Harvesting Activities, Western Canadian Freshwater Fisheries, 1989-1990, Volume 8:viii + 67 p.

TABLE 3.6.1 TEN YEAR TREND BY MAJOR LAKES, LANDED VALUE BY PERCENTAGE

Lake	80/81	81/82	82/83	83/84	84/85	85/86	86/87	87/88	88/89	89/90
Winnipeg	32.9%	36.7%	36.2%	39.8%	36.5%	39.1%	40.8%	38.1%	35.4%	37.6%
Manitoba	8.5%	10.1%	10.5%	9.9%	8.5%	7.1%	9.7%	10.9%	11.6%	10.5%
Winnipegosis	5.2%	4.0%	6.4%	5.7%	5.7%	4.2%	3.7%	3.4%	2.7%	4.2%
GREAT SLAVE	5.1%	4.5%	5.6%	3.5%	4.6%	5.0%	4.9%	5.2'%	6.0%	6.3%
All Others	48.2%	44.6%	41.3%	41.0%	44.7%	44.5%	40.8%	42.3%	44.2%	41.4?!
TOTAL- LAKES	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

TABLE 3.7

Dollars
(000s)

REGION	89/90	88/89	87/88	86/87	85/86	84/85	83/84	82/83
Alberta	5.5%	6.1%	7.4a	6.0%	7.3%	5.6%	4.2%	4.4%
Saskatchewan	12.7%	14.9%	14.7%	13.2%	14.7$	15.1%	14.4%	13.1$
Manitoba	71.4\	70.1%	70.2%	72.7%	68.9%	70.7%	74$	72.3%
NW Ontario	0.8%	1.0%	1.0%	1.9%	2.6%	2.4%	2.0s	2.6%
NW?	9.6;	7.8%	6.7%	6.1%	6.5%	6.2%	5.4%	7.6%
TOTAL	25,148	33,321	39,941	33,620	25,485	26,642	21,638	17,900

TABLE 3.8

Landings, Landed and Market Values
(live weight equivalent tonnes and $000s)

Year	Region	Landings		Landed Value		Marked Valve	
19/90	Alberta	1,334	6.5%	$1,394	5.5%	$2,7245	5.0%
	Saskatchewan	3,553	17.2%	$3,185	12.7%	$7,321	13.6$
	Manitoba	13,721	66.4%	$17,954	71.4%	$38,572	71.6?.
	N.W. Ontario	133	0.6%	$191	0.7%	$437	0.8%
	N.W.T.	1,921	9.3'%	$2,424	9.6%	$4,828	10.0'%
	TOTAL	20,663		$25,148		$53,881	

Why the harvested value of the various lakes and regions is as it is, is important. As the FFMC has a mandate to accept all fish offered which is commercially harvested, it must therefore market the product at the best obtainable price. The fish harvester, on the other hand, has no control over the species or the quantity of each species caught.

The following tables are provided to illustrate the affect this has. The reader is cautioned that the figures for each lake cannot be compared directly to each other as :

a) Both dollar and tonnage figures are rounded.
b) No breakdown between winter and summer catch is used.
c) The affects of transportation costs from lake to plant have not been included.
d) Definitions used for "Landed Quantity", "Landed Value" and "Marketed Value". (see Glossary of Terms).

These Tables are meant only to show the changes in yield from one year to the next, the varying prices received for the different species harvested and the degree to which the percentage of the harvest of certain species have on the overall income of each lake. (Calculated as total tonnes divided by landed value).

For a comparison of this between the Ontario and Western Regions, refer to the Appendix One.

TABLE 3.9 LANDED VALUE PER SPECIES, WESTERN REGION
(per tonne)
(Calculated by dividing "Quantity" into "Harvested Value")

1989/90

Species	Great Slave Lake	Winnipeg	Manitoba	Winnipegosis	All Others	Average
Whitefish	$865.	$1,108.	$1,176.	$1,053.	$992.	$990.
Pickerel	$1,700.	$1,794.	$2,115.	$1,876.	$1,922.	$1,873.
Sauger	0.	$1,591.	1,822.	$1,667.	$1,500.	$1,640.
Lake Trout	$939.	0.	0.	0.	$865.	$878.
Northern Pike	$575.	$667.	$684.	$656.	$643.	$643.
Tullibee	0.	o.	0.	0.	$418.	$418.
Perch	0.	$2,127.	$2,272.	$2,264.	$2,000.	'$2,223.
Mullet	0.	$250.	$287.	$301.	$288.	$295.
carp	0.		$195.	$283.	$400.	$289.
Arctic Char	0.	0.	0.	0.	$5,415.	$5,415.
Inconnu	$1, 465.	0.	0.	0.	0.	31,465.
Sturgeon	o.	0.	0.	0.	$9,667.	$9,667.
Others	0.	$1,966.	0.	$2,500.	$2,367.	$2,200.
Average	$884.	$1,556.	$1,499.	$619.	$1,116.	$1,217.

1988/89

Species	Great Slave Lake	Winnipeg	Manitoba	Winnipegosis	All Others	Average
Whitefish	$1,304.	$1,378.	$1,312.	$950.	$1,069.	$1,179.
Pickerel	$2,476.	$2,532.	$3,199.	$3,328.	.$2,735.	$2,693.
Sauger	o.	$1,725.	$2,110.	$1,750.	$1,550.	$1,799.
Lake Trout	$1,261.	0.	0.	0.	$1,199.	$1,204.
Northern Pike	$930.	$881.	$912.	$991.	$908.	$915.
Tullibee	0.	o.	0.	0.	$493.	'$493.
Perch	0.	$2,508.	$2,626.	$2,605.	$2,526.	$2,597.
Mullet	0.	$300.	$264.	$314.	$298.	$299.
carp	0.	$315.	$264.	$268.	$255.	271.
Arctic Char	0.	0.	0.	0.	$6,416.	$6,416.
Inconnu	$1, 857.	0.	0.	0.	0.	$1,857.
Sturgeon	o.		0.	0.	$10,333.	$10,417.
Others	0.	$1,273.	0.	$2,400.	.$2,294.	?2.104.
Average	$1,306.	$1,817.	$1,949.	$850.	$1,374.	$1,541.

1987/88

Species	Great Slave Lake	Winnipeg	Manitoba	Winni-pegosis	All Others	Average
Whitefish	$1,288.	$1,295.	$1,550.	$620.	$1,129.	$1,203.
Pickerel	$4,167.	.$4,275.	$5,275.	$5,206.	$4,428.	$4,478.
Sauger	0.	$2,468.	$2,897.	$2,500.	$2,266.	$2,528.
Lake Trout	$1,357.	0.	0.	0.	$1,421.	$1,409.
Northern Pike	$1,206.	$1,181.	$1,194.	$1,220.	$1,159.	+1,169.
Tullibee	0.	0.	0.	0.	$628.	$628.
Perch	0.	$3,144.	$3,269.	$3,222.	$3,267.	$3,223.
Mullet	0.	$250.	$316.	$306.	$272.	$295.
carp	0.	*317.	$287.	$278.	$293.	$291.
Arctic Char	0.	o.	0.	0.	$8,661.	$8,661.
Inconnu	$2,000.	0.	0.	0.	<$1,000.	$2,000.
Sturgeon	o.	$1,000.	0.	0.	$9,857.	'$9,857.
Others	0.	$1,250.	0.	$2,130.	$1,370.	$1,606.
Average	$1,327.	.$2,529.	$2,527.	$871.	'$1,677.	$1,906.

19 86/87

Species	Great Slave Lake	Winnipeg	Manitoba	Winni-pegosis	All Others	Average
Whitefish	$861.	$987.	$1,351.	$606.	$718.	$810.
Pickerel	$4,000.	$3,633.	$4,498.	54,622.	$3,688.	$$'3,750.
Sauger	0.	'$2,816.	3,115.	$2,833.	$2,455.	$2,866.
Lake Trout	$991.	o.	0.	0.	$976.	$978.
Northern Pike	$1,139.	$1,122.	$1,346.	$1,357.	$1,134.	$1,177.
Tullibee	0.	$1,000.	0.	0.	$594.	$593.
Perch	0.	$3,855.	$3,974.	$3,909.	$3,846.	$3,907.
Mullet	0.	$333.	$299.	$284.	$204.	$257.
carp	0.	$320.	$265.	$312.	$310.	$290.
Arctic Char	0.	0.	0.	0.	$6,134.	$6,134.
Inconnu	$1,880.	0.	0.	0.	0.	$1,880.
Sturgeon	o.	0.	0.	0.	$10,111.	$10,111.
Others	0.	$2,206.	0.	$900.	$900.	$1,594.
I Average	$964.	$2,399.	$2,135.	$970.	$1,345.	$1,645.

1.9 85/86

Species	Great Slave Lake	Winnipeg	Manitoba	Winni-pegosis	All Others	Average
Whitefish	$914.	$1,067.	$1,216.	$620.	$764.	$844.
Pickerel	$2,154.	$2,342.	$2,820.	$2,407.	$2,347.	$2,370.
Sauger	0.	$1,746.	$1,937.	$2,000.	$2,000.	$1,769.
Lake Trout	$1,074.	0.	0.	0.	$1,032.	$1,039.
Northern Pike	$738.	$725.	$928.	$911.	$751.	$788.
Tullibee	0.	≤$1,000.	0.	0.	$672.	$674.
Perch	0.	$3,114.	$3,301.	$3,100.	$3,167.	$3,264.
Mullet	0.	$214.	$181.	$170.	$197.	$178.
Carp	0.	$244.	$187.	182.	$160.	$185.
Arctic Char	0.	0.	0.	0.	$4,706.	$4,706.
Inconnu	$1,589.	0.	0.	0.	≤$1,000.	$1,568.
Sturgeon	0.	0.	0.	0.	$9,000.	$9,000.
Others	0.	$1,565.	0.	$609.	$378.	$780.
Average	$957.	$1,775.	$1,145.	$594.	$1,113.	$1,241.

Stated another way, the Price Trend of the four main species of interest from the Great Slave Lake is as shown in Table 3.5. As Whitefish account for approximately 75% of the total harvest in this lake, the landed price received for this one species dominates the total revenue produced, almost regardless of the price received for any of the other species. This does not occur in any other of the major lakes.

TABLE 3.11

Whitefish	Great Slave Lake	Winnipeg	Manitoba	Winni-pegosis	All Others	Average
1989/90	$865	$1,108	$1,176	$1,053	$992	$990
1988/89	$1,304	$1,378	$1,312	$960	$1,069	$1,179
1987/88	$1,288	$1,295	$1,550	$620	$1,129	$1,203
1986/87	$861	$987	$1,351	$606	$718	$810
1985/86	$914	$1,067	$1,216	$620	$764	$844

Pickerel	Great Slave Lake	Winnipeg	Manitoba	Winni-pegosis	All Others	*Average*
1989/90	$1,700	$1,794	$2,115	$1,876	$1,922	$1,873
1988/89	$2,476	$2,532	$3,199	$3,328	$2,735	$2,693
1987/88	$4,167	$4,275	$5,275	$5,206	$4,428	$4,478
1986/87	$4,000	3,633	.$4,498	$4,622	$3,688	$3,750
1985/86	$2,154	$2,342	$2,820	$2,407	$2,347	$2,370

Lake Trout	Great Slave Lake	Winnipeg	Manitoba	Winni-pegosis	All Others	Average
1989/90	$939	0	0	0	$865	$878
1988/89	$1,261				$1,199	1,204
1987/88	$1,357				$1,421	$1,409
1986/87	$991				$976	$978
1985/86	$1,074				$1,032	$1,039

Northern Pike	Great Slave Lake	Winnipeg	Manitoba	Winni-pegosis	All Others	Average
1989/90	$575	$667	$684	$656	$643	$643
1988189	$930	$881	$912	$991	$908	$915
1987/88	$1,206	1,181	$1,194	$1,220	$1,159	$1,169
1986/87	$1,139	$1,122	$1,346	$1,357	$1,134	$1,177
1985/86	$738	$725	$928	$911	$751	$788

What this means to fishermen's is examined in a following section, "Returns To Harvesters''but firstly it is important to understand how these landed value prices come about.

PRODUCT SALES:

The Freshwater Fis'h Marketing Corporation is charged with the responsibility of accepting whatever portion of the total harvest in the Western Region that is presented to it. The Corporation cannot limit either the total volume or that for any one species accepted. In effect, this means the Corporation is a 'production' driven organization, not a "market" driven one.

This means that the Corporation must sell, in some form or other and at some price or other, all the resource delivered to it. It has a limited ability, both in storage space and in financial resources, to hold products until a market is found.

The Corporation follows the practice of posting a price to be paid for each species at the beginning of the season, then after the catch is sold, distributing what ever amount above this that is received. The final price received by FFMC, and subsequently by the fishermen, therefor depends on what form the product is sold in and into which market(s) it is sold, and at what price.

Table 4 gives an overview of the trends in this area for FFMC. While the percentage of product sold in fresh form has remained fairly constant over the years, the portion sold in frozen form has decreased from over 43% to under 30%, and that portion sold after being processed has increased from 30% to 44%. (A complete summery, by species, is provided in the Appendix)

For the purposes of this report, only the results of the handling of the six species harvested in the Territories will be recorded here. (Table 4.1)

TABLE 4

SALE VOLUME BY PRODUCT

Year	Fresh Tonnes	$000s	Frozen Tonnes	$000s	Processed Tonnes	$000s	Total Tonnes	$000s
89/90	26.1%	19.9%	29.6%	20.7%	44.3%	59.4%	12,619	$47,201
88/89	28.6%	23.3%	27.5%	19.0%	43.9%	57.8%	13,298	$51,752
87/88	30.1%	24.9%	31.9%	19.6%	38.0%	55.5%	13,526	$51,670
86/87	26.2%	19.9%	26.5%	14.6%	47.4%	65.5%	14,235	$49,868
85/86	31.3%	24.1%	26.1%	16.5%	42.6%	59.4%	12,709	$40,130
84/85	30.1%	24.9%	28.7%	19.4%	41.2%	55.7%	11,762	$35,301
83/84	29.6%	28.7%	34.3%	19.0%	36.1%	52.3%	14,397	$38,727
82/83	26.2%	26.4%	43.5%	24.5%	30.3%	49.1%	16,215	$35,079

The portion of the harvest marketed as fresh has remained fairly constant at between 26% and 30% during the past decade (27.6% in 1979). The frozen portion has declined from over 40% to less than 30% during the same period (42.8% in 1979). The portion sold after processing has increased from 29.5% in 1979 to almost 45% (44.3%) and now accounts for almost 60% of the Corporation's total income vrs less than 40% (37.3%) in 1979.
On the face of it, it would appear that the FFMC has made steady progress in increasing the portion sold in the "processed" sector, while maintaining its position in the "fresh" sector.

However an examination of the results for the species harvested in the N.W.T. show a different picture, (Table 4.1.). Except for Pickerel and Northern Pike, the portion sold as "processed" is consistently below the average of the total harvest sold as 'processed". Also, except for Pickerel, the portion sold as "frozen" is consistently higher. The portion for Whitefish, (75% of the Territorial harvest) sold in the "processed" form has fluctuated between 20.9% and 30%; while the portion sold in "frozen" form has remained in the 35.6% to 41.9% range.

Table 4.1

ear	Species	TOTAL tonne)	:esh	rozen	roc- ssed
9/90	Whitefish	4,556	37.1%	11.1%	21.7%
	Pickerel	2,571	29.8%	1.8%	68.3%
	Northern Pike	2,614	6.2%	14.5%	49.2%
	Lake Trout	477	26.0%	65.2%	8.8%
	Arctic Char	766	13.1%	86.8%	
	Inconnu	56	14.3%	35.7%	
	TOTAL*	12,619	26.1%	29.6%	44.3%
8/89	Whitefish	5,751	35.2%	36.4%	28.4%
	Pickerel	1,864	29.5%	1.4%	69.1%
	Northern Pike	2,030	9.3%	40.8%	49.9%
	Lake Trout	608	49.0%	44.4%	6.6%
	Arctic Char	63	12.7%	37.3%	
	Inconnu	30	30.0%	70.0%	
	TOTAL*	13,298	28.5%	27.1%	43.9%
17/88	Whitefish	6,312	37.2%	41.9%	20.9%
	Pickerel	1,608	36.4%	1.4%	62.2%
	Northern Pike	1,974	10.1%	40.6%	49.3%
	Lake Trout	561	51.0%	36.2%	12.8%
	Arctic Char	46	8.7%	89.1%	2.2%
	Inconnu	59	11.9%	86.4%	
	TOTAL*	13,526	30.1%	31.9%	38.0%
36/87	Whitefish	5,849	34.4%	35.6%	30.0%
	Pickerel	2,785	23.7%	2.0%	74.3%
	Northern Pike	2,102	11.4%	32.5%	56.0%
	Lake Trout	702	37.6%	44.99	17.5%
	Arctic Char	97	16.7%	76.7%	5.0%
	Inconnu	42	66.7%	33.35	
	TOTAL*	14,235	26.2%	26.5%	47.3%
35/86	Whitefish	5,115	39.0%	38.2%	22.8%
	Pickerel	2,819	28.4'%	4.8%	66.8%
	Northern Pike	2,053	15.9%	30.0%	54.1?
	Lake Trout	392	34.2'%	58.9%	6.9?
	Arctic Char	55	3.6%	85.4%	7.3%
	Inconnu	52	57.7%	42.3%	
	TOTAL*	12,710	31.3%	26.1%	42.6%

Total of all fish processed id sold by - year.

DOMESTIC AND EXPORT SALES

Table 5.2 shows the trend record of Domestic vrs Export sales. Export sale continue to account for the major portion of total sales, as it does with the whole Freshwater Fisheries and the whole Canadian Fisheries.

Domestic sales account for 15% to 17% of total sales. This percentage appears to be approximately *in* line with that for the whole Canadian fisheries. Evidence for the reason for this was provided by many witnesses appearing before the proceedings of the Standing Senate Committee on the Fisheries. But one example of this is the comments made by the Chairman of the Committee at the February 3rd. and 4th., 1988 session (Issue No. 25, pg 25:9)

> The Chairman: I was saying that one of the most startling findings that we have discovered in our recent two phases of the study, was that the value of the imports of fish and while we export 1.4 billion to the United States, our imports have risen to three-quarters of a billion dollars, which points out the fact the rate of our importing of fish is going ahead of our exports.
>
> We found that eighty percent of the fish consumed in Canada is from other countries. So, it would appear that we are buying back our own fish, which we are selling raw to the United States and other countries and we are buying it back in a processed form and it points out the importance of the fact that we should con-centrating more on our domestic market and directing our efforts towards that end.

The Senate hearings contain considerable evidence from processors and exporters from all segments of the Canadian fisheries on why this is so. The main reason given is that it is much more profitable, because of the devalued Canadian dollar. This is a

historical "mind set" position. The basic argument used is that a Canadian $'s worth of fish for example, will bring the equivalent of a $1.05 in the United States. (FFMC reported in a brief to the Legislative Assembly, City & Town Councils, etc., dated October 29, 1987, pg. 4 :" Each one percent rise in the Canadian dollar reduces our annual sales revenue by approximately $250,000." (A lowering of the value of the Canadian dollar would increase revenue by the same amount, all things being equal).

The whole Canadian fisheries appear to believe this. Just one example of this is the amount of Canadian fish exported to the New England market. As reported in, 'Economic profile Of The Commercial Fisheries Industry Of New England", prepared by the Canadian Consulate General Boston, Massachusetts, USA, June 1989:

> Imports of finfish products had a dockside value of $979 million. Imported products valued at $377 million were brought into the US through New England prior to processing into a finished product. Of the total value of unprocessed imports, 24% were whole fresh or frozen fish and 75% were frozen blocks intended for processing into breaded and processed portions. Less than 1% of imports went into cured or other specialized products.

CANADIAN SEAFOOD EXPORTS TO NEW ENGLAND BY PRODUCT FORM
(Canadian $ - millions)

	1982	1987	% Increase
Fish, whole/dressed	36	100	+ 128%
Fish, fillets/blocks	371	736	+ 48%
Fish, preserved	16	24	+ 50%
Fish, canned	2	3	+ 50%
Shellfish et al.	192	349	+ 81%
Total New England	617	1,212	+ 109%

The second most often quoted reason for such a small percentage of the Canadian and Freshwater fisheries' being sold

domestically, is best exemplified by the following testimony before the Standing Senate Committee on the Fisheries, February 3rd. and 4th., 1988 session (Issue No. 25, pg 25:15)"

> Mr. Isaac Hubert, Multipeche: There is also the fact that the places where fish is processed in Canada and very far from the places where the fish is consumed and transport costs to ship the end product to the markets are almost prohibitive. I believe that this is one of the weaknesses of the Canadian federal system, that is, that trade between different parts of the country is too difficult and too costly.

and; (pg 25:27)

> M Marcel Hubert: . . . They transport fish, ground fish and shell fish from Newfoundland, from St John's....they transport fish from St John's to Montreal and Toronto by airline cheaper than we do by road and within what, three hours? No mor than that. Three or four hours from Newfoundland to Toronto and we are trying to compete with this. We can't. All right, let's say six hours. It takes us twenty four hours by road, by truck.

and;Proceedings of the Standing Senate Committee on Fisheries February 5, 1988 Issue No. 26,(pg. 26:23)

> Mr. Denis Martin, Director General, Quebec Region, Department of Fisheries and Oceans:
> In terms of imports, Quebec imports nearly 50 million pounds of products from more than 25 different countries. The great majority of these imports (about 90%) involve products or species not found in Canadian waters.
>
> Finally, because of the multiplicity of ethnic groups that make up the city of Montreal, imports will continue to be very high since Canadian plants don't process the products in demand among these communities. This also applies to the other major Canadian cities -

Toronto, Vancouver and Winnipeg - where imported products are in great demand. . . . .

The problems of the Western Region, Freshwater Fisheries in competing in the domestic market are further complicated. As reported in the Standing Senate Committee on Fisheries report,"An Interim Report On The Freshwater Fisheries", September 1986 (pg. 13):

> The FFMC mainly markets fish in the Western Region and in Central Canada. In British Columbia and east of Quebec, the FFMC products are by and large not competitive or not as saleable as salt water fishery products presumably due to the lack of consumer experience with freshwater fish.
>
> In marketing its products in Western Canada, the FFMC mainly acts as a distributor moving fish to a network of wholesalers and brokers who, in turn, service the retail and food service trades in the major western cities. Outside the major cities of the Western Region, the FFMC is the main supplier of freshwater fish to the retail and food service markets. In Alberta and Saskatchewan, however, changes were recently made to the intra-provincial fish marketing regulations making it possible for fishermen to sell their product direct to intra-provincial retail and food service outlets. ...The changes in Alberta were the results of a study showing that there was undue constraints on the local Alberta market for freshwater fish. One of these was obviously the need to route the product to and from a central processing plant with the attendant transportatiOn and overhead costs. Another was the considerable fluctuation in the availability and price of freshwater fish. As an export-oriented operation, the FFMC is constantly responding to market forces independent of local markets. This has apparently constrained many retail outlets from handling the

product .0

In Central Canada, the FFMC relies on one particularly large wholesaler which distributes FFMC products in Ontario and Quebec. However, the marketing of FFMC products in these provinces is highly seasonal as the FFMC cannot compete with Ontario integrated companies *in* the summer when the Great Lakes are open and Ontario fresh fish prices are $.30 to $.40/lb. lower than FFMC prices. Therefor[a] the FFMC inventories a Portion of its summer-caught products and sells these in frozen form in the winter when freshwater fish prices normally rise due to tight supply. East of Quebec, the FFMC virtually does not pursue the marketing of its product line except for speciality items such as Arctic Char.

[a] emphasis, our's.

Table 5.0 Domestic and Export Sales

DOMESTIC

Species	89/90	88/89	87/88	86/87	85/86	84/85	83/84	82/83
Whitefish	14.3%	13.4%	16.9%	18.4%	16.1%	12.4%	13.5%	19.0%
Pickerel	17.8%	13.0%	13.2%	12.1%	16.4%	17.9%	20.5%	23.6%
Sauger	21.9%	16.9%	10.4%	11.3%	17.5%	13.7%	4.2%	2.1%
Northern Pike	4.7%	7.4%	5.8%	8.7%	11.6%	11.1%	12.3%	6.0%
Lake Trout	30.6%	122. 2%	119.8%	30.6%	25.5%	20.1%	9 . 8 %	26. 6%
Tullibee	73.8%	25.3%	25.5%	68.0%	57.8%	74.0%	52.8%	49.3%
Perch	72.2%	69.6%	5.4%	3.4%	13.8%	5.4%	4.7%	2.7%
Mullet	23.9%	11.1%	18.0%	10.4%	20.2%	19.8%	6.7%	8.2%
Carp	39.0%	15.3%	19.5%	18.3'%	25.1%	18.0%	20.4%	10.9%
ArcticChar	96.0%	90.4%	91.3%	93.3%	98.2%	98.0%	97.6%	94.5%
Inconnu	16.0%	16.7%	32.2%	40.5%	32.7%	37.2%	56.2%	91.7%
Sturgeon	-1	-1	-1					6.7%
Others	75.0%	96.9%	71.1%	54.5%	40.8%	84.4%	38.5%	3.5%
TOTAL	17.7%	16.3%	14.9%	15.9%	17.0%	15.0%	14.4%	15.9%

The port ion of the species harvested from the Great Slave Lake: Whitefish, Pickerel, Northern Pike, Lake Trout and I nconnu; sold domestically fell from an average of 33. 4% in 1982/83 to 16. 7% in 1989/90, and reached a low of 14. 5% in the 1988/89 season.

EXPORTS :

Conversely, the dependence on the export market for sales for these same five species rose from an average of 56.6% in 1982/83 to 83.3% in 1989/90.

TABLE 5.1 EXPORT

Species	89/90	88/89	87/88	86/87	85/86	84/85	83/84	82/83
Whitefish	85.6%	86.4%	83.1%	81.6%	83.9%	87.6%	86.5%	81.0%
Pickerel	82.1%	87.0%	86.7%	87.9%	83.6%	82.1%	79.5%	76.4%
Sauger	78.0%	83.1%	89.6%	88.7%	82.5%	86.3%	95.6%	97.9%
Northern Pike	95.3%	92.6%	94.3%	91.3%	88.4%	88.9%	87.7%	94.0%
Lake Trout	69.6%	77.8%	80.4%	69.4%	74.2%	79.6%	90.2%	73.4%
Tullibee	27.9%	74.7%	75.0%	32.0%	42.2%	26.0%	46.6%	50.7%
Perch	27.8%	30.4%	94.5%	96.6%	85.7%	94.6%	95.3%	97*3%
Mullet	76.1%	88.9%	81.9%	89.6%	79.8%	80.0%	93.3%	91.8%
Carp	61.0%	84.7%	80.5%	81.7%	74.9%	82.0%	79.6%	89.1%
ArcticChar	4.0%	9.5%	8.7%	6.7%	1.8%	3.4%	4.8%	5.5%
Inconnu	84.0%	80.0%	66.1%	59.5%	67.3%	62.8%	43.7%	8.3%
Sturgeon	100%	100%	100%	100%	100%	100%	100%	93.3%
Others	24.5%	3.1%	28.9%	46.7%	59.2%	15.6%	61.5%	96.5%
TOTAL	82.3%	83.7%	85.1%	84.1%	83.0%	85.0%	85.6%	84.1%

This heavy dependence on foreign markets has a major impact on the net returns to the Corporation, because of fluctuations in the value of the Canadian dollar against other currencies, and therefor the net return to the harvesters.

As stated earlier, the United States is the major export market for all freshwater fish and it will be examined more closely next.

OVERVIEW OF THE U.S. MARKETS AND DISTRIBUTION CHANNELS.

"The Great Lakes Region (of the United States), ranked fifth in terms of fish consumption by the National Marine Fisheries Service, is the major U.S. market for Canadian freshwater fish. Per capita income in this region is slightly above that of the national average but, more importantly, it is inhabited by 26% of

the U.S. population and is relatively close to the Canadian border. The Great Lakes Region is served by the distributors and wholesalers of Detroit and Chicago which are the largest ones for freshwater fish. The Detroit distributors service the states of Michigan and Ohio and move minimal amounts of freshwater fish into the New York market. The Chicago fish distributors are more developed than those in Detroit as they handle larger amounts of product. Wholesalers in Chicago serve the states of Illinois and Indiana, while those in Minneapolis move FFMC products mainly into the Mid-West states and even California.

The mid-Atlantic Region, also an important market for freshwater fish, centres on the New York market. Wholesalers in New York service the important New York area market as well as New Jersey. In the past, the New York market basically drew its importance from serving the traditional Jewish market through the retail and small restaurant trades. This established the New York market as the price setter for freshwater fish.

The wholesalers of these large freshwater fish market segments generally service the retail trades as well as the small independently-run restaurants. However, the FFMC and the Ontario fish producers in addition to utilizing the wholesale distribution system also sell directly to some fast food chains and food processors in the United States. As well, the Canadian freshwater fish companies sell directly to institutional markets such as cafeterias, hospitals and prisons, but these are limited outlets for Canadian products since, as a rule, these institutions must satisfy local procurement regulations. . . . (the food service industry accounts for 65% of sales of fish in the Us. and the retail market for 35%)".[3]

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[3] 'Proceedings of the Standing Senate Committee on 'Fisheries', Issue No. 38, August 6, 1986, Page 17.

The following, more detailed, examination of the Chicago and Detroit markets is taken from information published by External Affairs and International Trade Canada[ao]. (For more information on other markets, please refer to the Appendix).

Market:	Chicago
Key Sub-Sector:	All seafoods

Specific Product Opportunities:	Current Imports ($ Cdn)
All seafoods	$13,400,000

GENERAL COMMENTS:

"Fish consumption in the US is usually limited to the types indigenous to a particular region, but because Chicago can easily receive fish products from all parts of the world (O'Hare International Airport is #l for direct flights), the midwest enjoyed the greatest/broadest 'variety' of ocean, native, freshwater and farm raised products in the country. Because fresh fish, which is in great demand, can be transported quickly and easily to other Midwestern states (a population base of 47 million), it is little wonder that Chicago has been deemed the "Seafood Capital of the Nation".

Chicago is very receptive to Canadian fish products. Every species available to us from Canada is already being purchased and marketed in the midwest. Accordingly, the Chicago fish community reports that speed is of the essence in ensuring choice goods; even the remotest suppliers can replenish inventories in less than a day, and any Canadian who cannot compete on those terms will be at a definite disadvantage here. It is also worth

[ao] "Annotated Fish Product Export Market Opportunities Guide, 19889-90", prepared for External Affairs and International Trade Canada by Gary G. Smith, Fisheries Division, Agri-Food, Fish and Resource Products Bureau, August 1990, pages 8-15.

noting that a 'good old boy" attitude towards Canadian fish suppliers exists here; Canadians are perceived as great, fair-minded people with quality products.

Recent meetings with well established middlemen disclosed the fact that the overall sales of Canadian fish products are hampered mostly by supply, not demand or price. This was confirmed during a meeting with the world's largest wholesaler of fresh fish, the Chicago Fish House, when the Executive Vice President said they alone could buy everything that Canada produces.

Conflicting viewpoints emerge on fresh vs. frozen products. Major brokers and distributors for frozen argue that frozen products generate more volume due to their popularity in supermarkets and institutions. Representatives of the fresh products impart just the opposite. Despite this, the consensus of opinion remains the same: seafood consumption has increased dramatically in recent years *and* the industry as a whole is projecting sales increases of 5% per year over the next 3-6 years.

Foodservices (hotels, restaurants, school, hospitals, etc.) demand for high quality seafood is increasing. Alone, Chicago Fish House ships 35 million lbs of seafood a year to hotels, supermarkets, clubs, restaurants and other wholesalers in 38 states as well as to several foreign countries. Volume products include cod, shrimp, salmon and even surimi which is fast becoming a product in and of itself. The age of hypermarkets is in full swing in the midwest and the demand at retail is also increasing.

An increasing amount of fish and seafood in the midwest is being raised through aquiculture. In the near future it is anticipated that most of the fish and seafood consumed will be just as much *a* domestic farm product as our other primary protein sources.

Aquiculture's popularity stems from a variety of factors: continuity of supply, consumer confidence in 'quality' generated from local, pollution free waters, and controlled production resulting in stabilized prices. With continued improvements in technology and delivery systems, Chicago's wholesalers will not only be able to routinely distribute familiar species such as tuna and trout, but impressive ones such as hoki, high brow snapper, orange roughy, leather jacket, painted sweetlips and dozens of other unusual varieties. In a 12-state territory centred around Chicago about 200 operations exist with significant additions forecasted. Presently 8?. of the fish consumed in the U S is the product of aquiculture.

According to local sources, the need to capitalize on "who we are and what we stand for" is our greatest challenge. It is a well known fact in the local trade arena that Canada has stringent inspection rules and that those standards are enforced to the letter of the law. Unfortunately, this "integrity" factor never reaches the ultimate consumer. Point of origin and quality assurance are ignored in the promotion, marketing and merchandising of Canadian fish."

Market:	Detroit
Key Sub-Sector:	Fish, Shellfish and Other Products

Specific Product Opportunities:	Current Imports ($ Cdn)
Freshwater Fish	
Groundfish	$17,600,000
Seafish	$ 5,300,000
Fish	$ 2,400,000
Shellfish	$ 1,900,000
Pelagic	$ 800,000

GENERAL COMMENTS:

"Considering the fisheries quota for both lake fish and ocean fish has been recently reduced, the impact will essentially effect both supply and price of the existing products distributed to this market. With this in mind, at this same time a concerted

marketing effort to promote, familiarize and sell the consumer some of the underutilized species of fish would be key to maintaining overall tonnage in this market area and establishing "new" distribution of these SpeCieS.

Another great opportunity is to actively work with the large multi-unit (chain) restaurants to create or promote "theme meals". Friday night lobster or crab dinners at a low price at family dining establishments, or halibut burgers, to name a few.

For the restaurant trade, whom are suffering a shortage of kitchen labour, providing value-added pre-cooked, seasoned, portion packaged to save on kitchen preparation time are all opportunities. Also, there is room for more active promotion of fish sales in general through the retail (supermarket) fresh fish counters.

FRESHWATER FISH:

By far, the single largest volume sub-sector in this market, which is due primarily to consumers familiarity with these species of fish through physical proximity to the Great Lakes. Walleye, perch, bass and smelt are the most popular commercial species and are purchased in both the fresh and frozen state, whole or filleted. The most popular markets are restaurants at the food service level and supermarkets fresh fish counters at the retail level. As well, fresh fish distributors sell a lot of product through the food markets.

GROUNDFISH:

In the groundfish sub-sector, cod, haddock, halibut and sole are the most popular species. Cod remains the dominant species as it allows for a low cost portion to the end user and is still popular in many of the local 'fish--n-chips' shops. Haddock and halibut provide for a more up scale menu item. All species are

most commonly purchased in frozen block and filleted forms and the majority of volume is realized through food service channels."

An indication of the competitive market in the United States in which the FFMC operates, not counting the U.S. domestically produced products, can be seen from the following selected Commodity breakdowns prepared by Peat Marwick Consulting Group for the Department of External Affairs.[11]

TABLE 5.0334.0 Fish Fresh (Live or Dead, Chilled, or Frozen
1986 Imports (thousands U.S. dollars)

Commodity Description	Total	Canada	Europe	Japan
Pike, fresh, chilled, or frozen, whole or beheaded, etc., but not otherwise processed	6,265	6,200	0	0
Trout, fresh, chilled, or frozen, whole or beheaded, etc., but not otherwise processed	1,753	673	684	0
Fish, fresh water, nspf, fresh, chilled, or frozen, whole or beheaded, etc., but not otherwise processed	8,520	5,545	955	0
Pike, pickerel, pike perch, fresh, chilled or frozen, otherwise processed, filleted, minced, ground, etc.	17,296	17,155	0	0
Yellow perch, fresh, chilled Or frozen, otherwise processed filleted, minced, ground, etc.	21,469	21,036	158	0
Fish, fresh-water, fresh, chilled or frozen, otherwise processed filleted, minced, ground, etc.	10,536	2,473	1,500	0
Fish roe, excluding sturgeon, fresh, chilled, or frozen, not boiled or in airtight containers	5,820	1,095	461	1,939
Pollock, skinned, boned, frozen into blocks weighing over 10 pounds, imported to be minced, etc.	44,266	2,508	2,120	2,454

[11] "Studies in Canadian Export Opportunities in the U.S. Market - Fish Products, Volume 1", Pear Marwick Consulting Group, Ottawa, June 1988, Pages 29-35.

As the above Table indicates, even in the import of freshwater fish into the United States, Canada faces strong competition. Canada supplied:

Trout	38.4%	of imports
Fish, fresh water, un-processed	65.1%	" "
Fish, fresh water, processed, etc.	23.5%	" "
Fish roe	18.8%	" "

It is only in the Pike categories that Canada is the predominate supplier.

Canada's record in the 'prepared or preserved categories is even less commanding, as the following Table shows.

037.1 Fish, Prepared or Preserved, Nspf, Including Caviar and Caviar Substitutes

1986 Imports (thousands U.S. dollars)

Commodity Description	Total	Canada	Europe	Japan
Fish, nspf, prepared or preserved in any manner, not in oil, in airtight containers	173,922	529	744	21,201
Fish, nspf, prepared or preserved in any manner, in oil and in airtight containers	3,640	0	1,121	75
Fish pastes and sauces	5,455	0	331	231
Fish balls, cakes, and puddings	26,995	250	198	22,225
Fish sticks, etc., fillets and portions of fish, breaded, batter coated or similarly prepared	2,022	1,327	0	595
Sturgeon roe, fresh, chilled, boiled and in airtight containers	4,104	0	1,236	0
Fish roe, except sturgeon, boiled and in airtight containers	156	0	0	0
Fish, prepared or preserved, nspf	49,534	14,531	2,500	25,547

FRESHWATER FISH MARKETING CORPORATION

FRESHWATER FISH MARKETING CORPORATION

This report is not an examination of the Freshwater Fish Marketing Corporation (FFMC) nor its past record. As stated at the outset of this review, the first step in solving any problem is to first define the problem. Since its inception in 1969 FFMC has been identified as the 'problem" and has been the subject of many reviews. This report has endeavored to show that what has historically been identified as the problem(s) of the freshwater fisheries, the problem of the Great Slave Lake fishery and the problem of the FFMC; is, in fact, the problem(s) of the whole Canadian fishing industry in large part. This is not to suggest that there are not problems specific to the freshwater fishing industry nor specific problem in the Great Slave Lake industry - there are.

Perhaps the following two statements made before the Standing Senate Committee on Fisheries describing the East Coast fisheries also best describe the freshwater fisheries:[12]

> The East Coast fishery has, as well, a long history of undergoing severe economic cycles. The record shows periods of boom and bust, with governments responding to each downward spiral every six to seven years with new studies and recommendations. In fact, many of the fishery's current ills are not recent phenomena. Resource fluctuations, insufficient data and information uncoordinated resource planning and development, lack of control over fishing effort, inadequate infrastructure, weak markets, poor marketing arrangements, low incomes and productivity, inconsistent product quality, etc, have been the objects of inquiries and reports that stretch back into the last

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[12] "Proceedings of the Standing Senate committee on Fisheries", Wednesday, December 20, 1989, Issue No. 4, pages 1 and 2.

century. Counting official commissions alone, there have been over 100 in the past 100 years."

"The issues confronting the fishery are difficult to unravel and often defy simple generalizations. The industry is a system with many tiers: species of fish vary widely with respect to behaviour, abundance, distribution and market value. Because there is generally more catching capacity than the resource can support, the industry is subject to a broad range of regulatory controls, which are not always popular among fishermen. The length of fishing seasons varies not only by species, but also by area and from year to year. Fishermen hold different types of licences, fish from boats of different sizes, use different types of gear, belong to different organizations, and invest different amounts of time and money. Some make substantial incomes while others achieve only modest financial returns.

In 1965, the McIvor Commission, which was studying Freshwater Fish Marketing in Canada, recommended the creation of a Crown Corporation to act as the sole wholesale outlet of freshwater fish produced in Western Canada and the Northwest Territories; as the way to correct the plight of the freshwater commercial fishermen. The governments of the various provinces and the Northwest Territories agreed and the FFMC was created in 1969 under, ***The Freshwater Fish Marketing Act.***

Since then, the FFMC has been the subject of at least six inquiries or reviews, that we are aware of (there may be more):

1972 "Canadian Freshwater Fish Marketing with particular reference to the Freshwater Fish Marketing Corporation:, by Marketing Services Branch, Fisheries Service, Department of the Environment

1978 "A Review and Assessment of the Marketing Operations of the Freshwater Fish Marketing Corporation", by There Ridden Associates Ltd, Management Consultants.

1980 'Report of the Select Committee on Recreational and Commercial Fishing Industries in Alberta", by the committee of the same name created by the Legislative Assembly of Alberta in June 1979.

1980 "Report of the Federal/Provincial/Territorial Committee of Officials on the Freshwater Fish Marketing Corporation'

1986 The Standing Senate Committee on Fisheries - 'The examination of all aspects of the marketing of fish in Canada and all implications thereof".

1987 Presentation by FFMC to the Legislative Assembly of the N.W.T., City and Town Councils.

A review of the findings of most of the above appears in the Appendix and/or in a following section. To be noted here is only the fact that while most of these had recommendations or suggestions for changes and/or improvements that could be made; all reported the FFMC to be doing an acceptable job of fulfilling its mandate and none recommended that the Corporation not remain as the sole marketer of fish products in the inter-provincial and export areas.

The mandate of the Corporation is to:

(a) Market fish in an orderly manner;
(b) increase returns to fishermen; and
(c) promote international markets for, and increase inter-provincial and export trade in fish.

Paragraph 2 of section 23 of Part III of the *Act* states that:

> All fish lawfully fished by a fisherman and offered by him for sale to the Corporation for disposal in interprovincial or export trade shall be bought by the Corporation from the fisherman upon such terms and conditions and for such price as may be agreed upon by the Corporation and the fisherman subject to any applicable scheme for payment established and operated by the Corporation pursuant to section 24.

The following two Tables indicate the results this has produced over the past few years. The number of people engaged in the fisheries, either full or part-time, has increased; as has the total harvest.

TABLE 6

ESTIMATED NUMBER OF PERSONS ENGAGED IN FISH HARVESTING OPERATIONS, WESTERN REGION
(Self-employed and Crew Hands combined)

Year	Employed	Skiffs	Gill-kneaders	Snow Vehicle	Power Toboggan	Total Vessels
1989/90	6,179	2,090	113	1,031	1,001	4,235
1988/89	6,738	2,084	113	1,145	1,112	4,454
1987/88	6,754	2,034	113	1,098	1,067	4,312
1986/87	6,264	2,034	113	1,001	972	4,120
1985/86	6,172	2,099	113	1,020	888	4,120
1984/85	5,997	1,991	113	919	892	3,915
1983/84	5,493	1,829	113	842	818	3,602
1982/83	5,711	2,257	113	1,055	703	4,128
Average	6,163	2,052	113	1,014	932	4,111

TABLE 6.1 Ten Year Trend By Major Western Lakes
(live weiaht equivalent tonnes)

Lake	80/81	81/82	82/83	83/84	84/85	85/86	86/87	87/88	88/89	89/90
Winnipeg	5,563	5,605	5,453	5,617	6,147	5,620	5,726	6,017	6,309	6,083
Manitoba	1,769	2,934	3,545	1,815	1,713	1,587	1,528	1,726	1,988	1,757
Winnipegosis	2,508	1,954	2,597	1,592	1,873	1,814	1,282	1,544	1,075	1,694
GREAT SLAVE	1,603	1,304	1,356	987	1,208	1,341	1,669	1,583	1,530	1,800
All Others	12,387	10,147	9,625	7,621	9,676	10,179	10,235	10,086	10,720	9,329
TOTAL- LAKES	23,830	21,944	22,576	17,632	20,616	20,541	20,441	20,956	21,622	20,663

It should also be noted that while the number engaged in the fisheries increased quite dramatically between the 1985/86 and the 1988/89 seasons, the total amount of harvest presented to FFMC did not increase any large amount until the 1988/89 season,

and then fell back for the 1989/90 season.

During this same period FFMC managed to sell product as recorded in the following Table: (For a complete breakdown by species, see Appendix)

TABLE 6.2

SALES VOLUME
(By major product)

Year	Fresh Tonnes	$000s	Frozen Tonnes	$000s	Processed Tonnes	$000s	Total Tonnes	$000s
89/90	26.1%	19.9%	29.6%	20.7%	44.3%	59.4%	12,619	$47,201
88/89	28.6%	23.3%	27.5%	19.0%	43.9%	57.8%	13,2981	$51,752
87/88	30.1%	24.9%	31.9%	19.6%	38.0%	55.5%	13,526	$51,670
86/87	26.2%	19.9%	26.5%	14.6%	47.4%	65.5%	14,235	$49,868
85/86	31.3%	24.1%	26.1%	16.5%	42.6%	59.4%	12,709	$40,130
84/85	30.1%	24.9%	28.7%	19.4%	41.2%	55.7%	11,762	$35,301
83/84	29.6%	28.7%	34.3%	19.0%	36.1%	52.3%	14,397	$38,727
82/83	26.2%	26.4%	43.5%	24.5%	30.3%	49.1%	16,215	$35,079

The Corporation has no control over how many people are engaged in the harvesting of freshwater fish in the Western Region, how much anyone is allowed to harvest or what species can be harvested. These remain provincial/territorial government responsibilities.

Neither does the Corporation have any control over the amount of effort (both in time and capital investment) any fisherman Puts into fishing, or over what time of the year this is done. The Corporation has no control over the direct costs incurred by the fisherman in the harvesting effort.

The Corporation is in-directly responsible for the total income received by the fishermen only from the fact that it is

responsible for obtaining the best possible price for the fish.

TABLE 6.3

Species	1989/90 Net Return (FFMC)	1988/89 Net Return (FFMC)	1987/88 Net Return (FFMC)	1986/87 Net Return (FFMC)	1985/86 Net Return (FFMC)
Whitefish	113.7%	68.4%	83.2%	112.5%	109.5%
Whitefish Roe	647.4%				
Pickerel	107.7%	100.2%	54.7%	32.9%	78.1%
Sauger	108.6%	119.6%	86.7%	44.3%	97.6%
Lake Trout	101.5%	81.0%	59.7%	87.6%	134.7%
Northern Pike	184.7%	114.1%	88.2%	66.9'%	88.8%
Tullibee	256.1%	236.0%	129.3%	152.1%	135.0%
Perch	98.8%	40.2%	28.2'%	24.9%	10.9%
Mullet	126.9%	127.3%%	110.0%	125.5%	228.8%
Carp	113.8%	107.1%	123.6%	105.3%	163.5%
Arctic Char	32.4%	25.7%	4.9%	8.5%	33.7%
Inconnu	80.4%	67.3%	32.3%	56.7%	73.3%
Sturgeon	16.1'%	loss	15.2%	12.6%	14.1%
Others	53.1%	45.5%	49.0%	39.2%	46.9%
AVERAGE	114.2'%	91.6%	69.9%	56.4%	90.3%

While the Corporation has been successful in increasing its return on total sales, there are wide fluctuations in the markup received for different species, and wide fluctuation in the year over year return for any given species.

The Corporation follows the practice of posting a price for each species at the beginning of the season, then at the end of the year, distributing any additional profit or revenue received after the actual sale of each species of the harvest. The fishermen are therefore in a position to decide for themselves if they will firstly, fish in a given year, and if so which season(s); and secondly, if they will sell their harvest to FFMC.

Table 6.4 gives some indication on what this can mean by way of species and season (A complete breakdown per species is given in the Appendix).

TABLE 6.4

COMPARISON OF SUMMER AND WINTER PRICES TO FISHERMEN
(Selected Species, F.O.B., Transcona

Species and	Grade	Summer		Winter 1980-81	
		1980	Nov. 1	Jan. 1	Mar. 1
Export Whitefish (dressed))	jumbo	.55	.70	.75	.80
	large	.48	.60	.70	.75
	medium	.40	.50	.60	.70
	small	.30	.40	.45	.50
Pickerel (round)	large	.70	.90	1.00	1.15
	medium	.70	.90	1.00	1.15
	small	.57	.70	.85	.95
Sauger (round)	large	.50	.65	.70	.70
	medium	.50	.60	.65	.65
Northern Pike (Halls & Dsd)	large	.28	.34	.34	.34
	small	.28	.34	.34	.34
Lake Trout (dressed)	medium	.53	.63	.63	.63
	small	.38	.48	.48	.48

Source: Freshwater Country: Issue No. 4, May 1980. (A publication of the Freshwater Fish Marketing Corporation)

MARKETING

Much has been said concerning the effectiveness of the marketing of products, the development of new markets and the development of new products, by FFMC. This report does not intend to enter this discussion; but would like to point out a few relevant facts.

The Standing Senate Committee on Fisheries made a total of 33 recommendations concerning the freshwater fisheries in Canada. Of these, 12 dealt with marketing, development of markets and products. Their report on the West Coast fisheries contained 57 recommendations, 21 of which concerned these same subjects; and of the 42 recommendations made in the report on the East Coast fisheries, 16 concerned marketing, markets and product development. (The recommendations on the Freshwater fisheries are recorded in their entirety in the next section, and those concerning marketing for the other two are recorded in the Appendix).

The theme of this Committeets recommendation is the same for all three fisheries, indeed some are word for word in all three; and make four points.

1. The total Canadian fishery is too small and too fragmented compared to compete effectively on world markets.
2* During this past decade there have been major changes in world production capacity and market developments and the development of aquiculture will increase this in the future.
3. Canada has to develop its own domestic market for fish and fish products.
4. The federal and provincial/territorial governments must become involved in co-ordinating and supporting the

marketing of Canadian fishery products outside of Canada. The individual companies in Canada are not large enough to individually do an effective job.

The Appendix contains a sampling of the amounts of money being spent in this area by others and some information on new products being developed by others.

RETURNS TO HARVESTERS

RETURNS TO HARVESTERS:

Freshwater fishermen, as do all fishermen and every other Canadian, desire a fair return on their labour and a good standard of living. This the majority of freshwater fishermen are not getting.

Most fishermen blame this on the price they receive for their harvest. A review of the submissions to and testimony made before the Standing Senate Committee on Fisheries shows this common theme from every fishery in Canada. Fishermen in the western Region have the same complaint, and as they sell the bulk of their catch to the one company, FFMC, their concern is usually directed at the Corporation.

The following quotes and tables from the Fourth proceeding, Wednesday, December 20, 1989 of the Proceedings of the Standing Senate Committee on Fisheries is included for comparison purposes.

> (Page 17) Some fishermen exploit each season more fully than others. On average, all East Cost fishermen fished for about 19 weeks in 1988, and devoted almost 7 weeks to prepare for the season. All fishermen spent on average 4 weeks in other income-earning employment, almost 18 weeks collecting Unemployment Insurance benefits, and the remaining weeks at other activities.
>
> (Page 18) In 1988, full-timers (fishermen) are estimated to have earned an average net fishing income of $15,653, compared to $5,642 for part-time fishermen. Full-timers in Nova Scotia had the highest net fishing incomes, averaging $23,615, while those in Newfoundland had the lowest with $9,686."

TABLE 6.3 (Page 21)

East Coast Landings 1986-1988

Species	1986 Catch (Tonnes)	1986 Value ($'000)	1987 catch (Tonnes)	1987 Value ($'000)	1988 Catch (Tonnes)	1988 Value ($'000)
Groundfish	785,960	368,160	752,172	515,376	728,373	387,985
Pelagic	293,800	81,200	289,220	70,618	360,526	89,689
shellfish	165,520	425,110	166,142	505,145	188,418	499,430
TOTAL	1,245,280	878,480	1,207,534	1,092,749	1,277,317	979,597

Department of Fisheries and Oceans, "Canadian Fisheries Landings", Vol. 10, No. 12, December 1988: "Canadian Fisheries Statistical Highlights 1987, 1989".

As the above Table indicates, East Cost fishermen received an average price per tonne for groundfish of:

1986 $468.4
1987 $685.2
1988 $532.7

For these same three years, fishermen in the Western Region received for their total catch, an average price per tonne of:[13]

	WESTERN REGION	GREAT SLAVE LAKE (only)
1986	$1,645.	$964.
1987	$1,906.	$1,327.
1988	$1,541.	$1,306.

This information is not meant to imply that Western Region fishermen are better off or doing well, they are not. Information on Net Income for the Western Region is not available, but as indicated in Table 6.4 below, their income is not increasing. These figures are calculated from "nominal dollars" (without an inflation factor).

[13] Calculated from Tables provided by Department of Fisheries and Oceans. Complete tables are recorded in the Appendix.

TABLE 7.0
DISTRIBUTION OF LANDED VALUES AMONG SELF-EMPLOYED FISHERMEN, BY REGION

YEAR	LANDED VALUE RANGE	ALTA .	SASK .	MAN .	NW ONT	N .W. T .	REGION AVERAGE
89/9 0	$6,000 and under	80. 1%	77. 0%	52. 7%	94 .6%	64. 4%	61 .8%
	$30,001 +	≤2. 4%	≤1 . 6%	2. 0%	-	≤14.4%	2 .1%
88/89	$6,000 and under	74. 9%	68. 1%	44. 2%	86 .9%	56. 5%	57. 1%
	$30,001 +	≤2.5%	3.0%	4.3%	≤4.3%	≤21.3%	4.2%
87/88	$6,000 and under	65.5%	57.0%	39.1%	82.7%	43.8%	47.1%
	$30,001 +	3.2%	3.4%	8.6%	≤3.6%	≤29.2%	7.5%
86/87	$6,000 and under	72.6%	64.9%	44.0%	88.8%	≤56.5%	53.3%
	$30,001 +	≤2.0%	2.7%	7.0%	≤5.2%	≤18.4%	5.7%
85/86	$6,000 and under	70.1%	72.8%	53.4%	88.7%	62.2%	60.1%
	$30,001 +	1.8%	2.1%	2.1%	≤2.4%	≤23.2%	2.4%

TABLE 7.2
LANDING, LANDED VALUES AND FISHING EFFORT, BY SELF-EMPLOYED FISHERMEN - WESTERN REGION

Year	Landed Value Range	Number of Fishermen	-Deliveries	Weeks	Average Per Weight	Fishermen Total Payments
89/90	$6,000 and under	61.8%	9.3	7.0	2,164	$2,894.
	$30,001 +	2.1%	72	23.0	40,617	.$53,465.
88/89	$6,000 and under	57.2%	14.9	6.4	1,701	S2,936.
	$30,001 +	5.2%	69.2	24.6	31,100	$39,480.
87/88	$6,000 and under	47.1%	12.5	5.7	1,388	$2,926
	$30,001 +	7.2%	63.8	21.8	22,774	$52,296
86/87	$6,000 and under	53.3%	13.4	6.1	1,778	$2,895.
	$30,001 +	5.6%	71.5	24.2	27,992	$55,827.
85/86	$6,000 and under	NA	NA	NA	NA	NA
	$30,001 +					

TABLE 7.3

LANDING, LANDED VALUES AND FISHING EFFORT, BY SELF-EMPLOYED FISHERMEN - NORTHWEST TERRITORIES

Year	Landed Value Range	Number of Fishermen	----------- -Deliveries	--------- Weeks	Average Per Weight	Fishermen ----- Total Payments
89/90	$6,000 and under $30,001 +	64.4% ≤14.4%	13.5 74.1	5.3 25,2	1,674 48,524	$2,732. $63,711.
88/89	$6,000 and under $30,001 +	56.5 ≤21.3%	14.8 57.1	6.9 21.2	1,735 37,367	$2,887. $72,308.
87/88	$6,000 and under $30,001 +	14.6% ≤29.2%	16.2 63.4	7.9 19.0	1,919 33,003	$2,912 $75,428
86/87	$6,000 and under $30,001 +	56.4% ≤18.4%	17.1 63.5	8.1 22.8	2,546 53,420	$2,928. $75,428
85/86	$6,000 and under $30,001 +	NA	NA	NA	NA	NA

Table 7.4 Estimated Number of Persons Engaged in Fish Harvesting Operations, (Western)

	Year	Summer Only	Winter Only	Both	Total
Self-employed Crew Hands TOTAL	1989/90	1,370 1,033 (2,403)	1,320 995 (2,315)	833 628 (1,461)	3,523 2,656 (6,179)
Self-employed Crew Hands TOTAL	1988/89	1,257 1,065 (2,322)	1,451 1,229 (2,680)	940 796 (1,736)	3,648 3,090 (6,738)
Self-employed Crew Hands TOTAL	1987/88	1,248 1,132 (2,380)	1,398 1,268 (2,666)	896 812 (1,708)	3,542 3,212 (6,754)
Self-employed Crew Hands TOTAL	1986/87	1,323 1,105 (2,428)	1,266 1,058 (2,324)	824 688 (1,512)	3,413 2,851 (6,264)
Self-employed Crew Hands TOTAL	1985/86	1,489 1,217 (2,706)	1,184 968 (2,152)	723 591 (1,314)	3,396 2,776 (6,172)

TABLE 7.5
PERCENTAGE OF PERSONS ENGAGED IN WINTER AND/OR BOTH SEASONS
(Totals include both Self-employed and Crew Hands)

Year	Sask.	Man.	N.W.T.
1989/90	54.5%	64.5%	40.3%
1988/89	53.5%	70.6%	44.8%
1987/88	44.5%	70.1%	64.0%
1986/87	36.2%	67.0%	56.3%
1985/86	28.9'%	62.9%	42.8%

Table 7.5 indicates that both Saskatchewan and Manitoba fishermen have increasingly concentrated on the winter fishery, while the percentage of N.W.T. fishermen doing so is both historically low and has decreased over the past few years.

Without further information it is not possible to calculate what affect this has on landed values or total payments to fishermen as reported in Tables 3.5 and 3.8 (Page 20), but as the landed value price for the major species caught appears to be higher during the winter months, the fact that the Territorial fisheries do not participate in it as much as the others may contribute to the lower landed values reported for the Great Slave Lake.

TABLE 7.6

DISTRIBUTION OF LANDED VALUES AMONG SELF-EMPLOYED FISHERMEN, BY REGION

YEAR	LANDED VALUE RANGE	ALTA.	SASK.	MAN.	NW ONT	N.W.T.	REGION AVERAGE
39/90	$6,000 and under	80.1′%	77.0%	52.7%	94.6%	64.4%	61.8%
	$30,001 +	≤2.4%	≤1.6%	2.0%	-	≤14.4%	2.1%
38/89	$6,000 and under	74.9%	68.1%	44.2%	86.9%	56.5%	57.1%
	$30,001 +	52.51+	3.0%	4.3%	≤4.3%	521.3%	4.2%
87/88	$6,000 and under	65.5%	57.0%	39.1%	82.7%	43.8%	47.1%
	$30,001 +	3.2%	3.4%	8.6%	≤3.6%	≤29.2%	7.5%
86/87	$6,000 and under	72.6%	64.9%	44.0%	88.8%	≤56.5%	53.3%
	$30,001 +	≤2.0%	2.7%	7.0%	≤5.2%	≤18.4%	5.7%
85/86	$6,000 and under	70.1%	72.8%	53.4%	88.7%	62.2%	60.1%
	$30,001 +	1.8%	2.1%	2.1%	≤2.4%	≤23.2%	2.4%

But 'income" or "harvested value" is not the result of price only. Other factors must be considered as well. A full statistical review of some of these is contained in the Appendix. These other factors include:

(a) In which season the harvest occurred,
(b) Amount of time spent in fishing in a given year.
(c) Percentage of whole harvest each species represents.
(d) Amount of catch vrs time required to catch (volume).
(e) Transportation distance/costs, to both shipment and processing points.
(f) Form and into which market final product is sold.
(g) Foreign exchange value of Canadian dollar.
(h) Product substitution and competition in the market.
(i) Cost of production and operations.

The complexity of this issue can be partially explained with the use of an example. The history of one species, the Northern pike will be used.

In 1989/90 the Northern Pike represented 16.1% of the total harvest processed by FFMC, VKS 16.7% in 1985/86. It represented 8.5% of the total harvested value that year vrs 10.6%. in 1985/86 and 11.3% vrs 10.5% of the FFMC total sales.

FFMC sold 4.7% of the product in Canada and exported 95.3% in 1989/90 vrs 11.6% domestically and 88.8% export in 1985/86. It sold 6.2% in fresh form, 44.5% in frozen and 49.2% in processed form in 1989/90 vrs 15.9%, 30.0% and 54.1% respectively in 1985/86. The net return to FFMC was 184.7% in 1989/90, but only 88.8% in the former year.

For the Great Lakes fishery this translated into representing 5.4% of their volume and 4.8% of the landed valve received in 1989/90 vrs 4.2?. and 3.9% in 1985186.

In terms of dollars, FFMC increased their revenue from this species by $993,000 in 1989/90 over the previous season, but the fishermen on the Great Slave Lake only increased their income by $4,000. in total, from this species, or about $15 per fisherman.

Doing the same exercise for Whitefish shows that while FFMC increased their revenue from Whitefish by $93,000. the fishermen on the Great Slave Lake increased their revenue from the species by $267,000, or an average of $971. per fishermen.

The large difference in net gain to the fishermen is due, in part, to the fact that Northern Pike accounts for only about 10% of the Great Slave Lake harvest, while Whitefish accounts for approximately 75%. (It accounts for 30% of FFMC's volume). A small increase or decrease in the landed value for Whitefish can

RECOMMENDATI ONS

RECOMMENDATIONS:

This report has endeavored to show that most of the 'problems" of the Freshwater Fishery, and those of the Northwest Territories fisheries in particular; are not just their problems, but are shared by **all** the fisheries in Canada. They are mostly structurally related and not dis-similar to those faced by many other Canadian resource related sectors. The solutions to these problems will not be found by individual companies, or even individual provinces.

The fishing industry is a part of the economy of virtually every province and territory of Canada. While it does not play a large part in the Gross Provincial Product on any province (0.210% for the N.W.T. in 1982/83) it is important to a large segment of the population in every province/territory and provides the economic baskbone of many communities in every province.

This is a national problem and should be recognized as such.

It is recommended that the Government of the Northwest Territories consult with its counterparts in all the rest of Canada to develop a joint approach to the federal government. 7

It is further recommended that all start with the recommendations made by the Standing Senate Committee on Fisheries on all three fisheries and that those that are common to all fisheries be acted upon immediately.

For more immediate action, it is recommended that, in consultation with the Freshwater Fish Marketing Corporation; that the appropriate officials of the Department of External Affairs be consulted with and their officials be invited to become more familiar with the Corporation and the fisheries in the Western Region.

For more immediate action, it is also recommended that the Government of the Northwest Territories join with FFCM in attendance at the appropriate trade shows, as is done by most provincial governments, both to increase the presence at these shows and to use the uniqueness of the territories as an additional marketing tool.

It is also recommended that the Government of the Northwest Territories take immediate steps to initiate the Senate Committees recommendation No. 9c, and commence a stock enhancement program in Great Slave Lake. Species of a higher commercial value, such as Northern Pike and Pickerel should be expanded and/or introduced; and the reliance on Whitefish reduced.

The recommendations of the Senate Committee were as follows:

Proceedings of the Standing Senate Committee on Fisheries
(August 6, 1986, Issue No. 38, page 39)
SUMMARY OF RECOMMENNDATIONS

The Committee recommends that:

(1) The Department of Fisheries and Oceans, in co-operation with the relevant provincial and territorial governments, undertake an economic comparison of the freshwater fisheries of the Ontario and Western Regions.

(2) The Department of Fisheries and Oceans undertake a comprehensive study of the Canadian fish and seafood market to determine the size, nature and potential of the domestic market for the purpose of providing sound bases for future fish marketing plans.

(3) The economic viability of local processing be investigated by the respective provincial governments.

(4a) The responsibility of granting licences for the purchasing, processing and marketing of carp, mullet and other low value

species be given to an impartial body composed of federal and provincial officials with the inclusion of a representative from the FFMC.

(4b) Research and development work be accelerated to find alternative uses for rough fish species.

(5) Variable pricing be implemented on a larger scale to control surges in delivery as well as quality levels. The fishermen affected by this should be fully informed of the pricing changes as well as the reasons for implementing them.

(6a) The provinces consult with the FFMC when establishing quota levels with a view to achieving a better coordination of supply and demand.

(6b) The provinces investigate the possibility of issuing transferable licences specifying annual quotas, the amounts of which would be staggered throughout the year.

(7) A permanent inter-provincial freshwater fishery committee composed of provincial and territorial government representatives, FFMC officials, fishermen's elected representatives and DFO personnel be formed for the purpose of co-ordinating inter-provincial fisheries policies, sharing information on matters of provincial domain, and taking responsibility for matters of common concern and common potential benefit.

(8a) The Department of Fisheries and Oceans assess existing programs to determine whether these contribute to the economic viability of commercial fishing in the Western Region.

(8b) The provincial, territorial and federal governments in co-operation with the FFMC coordinate their efforts to bring about a good balance of investments in harvesting facilities and the number of participants in the Western fisheries given the harvestable quantities of fish.

(9a) The provincial governments concerned provide assurances that decisions favouring the recreational fisheries over the commercial fisheries take into full consideration all

relevant information, including the fact that economic hardship for commercial fishermen may be engendered in areas where alternative employment is not available. It follows from this that commercial fisheries in these areas should be closed or curtailed only if the presence of the sports fisheries results in alternative employment opportunities or commensurate economic benefits for the displaced commercial fishermen.

(9b) Stock enhancement programs be instituted to increase the quantities of high value species for commercial fishing.

(9c) The allocation of game species to commercial fishermen be used to increase their incomes where possible, especially in the northern fisheries facing high transportation costs.

(10a) The Department of Fisheries and Oceans, in collaboration with the Department of Environment, continue its evaluation and monitoring of large industrial projects with a view to preventing environmental damage to the fisheries.

(10b) Should environmental damage be inevitable, individuals or groups whose livelihoods will be affected should be consulted and mutually agreeable terms for compensation worked out prior to the implantation of the project.

(11) The Government of Canada continue its close monitoring of the Garrison project and pursue efforts to protect the aquatic environment of the Western Region.

(12) The whitefish species pool be classified into appropriate categories according to the quality of the whitefish caught and marketed.

(13a) The fishermen on the NWT put their concerns to the territorial government which, in co-operation with the Department of Fisheries and Oceans and in consultation with the majority of fishermen, should take whatever action it deems appropriate for the benefit of most off the fishermen or that area.

(13) The territorial government, in co-operation with the

federal government, licence a few carefully selected individuals or groups to purchase and market species from the territorial harvest to international markets. this would be a pilot project designed to assess whether private enterprise has the capability to participate actively in revitalizing the declining fisheries of the Territories. The participates in this pilot project must be prepared to market all of their catch.

(14a) Ontario processors offer quota officers the opportunity to work in their companies in order to establish better understanding of the quota needs of the industry. Should this exercise yield positive results, it could become an on-going program.

(14b) The Ontario Department of Natural Resources create a ministerial advisory committee (similar to those existing in the coastal fisheries) composed of the various groups utilizing the resource. In addition to advising the Minister, such a committee would help foster better understanding between the various user-groups (e.g. recreational and commercial fishermen).

(14c) The relevant authorities and concerned parties from Ontario participate in the inter-provincial freshwater fishery committee as outlined in section 4.1.3.

(14d) The industry protect its own interests by pressing for environmental protection and corrective action as required, providing the media with accurate information about environmental issues that could adversely affect the industry. In this way inaccuracies can be prevented and the public notified of the immediate action being taken by industry and government.

(14e) Ontario processors in co-operation with the Department of Natural Resources investigate the possibility of processing fish from the more remote areas of Northern Ontario (including those currently under FFMC jurisdiction).

(15) The FFMC and the provincial/territorial governments jointly

pursue concerted efforts to stimulate the expansion of the domestic market for freshwater fish.

(16) The licensing process for intra-provincial sales be streamlined by eliminating the requirement for special dealer licences in all provinces under FFMC jurisdiction.

(17) The FFMC continue to extend efforts to ensure expansion of distribution and sales of freshwater fish in the Western Region as well as in Central Canada.

(18a) The Department of Fisheries and Oceans extend its program of emphasizing quality in the freshwater fish marketing with the objective of enhancing the image, and thereby increasing the consumption, of freshwater fish.

(18b) The Ontario Council of Commercial Fisheries, in co-operation with other industry associations such as the Ontario Fish Producers Association, undertake to develop and promote the sale of freshwater fish in the major supermarket chains in Ontario.

(18c) The freshwater fishing industries of both the Western and Ontario Regions, with the help of the federal, provincial and territorial governments, form an association for the purpose of developing generic advertising campaigns aimed at domestic consumers.

(19) Industry and the Department of Fisheries and Oceans increase their monitoring of developments in aquiculture with a view to assisting in the consolidation of the freshwater aquiculture industry in Canada and helping the traditional fishing industry react to these developments.

(20) In addition to participating in existing associations and programs, the federal and provincial/territorial governments in consonance with the freshwater fishing industry in the Western and Ontario Regions initiate special programs to pursue the development of new markets for freshwater fish.

APPENDIX ONE

STATISTICS

Unless other wise identified; all tables in this section are taken from, or calculated from "Annual Summary of Fish Harvesting Activities Western Canadian Freshwater Fisheries, 1989 - 1990, Volume 8", By Freshwater Institute Central and Arctic Region, Department of Fisheries and Oceans, Winnipeg, Manitoba.

Some historical data is taken from the same publication for previous years starting with the 1982 - 1983 volume.

(Correct citation is: "Department of Fisheries and Oceans. 1991. Annual Summary of Fish Harvesting Activities, 1989-1990, Volume 8: viii + 67 P.)

Table 1.1 Landings, Landed and Marketed Values by Species Western Canadian Freshwater Fisheries, 1989/90
(quantities in live weight equivalent tonnes and values in $000s)

Species	Quantity		Landed Value		Marketed Value	
Whitefish	6,194	30.0%	$6,121	24.3%	$13,084	24.3%
Whitefish Roe	5	.0%	19	.1%	142	.3%
Pickerel	4,938	23.9%	9,247	36.8%	19,208	35.6%
Sauger	2,686	13.0%	4,404	17.5%	9,185	17.0%
Lake Trout	749	3.6%	658	2.6%	1,326	2.5%
Northern Pike	3,338	16.1%	2,146	8.5%	6,109	11.3%
Tullibee	98	.5%	41	.2%	146	.3%
Perch	511	2.5%	1,136	4.5%	2,258	4.2%
Mullet	1,562	7.5%	461	1.8%	1,046	1.9%
Carp	325	1.6%	94	.4%	201	.4%
Arctic Char	82	.4%	444	1.8%	588	1.1%
Inconnu	102	.5%	148	.6%	267	.5%
Sturgeon	9	≤.1%	87	.3%	101	.2%
Others	65	.3%	143	.6%	219	.4%
TOTAL	20,663	100%	$25,148	100%	$53,881	100%

19 88/89

Species	Quantity		Landed Value		Marketed Value	
Whitefish	7,370	34.1	$8,691	26.1%	$14,633	22.9%
Whitefish Roe						
Pickerel	4,600	21.3%	12,387	37.2%	24,796	38.8%
Sauger	2,761	12.8%	4,967	14.9%	10,906	17.1%
Lake Trout	789	3.6%	950	2.8%	1,720	2.7%
Northern Pike	3,660	**16.9%**	3,350	10.0%	7,174	11.2%
Tullibee	231	1.1%	114	0.3%	383	0.6%
Perch	598	2.8%	1,553	4.7%	2,177	3.4%
Mullet	993	4.6%	297	0.9%	675	1.0%
Carp	414	1.9%	112	0.3%	232	0.4%
Arctic Char	89	0.4%	571	1.7%	718	1.1%
Inconnu	56	0.2%	104	0.3%	174	0.3%
Sturgeon	12	0.0%	125	0.4%	112	0.2%
Others	48	0.2%	101	0.3%	147	0.2%
TOTAL	21,622	100%	$33,321	100%	$63,847	100%

1987/88

Species	Quantity		Landed Value		Marketed Value	
Whitefish	6,819	32.5%	$8,200	20.5%	$15,024	22.1%
Whitefish Roe						
Pickerel	3,691	**17.6%**	16,530	**41.4%**	25,577	**37.7%**
Sauger	2,752	13.1%	6,956	17.4%	12,991	**19.1%**
Lake Trout	653	3.1%	920	2.3%	1,469	2.2%
Northern Pike	3,937	18.8%	4,603	11.5%	8,662	12.8%
Tullibee	261	1.2%	164	0.4%	376	0.5%
Perch	310	1.5%	999	2.5%	1,281	1.9%
Mullet	1,822	8.7%	538	**1.3%**	1,130	1.7%
Carp	509	2.4%	148	0.4%	331	0.5%
Arctic Char	59	0.3%	511	1.3%	536	0.8%
Inconnu	63	0.3%	127	0.3%	168	0.2%
Sturgeon	14	0.1%	139	0.33%	159	0.2%
Others	66	0.3%	106	0.2%	158	0.2%
ITOTAL	20,956	100%	$39,941	100%	$67,862	100%

1986/87

Species	Quantity		Landed Value		Marketed Value	
Whitefish	8,026	39.3%	$6,500	19.3%	$13,815	26.3%
Whitefish Roe						
Pickerel	4,353	21.3%	16,326	48.7%	21,705	41.3%
Sauger	1,429	7.0%	4,095	12.2%	5,910	11.2%
Lake Trout	727	3.5%	710	2.1%	1,332	2.5%
Northern Pike	3,438	16.8%	4,048	12.0%	6,756	12.8%
Tullibee	236	1.1%	140	0.4%	353	0.7%
Perch	118	0.6%	461	1.4%	576	1.1%
Mullet	1,309	6.4%	337	1.0%	760	1.4%
Carp	583	2.8%	169	0.5%	347	0.7%
Arctic Char	67	0.3%	411	1.2%	446	0.8%
Inconnu	75	0.4%	141	0.4%	221	0.4%
Sturgeon	18	0.1%	182	0.5%	205	0.4%
Others	64	0,3%	102	0.3%	142	0.3%
TOTAL	20,441	100%	$33,620	100%	$52,569	100%

1985/86

Species	Quantity		Landed Value		Marketed Value	
Whitefish	7,345	35.7%	$6,201	24.3%	$12,991	26.8%
Whitefish Roe						
Pickerel	4,752	23.1%	11,262	44.2%	20,063	41.4%
Sauger	1,629	7.9%	2,881	11.3%	5,692	11.7%
Lake Trout	635	3.1%	660	2.6%	1,549	3.2%
Northern Pike	3,437	16.7%	2,710	10.6%	5,116	10.5%
Tullibee	178	0.9%	120	0.5%	282	0.6%
Perch	163	0.8%	532	2.1%	590	1.2%
Mullet	1,812	8.8%	323	1.3%	1,062	2.2%
Carp	341	1.7%	63	0.2%	166	0.3%
Arctic Char	68	0.3%	320	1.2%	428	0.9%
Inconnu	74	0.3%	116	0.4%	201	0.4%
Sturgeon	26	0.1%	234	0.9%	267	0.5%
Others	82	0.496	64	0.2%	94	0.2%
TOTAL	20,541	100%	$25,485	100%	$48,502	100%

Table 1.3

Estimated Number of Fishing Vessels,
Western Freshwater Fisheries.

VESSEL TYPE	YEAR 1989/90	1988/89	1987/88	1986/87	1985/86
Skiffs	2,090	2,084	2,034	2,034	2,099
Gillnetters	113	113	113	113	113
Snow Vehicle	1,031	1,145	1,098	1,001	1,020
Power Toboggan	1,001	1,112	1,067	972	888
TOTAL	4,235	4,454	4,312	4,120	4,120

Table 1.5
Distribution of landed values among Self-Employed Fishermen.
Western - Freshwater (nominal dollars)

Landed Value Range	89/90	88/89	87/88	06/87	85/86	84/85	83/84	82/83	81/82	80/81
$0-$2,000	35.1%	30.0%	22.2%	39.2%	32.4%	28.2%	33.9%	42.0%	32.0%	33.0%
$2,001-$4,000	1.36\	16.5%	14.4%	17.0%	17.5%	16.2%	15.5%	18.4\	16.3%	18.2%
$4,001-$6,000	10.4:	10.7;	10.5%	12.1%	10.6%	10.4%	10.6\	12.0%	10.2%	11.3%
$6,001-$8,000	9.1%	9.3%	7.7%	0.8%	7.9;	10.7%	10.2%	7.0%	9.2$	8s1$
$8,001-$10,000	5.7%	6.5\	7.3%	6.0%	6.8%	7.4%	6.2%	5.9a	6.6:	6.4%
$10,001-$14,000	9.7a	9.9:	10.8%	8.4%	9.1%	10.2%	10.0%	6.7%	9.3%	8.4%
$14,001-$20,000	7.6%	9,5%	10.2%	5.4a	8.4$	8.4%	6.9%	4.9%	8.0%	6.7%
$20,001-$30,000	4.1:	6.4%	9.8%	2.1%	4.8%	5.3%	4.7a	2.0%	5.3%	4.6%
$30,001-$40,000	0.8%	2.2%	4.1%	0.4$	0.9%	1.6%	0.9%	0.5%	1.7%	1.8%
$40,001 +	1.3%	2.0$	3.1$	1.0%	1.5%	1.5$	1.0%	0.6%	1.3%	1.4:
TOTAL	3,523	3,648	3,542	3,413	3,396	3,242	3,037	3,474	3,194	3,439

Table 1.4
Landings, Landed Values and Fishing Effort, By Self-Employed Fishermen
- Western, Freshwater Fisheries.

1989-1990

Landed Value Range	Number of Fishermen	Deliveries	Weeks	Average Per Weight	Fishermen Total Payments
$0-$2,000	35.1%	7.0	3.5	686	$872
$2,001-$4,000	16.3%	18.2	7.5	2,158	$2,874
$4,001-$6,000	10.4%	26.2	10.1	3,647	$4,935
$6,001-$8,000	9.1%	31.5	11.3	4,977	$6,875
$8,001-10,000	5.7%	37.2	13.6	6,312	$9,040
$10,001-$14,000	9.7%	43.7	15.4	8,867	$13,891
$14,001-$20,000	10.5%	50.9	18.3	12,840	$16,642
$20,001-$30,000	4.1%	58.8	20.0	15,581	$23,590
$30,001-$40,000	.8%	60.4	19.5	24,351	$34,117
$40,001 +	1.3%	83.5	26.5	56,883	$72,814
TOTAL	3,523	25.2	9.3	4,944	$7,035

1988 - 1989

Landed Value Range	Number of Fishermen	Deliveries	Weeks	Average Per Weight	Fishermen Total Payments
$0-$2,000	30.0%	6.1	3.3	538	$896
$2,001-$4,000	16.5%	15.6	6.7	1,722	$2,956
$4,001-$6,000	10.7%	22.9	9.3	2,842	$4,956
$6,001-$8,000	9.3%	27.2	10.3	4,053	$6,970
$8,001-10,000	6.5%	31.9	12.2	4,881	$8,926
$10,001-$14,000	9.9%	37.8	13.3	6,721	$11,960
$14,001-$20,000	9.5%	45.1	15.8	8,899	$16,738
$20,001-$30,000	6.4%	55.1	18.5	12,018	$23,807
$30,001-$40,000	2.2%	61.0	22.4	18,317	$34,335
$40,001 +	2.0%	77.5	26.9	43,883	$78,960
TOTAL	3,648	25.7	9.8	4,995	$9,134

1987 - 1988

Landed Value Range	Number of Fishermen	Deliveries	Weeks	Average Per Weight	Fishermen Total Payments
$0-$2,000	22.2%	5.3	3.0	492	$895
$2,001-$4,000	14.4%	13.4	6.0	1,438	$2,910
$4,001-$6,000	10.5%	18.9	8.0	2,235	$4,974
$6,001-$8,000	7.7%	24.3	10.2	3,374	$6,942
$8,001-10,000	7.3%	26.1	10.0	4,079	$8957
$10,001-$14,000	10.8%	31.6	11.6	5,251	$11,768
$14,001 $20,000	10.2%	40.6	13.9	7,385	$16,836
$20,001-$30,000	9.8%	47.2	15.33	9,910	$24,514
$30,001-$40,000	4.1%	58.1	19.3	12,793	$33,907
$40,001 +	3.1%	69.5	24.4	32,756	$70,685
TOTAL	3,542	25.5	9.6	4,930	$11,276

1986-1987

anded Value Range	Number of Fishermen	Deliveries	Weeks	Average Per Weight	Fishermen Total Payments
$0-$2,000	27.1%	6.1	3.4	622	$888
$2,001-$4,000	16.3%	13.7	6.4	1,896	$2,893
$4,001-$6,000	9.9%	20.5	8.4	2,817	$4,904
$6,001-$8,000	8.1%	24.3	9.6	3,940	$6,944
$8,001-10,000	5.9%	32.3	11.9	4,935	$9,025
$10,001-$14,000	9.5%	34.9	12.1	5,867	$11,910
$14,001-$20,000	9.2%	42.8	14.6	8,006	$16,741
$20,001-$30,000	8.4%	53.6	16.9	10,391	$24,032
$30,001-$40,000	3.4%	64.6	21.2	14,035	$34,460
$40,001 +	2.2%	78.4	27.3	41,949	$77,194
TOTAL	3,413	25.5	9.5	4,927	$9,851

Table 1.7 Landings By Major Western Lakes

Yr	Species	Great Slave Lake		Winnipeg		Manitoba		Winnipegosis		All Others		Total	
		Tonne	$000s	Tonne	000s	Tonne	000s	Tonne	000s	Tonne	000s	Tonne	000s
79/80	Whitefish	1,367	1,182	1,325	$1,468	17	20	113	119	3,377	$3,351	6,199	$6,140
	Pickerel	20	34	2,368	4,249	349	738	102	191	2,099	4,035	4938	9,247
	Sauger	0	0	1,081	3,310	580	1,057	3	5	22	33	2,686	4,404
	Lake Trout	132	124	0	0	0	0	0	0	617	534	749	658
	Northern Pike	179	103	141	94	114	78	288	189	2,616	1,681	3,338	2,146
	Tullibee	0	0	0	0	0	0	0	0	98	41	98	41
	Perch	0	0	134	285	272	618	91	206	14	28	511	1,136
	Mullet	0	0	4	1	286	82	911	274	361	104	1,562	461
	Carp	0	0	1	0	139	41	180	51	5	2	325	94
	Arctic Char	0	0	0	0	0	0	0	0	82	444	82	444
	Inconnu	101	148	0	0	0	0	0	0	0	0	102	148
	Sturgeon	0	0	0	0	0	0	0	0	9	87	9	87
	Others	0	0	29	57	0	0	6	15	30	71	65	143
	TOTAL	1,800	1,591	5,083	$9,464	1,757	$2,634	1,694	1,049	9,329	$10,410	20,663	$25,148
80/81	Whitefish	1,259	1,642	1,660	$2,288	32	$42	40	38	4,379	$4,682	7,370	$8,691
	Pickerel	21	52	2,056	5,205	412	1,318	64	213	2,047	5,599	4,600	12,387
	Sauger	0	0	2,202	3,799	535	1,129	4	7	20	31	2,761	4,967
	Lake Trout	65	82	0	0	0	0	0	0	724	868	789	950
	Northern Pike	128	119	194	171	217	198	323	320	2,799	2,542	3,660	3,350
	Tullibee	0	0	0	0	0	0	0	0	231	114	231	114
	Perch	0	0	122	306	414	1,087	43	112	19	48	59a	1,553
	Mullet	0	0	10	3	217	56	440	138	332	99	993	297
	carp	0	0	54	17	161	44	142	38	51	13	414	112
	Arctic Char	0	0	0	0	(	0	0	0	89	571	89	571
	Inconnu	56	104	0	0	(	0	0	0	0	0	56	104
	Sturgeon	0	0	0	1	(	0	0	0	12	124	12	125
	Others	0	0	11	14	(	0	20	48	17	39	4a	101
	TOTAL	1530	$1,998	6,309	$11,804	1,988	$3,875	1,075	$914	10,720	$14,730	21,621	$33,321
87/88	Whitefish	1,295	$1,668	1,818	$2,354	4(	$6;	5[	$31	3,617	$4,084	6,819	$8,200
	Pickerel	6	25	1,522	6,506	422	2,226	83	431	1,658	7,341	3,691	16,530
	Sauger	0	0	2.344	5,78!	389	1,127	4	10	15	34	2,752	6,956
	Lake Trout	112	157	(	(	(	(	(	0	541	769	653	920
	Northern Pike	107	129	16(	189	180	21!	41:	504	3,077	3,567	3,937	4,603
	Tullibee	0	(	(	(	(	(	(	0	261	164	261	164
	Perch	0	(	111	34!	175	572	[	29	15	49	31(	999
	Mullet	0	(	4	1	32(	10:	81:	249	68(	185	1,822	538
	Carp	0	(	41	1:	19!	5(	151	42	123	36	509	148
	Arctic Char	0	(	(	(	(	(	(	(	59	511	59	511
	Inconnu	63	12(	(	(	(	(	(	(	(	1	63	126
	Sturgeon	0	(	(	.	(	(	(	(	14	13a	14	139
	Others	0	(	1(	2(	(	(	2:	49	27	37	66	106
	TOTAL	1,583	$2,10(	6,01:	$15,22!	1,72(	$4,36:	1,54(	$1,34!	10,08(	$16,915	20,95(	$39,941

Yr	Species	Great Slave Lake		Winnipeg		Manitoba		Winni-pegosis		All Others		Total	
		Tonne	$000s	Tonne	$000s	Tonne	$000s	Tonne	$000s	Tonne	$000s	Tonne	$000s
6/	Whitefish	1,315	1,132	1,999	$1,974	37	$50	66	$40	4,609	$3,304	8,026	$6,500
7	Pickerel	13	52	2,190	7,956	432	1,943	45	208	1,672	6,167	4,353	16,326
	Sauger	0	0	1,169	3,292	244	760	6	17	11	27	1,429	4,095
	Lake Trout	113	112	0	0	0	0	0	0	613	598	726	710
	Northern Pike	137	156	172	193	127	171	551	748	2,452	2,780	3,438	4,048
	Tullibee	0	0	2	2	0	0	0	0	234	139	236	140
	Perch	0	0	55	212	39	155	11	43	13	50	118	461
	Mullet	0	0	3	1	361	114	429	122	496	101	1,309	337
	Carp	0	0	103	33	268	71	154	48	58	18	583	169
	Arctic Char	0	0	0	0	0	0	0	0	67	411	67	411
	Inconnu	75	141	0	0	0	0	0	0	0	0	75	141
	Sturgeon	0	0	0	0	0	0	0	0	18	182	18	182
	Others	0	0	34	75	0	0	20	18	10	9	64	102
	TOTAL	1,653	1,593	5,726	$13,736	1,528	$3,263	1,282	$1,244	10,251	$13,784	20,441	$33,620
15/	Whitefish	1,001	$915	1,430	$1,526	37	$45	92	$57	4,784	$3,657	7,345	$6,201
16	Pickerel	13	28	2,404	5,630	250	705	91	219	1,994	4,680	4,752	11,262
	Sauger	0	0	1,434	2,504	190	368	2	4	3	6	1,629	2,881
	Lake Trout	108	116	0	0	0	0	0	0	527	544	635	660
	Northern Pike	145	107	207	150	195	181	651	593	2,237	1,680	3,437	2,710
	Tullibee	0	0	1	1	0	0	0	0	177	119	178	120
	Perch	0	0	35	109	113	373	10	31	6	19	163	532
	Mullet	0	0	42	9	641	116	890	151	238	47	1,812	323
	Carp	0	0	45	11	160	30	55	10	81	13	341	63
	Arctic Char	0	0	0	0	0	0	0	0	68	320	68	320
	Inconnu	73	116	0	0	0	0	0	0	1	0	74	116
	Sturgeon	0	0	0	0	0	0	0	0	26	234	26	234
	Others	0	0	23	36	0	0	23	14	37	14	82	64
	TOTAL	1,341	$1,283	5,620	$9,97!	1,587	$1,817	1,814	$1,078	10,179	$11,332	20,541	$25,485

LANDIN 5 BY MAJ(R LAKES, W E S T E R N REGION BY I ERCENTAGI

Year	Species	Great Slave Lake		Winnipeg		Manitoba		Winni - pegosis		All Others		Total	
		onne	$	onne	$	Tonne	$	Tonne	$	onne	$	onne	$000s
189/90	Whitefish	22%	19.2%	21.4%	23.9$	0.3%	0.3$	1.8\	1.9%	54.5$	54.6%	6,199	6,140
	Pickerel	0.4%	0.4$	48.0%	45.9%	7..1%	8.0$	2.1%	2.1$	42.5$	48.6%	4,938	9,247
	Sauger	0	0	77 .5:	75.2%	21.6%	24 .0%	o .1%	0.1%	0.8%	0.7*	2,686	4,404
	Lake Trout	17.6%	18.8%	o	0	0	0	0	0	82.4%	81.2%	749	658
	Northern Pike	5.4$	4.8%	4.2%	4. 4%	3.4%	3.6%	8.6:	8.8%	78. 4%	78.3;	3,339	2,146
	Tullibee	0	0	0	o	o	0	0	o	100%	100%	98	41
	Perch	0	0	26.2%	25.1%	53.2%	54.4$	17.81	18.1%	2.7%	2.5%	511	1,136
	Mullet	0	0	0.3%	0.2%	18.3%	17.8$	58.3\	59.4%	23.1%	22.6%	1,562	461
	Carp	0	0	0.3:	0	42.8%	43.6%	55.4\	54*3%	1.5\	2.1%	325	94
	Arctic Char	0	0	o	0	0	0	0	o	100%	100a	82	444
	Inconnu	99.0%	1001	0	0	0	0	0	0	0	0	102	148
	Sturgeon	0	0	0	0	0	0	0	0	100a	100%	9	87
	Others	0	0	43.1;	39.9%	0	0	9.21	10. 5%	46 .1%	49.71	65	143
	TOTAL	8.7%	6.31	29.4%	37.6%	8.51	10.5$	8 .2%	6.3%	45.1%	41,4:	20,663	25,148
988/89	Whitefish	17.1%	18.9%	22.5%	26.3%	0.4!	0.5%	0.51	0.4%	59.4%	53,9\	7,370	8,691
	Pickerel	0.5%	0.4%	44.7\	42. 0%	9.0%	10.6%	1.4%	1.7%	44 .5%	45.21	4,600	12,387
	Sauger	0	(	79.8%	76.5%	19.4%	22.7%	0.11	0.1%	0.7%	0.6%	2,761	4,967
	Lake Trout	8.2%	8.6%	0	o	(	0	(	0	91.8%	91.4%	789	95(
	Northern Pike	3,51	3.51	5.3!	5.1%	5.9%	5.9%	8 .8%	9. 5%	76.5%	75.9%	3,660	3,35(
	Tullibee	(	(	0	o	(	0	(	0	loot	100%	231	114
	Perch	(		20.4%	19.7%	69.21	70. 0%	7.21	7. 2%	3.2t	3.1%	59a	1,55:
	Mullet	(		1.01	loot	21,31	18.9%	44.31	46.5%	33.4%	33.3%	993	297
	Carp	(		13%	15.2%	40.3%	39 .3a	34.31	33.9%	12.3%	11.6%	414	11:
	Arctic Char	(	(	(	0	(	0	(	0	loot	1001	89	571
	Inconnu	100%	100%	(	0	(	0	(	0	0	0	56	104
	Sturgeon	(	(	(	0.8%	(	0	(	0	loot	99.21	12	12!
	Others	(	(	11%	13.9%	(	0	41.7%	47.5%	35.4%	38.6%	40	101
	TOTAL	7.1%	6.0%	29.2%	35.4%	9.2%	11.6%	5.0%	2.7%	49.6%	44.2%	21,622	33,321
987/88	Whitefish	19.0%	20.3%	26/7!	28.7%	0.6%	0.8%	0.7%	0.41	53.0%	49.8%	6,819	8,20(
	Pickerel	0.2%	0. 1%	41.2%	39.4%	11.4%	13.5%	2,2!	2.6;	44.9%	44.4%	3,691	16,53(
	Sauger			85.2%	83.2%	14.1%	16.2%	0.1%	0.1%	0.5%	0.5%	2,752	6,95(
	'Lake Trout	17.1%	16, 5%						·	82.8%	83.6%	653	920
	Northern Pike	2.7!	2 .8'	4.1%	4.1:	4.6%	4.7%%	10.5%	10 · 9%	78.2%	77.51	3,937	4,603
	Tullibee								·	loot	100%	261	164
	Perch			35.8%	34.9%	56. 4%	57.3%	2.9'	2.9%	4.8%	4.91	31(	999
	Mullet			0.2%	0.2$	17. 9'	19.1%	44.6%	46.3%	37.3%	34.4%	1,822	538
	Carp			8.1%	8.8%	38 .3%	37,8%	29.7'	28.4%	24.2%	24.31	509	148
	Arctic Char									loot	100%	59	511
	Inconnu	100'	100'								0.8%	63	126
	Sturgeon				0.7%					loot	00.3%	14	139
	Others			24 .2%	18.9%		-	34.8'	46.2%	40.9%	34.9%	66	106
	TOTAL	7.5'	5.3	28.7%	38.1%	8.2'	10.9%	7.4<	3.4%	48.1%	42.3%	20,956	39,941

Year	Species	Great Slave Lake		Winnipeg		Manitoba		Winnipegosis		All Others		Total	
		Tonne	$	Tonne	$	Tonne	$	Tonne	$	Tonne	$	Tonne	$000s
386/87	Whitefish	16.4%	17.4%	24.9%	30.4;	0.5:	0.8%	0.8%	0.6%	57.4%	50.8%	8,026	6,500
	Pickerel	0.3%	0.3%	50.3%	48.7%	9.9%	11.9%	1.0:	1.3%	38.4%	37.8%	4,353	16,326
	Sauger		-	81.8:	80.4%	17.1:	18.6a	0.4:	0.4*	0.8%	0.7$	1,429	4,095
	Lake Trout	15.6$	15..8%	-	-	-	-	-	-	84.4%	84.2%	726	710
	Northern Pike	4.0%	3.8%	5.0%	4.8%	3.7a	4.2\	16.0%	18.5%	71.3%	68.7%	3,438	4,48
	Tullibee		-	0.8%	1.4%	-	-	-	-	99.1%	99.3%	236	140
	Perch		-	46.6%	46.0%%	33.0:	33.6%	9.3%	9.3%	11.0%	10.8%	118	461
	Mullet			0.2%	0.3*	29.1%	33.8%	32.8%	36.2%	37.9a	30.0%	1,309	337
	Carp		-	17.7%	19.5%	46.0%	42.0%	26.4%	28.4%	9.9a	10.6%	583	169
	Arctic Char	-	-	-	-	-	-	-	-	100:	100%	67	411
	Inconnu	100%	100a	-	-	-	-	-	-	-	-	75	141
	Sturgeon								-	100a	100a	18	182
	Others		-	53.1%	73.5%	-	-	31.2%	17.6%	15.6%	8.8%	64	102
	TOTAL	8.1%	4.7%	228.0%	40.9%	7.5%	9.7a	6.3%	3.7%	50.1*	41.0%	20,441	33,620
985/86	Whitefish	13.6%	14.8%	19.5a	24,6%	0.5%	0.7%	1.2$	0.9:	65.1%	59.0%	7,345	6,201
	Pickerel	0.3$	0.2%	50.6$	50.0%	5.3%	6.3$	1.9%	1.9%	42.0%	41.6%	4,752	11,262
	Sauger		-	88.0%	86.9%	11.7%	12.8%	0.1%	0.1%	0.2*	0.2%	1,629	2,881
	Lake Trout	17.0%	17.6 :	-	-	-	-	-	-	83.0*	82.4%	635	660
	Northern Pike	4.2%	3,9%	6.0%	5.5%	5.7%	6.7%	18.9%	21.9%	65.1%	62.0%	3,437	2,710
	Tullibee			0.6%	0.8a	-	-	-	-	99.4a	99.2%	178	120
	Perch		-	21.5%	20.5%	69.3%	70.1%	6.1%	5.8%	3.7%	3.6%	163	532
	Mullet			2.3%	2.8%	35.4%	35.9%	49.1%	46.7%	13.1%	14.5%	1,812	323
	Carp		-	13,2%	17.5%	46.9%	47.6%	16,1%	15.9%	23.7%	20.6%	341	63
	Arctic Char								-	100%	100%	68	320
	Inconnu	98.6%	100%	-	-	-	"	-	-	1.3%	-	74	116
	Sturgeon								-	100%	100%	26	234
	Others		-	28.0%	56.2%	-	-	28.0	21.9$	45.1%	21.9$	82	64
	TOTAL	6.5%	5.0%	27.4%	39.1%	7.7%	7.1%	8.8%	4.2%	49.5%	44.5%	20,541	25,485

SALES VOLUME

Table

Sales Volume By Major Product

Year	Fresh Tonnes	$000s	Frozen Tonnes	$000s	Processed Tonnes	$000s	Total Tonnes	$000s
89/90	3,292		3,735		5,591		12,619	
88/89	3,797		3,659		5,842		13,298	
87/88	4,072		4,316		5,138		13,526	
86/87	3,725		3,769		6,741		14,235	
85/86	3,984		3,313		5,412		12,710	
84/85	3,540		3,373		4,849		11,762	
83/84	4,258		4,945		5,194		14,397	
82/83	4,249		7,051		4,915		16,215	

Table 1.1.2

Sales By Major Product Type
(product weight in Tonnes)

ear	Species	Fresh	?rozen	processed	TOTAL	percentage: Fresh	Frozen	Proc-Ssed
9/90	Whitefish	1,692	1,873	990	4,556	37.1%	41.1%	21.7%
	Pickerel	767	47	1,757	2,571	29.8%	1.8%	68.3%
	Sauger	9	16	887	911	1.0%	1.7%	97.4%
	Northern Pike	163	1,164	1,287	2,614	6.2%	44.5%	49.2%
	Lake Trout	124	311	42	477	26.0%	65.2%	8.8%
	Tullibee		61		61	-	100%	
	Perch	316	6	45	367	86.1%	1.6%	12.3%
	Mullet	167	64	502	733	22.8%	8.7%	68.5%
	Carp	21	38	82	141	14.9%	26.9%	58.1%
	Arctic Char	10	66		766	13.1%	86.8%	
	Inconnu	8	48		56	14.3%	85.7%	
	sturgeon		1		7	-	100%	
	Others	14	35		49	28.6%	71.4%	
	TOTAL	3,292	3,731	5,591	12,619	26.1%	29.6%	44.3%

ar	Species	Fresh	Frozen	Processed	TOTAL	Fresh	Frozen	Proc-essed
3/89	Whitefish	2,023	2,093	1,635	5,751	35.2%	36.4%	28.4%
	Pickerel	550	27	1,288	1,864	29.5%	1.4%	69.1%
	Sauger	21	26	1,099	1,146	1.8%	2.3%	95.9%
	Northern Pike	188	829	1,013	2,030	9.3%	40.8%	49.9%
	Lake Trout	298	270	40	608	49.0%	44.4%	6.6%
	Tullibee		186	4	190	-	97.9%	2.1%
	Perch	569	22		592	96.1%	3.7%	-
	Mullet	106	6	590	702	15.1%	0.8%	84.0%
	Carp	25	83	172	281	8.9%	29.5%	61.2%
	Arctic Char	8	55		63	12.7%	87.3%	-
	Inconnu	9	21		30	30.0%	70.0%	-
	Sturgeon		9		9	-	100%	-
	Others	1	31		32	3.1%	96.9%	-
	TOTAL	3,797	3,659	5,842	13,298	28.5%	27.1%	43.9%
7/88	Whitefish	2,348	2,643	1,321	6,312	37.2%	41.9%	20.9%
	Pickerel	585	23	1,000	1,608	36.4%	1.4%	62.2%
	Sauger	42	45	960	1,047	4.0%	4.3%	91.7%
	Northern Pike	199	802	973	1,974	10.1%	40.6%	49.3%
	Lake Trout	286	203	72	561	51.0%	36.2%	12.8%
	Tullibee	0	212	0	212	-	100%	-
	Perch	296	16	0	312	94.9%	5.1%	-
	Mullet	272	175	670	1,117	24.3%	15.7%	60.0%
	Carp	20	61	140	221	9.0%	27.6%	63.3%
	Arctic Char	4	41	1	46	8.7%	89.1%	2.2%
	Inconnu	7	51	0	59	11.9%	86.4%	-
	Sturgeon	0	10	0	10	-	100%	-
	Others	12	33	1	45	26.7%	73.3%	2.2%
	TOTAL	4,072	4,316	5,138	13,526	30.1%	31.9%	38.0%
6/87	Whitefish	2,014	2,081	1,754	5,849	34.4%	35.6%	30.0%
	Pickerel	659	57	2,069	2,785	23.7%	2.0%	74.3%
	Sauger	77	33	876	986	7.8%	3.3%	88.8%
	Northern Pike	240	684	1,177	2,102	11.4%	32.5%	56.0%
	Lake Trout	264	315	123	702	37.6%	44.9%	17.5%
	Tullibee	2	95	0	97	2.1%	97.9%	-
	Perch	114	3	0	117	97.4%	2.6%	-
	Mullet	274	348	554	1,176	23.3%	29.6%	47.1%
	Carp	14	47	167	229	6.1%	20.5%	72.9?.
	Arctic Char	10	46	3	60	16.7%	76.7%	5,0%
	Inconnu	28	14	0	42	66.7%	33.3%	-
	Sturgeon	0	13	0	13	-	100%	-
	Others	29	33	16	77	37.7%	42.8%	20.8%
	TOTAL	3,725	3,769	6,741	14,235	26.2%	26.5%	47.3%

'ear	Species	Fresh	Frozen	Processed	TOTAL	Fresh	Frozen	Proc-essed
15/86	Whitefish	1,996	1,952	1,168	5,115	39.0%	38.2%	22.8%
	Pickerel	801	135	1,883	2,819	28.4%	4.8%	66.8%
	Sauger	90	35	811	937	9.6%	3.7?4	86.55
	Northern Pike	326	617	1,111	2,053	15.9'4	30.0%	54.1%
	Lake Trout	134	231	27	392	34.2%	58.9%	6.9%
	Tullibee	3	80	0	83	3.6%	96.4%	-
	Perch	159	43	0	203	78.3%	21.2%	-
	Mullet	295	43	324	662	44.6%	6.5%	48.9%
	Carp	111	53	83	247	44.9%	21.4%	33.6%
	Arctic Char	3	47	4	55	5.4%	85.4%	7.3%
	Inconnu	30	22	0	52	57.7%	42.3%	-
	Sturgeon	0	17	0	17	-	100%	-
	Others	37	38	1	76	48.7%	50.0%	1.3%%
	TOTAL	3,984	3,313	5,412	12,710	31.3%	26.1%	42.6%

Table 1.1 Landings, Landed and Marketed Values by Species Western Canadian Freshwater Fisheries,1989/90
(Values in $000s)

Species	Landed Value (Purchase Price)		Marketed Value (Sold For)		Net Return (FFMC)
Whitefish	$6,121	24.3%	$13,084	24.3%	113.7%
Whitefish Roe	19	.1%	142	.3%	647.4%
Pickerel	9,247	36.8%	19,208	35.6%	107.7%
Sauger	4,404	17.5%	9,185	17.0%	108.6%
Lake Trout	658	2.6%	1,326	2.5%	101.5%
Northern Pike	2,146	8.5%	6,109	11.3%	184.7%
Tullibee	41	.2%	146	.3%	256.1%
Perch	1,136	4.5%	2,258	4.2%	98.8%
Mullet	461	1.8?4	1,046	1.9%	126.9%
Carp	94	.4%	201	.4%	113.8%
Arctic Char	444	1.8%	588	1.1%	32.4%
Inconnu	148	.6%	267	.5%	80.4%
Sturgeon	87	.3%	101	.2%	1601%
Others	143	.6%	219	.4%	53.1%
TOTAL	$25,148	100%	$53,881	100%	Avg: 114.2%

Table

Landings By Regi On
Tonnes - By Percent

REGION	89/90	88/89	87/88	86/87	85/86	84/85	83/84	82/83
Alberta	6.5%	7 .6%	9.9$	9 .3%	8.8a	7 .3%	5.7a	5.3%
Saskatchewan	17.2$	19 .2a	18.5$	19 .9:	19 .1:	16.9%	15.4%	15.5%
Manitoba	66.4%	65.0%	63.0%	61.1%	63.4%	67.7%	71.2%	70.2%
NilOntario	0.6%	0.7%	0.6%	1.3%	1.8%	1.8%	1.6%	2.4%
N W T	9.3%	7.6%	7.9%	8.5%	7.0%	6.3%	6.2%	6.6a
TOTAL	20,663	21,622	20,956	20,441	20,541	20,616	17,632	22,575

Dollars - By Percent
(000s)

REGION	89/90	88/89	87/88	86/87	85/86	84/85	83/84	82/83
Alberta	5.5%	6.1%	7.4%	6.0%	7.3%	5.6%	4.2%	4.4%
Saskatchewan	12.7%	14,9a	14.7%	13.2%	14.7%	15.1%	14.4%	13.1%
Manitoba	71.4%	70.1%	70.2$	72.7%	68.9%	70.7%	74%	72.3%
NW Ontario	0.8*	1.0%	1.0%	1.9%	2.6%	2.4%	2.0%	2.6%
NUT	9.6%	7.8%	6.7%	6.1%	6.5%	6.2%	5.4%	7.6%
TOTAL	25,148	33,321	39,941	33,620	25,485	26,642	21,638	17,900

Table 2.1

Landings, Landed and Market Values
(live weight equivalent tonnes and $000s)

Year	Region	Landings		Landed Value		Marked Valve	
89/90	Alberta	1,334	6.5%	$1,394	5.5%	$2,7245	5.0%
	Saskatchewan	3,553	17.2%	$3,185	12.7%	$7,321	13.6$
	Manitoba	13,721	66.4%	$17,954	71.4%	$38,572	71.6%
	N.W. Ontario	133	0.6%	$191	0.7%	$437	0.8%
	N.W.T.	1,921	9.3%	.$2,424	9.6%	$4,828	10.0%
	TOTAL	20,663		$25,148		$53,881	

Table

Fishermen By Region - By Percentage

Year	Region	Number of Fishermen (by percent)	Landings (by percent)
989/90	Alberta	9.3%	6.5%
	Saskatchewan	20.1%	17.2%
	Manitoba	64.2%	66.4%
	N W Ontario	2.6%	0.6%
	N W T	3.7%	9.3%
.988189	Alberta	11.0%	7.6%
	Saskatchewan	21.0%	19.2%
	Manitoba	62.4%	65.0%
	N W Ontario	2.5%	0.7%
	N W T	3.0%	7.6%
1987/88	Alberta	12.3%	9.9%
	Saskatchewan	18.8%	18.5%
	Manitoba	63.2%	63.0%
	N W Ontario	3.1%	0.6%
	N W T	2.5%	7.9%
1986/87	Alberta	11.8%	9.3%
	Saskatchewan	18.8%	19.9%
	Manitoba	62.3%	61.1%
	N W Ontario	4.4%	1.3%
	N W T	2.7%	8.5%
1985/86	Alberta	9.7%	8.8%
	Saskatchewan	19.3%	19.10
	Manitoba	63.6%	63.4%
	N W Ontario	4.9%	1.8%
	N W T	2.4%	7.0%

Table 2.2
Estimated Number of Persons Engaged in Fish Harvesting Operations, by Season Fished and Region - By Percent

Year	Season	Alta.	Sask.	Man.	Ont.	NUT	Average
1/90	inter Only						
	Self-employed	34.5a	21.9%	21.0%	7.6%	6.9%	21.4%
	Crew Hands	22.5%	13.9%	16.6:	4.1%	7.6%	16.1%
	ummer Only						
	Self-employed	13.6%	28.8%	19.9$	54.5%	28.7%	22.2a
	Crew Hands	8.8%	18.2%	15.7%	30.3%	30.9%	16.7%
	oth Seasons						
	Self-employed	12.4%	10.6%	15.0%	2.1%	12.4%	13.5a
	Crew Hands	8.1%	8.1%	11.9%	1.4%	13.4%	10.2%
	TOTAL	542	1,154	4,055	145	275	6,179
8/89	inter Only						
	Self-employed	32.9%	21.6%	22.1%	8.2;	7.6$	21.5%
	Crew Hands	20.2%	14.0%	19.7%	4.8%	9.5%	18.2%
	ummer Only						
	Self-employed	15.0%	28.2%	15.5%	51.0%	28.6%	18.6%
	Crew Hands	9.7%	18.3%	13.8%	30.6%	27.5%	15.8%
	oth Seasons						
	Self-employed	13.5:	10.9%	15.2%	3.4:	11.8%	13.9%
	Crew Hands	8.6a	7.0%	13.6%	2.0%	14.9%	11.8%
	TOTAL	672	1,26	4,317	147	262	6,73[
87/88	Winter Only						
	Self-employed	33.3:	12.4%	21.8%	8.3$	7.6%	20.7%
	Crew Hands	27.4%	9.4'	20.9\	5.0%	11.6%	18.8%
	Summer Only						
	Self-employed	11.4%	31.5	15.2%	49.4%	14.3%	18.5%
	Crew Hands	9.4%	23.9	14.6%	31.7a	21.5%	16.8%
	Both Seasons						
	Self-employed	10.2%	12.9	14.0%	3*3$	17.9%	13.3%
	Crew Hands	8.33%	9.8	13.41	2.2%	26.9%	12.0%
	TOTAL	79(	1,17	4,399	180	223	6,75

Year	Season	Alta.	Sask.	Han.	Ont.	N W T	Average
86/87	Hinter Only						
	Self-employed	31.9%	10.1%	22.2%	20.2a	10.8%	20.2a
	Crew Hands	25.6%	7.0:	18.2%	11.3%	14.1%	16.9%
	Summer Only						
	Self-employed	10.8%	37.8%	18.1%	40.3%	18.8%	21.1$
	Crew Hands	8.6%	26.0%	14.9%	22.7%	24.9%	17.6%
	Both Seasons						
	Self-employed	12.7%	11.3%	14.6$	3,4\	13.6%	13.1%
	Crew Hands	10.3%	7.8%	12.0%	2,1a	17.8%	11.0%
	TOTAL	730	1,089	3,894	23a	213	6,264
85/86	Winter Only						
	Self-employed	30,4a	9.0%	21.0%	17.4a	10.7%	19.2%
	Crew Hands	24.9%	7.3%	17.2%	14.1%	8.7%	15.7%
	Summer Only						
	Self-employed	11.5%	39.0%	20.4%	35.7%	31.5%	24.1%
	Crew Hands	9.3%	31.9%	16.6%	29.2%	25,5%	19.7%
	Both Seasons						
	Self-employed	13.1%	6.9%	13.6%	2.0%	12.7%	11.7%
	Crew Hands	10.8%	5.7%	11.1%	1.6%	10.7%	9.6%
	TOTAL	602	1,196	3,938	305	149	6,172

Table 2.3 Distribution of Landed Values Among Self-Employed Fishermen, by Region - By Percentage

Year	Landed Value Range	Alta.	Sask.	Han.	Ont.	NWT	Region Average
9/90	$0-$2,000	56.1%	42.6%	27.6%	76.3%	41.7;	35.1:
	$2,001-$4,000	14.6%	22.8%	14,7a	14.0%	13.6%	16.3$
	$4,001-$6,000	9.4%	11.6%	10.4%	4.3%	9.1%	10.4%
	$6,001-$8,000	4.3%	8.1;	10.8%		5.3%	9.1%
	$8,001-$10,000	2.7%	4.9%	6.7:		≤3.0%	5.6%
	$10,001-$14,000	4.6%	4.8%	12.5%	≤4.3%	9.1$	9.7%
	$14,001-$20,000	5.2%	3.2%	9.7%		4.5$	7.5;
	$20,001-$30,000	2.1%	≤.6%	5.5%	≤4.3%	4.5$	4.1:
	$30,001-$40,000	≤1.2%	≤.6%	1.1%		≤3.0%	0.8:
	$40,001 +	≤1.2%	1.0%	0.9%		11.4a	1.3%
	TOTAL	328	707	2,263	93	132	3,523
8/89	$0-$2,000	43.4%	32.9%	20.5%	54.3%	35.2% [7]	26.9%
	$2,001-$4,000	21.8%	20.6%	14.3%	19.6%	11.1%	16.5%
	$4,001-$6,000	9.7a	14.6%	9.4%	13.0%	10.2%	10.7%
	$6,001-$8,000	7.4%	10.4$	9.6%	4.3a	7.4$	9.3%
	$8,001-$10,000	3.7a	6.33	7.4a	≤4.3%	≤3.7%	6.5%
	$10,001-$14,000	3.7%	5.6%	13.0%		5.6%	9.9%
	$14,001-$20,000	5.5%	4.6%	12.5%	≤4.3%	5.6%	9.5%
	$20,001-$30,000	2.7%	2.1%	8.8%	≤4.3%	≤3.7%	6,4$
	$30,001-$40,000	1.5%	1.7$	2.5%	≤4.3%	≤3.7%	2,2a
	$40,001 +	≤1.0%	1.3a	1.8%		17.6%	2.0%
	TOTAL	403	767	2,278	92	108	3,648
7/88	$2,000	42.1%	25.9%	16.1%	48.2%	23.6%	22.2:
	$2,001-$4,000	13.3%	18.7%	13.1%	22.7%	10*1%	14.4$
	$4,001-$6,000	10.1%	12.4%	9.9%	11.8%	10.1%	10.5%
	$6,001-$8,000	6.9%	9.7%	7.2%	7.3%	7.9%	7.6%
	$8,001-$10,000	5.7%	7.0%	7.9%	≤3.6%	6.7%	7.3\
	$10,001-$14,000	6.9%	10.0%	12.6%	≤3.6%	≤4.5%	10.8%
	$14,001-$20,000	7.1%	7.8%	11.8%	≤3.6%	9.0%	10.2%
	$20,001-$30,000	4.8%	4.9%	12.7%	≤3.6%	≤4.5%	9.8%
	$30,001-$40,000	1.6%	1.0%	5.7%	≤3.6%	≤4.5%	4.1%
	$40,001 +	1.6%	2.4%	2.9%		24.7t	3.1%
	TOTAL	437	668	2,244	110	89	3,542
6/87	$2,000	46.2t	29.6t	20.9%	52.0t	37.0%	27.1%
	$2,001-$4,000	18,5%	22.3t	13.4%	24.3t	15.2t	16.3%
	$4,001-$6,000	7.9%	13.0%	9.7%	12.5t	≤4.3t	9.9t
	$6,001-$8,000	8..4t	10.5t	7.5t	3.9t	5.4t	8.1%
	$8,001-$10,000	4.2%	5.4t	6.6%	≤2.6t	≤4.3t	5.9%
	$10,001-$14,000	4.2t	8.5t	11.6%		6.5t	9.5%
	$14,001-$20,000	5.9t	6.0t	11.3:	S2.6t	7.6t	9.3t
	$20,001-$30,000	3.St	1.7t	11.8%	s2.6t	6.5t	8.4%
	$30,001-$40,000	1.0%	1.2t	4.8%	S2.6%	≤4.3t	3.5t
	$40,001 +	≤1.0%	1.5t	2.2%	≤2.6%	14.1t	2.2%
	TOTAL	405	645	2,137	152	92	3,413

Year	Landed Value Range	Alta.	Sask.	Han.	Ont。	NWT	Region Average
35/86	$0-$2,000	42.0%	35.7%	28.4%	53.0%	42.7%	32.5:
	$2,001-$4,000	17.2%	24.0%	14.7%	29.8%	12.2a	17.5%
	$4,001-$6,000	10.9%	13.1%	10.3%	5.9%	7.3:	10.1%
	$6,001-$8,000	7.8$	7.9a	8.6a	3.0%		8.0%
	$8,001-$10,000	3.9%	6.8%	7.8%	≤2.4%	≤4.9%	6.8%
	$10,001-$14,000	5.7%	5.2%	11.4:	4.2%	≤4.9%	9.1%
	'$14,001-$20,000	7.8%	3.9;	10.6%	≤2.4%	≤4.9%	8.5%
	$20,001-$30,000	2.7%	1.5%	6.2%	≤2.4%	9,8:	4.8%
	$30,001-$40,000	0.9%	0.6?	1.1%		≤4.9%	0.9%
	$40,001 +	0.9:	1.5%	1.0%	≤2.4%	18.3%	1.5%
	TOTAL	331	658	2,167	168	02	3,386

Table

Landings By Species (Northwest Territories)
(live weight equivalent tonnes and $000s)

1989/90

SPECIES	QUANTITY		LANDED VALUE		MARKETED VALUE	
Whitefish	1,380	71.8%	$1,512	71.8%	$3,234	62.4%
Pickerel	45	2.3%	79	2.3%	173	3.3%
Lake Trout	132	6.9%	124	6.9%	234	5.1%
Northern Pike	181	9.4%	117	9.4%	332	4.8%
Arctic Char	82	4.3%	444	4.2%	588	18.3%
Inconnu	102	5.3%	148	5.3%	267	6.1%
TOTAL	1,921		$2,424		$4,828	

1988189

SPECIES	QUANTITY		LANDED VALUE		MARKETED VALUE	
Whitefish	1,260	77.0%	$1,642	77.0%	$2,626	62.8%
Pickerel	39	2.4%	95	2.4%	210	3.6%
Lake Trout	65	4.0%	82	4.0%	142	3.1%
Northern Pike	128	7.8%	119	7.8%	251	4.6%
Arctic Char	89	5.4%	571	5.4%	718	21.9%
Inconnu	56	3.4%	104	3.4%	174	4.0%
TOTAL	1,637		$2,613		$4,121	

1987/88

SPECIES	QUANTITY		LANDED VALUE		MARKETED VALUE	
Whitefish	1,295	78.1%	$1,668	62.3%	$3,081	69.6%
Pickerel	23	1.4%	91	3.4%	157	3.5%
Lake Trout	1121	6.8%	151	5.6%	252	5.7%
Northern Pike	107	6.4%	129	4.8%	235	5.3%
Arctic Char	59	3.6%	511	19.1%	536	12.1%
Inconnu	63	3.8%	126	3.8%	168	3.8%
TOTAL	1,658		$2,676		$4,429	

1886/87

SPECIES	QUANTITY		LANDED VALUE		MARKETED VALUE	
White fish	1,315	75. 8%	$1,132	55. 1%	$2,332	64. 4?.
P i ck er e 1	29	1 .7%	104	5. 1%	145	4 .0%
Lake Trout	113	6. 5%	112	5 .5%	208	5 .7%
Northern Pike	137	7.9%	156	7.6%	269	7.4%
Arctic Char	67	3.9%	411	20.0%	446	12.3%
Inconnu	75	4.3%	141	6.8%	221	6.1%
TOTAL	1,736		$2,056		$3,622	

1985/86

SPECIES	QUANTITY		LANDED VALUE		MARKETED VALUE	
Whitefish	1,001	69.9%	$916	55.4%	$2,002	61.3%
Pickerel	36	2.5%	779	4.8%	151	4.6%
Lake Trout	108	7.5%	116	7.0%	264	8.1%
Northern Pike	146	10.2%	107	6.5%	217	6.6%
Arctic Char	68	4.7%	320	19.3%	428	13.1%
Inconnu	74	5.2%	116	7.0%	201	6.1%
TOTAL	1,433		$1,654		$3,263	

Table 7.4
LANDINGS, LANDED VALUES AND FISHING EFFORT, BY SELF-EMPLOYED FISHERMEN
NORTHWEST TERRITORIES

1989-1990

Landed Value Range	Number of Fishermen	Deliveries	Weeks	Average Per Fisherman Weight	Total Payments
$0-$2,000	41.7%	6.4	2.6	385	$678
$2,001-$4,000	13.6%	17.4	7.6	1,931	$2,803
$4,001-$6,000	9.1%	16.8	5.7	2,689	$4,714
$6,001-$8,000	5.3%	36.7	12.6	4,868	$6,746
$8,001-10,000	≤3.0%	47.7	13.7	6,933	$9,451
$10,001-$14,000	5.3%	56.5	19*5	10,505	$12,380
$14,001-$20,000	4.5%	36.2	15.4	12,902	$16,208
$20,001-$30,000	4.5%	42.8	16.2	16,275	$25,488
$30,001-$40,000	53.0%	58.0	21.3	26,125	$34,126
$40,001 +	11.4%	90.3	29.2	70,924	$93,297
TOTAL	132	27.7	9.9	11,620	.$15,595

1988-1989

Landed Value Range	Number of Fishermen	Deliveries	Weeks	Average Per Fisherman Weight	Total Payments
$0-$2,000	35.2%	7.1	3.1	386	$796
s2,001-$4,000	11.1%	12.5	6.7	1,604	$2,966
$4,001-s6,000	10.2%	24.7	10.9	3,214	$4,898
$6,001-$8,000	7.4%	29.5	13.4	4,018	$6,716
$8,001-10,000	≤3.7%	15.5	5.5	5,362	$8,929
$10,001-$14,000	5.5%	34.7	13.0	6,314	$11,907
$14,001-$20,000	5.5%	58.2	25.3	10,083	.s16,321
$20,001-$30,000	≤3.7%	40.0	19.3	14,038	s24,095
$30,001-$40,000	≤3.7%	45.3	18.7	19,600	935,501
$40,001 +	17.6%	68.9	23.7	55,135	$109,116
TOTAL	108	28.5	11.4	12,584	$24,191

1987-1988

Landed Value Range	Number of Fishermen	Deliveries	Weeks	Average Per Weight	Fishermen Total Payments
$0-$2,000	23.6%	5.8	3.0	559	$764
$2,001-$4,000	10.1%	19.4	8.8	2,133	$3,053
$4,001-$6,000	10.1%	23.3	11.9	3,064	$4,920
$6,001-$8,000	7.9%	27.6	15.6	4,534	$6,901
$8,001-10,000	6.7%	28.3	13.3	4,132	$9,262
$10,001-$14,000	≤4.5%	18.3	18.3	7,791	$10,729
$14,001-$20,000	9.0%	32.5	15.5	8,273	917,475
$20,001-$30,000	≤4.5%	39.0	13.3	14,038	$22,193
$30,001-$40,000	≤4.5%	61.0	15.0	15,644	$33,272
$40,001 +	24.7%	65,9	23.1	50,363	$100,584
TOTAL	89	32.5	13.3	15,397	$30,071

1986-1987

Landed Value Range	Number of Fishermen	Deliveries	Weeks	Average Per Weight	Fishermen Total Payments
$0-$2,000	36.9%	8.7	3.8	711	$819
$2,001-$4,000	15.2%	18.3	9.8	2,322	$2,833
$4,001-$6,000	≤4.3%	32.3	10.7	4,604	$5,131
$6,001-$8,000	5.4%	34.0	14.8	5,765	$7,056
$8,001-10,000	≤4.3%	42.0	12.0	9,712	$9,667
$10,001-$14,000	6.5%	25.2	11.9	6,872	$11,983
$14,001-$20,000	7.6%	43.4	17.7	10,159	$16,360
$20,001-$30,000	6.5%	50.8	16.2	23,842	$24,686
$30,001-$40,000	≤4.3%	46.5	16.5	30,761	$34,299
$40,001 +	14.1%	80.6	29.1	76,080	$116,558
TOTAL	92	30.5	12.0	15,486	$22,347

Table 7.7

TEN YEAR LANDING TREND

(live weight equivalent tonnes)

SPECIES	89/90	88/89	87/88	86/87	85/86	84/85	83/84	82/83	81/82	80/81
Whitefish	1,380	1,260	1,295	1,315	1,001	954	811	1,124	1,030	1,262
Pickerel	45	39	23	29	36	37	45	55	58	52
Lake Trout	132	65	112	113	108	54	58	81	92	117
Northern Pike	181	128	107	137	146	120	94	138	135	181
Arctic Char	82	89	59	67	68	62	52	68	76	92
Inconnu	102	56	63	75	74	70	24	18	40	70
TOTAL	1,921	1,637	1,658	1,736	1,433	1,296	1,085	1,484	1,431	1,775

(nominal $000s)

SPECIES	89/90	88/89	87/88	86/87	85/86	84/85	83/84	82/83	81/82	80/81
Whitefish	1,512	1,642	1,668	1,132	916	907	571	865	894	1,068
Pickerel	79	95	91	104	79	82	111	78	138	141
Lake Trout	124	82	151	112	116	76	88	57	76	85
Northern Pike	117	119	129	156	107	97	56	58	82	99
Arctic Char	444	571	511	411	320	380	307	281	313	417
Inconnu	148	104	126	141	116	112	41	14	49	55
TOTAL	2,424	2,613	2,676	2,056	1,654	1,654	1,174	1,353	1,552	1,865

ESTIMATED NUMBER OF PERSONS ENGAGED IN FISH HARVESTING OPERATIONS, WESTERN REGION

(Self-employed and Crew Hands combined)

Year	Employed	Skiffs	Gill netters	Snow Vehicle	Power Toboggan	Total vessels
1989/90	6,179	2,090	113	1,031	1,001	4,235
1988/89	6,738	2,084	113	1,145	1,112	4,454
1987/88	6,754	2,034	113	1,098	1,067	4,312
1986/87	6,264	2,034	113	1,001	972	4,120
1985/86	6,172	2,099	113	1,020	888	4,120
1984/85	5,997	1,991	113	919	892	3,915
1983/84	5,493	1,829	113	842	818	3,602
1982/83	5,711	2,257	113	1,055	703	4,128
Average	6,163	2,052	113	1,014	932	4,111

ANNUAL SUMMARY OF COMMERCIAL FISH HARVESTING ACTIVITIES
1989
CENTRAL AND ARCTIC REGION - FRESHWATER FISHERIES

Prepared by: Department of Fisheries and Oceans, Winnipeg, Manitoba
May 1991.

"Although the OMNR (Ontario Ministry of Natural Resources) data is not entirely compatible with the FFMC (Freshwater Fish Marketing Corporation) data, the two sources of data have been combined in this report . ... .Users of the information contained in this report should note that the data is subject to the following limitations.

the FFMC data is compiled on a fishing *season* basis. To approximate the 1989 calender year, winter 1988/89 and summer 1989 have been combined. The FFMC data in this report is for the period November 1, 1988 to October 31, 1989.

the FFMC data is not complete in the sense that only commercial harvest intended for inter-provincial or international trade must be sold to the FFMC. . . . .

data on employment and number of vessels in Ontario are rough estimates because the actual data collected on these are not yet available. The effect on the accuracy of this report is likely to be insignificant as the figures are relatively constant from year to yearn

Fig. 1 LANDINGS BY PROVINCE/TERRITORIES - 1989

	Tonnes	$
Ontario	53.62%	61.33%
Manitoba	30.78%	27.45%
Saskatchewan	8.17%	5.31%
Alberta	3.34%	2.44%
N.W.T.	4.09%	3.48%
TOTAL	47,760 tonnes	$78,468,000

Table 1

LANDINGS BY SPECIES AND PROVINCE/TERRITORIES
1989
(live equivalent tonnes - By Percentage)

SPECIES	ONT.	MAN.	SASK.	ALTA.	N.W.T.	TOTAL
Lake Whitefish	8.76%	20.83%	33.99%	80.30%	7"4.25%	9,366
Smelt	28.73%					7,359
Pickerel	13.69%	29,15%	14.21%	6.14%	1.99%	8,484
Yellow Perch	23.10%	4.18%		0.12%		6,536
Northern Pike	0.44%	16.57%	25.40%	8.78%	8.28%	3,845
Bass	8.05%	0.01%				2,064
Sauger	0.27%	18.09%	0.05%			2,732
Mullet	2.24%	8.10%	7.50%			2,058
Chub	2.49%					639
Lake Trout	0.82%	0.18%	18.57%		6.55%	1,093
Lake Herring	1.09%	0.79%	0.17%	4.64%		478
Drum	0.69%					178
Carp	0.28%	1.70%				322
White Perch	6.99%					1,791
Bullheads	0.64%					164
Eel	0.48%					123
Sturgeon	0.06%	0.04%	0.02%			25
Arctic Char					4.55%	89
Inconnu					4.29%	84
Others	1.10%	0.31%	0.02%		4-$-	331
TOTAL	25,610	14,699	3,904	1,594	1,954	47,760

BY PERCENTAGE OF TOTAL REGION

SPECIES	ONT.	MAN.	SASK.	ALTA.	N. W.T.	TOTAL
Lake Whitefish	23.96%	32.70%	14.16%	13.66%	.15.49%	100%
Smelt	100%					100%
Pickerel	41.33%	50.50%	6.54%	1.15%	0.45%	100%
Yellow Perch	90.54%	9.40%		0.03%		100%
Northern Pike	2.99%	63.35%%	25.79%	3.64%	4.21%	100%
Bass	99.90%	0.09%				100%
Sauger	2.56%	97.36%	0.07%			100%
Mullet	27.89%	57.87%	14.23%			100%
Chub	100%					100%
Lake Trout	19.39%	2.47%	66.33%		11.71%	100%
Lake Herring	58.57%	24.47%	1.46%	15.48%		100%
Drum	100%					100%
Carp	22.36%	77.63%				100%
White Perch	100%					100%
Bullheads	100%					100%
Eel	100%					100%
Sturgeon	68.00%	28.00%	4.00%			100%
Arctic Char					100%	100%
Inconnu					100%	100%
Others	85.80%	13.89%	0.30%			100%
TOTAL	53.62%	30.77%	8.17%	3.33%	4.09%	47,760
	25,610	14,699	3,904	1,594	1,954	

Table 2

LANDED VALUE BY SPECIES AND PROVINCE/TERRITORIES
1989
(000 ' s)

By Percent of Species

SPECIES	ONT.	MAN.	SASK.	ALTA.	N.W.T.	TOTAL
Lake Whitefish	10.50%	16.37%	29.74%	83.36%	65.05%	$13,192
Smelt	5.71%					2,748
Pickerel	19.05%	42.10%	32.70%	7.84%	2.63%	19,823
Yellow Perch	49.94%	7.22%	0.02%	0.26%		25,597
Northern Pike	0.35%	9.55%	16.39%	6.43%	4.61%	3,162
aass	5.36%	0.19%				2,583
Sauger	0.38%	21.63%	0.04%			4,846
Mullet	0.44%	1.61%	2.01%			646
Chub	2.46%					1,185
Lake Trout	0.97%	0.11%	18.75%		4.68%	1,401
Lake Herring	0.37%	0.24%	0.09%	2.09%		278
Drum	0.08%					41
Carp	0.08%	0.33%				114
White Perch	2.35%					1,133
Bullheads	0.34%					167
Eel	0.75%					362
Sturgeon	0.22%	0.32?	0.21%			185
Arctic Char					18.09%	494
Inconnu					4.90?	134
Others	0.56%	0.479	0.02%			375
TOTAL	100%	100%	100%	100%	100%	$78,468
	$48,123	$21,538	$4,165	$1,912	$2,730	

By Percent of Region Catch

SPECIES	ONT.	MAN.	SASK.	ALTA.	N.W.T.	TOTAL
Lake Whitefish	38.32%	26.73%,	9.39%	12.08%	13.46%	$13,192
Smelt	100%					2,748
Pickerel	46.26%	45.74%	6.87%	0.75%	0.36%	19,823
Yellow Perch	93.90%	6.07%		0.01%		25,597
Northern Pike	5.47%	65.08%	21.60%	3.88%	3.98%	3,162
Bass	99.92%	0.07%				2,583
Sauger	3.81%	96.14%	0.04%			4,486
Mullet	33.28%	53.71%	13.00%			646
Chub	100%					1,185
Lake Trout	33.47%	1.71%	55.74%		9.13%	1,401
Lake Herring	65.46%	18.70%	1.43%	14.38%		278
Drum	100%					41
Carp	36.84%.	63.15%				114
White Perch	100%					1,133
Bullheads	100%					167
Eel	100%					362
Sturgeon	57.83%	37.83%	4.86%			185
Arctic Char					100%	494
Inconnu					100%	134
Others	72.26%	27.46%	0.26%			375
TOTAL	61.32%	27.44%	5.30%	2.43%	3.47%	$78,468
	$48,123	$21,538	$4,165	$1,912	$2,730	

LANDED VALUE PER SPECIES
(per tonne)

1989

SPECIES	ONT .	MAN .	SASK	ALTA	N .W. T	TOTAL
Lake Whitefish	$2,252	$1,151	934	1,245	1,224	
Smelt	373					
Pickerel	2,615	2,116	2,454	1,531	1,846	
Yellow Perch	4,061	2,530	≤100	3,500	-	
Northern Pike	1,504	845	688	879	778	
Bass	1,252	1,000				
Sauger	2,643	1,750	1,000			
Mullet	375	291	218			
Chub	1,854					
Lake Trout	2,212	889	1,077	-	1,000	
Lake Herring	650	444	571	541		
Drum	230					
Carp	583	288				
White Perch	633					
Bullheads	1,018					
Eel	2,943					
Sturgeon	6,294	10,000	9,000			
Arctic Char						
Inconnu						
Others	954	2,239	1,000			

PPICE PER TONNE, MAJOR LAKES -BY SPECIES

Whitefish	Great Slave Lake	Winnipeg	Manitoba	Winni-pegosis	All Others	Average
1989/90	$865	$1,108I	$1,176	$1,053	$992	$990
1988/89	$1,304	$1,378	$1,312	$960	$1,069	$1,179
1987/88	$1,288	$1,295	$1,550	$620	$1,129	$1,203
1986/87	$861	$987	$1,351	$606	$718	$810
1985/86	$9141	$1,067	$1,216	$620	$764	$844

Pickerel	Great Slave Lake	Winnipeg	Manitoba	Winni-pegosis	All Others	Average
1989/90	$1,700	$1,794	$2,115	$1,876	$1,922	$1,873
1988/89	$2,476	$2,532	$3,199	$3,328	$2,735	$2,693
1987/88	$4,167	$4,275	$5,275	$5,206	$4,428	$4,478
1986/87	$4,000	3,633	$4,498	$4,622	$3,688	$3,750
1985/86	$2,154	$2,342	$2,820	$2,407	S2,347	S2,370

Lake Trout	Great Slave Lake	Winnipeg	Manitoba	Winni-pegosis	All Others	Average
1989/90	$939	0	0	0	$865	$878
1988/89	$1,261				$1,199	1,204
1987/88	$1,357				$1,421	$1,409
'1986187	$991				$976	$978
,1985/86	$1,074				$1,032	$1,039

Northern Pike	Great Slave Lake	Winnipeg	Manitoba	Winni-pegosis	All Others	Average
1989/90	$575	$667	$684	$656	$643	$643
1988/89	$930	$881	$912	$991	$908	$915
1987/88	$1,206	1,181	$1,194	$1,220	$1,159	$1,169
1986/87 .	$1,139	$1,122	$1,346	$1,357	$1,134	$1,177
1985/86	$738	$725	$928	$911	$751	$788

Table 5

ESTIMATED NUMBER OF PERSONS ENGAGED IN FISH HARVESTING OPERATIONS, BY PROVINCE 1989

Ontario*	1,500
Manitoba	4,185
Saskatchewan	1,209
Alberta	607
N W T	268
TOTAL	7,769

* Numbers for Ontario are rough estimates, employment and capital investment data for 1989 are not available.

Table 6

ESTIMATED NUMBER OF FISHING VESSELS 1989

Skiffs*	2,890
Gillnetters*	283
Power Toboggans	1,145
Other Snow Vehicles	1,112
TOTAL	5,430

PRICES TO FISHERMEN

(cents per pound)

Species	-1977/78 - Initial Summer	Initial Winter	Final Summer & Winter	- 1978/79 - Initial Summer	Initial Winter	Final Summer & Winter
WHITEFISH						
(Export Grade)						
Jumbo	.57	.67	.052	.50	.70	.205
Large	.47	.57	.052	.40	.60	.205
Medium	.37	.47	.052	.30	.60	.205
Small	.25	.25	.052	.18	.40	.205
(Continental Grade)						
Jumbo	.39	.39		.35	.45	.11
Large	.29	.29		.25	.40	.11
Medium	.29	.29		.25	.40	.11
Small	.19	.19		.15	.25	.11
SMOKERS						
(Dressed)						
Medium	.50	.50		.45	.45	.165
CUTTER	.10	.10		.13	.13	.065
PICKEREL						
(Round)						
Large	.62	.77	.09	.52	.87	.20
Medium	.62	.77	.09	.52	.87	.20
Small	.62	.62	.09	.52	.60	.20
(Dressed)						
large	.73	.73	.11	.62	.72	.235
Medium	.73	.73	.11	.62	.72	.235
Small	.73	.73	.11	.62	.62	.235
(Headless & Dressed)						
large	.85	.85	.125	.72	.92	.275
Medium	.85	.85	.125	.72	.92	.275
Small	.85	.85	.125	.72	.72	.275
SAUGER						
(Round)						
large	.44	.44		.34	.59	.01
Medium	.44	.44		.34	.44	.01
Under 10"		.22		.17		.01
(Headless & Dressed)						
large	.60	.60		.45	.55	.015
medium	.60	.60		.45	.55	.015
NORTHERN PIKE						
(Dressed)						
large	.20	.23	.04	.23	.30	.09
medium	.15	.17	.04	.17	.25	.09
(Headless & Dressed)						
medium	.15	.15	.04	.15	.20	.09
small	.15	.15	.04	.15	.20	.09

Species	-1977/78 - Initial		Final	- 1978/79 - Initial		Final
	Summer	Winter	Summer & Winter	Summer	Winter	Summer & Winter
ROUT						
Dress ed)						
ed i urn	.37	.37	.09	.37	.52	.13
mal 1	.37	.37	.09	.37	.50	.13
HeadlesS & Dresses)					.55	.13
4						
ollar bone on	.32	.32	.09	.32	.50	.13
ver 8						
PERCH						
Round)						
arge	.32	.32	.19	.32	.32	.24
ıedium	.32	.32	.19	.32	.32	.24
GOLDEYE						
Dressed)						
.arge	.25	.25		.25	.25	.02:
ıedium	.25	.25		.25	.25	.025
;mall						
STURGEON						
[Dressed)						
›ver 12	1.75	1.75	.31	1.75	1.75	.68!
3-12	1.50	1.50	.31	1.50	1.50	.68!
5-8	1.00	1.00	.31	1.00	1.00	.68!
TULLIBEE						
(Export)						
large	.25	.25	.005	.25	.25	.16
medium	.25	.25	.005	.25	.25	.16
(continental)						
large	.17	.17	.005	.15	.15	.16
medium	.17	.17	.005	.15	.15	.16
MULLET						
(Headless & Dressed	.08	.08		.08	.10	
CARP						
(Headless & Dressed	.065	.065		.065	.065	

Winter' Initial prices are increa progressively during the winter months. The above prices represent prices paid in March, which are the highest prices in the year.

Source: Freshwater Fish Marketing Corporation, Annual Report, Year ending April 30, 1979.

APPENDIX TWO

PREVIOUS INQUIRIES AND REVIEWS

Report of the Select Committee on Recreational and Commercial Fishing Industries in Alberta.
May, 1980

(Page 26)
Committee Recommendations - FRESHWATER FISH MARKETING CORPORATION (FFMC)

111 B 1
The creation of the FFMC has brought needed improvement and stability to the inland fishery in both production and prices paid to the fishermen. These advantages would be lost if Alberta opted out of the FFMC. In addition, Alberta would encounter difficulties exporting fish because of the small volume[1]. Alberta would also need to develop a provincial fish marketing agency in order to prevent a recurrence of the purchasing and price wars which lead to the formation of the McIvor Commission.

Recommendation: That Alberta remain within the Freshwater Fish Marketing Corporation for the purposes of interprovincial and export marketing

111 B 2 (Page 27)
Many different operating costs occur at the various agent operations throughout the FFMC area. Additional costs are incurred *in* Alberta where the fish must be cleaned at the plant and where proper disposal of the offal (fish waste)) is required" Many of these plants are located in towns where proper water sources and sewage systems are available, hence taxes are higher than lakeside plants in northern Saskatchewan and Manitoba. In cases where local Co-ops have not been viable, for example, Fort Chipewyan, the Corporation has been forced to assume lakeside operations in order to receive fish in accordance with Federal legislation.

Corporation takeover or increasing the agent fees to the point where all the local Co-ops would be viable as presently run, would decrease the money paid to the fishermen and thus disregard the first priority of the Corporation. Many *well-run* operations show a profit at the present agent fee of $0.10 per pound.

Knowledgeable assistance and the use of an agent specific surcharge on fish poundage, such as occurred with the financial turnaround of the Lac La Biche Coop, would help the agents to operate within the set fee and maintain the highest possible price to the fishermen. Changing Alberta legislation to allow lakeside fish cleaning in order to reduce agent costs is unacceptable. This weld lead to reduced quality in the fish product and lake water.

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[1] Emphasis ours.

Recommend t i on: That the Alberta Government Cooperative Services Branch create a specific Fishery Co-op position to provide management advice to the Fish Co-ops

That this person also serve as liaison between Alberta's representative on the FFMC Board of Directors and the fishermen

(Page 28)
111 B 3
Distribution of fresh fish within Alberta is generally inadequate. Fresh fish should not be shipped from Edmonton to Winnipeg for minimal processing and then returned to Alberta for sale . . . . .

Recommendation: That the FFMC actively promote the sale of fresh fish to local Alberta retailers through their Edmonton plant and extend to the outlying Co-ops as FFMC Agents, the right to sell fish directly to local retailers

That total freight charges to the Co-op would be F.O.B. sales outlet

111 B 4
The Corporation has not been able to successfully develop sizeable markets for the underutilized species such as suckers and ling. Jurisdictional control of the processing and selling of these species by the Corporation may prevent the development of a use for these fish.

Recommendation: That the FFMC provide a means to exempt under-utilized fish from their juridical control for processing within the respective provinces. It is essential that markets for rough fish be developed

(Page *29)*
111 c FISH PRODUCTION AND UNDERUTILIZED SPECIES

..... At $1.07 per pound, walleye is the most valuable species followed by export whitefish, *trout,* perch, pike and suckers. Lake whitefish provide the biggest return to the fishermen because of their volume. Whitefish and tullibee, which contain over 40 larval cysts of the pike-whitefish tapeworm Triaenophorus crassus per 100 pounds of fish, cannot be sold in Alberta or the United States and are generally used for animal food or exported to European countries which have higher tolerance limits.

A small market for suckers (mullet) has been developed in Great Britain, but the total freight cost from Alberta is greater than the $0.10 per pound value of the fish. Attempts by the Freshwater Institute in Winnipeg to package and sell sucker products met with little success. The greyish flesh could not successfully compete with the white fleshed marine fish products. Alberta's

mink farmers used to purchase large amounts of tullibee and suckers, however, *a* chemical in the latter fish caused the slippage of mink hairs and the suckers had to be boiled before being fed to the mink. This problem and the decline in mink ranching, as well as the availability of inexpensive West Coast saltwater fish wastes has led to a decline in the use of these fish.

No market has been developed for ling (burbot, freshwater cod) despite their highly acceptable white flesh. The major problems are the small amount of meat, the work it takes to fillet the fish, and their lack of scales. The latter factor means that they cannot be processed in a plant producing 'kosher" fish because the major sale of fish to the Jewish people would be eliminated.

No formal marketing surveys have been conducted on the underutilized fish although the Federal Government may begin a piolet fertilizer project at Lesser Slave Lake this summer using fish offal and underutilized species.

Public Submissions (Page 30)

Four submissions requested that research be conducted to determine uses for the underutilized species such as suckers and ling. Most indicated that the governments rather than the FFMC should fund or conduct these studies. . . .

Committee Recommendations (Page 31)

111 c 1
Development of a suitable use for suckers and ling is essential from the point off increasing returns to fishermen and in the overall management of a lake's fish stock. If such products were developed for human consumption, sperate processing facilities would be needed for the scaleless ling.

Recommendation: That the Associate Minister of Public Lands and Wildlife liaise with the respective Governments to provide funding for additional work by the Freshwater Institute to develop suitable table products from underutilized species

That the Alberta Government encourage private entrepreneurs in developing a use for these fish as a pet food or fertilizer base

111 c 2
Recommendation: That the Alberta Government eliminate its fish royalty surcharge

111 c 3
Recommendation: That the Alberta Government, after changing the licence system, provide a subsidy for the Lake Athabasca fishery which would reduce lake to plant transportation costs .....

Report of the Federal/.Provincial/Territorial Committee of Officials on the Freshwater Fish Marketing Corporation.
September 3, 1980

(Page 4)

Prior to 1969, some 30 firms were involved in assembling, processing and exporting fish. Three major importers in the U.S.A. accounted for 90% of sales. The original perception was that the existing firms would become agents of the **FFMC** for assembling, processing and warehousing functions. It soon became apparent, however, that the existing capability, especially in Manitoba, could not do the job *required.* Furthermore, the owners were not interested in upgrading simply to process fish for the **FFMC** on margin. Under these circumstances, the **FFMC** had *no* choice but to establish its own assembling, processing and warehousing facilities. This initiative began in Manitoba, but gradually expanded into other areas so that at present (1980) all processing and storage operations in the **FFMC** area are conducted by the **FFMC** directly. The displacement of private firms by the FFFMC has been a contentious matter.

....The **FFMC** make initial payments (directly or through agents) to primary producer, and makes final payments (if there are net **profits)** at the conclusion of the operating year. Receipts from sales are pooled along with operating costs on an aggregated species basis.

Business operations of the **FFMC** are determined by a Board of Directors of 11 members who are appointed by Governor in Council. Six are appointed *on* the recommendation of the responsible federal minister; the other five are appointed on the recommendation (one each) of the participating provinces and the Northwest Territories. An Advisory Committee consisting of 15 members (currently all fishermen)) is appointed by the Governor in Council and serves to advise the Board of Directors of the needs of commercial fishermen.

(Page 9)

11. ANALYSIS OF ISSUES
A. Mandate Issues

Changes in the **FFMC** mandate, as prescribed in the following analysis, would have some common effects on the freshwater fishing industry, namely:

Increased public costs for enforcement and quality control.
- Increased opportunity for unregulated leakage of fish.
- Reduced advantages of single desk selling such as:

1) orderly marketing,
2) elevated prices to fishermen,
3) the present ability to pre-set prices.

. ..The magnitude of these effects would vary depending on the option taken and the degree to which it was pursued.

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Option 1
That individual fishermen be able to "opt-out" of the Corporation, to sell their fish inter-Provincially and on the export market.

This option would provide greater freedom of choice to fishermen in the disposition of their landings. Pursuit of this option would markedly change the industry. It would have greater effects and result in more opting-out than any of the other options examined. Fish prices would become less stable, prices to fishermen who continued to deliver to FFMC would decrease, public sector costs for enforcement and quality control would increase, and the availability of fishery support services would become less dependable. The number of exporters would increase, and the single desk selling position would be eliminated. FFMC and all other exporters, acting independently, would be in a weaker bargaining position in a market which is characterized by few buyers. Prices paid to fishermen who opted out would be higher in the short run and during times of strong market demand, but prices would drop when markets were weak.

Reduced throughput at the Transcona plant would increase the per pound overhead costs of handling, processing and marketing, thereby reducing prices to fishermen who delivered to FFMC (Table 2). In addition, reduced and uncertain throughput would jeopardize the ability of the FFMC to pre-set prices at the start of the season, as this practice depends on the ability to anticipate incoming volumes. It is most likely that high-value fish species would be sold outside the FFMC, leaving it with a severe change *in* species mix characterized by a high representation of low-valued and less desired species. This would result in a decrease in total sales value and lower average prices to fishermen remaining with the FFMC. Because of the premium prices available for fish sold in winter (Table 3), fishermen who opt-out may be more likely to pursue this market. Competition in the lucrative winter period would affect the greatest negative impact on the FFMc. A large reduction of throughput might force the FFMC to reduce or even abandon operations at the Transcona plant, should the use-strategy of the plant not be alterable.

.. .Re-introduction of private dealers would necessitate greater quality control and inspection capability. Quality standards have

become significantly more stringent since the advent of the FFMC, making these standards more difficult for private dealers to meet than previously.

The predictable disadvantage of pursuing this option far exceed the predictable advantages. While some fishermen would unquestionably benefit, these would tend to be those fishermen harvesting the most preferred fish species and grades in the most accessible situations. The least opportunities for benefits (and accordingly the greatest disbenefits) would tend to accrue in the more remote and otherwise disadvantaged areas. It is thought that the FFMC, faced with this type of situation, would not reasonably be able to continue to purchase all fish offered to it, nor continue to pay pre-set prices. In short, pursuit of this option would erode the basis of orderly marketing.

TABLE 2 IMPACT OF VOLUME CHANGES ON PRICES TO FISHERMEN
(Assuminca Fixed Overhead Costs)

Volume (000's lbs.)	Overhead Costs Cents per lb.*	Change in Price to Fishermen Cents per lb.**	Aggregate Price to Fishermen Cents per lb.
45,000	6.4		38.0
40,000	7.3	-.9	37.1
35,000	8.3	-1.9	36.1
30,000	9.7	-3.3	34.7
25,000	11.6	-5.2	32.8
20,000	14.5	-8.1	29.9
15,000	19.3	-12.9	25.1
10,000	29.0	-22.6	15.4

Calculated from fixed overhead costs of $2,900,000 divided by volumes.
** Based on change in per unit overhead costs.
Source: Calculated from FFMC Annual Reports and Financial Statements.

TABLE 3

COMPARISON OF SUMMER AND WINTER PRICES TO FISHERMEN
(Selected Species, F.O.B., Transcona

Species and	Grade	Summer		Winter 1980-81	
		1980	Nov. 1	Jan. 1	Mar. 1
Export Whitefish (dressed))	jumbo	.55	.70	.75	.80
	large	.48	.60	.70	.75
	medium	.40	.50	.60	.70
	small	.30	.40	.45	.50
Pickerel (round)	large	.70	.90	1.00	1.15
	medium	.70	.90	1.00	1.15
	small	.57	.70	.85	.95
Sauger (round)	large	.50	.65	.70	.70
	medium	.50	.60	.65	.65
Northern Pike (Halls & Dsd)	large	.28	.34	.34	.34
	small	.28	.34	.34	.34
Lake Trout (dressed)	medium	.53	.63	.63	.63
	small	.38	.48	.48	.48

Source: Freshwater Country: Issue No. 4, May 1980. (A publication of the Freshwater Fish Marketing Corporation)

TABLE 7
comparison OF NET PRODUCT REVENUE FOR PROCESSED VERSUS NON-PROCESSED FISH 1979 - 1980

	whitefish		Pickerel		Lake Trout		Northern Pike	
	Fresh	Pan Ready	Fresh	Fillets	4/8 Frozen	Fillets	4/9 Frozen	Deboned
Selling Price	1.65	.95	2.10	3.20	1.20	1.45	1.16	.62
Us. Exchange	.28		.36	.54	-	.12		.11
	1.93	.95	2.46	3.74	1.20	1.57	1.16	.73
Direct Costs	.05	.25	.05	.30	.07	.30	.07	.11
Carrying Costs		.02	-	.07	.02	.05	.02	.02
	.05	.27	.05	.37	.09	.35	.09	.13
Net Revenue* per sales lb.	1.88	.68	2.41	3.37	1.11	1.22	1.07	.60
Yield %	100%	75%	100%	42%	100%	60%	100%	75%
Net Revenue* per imput lb.	1.88	.51	2.41	1.42	1.11	1.11	1.07	.45
Loss in value/lb. due to processing	1.37		.99		.38		.62	

Net product revenue in this case equals total available before overheads and payments to fishermen.

Source: Data provided by FFMC.

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Option 2

That fishermen be allowed greater latitude to sell their fish intra-provincially.

Fishermen may now sell their catch directly to consumers within their respective provinces; however, they are restrained from selling directly to retail, wholesale or institutional outlets. This option would lessen or remove these restraints, thereby meeting government and consumer interests for increased availability of local-harvested fish.

...Prices to fishermen participating in this option would tend to increase initially. As competition among fishermen increased however, prices would drop and possibly stabilize at levels offered by FFMC. Expansion of this option to permit middlemen to buy from fishermen and sell freely within a province would have a

similar effect, but prices to fishermen would possibly stabilize at a lower level. Provincial consumers would benefit because of the greater availability of locally caught fish.

Reduced throughput at the Transcona plant could result in increased overhead costs per pound which would result in lower prices for fish delivered to FFMC. The magnitude of this effect would be less than under Option 1 because of the lesser volumes of fish that would be involved in intra-provincial sales.

This option might entail the formation of provincial inspection units, since intra-provincial trade is a provincial matter. ...In addition, the provinces and territories may lack authority to influence inter-provincial movement of fish once the fish is in the hands of institutions such as chain stores.

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Option 3

That "rough fish" be exempted from control of the Corporation

"Rough fish" refers t. species which command a relatively low market price, i.e. mullet and carp. This option would allow fishermen to sell such fish on the export market as well as intra- and inter- provincially.

In 1978/79 the FFMC purchased nearly six million pounds of mullet and carp, at an average of slightly less than five cents per pound. Most of the production came from Manitoba and was sold primarily to pet food producers, although some was sold to speciality food producers. The 1978-79 production represented 13 percent by weight and two percent by value of total harvest and because of transportation costs to Transcona, Manitoba is the main beneficiary. In 1979-80 the FFMc significantly increased rough fish purchases to over 12 million pounds. This level of production is considerable less than estimated of what is economically available from the participating provinces. . .

Because rough fish markets are not as well established as those for high-value species, demand for rough fish fluctuates. Supply of rough fish is not constant throughout the year, with a large proportion of the harvest taken over a relatively short spring season. These factors contribute to greater relative fluctuations in rough fish prices than in prices for higher value fish. If the sale of rough fish is allowed outside the FFMC mandate, prices may generally decline with an increasing number of sellers dealing with relatively few buyers. The FFMC would lose sales revenue if *new* markets were not developed and existing markets were split among additional sellers. Loss of throughput would also increase per pound overhead costs to the Transcona plant

(Table 1). Recently, however, FFMc has had to limit delivery of rough fish at certain times of the year to allow handling of higher-value species.

New market opportunities may exist for species which currently are not or cannot realisticly be handled by the FFMc. Handling and sale of these species outside the mandate of the FFMC would have little or no effect on the Corporation, but special effort would be required to ensure that leakage of other species did not occur through this avenue.

In view of its long-standing experience and its current strength in the market, the FFMC should be able to match any real and legitimate proposals by independent operators to sell rough fish. If an independent marketing opportunity came forward which the FFMC proved unable to match, then it would be reasonable for the FFMC to relinquish marketing control in respect to that opportunity. It would seem that such action could be pursued without any disruption to FFMC in the case of fish species not currently handled. Such action should also be applicable to rough fish species which are currently handled, provided that the new independent opportunity was indeed new (i.e. did not infringe upon existing FFMC markets). It would, however, be desirable for the FFMC to retain control over fish purchases in cases such as the latter. In other words, FFMC should purchase the fish and sell them to the independent operator, albeit, perhaps, at a price negotiated between that operator and the fishermen. This would ensure that the fishermen indeed received a pre-determined price, and that only the species in question was/were being handled. It should also be an aid to ensuring that independent proposals were truly legitimate. The FFMC has indicated a willingness to accommodate greater flexibility in rough fish sales on this basis.

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Option 4

That fish products, such as roe and processed fish, be exempted from control of the Corporation.

This option would allow fishermen and independent processors to develop and process fish products, and market them in areas of their choice without control of the Corporation. To a limited extent this already occurs under allowance from the FFFMC. The way in which FFMC controls or influences the development and processing of fish products is by controlling the supply of fish to processors. The intent of this option is to consider alternative means of supply of fish to processors that would facilitate new business opportunities.

FFMC has produced new fish products over time with varying degrees of success, but new product markets are difficult and

costly to develop. High quality is critical to the development and processing of new products. . . .

With appropriate attention to quality control and to protection of existing markets there is thought to be no reason *why* independent opportunities for development and marketing of new products should not be pursued independently of the FFMC. It is felt, however, that the supply of fish used for new products should continue to be controlled by FFMC if the species used are currently handled in other forms by FFMC...

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Option 5
That specific areas be exempted from control of the Corporation.

This option is intended to deal with remote northern or other areas that may not be adequately serviced by the Corporation.

(Page 23)

Option 6
That the processing of fish and fish products be exempted from control of the Corporation.

Under its option, agencies or entities independent of FFMC, would be able to establish and operate processing facilities at locations of their choice. Volumes and types of processing would be at the discretion of the owners.

The current processing infrastructure consists of the central facility at Transcona (Man.), a satellite plant at Hay River (NWT) and COOP owned plants at Savage Island (Man.) and La Ronge and Gunnar (Sask.). All are currently operated by FFMC with the greatest share of processing occurring at the Transcona plant.

Present processing requirements in the FFMC area are basically met by the existing infrastructure. Additional processing plants may add or transfer employment benefits to other locals but this would not necessarily increase the amount of money available to pay fishermen. Conversely, the opposite result (reduced fish prices) would be almost certain to occur.

It is a common misconception that there is much value-added potential in processing fish. In fact, processing is rarely the preferred treatment. In most cases, the best way to maximize revenues in fish sales is to minimize the leverocessing prior to sale. Much processing cannot be avoided (due to production peaks, logistics, parasite infestations, etc.) but by

far the largest profits are made in fresh sales.= The relative profitability of some fresh, frozen, and processed products is *shown in* Table 7. Thus, for example, processing pickerel into fillets rather than selling them as fresh fish resulted in a 99¢/lb. reduction in returns available to *cover* overheads and to pay fishermen.

It is another misconception that a great deal of money could be saved by moving processed product rather than raw material from remote areas. However, the greatest transportation costs are incurred in moving fish from individual lakes to delivery points. The costs of moving fish from delivery points to Transcona average only about 3¢/lb. over the FFMC area. . . .

Because processing is the less preferred treatment of fish it would be counter-productive in the extreme if a series of independent processing plants were established and allowed free competition to produce products most profitable (in the sense of least unprofitable) for individual plants. . . .

If social imperatives are such that a province or other agency requests a processing facility to be built *or* operated in a location or manner which subtracts from the aggregate benefits to fishermen, that agency should be prepared to make up that incremental cost differential.

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[2]emphasis ours

"The Marketing of Fish in Canada"
An Interim Report on the West Coast Fisheries
Interim Report 11
Standing Senate Committee on Fisheries
December 1987

(Pages 85-90)
Summary of Recommendations:

(18) That government not be directly involved in marketing the fishery products of the West Coast.

(19a) That future programs for fisheries management on the West Coast take into account the opportunities inherent in providing fresh fish to markets.

(19b) That the relevant federal and provincial government agencies support cost-sharing market research studies to assist the salmon farming industry in developing promotional and market development programs.

(19c) That market research be conducted to determine the size and potential of markets for farmed salmon. Research should also be undertaken of consumer comparisons of B.C. farmed salmon and salmon from competing producers (e.g., chinook and coho salmon and Atlantic salmon).

(20a) That government commission or undertake a comprehensive study of the size, nature and potential of the Canadian fish and seafood market. The study should include an analysis of per capita seafood consumption in terms of edible and round weight equivalents by species, product form and country of origin.

(20b) That government encourage West Coast seafood producers to work cooperatively toward creating an effective distribution system for the Canadian domestic market.

(20c) That government support any industry attempts to mount a national trade show to introduce West Coast fish processors to retailers and food service operators from other regions of Canada.

(20d) That government enlist the wider support of the West Coast fishing industry in funding generic promotion of the region's fish products in Canada. Future promotions should include new species and products.

(21a) That the Department of External Affairs assume the responsibility for continuously updating the worldwide market studies previously undertaken by the Department of Fisheries and Oceans, in order to assist industry in formulating export marketing plans. An analysis of how the Canadian industry compares with its major competitors should be incorporated.

(21b) *That* the Department of External Affairs determine the long-term prospects of the herring roe market in Japan. The Department should also determine whether other suitable markets exist.

(21c) That the Department of External Affairs work towards expanding Canadian industry participation at international trade shows. A more unified Canadian presence should be sought where government funding is involved.

(21d) That government enlist the wider support of the West Coast fishing industry in funding *generic* programs to promote the region's fishery products in foreign markets. Future promotions should include new species and products.

(21e) That the Department of External Affairs, in cooperation with other federal and provincial government departments, increase its contacts with fish processors on the West Coast.

(22d) That government and industry consider jointly planning and funding a public relations campaign aimed at countering any future boycott of Canada's fishery products abroad resulting from the seal management issue.

(23) That the sport fishing industry and government jointly begin to formulate a national strategy to better promote the sport fishery in Canadian government embassies, consulates and tourism offices throughout the world.

(24) That government and industry vigorously undertake a comprehensive research and development program designed to utilize Pacific herring more fully for human consumption and industrial use.

(25) That research and development be directed and funded jointly by government and industry with the ultimate goal of commercially producing surimi from Pacific hake, pollock and dogfish.

(30a) That the Department of Fisheries and Oceans, in cooperation with the fishing industry, assess the feasibility of establishing a voluntary quality grading and labelling scheme for the region's fish products.

(31a) That air carriers in Canada, in cooperation with the seafood industry, step up their efforts to improve fish packing and handling facilities at airports. Uniform transport packing and product identification standards should be established.

(31b) That the relevant government authorities encourage the Canadian seafood industry to develop leakproof containers to meet the requirements of the seafood market. Meanwhile, the industry should adopt the leakproof styrofoam containers in use in the Scandinavian countries.

(32) That the relevant government agencies increase their efforts to promote the transfer of technology to the Canadian seafood industry.

'Proceedings of the Standing Senate Committee on Fisheries"
Wednesday, December 20, 1989
Issue No. 4
The Fourth Report of the Committee

(Pages 119 -124)

Summary of Recommendations:

(5) That government and industry consider jointly planning and funding an aggressive and direct public relations campaign aimed at countering any future boycotts of Canadian products at home or abroad resulting from the seal management issue.

(12) That the Department of Fisheries and Oceans determine the precise economic effects of harvesting and processing small and immature Atlantic cod.

(15) That federal and provincial government departments and agencies expand the range of marketing services to fishing companies needing professional assistance.

(17) That federal and provincial government departments and agencies increase the level of financial assistance through regional development programs to companies wishing to develop from fish waste marketable products such as animal feeds, fertilizers and food. Capital investment aimed at obtaining higher yields from harvested fish should be supported. Governments should devise policies which encourage the processing of all usable parts of harvested fish.

(19) That the Department of Fisheries and Oceans formulate a national strategy to develop underutilized species and stocks. The Department should establish a product and market development unit in support 'of the fishing industry, to: (a) identify and provide detailed information on species and stocks which show the greatest potential for development; (b) examine and coordinate research and technological development initiatives; and (c) coordinate the activities of its various branches with those of the Department of External Affairs in identifying market opportunities as they arise.

(21) That the government increase technological and financial assistance for the development of underutilized fishery resources through its regional development programs. . . .

(22) That federal and provincial governments increase the assistance provided to smaller companies wishing to diversify and reduce their dependency on single markets. The Department of External Affairs, in coordination with the Department of Fisheries and Oceans, should provide an ongoing and quarterly assessment of seafood export markets to assist the industry in formulating country-specific marketing strategies. An analysis of how the Canadian industry compares with its major competitors should be

incorporated.

(23) That government and industry seriously reconsider establishing the Marketing Commission and Product Marketing Councils outlined in the Report of the Task Force on Atlantic Fisheries.

(24) That the Department of External Affairs, in cooperation with other federal and provincial government departments, increase its contacts with fish processors on the East Coast. The Department should enlarge the fish component of its Program for Export Market Development.

(25) That the federal government commission a comprehensive study of the size, nature and potential of the Canadian fish and seafood market. The study should include an analysis of per capita seafood consumption in terms of edible and roundweight equivalents by species, product form and country of origin. This study should be periodically updated and made available to the Canadian fishing industry.

(26) That government encourage East Coast seafood producers to work cooperatively toward creating a more effective distribution system for the Canadian domestic market.

(28) That government provide the financial assistance necessary to help existing small and medium-sized fish plants to become better equipped in producing value-added products.

(29) That research and development in surimi processing be stepped up and funded jointly by government and industry. The federal government should, within the context of sound resource management, encourage the development of a surimi industry in the region based on discards from fish processing and underharvested species of fish.

(33) That federal agencies increase their support of the industry by cost-sharing market research studies and by assessing the aquiculture sector in developing promotional and market development programs. an assessment of world farmed-salmon production and markets should be undertaken by a federal government-industry team to establish the relative performance of the Canadian aquiculture industry in terms of its production cost and market acceptance for its products.

(34) That the Fish Inspection Program be used as a marketing tool to create awareness among domestic and international consumers that Canadian seafood has undergone the most stringent quality control system in the world.

(36) That government enlist the wider support of the East Coast fishing industry in funding generic programs to promcte the region's fishery products domestically and internationally. a means of self-assessment should be introduced to finance future generic advertising. any federal funding should be provided *on* a cost-shared basis. In Canada, the federal government should enlist the funding support of private and public organizations concerned with diet and health issues. Future promotions should include educational materials for the general public, and should cover new products and species.

APPENDIX THREE

MARKETING

1990 Aquiculture International
September 4-7, 1990
Vancouver BC
"Notes from Marketing-Related Keynote Addresses and Marketing Sessions"
Sandra Harris, Trade Commissioner, Fisheries Division,
External Affairs and International Trade Canada

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She noted that in the USA, the National Fish and Seafood Promotional Council in 1989 started its campaign to encourage people to 'eat fish and seafood twice per week'. This is a joint promotion for farmed and wild fish alike. . . This program requires funding of (US) $5 million per year from Congress; however, in three years it will be funded by a levy from producers.

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The National Fish and Seafood Promotional Council is mandated to promote seafood and has a budget of US $9 million to do so.

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There has been a joint generic promotion of herring by France and the UK, involving: recipe booklets, product stickers, posters - a total cost of 100,000 UK pounds.

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The Louisiana Seafood Marketing Board was created by the state government, and the funding base was fixed by industry paying the licensing fee. It promotes the concept of Louisiana seafood, . . . The promotional budget was US $710,000 in 1990/91. The Board funds in-store demonstrations, tradeshow programs and 'Cajun Corner' events. It emphasizes taste, advice on how to cook the seafood, free recipes, consumer information, working with chefs and events showing people how to prepare the seafood.

It plans to shift the emphasis to 'pull' rather than 'push' the product and has targeted its advertising at chefs. Although they have got all the producers together on the Louisiana seafood bandwagon, each commodity type still does some individual promotional activities.

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"The Generic Promotion of Blueberries in North America"

President, B.C. Blueberry Co-op Association.

In 1965, the North America Blueberry Council was formed to do international generic promotion of ?blueberries.
In 1988, their promotional expenditures were $925,000. (In 1995, they expect there to be 350 million pounds of blueberries compared to a 1990 production of 250 million pounds.

'International Boston Seafood Show 1991"
Boston, Massachusetts, March 12-14, 1991
Michaell H. Rooney, Trade Commissioner,
Agri-Food, Fisheries and Resources Division,
External Affairs and International Trade, Canada

(Page 4)

The Alaska Seafood Marketing Institute (ASMI) sponsored their participation (in the trade show). ASMI promotes Alaskan seafood on an industry-wide basis. They have a three Year marketing plan to create brand identity for Alaska seafood. It will concentrate on distinguishing the needs of the consumer rather than the producer.
They have a (US) $2.3 million budget, 50% earmarked for-consumer promotions, including a TV campaign to push brand identity, with the balance allocated for promotions to commercial and institutional buyers.

INTERNATIONAL BOSTON SEAFOOD SHOW 1991
Michael H Rooney

700 companies displayed their products in more than 1,000 exhibit spaces. Exhibits from more than 25 countries and visitors from 74 countries attest to the importance of this trade show.
In 1990, Canadian production of fish and seafood products totalled $3 billion, of which 80% was exported. Close to $1.3 billion of this was exported to the USA, of which $1.1 billion is distributed through Boston.
Canadian Participation: 80 Canadian companies participated either individually or under a provincial banner. provinces of origin were:

Newfoundland	16	Nova Scotia	12
Prince Edward Is.	10	New Brunswick	11
Quebec	7	Ontario	13
Manitoba	1	Alberta	1
British Columbia	3		

Six companies by their US representatives.
Other Countries: National stands:
Argentina Chile Norway

Bangladesh	Colombia	New Zealand
	India	Uruguay

US Regional Stands:
Alaska-Florida-Hawai i-Louisiana-Main-Maryland-Rhode Island.

CHILE:

The Association of Chilean Salmon Farmers (ACSF) exhibited on behalf of its 42 member firms which include both salmon and trout farmers.
Chile exhibited coho, Atlantic chinook,, rainbow trout and salmon trout.
1990/91 production of salmon was 18,000 M/t (us$100 million).
Low production costs and increased demand in export markets have resulted in substantial increases in production.
ACSF producers sell direct to seafood distributors and wholesale suppliers in the principal markets: US, Latin America, Japan and Europe.

NORWAY:

The Norwegian Export Committee, Fisheries Representative, Prawn Council, Salmon Marketing Council, Trade Council, along with Norwegian companies occupied their stand.
In past years, presentation focused on salmon.
Recent anti-dumping measures by the US, combined with domestic industry problems, have resulted in a 21% decline in exports of farmed salmon to the US.
Norwegian salmon is selling for $1.00 around more than Canadian or Chilean salmon.
Norway shifted its emphasis this year to *new* products, particularity farmed Arctic char and cod.
Arctic char has reddish meat and a salmon flavour. It' is touted by them as a luxury fish and commands a better price than salmon.
Cod is definitely the preferred choice for portioned food service products and most consumers.

ALASKA:

The Alaska Seafood Marketing Institute (ASMI) sponsored their participation. ASMI promotes Alaskan seafood on an industry-wide basis.
They have a three year marketing plan to create brand identity for Alaska seafood. It will concentrate on distinguishing the needs of the consumer rather than the producer.
ASMI believes that food service and retail buying decisions are driven by consumer buying patterns.
They have a $2.3 million budget, 50% earmarked for consumer promotions, including a TV campaign to push brand identity, with the balance allocated for promotions to commercial and institutional buyers.
Alaska salmon, halibut, pollock, cod and crab were available

for tasting.
ASMI continues to play a strong leadership role in marketing Alaska’s fish and seafood products.

APPENDIX FOUR

WORLD COMPETITION AND MARKETS

SEAFOOD OUTLOOK '89

COMPETITION

(Mel MacDonald)

NORWAY:

Under 2% of the population is directly involved in the fishing industry. Between 25,000 and 30,000 people have fishing as their main or sole occupation. At least as many are engaged in processing and export activities.
Produces less than 1% of the GNP, but is essential for many costal areas, especially for northern Norway.
Exports of fish and fish products contributed 11% of total exports in 1988 (not y oil & gas).
Nearly 95% of fish and fish products are exported. In 1988 totalled value exceeded Can$1.8 billion.
Primary species caught are COD, HERRING, MACKEREL. SAITHE, BLUE WHITING.
Other important species are HADDOCK, TUSK. LING, HALIBUT, REDFISH, PRAWNS, SANDEEL. NORWAY POUT.
A total ban is still on the Capelin fisheries in the Barents Sea, since the collapse of the Capelin stock a few years ago.
The NORTHERN COD stock is also showing signs of stress, possibly *resulting* from a shortage of food after the Capelin stock declined. This stock declined from 1.5 Million Tons in 1986 to 900,000 Tons in 1988.
The Barents Sea has been the most important hunting ground for the Deep Sea Trawler fleet. The most profitable section of the fleet has been the large freezer trawlers with integrated on-board production.
The in-shore cod fisheries in the north have failed several years *in* succession. The in-shore fishermen blame partly the freezer trawlers (Norwegian and foreign) and partly the increasing number of seals that invade the northern coastline.
The seal invasion may cause a threat to the economy of Northern Norway, which is highly dependent on the fisheries.
Total catch in 1988 was 1.77 million MT, a decline of 15%. from 1987. Landed value fell by 20% in 1988- from Can$1 billion in 1987.
Of this cod was 253,000 MT in 1988, down 15%. Landed value was Can$290 million, down 28%.
Herring was 334,000 MT, no change from 1987.
Mackerel was 159,000 MT, up slightly from 1987.
Norway has a small quota of CAPELIN in the Icelandic zone.
The 1988 catch was 74,000 MT, down from 142,600 MT in 1987.
In April 1989, Norway, Iceland and Greenland signed an agreement on the management of the CAPELIN stock, effective July 1, 1989 and will be in force for three years. A total

allowable catch limit will be negotiated each year. Iceland's share will be 78%, norway's and Greenland's 115 each.

COD quota cuts were imposed in 1988 between Norway and the Soviet Union. The 590,000 Mt total was cut 22% to 250,000. The Norwegian cod quota for 1989 *was* dramatically cut to 178,000 MT, HADDOCK was also cut to 3S,000 MT.

PRICES:

There was a heavy drop in prices in 1988. Despite quota cuts, there were reports of overstocked Cold stores of cod. It appears that the high cost structure of the Norwegian fishing industry had taken prices beyond what the market is prepared to pay.

In their most important markets, the UK, the EC and USA, prices dropped up to 50% in some instances. In 1988 total losses to the industry amounted to Can$100 million. In the northern region, 60 out of 90 companies were in trouble. Their association believes that the number of companies will be reduced by 50% over the next 8 to 10 years, in order to improve efficiency.

The supply of ALASKA POLLOCK, much of which is processed into SURIMI, shows that an growing number of large US freezer trawlers are concentrating on production of frozen fillet blocks from pollock.

Competition from cheap pollock is already becoming a factor in Norway's traditional markets. It is feared that some of this production will spill over into European markets and compete directly with Norwegian exports of cod in the UK, which is the most important market for FROZEN-AT-SEA cod fillets.

The Alaska Pollock must be taken into consideration in future assessments of Frozen White Fish supplies in the world market.

There is a very high proportion of unprocessed product in Norwegian fish exports. Exported value of fresh and round-frozen fish and shellfish in 1988 was Can$960 million, up 28% from 1987. Quantity was 252,000 MT, up 26%. Exported value is 40% of total fish exports.

Processed product (frozen fillets) is 1988 declined to Can$280 million, a decrease of 15% from 1987. Cod fillets were hardest hit, with exported value down 22% to Can$170 million. (The UK taking 46% of quantity and the US 29%).

Export of FARMED SALMON rose to a record Can$580 million in 1988, up from Can$370 million (57%). Average price per kilo fell to Can$8.40 from Can$9.15. Around 90% of all salmon is exported fresh, 69,000 MT, up 77% from 1987. France took 19,999 MT, Denmark 14,000 MT and the US 10,000 MT .

Norwegian Salmon is having its greatest breakthrough in Japan, with an increase in volume of 250% in the first two months of 1989.

In 1989 Norwegian farmed salmon production will increase by 50%, due to the very high introduction of Smelts for grow

out in 1987 and 1988.
Norway's main market for farmed salmon is the EC, taking 70% of her production.
FROZEN MACKEREL is having increasing success in Japan. Total exported quantity in 1988 was 77,000 MT, with half of it going to Japan. ROUND-FROZEN export of MACKEREL to Japan continued to go up in the first two months of 1989, rising 60%.
PRAWNS - HERRING

Trends:
Among Norwegian exporters, there is a trend towards bigger organizational units, in order to carry more weight and to present a more uniform image abroad. Small, weak units leading to internal competition and duplication of effort in the markets have been a well known handicap in the Norwegian fishing industry. The Export Council feels, for instance, that Japanese importers have too much influence on prices: "The Japanese are big and few, Norwegians are too numerous and too small". The export Council stresses the importance of closer co-operation and mergers between exporters and believe it is necessary to move away from the spot market and to establish long-term sales agreements at fixed prices with foreign customers.
There is also an increasing awareness among Norwegian exporters of the need to find competent partners abroad with access to distribution and a reliable network of quality *customers.*

DENMARK (Ms. Jade Neergaard)

Denmark is the world's third largest exporter of fish products, supplying 35 million people in 114 countries. Denmark's exports exceed its catch by about 50% -Can$2.3 billion.
The key is her value added fish processing industry.
About 245 firms employ a highly skilled and flexible workforce of 12,000, making most plants rather small by international standards.
However, these plants tend to be technically advanced and their size enables them to be quickly responsive to changing consumer demands.
The industry has reached this position in the last 20 years through a determined development of high quality fishery commodities and with nearly Can $3 billion of investment in plant facilities made during the last decade. The plants are well positioned to implement the latest techniques.
Development has been facilitated by the short distance to the fishing grounds, and an efficient Danish fishery.
Denmark has also had a tradition of non-interference or support by the state in this industry which has encouraged development of a very competitive sector.

Production (for human consumption) is approximately 500,000 tons a year with nearly 90% of this being exported. The plants also reduce over 1 1/2 million tons to fish meal for the aquiculture and fur breeding industries, as well as to fish oil for the Danish margarine *industry.*

For consumer purposes COD accounts for one half and FLAT FISH for one sixth of the volume.

Supply to the processing factories is from both Danish catch (338,000 tons in 1987) and mainly bulk imports by direct landings by foreign vessels. (174,000 tons in 1987).

Aquiculture is in addition, 25,000 tons of fresh water rainbow trout and 5,000 tons of rainbow trout produced at sea.

Danish landings have fallen 75,000 tons in the last four years and Greenlandic landings are also falling. The Danes are concerned by this and by the reduction of EEC quotas. Thus the Danish processing factories are becoming more and more dependent on imports.

Canada supplied Can$52 million in 1988, however the real figure is probably closer to $75 million due to products entering European ports and being trucked to Denmark.

Principal products are shrimp, pacific salmon, lumpfish.

Danish fleet comprises 3,200 vessels and 12,200 fishermen. Two thirds are below 20 gross tonnes, while technologically advanced, modern vessels *are* often over 100 tonnes.

Small vessels have advantage as their brief fishing trips are only of 24 hours. They bring really fresh gutted and iced fish to the fish auctions.

The fleet is highly flexible, vessels are well- equipped and fishermen are skilled. There is a completely liberal market system that guides the fishermen to land species in high demand.

Apart from herring and mackerel, immediate gutting and adequate icing at sea is demanded by law.

The salary system is based on sharing the value of the catch instead of a fixed salary, thus motivating them to careful handling to ensure the best price at auction.

Daily auctions regulate the prices according to supply and demand, and quality.

Denmark has the best functioning fish distribution system in Europe. About 15-20 hours after the fresh fish is landed, it can reach its final users on all the major European markets.

- DANISH EXPORTS: The EEC accounts for 2/3 of Danish exports. West Germany takes 14%, France and Italy take 14% each, UK takes 11%
- Outside the EEC, the most rapid growth is the Japanese market. It took 6.5% of exports in 1987 (1% in 1982). Almost all of this is of course shrimp, but tiny exports of speciality products - salmon and caviar substitute are growing.

US MARKET: Still the largest outside the EEC (8%), 23,000 t. of frozen cod fillets in 1987, but this export is entirely

dependent upon fluctuations in the exchange rate of the US dollar.

Export values have grown during the 1980/s, but rates are now declining due to the supply shortages.

Based on value of the processes product and both consumption and industrial fisheries, 30% results in fillets, 25% unprocessed fresh or frozen, 26% various processed preparations from smoked salmon to pickled herring and from canned mackerel to ready made frozen meals, 8% shrimp, and 10% fishmeal and oil. Most of the fillets are in consumer packs, while the rest is sold in blocks.

ENVIRONMENT: It is estimated that the fishing industry may be responsible for 7-8% of the discharge of toxins clean-up ($2.5 billion dollars over 4 years) and this, combined with the effect of the EEC minimum prices, and a prolonged recession in Denmark is causing very severe problems for the fish processing industry. In this, there is opportunity for increasing Canadian exports to Denmark. They will need greater qualities of cod and groundfish and there is room for the introduction of other species.

To supply or compete with the Danes on the world market, look to the establishment of greater value added processes and the education of fishermen to greater respect for the raw materials.

GREENLAND

With a population of 53,000, fishing and fish processing is the most important source of income in Greenland, employing 25% of the labour force and accounts for more than 75% of total exports.

In 1986 fishing fleet consisted of 423 vessels: 339 below 25 gross tons; 34 between 25 and 100 gross tons, and 50 larger trawlers, of which 24 were above 500 gross tons.

There is one large publicly-owned business enterprise, PROEKS, which covers the fishing, fish and sealskin processing and export sales; and GTO (Greenland Technical Organization) which covers repair shops and shipyards, as well as public utilities and construction.

PROEKS consists of three parts: KTU, responsible for fish processing and production; GTU, the Home Rule Authority's Trawler entity which operates 12 large trawlers, 3 smaller vessels and a number of fishing net factories; and Royal Greenland, which is responsible for distribution and sales (headquartered in Denmark).

PROEKS has 13 processing factories along the coast and numerous very small facilities. Its operations account for 95% of Greenland's fish exporting.

Possessing plants for cod have been adapted to the processing of shrimp products and frozen storage has been established so that shrimp production can occur *on a* continual basis.

They are producing blocks of raw frozen shrimp for the Japanese market, I.Q.F. raw for Italy and Spain, and I.Q.F. cooked, shell-on for France, Sweden, Norway, Denmark, the UK, Germany, and a little to Italy and Spain.
There is no industrial fishery or reduction on Greenland, only for human consumption.
KTU has a private arrangement with a Japanese trawler organization providing for catches of under-utilized species, mostly Redfish, against a fee and in return for transfer of Japanese know-how to the Greenlandic fishing industry.
CATCH: For 1988 - shrimp 62,000 tonnes; cod 44,000 t., greenland halibut 7,000 t., salmon 333 t., other 2,200 t.
Royal Greenland exports Can $250 million worth of consumer fish products (out of Denmark). This accounts for 75% of total Greenland exports. 75% of Royal Greenland trade is in shrimp and 95% of the private factories' trade is shrimp.
PRODUCT INNOVATIONS:
-Greenland has produced salmon steaks without very much success,
-they have produced cod rolls based on whole fish and not minced fish, but they were too expensive and of too good quality for the consumer price they were able to achieve,
-they are producing greenland halibut, which gives a longer shelf life and better taste,
-producing catfish fillets,
-selling whole frozen halibut, salmon and arctic char to catering and retail markets.
they are packaging their scallops frozen (with roe on) for the French market,
there is a little salting of cod in small towns and salt injection is producing a better product, with a higher *moisture* content giving a higher price.
- RETAIL: They are not going to concentrate on chilled products. They are sceptical about the introduction of finished, frozen dinners.

THE FAROE ISLANDS — Ms Jade Neergaard

Have had Home Rule since 1947, under Denmark. population is 47,000, the principal industry is fisheries and supply of equipment to the fisheries sector.
Enormous investments have been made in recent years in larger, more technically advanced ships to handle distant fishing and on facilities to process blue whiting to surimi. However this has led to overcapacity.
There are 350 registered fishing vessels. The coast fleet is suffering difficulties and undergoing a process of reduction.
There are 22 privately owned processing factories unable to operate at full capacity due to falling groundfish landings and lack of continuity in raw supplies.

Six shrimp trawler factories are operating under Canadian licence. Farces Seafood recently established a trading company in St. John is.
Within the 200 mile limit the ICES recommends a reduction of catch pressure on c@ and saithe, while haddock is almost optimal.
Outside the 200 mile limit, they have arrangements with the EEC, the Soviet, Iceland, Norway and Canada. Total average landings average about 350,000 tonnes, and a fall of 30% is forecast for 1989.
Aquiculture is increasing in both local salmon and rainbow trout from Denmark. 1988 production was 4-5,000 tonnes and 1989 is expected to be 8,000 tonnes.
Industrial fisheries reduction (100,000-150,000 tons of total catch) is increasing for aquiculture feed and export to Europe.
In consumer fisheries, the US catering market continues to dominate and there is a move away from block cod blocks to dinner cut fillets.
There is an increase in exports of fresh fish shipped over the weekend to Holland for distribution to central Europe.
Italy and Greece are their principal markets salted fish.
France, England and Germany are principal markets for frozen fish, followed by Spain and Sweden.
Only shrimp is exported to Japan, and although they can see the potential of this market, there are no plans to exploit the potential, due to the culture/traditional problems they have encountered when exporting to Japan.

HONG KONG: Francis Chau

More than 150 fish species of commercial importance in the adjacent continental shelf waters.
Most important, in terms of landed weight are: golden thread, big-eyes, lizard-fishes, melon seeds, squids.
Total production from both marine capture and culture fisheries is estimated at about 238,000 tonnes (wholesale value C$379 million). in 1988.
Of total production 96% is from capture and 4% from culture.
An estimated 23,400 fishermen work the fleet of some 4,00 vessels, of which over 87% are mechanised.
There are four major types of fishing in terms of gear: trawling, lining, gill-netting and purse-seining.
Trawling accounts for 75% - 135,000tonnesin1988.
Local consumption demand is 83% supplied (100,000 tonnes).
Pond fish farming, under cultivation and covering 1,400 hectares are located in the New Territories. Several different carp species are cultured. 6,640 tonnes, or 12% of consumption demand.
The Fish Marketing Organization operates under the Marine Fish (Marketing) Ordinance. The ordinance provides for the control of the landing, transport, wholesale marketing, and

the import and export of marine fish.
They operate seven wholesale fish markets. Revenue comes from a 6% commission on sales. Surplus earnings are channeled back into the industry in the form of various services such as low interest loans to fishermen, improvements to the markets, financial support for the 10 schools for fishermen's children, and scholarships for secondary and tertiary education.
Hong Kong average consumption per person is 39 kg. per year.

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