eafood and Marine Products – West Coast

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V6B 5H8
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Fax: (604) 666-0277

ISTC Headquarters

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

EAITC Headquarters

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Lester B. Pearson Building
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OTTAWA, Ontario
K1A 0G2
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I N D U S T R Y P R O F I L E

1990–1991

SEAFOOD AND MARINE PRODUCTS — WEST COAST

FOREWORD

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

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

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

Introduction

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

Fish is perceived as being a healthful food. This perception is expected to sustain the growth in per-capita fish consumption since the late 1980s. Canadians in 1989 ate an estimated 7 kilograms of fish, which is low relative to the 70 kilograms of red meat and 28 kilograms of poultry consumed per capita that year, but is approximately double the world average.[1]

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

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

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

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

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

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

Structure and Performance

Structure

The west coast seafood and marine products industry processes primarily pelagic fish or mid-water dwellers such as salmon and herring. Groundfish or bottom-feeding fish such as halibut, redfish and hake, and shellfish including clams, oysters, shrimps and crabs, make up most of the balance. Fishery activity is concentrated off the Lower Mainland area of British Columbia near Vancouver as well as around Prince Rupert (see map, Figure 1).

Pacific coast landings in 1990 amounted to 305 207 tonnes, having a landed value of $478 million. The pelagic and groundfish subsectors that year had approximately the same volume of landings, but the pelagic subsector had a significantly larger landed value. Pelagics, mainly salmon and herring, accounted for 47 percent of fishery landings or 142 055 tonnes, and 71 percent of landed value or $339 million. Groundfish accounted for 47 percent of west coast landings or 143 833 tonnes, but only 18 percent of the landed value, worth $85 million. Shellfish accounted for only 6 percent of regional landings or 19 319 tonnes, and 9 percent of landed value or $44 million. Miscellaneous products, although

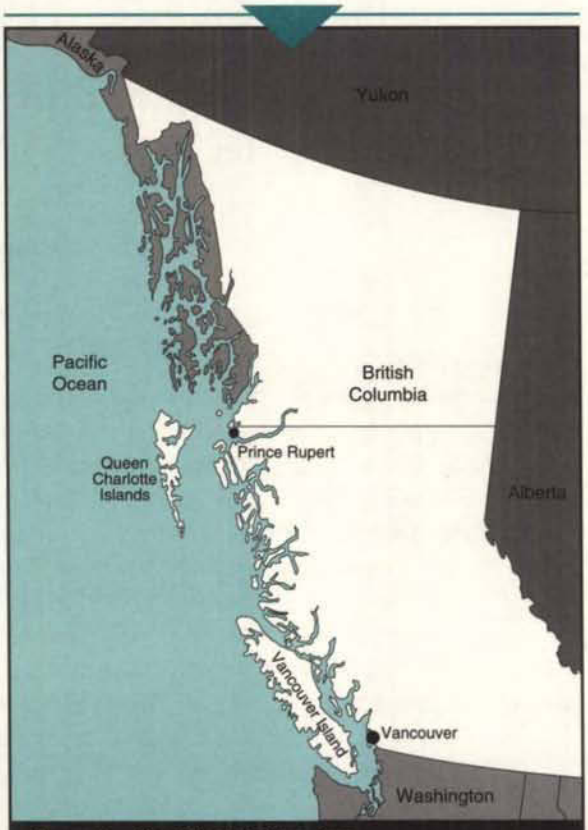


Figure 1 — West Coast Fishing Area

negligible in volume terms, represented the remaining 2 percent of landed value or $10 million.

The Pacific coast fishery processing industry in 1990 had shipments worth $952 million (244 100 tonnes), accounting for 29 percent of total Canadian industry shipment value (26 percent by volume) that year. Of these shipments, frozen, canned, fresh or smoked salmon and roe (eggs) composed 59 percent by value, herring roe 19 percent, groundfish including flatfish 8 percent, shellfish 6 percent, and miscellaneous products including other finfish products and marine plants 8 percent (Figure 2).

Statistics Canada estimates that in 1990 there were 57 fishery processing establishments (not including small enterprises) employing 4 388 people in British Columbia. Other estimates[2] include smaller companies, and put the number of fishery processing plants in British Columbia at 160, including eight canneries with highly seasonal employment. For example, employment in August 1990 peaked at

[2]Source: *Fisheries Production Statistics of British Columbia*, Province of British Columbia, Ministry of Agriculture, Fisheries and Food, 1990.

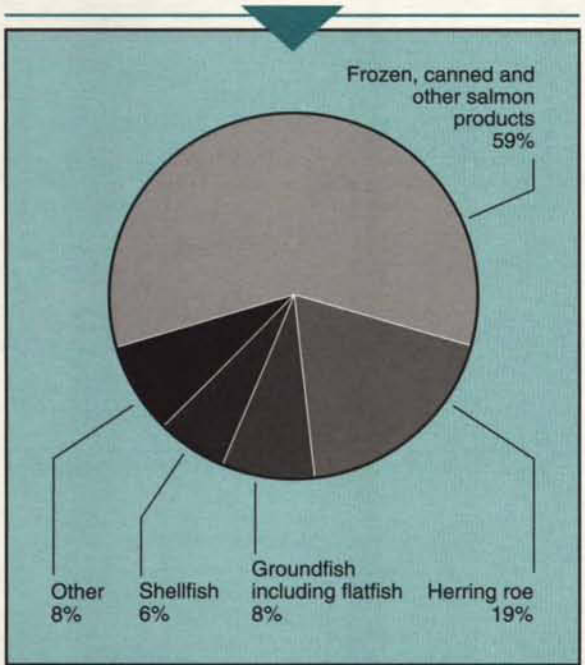
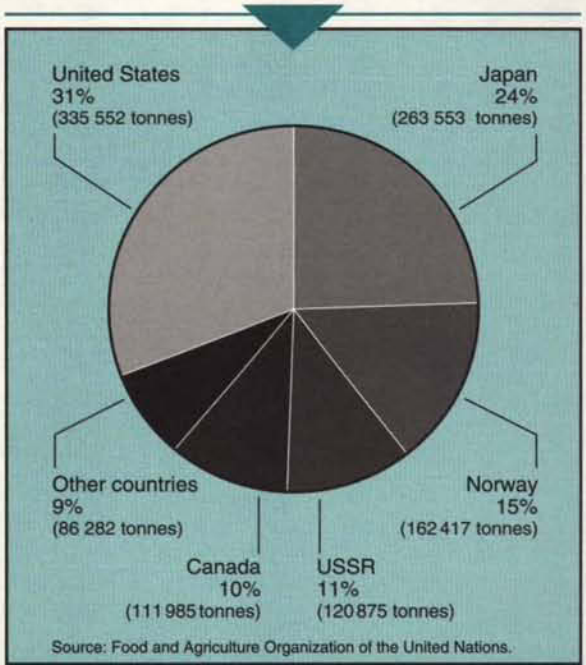


Figure 2 — West Coast Seafood and Marine Products, by Value, 1990



Source: Food and Agriculture Organization of the United Nations.

Figure 3 — Global Pacific Salmon Harvest, by Country, 1990 (includes wild and farmed)

9 324 people, while the average monthly employment for the year was 5 624 people. B.C. fishery processing in 1990 accounted for 12 percent of total Canadian fishery processing industry establishments and 16 percent of total industry employment.

Most firms in the west coast fishery processing industry are privately held and Canadian-owned. Most process salmon and herring, while some also process shellfish or groundfish, or engage in related businesses such as fish farming. The industry is dominated by seven companies; British Columbia Packers Ltd. is the major producer. There is one large co-operative, the Prince Rupert Fishermen's Co-Operative Association. The dominant companies and the co-operative are all engaged in salmon canning. The smaller companies tend to specialize, or at least to process a narrow product line. Some of them serve special niche markets based on a special product form such as smoked salmon or sea urchins for defined market groups such as ethnic communities. Because the Pacific continental shelf is so narrow, most fishing is done close to shore, a condition that favours fish harvesters who use small boats.

Because many fishery species, especially salmon and roe herring, are migratory, harvesting and thus processing are highly seasonal operations carried out when the resource is in area waters and in prime harvest condition. Most large B.C. fishery processing companies therefore have diversified species and product capabilities. Some companies operate their own vessels to manage raw material supplies more carefully, while others rely on independent fish harvesters. Some companies also own or have supply contracts with aquaculture businesses for added continuity of supply.

Processing is highly export-oriented. More than 50 percent of salmon products and all herring roe are exported. About two-thirds of the groundfish and most of the shellfish products are exported as well.

Within the salmon subsector, both Atlantic and Pacific salmon have major commercial significance in the world fishery. The genus *Salmo* includes one species, *Salmo salar* (Atlantic salmon), that is fished in the North Atlantic Ocean and is the preferred species for the salmon aquaculture industry, including west coast operations. Pacific salmon includes six commercial species: sockeye (red), chinook (king or spring), chum (keta), coho (silver) and pink (humpback) form the basis of the west coast salmon fishery, while cherry salmon is harvested only in the vicinity of Japan and is of minor importance. Chinook and coho are also farmed on the west coast.

According to the Food and Agriculture Organization of the United Nations, the global Pacific salmon harvest in 1990 was 1.08 million tonnes, of which Canada harvested 10 percent (Figure 3). The United States accounted for 31 percent, Japan 24 percent, Norway 15 percent, the USSR, now the

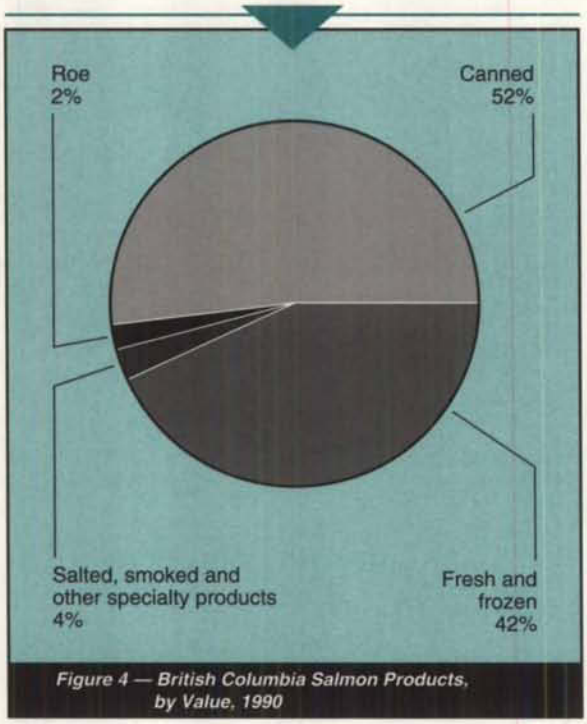


Figure 4 — British Columbia Salmon Products, by Value, 1990

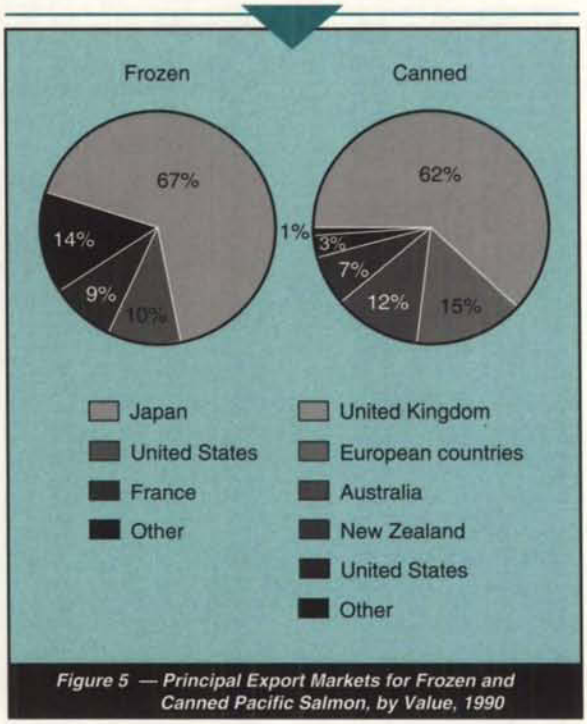


Figure 5 — Principal Export Markets for Frozen and Canned Pacific Salmon, by Value, 1990

Commonwealth of Independent States (CIS) 11 percent, and other countries 9 percent. The major exporter of salmon is the United States, followed by Canada. Most Japanese salmon production is consumed domestically, with both the United States and Canada competing as residual suppliers. In the European Community (EC), Canadian and U.S. exports compete with domestic, Chilean and Norwegian farmed Atlantic salmon.

The harvest of west coast salmon species occurs only from late June until October-November, so employment in processing it is highly seasonal. Because the specialized equipment used is idle for much of the year, fixed overhead costs are high.

B.C. salmon is sold domestically to both the institutional and retail trades. While some sales to the former may be direct, sales to the retail trade are usually made through brokers, distributors or trading houses, which can offer a broad product line to their customers. The canned salmon market in 1990 accounted for 52 percent of the value of British Columbia salmon processors' total output valued at $562 million (Figure 4). The share of output comprising fresh and frozen salmon was 42 percent, salted, smoked and other speciality products 4 percent, and roe 2 percent.

Canadian exports of frozen Pacific salmon amounted to $192 million in 1990 and accounted for 40 percent of the value of all salmon exports. Japan is the principal market, accounting for $128 million or 67 percent of Canadian exports of frozen Pacific salmon in 1990 (Figure 5). Canada, however, is not the major supplier of the Japanese market for this product: in 1991, Canada supplied only 17 percent by value, compared with 67 percent from the United States and 12 percent from Chile. In addition to being a competitor, the United States is also Canada's second-largest customer for frozen Pacific salmon, accounting for almost $20 million worth or 10 percent by value in 1990. Canada's third most important market is France, which accounted for nearly $17 million or 9 percent of Canadian frozen Pacific salmon exports in the same year. Here also the United States is Canada's major competitor, accounting for half of France's imports of frozen Pacific salmon, twice Canada's share. Italy, Sweden, Denmark, the United Kingdom and Switzerland also imported significant, but much lower, quantities of the Canadian product, accounting for most of the remaining 14 percent.

Canned salmon is the second most prevalent form of salmon exports. Canada exported $150 million worth of canned Pacific salmon in 1990. By far the largest export market is the United Kingdom, which accounted for 62 percent of the canned product exported in 1990 (Figure 5). According to U.K. trade data, Canada in 1990 supplied 47 percent by value of the total U.K. import requirement for "cooked salmon in airtight containers," compared with 51 percent supplied from the United States. Other important markets are other European

countries, notably Belgium, the Netherlands, Italy and Ireland (15 percent of Canadian exports in 1990 for the group), Australia 12 percent, New Zealand 7 percent, the United States 3 percent, and other countries 1 percent.

B.C.'s Pacific frozen and canned salmon are generally considered to be equal or superior to competing foreign product in world markets. Part of this success is attributed to restrictions requiring Canadian-caught fish to be landed only in a Canadian port and limiting exports of unprocessed and second-quality fish.

The roe herring harvest takes place between February and April, just before the herring are about to spawn. The roe is extracted and salted by both large and small processing firms in British Columbia. Japan is the major export market, in 1991 importing 8 974 tonnes of herring roe, of which Canada supplied 5 119 tonnes or 57 percent and the EC supplied 32 percent. B.C. herring roe is highly valued by the Japanese on the basis of subtle but important product quality characteristics. Herring roe is an important and traditional product in Japan for gift-giving, and consumption takes place primarily during the New Year season. A low-volume but very lucrative subcategory of the roe fishery is the kazunoko kombu (roe on kelp) harvest. This product is obtained after the herring have spawned on selected beds of kelp, which are then harvested, specially processed and packed for the Japanese market. Only Aboriginal people are licensed to engage in the kazunoko kombu harvest.

Pacific groundfish also are processed for the fresh and frozen market. The principal species are Pacific halibut, redfish, hake, Pacific perch and Pacific cod. Much of the west coast production is exported, primarily as fresh fish to the western United States, with some sales of frozen product to the United Kingdom and Japan.

The Pacific shellfish subsector is a small-enterprise fishery, geared to providing specialty products with high unit values. Shellfish processing in 1990 accounted for about 6 percent of industry shipments or $61.8 million. The key species are clams, oysters, shrimps and crabs. Although most shellfish are harvested from wild stocks, the application of aquaculture technology is increasing, particularly in the growing of oysters. By 1990, some 3 856 tonnes of oysters worth $3.2 million were harvested on the west coast, primarily for western U.S. markets. In addition, crabs and clams are exported to the western United States and Japan. There have also been some exports to Europe, notably Spain and Italy.

The marine plants subsector is based on the extensive beds of kelp and other marine algae found off the Queen Charlotte Islands and Vancouver Island. Alginate used in the manufacture of foods and pharmaceuticals is extracted from kelp; however, harvesting costs are higher in British Columbia than they are for similar beds located off the coast of California.

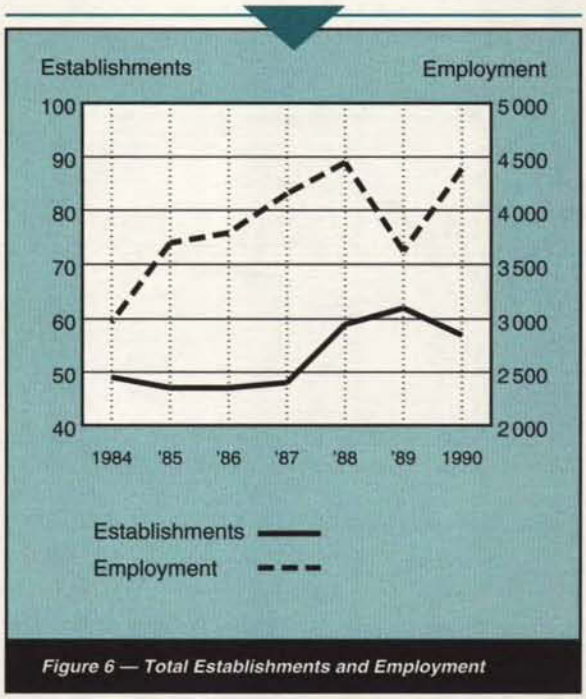


Figure 6 — Total Establishments and Employment

The kelp beds provide an important protective environment for the young of several commercially important fish, so the kelp harvest must be controlled. A number of other species of marine plants are also being harvested on a smaller scale for use as foods or food seasonings, and these harvests are increasing as applications are developed.

Performance

The west coast fishery processing industry showed growth in all areas until the late 1980s, but has slowed or even decreased in some areas with the onset of the recent recession. The number of establishments was stable between 1984 and 1987, ranging from 47 to 49. The number of establishments then jumped to 59 in 1988 and to 62 in 1989, followed by a slight decline to 57 in 1990. Employment also increased, rising from 2 972 people in 1984 to 4 447 in 1988 before declining to 3 620 people in 1989, with a recovery to 4 388 people in 1990 (Figure 6).

In volume terms, west coast industry shipments rose strongly from 126 105 tonnes in 1984 to 244 100 tonnes in 1990. With price fluctuations, however, the value of industry shipments followed a different pattern, first increasing significantly from $467 million in 1984 to $956 million in 1988, then levelling off near that level in the subsequent years, falling slightly to $952 million in 1990 (Figure 7). Similarly, whereas west coast landings of resource stocks grew from 169 168 tonnes in 1984 to 305 207 tonnes in 1990, the

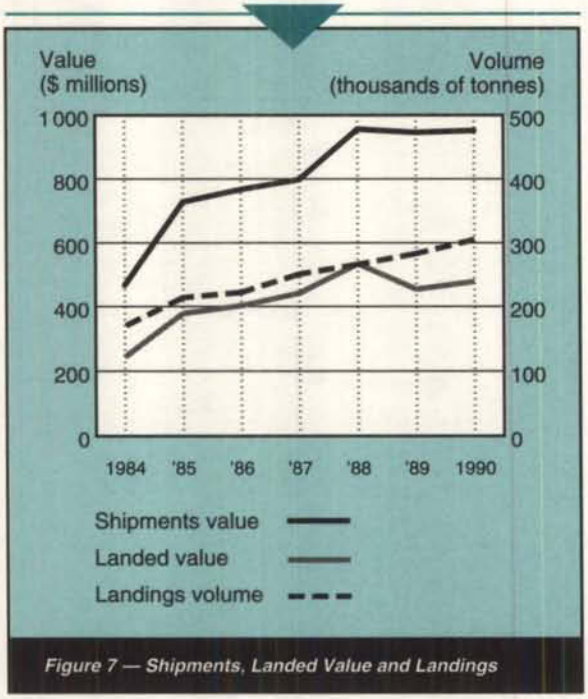


Figure 7 — Shipments, Landed Value and Landings

landed value first climbed from $243 million in 1984 to a peak of $534 million in 1988, then faltered the following year and only partially recovered to $478 million in 1990.

Performance of the industry in recent years has been affected by the historically cyclical nature of the fishery — especially its two major species, salmon and herring — by extraordinary supply imbalances associated with the growth of aquaculture and by generally weak economic conditions in Canada and within the traditional markets for Canadian fish products. These challenges were met with a combination of rationalization, careful spending reductions and, most importantly, imaginative marketing. As economic conditions improve, the industry is in a strong position to resume healthy growth and renewed profitability.

Each of the five Pacific salmon species harvested in the B.C. fishery has a different growth cycle. Because the cycles for the different species may coincide in some years whereas the high and low landings may offset each other in other years, overall volumes can show considerable annual variability. A peak in the salmon cycles in 1985 resulted in record landings of 107 565 tonnes of salmon on the Pacific coast, with landings in 1986 almost as high at 100 242 tonnes. The 1990 level was slightly lower at 96 397 tonnes. The sockeye catch alone in 1989 was 34 000 tonnes, compared with a three-year average of 19 000 tonnes.

Although west coast salmon aquaculture shipments were negligible until 1986, they amounted to 16 500 tonnes in 1991 with a value of $165 million. Growth has been rapid, with an estimated output of 20 000 tonnes in 1992.

The world salmon harvest of both Atlantic and Pacific species has fluctuated since 1985, and the total supply has been affected by the development of aquaculture. Although salmon accounts for only about 1 percent of the world's commercial fish harvest, it is important because of its perceived quality and its role in the expansion of aquaculture to serve major commercial markets. As Table 1 indicates, farmed salmon has increased its share of total world supply from 5 percent in 1985 to an estimated 30 percent in 1991.

Table 1 — World Salmon Supplies

(thousands of tonnes)

	1985	1986	1987	1988	1989	1990	1991[a]
Wild salmon	804	677	641	645	730	667	650
Farmed salmon	45	71	85	141	215	287	283
Total salmon	849	748	726	786	945	954	933

[a]preliminary data.

Source: J. Mojsej, *Salmon Market Outlook* (Ottawa: Department of Fisheries and Oceans, Economic and Commercial Analysis Report 81, January 1991); and data supplied by the British Columbia Salmon Farmers Association, July 1991.

Herring landings have declined sharply from 97 000 tonnes in 1977 to 16 341 tonnes in 1986. Since then they have recovered somewhat, reaching an estimated 41 000 tonnes in 1989 and 1990.

This variability of the resource influences investment. The industry since 1986 has invested an average of more than $40 million annually in capital assets, primarily to increase quality control. Approximately half of the industry's investment in 1989 was in company-owned fishing vessels and the balance in processing plants and equipment. Book value of fixed assets increased from $128 million in 1986 to an estimated $221 million in 1989. This investment has resulted in sufficient capacity to handle the volumes in years of peak harvest, but leads to high fixed cost allocations in other years. Surplus capacity also exists in the harvesting sector and is also contributing to higher costs of fish supply.

Strengths and Weaknesses

Structural Factors

The structural strengths and weaknesses of the Pacific coast fishery processing industry vary by species. The industry's structural strength includes access to a reliable natural

resource because of good management programs. Other strengths are export and inspection regulations, which have resulted in a high-quality product that is recognized internationally. Structural weaknesses stem from the high costs of building to meet the peak requirements of short fishing seasons, the cyclical variability of the resource and the high input costs caused in part by excess fleet capacity.

Canada has relatively little control over world salmon prices. In the past, producers were generally able to sell to the limit of their supply, with some lowering of prices in high-volume years. However, excess inventory occurred in 1991 as a result of near-record production levels in both Alaska and British Columbia. The oversupply situation and a cash-flow problem have resulted in extremely low prices.

Canadian canned salmon is recognized in the marketplace to be superior in quality to competing foreign product and, until recently at least, was frequently sold on an allocation basis so that regular customers received their fair share when supplies were low. At the present time, Canadian canned salmon now tends to be concentrated more in the retail market, relative to the U.S. canned product, which is aimed more at institutional sales.

Resource management is particularly important for salmon species. Salmon are unusually vulnerable to overfishing because the fish can be harvested over the large areas that cover their migratory routes to the spawning grounds. Fishing therefore must be tightly controlled since the salmon fleet has the capacity to devastate spawning runs. Canada shares in the control of the resource through the Pacific Salmon Stock Management Plan and as a signatory to international agreements governing transboundary stocks. The Department of Fisheries and Oceans (DFO) established a Salmonid Enhancement Program in 1977 designed to build the resource through hatchery programs and habitat improvements.

Underutilization of capacity often results in high fixed costs for processing plants. Increasing supplies of aquaculture salmon may help to extend the processing season and lead to the development of a much broader range of salmon products and salmon marketing opportunities, but they will not in the foreseeable future be an economically viable source of supplementary supply for the canneries. Canneries now account for the largest share of the salmon subsector's capital assets and 52 percent by value of its output. In some years, unprocessed salmon is imported from Alaska to extend the operating seasons of northern B.C. processors. As salmon aquaculture output increases, the overall utilization of facilities as well as the distribution and marketing infrastructure should improve.

Four of the largest west coast companies have processing operations in the United States, and it is likely that other companies also will have plants abroad to maximize operational efficiency. Some of these foreign operations are the result of a joint venture with, or an investment in, a Canadian company by a foreign investor who already has international operations. In other cases, Canadian-based multinationals that compete in the global market find strategic advantage in locating in other countries. Some of the large salmon processors are considering future locations in foreign countries that have lower operating costs, access to additional fish supplies and less rigorous standards. Because a modern cannery represents a considerable investment in capital equipment and trained personnel, transferring an operation to a location with lower operating costs may not be economically practical, particularly in times of economic restraint when limited capital is available for investment. However, when decisions regarding replacement or expansion facilities are to be made, the availability of fish and the costs of operation are of primary importance.

Regulations have played an important role in determining the structure of the west coast salmon processing subsector. These regulations required all Canadian fish harvested to be landed for processing in Canada and allowed the export of only top-quality product. However, a panel of the General Agreement on Tariffs and Trade (GATT) in 1988 ruled that Canada's export restrictions on unprocessed pink and sockeye salmon and herring were inconsistent with the GATT. Following this ruling, Canada has replaced these restrictions with a requirement that, for resource management purposes, 80 percent of Canadian-caught fish must be landed in Canada in 1990 and 75 percent in 1991 and thereafter. Restrictions on the export of unprocessed fish are no longer allowed.

As a result of the GATT panel ruling, continuing access to salmon and herring resources by Canadian processors may be less certain. The industry structure is now undergoing changes to adjust to the new rules. The industry questions the quality provisions of export product regulations and is requesting that, in addition to premium quality, processors should also be able to offer graded quality more suited to competitive standards in the various markets. The position taken by some members of the industry is that any quality factor that does not affect health and safety should be a negotiable part of the sales contract rather than a requirement of Canadian law. Nevertheless, the regulations do assure importers of Canadian fish products of consistently high standards.

Herring landings vary substantially. As a result, the B.C. herring subsector has overcapacity in both processing and harvesting. However, actual production is in balance with the requirements of a clearly delineated market, and this situation is expected to continue for the next few years. B.C. processors have the technology to process herring roe to the high standards demanded by the Japanese. In contrast, the United States

ships most of its product as frozen round herring, with the roe being extracted in lower-wage countries such as the Republic of Korea, China or Japan.

In both the groundfish and shellfish subsectors, the B.C. fishery processing industry has the advantage of proximity to a large market in the northwestern United States, and benefits from a growing consumer acceptance of seafood.

Trade-Related Factors

Although Canada's per-capita consumption of seafood products is above the world average, Canada's fishery processors depend on export markets for survival. Those markets have been successfully maintained by the east coast, west coast and freshwater commercial fisheries. Total Canadian fishery exports as a percentage of shipments value fluctuated between 74 and 88 percent during the period 1984 to 1990. Maintaining this position will depend on the level of fish stocks, on reduction and elimination of tariffs and non-tariff barriers (NTBs), on fluctuations in foreign exchange rates and on competitive pressures from other suppliers.

Tariffs and trade restrictions vary both by market and by product. For example, Canadian canned salmon faces a 5.5 percent duty in the EC, while frozen product is dutiable at 2 percent. Canadian herring roe exported to Japan in extracted form, packed in brine, faces a 12 percent duty. However, the Japanese tariff on frozen round herring and frozen roe is less than 6 percent. This favours Japanese importation of Alaskan product, which is normally exported roe-in (roe that is still in the herring). In the Japanese market, frozen salmon is subject to a 3 percent duty and salmon roe faces a 5 percent duty.

Canada's export position is influenced by a combination of regulatory and marketing policies. The most important measures are the tariff structures of Canada's customers and potential customers. All of Canada's trading partners maintain tariffs and NTBs to some extent. Japan, for example, sets import quotas for food herring and roe herring. For some products, the EC has a reference price system to protect its own fish harvesters. This barrier essentially eliminates price as a marketing strategy, even when a lower price is justified by lower production costs.

Other NTBs relate to labelling, product standards or health and safety controls. Unfairness arises when regulations are enforced in a manner that places imported products at a disadvantage. Perishable fish products, for example, may be quarantined by customs until microbiological examinations have been completed, by which time the product may have spoiled.

Imported product is sometimes tested under a stricter protocol than that applied to domestic product or is judged by an inappropriate standard. Imports of frozen and smoked salmon into Australia are prohibited or restricted by NTBs that forbid the import of uncooked fish. Australia is an important market for canned salmon and would probably be a major market for frozen and smoked salmon if the import restrictions were not in place. New Zealand, another important salmon market, also has restrictions on imports of frozen and smoked salmon. Negotiations to have these restrictions removed in both countries are currently under way.

Most west coast groundfish products are exported to the U.S. market in fresh form. Groundfish exports to Japan are subject to quota restrictions and significant tariff protection. In the EC, Pacific halibut faces a tariff rate nearly double the rate applied to imports of the Atlantic species. The United Kingdom is the major market for this product.

Changes in the organization and trading practices of the EC following the economic integration of the member countries on 1 January 1993 are generally regarded as favourable for west coast fishery processing. The establishment of common standards and trading regulations will simplify trade with the EC. The possible admission of additional countries to EC membership may give them a competitive advantage as suppliers, but this advantage will be lessened by the increasing global scarcity of the more popular groundfish species. The possible establishment of large multinational buyer groups within the EC may make it more difficult for small suppliers to negotiate favourable terms.

Prior to the implementation of the Canada-U.S. Free Trade Agreement (FTA) on 1 January 1989, tariffs on west coast seafood and marine products exported to the United States were low or zero for most unprocessed fish, but up to 30 percent for some processed items. Approximately $444 million or 32 percent of Canadian exported seafood products were subject to U.S. duty. Correspondingly, approximately $40 million or 15 percent of seafood products imported from the United States were subject to Canadian duty. High tariffs had discouraged Canadian exports of some highly processed products, leading some Canadian companies to establish processing facilities in the United States.

As of 1 January 1993, tariffs on processed seafood and marine products traded between Canada and the United States have been eliminated. Their removal helps Canadian fishery processors increase their market opportunities in the United States, their major export market, and gives them a competitive edge in the U.S. market over major competitors from Norway, Denmark and Iceland. Table 2 summarizes the main elements and impacts of the FTA.

Several other elements of the FTA also benefit the industry. The FTA binational dispute settlement mechanism for antidumping and countervailing duty cases is particularly important. It places an emphasis on consultation and dispute resolution but includes the option of binding arbitration. U.S. countervailing and antidumping laws as well as associated

rules and definitions have sometimes been interpreted in a way that limited the access of Canadian fish products to the U.S. market. However, with U.S. countervailing and antidumping findings subject to review by a binational panel, Canadian exporters are assured that cases will be subject to impartial review on a timely basis.

The FTA is silent on the question of existing B.C. laws and regulations on the export of unprocessed fish. However, the federal export restriction, which was the subject of the GATT panel review, was also challenged under the FTA, and its impact is currently being evaluated under the FTA's dispute settlement mechanism. Following the release of the panel report, Canada is working within the GATT framework to seek a bilateral resolution of this matter with the United States. The federal government is committed to protecting the interests of the B.C. fishery processing industry and will be continuing full consultation with the industry and the B.C. government.

Canada and the United States have both agreed not to introduce quantitative trade restrictions except in accordance with the GATT. If one country takes export measures for short supply or conservation reasons, export licences must be issued up to the share traditionally shipped to the other party.

The governments of both countries have agreed to maintain regulations to protect human, animal and plant life. Consistent with the need for technical regulations and standards as well as the need to facilitate commerce, both countries are working to harmonize technical regulations. They have agreed not to use these technical standards to restrict trade in fishery products. This agreement is important because U.S. technical standards created through regulations have impaired some Canadian fishery exports in recent years. The continued use of technical standards that have the effect of restricting trade will be subject to the binational dispute settlement process. The removal of such technical barriers would enhance Canadian exports of fish to the United States.

Table 2 — FTA Impact on Seafood and Marine Products

Agreement Element	Economic Impact
Tariff elimination	significant benefits from increased value-added processing
Binational panel	significant safeguard for fish exports
Quantitative restrictions	no major change
Technical barriers to trade	increased exports over time
Foreign investment	immediate competitiveness benefits from increased investment
Overall agreement	greater access to the U.S. market

Foreign investment elements of the FTA give equal treatment under future laws for foreign and domestic investors and firms of both countries. Foreign investment can improve the viability and competitiveness of the processing industry through the injection of equity capital, a more secure and diversified access to markets, technology transfer and the creation or maintenance of employment.

The powers of the Minister of Fisheries and Oceans to ensure that Canadians obtain benefits from our fisheries resources remain intact. The FTA protects the current Canadian policy of restricting foreigners to a minority ownership of licensed Canadian vessels or of companies that own licensed vessels or hold enterprise allocations. There are no provisions in the FTA to permit direct or indirect access to Canadian stocks by U.S. fishing vessels. Moreover, Canadian government policies for granting foreign access to Canada's fishing zone remain intact, including policies applying to "over the side" sales (direct sales by Canadian fish harvesters to foreign buyers).

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

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

Technological Factors

Seasonality in fishery harvesting and processing has contributed to the evolution of the industry's product mix. In the early years of the industry, surplus product was preserved by salting, drying or smoking. Although these processes are still used for special niche markets (smoking being a particularly important one), canning became the preservation technology of choice. Even after the introduction of freezing as an additional preservation technology, canned salmon held its place not only as a residual product in times of surplus but also as an appetizing, convenient product in its own right. On the other hand, new distribution technologies, new consumer needs and aquaculture's promise of year-round fresh fish availability presents opportunities for market expansion in other product areas.

The Pacific coast fishery processors are among the most advanced in the world in the development and adoption of new technology related to the health and safety of their products. Although the basic operations of the salmon canning process have remained virtually unchanged over the past 100 years, the industry is in the forefront when it comes to adopting improved equipment to make the process more efficient and production less costly. Availability of capital has been a limiting factor in the application of some of the more sophisticated high-technology innovations. The industry has also been a world leader in the development and adoption of product health and safety measures, and Canadian salmon is recognized internationally as a safe, reliable and wholesome food. The result is operations that are as efficient and cost-effective as possible, given the seasonal availability of the raw material.

Where the industry may have fallen short of its potential in the past has been in the development and marketing of new and diversified products. Traditional semiprocessed commodities, such as frozen cod blocks or staples such as canned salmon, exhibited little differentiation from offerings by international competitors, and enjoyed no competitive advantage other than price or the supplier's reputation for quality and reliability of service. For products with a ready market, there was little recognized need to offer anything different. The technical and marketing resources to support any changes were not in place, so attempts at innovation were limited.

The technical support for marketing of fish products now is changing. New aquaculture and biotechnology developments have the potential to control the attributes of fish to satisfy expanding market needs. To help stabilize resource availability for products, regulations now permit individual quotas to be transferable, and the DFO's Enterprise Allocation Program allows quota holders to schedule their harvest to coincide with demand.

Competition for markets, both from other fish producers and from other protein sources, is becoming more intense and more sophisticated. While the traditional resource-driven approach to marketing is still common throughout the industry, a market-responsive approach is gaining momentum among the more progressive companies.

In the face of such changes in the trading environment, it is probable that some markets will be lost or at least will become much more competitive, and new markets will be needed. There is a growing recognition within the industry that a greater variety of prepared convenience products must be provided if the customer base for salmon and other fish and shellfish products is to be broadened. The higher incidence of fish sales among hotel and restaurant customers relative to sales for home consumption suggests that inexperience in preparation, not poor acceptance of the eating quality of the product itself, is the deterrent to increased home consumption. An example of positive market response and acceptance has occurred in the area of fish-based main course dishes requiring only simple microwave oven preparation.

Under the Seafood and Marine Products Sector Campaign launched in 1990 by Industry, Science and Technology Canada (ISTC), a number of initiatives with a bearing on the west coast fishery processing industry are being undertaken. Of direct interest to the industry is a project to support research and development (R&D) efforts to further improve roe quality, explore product diversification opportunities and reduce production costs. In addition, the Campaign is supporting industry-driven establishment of R&D networks and consortia within Canada and abroad to facilitate the development and acquisition of fisheries-related technology (see "Sectoral Studies and Initiatives" on page 16).

Other Factors

The DFO issues fishing licences to conserve stocks and allocate the harvest. Because herring roe is an important end product, balance must be maintained to ensure a sustained herring resource. As a result, the herring harvest is very closely controlled.

Implementation of the Salmonid Enhancement Program and the negotiation of a bilateral agreement between the United States and Canada on salmon management are critical elements in the conservation of the salmon resource. In the case of salmon aquaculture, various regulatory and jurisdictional questions are under discussion. Their resolution is necessary to facilitate and maintain control over habitat utilization and disease prevention procedures.

Fishery processing plants are licensed by the provincial government, but inspection for interprovincial or export trade is a federal government responsibility carried out by the DFO.

This system of federal regulation and implementation has helped to give Canadian fish a high-quality image in international markets. In some other countries, regulations and their enforcement are less strict or even voluntary, so processors willing to sacrifice premium quality may have a cost advantage.

DFO policy prohibits the granting of fishing licences to any firm with more than 49 percent foreign ownership of equity. This restriction limits foreign investment in processing firms that also hold fishing licences.

Evolving Environment

Future demand for fishery products will depend on changing tastes, health considerations, income growth, the price and marketing activities related to alternative protein sources as well as the marketing skills of the industry. Availability and management of the resource will also remain key issues.

Accurate salmon resource projections are difficult to make because of the conflicting influences of habitat change, natural breeding cycles and changes in environmental conditions. Nevertheless, extensive measures to rebuild salmon stocks are under way and overall landings are expected to trend upward as a result. The commercial salmon fishery faces competition for the resource from the Aboriginal and sport fisheries. The many unresolved Aboriginal claims in British Columbia could lead to litigated or negotiated settlements, leaving commercial processors' access to the fishery uncertain. However, continued access by northern B.C. processors to Alaskan fish will secure their position in the industry.

It is too early to judge the impact of the GATT panel ruling on the effectiveness of the Canadian regulations because landings in 1990 and 1991 were so heavy that no processor went short. It is expected that the full impact of the GATT ruling will not be felt for three or four years. However, in 1990, at least one large U.S. salmon canner was establishing a buying network in Canada, and some Canadian companies were considering the establishment of plants in the state of Washington when their current facilities in British Columbia need to be replaced. However, considering that a freely made business decision generally favours the lowest-cost option, the ongoing realignment of exchange rates, wage rates and energy costs may lessen the problem. Aquaculture production can also be expected to relieve the supply pressure, especially for higher-quality products.

Competition will increase from European and Norwegian salmon aquaculture production. Norwegian salmon production increased to 162 417 tonnes in 1990, compared with 80 000 tonnes in 1988 and only 8 400 tonnes in 1981. Indications, based on smolt (juvenile salmon) deliveries from hatcheries, are that Norwegian production will decrease during the early 1990s until markets further expand. Aquaculture of a number of shellfish species is well established and is becoming a significant component of west coast commercial fishery processing.

Roe herring are being harvested to the limit of the supply that prudent resource management allows. There is a reasonable balance between supply and demand at present, which is not expected to change in the next two to three years.

In the absence of export restrictions on herring, B.C. processors may lose some of the herring resource. It may be bid away by U.S. firms, who would sell it to Japan in roe-in form, or by the Japanese, who would do their own processing. A major project under ISTC's Seafood and Marine Products Sector Campaign has been initiated to address this possibility. Its objective is to establish and maintain a competitive edge in quality and in cost of production.

The FTA is unlikely to affect trade in canned salmon, because the United States is not a major destination for this product. Although the U.S. tariff on salmon canned in oil was relatively high, its removal will have little effect because the most widely accepted product form is salmon canned without any additive except salt. Tariffs on the latter were low and equal in Canada and the United States, so their removal is unlikely to have a significant impact.

The removal of tariffs on smoked salmon under the FTA and NAFTA may provide some advantage to B.C. salmon producers who are looking for new markets for value-added products as their production expands. However, they also face NTBs related to the application of inspection procedures. Tariffs in the United States for groundfish and shellfish did not significantly affect trade patterns, so FTA tariff reduction will not have a large impact on these industries.

Herring roe and smoked salmon are the most common products of small firms but, because of the large ethnic population along the west coast, they also find markets for products appealing to East Asian cultures. Many products and cuisines now popular in other parts of North America (such as surimi-based[3] specialities) established their first occidental market foothold in Vancouver and the large Pacific coast cities of the United States.

[3]Surimi is a form of fish paste traditionally used in Japan as the base for a wide range of food products.

Underutilized and commercially undeveloped species play a different role on the Pacific coast from that on the Atlantic. A number of species are not harvested on the Atlantic coast because of their low market value relative to the cost of production. Most Pacific species having a large biomass are fully exploited, with notable exceptions being Pacific hake, flying squid and marine plants such as algae and kelp. Although Pacific hake became an underutilized species when Eastern European buyers withdrew from the market, Canadian companies developed the new technology necessary to permit them to process this species themselves, so it is now being fully utilized. Canadian processors are developing the technology to use hake to manufacture surimi.

Commercial applications are also being investigated or developed for a number of other fish and shellfish. These are generally niche market products created by small entrepreneurial businesses. For example, the geoduck clam was virtually unknown as a commercial species 15 years ago, but now is a recognized component of Canada's fishery exports.[4]

The fishery processing industry shares in the growing public concern for protection of the quality of the environment. Fishery processing has always produced inedible waste. The herring carcasses that remain after their roe has been extracted are a particularly challenging problem, because they are no longer suitable for food use, and the very short season makes it unfeasible to establish economic production facilities for making other products from them. In the past, the choice between dumping and conversion of this material to a by-product was governed largely by economics. Now, the emphasis is on development of by-product opportunities and process modifications to reduce the amount of unsalable material. Fish meal for use in fertilizers or animal feeds has been a popular outlet for fishery processing waste, and the growing aquaculture industry has added to the demand for a high-quality fish meal. For more information, see the industry profile titled *Fish Meal and Fish Oil*. Because of variable quality and irregular supplies, Canadian fishery processing plants do not produce the consistently high quality of feed needed by the aquaculture industry. Current research, if successful, not only would assist waste management efforts, but also would reduce the dependence of the aquaculture industry on imported meal. Biotechnology industries are currently investigating waste management opportunities.

Competitiveness Assessment

Overall, Canadian salmon processing is competitive. Salmon processors have adapted to dynamic market conditions and generally sell to the limit of their supply. Although there is pressure at the premium end of the frozen salmon market from Chilean and Norwegian aquaculture-raised salmon and at the low end of the market from huge volumes of Alaskan salmon, Canada should be able to hold or to increase existing export markets, in which it has a good reputation for quality and a traditional market presence. Rationalization of the fleet may be important over the long term if Canada is to maintain its competitiveness. Development of Canadian salmon aquaculture will also improve the Canadian competitive position by allowing the industry to meet a broader range of market opportunities.

The B.C. herring subsector is in a strong competitive position because of its dominant supplier position in the high-value Japanese salted herring roe market. It is expected that this situation will continue for the foreseeable future, although continued rigorous management of the herring resource will be required to ensure a reasonable balance of supply and demand. New roe products made from Atlantic roe herring seem to be expanding the total roe market, rather than displacing the B.C. product in its traditional markets.

The Pacific groundfish processing subsector should continue to benefit from market growth trends, particularly for fresh fish in the United States, while the shellfish subsector will continue to be competitive in both domestic and export markets.

Overall, the FTA and NAFTA are expected to have a positive impact on exports of west coast fishery products to the United States and Mexico through the elimination of tariffs.

For further information concerning the subject matter contained in this profile or on the ISTC initiative listed on page 16, contact

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

[4]Suggestions on other underutilized species can be found in the *Market Study for Underutilized Species: Focusing on the Asian Ethnic Market in North America*, a study conducted for the Canadian Association of Fish Exporters (CAFE) under the Seafood and Marine Products Sector Campaign of ISTC, Ottawa, April 1991 (see "Sectoral Studies and Initiatives" on page 16).

PRINCIPAL STATISTICS

	1984	1985	1986	1987	1988	1989	1990
Canada Total							
Establishments[a]	397	390	404	414	453	472	460
Employment[a]	24 372	26 964	28 934	31 171	31 086	30 498	27 617
Shipments[b]							
($ millions)	1 980	2 476	2 956	3 146	3 340	3 225	3 303
(thousands of tonnes)	699	792	804	860	881	899	957
Landed value[b] ($ millions)	902	1 131	1 358	1 648	1 628	1 496	1 509
Landings[b] (thousands of tonnes)	1 284	1 446	1 513	1 568	1 653	1 606	1 647
West Coast							
Establishments[c]	49	47	47	48	59	62	57
Employment[c]	2 972	3 695	3 788	4 156	4 447	3 620	4 388
Shipments[b]							
($ millions)	467	728	767	798	956	946	952
(thousands of tonnes)	126	158	174	219	207	224	244
Landed value[b] ($ millions)	243	378	402	442	534	454	478
Landings[b] (thousands of tonnes)	169	214	222	251	266	283	305

[a] See *Food Industries*, Statistics Canada Catalogue No. 32-250, annual (SIC 1021, fish products industry). Data exclude small enterprises as well as enterprises engaged solely in aquaculture.

[b] Data on shipments, landed value and landings are from Department of Fisheries and Oceans, *Canadian Fisheries Statistical Highlights*, annual. Pacific coast figures were provided by the Ministry of Agriculture, Fisheries and Food, Province of British Columbia. Data exclude aquaculture.

[c] See *Food Industries: Fish Products Industry*, Statistics Canada Catalogue No. 32-250B, annual (SIC 1021, fish products industry).

TRADE STATISTICS, CANADA TOTAL[a]

	1984	1985	1986	1987	1988[b]	1989[b]	1990[b]
Exports							
($ millions)	1 597	1 859	2 433	2 773	2 701	2 401	2 626
(thousands of tonnes)	511	556	595	588	617	601	625
Domestic shipments							
($ millions)	383	617	523	373	639	824	677
(thousands of tonnes)	188	236	209	272	264	298	332
Imports[c]							
($ millions)	491	496	616	697	737	787	731
(thousands of tonnes)	135	136	152	177	176	203	199
Canadian market							
($ millions)	874	1 113	1 139	1 070	1 376	1 611	1 408
(thousands of tonnes)	323	372	361	449	440	501	531
Exports (% of shipments value)	81	75	82	88	81	74	80

[a]Export and import data are from Statistics Canada, International Trade Division, as cited by Department of Fisheries and Oceans, *Canadian Fisheries Statistical Highlights*, annual. Data include all commercial fish and shellfish products and other marine products (e.g., marine plants) but exclude aquaculture.

[b]It is important to note that data for 1988 and after are based on the Harmonized Commodity Description and Coding System (HS). Prior to 1988, the shipments, exports and imports data were classified using the Industrial Commodity Classification (ICC), the Export Commodity Classification (XCC) and the Canadian International Trade Classification (CITC), respectively. Although the data are shown as a continuous historical series, users are reminded that HS and previous classifications are not fully compatible. Therefore, changes in the levels for 1988 and after reflect not only changes in shipment, export and import trends, but also changes in the classification systems. It is impossible to assess with any degree of precision the respective contribution of each of these two factors to the total reported changes in these levels.

[c]Data include fish caught by other countries and imported for processing in Canada.

SOURCES OF IMPORTS, CANADA TOTAL[a] (% of total value)

	1984	1985	1986	1987	1988[b]	1989[b]	1990[b]
United States	56	54	51	52	47	47	52
European Community	4	8	8	6	6	4	5
Other European countries	5	2	2	1	2	3	2
Central and South America	8	10	7	9	9	8	7
Japan	7	7	7	6	6	4	3
Other	20	19	25	26	30	34	31

[a]Data are from Statistics Canada, International Trade Division, as cited by Department of Fisheries and Oceans, *Canadian Fisheries Statistical Highlights*, annual.

[b]Although the data are shown as a continuous historical series, users are reminded that HS and previous classifications are not fully compatible. Therefore, changes in the levels for 1988 and after reflect not only changes in import trends, but also changes in the classification systems.

DESTINATIONS OF EXPORTS, CANADA TOTAL[a] (% of total value)

	1984	1985	1986	1987	1988[b]	1989[b]	1990[b]
United States	61	61	59	59	52	54	55
European Community	13	14	15	16	17	16	18
Other European countries	3	2	2	2	3	3	3
Central and South America	4	3	3	3	3	3	1
Japan	15	17	18	17	22	21	20
Other	4	3	3	3	3	3	3

[a]Data are from Statistics Canada, International Trade Division, as cited by Department of Fisheries and Oceans, *Canadian Fisheries Statistical Highlights*, annual.

[b]Although the data are shown as a continuous historical series, users are reminded that HS and previous classifications are not fully compatible. Therefore, changes in the levels for 1988 and after reflect not only changes in export trends, but also changes in the classification systems.

REGIONAL DISTRIBUTION, CANADA TOTAL (1990)

	East Coast[a]	West Coast	Freshwater
Establishments[b] (% of total)	82	12	6
Employment[b] (% of total)	80	16	4
Shipments[c] (% of total)	67	29	4

[a]Atlantic data include Quebec.

[b]See *Food Industries: Fish Products Industry*, Statistics Canada Catalogue No. 32-250B, annual (SIC 1021, fish products industry).

[c]See *Canadian Fisheries Statistical Highlights*, Department of Fisheries and Oceans, annual.

MAJOR FIRMS, WEST COAST

Name	Country of ownership	Locations of major plants
Bella Coola Fisheries Ltd.	Canada	Delta, British Columbia
British Columbia Packers Ltd.	Canada	Richmond, British Columbia Prince Rupert, British Columbia
Canadian Fishing Company Ltd.	Canada	Vancouver, British Columbia
Lions Gate Fisheries Ltd.	Canada	Delta, British Columbia
J.S. McMillan Fisheries Ltd.	Canada	Vancouver, British Columbia Prince Rupert, British Columbia
Ocean Fisheries Ltd.	Canada	Vancouver, British Columbia
Prince Rupert Fishermen's Co-Operative Association	Canada	Prince Rupert, British Columbia

INDUSTRY ASSOCIATIONS

British Columbia Salmon Farmers Association
Suite 506, 1200 West Pender Street
VANCOUVER, British Columbia
V6E 2S9
Tel.: (604) 682-3077
Fax: (604) 669-6974

British Columbia Salmon Marketing Council
Suite 625, 5960 No. 6 Road
RICHMOND, British Columbia
V6V 1Z1
Tel.: (604) 273-4213
Fax: (604) 273-0500

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

Fisheries Council of British Columbia
Suite 706, 1155 Robson Street
VANCOUVER, British Columbia
V6E 1B5
Tel.: (604) 684-6454
Fax: (604) 684-5109

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

SECTORAL STUDIES AND INITIATIVES

For further information on the following initiative, contact Industry, Science and Technology Canada (see address on page 12).

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

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

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

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