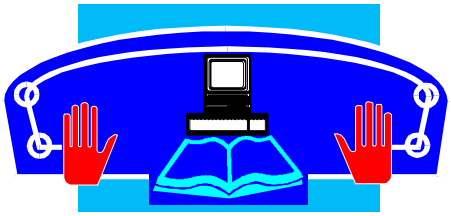

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Market Research - Nwt Fish Products
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Market Research

NWT Fish Products

RT & Associates

August 1993

RT
& ASSOCIATES LTD.

Market Research
NWT Fish Products

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Introduction

The Department of Economic Development and Tourism is in the process of developing a long term strategy for the development of the fishing industry in the N'WT. As a first step in this process the Department contracted RT & Associates in June 1993 to conduct market research for various fish species commercially harvested in the NW'T. The results of this research are summarized in the following report.

The purpose of the market research was to help develop a broad picture of market trends in the fishing industry which impact on the present and future commercial fisheries in the NWT and to highlight potential markets where the NWT would have the best opportunities to sell fish products over the long term. To collect the information required to complete this task we used several different methodologies including a review of written materials, compilation and analysis of government statistics and personal interviews.

The written materials we reviewed included previous market studies commissioned by ED&T, reports produced by the ISTC Seafood and Marine Products Campaign, Trade Reports published by External Affairs Canada, Seafood Market Reports published by the Canadian Association of Fish Exporters, Annual Statistical Reports published by Fisheries and Oceans, and a range of other materials produced by the fishing industry A list of the reports used in this study can be found in Appendix 1.

We conducted interviews with a total of 30 individuals representing every level of the fish marketing system including producers, buyers, sellers, processors, brokers, wholesalers, retailers, and exporters. Interviews included representatives from the east and west coasts, the Prairies, Ontario, Quebec and the U.S.A. It should be noted that during the course of the study we attempted to interview representatives from FFMC however they declined to participate. Therefore all information in this report pertaining to FFMC prices and sales have been obtained from other written sources. A copy of the questionnaire used to guide interviews and a list of individuals contacted can be found in

Appendix 2.

We also carried out a data base search on a number of commercial databases available through CAN/OLE and CompuServe. A list of relevant articles found through the database search can be found in Appendix 3.

The following report is divided into two sections. The fist section provides a brief overview of current world trends in fish production and consumption with special emphasis on the North American market.

The second section is made up of market formation sheets for each of the species investigated including Lake Whitefish, Lake Trout, Arctic Char, Turbot, Greenland Shark, Icelandic Scallops, Shrimp and Herring. Where possible, market information has been presented in terms of the following categories:

- Origin of Production
- Production Trends
- Demand by Geographic Location
- Demand by Market Sector
- Product Form
- Pricing Trends
- Competing Species and Products
- Future Trends
- Target Markets for NWT Production

The written text provides general market information. More detailed information on markets, market size, value and pricing per product for 1988 - 1992 is found in Appendix 4. This information was provided to us by the Canadian Association of Fish Exporters (CAFE). We strongly recommend that the GNWT become an associate member of CAFE as they are an invaluable source of information on markets and market trends.

Glossary of Market Terms

For the reader's convenience we have also included the following glossary of marketing terms to clarify some of the terms used in the text.

Count: Term used to specify the size of shrimp or scallops. Count is the number of fish per pound. (i.e. 30-40 count shrimp would have 30 to 40 shrimp per pound)

Dressed: Fish that has been gutted and had the organs removed.

Fillet: A strip of flesh from the side of a fish, cut away from the backbone. Fillets can be skin-on or skinless, pinbone-in or pin-bone out.

Grading: Measurements by which seafood is often sold. Increments can either be in counts per pound (i.e. 30/40 shrimp) or size (i.e. 2-4 ounce fillets).

H&G: Short for headed and gutted (i.e. fish that have had both the head and guts removed).

IQF: Individually Quick Frozen. Term for product that is frozen in individual pieces.

Layerpack: A carton of fillets which are packed in layers. Each layer is separated by a sheet of polyethylene.

Pinbones: Fine bones often found along the midline of fillets (for example in whitefish).

Roe: Ripe fish eggs. Sujiko and Ikura are different types of salmon roe sold to Japan.

Round: Refers to the entire fish, head and guts intact. Round scallops refers to the entire scallop, shell included.

Shatterpack: A carton of frozen fillets similar to a layerpack but layers are separated by a continuous interleaved polyethylene sheet. Individual filets can be separated by dropping or "shattering" the pack.

Surimi: Japanese term for raw extruded fish flesh used as the raw material for an expanding lime of shellfish analogs such as crab sticks. Surimi is usually made from cheap, white ocean fish such as pollock.

General Trends in Fish Production and Consumption

World Trends in Production

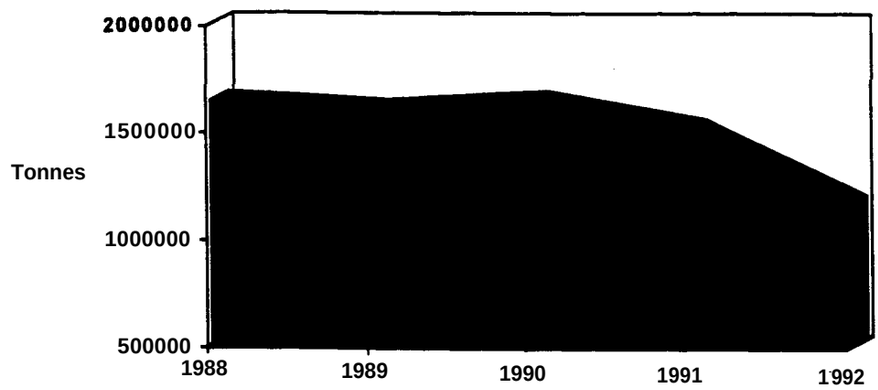
The total world catch of fish has increased significantly over the past three decades. During the 1980's growth rates averaged over 4 per cent and the world catch increased from 72 million tonnes in 1980 to approximately 100 million tonnes by 1990. Experts predict that this is the maximum sustainable yield of the world's natural fisheries and further increases will represent over-fishing.

About one third of the world catch enters international trade and because both quantity and price have increased, the value of international fish trade has increased sharply over the past two decades. By 1987, total international trade was approximately 34 million tons of fishery commodities valued at US$28 billion.

As world population grows the demand for fish products is expected to continue to increase. If present consumption levels continue it is estimated that by the year 2000 the global demand for seafood will be 113 million tonnes with imports accounting for about 38 million tonnes or approximately one third of all consumption.

In contrast, total Canadian fish catches have been gradually declining over the past five years as shown in the following chart. In 1992 Canadian fish catches totaled 1.163 million tonnes, a decrease of approximately 30 per cent over 1988 levels.

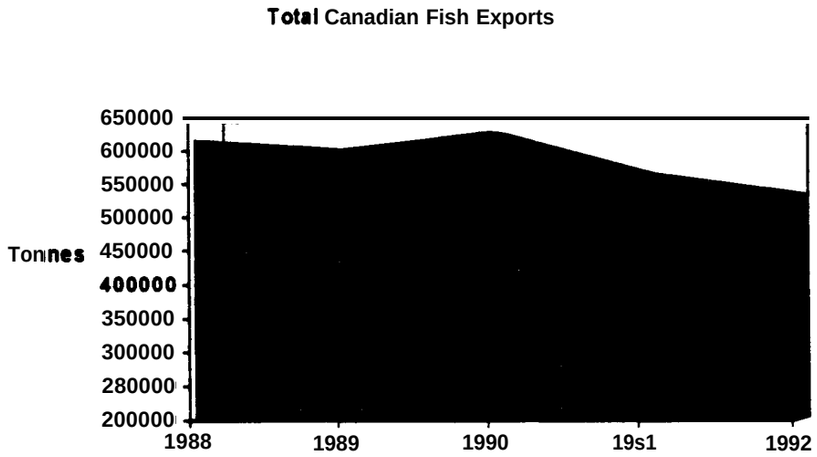
Total Canadian Fish Catches



Summary of Canadian Fish Catches 1988-1992
(in metric tonnes)

1988	1989	1990	1991	1992
1,642,144	1,606,307	1,647,391	1,515,281	1,163,563

Until 1988, Canada was the world's leading exporter of fish products in terms of value however the Canadian percentage of world exports has been gradually decreasing. Total volume of fish exports has also been decreasing as shown in the on the following page. In 1992 Canadian fish exports totaled approximately 530,000 tonnes, down 15 per cent from a peak of 625,000 tonnes in 1990.

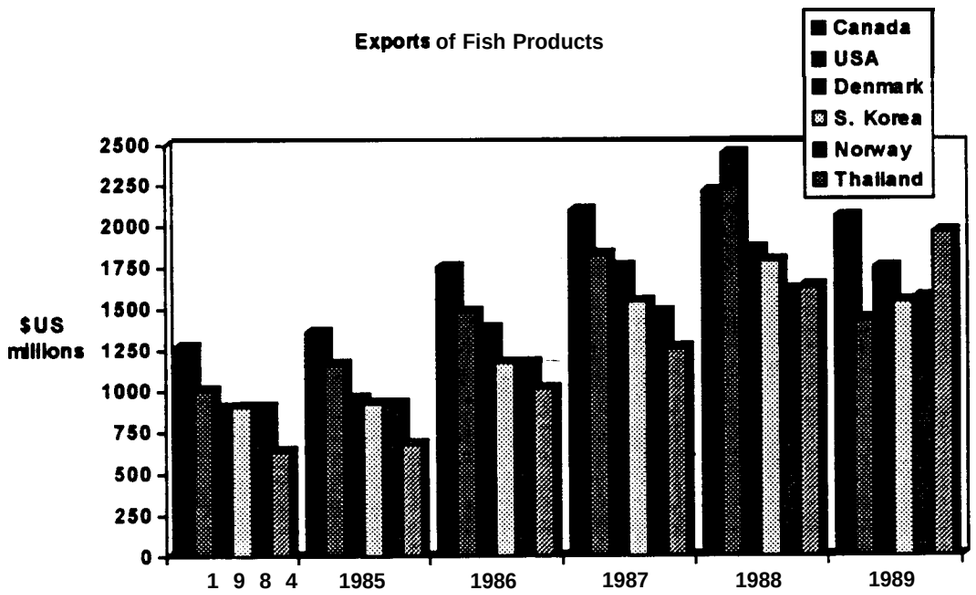


Total Canadian Fish Exports 1988-1992
(in metric tonnes)

1988	1989	1990	1991	1992
616,852	601,152	624,660	562,117	529,907

The percentage of total Canadian fish catch that was exported (by volume) remained fairly constant at approximately 37 per cent between 1988 and 1991. In 1992 approximately 45 per cent of Canada's total catch was exported.

Canada's strongest competition in export markets comes from the U. S., followed by Denmark, South Korea, Thailand and Norway. Export trends for each of these nations is shown in the following graph.



The U.S. export market share has gradually increased from less than 3 per cent in the early 1960's to 6.5 per cent in 1987. In 1988 the U.S. surpassed Canada in fish exports for the first time. This growth can be attributed primarily to developments in the Alaskan fishery. Both South Korea and Thailand have also shown strong growth over the last 25-30 years and currently hold export markets about three-quarters the size of Canada's. If their growth rates continue, they too could surpass Canada in the near future.

Denmark has not shown the same rates of increase but has maintained a strong and steady presence with a slight upward trend in world trade share from about 5 per cent in the early 1960's to about 6 per cent in the 1980's.

Norway and Japan in contrast, have reduced their competitive share. During the 1960's and 70's Norway's export market share was almost identical to Canada's but its world share has dropped steadily since 1977 until it was only about 5 per cent in 1987.

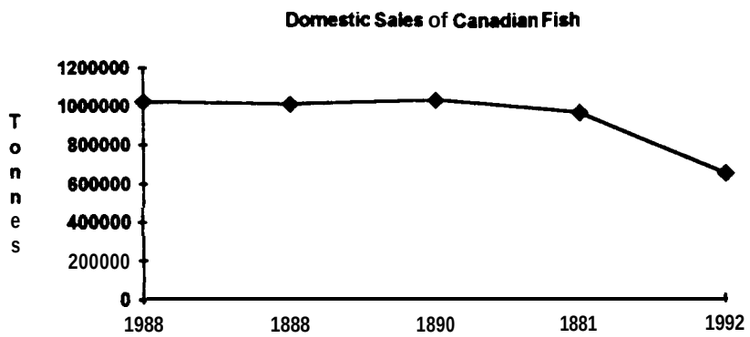
Japan used to be the world's largest fish exporter but its market share has dropped steadily and dramatically from around 17 per cent in 1962 to only 3.2 per cent in 1987, largely as a result of reduced access to other countries' 200 mile EEZ.

In 1991 other major players in the international market included Iceland, the Netherlands, China, Chile, Peru, France, the U. K., Russia and India. China, Chile, the UK, France and Russia all showed fairly strong growth in recent years and could pose a competitive threat to Canada in the not too distant future.

Markets for Canadian Fish

Canada

The Canadian domestic market is a major market for Canadian production of fish products, however domestic sales have seen a decline in volume over the past five years as illustrated in the following chart.



Domestic Sales of Canadian Fish 1988-1992
(in metric tonnes)

1988	1989	1990	1991	1992
1,025,292	1,005,155	1,022,731	953,164	633,656

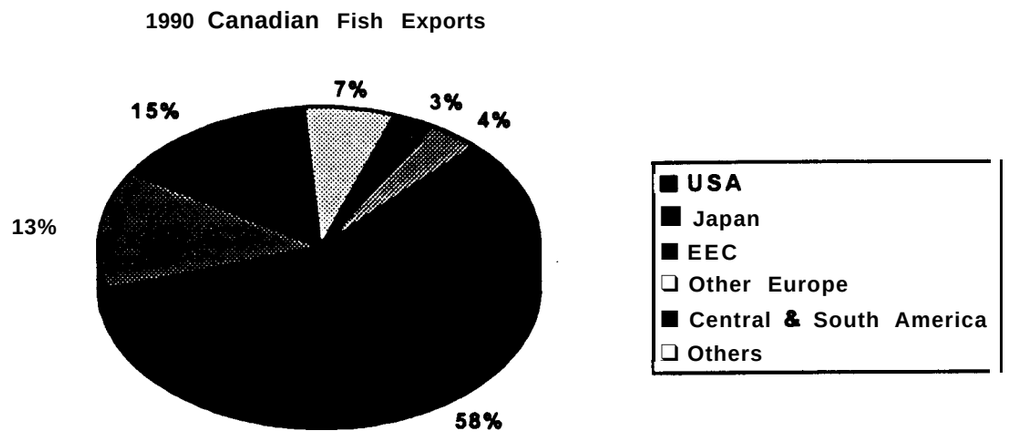
Of the total 1992 Canadian catch, 633,656 tonnes (or 55%) were sold domestically. This is down approximately 40 per cent from the 1 million tonnes sold domestically in 1988. Some of this decrease has been replaced by imported fish. While Canada is a leading world exporter of fish, 61 per cent of Canadian demand is filled by imports. This suggests that the Canadian market is under supplied by domestic producers due to the greater attraction of the American market for suppliers.

The U.S. accounts for approximately half of Canadian fish imports of which almost half are shellfish. It is also interesting that a substantial amount of fish imported from the U.S. is originally caught in Canada. Atlantic coast producers find it more convenient and lucrative to sell to large American buyers in the northeast which then resell their product to Canadian wholesalers and retailers.

It is estimated that each Canadian household spends approximately $213 per year on fish purchases resulting in total estimated sales of $426,809,400 for fish in major urban centres in Canada.

Canadian Export Markets

A breakdown of 1990 major export markets for Canadian fish is shown below. The USA provides the largest market for Canadian fish, buying 58 per cent of our total exports by volume. In 1990 this amounted to 362,357 tonnes of fish. Traditionally Japan has been Canada's second largest export market taking approximately 15 per cent of total fish sales by volume, however in 1990 Japan dropped to third place behind the European Community.



Summary of Canadian Fish Exports -1990

Country	Export Volume
U.S.A.	362,357 tonnes
Japan	84,276 tonnes
EEC	93,349 tonnes
Other European Countries	42,232 tomes
Central and South America	19,790 tonnes
All Others	22,656 tonnes

Canadian fish exports in 1990 totaled 624,660 tonnes valued at $2.63 billion. Together the USA, Japan and the EEC buy 86 per cent of Canada's fish exports. Each of these major markets is briefly described below.

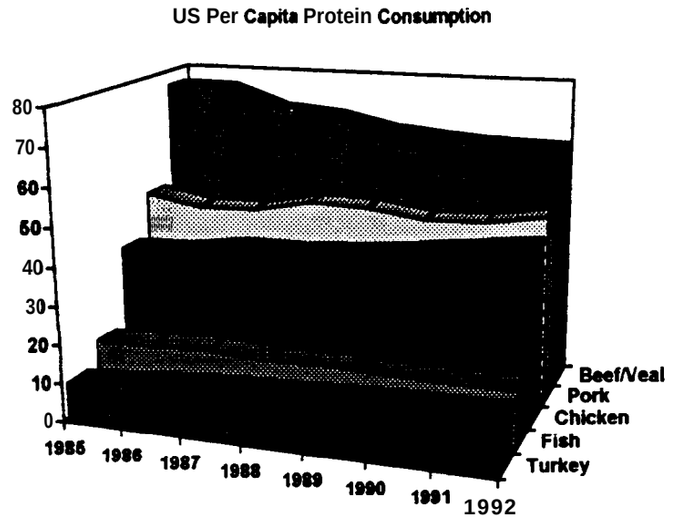
United States

Next to Japan, the U. S. is the worlds second largest importer of fish products. In 1990 Canada was the leading fish exporter into the U.S. providing 22 per cent of U.S. imports valued at $1.41 billion. Fresh whole or dressed exports account for 23 per cent of fish exports to the U. S., fresh and frozen fillets 20 per cent, frozen blocks 15 per cent and fresh and frozen shellfish 11 per cent. Ground fish products dominate Canadian exports into the U.S.

Total fish consumption in the USA has increased overall in the last two decades and is expected to continue to increase through the 1990's although per capita consumption is starting to show a decrease. In 1992 US residents consumed 14.8 pounds (6.7 kgs) of seafood per person, down 1/10 of a pound from 1991. Growth in consumption has come from shrimp, catfish and salmon. Salmon imports alone increased by 18 per cent in 1992 over 1991. Fish consumption per capita is predicted to reach 9 kilograms by the end of the century.

Fresh and frozen product sales have grown fastest while growth in sales of canned fish and breaded products have slowed. A disproportionately higher amount of seafood is consumed away from home making restaurants an important distribution sector. Restaurant sales have grown at a faster rate than sales in other sectors.

Eating patterns in the US are changing. The per capita consumption of beef is decreasing while consumption of pork and poultry continues to grow as illustrated in the graph below. Unfortunately the cost of fish is increasing in the American market and the price difference between fish and red meat continues to widen. As a result, per capita consumption of fish has not kept pace with the growth in less expensive forms of protein.



Japan

Japan is the world's leader in per capita fish consumption averaging 86.0 kg per person per year, and is the largest importer of fish world wide. In 1992 Japanese fish imports totaled $US 13,248 million.

The most important Canadian fish export items going to Japan are herring roe and salmon. Canadian exports of fish and fishery products to Japan increased by 9.4 per cent from Cdn $595.1 million in 1991 to Cdn $650.8 million in 1992, however export volumes decreased by 9.0 per cent from 87,160 metric tonnes in 1991 to 78,743 metric tonnes in 1992.

There have been some important trends in Japanese culture that have impacted on the sale of Canadian fish products to Japan. High quality salmon and herring roe products have traditionally been an important part of Japanese diet and culture. Gift giving is an extremely important aspect of Japanese etiquette and high priced gift boxes of fish products, particularly roe, were traditionally preferred gifts. However there has been a

strong trend towards westernization and away from cultural insularity and as a result the Japanese have started to replace traditional gifts with gifts of meat and other "western" products and to consume more meat products when eating outside the home or entertaining. This has had a negative impact on both the salmon and herring industry.

As well, Japan has been suffering from a depressed economy. In 1992, especially during the latter half, the fish market in Japan saw various adverse effects of the economic slowdown. The first effects were seen in decreased entertainment budgets for Japanese companies. As a result, sales quantity and selling prices of expensive fish items which are served mainly at expensive restaurants, hotels, and sushi bars have been seriously affected. The reduction in overtime work due to the economic slow down has also caused a decrease in sales of foods supplied to overtime workers and sales at late night family restaurants and convenience stores.

The decrease in dining out, including business entertaining, has led to an increase in eating at home and, as a result, has increased sales of traditional items for home consumption such as ingredients for hot fish pot, and other popular, less expensive fish.

While the recent strong yen situation is expected to work in favour of imported fisheries products, it is generally accepted that it will take longer than expected to recover from the current economic slow down and imports of fish in 1993 will be affected by the delay in economic recovery.

Inexpensive exports of fish products from Russia to Japan also increased significantly in 1992. While the quality of fish products packed in Russia is still inferior, the quality has been improving quickly and Russian salmon, salmon roe, pollack roe and surimi had big impacts on Japanese fish markets in 1992.

The European Community

France, Italy and Spain are among the top five importers of fish products worldwide. Consumption of both fresh fish and shellfish in the European Community as a whole has recently shown a rising trend but even with these increases the EC has been a declining market for Canadian fishery products. Price and quality are important factors affecting demand and Canada has not been able to compete for a variety of reasons including the use of tariff and non-tariff barriers and preferential access for Scandinavian importers which have rendered Canadian products uncompetitive. Canada can only export products into Europe tariff-free if there is no European supply available.

Canadian products also have difficulty competing due to the high costs and reduction in quality associated with long transportation lines. The success of European aquiculture, particularly salmon, has meant that Canadian Pacific salmon cannot compete in price or product quality with salmon grown in close proximity to its final market.

The major Canadian exports to Europe are salmon, lobster and cod.

General Changes in the Market Environment

Canadian fisheries products must compete in the international marketplace therefore the level and value of Canada's fish exports are strongly affected by world wide availability and supply. For example, current shortages of Atlantic ground fish have resulted in higher prices for Canadian products. However this has made it harder for Canadian ground fish to compete with the American domestic supply of Alaskan pollock and cheap imports of pollock from countries such as South Korea.

On the other hand, decreases in Europe's supply of cold-water shrimp have resulted in increased exports of Canadian shrimp to the EC through Denmark. Canada may also be able to increase its shrimp supply into Japan as Greenland (Canada's major competitor) faces declining catches.

The development of aquiculture production for certain species has been so successful that it is having a dramatic effect on the world market, especially for salmon. European farmed salmon, led by Norway and Scotland, has successfully penetrated the EC market through increased availability, reduced prices, and high quality. Canadian salmon has a difficult time competing due to high transportation costs.

On the other hand, the success of Canadian farmed salmon, and the proximity of the supply to the US market has given Canada an advantage over European imports of fresh salmon to the US. However, this advantage is expected to decline as aquiculture becomes more widespread and salmon loses its "luxury" image as prices drop.

The Free Trade Agreement is expected to have an overall positive effect on the fish industry by making better use of Canada's proximity to the large US market however under the Free Trade Agreement Canada must sell unprocessed fish into the American market, resulting in the loss of value-added income.

Changes in the European Community have made it the largest single market in the free

world with 324 million consumers, however competition within the EC is expected to be fierce, forcing Canadian exporters to become more competitive on a global level, or risk losing revenues and market share.

The type of products preferred in the international market are also changing. Fresh and frozen fish are the largest selling products on a per capita basis and there have been significant increases in the percentage shares of world trade for exports of fresh, chilled, and frozen fish, and shellfish. In addition to premium products (fresh fish, frozen fillets) there is also an increase in the consumption of value-added products, particularly frozen entrees in the developed markets (i.e. European Community, Japan, U. S.) and a move away from breaded, battered, cured, and canned products. Both the ground fish and salmon markets are seeing increased demand for premium products of high quality.

North American Trends in Fish Consumption

Canada and the United States represent the major market for fish harvested in the NWT therefore in this section we have developed a more detailed overview of the characteristics of this market and of current market trends affecting the North American sale of fish products.

Generally Canadian and American fish consumption follow the same patterns. Fish represents approximately 3 per cent of Canadian food purchases with annual per capita consumption of fish estimated at approximately 8 kg per person. This represents a 50 per cent increase over 1970 levels of 5.27 kg per person and an annual growth rate of about 1 per cent. While Canadian consumption is far lower than other countries such as France (20 kg per capita) or Japan (86 kg per capita), it is slightly higher than the US which was approximately 6.7 kg in 1992.

The increase in general demand for fish and seafood products can at least partially be attributed to increased consumer awareness and preoccupation with their health together with an awareness of the nutritional benefits of seafood products. Generally more North Americans are making an effort to "eat right" and as a result the importance of beef and pork has declined while that of poultry and other red meats has risen. Beef consumption decreased by one per cent between 1981 and 1987, chicken consumption increased by 35 per cent and other red meat consumption increased by 16 per cent. Fish marketers have been able to capitalize on this trend by promoting fish as a low calorie, low cholesterol product without significant additives.

Increased fish sales can also partially be attributed to an increase in North Americans traveling and an increased immigrant population in large cities. These both result in an increase demand for a wide range of seafood products both at the retail and restaurant levels.

The most important factor affecting purchase of fish remains consumer sensitivity to

price. Seafood would have much greater market potential if the price was competitive with that of meat or poultry. The price of fish has increased by 50 per cent in the last ten years while the price of chicken has increased by only 20 per cent. As a result, chicken sales have grown much more quickly than fish sales.

Quality and appearance in fish products are other factors that are becoming more important as sales of fresh whole fish and fillets increase, while those of frozen blocs and canned products decrease. The consumer is becoming much more demanding when it comes to quality and fisheries that cannot ensure consistently high quality will have a difficult time placing their products.

Disposable income also influences fish consumption in North America, especially since the restaurant trade accounts for a proportionately high volume of sales. In the last three years, fish sales have slowed in response to the recessionary economic climate and a recovery has yet to be seen.

North American Consumer Profiles

North American seafood consumers generally fall into three categories:

Ethnic consumers: non-anglophone and non-francophone ethnic groups eat fish frequently. This group is generally brought up eating fish and is interested in a wide range of species, especially more exotic species from warmer seas. Generally they are more conscious of using all parts of the fish and are therefore more willing to purchase more expensive species and tend to purchase fish in small fish stores where presentation and cleanliness are not of primary concern.

Up-scale Consumers: this group is largely responsible for the increased demand in fresh fish and exotic species. Up-scale consumers are characterized by higher education, higher income, professional status, 24- 44 age category, greater social mobility, are widely traveled, more cosmopolitan and more open to new experiences. Studies have

found that income is strongly correlated to seafood consumption and both income and education are important variables in determining consumption. The top income group in North America consumes seven times more fresh fish than the lowest income group.

Conservative Consumers: These consumers eat traditional fish products such as salmon, trout, cod, sole, haddock and halibut. Growth in demand has been slow in this category.

A significant but shrinking proportion of the Canadian population are non-consumers of fish products. Taste is a factor in their decision not to eat fish but non-consumption also stems from the relative expense of fish, cultural barriers, previous negative experience, fear of choking on bones, and fear of poisoning.

The groups most likely to increase their consumption are those who are already consuming large amounts of seafood.

Trends in Species Sales

Shortages in traditional species since the mid- 1980's have allowed imported species to capture a significant share of the North American market. Non-traditional species such as Alaskan pollock, grouper, orange roughy, whiting and catfish are now important species in today's market and Alaskan pollock has become a price setter in the low end of the market. New products such as surimi and other high value-added, ready-to-eat products are becoming popular as well.

According to fish salespersons and retail buyers in Montreal and Toronto the most popular products in the Canadian market are the traditional species most familiar to Canadian consumers including salmon, cod, sole, trout, turbot, haddock, shrimps, lobster, scallops, and mussels. Salmon is without doubt the most popular finfish sold in both Canada and the U.S.

Pollock (surimi) has shown the greatest growth rate of all fish products sold in supermarkets. Pollock has been so successful because it sells for a low price, has a bland taste, is boneless, and is considered to be both nutritious and good quality. New seafood consumers prefer mild-tasting, boneless whitefish that is easy to prepare which explains part Of pollock's popularity. At the same time, consumers are also willing to buy unfamiliar varieties if they are informed about how to prepare them, although according to people in major food chains there is no clear trend for more exotic products and sales of exotics must be supported by substantial promotions.

Price remains the most important factor influencing fish purchases regardless of species.

Trends in Product Form

Sales of fresh fish in both Canada and the U.S. grew throughout the 80's and into 1990 hugely as a result of the appearance of fresh fish counters in supermarkets. This growth has slowed in the early nineties, primarily because of the recession, but fresh fish retains a strong market.

A survey of fish sales in Ontario and Quebec found that increased fresh fish sales were often at the expense of frozen product. In fact, sales of frozen products are generally declining throughout Canada. For example, the volume of frozen fish products sold in Quebec supermarkets declined by 9 per cent in 1990 over 1989, and by 2 per cent the previous year. Sales in Ontario dropped 3 per cent in 1990 over 1989. The decrease is sales is primarily due to a decrease in the sale of unbreaded fillets. Sales of breaded products apparently remained stable.

Breaded and battered seafood is considered a "mature market" with no major increases expected in the near future. The Canadian market for these products tends to be very species specific. A Canadian will distinguish between a fishstick made of cod or pollock and pay a premium for the former, the US consumer regards a fishstick as a fishstick regardless of raw material.

In spite of the recent decline in sales, there is reason to believe the frozen food market hasgrowth potential overthe mid-term. The rate of decline has slowed as the relatively cheaper cost of frozen product becomes more attractive in a recessionary economy. Frozen product is attractive to low and middle income earners, and frozen fish is more practical due to ease of storage. The most popular frozen products are sole and haddock.

Consumption of canned fish is declining except fora specific ethnic market. This maybe due to better nutrition awareness campaigns and the variety of fresh and frozen products available.

In contrast, the market for prepared dishes in general is growing due to socio-economic changes such as the increasing entry of women into the labour market reducing the time available for preparing food. According to trends identified by Good Housekeeping magazine, most women don't cook any more, they assemble -- using kits, mixes, or sauces to create the illusion of a home-cooked meal without either the work of a meal cooked from scratch or the guilt of not cooking at all. Kits are an international trend -- they save time and energy, they eliminate waste, they are nutritional, and they are guilt-free because they involve more preparation than simply reheating.

Women tend to be afraid to cook fish because it is too intimidating, too obscure, too expensive and too easy to ruin. Accordingly, the fisheries industry needs to simplify fish and make it more consumer friendly, and consumers need to be able to find boned and prepared fillets so they can use them in a kit type meal.

Price is also important in prepared dishes. According to some wholesalers $5 is the maximum consumers will pay for prepared dishes. Prepared dishes are also less affordable for families of three and more. At present 19.6 per cent of all prepared dishes sold in Canada have a fish or shellfish base.

Fish must also meet the needs of other current food trends if it is too be successful in

increasing its market share. For example, there is a 90's trend toward fun (casual, relaxed) food and toward adventure eating combined with a continuation of the 80's trend toward indulgence but in a restrained economy. There is also a very strong trend toward increased consciousness about health and diet. Success will therefore depend on providing a product that provides "meal ideas" that satisfy the consumers desire for:

- ease and convenience;
- nutritious and healthy food;
- elimination of guilt;
- simplicity;
- staying at home.

Meal ideas for the 1990's must allow the consumer to contain costs while still achieving a feeling of fun and adventure, social acceptability, environmental responsibility, youthfulness, naturalness, and an element of indulgence.

Packaging Trends

It is now almost compulsory for retailers and restaurateurs to offer completely boned fish. Very few whole fish are sold except to ethnic customers and of those, Pacific salmon, trout and smelt are the ones sold mostoften.

In fresh-packaged and frozen products the consumer is looking for packages with small portions. Restaurants are looking for individual portions of 6 - 8 oz. for lunch presentation and 8-10 oz. for dinners.

Labeling and packaging are also very important from the consumer point of view. The four types of information most frequently checked on labels are, in order of importance, product price, expiry date, cooking instructions, and ingredients. Consumers look for packaging which allows them to see the product and gives clear information such as "the eat before" date, cooking methods, list of ingredients, manufacturer's name etc.

A recent study examining Canadian consumer perceptions of fish and seafood revealed that Canadians have a strong aversion to being reminded about the live fish when purchasing fish to eat. The study recommended against using pictures of fish with head and tails intact. Consumers prefer to think of fish as meat on a plate rather than as a living creature.

Important Market Sectors

As indicated above there has been an increase in the presence of fresh fish counters in supermarket chains which has resulted in a increased market for fresh fish of all types.

There has also been an increase in the number of meals eaten outside the home which has made the restaurant and hotel sector an increasingly important player in North American fish markets. In 1990, 39 per cent of all food eaten in Canada was eaten outside the home.

The most popular main dish ordered in restaurants is chicken (22%), followed by hamburger (1 OYO), steak (8%) and fish (7%). The most popular shellfish is shrimp (3%) followed by lobster (2%), scallops (2%) and crab (1%). Price is the most important criterion when choosing a main dish.

According to a study of markets in Quebec and Ontario, seafood sales in restaurants are growing because people cook fish less at home compared with red meat and poultry therefore eating fish in a restaurant allows them to vary their menu and try new dishes or more sophisticated recipes. The population is also becoming more concerned about the quality of their nutrition and fish offers an attractive alternative for a better-balanced diet. Restaurants are offering a greater number and variety of fish dishes which has also increased fish purchases in restaurants.

Restaurant products in highest demand in Ontario and Quebec include salmon, perch,

shrimp, shark, red snapper, swordfish, squid, mackerel, striped bass, ocean perch, turbot, pickerel, grouper, sea bream, and spiny dogfish. The demand for smoked fish also seems to be growing.

The demand for all products with a pollock base is growing rapidly in medium and low-price restaurants.

Large chain restaurants buy only frozen products because handling is easier and they are more reasonably priced. Adherence to uniform size (IQF fillets) is important for this group.

For medium priced restaurants product quality and price rank as equally important, however these restaurants tend to stay away from very expensive 'species. Most of these restaurants buy a combination of fresh and frozen fish but the proportion varies widely. Often, fresh fish will be offered as a special to supplement a permanent menu offering supplied by frozen product.

Most high priced restaurants buy fresh fish almost exclusively. These buyers are extremely demanding and want personalized service. Price is not a great consideration compared to quality, variety and prompt, accurate service. Filleted fish is in most demand, although French chefs tend to buy whole fish. These restaurants generally have daily delivery and expect to order 24 hours in advance.

Although most higher priced restaurants tend to purchase fresh fish, a 1991 consumer study in the USA indicated that consumers would not mind being served frozen fish. There is a growing perception that frozen products can actually be "fresher than fresh" if handled properly. However, consumers also indicated that they did not want fish to be advertised as frozen on a menu.

The institutional market is also an important market sector particularly for lower priced species. However, at least in Quebec and Ontario, the institutional market is more or less stagnant as far as seafood products are concerned. For hospitals and institutions the

following products are in demand: frozen block (2.27 kg), layers (4.54 kg or 6.80 kg) or single fillets (IQF), pre-portioned products, boned products, and reasonably priced products which can be easily obtained from suppliers throughout the year. Second-stage processed products (breaded or fish cakes) are also popular. Preference is given to Canadian products in the institutional market.

NVVT Fish Species

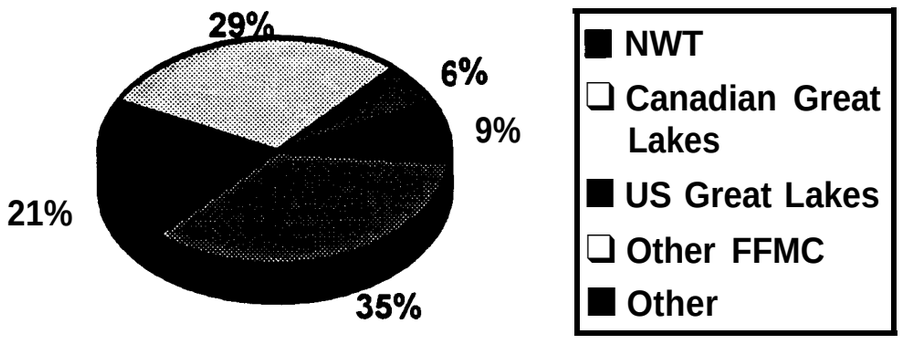
Market Information Sheets

Lake Whitefish

Origin of production:

North America produces over 15,000 metric tonnes round weight of whitefish per year. Of this, approximately 5,000 metric tonnes are harvested from the Canadian Great Lakes, 3,000 metric tonnes are harvested from the US commercial fisheries in the Great Lakes, 6,000 metric tonnes are harvested in the area serviced by FFMC (Alberta, Saskatchewan, Manitoba, N.W. Ontario and NWT), and 1,000 metric tonnes come from elsewhere in North America. NWT represents approximately nine percent of this production.

North American Whitefish Production



NWT whitefish is commercially harvested from Great Slave Lake and makes Up approximately 80 per cent of the total Great Slave Lake harvest. All NWT whitefish that is exported from the Territories is marketed through the Freshwater Fish Marketing Corporation (FFMC). Virtually all Great Slave Lake whitefish meets export standards

and can be sold into the U.S. market.

According to a 1990 study, FFMC supplied approximately 15 - 20 per cent of the whitefish purchased by North American fish buyers or approximately 5 per cent of total fish purchased. The NWT supplies approximately 12 per cent of FFMC's whitefish or approximately 0.6 per cent of the total fresh whitefish purchased by the average North American buyer.

Whitefish is also found in North Eastern Europe and in former Soviet Block States where it is not currently utilized.

Production Trends:

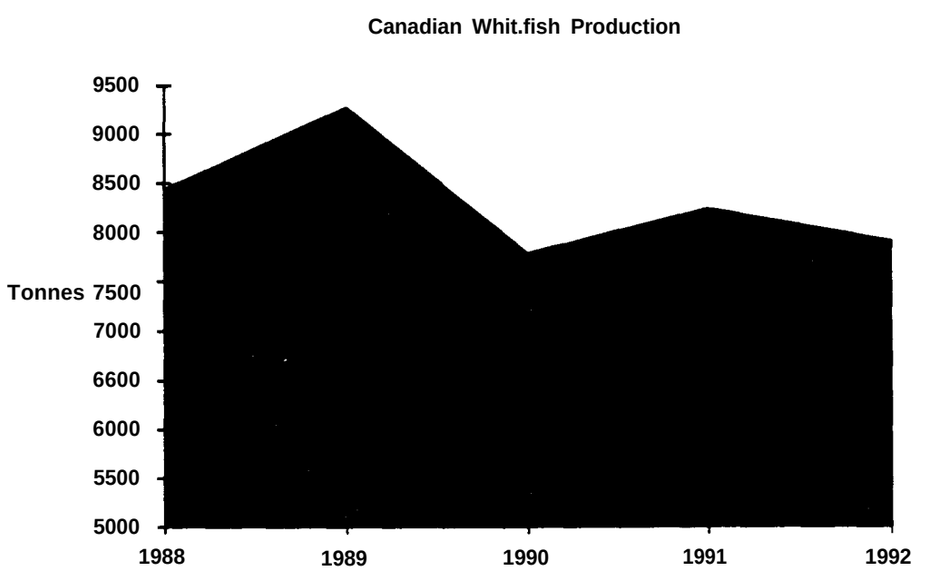
Whitefish production varies with season from lake to lake. Generally there is an oversupply of American whitefish during the summer and prices are low, so many Great Lakes producers do not bother to fish during the summer months. Fishing is considered to be the best during April and May when the fish come up to feed, and during October when they spawn so fishing increases at these times. Lake Huron tends to produce during September, Lake Michigan during October and Lake Ontario during November. Great Lakes production drops dramatically during the winter months (December to March) although Lake Huron produces some winter fish.

North American whitefish production has increased dramatically over the past fifteen years and there is now a serious glut in the market. According to one dealer, there is more whitefish on the market now than there has been in the past 90 years and the increase is expected to continue. Most of the increase has come from American Great Lakes production where, according to one dealer, production in the state of Michigan alone increased to 5,500 metric tonnes in 1993.

There has also been an increase in the use of trap net fisheries in the Great Lakes particularly on Lake Michigan. Fish captured by trap nets are of much higher quality

than gill net captured fish, making it more difficult for gill netted whitefish to compete in the market. Gill net captured fish tend to suffer from bruising and are generally softer than trap net captured fish which are captured live and are therefore much fresher.

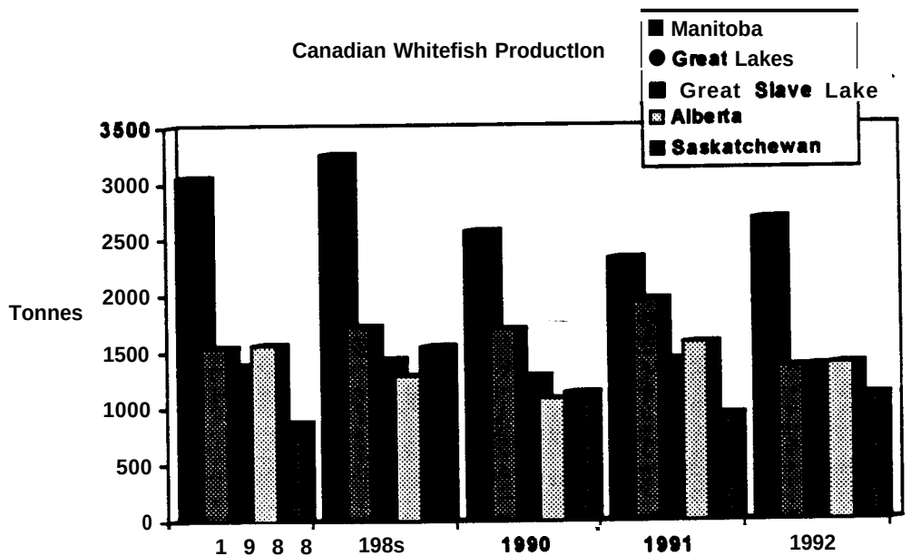
In response to the general oversupply of whitefish, overall Canadian whitefish production has decreased by approximately 15 per cent over the past three years as shown on the following chart.



Canadian Whitefish Production 1988-1992
(in metric tonnes)

1988	1989	1990	1991	1992
8,435	9,261	7,776	8,232	7,904

Most of this decrease is due to a decrease in whitefish production by Manitoba and Saskatchewan as illustrated in the following graph.

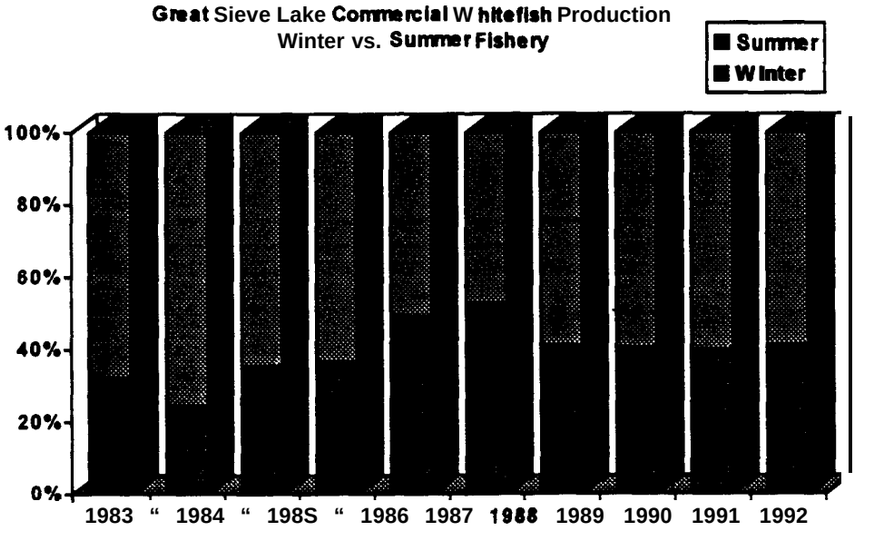


In contrast, Great Slave Lake whitefish production has remained fairly constant at approximately 1,400 metric tonnes a year as shown in the following graph.

Great Slave Lake Whitefish Production 1987-1992
(in metric tonnes)

1987	1988	1989	1990	1991	1992
1,310	1,438	1,451	1,317	1,452	1,353

Whitefish prices are higher during winter than summer because the winter supply of whitefish is limited. In response to this higher price, winter production of whitefish has increased on Great Slave Lake over the past 15 years. Winter whitefish production on Great Slave Lake peaked in 1988 with a record 700 tomes, or more than 50 per cent of the lakes' annual production. Since that time, winter production has leveled off at approximately 40 per cent of the total annual harvest as illustrated in the following chart.

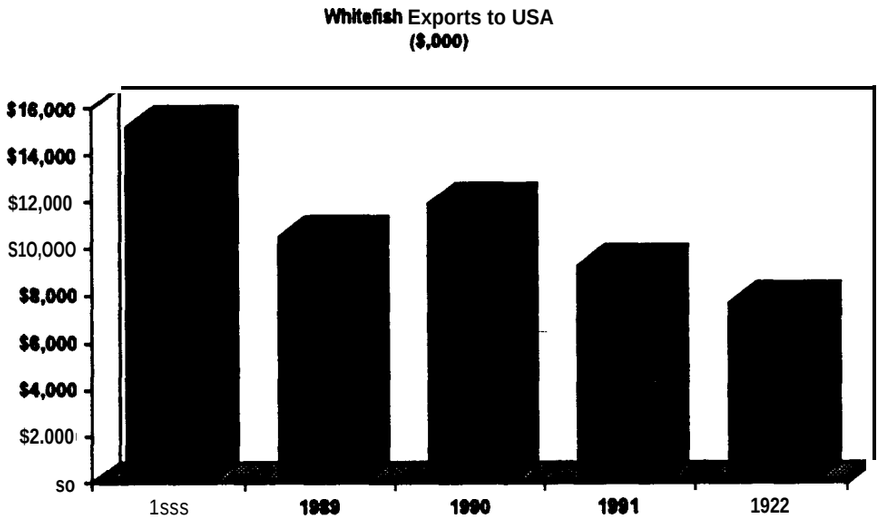


Demand by geographic location:

The U.S. is the principal market for whitefish supplied by both FFMC and Ontario absorbing approximately 70 per cent of FFMC sales. The Canadian domestic market is the second largest at 15 per cent.

Fresh markets for whitefish are primarily in the Great Lakes basin, in the urban areas on the American side including Chicago, Detroit, Cleveland and down to New York and the Atlantic corridor to a lesser extent. These markets developed when transportation networks for fresh marine fisheries were poor and expensive. With the introduction of frozen convenience fish such as fish sticks, the market for fresh whitefish has been relatively stagnant, with little expansion from traditional geographic areas. Detroit and Chicago are the two largest fresh whitefish markets because of the level of consumer awareness associated with whitefish that is produced from the Great Lakes and the level of usage of whitefish by the Jewish and Catholic population.

Sales into the American market have been gradually decreasing over the past five years Statistics Canada export data for whitefish fillets, fresh and frozen whole dressed fish, and frozen blocks are shown below.



Value of Canadian Exports of Whitefish to USA 1988-1992

1988	1989	1990	1991	1992
$15,189,000	**$10,508,000**	$11,904,000	**$9,261,000**	**$7,681,000**

In Canada, the traditional markets for whitefish rue in the Jewish ethnic markets of Montreal and Toronto. Some sales are also made in the Prairie provinces.

One dealer indicated that while the whitefish market used to be concentrated in the eastern U. S., they are now selling whitefish all over North America including the American mid-west, Los Angeles, Miami, Quebec and southwestern Ontario.

Very little whitefish is exported outside of North America.

Currently almost all NWT whitefish is sold to FFMC and exported south. Local sales are left to informal arrangements between local end users and the fishermen themselves. Only very small quantities are sold locally and these are essentially over the side sales directly from the fishermen at the dock. With no established distribution systems, local

markets are left without available supplies of locally caught fish.

A recent report prepared for the NWT DevCorp suggested that there maybe a relatively strong Yellowknife market for conveniently packaged whitefish products. This report estimates that Yellowknife hotels and restaurants could probably absorb 75 tonnes round weight per year. Retail trade might make up another 25 tonnes, while a further 50 tonnes might be directed to institutional markets such as hospitals, correctional institutions and schools. Thus, Yellowknife alone could probably absorb 150 tonnes of production.

If other communities were to utilize only another 50 tonnes, it seems very likely that the NWT marketplace could take a significant proportion of the Great Slave Lake whitefish production. However, customers would have to be assured of a reliable supply of product that was processed and packaged in a usable form by an inspected and certified facility and was readily available during normal business hours.

In 1992 the only established retail vendor selling whitefish in Yellowknife was OK economy, which sold polybag Whitefish at $5.90/kg. They only sold one case of whitefish every two weeks at peak demand.

Demand by important market sectors:

The primary market for whitefish is the Jewish ethnic market which peaks during the religious holidays Rosh Hashanah and Yom Kippur (fall) and Passover (spring). Great Slave Lake whitefish has always been a major supplier of fresh whitefish for the Jewish holiday of Passover. Before Passover (one week per year at various dates in March and April) the conditions of supply and demand are such that whitefish can sell for up to three times the lowest summer price. Exclusive of the Passover holiday, the fresh market for dressed whitefish is always better during the winter season since there is not the same competition from the Great Lakes as there is during the summer.

Most fresh whitefish is sold to restaurants who are willing to pay a higher price than retail stores. Supermarkets have been reluctant to provide shelf space for whitefish because the price is too high relative to other fresh food products however frozen whitefish and whitefish fillets are increasingly being carried by supermarkets and fish store chains, and whitefish is sold to general supermarkets when it is cheap and plentiful.

A small percentage of Great Slave Lake whitefish (approximately 1 per cent) is sold into the lucrative Kosher smoking market. This fish_ is generally fatter than other export whitefish and sometimes is characterized by a fatty hump behind its head. Smoker fish buyers indicated that the product FFMC provides is inferior to the product they receive from the Great Lakes Producers and can therefore not command a premium price. In fact smokers would prefer to buy all their whitefish from the Great Lakes if possible.

Unfortunately, the smoker market in North America is shrinking. Over the past two to three years a number of major smokehouses have gone bankrupt due to a combination of lower demand (due to a shrinking ethnic population) and a general economic environment where it is hard to make a profit. FFMC have indicated that their market share of smoker whitefish has gone from 3,000 metric tomes to less than 700 metric tonnes. The smoker houses were the main buyers of frozen whitefish product and with the decline in smoker houses it has become very difficult to sell frozen whitefish. One dealer indicated that the large producers would not even buy whitefish at $0.88 per kg for freezing because even at that low price it wasn't worth their while.

Product Form:

Approximately 80 per cent of NWT fish is sold into the fresh market as this is the most profitable market. Most buyers prefer to purchase whitefish as fresh round or fresh dressed in order to process it further themselves by pinboning, filleting, and packaging. Some dealers indicated that in the last year the demand for fillets has increased and more fillets are being cut directly on the water which results in a higher quality product. It was also pointed out that fresh fillets can be deboned however the pinbones must either be

left in or be removed by hand which increases the cost of production.

A number of dealers stressed the increasing importance of quality, particularly in the fresh fish market. It was pointed out that fishermen are inconsistent in the way they dress fish on the lake which hurts the market. One dealer suggested hiring "dressers" at the processing facility to ensure consistent quality.

Prime smoking fish are produced in a head on dressed and frozen form and can achieve prices to the fishermen in the range of $5.83 US per kg but more normally between $2.20-$3.30 per kg. However, as indicated above, this market for frozen fish is rapidly declining such that very little frozen fish is now being sold.

Golden Caviar produced from whitefish has been a relatively successful undertaking. FFMC began by trying to market this product in Japan but found greater success in North America.

Some whitefish is filleted into a skin-on pinbone-in IQF product, graded into various sizes. At present these are generally directed to institutional and food service markets however a number of dealers felt that frozen fillets and frozen pan-ready portion packs had market potential.

Pricing Trends over the past five years:

Whitefish is sold as a commodity in the North American market therefore price is determined by supply and demand. During the summer months the market is generally oversupplied with whitefish and demand is low resulting in low prices. During the winter months there is little fresh whitefish available and demand is high therefore the price rises accordingly. Prices are highest around the Jewish holidays of Rosh Hashanah and Yom Kippur (in September) and Passover (in March or April).

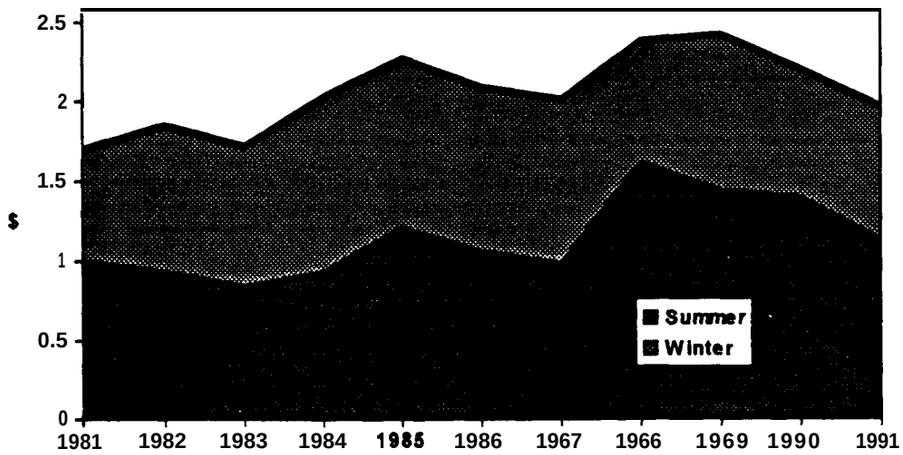
Whitefish prices also vary with size and quality. Generally, the larger the fish, the higher

the price it commands. The market prefers fish over three pounds and the price for jumbos tends to be almost twice the price of medium whitefish. When whitefish is in ample supply, the lower quality gill net fish tend to receive a lower price than fresh whitefish caught in a trap net fishery. Lighter coloured fish also receive higher prices that darker skinned fish.

In addition to the seasonal pattern in whitefish prices, whitefish have experienced an overall downward trend in average price. Dealers indicated that 1993 whitefish prices had dropped 15 per cent over last year's prices and that the low price periods were becoming longer and high price periods were becoming shorter. Average 1993 summer whitefish prices in the American market were $US 1.32- 1.65 per kg for dressed and $2.86-$3.08 per kg for fillets. Average winter prices were $US2.75 -4.40 per kg for dressed and $5.50-$6.60 per kg. for fillets. Prices for frozen fish have dropped even further from US$2.64 per kg in 1991 to US$0.88 -$2.80 per kg in 1993.

The following chart illustrates FFMC prices per kg for export whitefish between 1981 and 1991.

Price Per Kilogram - Export Whitefish (FFMC)



Average Prices for Export Whitefish 1987-1991 (FFMC)
(per kilogram)

Year	1987	1988	1989	1990	1991
Summer	0.95	1.58	1.41	1.36	1.10
Winter	1.94	2.31	2.35	2.13	1.89

FFMC whitefish prices peaked in 1989 at $2.35 per kg for winter fish but had dropped to $1.89 per kg by 1991. FFMC summer prices tend to be about 40 per cent lower than winter prices.

A number of dealers pointed out that FFMC is the price setter for whitefish and that they tend to set the price very low. Several dealers complained that the private sector cannot afford to sell whitefish at the prices set by FFMC and felt that FFMC had an unfair advantage as a crown corporation.

Competing species and products:

Great Lakes whitefish represents the greatest source of competition to NWT whitefish. Fish from the Great Lakes is considered to be consistently fresher than NWT whitefish and the vast majority of distributors/wholesalers of both fresh and smoker whitefish indicated they would prefer to purchase all of their whitefish requirements from Great Lakes suppliers if they could.

Great Lakes whitefish is also perceived to have other advantages over NWT whitefish. Great Lakes fishermen associations are willing to compete on price, Great Lakes whitefish tends to be lighter in colour and is therefore preferred by the customer, Great Lakes fisheries can respond more quickly to market demand, and Great Lakes whitefish is provided in a greater range of sizes which allows the distributor/wholesaler to target markets more effectively. The majority of whitefish from the FFMC is a medium sized

fish.

However, NWT whitefish enjoys the advantage of being available during the winter when the Great Lakes fisheries shut down. The lack of whitefish supply from the Great Lakes corresponds with an increase demand associated with major religious holidays throughout the winter resulting in a significant price premium for whitefish from the NWT. Once Great Lakes production begins in April and May prices typically drop by more than 50 per cent.

Whitefish also faces strong competition from other fish species particularly ocean fish. Approximately 65 per cent of fish carried by wholesalers and distributors are ocean species which have several advantages: Ocean fish are generally larger which may eliminate the need for pinboning; distributors/wholesalers can take advantage of a number of promotional schemes that other countries are offering (e.g. the New Zealand orange roughy campaign); and many of the larger markets are in coastal cities where awareness of ocean fish is greater and fish can be delivered fresh.

Aquacultured fish also compete with whitefish as both products are usually carried by the same distributors. Farm fish are perceived to be less polluted than naturally harvested fish, farm fish are price competitive with fresh whitefish, and the supply of farm fed fish is more predictable than wild harvest fish. Farm fed fish are also not subject to the same degree of seasonal price variation. The marketplace would prefer to have a stable supply of fish throughout the year so that seasonal price variations could be eliminated.

In spite of the high level of competition, whitefish has managed to maintain its own market niche particularly in the Jewish markets. Several dealers pointed out that whitefish do not really compete with other white fleshed fish such as pollock and roughy because it has its own well-established market. However, whitefish must still compete with other fish in its price category and as species such as salmon come down in price it will be a challenge to find new whitefish markets as the old ones weaken.

Future trends in production and price:

Production of whitefish is expected to continue increasing particularly in the Great Lakes. As the Great Lakes are being cleaned up the whitefish populations are responding with dramatic population increases and quotas have been increased accordingly. Lake Huron for example has had a 40 per cent increase in lake whitefish quota over the past two to three years. In addition, new aboriginal fisheries that are not governed by quotas are entering the commercial -whitefish market. It is unknown how great an impact these fisheries will have on total production however it is expected that there will continue to be a general oversupply of whitefish in the future.

Whitefish is expected to continue to maintain its market share however several of its traditional markets are shrinking and dealers are being pressured to find new market niches. While whitefish is not expected to compete with the cheaper rough fish such as pollock, it will be facing increasing competition from inexpensive salmon and other white fleshed fish in its price category.

With these supply and demand conditions in effect it is expected that the price for whitefish will continue to gradually decline over the next few years.

Given the high level of production, quality will become even more important in the market place. The increasing use of trap nets in the Great Lakes fishery has set a new standard for fresh fish quality that will make it increasingly difficult to market lower quality gill net fish.

There is also expected to be increased winter production coming from the Great Lakes which will mean that NWT fish must match Great Lakes quality and fresh.ness if it is to maintain its premium winter whitefish prices.

Target Markets

All of the fish dealers we spoke with indicated that whitefish is expected to maintain a strong market however the increased supply will likely push the market price for whitefish down even further. Therefore it is recommended that the NWT fishery concentrate on increasing its winter harvest of whitefish to maximize the available price premium. It is expected that currents markets will continue to be able to absorb all of the whitefish harvested from Great Slave Lake however fishermen may have to accept continually lower prices.

The domestic NWT market for whitefish should also be examined more closely. There is potential to sell approximately 200 tonnes of whitefish in the NWT each year. Local sales would likely provide a higher return to fishermen than the current prices offered by FFMC.

It is also recommended that quality control be given top priority as quality is becoming more and more critical in the whitefish market. Unfortunately NWT whitefish is considered to be inferior in quality to Great Lakes whitefish so particular attention will have to be paid to improve that image if NWT whitefish is to compete in the Canadian and US market.

Lake Trout

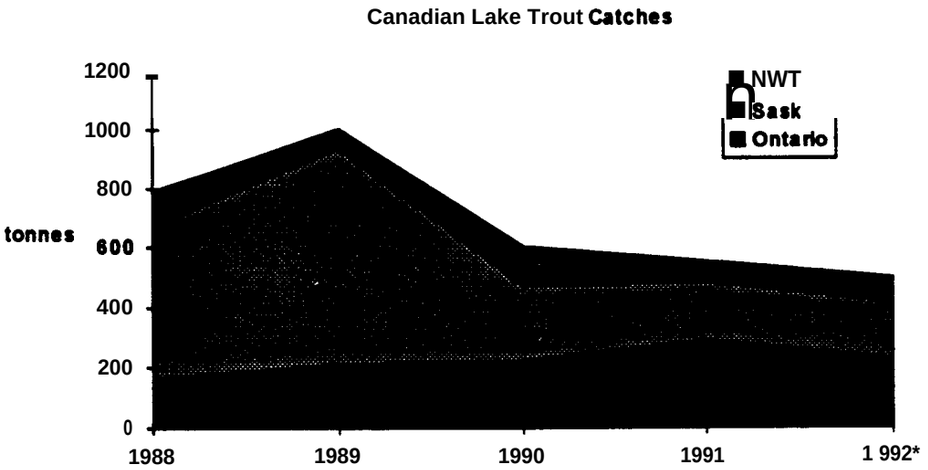
Origin of production:

Canadian Lake Trout is harvested primarily in Great Slave Lake, the Great Lakes and Saskatchewan. Lake trout is also harvested in the American Great Lakes, particularly Lake Michigan, which is a large producer and generally sets the market price. Most dealers we spoke with agreed that the production of lake trout from Lake Michigan alone could very easily oversupply the present market demand.

Production Trends over the past five years:

Every fish dealer that we spoke with indicated that the amount of lake trout they handle has dropped considerably over the past few years. Several years ago bad publicity about contaminants in lake trout destroyed the market for lake trout and it has yet to recover. Consumers, particularly in the U. S., are now afraid of eating lake trout and have switched to salmon or aquacultured trout as an alternative.

In response to the low demand and corresponding low price for lake trout, production of lake trout has also fallen drastically over the past few years. The following chart illustrates Canadian Lake Trout production. Canadian Lake Trout production in 1992 was approximately 500 metric tonnes, less than 50 per cent o 1989 production.

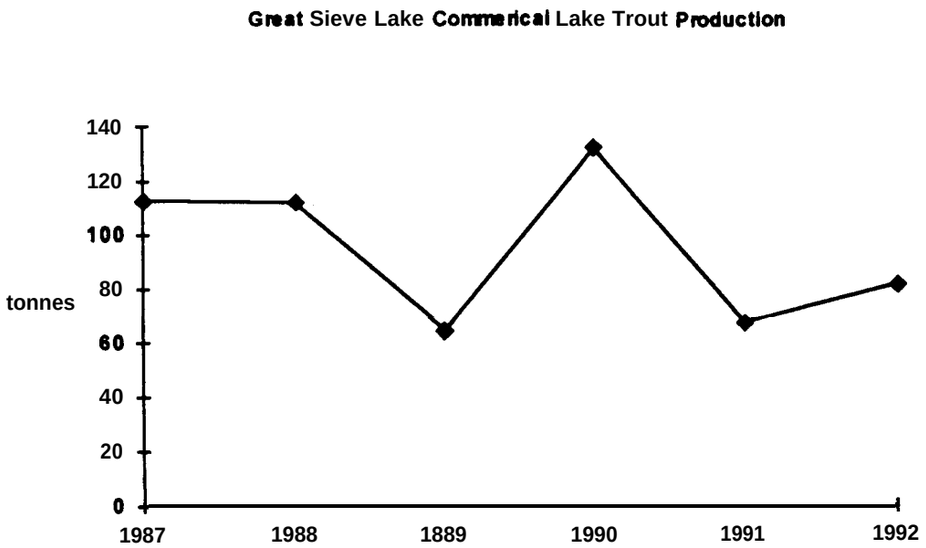


*estimate used for 1992 Ontario value.

Canadian Lake Trout Catches 1988-1992
(in metric tonnes)

Year	1988	1989	1990	1991	1992*
Ontario	163	212	224	288	227
Sask	516	725	247	196	188
NWT	112	65	132	67	81
Total	791	1002	603	551	496

The production of lake trout in the NWT has followed the same general pattern. The chart below illustrates Great Slave Lake commercial lake trout production since 1987. There was a high level of trout production in 1990 however production has generally declined over the past five years. Total production in 1992 was 81 metric tonnes, a decrease of 60 per cent over 1989/90 harvest levels.



Great Slave Lake Lake Trout Catches 1987-1992
(in metric tonnes)

Year	1987	1988	1989	1990	1991	1992
	113	112	65	132	67	81

Market Demand:

Lake trout in the Great Lakes and elsewhere in Southern Canada and the United States is considered a sports fishery fish rather than a food fish. Conflict between sport fisheries and commercial fisheries in the Great Lakes has lead to the virtual elimination of fresh water commercial fishing in the US Great Lake states. It is therefore not a target species and as such no markets are developed. These fish are essentially dumped.

In addition, lake trout has also been affected by consumer perception that this type of fish has been affected by a number of diseases and is high in contaminants, which has resulted in a major reduction in consumer demand. Aquiculture has been able to

capitalize on this information by promoting "clean" trout grown in a controlled environment and subject to disease prevention measures.

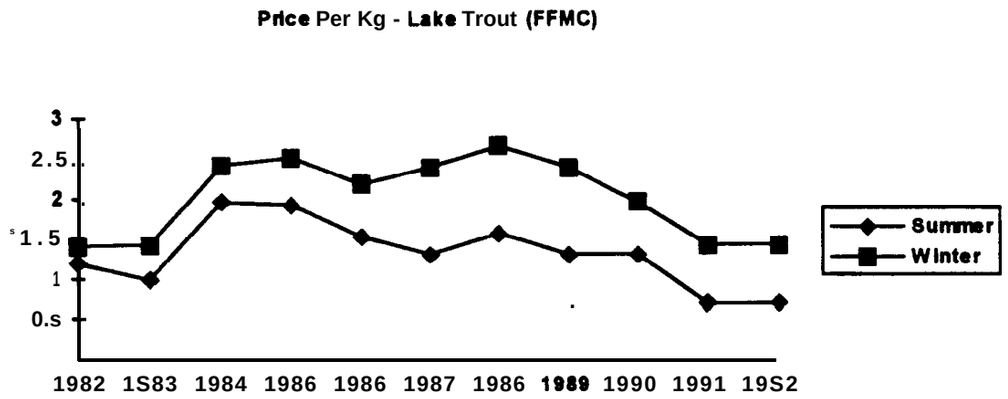
Small amounts of wild lake trout are sold to markets in Montreal, Chicago, Detroit and New York, primarily to the Jewish ethnic market. There is also a small market in the American midwest.

Most lake trout is sold into the retail sector where its low price makes it suitable for supermarket and chain store sales. Some fish stores also carry lake trout. Market preference is for fresh fish, primarily fillets, although fresh whole dressed and fresh headed and gutted fish are also sold.

Some lake trout is smoked however most dealers felt that lake trout is generally too oily for smoking. It was also pointed out that the high oil content of lake trout results in short shelf life.

Pricing Trends over the past five years:

The wholesale price for lake trout has declined steadily over the past five years for both summer and winter caught fish. According to research conducted by the NWTDevCorp in 1993, the best price they could obtain for trout packaged in polybags was $3.06 a kg F.O.B. Montreal, which made it uneconomical to pursue. The following chart illustrates summer and winter lake trout wholesale prices offered by FFMC. Winter prices are consistently higher than summer prices however both prices have dropped by 50 per cent since 1989. Winter prices for lake trout peaked at $2.68 per kg in 1989 and declined to $1.43 per kg by 1992. Summer lake trout only received $0.70 per kg in 1992.



FFMC Lake Trout Prices (per kg)

Year	1986	1987	1988	1989	1990	1991	1992
Summer	1.54	1.32	1.58	1.32	1.32	0.70	0.70
Winter	2.2	2.42	2.68	2.42	1.98	1.43	1.43

The 1993 prices for lake trout have shown little improvement. Most dealers estimated summer wholesale prices to be $0.88 to $1.32 per kg, with winter prices approximately 40 per cent higher. All dealers indicated that they could only sell lake trout at very low prices.

Competing species and products:

Lake trout must compete with aquacultured trout and both wild and aquacultured salmon. All of these species are available in large quantities and low prices in the current market therefore lake trout can only be sold at a very low price.

Future trends in production and price:

The present trend of oversupply and low price is expected to continue for at least the next few years. Dealers could see no improvement in sight. It is also expected that it will take time to shake the "contaminated" image of lake trout. The consumer does not differentiate between lake trout harvested in clean waters and other lake trout. Unfortunately, "a trout is a trout" to most consumers, therefore they are reluctant to purchase NWT lake trout.

The continuing low price and oversupply of salmon is also expected to keep the price of lake trout depressed for the next few years. This, combined with an increase in aquacultured production of both salmon and trout is expected to make it extremely difficult to market lake trout.

All in ail, the market for lake trout does not look promising and several of the dealers we spoke with have chosen to drop lake trout from their list of products altogether.

Arctic Char

Origin of production:

There are three sources of Arctic Char in Canada: wild char caught in the NWT, wild char caught in Labrador, and a small but growing volume off-cd char from southern Canada.

NWT wild char is commercially harvested in the Kitikmeot, Keewatin and Baffin regions. The Kitikmeot Region (Cambridge Bay) has been the most consistent producer of export arctic char over the years however adverse environmental factors severely limited the catch in 1991 and a failure in marketing strategy reduced sales in 1992. High transportation costs inhibit expansion of the fishery. The Keewatin production has fluctuated widely in the last 15 years due to both environmental and organizational problems. The Baffin has produced a steady supply of arctic char however the harvest has generally been sold within the NWT. Export of char from the Baffin has been limited by distance constraints and the monopoly the FFMC had on char purchases until 1993 at which time the NWT DevCorp undertook char marketing.

Most wild Labrador char (80%) is processed in Nain; the remaining catch is processed at the Tomgat Cooperative. Char from Labrador is generally smaller than char from the NWT and the average size has been declining, probably due to over fishing. The majority of arctic char caught in Labrador are now in the 1- 2.5 kg range and it is expected that catch size will continue to decline. Labrador char is also predominantly paler; only about 20 per cent of the catch is red-orange fleshed.

Wild arctic char is generally harvested in the late summer and early fall before the fish return to fresh water to overwinter. There has also been some success with a winter char fishery earned out through the ice.

Aquacultured char is relatively new in Canada. Currently, about 24 operations are raising char with the majority of producers located in New Brunswick, P.E.I. and Newfoundland. Three companies are experimenting with char in Manitoba and one Yukon operation has been working on commercial production since the late 1980's. A few other operations are located in Saskatchewan, Ontario and B.C. Most of these operations are growing char only as a sideline to trout or salmon; there are only a few serious specialists in char aquiculture in Canada.

Both Iceland and Norway also produce significant amounts of Arctic Char. The University of Tromso in Norway has been a center for char aquaculture development since the late 1970's however no significant volumes of char are being exported from Norway yet.

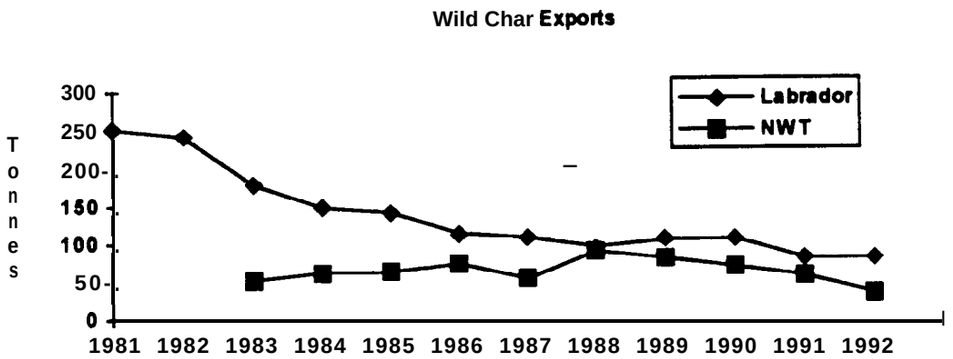
Iceland has recently entered the market with "farmed fresh" char. Iceland produced 300 metric tomes of cultured char in 1991, and planned to produce 700 metric tonnes in 1992. There is some concern that this level of production maybe too high at the current level of market awareness. Iceland is now exporting about 1000 kg of farmed char a week into Boston, a relatively small volume in terms of the overall fish trade but equivalent, on an annual basis, to the average export production of the Cambridge Bay plant.

The current potential Canadian supply of char including both farmed and wild caught char has been estimated by ED&T officials to be between 198 and 283 tonnes. An additional 52 tomes of imported farmed char is estimated to be available in the North American market.

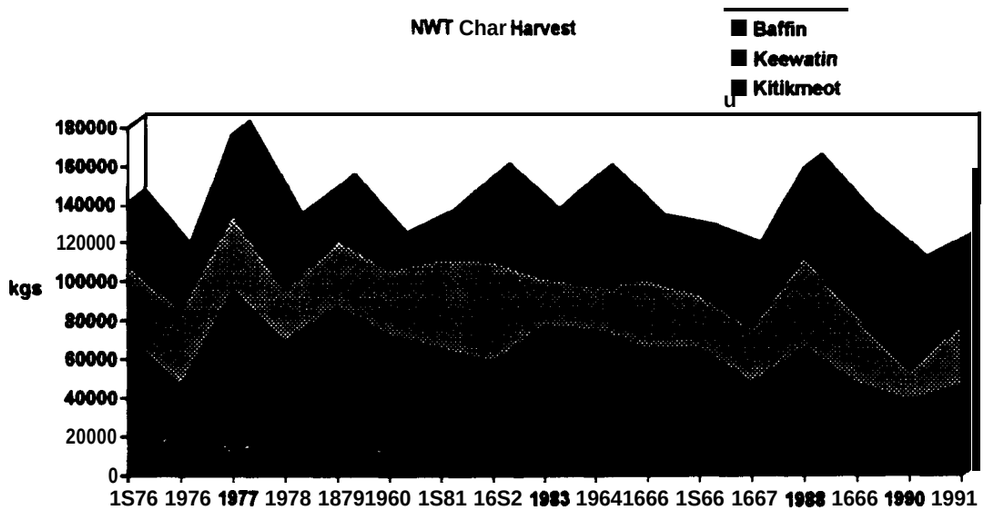
Production Trends over the past five years:

Wild char harvests in Labrador peaked in 1981 at 253 tonnes and have declined since that time to a low of 80 tonnes in 1992, a drop of almost 70 per cent (see chart below). This drop has been attributed to reduced fishing effort in reaction to decreasing returns

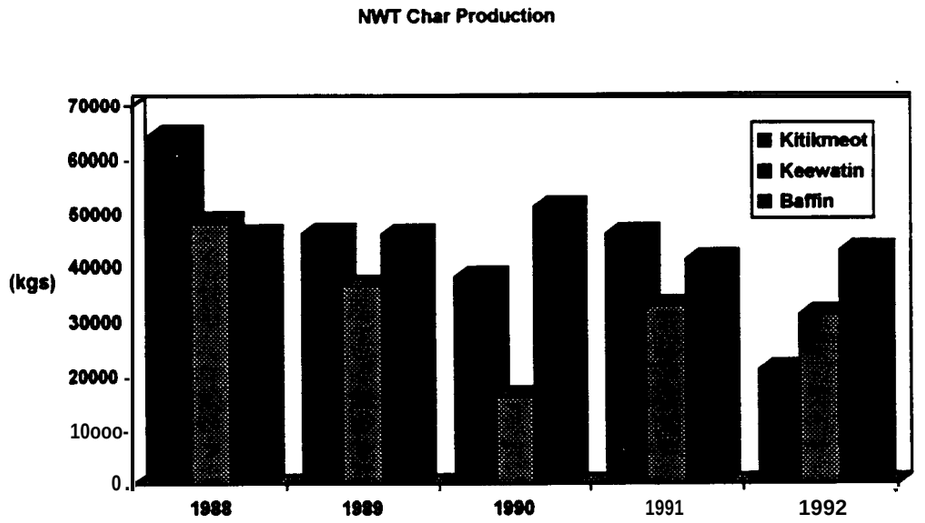
to fishermen as a result of over exploitation of stocks and the resultant decrease in fish size.



Over the past ten years NWT char harvests have fluctuated widely. The chart below presents historical harvest data for NWT char fisheries including fish sold both within and outside the N'WT. It should be noted that much of the NWT char catch does not leave the Territories.



The following chart presents harvest data for regional NWT char fisheries over the past five years. Total harvest from the Baffin region has remained relatively consistent at approximately 45,000 kgs annually. The Kitikmeot harvest has ranged between 21,000 and 64,000 kgs per year and the Keewatin harvest varied between 16,000 kgs and 48,000 per year. This inconsistency of supply is one of the chief complaints from fish dealers who indicated that it is extremely difficult to find markets for fish if the supply cannot be guaranteed. In some years dealers had made char sales but had no product.



NWT Commercial Arctic Char Production 1988-1992
(in kgs)

	1988	1989	1990	1991	1992
Kitikmeot	64298	46150	38012	45948	21000
Keewatin	48390	36500	16145	32631	31000
Baffin	46000	46000	51000	41147	42700

Total exports of NWT char have ranged between 33 and 89 metric tonnes annually with a general decline over the last few years because of a combination of poor environmental factors and marketing problems.

Wild char is generally available only during the late summer and fall. Several dealers indicated that the market for char would be vastly improved if the season could be extended. There has been some success with winter char fisheries. The market is strong during the winter and several dealers felt the winter fishery had good potential. However, the quality of winter caught char has historically been very poor which has led

to problems. Fish dealers recommended moving away from lake frozen fish during the winter to improve the quality of winter caught char before trying to penetrate the winter market.

Both the market and production of aquiculture char have shown slow growth and the supply of marketable fish is limited. Producers are still establishing broodstocks in order to provide a self-sustaining supply. In 1991, between 20 and 38 tomes of Canadian farmed arctic char were sold. As of 1991, there were 2 million eyed char eggs in incubation in Canada which represented a potential supply of 200 tonnes for 1993. Production capacity in Canada presently is about 400 tonnes.

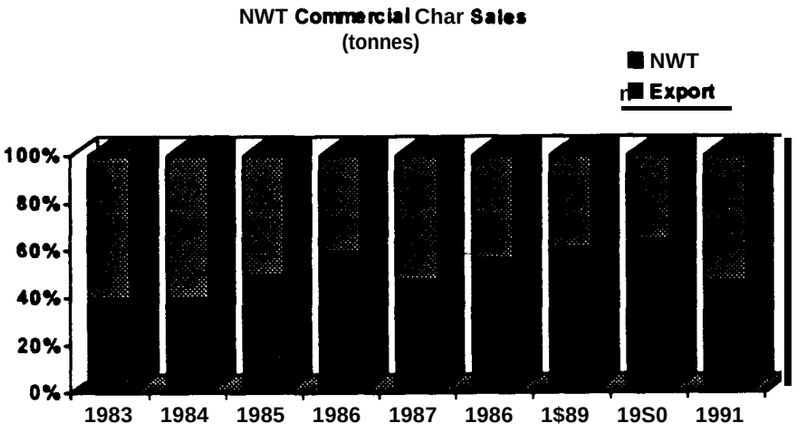
It is estimated that 400,000-600,000 farmed char in the 250-350 gram range and fewer than 10,000 farmed char in the 1 kg and over range were available for market in 1992.

Most farmed char marketed to date has been under one kg as it is difficult to produce larger char economically. Considering the record of the Canadian supply of farmed char to date, the 200 tonne production predicted for 1993 is considered highly optimistic.

Demand by geographic location:

Arctic char is found primarily in remote areas, distant from most markets. This has resulted in high production costs limiting potential markets. It has been estimated that if it were justified economically, commercial production could increase three or four times the current level. The projected size of the existing North American market for Arctic char is 1,000-2,000 tomes. Projected size of the world market for Arctic char by 1995 is 5,000 tomes.

As the following chart shows, approximately 45 per cent of the annual NWT commercial char catch is sold within the NWT, the remainder is exported. The percentage of char exported from the territories has gradually increased over the last ten years from approximately 40 per cent in 1983 to approximately 60 per cent in 1990.



Historical sales of arctic char within the NWT are shown in the following table.

	NWT Char Sales (kgs)
1983	78,137
1984	91,795
1985	64.494
1986	48,894
1987	58,335
1988	69,688
1989	49.650
1990	37,157
1991	63,726

There is a strong and growing market for char within the NWT made up of both local residents and restaurants and hotels that use arctic char to attract clientele. However the sale of char within the territories is not organized and hotels and restaurants frequently complain of the inconsistent supply and quality of the available char.

The major retail char markets in the NWT are in Yellowknife and Iqaluit. Preferred products for sale in Yellowknife are vacuum-packed frozen fillets or steaks and smoked char for retail sales, and whole frozen (gutted) fish for hotel use. Summer is the peak season for sales in Yellowknife because of the high tourist interest and the greater number of banquets and conventions. The annual demand for fresh and frozen char among hotels and retail outlets is estimated to be approximately 10,000 kgs a year.

Frozen and hot smoked char are also sold through local community coops. Regional demand for char in the NWT is estimated to be approximately 100,000 kgs.

Until 1993, all char exported from the NWT was marketed through FFMC. FFMC sold more than 90 per cent of its char production in Canada with the remainder sold in the US. Approximately 80 per cent of sales were made in Alberta, Manitoba and Ontario. The market for char in the coastal provinces is very limited because of the close proximity of fresh salmon and other ocean species.

Current retail marketing efforts by the NWT DevCorp are focusing on eastern and central Canada, primarily Montreal. In eastern and central Canada, Montreal and Toronto offer the best opportunities for char sales. Halifax, which is presently served by Labrador char, offers another good metropolitan market although the lower level of fish consumption in that city and the less cosmopolitan nature of its populace makes it a less attractive market than Montreal or Toronto.

Labrador char is marketed through distributors in Montreal and Halifax, with Halifax distributors selling into the eastern U.S. Probably over half the Labrador production ends up in the States. However, according to a recent survey of restaurants and retailers, the U.S. market for Arctic char is dormant as the product is not well known. Restaurants and retailers who have recently introduced char have been successful however those that carried char in the past have recollections of spotty quality stemming from frozen wild char sent down from the Canadian north and the poor quality of early freed char.

One study indicated that the current perception among American restaurants and hotels is that arctic char "is supposed to be very good, somewhat expensive, hard to get, and nearly impossible to get fresh, unless specially air freighted from the Scandinavian countries". The study concludes that there therefore appears to be a ready market for Canadian char in the US given the right marketing and promotion.

Japan represents a potential market for NWT char as well. The Japanese make a clear distinction between arctic char and salmon and consider arctic char a delicacy which they are prepared to pay a premium price for. The Japanese market is interested in high quality, deep red char for sushi blocks. These char must be very fresh and very high quality, graded by colour then cut into whole sides. Several dealers commented on the possible large market for char in Japan however they all stressed that the Japanese market demands extremely high quality wild char with a deep colour for which they will pay $33 per kg. One dealer we interviewed anticipates selling 50- 100,OOO kgs of Cambridge Bay char to Japan next season.

There are also strong char markets in Europe but they are largely served by Norway and Iceland which can produce cheap farmed char and salmon and are aggressively marketing their product to top-end customers. Norway and Iceland have identified fairly lucrative markets in France, Germany Sweden and the United Kingdom. Canada cannot compete in these markets because of high transport costs and the tariffs imposed by the European Community. Under these tariff restrictions, Norway and Iceland sell their fish tariff-free while Canadians pay a 12 - 18 per cent tariff depending on the level of secondary processing. Tariffs on Canadian products are only lifted when European communities cannot meet the European market demand.

Demand by important market sectors:

Arctic char is an up-scale market item generally perceived as a clean, unpolluted, exotic, cold water fish. The traditional market for arctic char sold outside the NWT has been

the high price white table cloth trade in Central Canada (supplied by FFMC) and the eastern US seaboard (supplied by Labrador). It is estimated that 75-80 per cent of arctic char are sold into this market; the balance is marketed into specialty fish stores and retail outlets.

A general lack of awareness of char currently limits restaurant and retail sales of char. Those we spoke with felt char was one of the best fish on the market but as a relatively new product it took too much time and money to market.

The short seasonal supply is also a problem for placing char into the general retail sector. Most large chain stores are now computerized and only have a limited number of "slots" in their system for new products. With char available only seasonally, and with the supply being inconsistent, chain stores hesitate to bring it in because it does not integrate easily with their computer system. This is also the case with the food services industry. Therefore the general retail market is probably not the best initial target for increased char sales.

Inconsistency of product quality and availability were a major issue for most dealers who handle char. Ideally both the restaurant and retail markets need consistent year round supply. Many believed that if the supply could be controlled such that char was available year round and the quality was consistent, the market price would increase.

Product Form:

Traditional char markets were developed almost entirely for frozen product. FFMC sold only 20 per cent of its wild char fresh. However, a recent study of restaurants and retail/wholesale outlets indicates that today's market demand for high-end fish is for "fresh" product. Frozen fish, except for frozen shell fish, do not meet today's market expectations.

Fish farms and modem technology have enabled fresh salmon to be delivered to

businesses within 1.5 days of ordering and cultured fish often reach restaurants and retail/wholesale outlets within 8 hours of slaughtering. This new level of "freshness" has permanently changed market expectation for service and quality. Today, 78 per cent of restaurants and 57 per cent of retail/wholesale establishments who currently carry char carry it in "fresh" form only. Frozen fish is served in an emergency situation only or when fresh fish was very hard to find. Some restaurants indicated they would be willing to carry frozen char as a standard menu offering and use fresh char when in season or for specials. However, restaurants are not willing to pay a premium for air freight to obtain fresh char.

North American restaurants prefer smaller, head-on, single portion fish (10 - 12 oz), followed by 8- 10 oz. pan size. Whereas the retail/wholesale market favours medium size char between 2-4 lbs., head-on gutted.

Of the wild char marketed by FFMC, 10 per cent were in the 2-4 pound range, 50 per cent were 4-6 pounds and 40 per cent were 7 pounds and over.

There is a strong and growing fillet market and many retail and restaurant outlets would prefer to buy fillets over whole char. Several fish dealers pointed out that the retail market is shifting away from headed and gutted fish towards portioned fish and vacuum packed or skin wrapped products. Skin wrap is preferred over vacuum pack because it preserves the product better.

With respect to smoked char, the restaurant segment thought that because Arctic char is regarded as an up-market, specialty fish, it would probably be well received as a smoked fish. However, their first choice was fresh char.

We spoke with one producer/seller who deals primarily in smoked salmon and smoked char and successfully sells products to the U. S., Japan, Germany, Cuba, Saudi Arabia, Mexico as well as the Prairies and Ontario. Char between 2.5 and 3 kgs are preferred for smoking.

The NWT DevCorp is experimenting with a range of value added char products including gravlax, cold smoked, hot smoked and fish pate, as well as a full range of portion sizes and specialty products such as stuffed fillets. After 20 years of FFMC marketing char as a salmon equivalent or salmon substitute, the DevCorp is now trying to improve the image of char as a more "upscale" product with a distinct northern image. The DevCorp expects to sell between 1,500-2,000 kgs of smoked char per month in the upscale southern market.

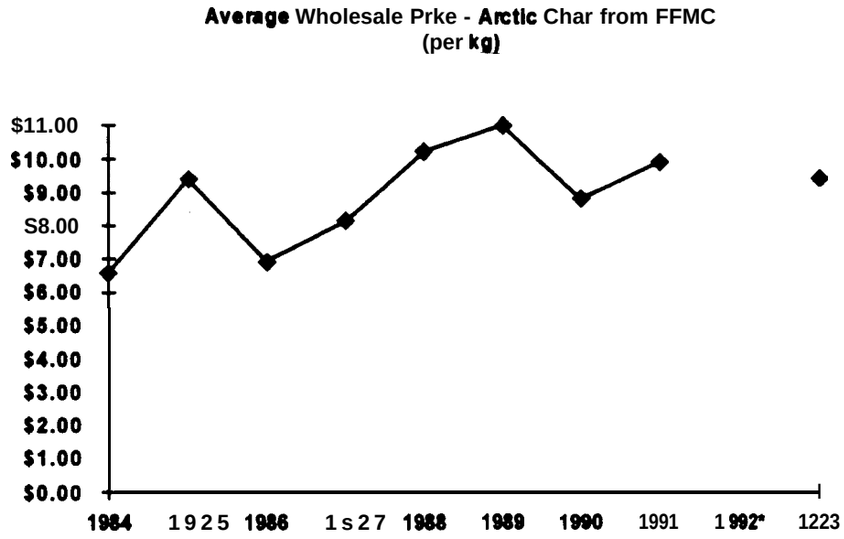
With respect to canned char, most dealers felt that the market for canned fish products was declining and therefore recommended against canning char. In addition, there is presently a huge glut of canned salmon available in the market which would make it extremely difficult to sell canned char at a premium price.

There is a small market for canned smoked arctic char that focuses on the tourist oriented specialty market. High income residents and tourists are the key target markets for smoked canned char, particularly Japanese tourists. However smoked canned char must compete with smoked canned salmon which is more well known and less expensive.

Most of the dealers we spoke with recommended that the NWT concentrate on improving quality and quality control, and developing a strong primary market for char before tying to develop and sell value added char products.

Pricing Trends over the past five years:

The following chart illustrates average wholesale prices for char over the past ten years. Prices rose from $6.60 per kgtoapeakof$11.00 a kg between 1986 and 1989 and had leveled off to approximately $8.80 per kg by 1993.



1992* figures not available.

Average Price For Arctic Char Per Kg -1984-1993 (FFMC)

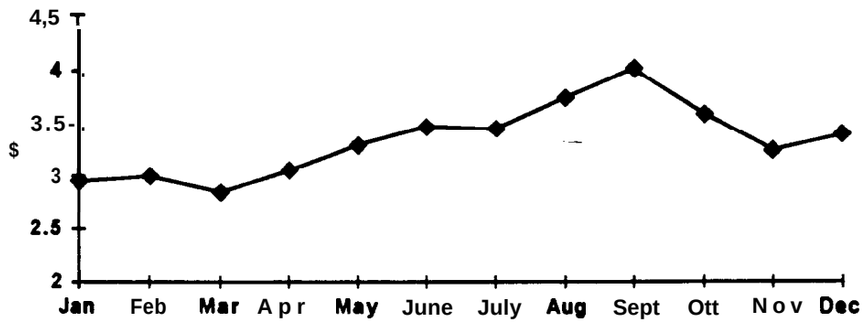
1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
$6.60	$9.42	$6.93	$8.14	$10.23	$11.00	$8.80	$9.90	n/a	$9.39

Char prices are related to fish size and flesh colour with larger fish and redder fish commanding a higher price.

Char prices are also affected by competitive products and generally follow prices for salmon from year to year and seasonally. The following chart presents price trends by

month for fresh farmed Canadian salmon.

Monthly Average Prices for
Farm Raised Canadian Atlantic Salmon 1992



Depending on size fish the average price of Arctic char varies by $1.00-$3.50 per kg more than the price of salmon for both the retail/wholesale and restaurant markets. Current wholesale prices for char range between $4.40 and $9.90 per kg dressed.

The price received for fresh farmed char (under 2kg) follows very closely the price received for fresh farmed Atlantic salmon in the 18 - 22 kg range. This relationship suggests that a premium can be obtained for char in the same size class as salmon. The wholesalers marketing NWT DevCorp char suggest that the upper limit of this premium is 20 per cent and at certain times of the year, when the salmon supply is high, this premium disappears. A 10 per cent premium can be also expected for fresh char over the price received for frozen char.

Because the price received for char is closely tied to the price of salmon, char prices have experienced downward price pressure in the past three years because of declining prices for salmon The salmon market has seen bumper crops of salmon. In 1992 the world salmon market saw record supplies of both farmed and wild fish and prices fell 50-70 per cent over previous years. As a result, millions of pounds of salmon were dumped because processors would not buy them. At the same time, Norwegian salmon farmers

overproduced resulting in a market glut and the bankruptcy of the Norwegian Fish Farmer's Sales Organization. This glut is expected to continue through 1993 with predictions of an oversupply of salmon in the nature of 200,000 metric tomes this year.

As a result, inexpensive salmon is available year round and it is very difficult to position char as a product consumers should pay a premium price for.

Because of the downward push of salmon prices on char the NWT DevCorp is actively trying to disassociate salmon and char and to concentrate on top-end. value-added products for sale in the southern market. Cold smoked char is currently being sold for $22-$26.40 per kg, gravlax for $26.40-$30.80 per kg, and portioned char for $13.20-$17.60 per kg wholesale in the southern market. Hot smoked char is being sold in local co-ops in the NWT for approximately $26.40 per kg.

Competing species and products:

NWT wild caught char competes in the market with wild char from Labrador, however char harvested in the NWT is considered to be of higher quality, deeper red in colour and larger than Labrador char. NWT char also has an advantage over Labrador char producers in that the latter have very few fish over 3 kgs whereas the spring catch of char in the NWT yield a high percentage of 3- 4 kg fish with good colour, which bring higher prices. Labrador's paler product tends to compete with cheap pale Pacific Salmon, therefore Labrador's char does not enjoy as distinctive a market niche.

Aquacultured char and salmon are the two most important competing products for wild caught char.

Aquacultured Char:

The world's supply of aquacultured char is expected to increase over the next several years, particularly the European supply, however at present aquacultured char tends to

be smaller in size and therefore does not compete directly with the larger wild caught char.

In a recent study, restaurant and retail respondents indicated they found aquacultured char could be delivered fresh and was readily available. They also felt farmed char was of more consistent quality and colour than wild char. They felt that the improved quality of the cultured char was due to more careful harvesting, better presentation and well developed feeding paradigms which ensured a consistent red coloured flesh. Those that carried frozen wild char complained of net marks, blanching and flesh colour, and lack of freshness as quality problems with the product. As aquacultured char becomes more common on the market, wild char will have to improve its quality to compete.

Salmon:

Salmon is by far the most popular finfish species sold in Canada and the US and for years char has been sold as a salmon substitute. For people who do not know much about Arctic char, comparing it to salmon is a positive indicator, however, as we indicated above, the price of salmon has dropped drastically over the past three years due to a huge oversupply worldwide. The falling price for salmon has a negative impact on char. As salmon becomes cheaper and the market place more competitive, it will be important to find a means of distinguishing between char and salmon if char is to command a premium price.

Canada's salmon industry consists of both Atlantic and Pacific coast production, the latter being the most significant. Most Pacific salmon is harvested from the wild although aquiculture is becoming increasingly important. The most important products for export are fresh, frozen and canned salmon. Smoked salmon and salmon caviar are of lesser importance. The Atlantic salmon industry is supported primarily through aquiculture. Atlantic salmon is sold mainly in fresh, whole form to the markets of central Canada and, increasingly, to the U.S. Worldwide Canada ranks second in terms of the export of canned salmon, and third in the export of fresh, chilled or frozen salmon. Overall, Canada commands close to 16 per cent of the world market share of salmon

exports.

The three most important markets for Canadian salmon are Japan, the EC, and the US.

Japan is the largest consumer of salmon in the world and the largest importer, controlling 45 per cent of the world market share of imports. In 1992 Japan imported 175,000 metric tons (value $1,250 million) of salmon, an increase of 13.8 per cent from 1991 and an increase of 28 per cent in value. Of this, $128 million was supplied by Canada.

Imports of frozen salmon into Japan dominate all other product forms, and Canada is Japan's second most important supplier of frozen salmon with almost 14 per cent of the Japanese import market, second to the U.S. with 74 per cent. It is expected that Canadian and American market shares will continue to dominate the frozen salmon market since the majority of frozen imports are wild sockeye. Imports from Russia have been increasing rapidly, and Norway, Chile, Denmark and Sweden are emerging as new suppliers of cultured salmon. These may threaten Canada's market share in the long-term if Japanese tastes can be cultivated or if there are resource problems in the North Pacific.

Japanese consumers typically favour salted and smoked salmon over fresh. They tend to be price sensitive, very quality and price conscious, prefer sockeye salmon because of the deep red flesh colour, and are very responsive to packaging. However, Canadian exports of fresh salmon to Japan have also recorded excellent increases in the past few years: 437.3 metric tons (Cdn $4.5 million) in 1990; 849.6 metric tons (Cdn$8.1 million) in 1991 and 1,174.1 metric tons (Cdn$ 11,377 million) in 1992. Canadian farmed chinook is well accepted at many central wholesale markets for its good quality.

Salmon roe is also an important product form in the Japanese market. Canada is the second largest supplier of salmon roe, second to the U. S., although Canada's market share has been declining over the past five years, while the Russian share of the market has increased rapidly since 1990. In 1992 Canadian exports of salmon roe to Japan (including both Sujiko and Ikura) were 903 metric tons down from 1,435 metric tons in

1988, although Ikura exports increased over this time. The Alaska salmon run provides the bulk of the US supply of roe. The US exported 7,210 metric tonnes of sujiko in 1992.

However, the Japanese economy is in a precarious position and Japan may stop buying salmon.

France and the UK are the largest salmon markets in the EC. Demand has increased tremendously over the past decade and is expected to continue to increase however imports of Pacific salmon have been losing ground to competition from Norway and Scotland which has penetrated the market through increased availability, reduced prices, and high quality. Canadian salmon has a difficult time competing due to high transportation costs. Fish exports to the EC are dependent on prices of competing products as well as exchange rates and protective tariffs on imported fish products. As a result, exports to Europe have recently been declining.

Canada has been increasing its market share of the US salmon market due to its success with farmed salmon and its natural advantage in being close to the US market. The U.S. market for salmon continues to grow as U.S. domestic production is directed towards exports to Japan. The California market has the highest per capita consumption of seafood in the US and continues to offer excellent opportunities for Canadian suppliers, however exporters must compete with Chile and Norway in terms of price and quality.

World salmon markets have changed dramatically in the past decade due to high increase in the supply off-cd salmon in Northern European countries, Norway and Scotland in particular. As a result, prices have declined as quality and availability have increased. The demand for fresh salmon in particular has risen and is expected to continue to do so. The supply of farmed salmon is expected to continue to increase as well, which may result in adverse effects for Canada's industry.

Salmon is likely to lose its "luxury" appeal as prices decline, and any natural advantage that Canada may have due to proximity to the resource will become less important as

aquiculture becomes more widespread. Canada has already lost important markets in the EC, but is starting to regain some in the US.

Farmed salmon supply is expected to continue to increase. Canada will produce approximately 34,500 tonnes in 1993, primarily Atlantics, and producers expect to double that by the year 2000. Chile will produce another 27-30,000 tonnes of Atlantics, an increase of 20 - 25 per cent over 1992 virtually ail of which is destined for US markets. Chile also sells into Japan and plans to increase trout production in response to Japanese preference for Chilean over European trout. Conditions in Chile are excellent for salmon production and low-cost feed, and labour add increased production efficiencies. Growth rates are more rapid than those found in Norway and salmon reach commercial sizes 6- 12 months earlier than Norway. Chilean producers are confident that they will be able to continue expanding their share of world markets, estimating that production could reach 100,000 tomes by 1996.

Norway hopes to produce 135,000 metric tonnes of farmed salmon for 1993 and 1994. Total salmon projections for 1993 include 235,000 metric tonnes of farmed salmon from Chile, Canada and Norway, plus an additional 98,900 metric tonnes of farmed and wild salmon coming from Scotland, Australia, New Zealand, Japan and other incidental producers, plus 470,000 metric tonnes of Pacific salmon anticipated from the wild runs in Alaska and BC. Together the global salmon supply for 1993 is likely to be in excess of 800,000 metric tomes, 100,000 tomes over 1992's estimated total salmon production. A further 10-15 per cent increase over the next three years is expected as Norway moves to utilize all of its smelt-production capacity. Supply continues to increase as the demand curve decreases.

Future trends in production and price:

The current oversupply of salmon is expected to continue into the near future with prices continuing to be depressed. Canada will continue to face strong competition from

salmon producers worldwide, particularly from farmed fish from Norway, and wild salmon from Alaska. The oversupply of salmon will continue to make it difficult to position char as a high-end luxury product because of the close associationbetween char and salmon in the consumer's mind.

Almost all dealers that we spoke with however felt that char could be successfully marketed and promoted as a unique and exotic NWT fish. This will require a strong promotional campaign to educate the public and to disassociate char from salmon. Canadian wild char is also likely to face increased competition from Russian wild char which is beginning to be sold off Russian freighters.

Target Markets

Based on the information collected from fish dealers, it appears that the NWT should focus on developing a niche market for char, in the upscale restaurant and retail sector in North America and Japan. A strong push is required to improve the image of char in the market place by improving quality and increasing value added production so that char has more of an upscale image. This will hopefully, over time, push the price of char up and help differentiate it from salmon.

A recent study indicated that char enjoys multiple markets e.g. individual pan size, larger whole fish and multiple portion filets. This, and its distinctive red flesh were the leading attributes of Arctic char than strengthen and define its market position. It is also worthwhile to note that while sharing the large size category with salmon, arctic char also enjoys a market niche in the individual portion category similar to trout. Potential for clinching a market position for char is further enhance by its superior appearance, firmer flesh than trout and milder flavour than salmon.

However, it cannot be stressed enough that this market cannot be developed without also ensuring improved quality and reliability of supply. Without an improvement in quality and consistency it will be impossible to develop an upscale market niche for char.

The quality of char now being produced in the NWT is not high enough to export from Canada therefore the Japanese market cannot effectively be tapped into. Further, all of the dealers we interviewed spoke strongly against dumping poor quality product onto the market. Until the NWT can consistently produce top quality char, char should not be positioned in the marketplace. It becomes extremely difficult to improve a bad market image once it is established. With proper handling, fish dealers felt that char could indeed see an upward trend in price.

Turbot (Greenland Halibut)

Origin of production:

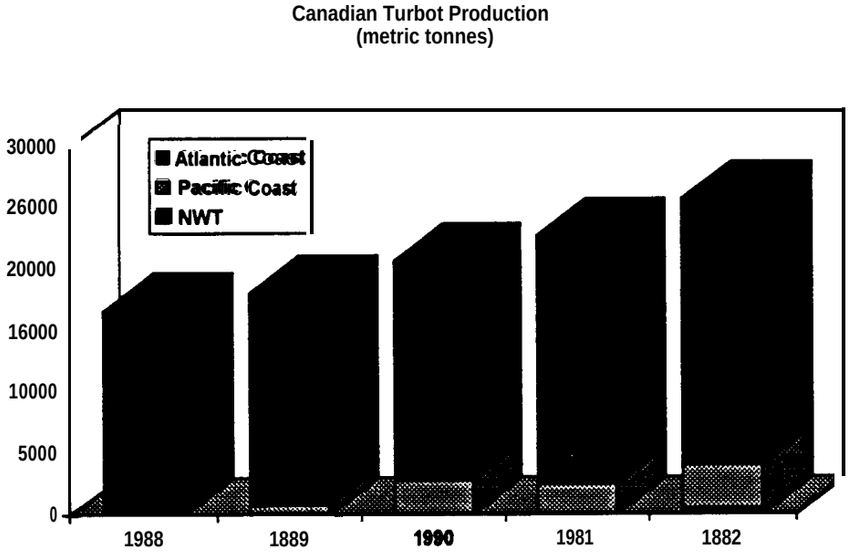
Turbot is fished in the cold Arctic waters and deep bays around Newfoundland, Labrador, the Gulf of St. Lawrence, the Gaspe Peninsula, Baffin Island, and Greenland. Canada has an annual turbot quota of 67,000 metric tomes however only 30-40 per cent of the quota is taken each year.

The Atlantic turbot fishery takes place during the spring, summer and fall months and supplies approximately 85 per cent of the Canadian turbot harvest. The Baffin Island turbot fishery takes place during the winter months beginning in January. Other turbot is generally not available in southern markets during these months providing instant market acceptance for Baffin turbot.

Vast amounts of turbot are also harvested from the North Sea and this supply sets the worldwide market price. Spanish and Portuguese ships also harvest turbot but sell most of their catch domestically.

Production Trends over the past five years:

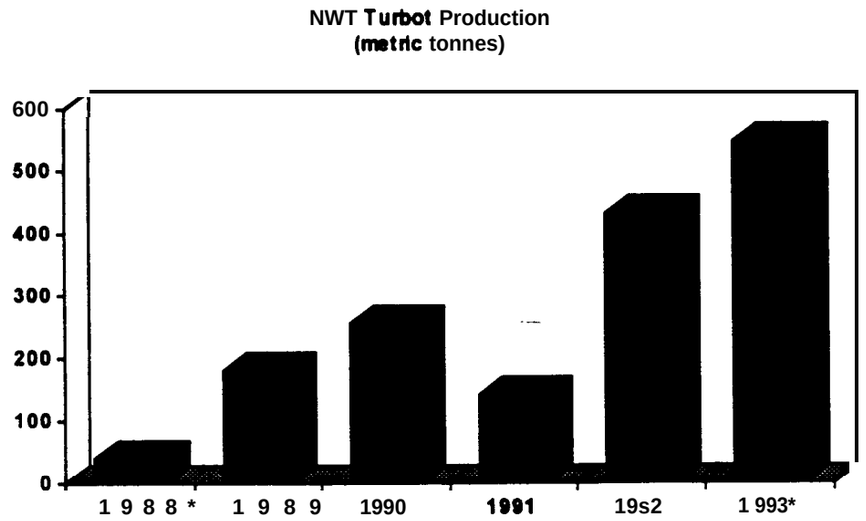
Total Canadian turbot catches have been steadily increasing over the past five years. In 1992 Canadian turbot catches reached 25,556 metric tonnes, a 55 per cent increase over 1988 levels. Canadian turbot catches for 1988 to 1992 are illustrated below.



Canadian Turbot Production 1988-1992
(metric tonnes)

Year	1988	1989	1990	1991	1992
NWT	40	180	155	141	430
Pacific Coast	340	609	2,602	2,287	3,545
Atlantic Coast	16,192	17,183	17,792	20,143	21,581

The Baffin turbot fishery is a relatively new fishery but has shown strong growth over the past five years. 1992 harvests totaled 430 metric tomes, an increase of almost two and a half fold over 1989 harvests, as shown below.



* approximate only.

While the Baffin turbot fishery is small relative to the Atlantic turbot fishery (providing only two per cent of Canada's total harvest), it represents an annual landed value of approximately $710,000.

Demand by geographic location:

Traditionally Canada's most important market for turbot, as well as other groundfish, is the US which accounts for 76 per cent of Canadian groundfish exports. Turbot markets are particularly well established in the southern U. S., Florida and the mid-west where consumers have developed an appreciation for the thick, white fillets and rich, sweet taste. New England also provides a strong market for turbot where the product has gained wide market approval for the firm, parasite-free quality of the flesh. The U.S. turbot market is estimated to be worth approximately $30 million Canadian.

Most of the turbot sold into American markets comes from Newfoundland and Nova

Scotia and is sold through Boston brokers.

There is also demand for turbot in certain ethnic markets in both Canada and the US however many fish dealers indicated that profit margins in the North American market are too small to make these markets worth while.

Most dealers felt that the Canadian turbot market was minimal however Windjammer Marketing, the firm currently marketing turbot harvested in the Baffin region, has successfully placed turbot products in the NWT, Montreal and Ottawa. Highest prices were paid in the northern market with a reported $8.80/kg for fresh fillets. Montreal took the greatest volume but pays lower prices than other markets at $5.95/kg for fresh fillets delivered.

The New England market was also seen as having good potential for sales of NWT turbot during March and April when there are no other significant supplies of turbot available and a $0.50 to $1.10 per kg price premium is available.

Asia has also become an important market for Canadian turbot. Most of the dealers we spoke with now ship at least a portion of their turbot to Taiwan and Japan where turbot is sold whole frozen round for a good price, increasing profit margins. Larger fish (over two kilograms) are sold to Taiwan and smaller fish (under two kilograms) are sold to Japan.

Denmark is also a large market for turbot as the North Sea has been experiencing resource shortages. The NWT DevCorp has been marketing their larger turbot (greater than 1000 grams) packed IQF in 20,000 kg containers to Denmark and Germany, where it is used primarily for smoking. Germany and Sweden also have strong markets for smoked turbot, and the United Kingdom imports turbot fillets although European tariffs make it more difficult for Canada to sell turbot into Europe.

Demand by important market sectors:

Turbot is sold into all market sectors. Most dealers that sell into the US sell primarily to the food service industry (restaurants and hotels) or to retailers and supermarket chains. Small amounts of turbot are sold into the fresh fish market when other fresh ground fish are not available. Turbot is not generally sold into the institutional market because only limited quantities of turbot are available.

Turbot that is exported to Europe and Japan is typically sold to wholesalers for further processing.

Sale of Baffin turbot have been limited to northern institutional, retail markets and the southern wholesale/broker sectors.

Product Form:

Fresh turbot is available from May to November but the majority of turbot is sold frozen during the winter months. The fish are frequently frozen at sea, with plants in Nova Scotia and Newfoundland doing most of the processing.

The preferred product form depends on the market. There is a strong demand for fillets worldwide, particularly in North America and Europe. Fillets from smaller fish (under one kilogram) are sold in the North American market as skinless and boneless fillets. The preferred fillet size for the U.S. market is 4-8 oz. Fillets that are 8- 16 oz. are acceptable but fillets over 16 oz. show very poor sales.

Fillets sold to Europe must be over 1 kilogram and are sold with the skin on as turbot is primarily used for smoking.

All fillets are sold frozen, usually in layer packs or shatterpacks in five to ten pound boxes.

A small amount of turbot is sold into fresh fish markets when other species are not available. However, fresh turbot is difficult to handle and becomes mushy and watery with a tendency to fall apart if over handled thus resulting in a high cull rate. Freezing actually improves the texture of turbot and makes it much easier to handle. Thus, turbot sold into the fresh fish market are usually fish that have been trawler frozen in headed and gutted form then thawed for processing into fillets and sold "fresh" (i.e. previously frozen and thawed).

Marketers feel that whole fresh turbot should find a reliable market niche by gradually displacing sole and halibut. Fresh Atlantic halibut is only occasionally available as a bycatch product from other ground fisheries and Pacific halibut is only available frozen but has a fairly reliable market demand. With careful grading, quality, and presentation, whole fresh turbot should be able to find its own reliable fresh market niche.

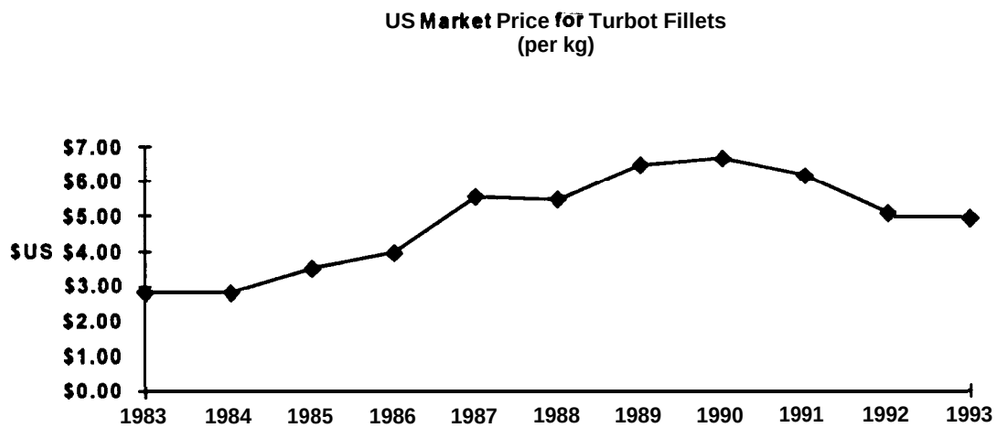
Taiwan buys fish over 2 kg. as whole frozen round, or whole gutted. Most dealers stressed that this was the most lucrative market for turbot as processing costs are minimal and the profit margin is the greatest.

In 1990 turbot that was harvested from the Baffin region was shipped as fillets, steaks and whole dressed with the highest returns yielding from the whole dressed product (headed, gutted and trimmed of fins).

In 1992/93 Baffin turbot under 500 grams were sold as fresh fillets in the North American market, turbot between 500 and 1000 grams were sold as fresh steaks and fresh tail fillets or frozen skin off fillets in the North American market, and larger fish (yielding fillets over 1000 grams) were sold IQF in 20,000 kg containers to Denmark and Germany primarily for their smoking market.

Pricing Trends over the past five years:

Trends in the U.S. market showed a steady rise in prices paid for turbot after 1984 reaching of peak of $6.56 per kg in 1990. Average prices dropped and leveled out at approximately $4.95 per kg in 1991 and 1992 as illustrated in the following chart.



Average U.S. Market Price for Turbot Fillets
(per kg)

1988	1989	1990	1991	1992	1993
$5.39	$6.38	$6.56	$6.05	$4.95	$4.95

Larger fish bring higher prices in the Asian and European market but a low price in the American market where the preference is for 4 oz. - 8 oz. fillets. Current wholesale prices for 1-2 kg frozen-at-sea turbot is approximately US $3. 50.kg with fish over 5 kg selling in the US$5 .40/kg range. Some premium fillet packs fetch up to US$6/kg.

While most retailers thought the general price trend for turbot was relatively stable or increasing slightly, there are major seasonal fluctuations depending on supply and demand. Most dealers sell all their product as it comes in and when supply is short the

price to the fishermen increases to stimulate production. Prices are lowest during the spring and summer fishery when turbot is abundant.

The Baffin Island turbot fishery takes place during the winter months beginning in January. Turbot is generally not available in southern markets during these months, therefore the market is strong and the price is generally high. It is not until Gaspe turbot appears on the market in May that Baffin prices begin to drop below viability.

Competing species and products:

Baffin turbot must compete with other turbot producers in Canada (primarily the Atlantic fishery) and around the world, including the North Sea and Greenland both of which produce vast amounts of turbot. Several of the dealers we interviewed felt that Baffin turbot was inferior in taste and quality to other turbot. Fortunately, major competing turbot fisheries (primarily Gaspe) do not occur during most of the period when the Baffin fishery is carried out resulting in a higher level of market acceptance for the Baffin product.

The Atlantic fishery takes place during the spring, summer and fall whereas the Baffin fishery is a winter fishery, The open water Greenland fishery also ends during the fall when, as a result of drops in water temperature and other factors, turbot migrate to deeper waters and areas under the ice in place like Cumberland sound. Baffin takes advantage of this migration during the period from January to March. In April, the Gaspe fishery again has access to their stocks. Historically, the Baffin fishery overlaps slightly with the Gaspe fishery and this has resulted in softer prices during the spring in markets close to the Gaspe fishery.

Consequently Baffin turbot enjoys a seasonal market position when competing fresh product is scarce and demand is high. Until competing fisheries such as the Greenland winter turbot fishery emerge, Baffin can anticipate maintaining this favoured position. Even then, fish dealers felt the winter market should be adequate to absorb such

additional product for many years.

Turbot must also compete with other ground fish products. During the winter months turbot fillets are consumed as an alternative to sole. In Canada the winter supply of fresh flat fish from the Atlantic provinces is very sporadic, with weather and ice conditions affecting the harvest, and foreign exchange conditions directing the fish to and from the American market. These combine to cause volatile supply and price fluctuations. By monitoring the flatfish market and harvest conditions, NWT turbot can be available to fill the void when other flatfish such as sole are unavailable or highly priced. This will help to establish a reputation of supply consistency and may in time help to make turbot fillets the species of choice amongst regular consumers. In the U.S. market turbot successfully competes with flounder and sole and replaces them when supplies are short. It was noted by a number of dealers we spoke with, including the president of CAFE, that some unscrupulous restaurant owners in Toronto, Montreal and Chicago have been substituting turbot for the more expensive flounder in their dishes making a tidy profit.

Canada's main competitors in the groundfish sector are the US domestic fishery, Denmark, Iceland, Norway, and South Korea. The US groundfish fishery has increased in recent years, especially off the Alaska coast, following the nationalization of the Pacific fishery and the end of foreign fishing. This source is becoming more important in the US domestic market due to resource problems in the traditional North Atlantic stocks.

Denmark has built a reputation in the US as a solid supplier of finished products, but it too is being affected by declining Atlantic catches. As a result, Denmark is concentrating on producing top quality products in innovative forms and packages. Exports to the US from the Nordic countries are declining due to high price levels and declining stocks. The demand for fresh fish in Europe has increased and preferential tariff arrangements with the EC have made exporting to this large market more accessible and profitable.

The Canadian groundfish industry in general is facing stiff competition, changing consumer demands, and supply problems. US consumption of groundfish is expected to

decline slightly and then stabilize in the near future, representing a normal adjustment after years of increase. Consumer preferences are shifting away from traditional species and products made with groundfish to new varieties and products made with a variety of species (surimi). The major competitive threat is from cheaper substitutes such as Alaskan pollock and products form the Pacific Rim (orange roughy and hoki).

Future trends in production and price:

Both the price and market for turbot are expected to increase over the next several years. With groundfish stocks facing serious declines in resources the groundfish market is looking for alternatives and sales of turbot have been strong. All the dealers we spoke with said the turbot market was limited only by supply and most said they could sell any turbot that was made available. It is projected that all supplies of flatfish will continue to lag behind market demand and therefore Canadian sales of both fresh and frozen turbot have the potential to increase.

The production of turbot from the Baffin region is expected to continue to increase. More fishermen are becoming involved in the fishery each year, and fishermen are increasingly coming in from other communities during the fishing season to participate. During the 1993 fishing season approximately 102 fishermen and 40 plant workers were employed and this level of involvement is expected to increase. Turbot production for 1993 is forecast to be between 450 and 550 metric tonnes (round) ultimately increasing to the full quota allotment of 1000 metric tonnes.

The limiting factor in the Baffin turbot fishery is the catch rate per long line therefore to increase production the number of fishermen must increase. However, it is expensive to purchase the necessary equipment and this limits participation to some extent. The NWT DevCorp believes that the turbot fishery has great potential therefore is committed to subsidizing this industry until it becomes better established.

Target Markets:

Freight rates limit the areas to which Baffin fish can be shipped at a competitive price therefore marketing efforts have been directed to institutional and retail fish markets in the NWT and wholesalers and/or brokers in cities which can be reached through airlines operating from Pangnirtung at satisfactory rates. Using these criteria, target areas are Toronto, Montreal, Ottawa, Boston, and New York.

The American market must be watched very closely with an almost daily monitoring of prices and currency exchange rates. Any rapid drop in price or the exchange rate must be met with withdrawal of product. The Canadian market is more stable and easily managed.

Generally all dealers felt the U.S. market for turbot was very good and was expected to remain strong. The main problem with turbot is the lack of supply rather than a lack of market opportunities. Dealers felt that they could move more turbot if it was available, essentially they could sell everything that could be produced. The best product for the American market is frozen fillets.

In a study carried out for the Cumberland Sound Fishery, all marketers agreed that the most lucrative turbot market was the Asian market for whole frozen fish. This market has other advantages in that whole fish are easiest to process, most easily achieve the required quality standards, and can help to establish a high expectation for Baffin products in the market place. These standards will help to ensure a reliable market with the highest potential returns.

Therefore it is recommended that the largest whole fish should be checked for condition and packed in size grades of 3 - 5 kg and 5 - 10 kg or larger size for export into the Asian market. Smaller fish can be filleted for the American market and cut to consistent portion sizes of **6-8 oz.** and 8-10 oz.

Fish should not be steaked for the southern market. Steaking exposes a high proportion of flesh to the air and greatly speeds the spoilage rate. For this reason southern buyers prefer to buy whole fish and do the steaking immediately before presentation to the end user and will therefore discount steaked fish rather than pay a premium for it.

Greenland Shark

Greenland Shark is captured as a bycatch of the Baffin turbot fishery. In some months the shark harvest is quite high and it is estimated that approximately 100,000 kgs of shark may be captured each year.

At present there is no market for Greenland shark. The president of the Canadian Association of Fish Exporters indicated that the shark market is depressed worldwide and there is very little effort being put into marketing shark of any kind. Other fish dealers concurred.

Marketing Greenland shark is further complicated by the fact that the fish caught off Baffin are extremely high in both urea and mercury. To sell shark as a food product would require a high level of processing to make it safe to eat which would result in a very expensive product.

There have been some attempts to process greenland shark skins into leather however these have not met with much success. The market for shark skin leather is very small and specialized and there are many other sources of shark skin available that are both cheaper and more easily accessible than Baffin shark.

In other countries such as Greenland where shark bycatches are also an issue, effort has gone into shark control rather than shark use because of the lack of a market. Japan on the other hand is planning to implement a 5-year project to research shark resources. Shark is caught as a bycatch of the Japanese tuna fishery but because shark meat is used in fish paste products the price for shark is extremely low and fishermen throw them away rather than bringing them in to port. The Japanese Fishery Agency will investigate the potential of shark as a fishery resource to see if they can be economically used in some way.

Icelandic scallop

Origin of production:

Worldwide, nearly a million metric tonnes of scallops are landed each year. Japan is the largest producer, harvesting 370,000 tonnes in 1991, followed by China (130,000 tonnes), U.S. (11 5,000 tomes) and Canada (90,000 tonnes). Together these four nations account for more than 2/3 of the total world scallop production. The North American scallop fishery is dominated by sea scallops which have abductor muscles of up to 2 inches in diameter. These scallops are found from Newfoundland to North Carolina and make up over 90 per cent of North American scallop landing.

Canadian sea scallops are harvested in the Gulf of St. Lawrence off the shores of Nova Scotia, New Brunswick, Prince Edward Island and West Newfoundland. Scallop dragging takes place between May and June, and between October and November. There is no scallop harvest between July and September because scallops and lobster share the same beds and scallop harvesting cannot take place during the summer lobster harvest.

Scallops have also been harvested out of Pangnirtung, however there has not been any scallop dragging for several years because of problems with the scallop boat. It is expected that scallop fishing will resume during the summer of 1993 with commercial harvesting in the Pangnirtung area and exploratory dragging in the Broughton Island area.

Scallops found in the NWT are Icelandic scallops, a much smaller and darker coloured species than the larger sea scallop variety. Generally fish dealers felt that Icelandic scallops were inferior to sea scallops because of their small size, yellowish colour and poor texture therefore they command a low price. Icelandic scallops are considered too small to be shucked by hand and therefore scallop harvesting requires a high level of

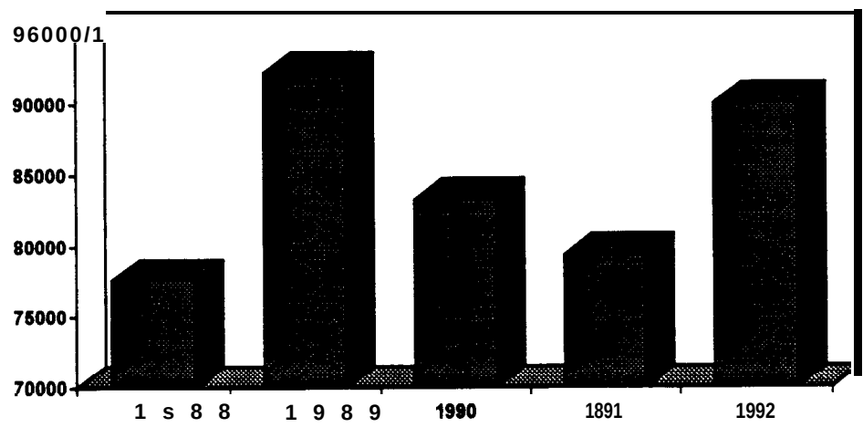
mechanization which may make scallop harvesting uneconomical.

The following is general scallop market information and pertains primarily to sea scallops as this species dominates the market and provides the major competition for Icelandic scallops.

Production Trends over the past five years:

In 1989 Canadian production of scallops reached a peak in production with a total harvest of 92,188 metric tomes. The following two years saw a decrease in production followed by a strong recovery in 1992 with a total harvest of 89,974 metric tonnes, a 16 per cent increase over 1988 harvests. The following chart illustrates total Canadian scallop production over the past five years.

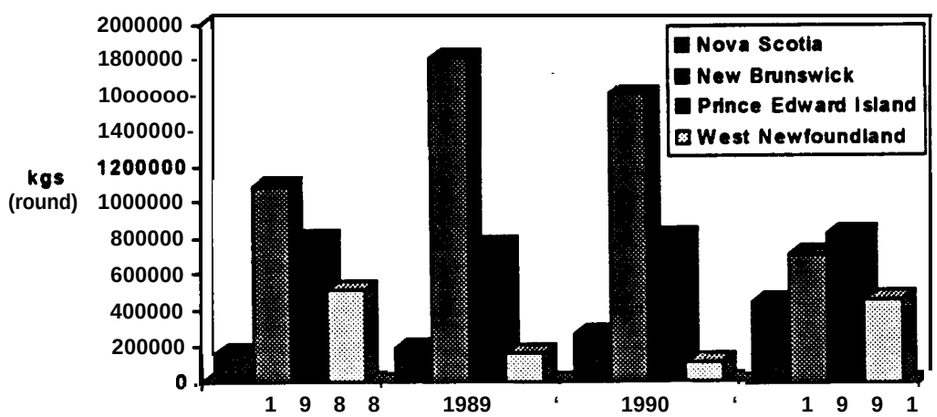
Canadian Scallop Production
(in metric tonnes)



The relative importance of the scallop producing regions has also changed over the past five years. As shown in the following chart, New Brunswick, once the major producer

of Canadian scallops has seen a major decrease in its scallop harvest while Nova Scotia has been gradually increasing in terms of importance. Prince Edward Island has remained relatively stable over the past five years and is presently the largest scallop producer in Canada.

Canadian Scallop Production

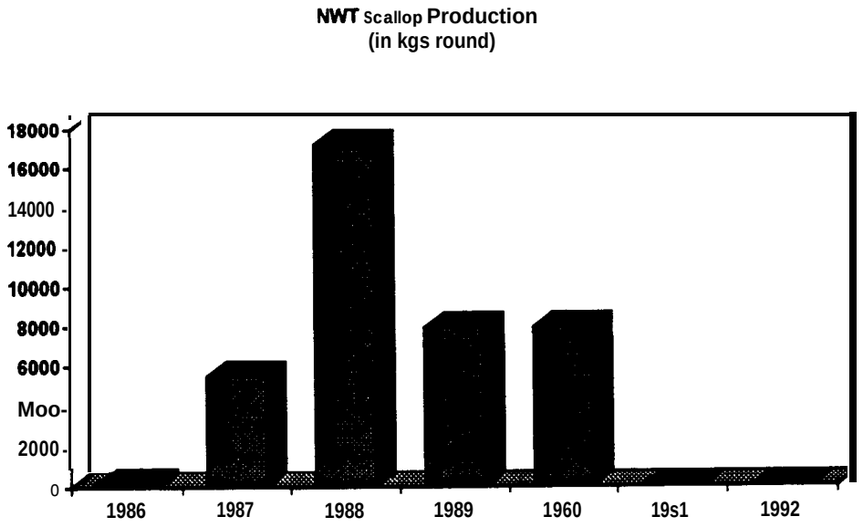


US landings of sea scallops have been steadily increasing since 1986 although there is some concern about the ability of the Georges Bank resource to withstand such high harvesting pressure.

NWT scallop production has been erratic with a peak production of 17,299 kgs (round, shell on) in 1988 followed by a drop of over 50 per cent to 8,000 kgs in 1989 and 1990. There was no harvesting at all in 1991 and 1992.

NWT Icelandic Scallop Production 1986-1992
(in kgs round weight)

1986	1987	1988	1989	1990	1991	1992
191	5536	17200	8000	8000	0	0



Demand by geographic location:

More than a third of the world scallop catch is destined for export - mostly to the U.S. and France - generating a trade valued at more than $300 million a year. Japan leads the world in scallop production and consumption followed by the U.S. which consumes 36,000 metric tonnes of scallop meats each year and demand is rising. Both of these countries sell a major portion of their scallop catch domestically.

Canada leads the world in exports of scallops with over 29 per cent of world market share in 1989, followed by Iceland and Peru. Canada is the top exporter to the U.S. which dominates as Canada's major export market. Almost 94 per cent of Canada's exports go to the US. Overall, US imports of scallops have been decreasing significantly

since 1986 as a result of increased domestic catches however Canada's percentage of the US market share (approx. 60 per cent in 1988) has been increasing at the expense of its traditional competitors: Japan, Iceland, and Panama.

Unfortunately the American market prefers large white scallops (minimum weight 15-20 grams) and there is only a limited market for Icelandic scallops. Similarly, the Japanese market prefers large sea scallops. Japan insists on very high quality and purchases scallops with a minimum weight of 50 grams.

One wholesaler suggested that France may be a suitable market for NWT scallops as the French are familiar with the unique characteristics of Icelandic scallops and purchase large quantities.

When scallops were being harvested out of Pangnirtung, a local northern market was developed with product being sold in Iqaluit, Yellowknife and Nanisivik. The scallops were well received and were sold at prices up to $22 per kg. However, since local scallops have not been available during the past several years, southern scallops have moved in, at a lower price, to fill this market gap and it is uncertain whether Baffin scallops will be able to recapture its market share and command the same price.

Product Form:

Unlike most other fish and seafood products, the market image of scallops is not affected by freezing. Most scallops exported by Canada are frozen (IQF) because scallops have a short shelf life. Frozen sea scallops are sold in 5-pound blocks (meat only). Fresh sea scallops are sold to processors in 50-pound cloth sacks, processors then wash (and sometimes soak in sodium tripolyphosphate) the scallops and either pack them in 8-pound containers for the fresh market or freeze them in 5-pound blocks for the frozen market.

Most of the wholesalers we spoke with also sold IQF scallops in a variety of smaller

packages, and advised that the NWT would be wise to process small packages for retail sales.

Some wholesalers we spoke suggested there may also be a market for Icelandic scallops if they were processed into chowders and sauces as the small size and yellow colour characteristic of Icelandic scallops would not be evident once processed. However, the price offered by this market is expected to be quite low.

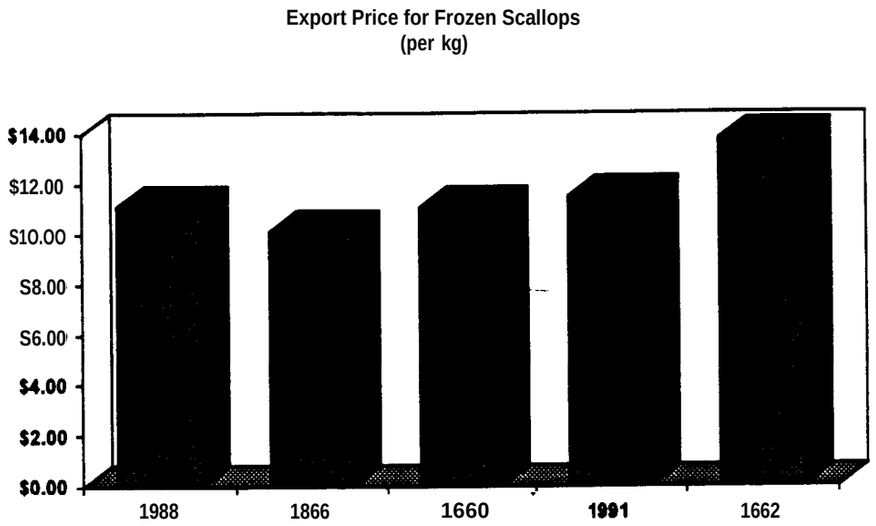
Pricing Trends over the past five years:

Sea scallop prices follow a typical seasonal cycle of low prices in spring and summer and increased consumption and peak prices during fall and early winter. Expectations are that sea scallop prices will continue to follow the same general pattern over the next few years.

Scallop prices vary depending on the size and quality of the product with larger sizes receiving a higher price. However, most wholesalers were quick to point out that the market for scallops is strong and the demand is high enough that even smaller sizes command a good price.

In 1991 the prices of Canadian and U.S. domestic sea scallops ranged from a low of $8.36/kg in June to a high of $10.67/kg in September, down from $15.40 just a few years before. Prices in 1992/93 improved with IQF scallops (20 - 30 count) selling for approximately $15.40 -$17.6 a kg and larger scallops (10 -20 count) selling for $18.70 -$19.03 a kg. Icelandic scallops are currently selling for approximately $9.90 a kg.

The price of scallops has fluctuated roughly 50 per cent over the past few years and the high current prices are thought to be a function of lower US production this year. Wholesalers believe the price for scallops is strong however, and indicated that there has been a slight upward trend in price over the past several years. Average export prices for frozen sea scallops are illustrated in the following chart.



Average Export Prices for Frozen Scallops
(Per kg)

1988	1989	1990	1991	1992
$11.11	$10.12	$11.06	$11.49	$13.79

Competing species and products:

The major competition for NWT scallops comes from other scallop species, particularly the larger sea scallop which is a preferred species, is harvested in large quantities by both southern Canada and the US, and commands a higher market price.

NWT Icelandic scallops also face direct competition from Norway, Greenland and Iceland which ail have large Icelandic scallop production. There has also recently been a large bed of Icelandic scallops found off the coast of Newfoundland which is expected to yield thousands of tonnes of scallops.

Future trends in production and price:

Wholesalers expect that wild sea scallop production will remain fairly constant over the near future and that scallop quotas will continue to be fully harvested. The market for scallops is stable, demand remains high and prices are strong so they expect little major change in price. It is expected that Icelandic scallops will follow the same general trends as sea scallops.

Over the longer run, there is some concern about the ability of the wild resource to sustain continued high levels of harvesting. US landings have been steadily increasing since 1986 and it is unknown how long the Georges Bank resource can withstand such high pressure therefore a gradual decline of wild sea scallop supplies is expected over the next few years.

Aquiculture may also become a major factor in scallop production if it takes off in North America. Currently the USA is working on developing aquacultured scallops but has experienced a number of production problems. Scallop aquiculture is also being developed in Atlantic Canada but total Canadian scallop exports are also expected to remain stable in the near future. However, it is expected that farmed scallops, which now make up half of Japan's production, will dominate world supply in the long-term.

China's also has the potential to become a major scallop producer and exporter. Its farming program for scallops is growing quickly and in 1990, Chinese exports to the U.S. totaled 4,500 tons, second only to Canada. China seems destined to have an even greater impact in the future, particularly if it can supply significant quantities of bay scallops.

Target Market:

NWT Icelandic scallops face very strong competition from both southern sea scallops, which are preferred in the marketplace, and from other countries which produce Icelandic scallops in abundant quantities. Both of these sources can produce scallops at a lower price than the Baffin region can. Given this high level of competition and the high cost of producing and transporting Baffin scallops, the recommended target market for NWT scallops is the domestic northern market where Icelandic scallops are acceptable and where the consumer is willing to pay a higher price. Northern markets exist in Iqaluit and Yellowknife in both the retail and hotel sectors, and in Nanisivik.

Shrimp

Origin of production:

World shrimp exports are dominated by warm water shrimp produced by Mexico, China, India, Ecuador, and other Asian nations. Canada plays only a minor role in the international shrimp market with one per cent of the world market and is ranked thirty-second as an exporter.

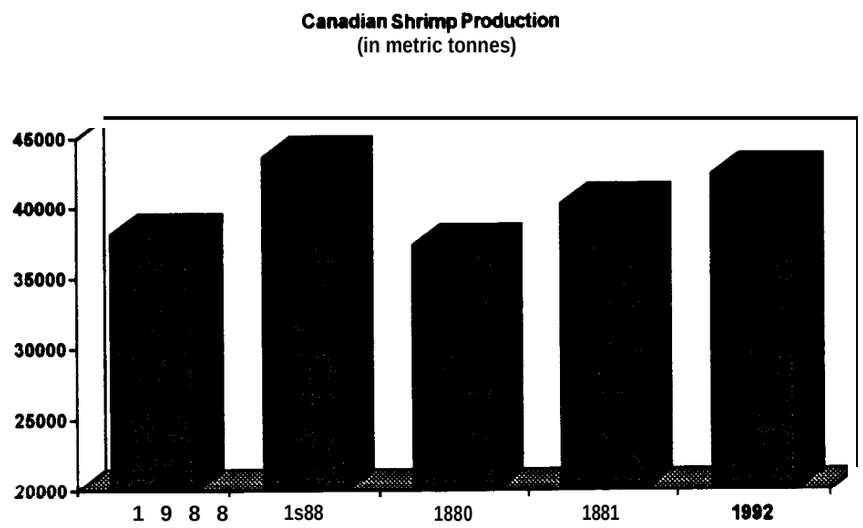
Canada produces small cold water shrimp which come primarily from the Atlantic with annual landings of approximately 24,000 metric tonnes. Shrimp are harvested almost year round with the boats moving with the quotas. Davis Strait is fished in the summer (beginning in June) and the Labrador and Newfoundland coasts are fished during the winter.

Shrimp harvesting is controlled by a fixed quota with the total allowable catch being taken each year.

Coldwater shrimp are also produced by Greenland, Norway, Denmark and Iceland.

Production Trends over the past five years:

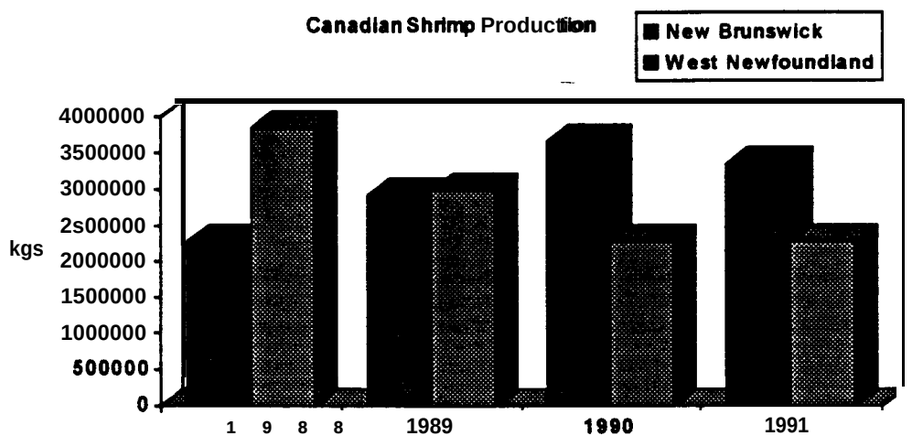
Canadian production of shrimp has remained fairly constant over the past five years. Shrimp are harvested on a fixed quota basis and close to the entire quota is usually taken each year. Asshown inthe chart below, shrimp harvests peaked in 1989 with a total harvest of43,660 metric tonnes. In 1990 harvests dropped by 15 percent to a low of 37,282 and have increased steadily over the past three years. Total harvests in 1992 were 42.356 metric tonnes.



Canadian Shrimp Production
(metric tonnes)

1988	1989	1990	1991	1992
38,128	43,660	37,282	40,242	42,356

According to statistics provided by the Department of Fisheries and Oceans, the relative importance of the major Canadian shrimp producing areas has shifted slightly over the past five years with the New Brunswick fishery increasing and the West Newfoundland fishery decreasing in relative importance. These changes are shown in the following chart.



Generally world-wide shrimp production is on the increase and there is a slight over supply of shrimp (primarily warm water shrimp) on the market. Cold water shrimp harvesting off the coast of Newfoundland has also increased in 1993 therefore some suppliers expect that supply will exceed demand this coming year.

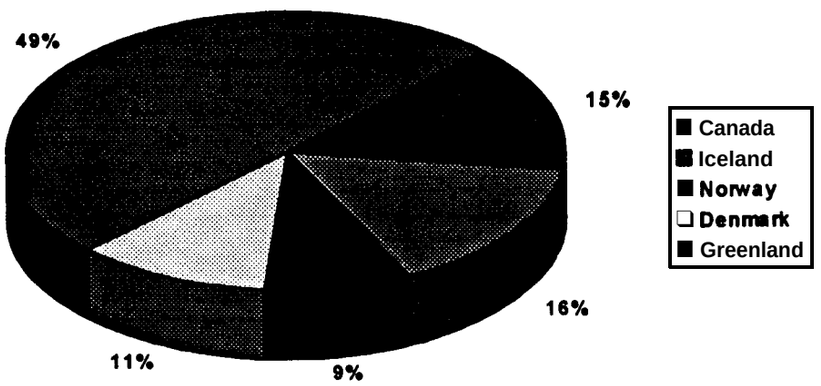
Demand by geographic location:

The major markets for shrimp are Japan, the US and Europe. Canada's most important export markets for shrimp are Denmark and the U. S., with 45 per cent and 32 per cent of total Canadian exports respectively. Canadian shrimp exports totaled approximately $79 million in 1988.

Japan is the largest shrimp market in the world but Japanese consumers prefer the larger

warm-water variety therefore Japan purchases primarily the largest size, highest quality shrimp. However, Canadian shrimp exports to Japan are expected to increase due to favorable exchange rates, increased consumption generally, and a decline in Greenland's supply, Canada's major cold-water competitor in the Japanese market. Japanese imports of Canadian shrimp increased from 1,603 metric tons in 1988 to 4,119 metric tons in 1992. This constitutes 15 per cent of Japanese imports of northern shrimp

Northern Shrimp Exports to Japan (metric tons)



Denmark is a major importer and reprocessor of shrimp for the European Community where cold-water shrimp are preferred. Canada's exports to Denmark have been increasing steadily, a trend that is expected to continue as the European catch is expected to decline while demand remains strong. Greenland, Norway, and Iceland are Canada's major competitors in the Danish market.

US demand for shrimp has been increasing steadily as well, but US consumers overwhelmingly prefer the larger warm-water shrimp supplied by Ecuador, China, Mexico, and Taiwan. Norway is Canada's major cold-water competitor in the US but exchange rates have kept Norway's prices higher than Canada's.

The domestic market for shrimp is larger and more lucrative in Ontario and Quebec, with lower prices in Western Canada.

Demand by important market sectors:

Shrimp are sold throughout the restaurant, retail and food service sectors.

Product Form:

Shrimp are graded and frozen (IQF) at sea according to market demand. Shrimp are graded according to size as follows: 1 - 150 count per pound, 150-250 count per pound, 250 and over count per pound. Shrimp are then packaged in a range of sizes including 10 oz, 30 oz and 5 pound packages, and 1 kg, and 5 kg bags.

Shrimp sold into the European food industry sector are sold head-on cooked. Approximately 10 per cent of shrimp sold into Japan are head-on cooked, the remainder is frozen raw.

There is also a market for breaded and battered shrimp products.

Pricing Trends over the past five years:

Shrimp prices vary somewhat with season with prices being strongest in June and July. Shrimp prices are also strongly affected by supply and demand; when prices drop fish dealers see an immediate increase in sales.

Wholesalers and distributors indicated they had seen a 20-30 percent fluctuation in shrimp prices over the past five years and the current trend is downwards. One dealer indicated they had seen a 40 per cent decline in shrimp prices in the last two years.

Current wholesale prices for shrimp range from $9.90-$12.10 per kg for large shrimp (50 grams and over) and as low as $2.20 per kg for smaller shrimp (10 -20 grams). Shrimp fishermen are receiving $0.92-$1.14 per kg for shrimp.

Competing species and products:

The greatest potential competitors overall for NWT shrimp are countries producing cultured warm-water shrimp: Ecuador, China, Taiwan, Indonesia, Thailand, Bangladesh, India and the Philippines. Asian countries produce 80 per cent of the world's cultured shrimp and their production by the year 2000 is expected to exceed total market demands. This will have a dramatic effect in reducing world shrimp prices and thus a potentially harmful effect on the Canadian shrimp industry in the long-term.

Canadian cold water shrimp also faces strong competition from other cold water shrimp producers such as Greenland which produces three times as much shrimp as Canada.

Shrimp marketers did feel however, that the shrimp produced in the NWT was of excellent quality and had a good range of sizes (varying from 200-300 count to 70-90 count). The market for shrimp remains strong and shrimp dealers felt there was definitely room for NWT shrimp, although the cost of developing new markets is extremely high.

Future trends in production and price:

An important factor that is likely to affect the NWT shrimp industry is the recent discovery of a very large bed of coldwater shrimp on the Flemish Cap, outside the 200 mile limit off Newfoundland. This bed of shrimp is expected to provide a huge supply of shrimp lasting several years and will likely depress the price of coldwater shrimp. One distributor predicted that once this bed enters the market shrimp fishermen will likely receive approximately $0.66 per kg for their shrimp. However consumption of shrimp is

expected to remain strong and growing

Aquiculture shrimp is also expected to become more important in the market. South America is producing 200,000 metric tomes and Asia is producing 800,000 metric tonnes of cultured shrimp a year. These huge volumes are expected have a major effect on the world shrimp market however these cultured shrimp are large warm-water varieties which do not compete directly with the smaller cold water shrimp.

Several dealers who market shrimp emphasized that the shrimp market is very much an international market which is constantly changing as new players and new markets come on the scene. Shrimp are sold directly from the boats in response to daily market demands so it is critical that shrimp fisheries be tied into the worldwide marketing network.

In general, wholesalers expected shrimp production to increase slightly over the next few years then stabilize, at which time prices are expected to increase slightly. Most felt that the future looks good for coldwater shrimp.

Target Markets:

Most marketers felt that the present market niche for NWT shrimp was suitable and capable of absorbing production but more work should be put into improving processing facilities so that shrimp can be brought to market in a high quality, marketable form.

Herring

Origin of production:

Canadian herring is harvested on both the east and west coasts. The east coast fishery takes place in the Gulf of St. Lawrence off the coasts of New Brunswick, Nova Scotia, Prince Edward Island and the west coast of Newfoundland. Fishing takes place between May and October although in many areas the fishery is divided into a distinct spring and fall season. Spring harvests are generally large often producing an oversupply. Spring herring are typically sold to fishermen on the west coast for bait or to processors for smoking.

Fall herring are higher in fat content and have a better market however fall production tends to be more variable because of weather. Spawning also takes place in the fall therefore the fall catch is often sold as roe.

The Atlantic herring fishery has an annual quota of 203,700 metric tonnes. The west coast fishery is much smaller with annual landings of 35,000 metric tonnes.

In the NWT there maybe a harvestable herring resource in the Beaufort Sea however it has not yet been fished commercially.

Significant amounts of herring are also produced off the coast of Alaska. Alaskan herring roe exports almost doubled between 1988 and 1992 from 781 metric tons to 1,356 metric tons and Alaska has recently had a 20-30 per cent increase in their herring quota.

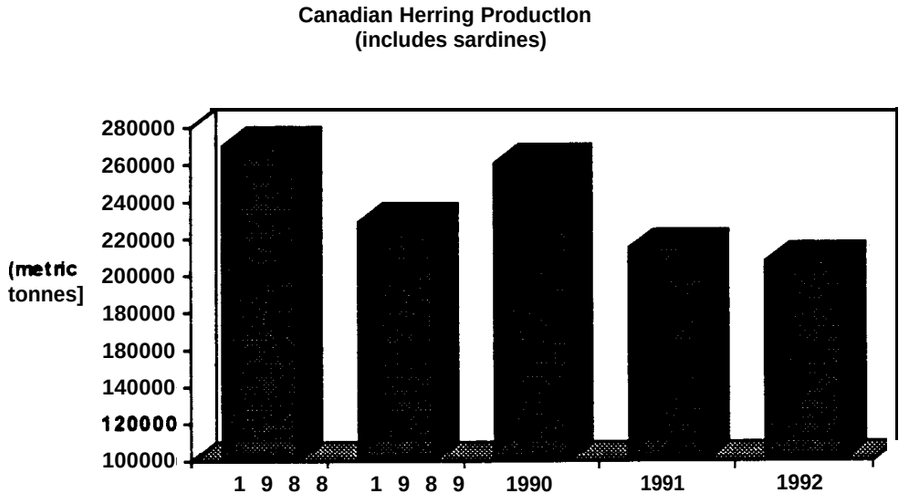
Huge amounts of herring are produced in the Baltic sea which has created a herring glut in Europe. This glut has been made worse by large herring catches made by Russian trawlers fishing offshore. The herring caught by large Russian vessels is dumped on the

world market at very low prices further depressing the herring market.

Iceland also has a strong herring fishery and is a major exporter to Japan. However Icelandic herring sales have been decreasing due to small fish size. The Netherlands is also a major exporter of salted herring roe, producing approximately 1,700 metric tons of roe each year.

Production Trends over the past five years:

In general, world production of herring has been on the increase over the past five years resulting in a widespread oversupply of herring and depressed prices. In response to decreasing prices and decreasing profit margins, total Canadian herring production has shown a gradual decline over the past five years as shown below.



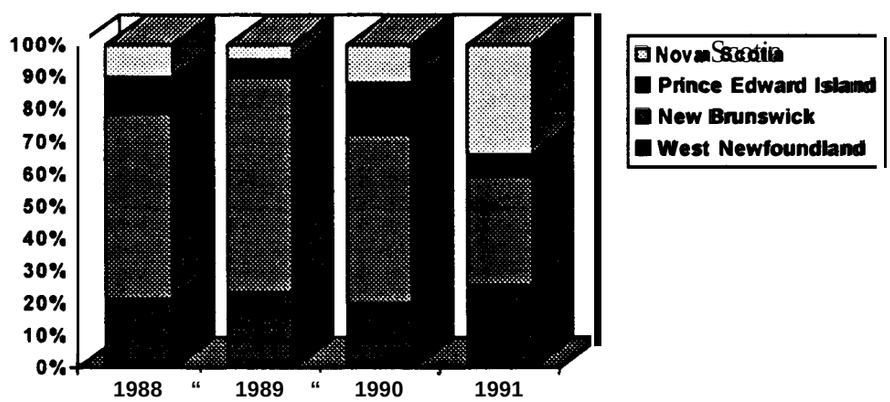
Canadian Herring Production
(metric tonnes)

1988	1989	1990	1991	1992
269.868	229,239	260,450	214,924	207,542

Herring production has declined from a high of 269,868 metric tomes in 1988 to 207,542 metric tonnes in 1992, a drop of 23 per cent.

The relative importance of each of the herring producing regions has also changed over the past five year. New Brunswick, once Canada's largest herring producer, has declined in importance while the Nova Scotia herring fishery has gradually increased its herring catch.

East Coast Herring Producers
(percentage of total production)



Demand by geographic location:

The total export market for Canadian herring, including both fish and roe products, was estimated to be approximately 10,000 metric tomes in 1992, valued at approximately $122,000,000. This represents a six per cent decrease in value over 1991 export sales, and a 23 per cent decrease in value over 1990 exports.

The herring market can be divided into two distinct sectors: fish and roe.

Fish Markets:

The major markets for herring fish are the US, Europe (particularly northern Europe), and Japan.

Much of the **herring sold into the US is sold as bait for West Coast fishermen. Bait herring are sold whole frozen and command a low. price, averaging between $0,15 and $0.55 per kg. Fishermen receive $0.11 per kg for bait herring.**

Herring is also sold into the US fresh and frozen, whole dressed, for further processing. The herring are cured in brine, packed in barrels and shipped to buyers who store the herring in bulk. The buyers further process the herring (i.e. dress, fillet, etc.) upon market demand. According to one large distributor, this is the only cost effective way of processing herring. This traditional market for herring is decreasing and typically **suffers from an overall glut of product.**

In 1992, the American market for Canadian herring totalled 1,674 metric tonnes, valued at $2,291,000.

The European market for herring is concentrated in the northern countries, especially Germany, where consumption is highest. Herring is sold in bulk form as above and also as frozen fillets and flaps (open fillet, skin on) however the European market is protected by high tariff barriers and is usually supplied by Norway and Denmark. The trade barriers are lifted when European fisheries cannot supply the market, therefore it is sometimes possible to sell into Europe if the timing is right. The European market typically experiences high consumption during the fall and winter and lower consumption during the summer.

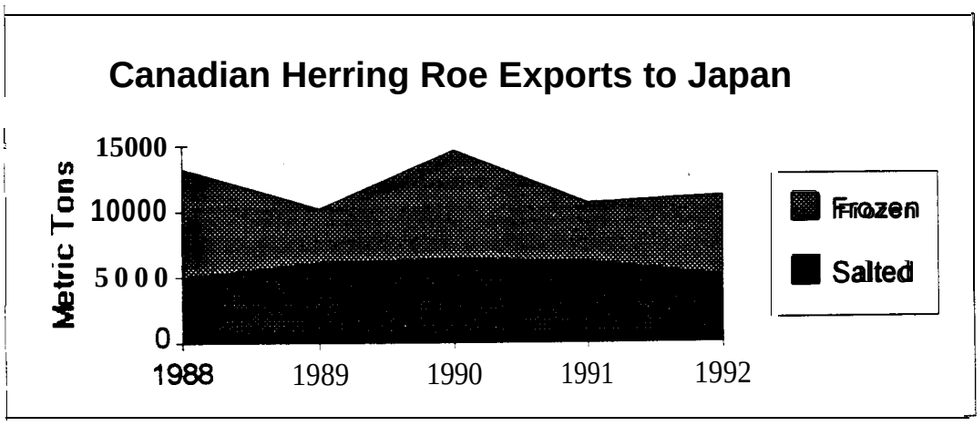
Some dealers are selling frozen round herring into Asia, particularly Japan and Korea. This market prefers large fish and purchases herring in the 300-400 gram and 400-500

gram ranges. Japanese imports of food herring have been increasing over the past four years with 1992 Japanese imports totaling approximately 80,000 metric tonnes. Of this, Canada supplied on 74 metric tonnes at a value of $175,000. There are two types of food herring imported, roe herring which is imported from the USA, Korea, Russia, Britain, Holland and Ireland, and red-feed herring imported from the USA, Canada, Iceland, Norway, Russia and other European countries.

Herring Roe:

Japan is the largest worldwide market for herring roe, accounting for 90 per cent of total world exports. Almost the entire amount of herring roe exported from Canada goes to Japan where Canada controlled approximately 60 per cent of the Japanese market share in 1992.

Exports of Canadian herring roe to Japan over the past five years are illustrated below.



The value of the Japanese market for Canadian herring roe totalled over $100 million in 1992.

Although the Japanese market for herring roe is lucrative, most dealers feel that this market has matured and there is little room for increase. In fact, changes in Japan's social and cultural climate are expected to result in a decrease in Japan's herring roe market as young Japanese move towards a more westernized lifestyle and traditional products such as herring roe lose their mass appeal.

Herring roe is also sold in small quantities to Taiwan, Singapore and the People's Republic of China. Canadian exports of herring roe to China totalled 253 metric tonnes in 1992, valued at $4,827,000.

Demand by important market sectors:

Most Canadian fish dealers sell herring in bulk form into the food processing or food service industry. Very little is sold into the retail or restaurant market.

Product Form:

Herring roe is Canada's most important herring export product in terms of value. Although substantial quantities of fresh, frozen, and pickled herring are exported, prices range from $0.21 to $0.72 per kilogram whereas herring roe commands approximately $15.00 per kilogram. Canada leads the world in the export of fish roe (dried, salted, frozen and in brine) with a 37.8 per cent share of the world export market.

Most Canadian herring roe is processed for the best quality gift boxes however roe is also sold raw for processing in Japan into seasoned herring roe products. The market for seasoned herring roe products has matured, however many processors have been developing new products to increase the popularity of seasoned herring roe as a daily home consumption item.

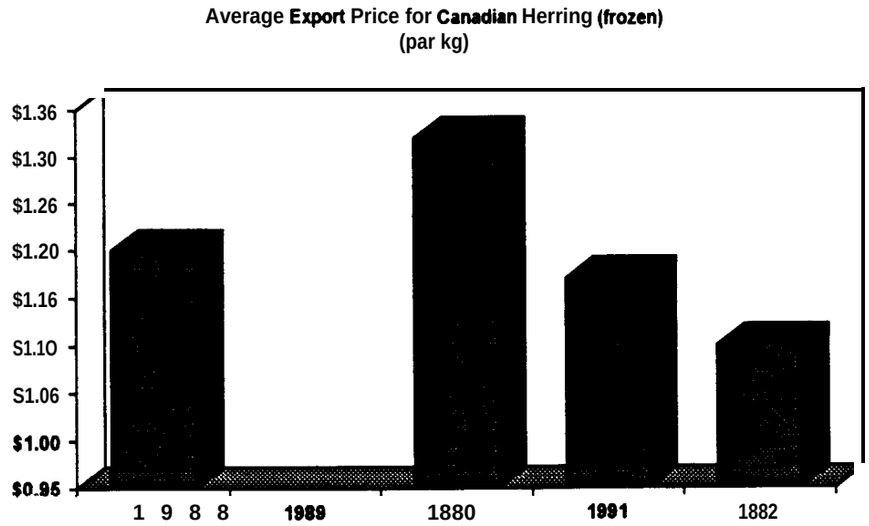
Food herring is sold primarily salted or brined in barrels, or as frozen fillets or flaps

(open fillets, skin on).

There is also a market for canned herring however the fish dealers we interviewed indicated that the profit margin for canned herring has almost disappeared and it is almost impossible to sell canned herring unless you are a very well established processor with a strong network of markets.

Pricing Trends over the past five years: .

There is a worldwide glut of herring and prices have declined accordingly. The following chart shows average prices of frozen herring sold to the U.S.A.

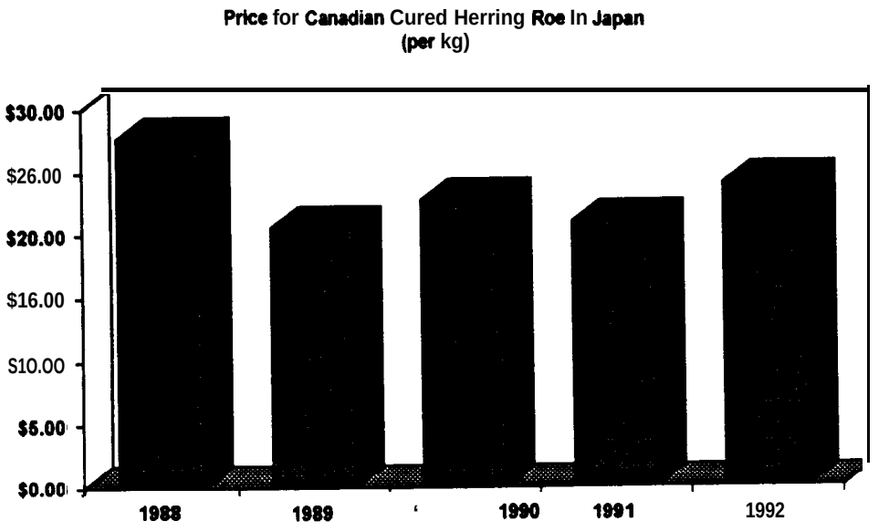


Export Prices for Canadian Herring (per kg)

1988	1989	1990	1991	1992
$1.20	n/a	$1.32	$1.17	$1.10

Current prices for frozen food herring exported to Japan average approximately $500 per metric tome. Frozen sales into Europe average approximately $0.92 per kg delivered. Most fish dealers indicated that prices for herring are extremely low and can go no lower. In fact, several dealers indicated that herring prices were so low that they did not purchase herring this year.

Prices for herring roe are considerably higher. The following chart illustrates the average price paid for Canadian cured herring roe in Japan.



Price for Cured Herring Roe 1988-1992
(per kg)

1988	1989	1990	1991	1992
$27.71	$20.55	$22.73	$20.93	$23.98

Prices have dropped from a high of $27.71 per kg in 1988 to approximately $24.00 per kg in 1992. Some observers who have tracked the market for herring roe over the past several years expect the bottom to fall out of the market over the next two years

resulting in much lower prices.

Competing species and products:

Canadian herring must compete with the large amounts of herring harvested elsewhere in the world. In addition, food herring competes with other low-priced, mass consumption fish such as mackerel, sardine, saury and squid.

Future trends in production and price:

There does not appear to bean end to the present oversupply of herring in sight. In fact most fish dealers expected the worldwide supply of herring to continue to increase and the price to continue to fall.

In addition to the present herring supply, Japan is sending technicians to Russia to help develop their herring industry. In 1992 Russia produced 4,000-5,000 metric tonnes of red-feed herring however the quality was poor and not marketable in Japan so it was dumped on the world market at low prices. With the help of Japanese technology, the Russians are expected to begin producing high quality food herring that is competitive with Icelandic and European herring. Russia is also showing a significant increase in salted herring roe production.

Target Markets:

Given the high levels of herring production and extremely low market prices it is not advisable to try to enter the herring market at this time. The market for herring roe is also saturated and due to changes in the Japanese economy this market is expected to decline in the near future.

General Observations:

Based on our market research it appears that the two NWT species with the most potential in the current market regime are turbot and arctic char. The market for turbot is strong and growing and most dealers we spoke with indicated they could sell as much turbot as could be produced. NWT turbot is not as high quality as other turbot however it is available when other turbot fisheries are closed therefore it enjoys a high level of market acceptance.

Arctic char was considered by most dealers to be a good product with strong potential. However, to achieve premium prices for arctic char it will be necessary to develop a new image for char, a distinct image separate from salmon, and the quality of char and consistency of supply must be improved.

During our interviews with fish dealers the following general themes that apply to the marketing of all NWT fish species kept emerging:

1. Fish markets have become increasingly international. While this has opened up new market opportunities for NWT fish species it also means that our products must compete with products from fisheries throughout the world, even in the domestic Canadian market. Except for Arctic Char, which may be able to develop a specific market niche as a northern fish, our fish products must compete with all other sources of the same species. The NWT origin does not give our fish a special place in the market. In fact, the relatively small volumes produced in the NWT, and the often inferior quality of our products, make NWT products more difficult to place in a market that is determined by the laws of supply and demand.

2. Quality is becoming more and more important in the marketplace and consumers are becoming more demanding. New technologies such as trap net fisheries for whitefish have improved the quality of products produced in other regions. If the NWT hopes to maintain and expand the market for its products, more attention must be paid to quality

and quality control. This is particularly true for products such as arctic char which are targeted to the upscale market. At present, the quality of NWT fish products is seen by the marketplace as inconsistent and often inferior to other producing regions.

3. The NWT should promote its cold, clean waters, particularly for products that are sold overseas. The image of fish harvested from pristine northern lakes and oceans is highly marketable in Europe and Japan and definitely works in the NWT's favour. However, the reader should be aware that most other fish producing areas are also using the same image to promote their fish and we do ‘not have a monopoly on cold, clean water.

4. Because of the high cost of marketing fish products, particularly new products, there is a growing trend towards networking and “industrial clusters” among fish dealers. In this system fish dealers and processors remain independent but use similar marketing tools, share information and communicate openly about sales and products, and use each other to market some products some of the time. Fish dealers have found this system to be mutually beneficial as it cuts down the cost of sales by reducing replication of marketing efforts. Industrial clusters have proven particularly useful in the international market. A video on industrial clusters has been produced by the Department of Industry and Commerce in Ottawa and is available from the federal government.

Appendix 1

Reports Reviewed

Reports Reviewed

C-Mac Consultants. 1990. A Business Plan for Cumberland Sound Fisheries. Final Draft.

Canadian Association of Fish Exporters, Seafood Market Reports.

Canadian Fishery Consultants Ltd. 1988. Interim--Report on Pangnirtung Winter Turbot Fishery Prepared for the GNWT, ED&T, Iqaluit, NWT.

COPRO Limited. (n.d.) Market Considerations for the Commercial Fisheries of Great Slave & Surrounding Lakes, Prepared for Northwest Territories Development Corporation.

Copro Limited. 1992. Cumberland Sound Fisheries Ltd. 1992 Market Survey.

Copro Ltd. 1991. Keewatin Arctic Char. A Business Plan for Plants and Infrastructure in Rankin Inlet and Whale Cove.

Cumberland Sound Fisheries Ltd. Pangnirtung, N.W.T. 1990. Proposal to the NWT Development Corporation,

Deloitte & Touche. 1990. Strategic Market Research for Canned Smoked Arctic Char, Research Components 1,2 and 3 Final Report, Prepared for Department of Economic Development and Tourism, GNWT

Deloitte Haskins & Sells. 1990. Inland Fisheries of the Northwest Territories. Characteristics of the Export Market. Prepared for Department of Economic Development and Tourism.

DFO. 1989. Market Interaction of Canadian Farmed and Wild Arctic Char. Economic and Commercial Analysis Report No. 22. Prepared by Robin Smith, Western Management Consultants, Vancouver, B.C.

DFO. 1991-1993. Annual Summary of Fish and Marine Mammal Harvest Data for the Northwest Territories. Volumes 1-4, 1988-1992.

DFO. 1993. Annual Summary of Fish Harvesting Activities. Western Canadian Freshwater Fisheries. Volume 101991-1992.

ED&T Natural Resources Section. 1993 Char Market Penetration Analysis.

External Affairs and International Trade Canada. 1990. World Directory of Seafood Importers.

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Hinchey, Wm. Grant and Henry Copestake. n.d.(1992?) A Discussion Paper O n A Conceptual Business Plan for the Great Slave Area Fishery. Prepared for the Northwest Territories Development Corporation.

ISTC Canada, Seafood and Marine Products Sector Campaign. 1991. A Strategic Review of Fish in Foodservice in the U.S.A. Prepared by Brand Consulting Group and Wattenmaker Advertising.

ISTC Canada, Seafood and Marine Products Sector Campaign. 1991. Investigation Into Consumer Perceptions and Reactions to Promotional Tools With Respect to Fish. Prepared by Canada Market Research.

ISTC Canada. Seafood and Marine Products Sector Campaign. 1990. Consumer Level Opportunities in the United Kingdom Salmon Market.

ISTC Canada. Seafood and Marine Products Sector Campaign. 1991. Opportunities in the Smoked Salmon Market in Italy, France and Germany. Prepared by Industrial Market Research Ltd.

ISTC Canada. Seafood and Marine Products Sector Campaign. 1991. Situation of Seafood Products on the Montreal and Toronto Retail and Institutional Markets, Study presented to L'Association Quebecoise de l'Industrie de la Peche.

ISTC, Seafood and Marine Products Sector Campaign. 1991. A Competitiveness Assessment of the Canadian Seafood and Marine Products Industry.

ISTC, Seafood and Marine Products Sector Campaign. 1991. Trade Level Opportunities in the United Kingdom Salmon Market. Prepared by Industrial Market Research Ltd.

ISTC, Seafood and Marine Products Sector Campaign. 1991. A Review of the Envirnomental Factors Associated with Seafoods.

ISTC, Seafood and Marine Products Sector Campaign. 1991. Report on Taste of Canada Seafood Promotion, Tom Thumb Stores, Dallas, Texas.

RT & Associates. 1989. Keewatin Region Commercial Fishing Industry, Business & Operational Plan.

Seafood Leader, 1992 Buyer's Guide.

Appendix 2

Interview Contacts

Individuals Contacted

Fish Dealers:

Abegweit Seafoods Inc., Charlottetown, PEI,
(Supplier, Processor - Scallops, Shrimp, Herring),
Contact: Garth Jenkins

Ag-Com Trading Inc., Exeter, Ontario,
(Importer/Exporter - Char, Turbot, Shrimp, Icelandic Scallops, Herring Roe),
Contact: Bob Gilbert

Allen's Fisheries Ltd., Bay of Islands, Newfoundland,
(Supplier, Processor - Herring),
Contact: Richard Allen

Beothic Fish Processors, St. John's, Newfoundland,
(Buyer/Seller, Processor - Turbot, Herring),
Contact: Andrew Hallet

Billingsgate Fish Company Ltd., Calgary, Alberta,
(Processor, Wholesaler/Distributor - Whitefish),
Contact: Frank Fallwell

Canadian Association of Fish Exporters, Ottawa, Ontario,
Contact: Jane Barnett, President.

Capital Fish Market, Ottawa, Ontario,
(Dealer - Whitefish, Lake Trout, Arctic Char),

Connors Brothers Inc., Blacks Harbour, New Brunswick,
(Broker, Wholesaler - Turbot, Herring),
Contact: Kimberly Watson

Etna Foods of Windsor Ltd., Learnington, Ontario,
(Processor, Exporter, Broker, Wholesaler/Distributor - Whitefish, Lake Trout),
Contact: Jerry Peralta

Exclusive Smoked Fish Ltd., Toronto, Ontario,
(Processor, Wholesaler - Smoked Char and Salmon),
Contact: Keith Jackson

FaroCan, Ottawa, Ontario,
(Harvester, Dealer - Turbot, Shrimp),
Contact: Neil Greig

Fishery Products International, St. John's Newfoundland,
(Processor, Exporter - Char, Turbot, Shrimp, Scallops),
Contact: Randy Bishop

Fogo Cooperative Society Ltd., Seldom, Newfoundland,
(Buyer, Processor, Dealer - Turbot, Herring),
Contact: Peter Kean

Inland Sea Products, Southampton, Ontario,
(Exporter, Wholesaler/Distributor - Whitefish),
Contact: Bill Jackson

Kings Fishery, Michigan, USA,
(Producer, Dealer - Whitefish, Lake Trout),
Contact: Bob King

Messing Fish Co., New York, New York,
(Broker - Whitefish, Lake Trout),
Contact: Herb Ackerman

National Sea Products, Halifax, Nova Scotia,
(Buyer, Supplier - Turbot, Icelandic Scallop, Herring),
Contact: Winston Spencer

Peter Smith, Marketing Director,
Freshwater Fish Marketing Corporation,
Winnipeg, Manitoba.

Presteve Foods Ltd, Wheatley, Ontario,
(wholesalerDistributor, Processor, Exporter - Whitefish, Lake Trout),
Contact: Ulysses Pratas

Purdy Fisheries, Pt. Edward, Ontario,
(Producer, Exporter, Dealer - Whitefish, Lake Trout),
Contact: Milford Purdy
*NOTE: also President of Ontario Fish Producers Assoc.

Salasneck Fishery, Detroit, Michigan,
(Wholesaler, Processor - Whitefish, Lake Trout),
Contact: Mike Pickens

Sandeel Trading, Mont. S1 Hilaire, Quebec,
(Exporter, Trader, Dealer Whitefish, Lake Trout),
Contact: Hans Schwerdel

Sogelco International Inc., Montreal, Quebec,
(Exporters - All species),
Contact: Gabriel Elbay

Union Fish Co., Chicago, Illinois,
(Broker - Whitefish, Lake Trout),
Contact: Harold Gorleg

Universal Marine Corp, West Vancouver, B. C.,
(Exporter, Trader - All species),
Contact: Ted Czerwinski

Windjammer Marketing, Ottawa, Ontario,
(Broker - Marketing NWT DevCorp Fish - Arctic Char, Turbot, Icelandic Scallop, Shrimp),
Contact: Mike Wettering

X. Sea. International Corp., New York, New York,
(Broker - Whitefish, Lake Trout),
Contact: Mark Kotok

Others

Colette Craig, Freshwater Institute, Fisheries and Oceans, Winnipeg, Manitoba
Larry Simpson, Resource Development Officer, ED&T, Baffin Region.
Dave Wallace, NWT Development Corporation
Richard Zieba, Assistant Director, Natural Resources Section, ED&T, Yellowknife.

Name: Broker/Wholesaler/Dealer

SURVEY GUIDE FOR FISH MARKETING

EXPLAIN: The Government of the Northwest Territories is developing a long-term strategy for the NWT fishing industry. AS part of this process our company has been contracted to collect market information for each of the fish species commercially harvested in the NWT. We are therefore calling a number of fish dealers across the country to get their views on current fish markets and ask their opinions on the future developments.

1. We are interested in gathering market information for the following NWT species.

Which of these do you sell?

Lake whitefish

Lake trout

Arctic char

Turbot (Greenland halibut)

Greenland shark

Icelandic scallop

shrimp

herring

2. Which are your best sellers?

3. What other major species do you handle?

For each species they sell:

Where does the fish you sell come from? In what volumes?

Does this change with season? How?

What production trends have you noticed over the past 5 years?

Where do you sell your fish to? (geographic location) In what volumes?

What market sector do you sell your fish to? (i.e. restaurant, supermarket, institutions etc.). In what volumes?

Does your market change with season? How?

What forms do you sell fish in? (i.e. fresh, frozen, fillets, IQF, etc.) Percentage of each? How have product form and packaging affected your market performance? (i.e. are consumers favoring frozen blocks, fillets, fish sticks?)

Are there opportunities for value-added processing such as canning or smoking?

What is the current price for (species name)?

Have your fish prices shown much fluctuation over the past five years? What pricing trends have you noticed?

What are the major competitors for NWT fish products?

Where and how can you see NWT fish product fitting into the market place? i.e. do you see an appropriate target market?

Are there any current trends or issues which affect your prices and sales? (i.e. fish farming, exports from Korea, China, Thailand, Russian fishing, bumper crops etc.)

What trends in production and price do you expect in the future?

Who else should we talk to?

Appendix 3

Database References

Data Base References:

*Seafood International, c/o Meed House, 21 John St. London, UK WCIN2BP - runs articles on current situation for fish markets and what various countries are doing, particularly in Europe. A large number of arcticles pertaining to European fisheries from this journal appeared in the databases and we recommend subscribing to this publication.

"Hundreds of jobs expected from silver hake fishery." Halifax Chronicle Herald, March 18, 1993. pg. A3.

"Free trade hits hake harvesters where it hurts - Glavin Column." Vancouver Sun, September 23, 1991. pg. B12.

"Silver hake: underutilized fishery shows mixed results." Halifax Chronicle Herald, May 7, 1991. pg. B1.

"Officials assess impact of silver hake quota cuts." Halifax Chronicle Herald, November 1, 1990. pg. C3.

"Let them eat hake: fishing unwanted species could save destitute towns." Montreal Gazette, October 21, 1990. pg. B8.

"Scallop fishermen brace for decline in catch." Halifax Chronicle Herald, April 24, 1990. pg. cl.

"PEI scallop growers face unexpected marketing challenge." Canadian Aquiculture v. 6(2): 15. March/April 1990.

"Taking on the World (scallop producers)." Canadian Aquiculture v. 6(5): 28. September/October 1990.

"Scallop decline expected to continue." Halifax Chronicle Herald, October 9, 1991. pg. A5.

"Ban urged for winter scallop hunt." Globe & Mail (Toronto) - Metro edition. February 3, 1993. pg. A5.

"Golden egg rush: the frantic race for BC herring roe." Larry Pynn. Canadian Geographic v. 111(5): 78-86. October/November 1991.

"93 herring roe catch quota increased (on west coast)." B.C. Outdoors Magazine v. 49(3): 7. April 1993.

"Trouble expected in herring fishery." Halifax Chronicle Herald, February 11, 1993. pg. D8.

"US moving to cut back shark fishing." Montreal Gazette December 18, 1992. pg. B6.

"NatSea plans to keep St. John's plant open longer, switch to shrimp." Globe and Mail (Toronto) - Metro edition. February 8, 1990. pg. B7.

"US threatens to ban shrimp imports." Globe and Mail (Toronto) - Metro edition. January 10, 1991. pg. B5.

"Ottawa vows to take action on shrimp fishery controversy." Halifax Chronicle Herald. June 23, 1990. pg. A4.

"Probe of shrimp fishery ordered to tackle controversial issues." Halifax Chronicle Herald. June 20, 1990. pg. Al 5.

"'91 shrimp catch "phenomenal" (NS Dept. of Fisheries and Oceans), Halifax Chronicle Herald, February 1, 1992. pg. A5.

"Farming black tigers: a Calgary geologist mines gold kaolin and shrimp" Western Report: v.5 (47): 22-23. December 10, 1990.

"Shrimp futures planned" Globe and Mail (Toronto) - Metro edition. January 19, 1993. pg. B2.

"Salesmen in sharkskin suits (Shark fishing beats sitting on the dock of the bay)." B.C Business Magazine v. 20(8): 7. August 1992.

"40-minute fishery nets 3,200 tonnes of roe herring. " Vancouver Sun. March 4, 1993. pg. D2.

Appendix 4

Appendix 4

Detailed Market Statistics

STATISTICS CANADA INTERNATIONAL TRADE DIVISION
STATISTIQUE CANADA DIVISION DU COMMERCE INTERNATIONAL
DOMESTIC EXPORTS OF SELECTED COMMODITIES
EXPORTS OF HERRING FROM B.C. BY HS CODE BY COUNTRY, 1988-92
VALUES IN CANADIAN DOLLARS QTY(TONNES) / VALUE($,000)

	192a			1209			1990			1931			1992	
	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)
PROVINCE : BRITISH COLUMBIA														
HS-CODE : HS0302400O : HERRING FRESH/WHOLE/DRESSED														
UNITED STATES	10	36	3.56	0	0		866	1 45a	1.68	74	88	1.20	768	1 297
GERMANY (FORMERLY F.R.G.)	0	4	18.91	0	0		0	0		0	0		0	0
JAPAN	100	105	1.0s	0	0		0	0		0	0		0	0
CONTROL 2 TOTAL :	110	14s	1.31	0	0		866	1 458	1.68	74	88	1.20	768	1 297
HS-CODE : HS03035000 : HERRING FROZEN/WHOLE/DRESSED														
UNITED STATES	307	369	i.20	0	0		531	781	1.32	1 120	1311	1.17	906	994
DENMARK	2	4	2.4a	0	0		0	0		0	0		0	0
HONG KONG	0	0		0	0		0	0	4.71	0	0		97	94
JAPAN	249	269	1.08	41	22	0.53	15	19	1.21	43	78	1.61	74	175
KOREA, REP. OF	0	0	89	0	0		18	20	1.10	0	0		0	0
AUSTRALIA	9	5	0.63	0	0		0	0		0	0		0	0
CONTROL ? TOTAL :	567	648	1.14	41	22	0.53	625	520	1.31	1 163	1 389	1.19	1 076	1 263
HS-CODE : HS03038020 : HERRING ROE FROZEN														
UNITED STATES	57	45	0 78	a	0		1	4	6.01	2	58	36.50	0	9
GERMANY (FORMERLY F.R.G.)	0	0		1	18	32.55	0	0		0	0		0	0
JAPAN	227	2 820	12.40	52	485	9.36	134	924	6.91	70	572	8.23	219	1 077
AUSTRALIA	2s	24	0.95	0	0		0	0		0	0		a	0
MEXICO	0	1	22.67	0	1	22.67	0	6	17.53	0	0		0	0
CONTROL 2 10TAL :	310	2631	9.32	52	505	9.62	135	935	6.93	71	630	8.86	219	1 086
HS-CODE : HS03042030 : HERRING FILLETS/FROZEN														
JAPAN	0	0		49	56	1.16	0	0		0	0		0	0
CONTROL 2 TOTAL :	0	0		49	56	1.16	0	0		0	0		0	0
HS-CODE : HS03052020 : HERRING ROE, CURED														
UNITED STATES	17	508	30.60	2	80	39.16	11	297	26.53	60	619	10.32	64	1 097
UNITED KINGDOM	0	0		0	4	40.33	0	12	2s.29	0	3	39.88	0	4
BELGIUM	0	0		0	0		0	2	36.00	0	0		0	0

SIA11S1 ICS CANADA INTERNAT 10NAL TRADE DIVISION
STAT ISTIQUE CANADA DIVISION DU COMMERCE INTERNATIONAL
DOMESTIC EXPORTS OF SELECTED COMMODITIES
EXPORTS OF SELECTED SPECIES BY HS CODE BY COONTRY 1988- 1992
VALUES 1S4 CANADIAN DOLLARS QTY(TONNES) / VALUE($,000)

DATE : 13/08/93 PAGE NO :

	19.s8			198s			1990			1991			1992	
	QUANTITY (TONNE]	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS FER KG)	QUANTITY (TONNE)	VALUE ($.000]	UNIT VAL (DOLLARS PER No)	QUANT I TY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)
SPECI ES CODE : GREENLAND TURBOT (CONTINUED)														
HS-CODE : HS03042001 GREENLAND TURBOT FILLET-BLOCKS/FROZEN >4.5 KG (CONTINUED)														
UNITED STATES	0	0		0	0		0	0		12	42	3.54	14	63
DENMARK	0	0		a	0		0	0		0	0		33	99
FRANCE	0	0		a	0		0	0		20	111	5.51	a	0
SWITZERLAND	0	0		0	0		0	0		1	9	6.68	a	0
JAPAN	0	0		0	0		0	0		0	0		7	8
CONTROL 2 TOTAL :	0	0		0	0		0	0		33	162	4.86	59	174
HS-CODE : HS03042021 : GREENLAND TURBOT FILLETS/FROZEN														
UNITED STATES	2 694	10 250	3.80	2641	11 115	4.46	1 382	6 382	4.60	811	4 636	5.72	466	2 677
UNITED KINGDOM	37	154	4.19	0	a		a	0		0	0		0	0
BELGIUM	0	0		a	0		0	0		0	0		20	100
DENMARK	0	0		0	a		a	0		19	69	3.67	30	216
FRANCE	121	579	4.77	0	0		8	32	4.28	36	179	4.98	163	953
GERMANY (FORMERLY F.R.G.)	9	52	5.99	1	6	4.94	20	113	5.81	20	51	2.57	55	233
NETHERLANDS	0	0	7.75	0	0		0	1	S.11	0	0		0	0
SPAIN	23	111	4.77	0	0		0	0		0	0		15	48
SWEDEN	0	0		18	88	4.83	1	15	4.94	0	0		160	515
SWITZERLAND	19	129	6.88	372	2 452	6.52	24	148	6.19	104	545	5.22	68	460
HONG KONG	0	0		0	0		0	0		1	3	2.76	5	23
MALAYSIA	0	0		0	0		0	0		0	0		0	0
SINGAPORE	0	0		0	0	4.8	0	a	9.75	0	0		0	1
JAPAN	78	790	10.07	0	0		0	0		0	2	7.30	10	33
TAIWAN	0	0		0	0		0	0		39	176	4.48	88	316
AUSTRALIA	30	166	5.49	0	0		0	0		0	0		66	325
BERMUDA	0	0		1	3	6.76	0	3	6.40	0	0		0	0
BARBADOS	0	0	5.14	0	0		0	0	889	0	0		0	0
CUBA	0	0		a	0		0	0		11	58	6.48	a	0
GUADELOUPE	0	0		0	2	8.20	0	0		0	0		0	0
CONTROL 2 TOTAL :	3012	12231	4.06	2704	12 178	4.s0	1 440	6 687	4.64	1041	5130	5.50	1 1139	5 898
HS-CODE , HS03049060 : GREENLAND TURBOT BLOCKS/SLABS/FROZEN														
UNITED STATES	336	931	2.79	303	649	2.80	2s	8s	3.41	2	3	1.41	46	116
UNITED KINGDOM	0	a		a	0		a	0		0	0	9	0	1
BELGIUM	a	o		8	55	6.99	a	o		a	o		0	0

STATISTICS CANADA INTERNATIONAL TRADE DIVISION
STATISTIQUE CANADA DIVISION DU COMMERCE INTERNATIONAL
DOMESTIC EXPORTS OF SELECTED COMMODITIES
EXPORTS OF SELECTED SPECIES BY HS CODE BY COUNTRY, 1988-1992
VALUES IN CANADIAN DOLLARS QTY(TONNES) / VALUE($,000)

	1988			1989			1990			1991			1992	
	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)
[NUED]														
BOT BLOCKS/SLABS/FROZEN (CONTINUED)														
	0	0	***.*	0	0	***.*	0	0	***.*	13	35	2.76	366	1 160
	18	81	4.49	0	0	***.*	57	238	4.20	0	0	***.*	0	0
	5	27	5.40	0	0	***.*	36	128	3.54	0	0	***.*	6	105
	0	0	***.*	0	0	***.*	0	0	***.*	0	0	***.*	9	13
	25	181	7.24	10	68	7.19	33	229	6.96	0	0	***.*	5	30
	24	52	2.13	0	0	***.*	3	4	1.17	0	0	***.*	0	0
	0	0	***.*	0	0	***.*	0	0	***.*	0	0	***.*	115	403
	408	1 278	3.13	321	973	3.03	154	684	4.45	15	39	2.54	545	1 827
	5 988	22 939	3.83	3 824	16 741	4.38	2 767	11 182	4.04	2 024	8 838	4.37	5 045	19 322
ESH														
	0	0	***.*	0	0	***.*	0	1	14.00	0	0	19.00	0	2
	3 373	37 474	11.11	5 302	53 644	10.12	3 532	38 971	11.03	283	37 672	11.47	4 503	62 098
	0	4	15.88	0	0	***.*	0	0	***.*	0	0	***.*	0	0
	0	0	11.00	0	0	***.*	0	0	***.*	9	126	14.04	5	18
	0	0	***.*	0	0	***.*	0	0	14.00	0	0	***.*	0	0
	11	146	13.50	7	79	11.18	29	404	13.84	18	263	14.44	18	320
	1	9	12.70	0	2	11.56	0	0	***.*	0	0	***.*	0	0
	0	1	13.00	0	1	12.11	0	0	***.*	5	16	3.13	1	16
	0	3	16.73	0	0	11.00	0	0	***.*	0	0	***.*	0	0
	3	15	5.05	0	0	***.*	0	0	***.*	0	0	***.*	0	0
	0	0	***.*	0	0	12.50	0	0	***.*	0	0	***.*	0	0
	1	5	4.51	1	9	9.34	0	0	***.*	0	0	***.*	0	0
	0	0	***.*	0	0	***.*	3	44	15.30	0	12	17.43	0	0
	0	0	***.*	0	0	***.*	2	5	2.40	1	0	***.*	0	0
	0	0	***.*	0	0	***.*	1	21	18.68	0	0	***.*	0	0
	0	0	***.*	0	0	***.*	0	0	***.*	0	0	***.*	0	4
	3 389	37 656	11.11	5 310	53 737	10.12	3 568	39 447	11.06	316	38 089	11.49	4 528	62 457
OZEN														

DOMESTIC EXPORTS OF SELECTED COMMODITIES

EXPORTS OF SELECTED sP EcIes BY HS CODE BY COUNTRY. 1938-19S2

VALUES IN CANADIAN DOLLARS QTY(TONNES) / VALUE ($,000)

	1988			1929			1990			1991			1992	
	QUANTITY (TONNE)	VALUE ($.000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($.000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($.000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($.000)
SPECIES CODE : SCALLOPS (CONTINUED)														
HS-CODE : HS0307290D : SCALLOPS, FROZEN (CONTINUED)														
ST. PIERRE AND MIQUELON	0	0	***	0	0	***	1	9	14.04	0	3	14.33	1	9
UNITED STATES	4 200	49 016	11.57	4 055	43 694	10.78	3 732	44 357	11.88	3 283	33 111	11.61	3 260	4s 315
UNITED KINGDOM	0	0	***	25	163	6.51	91	918	10.11	99	1 149	11.61	103	1123
BELGIUM	0	0	***	17	158	9.93	30	385	12.98	128	1 718	13.47	129	1 754
DENMARK	0		***	0	2	13$1	0	0	***	1	2	2.62	3	42
FRANCE	89	1 0 :	11.88	118	1 614	13.65	335	3 941	11.76	521	8 208	13.22	539	7 559
GERMANY (FORMERLY F. R G)	1	12	17.00	3	38	13.63	11	148	14.08	31	420	13.35	15	258
ITALY	0	0	***	0	0	***	9	37	4.03	0	0	***	0	0
NETHERLANDS	0	0	***	14	106	7.72	6	40	6.31	2	25	13.85	3	43
NORWAY	1	11	17.55	0	0	11.00	14	90	6.66	9	15	1.73	0	5
SPAIN	1	9	11.56	16	66	4.04	0	0	***	0	0	***	1	12
SWEDEN	0	0	***	28	277	9.74	120	797	6.64	0	0	***	0	4
SWITZERLAND	28	382	13.61	5	61	13.32	60	842	14.03	33	318	9.71	14	209
CZECHOSLOVAKIA	0	0	***	0	0	***	0	0	***	0	0	***	0	2
HONG KONG	15	165	1069	22	348	15.62	43	604	13.95	23	325	14.33	37	351
SINGAPORE	0	0	***	7	74	11.36	23	349	15.27	4	w	14.62	0	0
CHOPA. PEOPLE 'S REPUBLIC	0	3	24.50	0	0	***	0	0	***	0	o	***	0	0
JAPAN	0	o	***	0	0	***	75	434	5.82	2	24	10.42	9	61
TAIWAN	2	8	3.96	19	164	8.41	1	12	9.38	80	514	6.39	58	627
AUSTRALIA	5	68	13.6S	55	829	11.36	102	1 312	12.63	65	706	10.93	0	0
BRAZIL	0	0	***	0	0	***	1	24	16.74	0	0	***	0	0
BERMUDA	0	3	13.04	0	3	8.97	0	0	***	0	0	***	0	0
GUADELOUPE	0	3	11.07	0	0	***	0	0	***	0	0	***	0	0
CONTROL 2 10TAL :	4342	50744	11.69	4365	41.201	10.61	4 653	64300	11.67	4380	51599	11.78	4 173	57 923
CONTROL 1 TOTAL :	7 731	68400	11.43	9625	101 144	10.43	8 221	93147	11.40	7 697	63686	11.65	8701	120430
SPECIES CODE : SHRIMPS, PRAWNS														
HS-CODE : HS0306130D : SHRIMPS, PRAWNS, FROZEN														
ST .PIERRE AND MIQUELON		8	2.33	1	8	6.79	0	0	***	0	0	***	0	0
UNITED STATES	184	15 805	8.71	1 335	8 352	6.26	I 633	10 044	6.15	0	0	***	0	0
UNITED KINGDOM		2 593	6.36	242	2340	9.67	160	1 484	9.30	0	0	***	0	0
BELGIUM	0	0	***	44	468	10.78	10	45	4.54	0	0		0	0
DENMARK	7 243	3s 470	4.90	8 061	30460	3.78	4 955	15 545	3.14	0	0		0	0

STATISTICS CANADA INTERNATIONAL TRADE DIVISION
STATISTIQUE CANADA DIVISION DU COMMERCE INTERNATIONAL
DOMESTIC EXPORTS OF SELECTED COMMODITIES
EXPORTS OF SELECTED SPECIES BY HS CODE BY COUNTRY, 1988-1992
VALUES IN CANADIAN DOLLARS QTY(TONNES) / VALUE($,000)

DATE : 13/08/93 PAGE NO :

	1988			1989			1990			1991			1992	
	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)
SPECIES CODE : SHRIMPS, PRAWNS (CONTINUED)														
HS-CODE : HS0306130O : SHRIMPS, PRAWNS, FROZEN (CONTINUED)														
FRANCE	116	481	4.14	113	397	3.26	51	202	5.95	0	0		0	0
GERMANY (FORMERLY F.R.G.)	277	3 961	12.14	209	1 353	6.48	101	513	5.02	0	0		0	0
ICELAND	215	487	2.27	324	957	2.96	219	354	1.61	0	0		0	0
ITALY	0	0		0	0		14	52	3.80	0	0		0	0
NETHERLANDS	31	218	7.14	41	435	10.50	73	640	8.75	0	0		0	0
NORWAY	0	0		71	758	10.85	1 184	6 089	5.14	0	0		0	0
PORTUGAL	0	2	5.18	0	0		0	0		0	0		0	0
SPAIN	0	0		16	62	3.94	194	765	3.94	0	0		0	0
SWEDEN	216	1 980	9.18	761	4 781	6.29	778	5 647	7.26	0	0		0	0
SWITZERLAND	172	2 181	12.70	236	2 990	12.68	188	2 463	13.09	0	0		0	0
GAMB IA	35	221	6.33	0	0		0	0		0	0		0	0
HONG KONG	62	666	10.79	104	835	8.03	108	1 001	9.29	0	0		0	0
MALAYSIA	0	0		0	0		4	11	3.11	0	0		0	0
SINGAPORE	0	0		8	140	17.86	0	0		0	0		0	0
CHINA, PEOPLE'S REPUBLIC	8	123	15.40	0	0		0	0		0	0		0	0
JAPAN	473	3 699	7.81	714	5 963	8.35	734	6 343	8.64	0	0		0	0
KOREA, REP. OF	0	0		36	170	4.78	0	0		0	0		0	0
TAIWAN	0	0		16	109	7.03	0	0		0	0		0	0
THAILAND	25	125	4.97	0	0		0	0		0	0		0	0
AUSTRALIA	0	0		0	0		9	113	13.24	0	0		0	0
BRAZIL	1	29	23.41	8	49	6.02	0	0		0	0		0	0
BERMUDA	0	0		1	4	5.03	0	0		0	0		0	0
GUADELOUPE	1	12	13.26	0	2	8.63	0	1	12.88	0	0		0	0
MARTINIQUE	0	2	6.01	0	0		0	0		0	0		0	0
MEXICO	0	0	6.60	3	11	4.24	0	2	6.65	0	0		0	0
NICARAGUA	0	0		10	30	2.94	0	0		0	0		0	0
CONTROL 2 TOTAL :	11 100	67 463	6.08	12 358	60 676	4.91	10 315	51 314	4.93	0	0		0	0
HS-CODE : HS0306131O : SHRIMPS, PRAWNS, IN SHELL/FROZEN														
ST.PIERRE AND MIQUELON	0	0		0	0		0	0		0	1	16.11	1	4
UNITED STATES	0	0		0	0		0	0		385	2 787	7.24	518	3 731
UNITED KINGDOM	0	0		0	0		0	0		21	195	9.12	226	1 791
DENMARK	0	0		0	0		0	0		3 441	8 757	2.54	3 613	13 526
FRANCE	0	0		0	0		0	0		120	370	3.08	98	218
GERMANY (FORMERLY F.R.G.)	0	0		0	0		0	0		36	221	6.09	59	384
ICELAND	0	0		0	0		0	0		0	0		903	1 344

STATISTICS CANADA INTERNATIONAL TRADE DIVISION
STATISTIQUE CANADA DIVISION DU COMMERCE INTERNATIONAL
DOMESTIC EXPORTS OF SELECTED COMMODITIES
EXPORTS OF SELECTED SPECIES BY HS CODE BY COUNTRY, 1988-1992
VALUES IN CANADIAN DOLLARS QTY(TONNES) / VALUE($,000)

DATE : 13/08/93

	1988			1989			1990			1991			1992	
	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)
SPECIES CODE : SHRIMPS, PRAWNS (CONTINUED)														
HS-CODE : HS03061310 : SHRIMPS, PRAWNS, IN SHELL/FROZEN (CONTINUED)														
NETHERLANDS	0	0	***..*	0		**..*	0	0	***..*	83	273	3.29	79	639
NORWAY	0		***..*	0		**..*	0	0	**..*	207	852	4.12	436	1 487
PORTUGAL	0	0	***..*	0		**..*	0	0	**..*	2	5	2.49	0	0
SWEDEN	0	0	***..*	0	0	**..*	0	0	**..*	543	2 510	4.62	2 076	8 916
SWITZERLAND	0	0	***..*	0	0	***..*	0	0	**..*	47	412	8.81	215	2 720
HONG KONG	0	0	***..*	0	0	***..*	0	0	**..*	10	114	11.92	19	196
PAKISTAN	0	0	***..*	0	0	***..*	0	0	**..*	21	31	1.50	0	0
JAPAN	0	0	***..*	0	0	***..*	0	0	**..*	789	6 242	7.91	1 458	10 075
KOREA, REP. OF	0	0	***..*	0	0	***..*	0	0	**..*	0	0	***..*	90	373
TAIWAN	0	0	***..*	0	0	***..*	0	0	**..*	1	8	10.69	0	0
AUSTRALIA	0	0	***..*	0	0	***..*	0	0	**..*	0	0	***..*	5	47
GUADELOUPE	0	0	***..*	0	0	***..*	0	0	**..*	0	0	***..*	0	4
MEXICO	0	0	***..*	0	0	***..*	0	0	***..*	0	1	6.45	0	0
		0	***..*		0									
CONTROL 2 TOTAL :	0	0	***..*	0	0	***..*	0	0	**..*	5 706	22 779	3.99	9 775	45 452
HS-CODE : HS03061320 : SHRIMPS, PRAWNS, SHELLED/FROZEN														
UNITED STATES	0	0	***..*	0	0	***..*	0	0	**..*	473	3 961	8.37	569	5 543
UNITED KINGDOM	0	0	***..*	0	0	***..*	0	0	**..*	0	1	8.21	3	17
DENMARK	0	0	***..*	0	0	***..*	0	0	**..*	118	393	3.33	187	459
FRANCE	0	0	***..*	0	0	***..*	0	0	**..*	0	0	***..*	40	85
GERMANY (FORMERLY F.R.G.)	0	0	***..*	0	0	***..*	0	0	**..*	20	233	11.57	18	178
NETHERLANDS	0	0	***..*	0	0	***..*	0	0	**..*	20	238	12.18	0	0
NORWAY	0	0	***..*	0	0	***..*	0	0	**..*	137	540	3.94	196	425
SWEDEN	0	0	***..*	0	0	***..*	0	0	**..*	40	411	10.30	70	695
SWITZERLAND	0	0	***..*	0	0	***..*	0	0	**..*	135	1 340	9.90	20	174
CZECHOSLOVAKIA	0	0	***..*	0	0	***..*	0	0	**..*	0	0	***..*	0	1
HONG KONG	0	0	***..*	0	0	***..*	0	0	**..*	0	3	11.63	0	0
JAPAN	0	0	***..*	0	0	***..*	0	0	**..*	209	1 655	7.92	18	23
THAILAND	0	0	***..*	0	0	***..*	0	0	**..*	4	56	12.90	0	0
CONTROL 2 TOTAL :	0	0	***..*	0	0	***..*	0	0	**..*	1 157	8 831	7.63	1 121	7 598
HS-CODE : HS03062300 : SHRIMPS, PRAWNS, NOT FROZEN														
ST.PIERRE AND MIQUELON	0	0	***..*	0	0	***..*	0	1	5.80	0	0	***..*	0	0
UNITED STATES	1 271	5 338	4.20	158	1 516	9.57	428	902	2.11	0	0	***..*	0	0

CANADA INTERNATIONAL TRADE DIVISION
CANADA DIVISION ou COMMERCE INTERNATIONAL
IC EXPORTS OF 08133135 COMMODITIES
E0 SPECIES BY HS 3003 BY COUNTRY, 1988-1992
DIAN DOLLARS QTY(TONNES) / VALUE($,000)

PAGE NO :

1988			1989			1990			1991			1992	
VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)
0		0	0		0	3		0	0		0	0		0
207		0	0		0	0		0	0		0	0		0
3	6.04	0	2	9.11	0	0		0	0		0	0		0
3	0.40	0	0		0	0		0	0		0	0		0
0		0	0		12	153	12.75	0	0		0	0		0
15		0	0		0	0		0	0		0	0		0
163	18.82	0	0		0	0		0	0		0	0		0
51	5.42	27	198	7.36	0	0		0	0		0	0		0
409	6.88	8	109	13.38	1	4	3.22	0	0		0	0		0
0		0	0		1	9	17.08	0	0		0	0		0
30	17.14	0	0		0	0		0	0		0	0		0
0		0	4	8.67	0	0		0	0		0	0		0
1	6.63	0	0		0	0		0	0		0	0		0
6 223	4.32	194	1 829	9.42	442	1 071	2.42	0	0		0	0		0
0		0	0		0	0		1 953	5 547	1.82	1 314	1 314		1 314
0		0	0		0	0		0	0		0	0		0
0		0	0		0	0		0	1		0	0		0
0		0	0		0	0		3 548	1.82		1 314	1 314		1 314
0		0	0		0	0		83	306	3.68	81	281		281
0		0	0		0	0		6	65	10.05	0	0		0
0		0	0		0	0		3	17	5.09	0	0		0
0		0	0		0	0		14	197	14.18	0	0		0
0		0	0		0	0		0	6	20.35	0	0		0
0		0	0		0	0		101	265	5.53	81	281		281
1	0,16	0	2	18.22	0	5	22.18	0	2	10.84	0	1		1
2 344	6,66	48	261	5,42	3	36	12.52	92	48	1.82	19	344		344

SPECIES 1008 : SHRIMPS, PRAWNS (CONTINUED)

HS-CODE : HS16052010 : SHRIMPS, PRAWNS, IN AIC (CONTINUED)

	1988			1989			1990			1991			1992	
	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)
UNITED KINGDOM	21	240	11.00	0	0	.....	0	0	.....	0	0	***.**	0	0
DENMARK	18	215	11.82	0	0	***.**	0	0	.....	0	0	***.**	0	0
NETHERLANDS	s	13	7.58	0	0	***.**	0	0	***.**	0	0	***.**	0	0
NORWAY	0	0	.....	33	389	11.65	0	0	***.*	1	6	5.73	1	6
SWEDEN	0	0	.....	0	0	.....	0	0	.....	21	59	2.89	8	41
SWITZERLAND	'	25	13.75	0	0	.....	0	0	***.*	0	0	***.*	0	7
SWAZILAND	'	56	15.49	0	0	.....	0	0	**.**	0	0	.....	0	0
HONG KONG	0	0	.....	1	12	8.82	0	0	***.**	0	0	.....	0	0
MALAYSIA	0	0	***.**	12	54	4.66	54	178	3.29	0	0	.....	0	0
JAPAN	s	50	9.42	0	0	.....	0	0	.....	0	0	.....	0	0
TAIWAN	175	152	0.87	0	0	.....	0	0	.....	0	0	***.**	0	0
THAILAND	8	32	3.79	0	0	***.**	1	8	10.09	4	30	7.89	0	0
AUSTRALIA	0	0	***.*	0	0	***.*	67	414	6.11	14	83	5.80	0	0
BRAZIL	0	0	***.*	0	0	***.**	0	0	***.*	1	21	26.79	0	0
BERMUDA	0	0	***.*	0	1	19.40	0	0	***.*	0	0	***.*	1	3
TRINIDAD AND TOBAGO	1	8	15.00	0	0	***.**	0	0	***.**	0	0	***.**	0	0
CONTROL Z TOTAL :		3 135	5.30	95	718	7.59	125	641	5.13	67	249	3.72	71	402

HS-CODE: HS16052090 : SHRIMPS, PRAWNS, PREPARED/PRESERVED

ST.PIERRE AND MIQUE ON	0	1	16.88	0	0	*****	0	1	13.00	0	1	20.83	0	3
UNITED STATES	603	4 573	7.58	372	3 676	9.89	415	Z 793	6.74	588	5 671	9.65	332	3 375
UNITED KINGDOM	71	434	6.16	34	138	4.05	84	879	10.40	80	893	11.12	310	3 237
BELGIUM	s	13	2.57	5	41	7.94	0	0	.....	0	0	***.**	2	27
DENMARK	0	0	***.**	20	172	8.61	105	477	4.53	20	101	5.06	818	1 045
FRANCE	10	46	4.46	0	0	14.00	5	85	17.08	0	0	***.**	0	0
GERMANY (FORMERLY F.R.G.)	0	2	4.73	0	1	7.80	2	14	7.28	3	48	17.65	0	0
ITALY	0	0	***.**	0	0	***.**	20	116	5.80	18	195	11.16	0	0
NETHERLANDS	0	0	***.*	0	0	.....	44	476	10.78	49	516	10.64	41	449
NORWAY	10	50	5.05	0	0	.....	114	1 343	11.75	45	486	10.80	145	1 531
SWEDEN	0	0	***.*	93	978	10.54	158	1 629	10.34	157	1 531	9.74	183	1 746
SWITZERLAND	28	345	12.30	46	669	14.96	25	306	12.24	180	2 453	13.61	104	1 216
CZECHOSLOVAK IA	0	0	***.*	0	0	.....	0	0	.....	0	0	***.*	0	3
CONGO	0	0	***.**	0	0	***.**	7	90	13.28	0	0	***.**	0	0
HONG KONG	5	37	6.91	6	68	10.76	0	0	***.**	8	105	12.97	1	6
JAPAN	14	149	10.37	8	93	11.71	29	242	8.45	11	91	8.16	23	93
KOREA, REP. OF	0	0	***.*	0	11	38.96	0	0	- *.*	0	0	***.**	0	0

STATISTICS CANADA INTERNATIONAL TRADE DIVISION
STATISTIQUE CANADA DIVISION DU COMMERCE INTERNATIONAL
DOMESTIC EXPORTS BY HS CODE BY COMMODITIES
EXPORTS OF SPECIES BY HS CODE BY COUNTRY , 1988- 1992
VALUES IN CANADIAN DOLLARS QTY(TONNES) / VALUE($,000)

DATE : 13/08/93 PAGE NO :

	1988			1989			1990			1991			1992	
	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)
SPECIES CODE : SHRIMPS, PRAWNS (CONTINUED)														
HS-CODE : HS1605052090 : SHRIMPS, PRAWNS, PREPARED/PRESERVED (CONTINUED)														
THAILAND	0	0		0	0		0	0		0	0		6	82
AUSTRALIA	0	0		0	0		98	527	5.38	2	18	9.88	1	13
BRAZIL	0	9	25.35	1	14	14.49	0	0		2	59	25.49	0	0
PERU	0	0		0	0		0	0		0	2	7.04	0	0
BERMUDA	0	0		0	1	13.00	0	0		0	0		0	0
BARBADOS	0	3	8.20	0	0		0	0		0	0		0	0
GUADELOUPE	0	3	14.95	0	0		0	0		0	0		0	0
MEXICO	0	0		0	0		0	0		0	0	5.11	0	1
NETHERLANDS ANTILLES	0	0		0	0		0	0		0	0		0	1
CONTROL 2 TOTAL :	747	5 666	7.58	985	2385	10.05	1 105	8 973	8.12	1 163	12 170	10 46	1 967	1 2829
CONTROL 1 TOTAL :	13 880	82 487	5.94	13 232	69 105	5.22	12 087	61 999	5.13	10 153	48 169	4.74	14 328	68 472
SPECIES CODE : WHITEFISH														
HS-CODE : HS0302693I : WHITEFISH FRESH/WHOLE/DRESSED														
UNITED STATES	Z 889	10 164	3.52	Z 221	7 462	3.36	Z 573	8 064	3.13	Z 328	0501	3.03	Z 217	6 441
FINLAND	0	0		111	276	2.48	53	135	2.54	0	0		0	0
FRANCE	0	0		1	5	3.53	0	0		0	0		0	0
GERMANY (FORMERLY F.F.G.)	0	0		0	0		2	5	2.65	0	0		0	0
SWITZERLAND	0	D		Z	37	17.44	0	0		0	8		0	8
CONTROL Z TOTAL :	2 888	10 164	3.52	Z 335	7 780	3.33	Z 829	8 204	3.12	Z 328	1 050	3.03	Z 217	6 441
HS-CODE : HS0303792S : WHITEFISH FROZEN/WHOLE/DRESSED														
UNITED STATES	883	Z 094	3.05	457	1 412	3.09	485	1 374	2.83	292	794	Z 72	206	Z 537
FINLAND	1 I3I	Z 702	2.33	965	Z 395	2.48	1 162	Z 90S	2.50	995	Z 824	2.64	843	Z 208
FRANCE	0	0		0	0		12	43	3.45	0	0		Z	1
GERMANY (FORMERLY F.F.G.)	14	41	2.98	18	46	2.54	7	19	2.65	23	67	2.97	13	85
SWEDEN	96	202	2.10	121	237	1.96	75	157	2.09	73	121	1.74	53	211
CONTROL Z TOTAL :	I 956	650 S	2.58	I 195	4 090	3.42	1 742	4 498	2.52	1 383	3 613	2.61	I 117	2062
HS-CODE : HS0304103S : WHITEFISH FILLETS/FRESH														

STATISTICS CANADA INTERNATIONAL TRADE DIVISION
STATISTIQUE CANADA DIVISION W COMMERCE INTERNATIONAL
DOMESTIC EXPORTS OF SELECTED COMMODITIES
EXPORTS OF SELECTED SPECIES BY HS 3003 BY COUNTRY, 1988-1992
VALUES IN CANADIAN DOLLARS QTY(TONNES) / VALUE($,000)

DATE : 13/08/93 — PAGE NO : 1

	1988			1989			1990			1991			1992	
	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)
SPECIES CODE : WHITEFISH (CONTINUED)														
HS-CODE : HS0304103J : WHITEFISH FILLETS/FRESH (CONTINUED)														
UNITED STATES	183	762	4.15	179	620	3.64	190	644	3.38	242	659	2.72	0	0
FINLAND	0	0	***.**	6	29	4.74	0	0	***.**	0	0	***.**	0	0
FRANCE	0	0	***.**	0	1	5.50	0	0	***.**	0	0	***.**	0	0
SWEDEN	0	0	***.**	4	22	5.40	0	0	***.**	0	0	***.**	0	0
CONTROL 2 TOTAL :	183	762	4.15	181	672	3.72	190	644	3.38	242	659	2.72	0	0
HS-CODE : HS0304105J : WHITEFISH FILLETS/FRESH														
UNITED STATES	8	0	***.**	0	0	***.**	0	0	***.**	0	0	***.**	126	703
CONTROL 2 TOTAL :	0	0	-.**	0	0	***.**	0	0	***.**	0	0	***.**	126	703
HS-CODE : HS0304908J : WHITEFISH BLOCKS/SLABS/FROZEN														
UNITED STATES	1 140	169	1.90	442	1 014	2.29	904	1 822	2.02	303	713	2.36	0	0
FINLAND	0	0	***.**	0	0	***.**	0	0	2.70	0	0	***.**	0	0
FRANCE	0	0	***.**	0	0	***.**	6	22	3.53	3	11	3.31	0	0
CONTROL 2 TOTAL :	1 140	169	1.90	442	1 014	2.29	910	1 845	2.03	306	723	2.37	0	0
CONTROL 1 TOTAL :	6 167	18 134	2.94	4 519	13 556	3.00	5 470	15 191	2.78	1 258	12 045	9.83	3 559	10 046
SPECIES CODE : TROUT, RAINBOW														
HS-CODE : HS0302111O : TROUT, RAINBOW, FARMED FRESH/WHOLE/DRESSED														
UNITED STATES	0	0	-.**	0	0	***.**	0	0	***.**	18	89	4.99	57	357
CONTROL 2 TOTAL :	0	0	-.**	0	0	***.**	0	0	***.**	18	89	4.99	57	357
CONTROL 1 TOTAL :	0	0	***.**	0	0	***.**	0	0	***.**	18	89	4.99	57	357
SPECIES 3003 : TROUT														
HS-CODE : HS0301910O : TROUT LIVE														

STATISTICS CANADA INTERNATIONAL TRADE DIVISION
STATISTIQUE CANADA DIVISION DU COMMERCE INTERNATIONAL
DOMESTIC EXPORTS OF SELECTED COMMODITIES
EXPORTS OF SPECIES BY HS CODE BY COUNTRY
VALUES IN CANADIAN DOLLARS QTY(TONNES) / VALUE($,000)

DATE 13/08/93

	1988			1989			1990			1991			1992	
	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)
SPECIES CODE : TROUT (CONTINUED)														
HS-CODE : HS0301910C0 : TROUT LIVE (CONTINUED)														
ST. PIERRE AND MIQUELON	0	0		0	0		0	1	5.70	0	0	****	0	0
UNITED STATES	16	129	8.21	0	1	2.57	11	68	6.17	13	31	6.16	18	108
HONG KONG	0	0	5.00	0	0	5.25	0	0		0	0		0	0
JAPAN	0	0		0	0		0	0	***	4	34	9.23	0	0
COSTA RICA	0	3	300.00	0	0		0	0	***	0	0		0	0
CONTROL 2 TOTAL :	16	132	8.30	0	1	2.93	11	69	6.16	17	115	6.83	18	108
HS-CODE : HS0302 1100 : TROUT FRESH/WHOLE/DRESSED														
ST. PIERRE AND MIQUELON	1	2	4.38	0	0		0	0		0	0	***	0	0
UNITED STATES	412	1 584	3.84	262	1 171	4.47	327	1 879	5.75	0	0		0	0
FRANCE	0	0	7.60	0	1	8.20	0	0		0	0	***	0	0
SWITZERLAND	0	0	10.50	0	0		0	0		0	0		0	0
HONG KONG	0	2	5.85	0	0	***	0	1	14.00	0	0	***	0	0
JAPAN	0	0	***	7	26	3.59	0	0	***	0	0	***	0	0
GUADELOUPE	0	0	***	0	1	7.89	0	0	***	0	0	***	0	0
CONTROL 2 TOTAL :	413	1 588	3.84	269	1 199	4.45	327	1 880	5.76	0	0		0	0
HS-CODE : HS03021190 : TROUT, NES FRESH/WHOLE/DRESSED														
UNITED STATES	0	0		0	0	***	0	0	***	139	720	5.16	57	239
UNITED KINGDOM	0	0		0	0	***	0	0		0	0	***	1	6
HONG KONG	0	0	***	0	0	***	0	0	***	0	0	***	0	0
SINGAPORE	0	0	***	0	0	***	0	0	***	0	1	10.11	0	0
GUADELOUPE	0	0	***	0	0	***	0	0		0	0	***	0	0
CONTROL 2 TOTAL :	0	0	***	0	0	***	0	0	***	140	721	5.11	58	245
HS-CODE : HS03032100 : TROUT FROZEN/WHOLE/DRESSED														
UNITED STATES	89	351	3.95	88	268	3.04	31	175	5.61	10	38	4.01	35	163
FRANCE	0	1	8.30	1	1	2.19	0	0	***	0	0		0	0
ITALY	0	0	***	0	0		0	0	***	3	23	6.96	6	34
SWEDEN	116	365	3.15	63	162	2.58	99	195	2.12	12	24	1.98	60	120
HONG KONG	1	5	5.54	2	14	5.78	0	0	6.75	1	6	8.82	1	7
SINGAPORE	0	0		0	0	***	0	0	5.11	0	0	***	0	0

STATISTICS CANADA INTERNATIONAL TRADE DIVISION
STATISTIQUE CANADA DIVISION DU COMMERCE INTERNATIONAL
DOMESTIC EXPORTS OF SPECIES COMMODITIES
EXPORTS OF SPECIES BY HS CODE BY COUNTRY, 1988-1992
VALUES IN CANADIAN DOLLARS QTY(TONNES) / VALUE($,000)

DATE : 93/08/23

	1988			1989			1990			1991			1992	
	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)
SPECIES CODE : TROUT (CONTINUED)														
HS-CODE : HS0303210O : TROUT FROZEN/WHOLE/DRESSED (CONTINUED)														
JAPAN	29	151	7.44	59	382	6.44	0	0	...	0	3	7.41	1	1
CONTROL 2 TOTAL :	222	872	3.86	213	827	3.98	120	371	3.08	26	94	3.61	103	325
HS-CODE : HS0304201I : TROUT FILLETS/FROZEN														
UNITED STATES	133	546	4.11	24	125	5.22	4	21	5.35	1	6	4.38	2	19
UNITED KINGDOM	0	0	***	0	0	***	0	0	...	10	48	5.01	0	0
FINLAND	0	0	***	0	0	...	0	0	...	2	10	5.17	0	0
GERMANY (FORMERLY F.R.G.)	0	0	***	0	0	...	0	0	***	1	23	5.51	0	0
SWEDEN	3	35	14.06	14	30	2.14	0	0	...	0	0	...	0	0
SWITZERLAND	0	0	***	0	0	...	0	0	...	0	0	...	16	113
HONG KONG	0	0	6.00	0	0	***	0	0	...	1	6	6.59	0	2
CONTROL 2 TOTAL :	136	582	4.29	38	155	4.08	4	21	5.36	18	94	5.18	19	135
CONTROL 1 TOTAL :	791	3 174	4.01	520	2 182	4.19	462	2 340	5.06	201	1 024	5.10	198	814
GRAND TOTAL :	34 558	215 133	6.23	31 791	202 727	6.38	29 008	184 460	6.36	24 350	152 852	6.26	21 883	219 440

STATISTICS CANADA INTERNATIONAL TRADE DIVISION
STATISTIQUE CANADA DIVISION DU COMMERCE INTERNATIONAL
DOMESTIC EXPORTS OF SELECTED COMMODITIES
EXPORTS OF HERRING FROM CANADA BY HS CODE AND COUNTRY, 1988-1992
VALUES IN CANADIAN DOLLARS QTY(TONNES) / VALUE($,000)

DATE : 13/08/93 PAGE NO:

	1988			1989			1990			1991			1992	
	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNES)	VALUE ($,000)
PROVINCE: BRITISH COLUMBIA (CONTINUED)														
HS-CODE : HS03052020 HERRING ROE, CURED (CONTINUED)														
FRANCE	0	0	***.*	0	0	***.*	1	42	37.91	0	0	***.*	0	0
HONG KONG	0	1	***.*	0	0	***.*	0	0	***.*	6	61	10.22	0	0
CHINA, PEOPLE'S REPUBLIC	0	0	***.*	0	0	***.*	99	600	12.92	273	906	21.64	253	4 827
JAPAN	406	149 792	27.71	7 146 146	882	20.55	6 617	052 393	73.22	747	120 259	20.93	4 602	110 361
MEXICO	0	1	22.67	0	0	***.*	0	1	16.00	0	1	17.86	0	0
CONTROL 2 TOTAL :	422	150 302	27.72	7 149 146	965	20.56	6 723	153 348	79.22	6 089	126 980	20.85	4 961	68291
HS-CODE : HS03053010 : HERRING, FILLETS/CURED														
JAPAN	17	170	10.31	0	0	***.*	0	0	***.*	0	0	2.33	0	0
CONTROL 2 TOTAL :	17	170	10.31	0	0	***.*	0	0	***.*	0	0	2.33	0	0
HS-CODE : HS03054210 : HERRING, KIPPERED														
HONG KONG	0	0	***.*	0	0	***.*	0	0	***.*	0	1	3.29	0	0
CONTROL TOTAL :	0	0	***.*	0	0	***.*	0	0	***.*	0	1	3.29	0	0
HS-CODE : HS03054220 : HERRING, BONELESS/SMOKED														
GERMANY (FORMERLY F.R.G.)	0	0	***.*	0	0	***.*	0	4	21.58	0	0	***.*	0	0
JAPAN	0	0	***.*	0	0	***.*	0	4	17.80	0	0	***.*	0	0
CONTROL 2 TOTAL :	0	0	***.*	0	0	***.*	0	8	29.61	0	0	***.*	0	0
HS-CODE : HS03054230 : HERRING, BLOATERS														
HONG KONG	0	0	***.*	0	0	***.*	0	0	***.*	0	2	95.56	0	0
HAITI	25	18	0.71	0	0	***.*	0	0	***.*	0	0	***.*	0	0
CONTROL 2 TOTAL :	25	18	0.71	0	0	***.*	0	0	***.*	0	2	95.56	0	0
HS-CODE : HS03056100 HERRING, SALTED/BRINED														
UNITED STATES	1	3	3.06	0	0	***.*	0	0	***.*	0	0	***.*	0	0
JAPAN	17	120	7.08	0	0	***.*	0	0	***.*	0	0	***.*	0	0
CONTROL 2 TOTAL :	18	124	6.84	0	0	***.*	0	0	***.*	0	0	***.*	0	0

STATISTICS CANADA INTERNATIONAL TRADE DIVISION
STATISTIQUE CANADA DIVISION DU COMMERCE INTERNATIONAL
DOMESTIC EXPORTS OF SELECTED COMMODITIES
EXPORTS OF HERRING FROM B.C. BY HS CODE BY COUNTRY, 1988-92
VALUES IN CANADIAN DOLLARS QTY(TONNES) / VALUE($,000)

DATE : 13/08/93 PAGE NO :

	1988			1989			1990			1991			1992	
	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)	UNIT VAL (DOLLARS PER KG)	QUANTITY (TONNE)	VALUE ($,000)
PROVINCE : BRITISH COLUMBIA (CONTINUED)														
HS-CODE : HS1504201O : HERRING OIL														
UNITED STATES	350	165	0.46	0	0	***..*	550	146	0.27	31	12	0.38	246	0
JAPAN	0	0	***..*	2	2	0.89	0	0	***..*	0	0	..*	0	0
CONTROL Z TOTAL :	560	165	0.46	2	2	0.89	550	146	0.27	31	12	0.38	246	0
HS-CODE : HS16041290 : HERRING, PREPARED/PRESERVED														
UNITED STATES	0	0	- ..*	0	0	***..*	49	115	2.34	0	0	- ..*	0	0
CONTROL Z TOTAL :	0	0	- ..*	0	0	***..*	49	115	2.34	0	0	***..*	0	0
HS-CODE : HS1602102O : HERRING MEAL, INEDIBLE														
UNITED STATES	3 388	2 867	0.85	2 193	2 193	1.00	2 443	1 993	0.82	1 784	1 193	0.67	2 587	1 955
INDONESIA	0	0	***..*	0	0	..*	0	0	..*	74	50	0.68	0	0
CONTROL Z TOTAL :	3 388	2 867	0.85	2 193	2 193	1.00	2 443	1 993	0.82	1 858	1 244	0.67	2 587	1 955
CONTROL I TOTAL :	10 218	157 329	15.40	9 486	149 742	15.79	11 397	158 822	13.94	8826	130 346	14.03	9186	010221
GRAND TOTAL :	10 218	157 329	15.40	9 486	149 742	15.79	11 397	158 822	13.94	8826	130 346	14.00	9186	010321

InterOffice Memo

To: **EDA Secretariat**

From: **John C. Colford**

Date: **September 20, 1993**

Subject: **Fish Marketing Research**

Please find attached a draft report on NWT fish production and markets. Final report will be onhand within the month and will be forwarded to all interested parties.

FISHING INDUSTRY

The NWT has been involved with the commercial fisheries since at least the 1940's. The major fishery of note since this time has been the on Great Slave Lake. Production from the lake consists mainly of whitefish and trout as the primary species with a number of other minor species. Virtually all production from the lake has been transported to southern Canada for sale and distribution. Throughout most of the 1980's and early 1990's the fish produced in the NWT has been shipped to markets in their primary state, meaning little to no value add processing beyond "heading, gutting and gilling". A second significant fishery, though considerably smaller involves arctic char. The first and still most productive char producing area in the NWT is Cambridge Bay with a traditional harvest of 100,000 pounds. Other char fisheries are situated in communities in the Kitikmeot, outside of Cambridge Bay, Keewatin and Baffin Regions.

Each of the fisheries operates within the regulatory framework of the Department of Fisheries and Oceans and Department of Renewable Resources.

The newest fisheries to the NWT is the turbot and scallop fishery found in Pangnirtung. First considered in 1985, development work commenced with local fishermen and the Hunters and Trappers Association, aided considerably in the task of locating stocks and establishing quotas by both Federal/Territorial Government Programs.

A small fishery involving whitefish and inconnu has been recently re-established in the Inuvik Region. This fishery initially sought export market support for production. Due to the economies involved in the harvesting, processing and shipping product to market, the fishery has altered its program to serve the local markets. An estimated 25,000 pounds will be processed in 1993.

Freshwater Fish Marketing Corporation

The Corporation was established as a Federal Crown Corporation in the early 1970's to provide fishermen in the three(3) Prairie Provinces and the Northwest Territories with stable prices and secure access to markets for fish harvested in these areas. The Corporation, through legislation was established as a monopoly.

Up until 1991, virtually all fish commercially harvested was shipped to point in southern Canada for re-sale and processing. The principle buyer of fish in the NWT, Great Slave Lake through to the Cambridge Bay and Rankin Inlet plants was Freshwater Fish Marketing Corporation. All production was shipped out in a primary state. Fisheries in the Baffin Region have either sold char to Freshwater Fish Marketing Corporation or to found markets in Iqaluit or southern Canada. Costs of shipping char to Winnipeg for re-sale was not economic and sales outside of the monopoly were allowed through the issuance of Dealers Licenses. All turbot and scallops have been sold into the southern Canadian marketplace.

In 1992, Freshwater Fish Marketing Corporation advised that they wished to divest itself of the responsibility to buy and sell arctic char. Given that char made up less than 10/0 of inventory, contributed only marginally to incomes and competition from a much larger salmon fisheries, the Corporation was unwilling to devote the dollars to support costs of carrying and selling of char.

The Corporation remains the sole purchaser and marketer of whitefish, trout, pickerel, pike and other freshwater fish.

Current Market

Market research, recently completed by RT & Associates for the Department of Economic Development & Tourism, indicates that support is strongest in export markets for char and turbot. Both species, if markets are well served, have good potential over the long term. Export markets for other fish, handled by Freshwater Fish Marketing Corporation are not enjoying the same success and outlook. This market research, which is beyond the draft stage but not in final form, have been attached.

To summarize fish production in the NWT the following is offered:

Species : Whitefish

Year	**1988**	**1989**	**1990**	**1991**	**1992**
Total Tonnage	**8,435**	**9,261**	**7,776**	**8,232**	**7,904**
Total NWT	**1,438**	**1,451**	**1,317**	**1,452**	**1,353**
Average Prices(Kgs)					
Summer	**1.58**	**1.41**	**1.36**	**1.10**	
Winter	**2.31**	**2.35**	**2.13**	**1.89**	

Trout

Year	**1988**	**1989**	**1990**	**1991**	**1992**
Total Tonnage	**791**	**1,002**	**603**	**551**	**496**
Total NWT	**112**	**65**	**132**	**67**	**81**
Price					
Summer	**1.58**	**1.32**	**1.32**	**.70**	**.70**
Winter	**2.68**	**2.42**	**1.98**	**1.43**	**1.43**

Char

Year	**1988**	**1989**	**1990**	**1991**	**1992**
NWT Tonnage	**175**	**141**	**116**	**131**	**103**
Estimated Total Price	**10.23**	**11.00**	**8.80**	**9.90**	*** n/a**

Turbot**

Year	1988	1989	1990	1991	1992
Total Tonnage	16,572	17,972	20,549	22,571	25,556
NWT Tonnage	40	180	155	141	430
Price	5.39	6.38	6.56	6.05	4.95

*FFMC discontinues purchasing char from NWT.
**Shipped in whole and value add format

Of all species included in the above mentioned, only char currently enjoys any success as a commercial fish sold in the NWT. Majority of production sold in the NWT involves whole(headed/gutted) char. Almost the entire production of other species is exported into southern Canada.

Market research indicates that the domestic markets can be developed. Current imports of meat, fish and dairy products imported into the NWT was valued in 1989 at $35.1 millions. Exports for the same year amounted to $1.6 millions. The resultant deficit of $34 millions is available to Territorial food producers/processors to market and sell production.

Successful displacement of imported foods lessens dependence on southern markets to support economic initiatives. For example trout production and prices in the NWT has fallen considerably over the past few year on Great Slave Lake, due to a depression in world prices.

This has caused difficulties with some fishermen who are unable to offset costs of operations and haven't the means to access other markets. A small initiative is underway at this time in Hay River to see if markets would be receptive to locally produced fish product lines(steaks/fillets). The initiative sees the harvesting, processing and selling of up to 100,000 pounds of fish involving whitefish, trout and pickerel.

Arctic char, which is a smaller fishery, in terms of actual and potential volumes, witnessed negative impacts in 1992 when the principle southern marketer chose not to continue with the line. Some recovery has been seen over the past twelve(12) months aided somewhat by promotional materials, including point of sales information, developed through the EDA.

Current Year Status(Projected)

Location	Species	Volume
Great Slave Lake	Whitefish	1.3 million pounds
Hay River Test*	Whitefish, trout	100,000 pounds
Inuvik*	Whitefish	20,000 pounds
Inuvik*	Inconnu	5,000 pounds
Kakisa	Pickerel	40,000 pounds
Cambridge	Char	100,000 pounds
Kitikmeot(other)	Char	30,000 pounds
Keewatin*	Char	30,000 pounds
Baffin**	Char	100,000 pounds
Pangnirtung**	Turbot	500,000 pounds

*Value Add Domestic Market
**Value Add Export

Market Outlook

Early reports indicate that export char and turbot markets will witness gains in prices and demand should be high. In char, supplies in Labrador or being reduced by buy back programs involving salmon/char licenses initiated by DFO. This program is not in place for the NWT. For turbot, offshore allocations are under pressure to be reduced in order tore-build stocks of cod and ground fish. Reductions in allocations will have no impact on the inshore fisheries. Reductions in these allocations should \result in prices and demand improving for NWT product lines.

Whitefish prices remain low in the North American market. FFMC recently announced reductions in the amount of whitefish it was prepared to carry on inventory in order to reduce costs and limit supply. principle sources of competition for this fish is the Great Lakes and offshore species now being utilized as replacement products.

Trout prices again remain low due to weak markets. This is driven by announcements of contamination in the trout stocks, mainly in southern Canada and the U.S.