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Seafood and Marine Products — East Coast

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1990-1991

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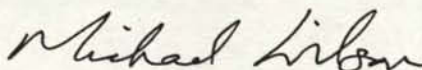
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INDUSTRIE, SCIENCES ET
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In a rapidly changing global trade environment, the international competitiveness of Canadian industry is the key to growth and prosperity. Promoting improved performance by 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, fishing

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

and fish processing provide the primary economic base for many communities. The fish processing industries are also important in both Prince Edward Island and Nova Scotia, and significant in New Brunswick, in British Columbia, and in eastern Quebec. 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:

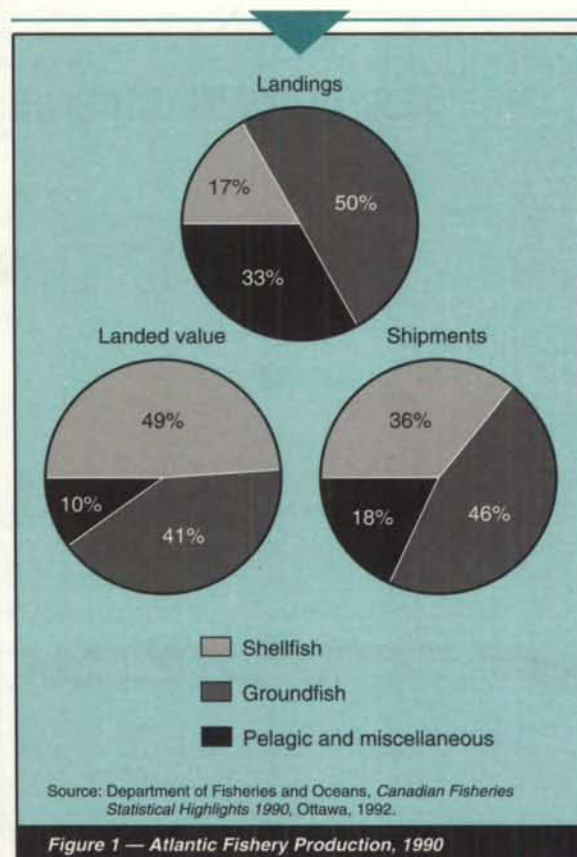
- *Seafood and Marine Products — Overview*
- *Seafood and Marine Products — East Coast*
- *Seafood and Marine Products — West Coast*
- *Seafood and Marine Products — Freshwater*
- *Fish Meal and Fish Oil*
- *Aquaculture*

Structure and Performance

Structure

The east coast seafood and marine products industry is based on the processing and marketing of three principal types of fish harvested from the Atlantic Ocean: groundfish or bottom-feeding fish, pelagic fish that inhabit water closer to the surface, and shellfish. Groundfish include such species as cod, redfish (ocean perch), haddock and flatfish such as halibut, turbot, flounder and sole. Pelagic fish include such species as herring, capelin and mackerel. Shellfish include crustaceans such as lobsters, shrimp and crabs, and molluscs such as scallops, clams, oysters and mussels. There are also a number of other species of marine life, including some marine plants, that are of commercial significance but are of lesser importance to the Atlantic region as a whole.

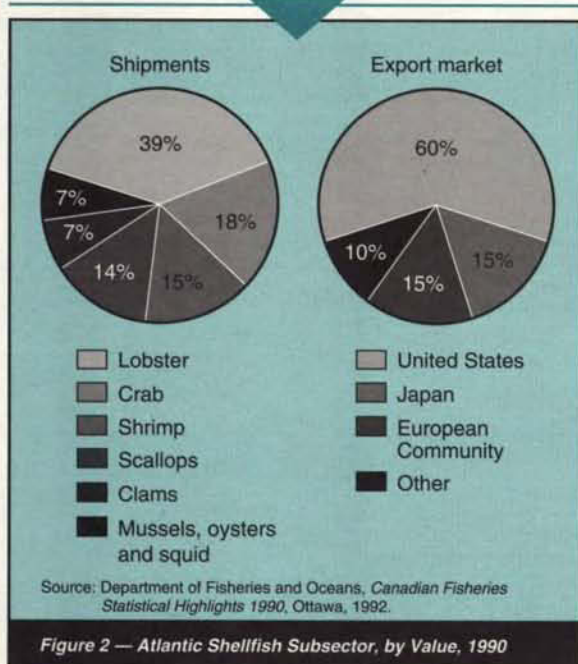
Total Atlantic coast landings in 1990 amounted to 1.3 million tonnes, having a landed value of \$953 million. The groundfish subsector is the most important in volume terms, but is second to shellfish in value. Groundfish (mostly cod) in 1990 accounted for 50 percent (646 161 tonnes) of landings and 41 percent (\$388 million) of landed value of the east coast fishery harvest (Figure 1). Shellfish (mostly scallops, lobsters, shrimp, crabs and clams) accounted for only 17 percent or 227 116 tonnes of landings but 49 percent or \$468 million of landed value. Pelagic and other finfish landings (mostly herring and capelin) in 1990 accounted for



33 percent, or 423 407 tonnes of landings and almost 10 percent or \$88 million of landed value. A small miscellaneous category contributed an additional \$9 million to overall landed value.

East coast fish processing, with a shipment value of \$2 221 million (681 620 tonnes), in 1990 accounted for 67 percent of the total Canadian seafood and marine products output. In the same year, 46 percent of this share was contributed by groundfish products (such as fresh, frozen and salt fish products), 36 percent by shellfish and 18 percent by pelagic and miscellaneous products (such as fresh, frozen, smoked and canned fish products).

The United States is the major destination for Canadian exports of groundfish, shellfish and pelagic fish products from the Atlantic coast. Most groundfish export items have been frozen cod fillets and blocks. These items are shipped principally to the United States where they become inputs for secondary product lines such as breaded or batter-coated portions and fish sticks. Although salting as a preservation technology has largely been replaced by freezing, there are still markets for salt fish. Canada in 1990 produced



\$187.7 million worth of salt cod, all of which came from the east coast. Groundfish are also sold fresh, either as whole dressed fish or in fillet form, to markets in eastern Canada and the northeastern United States.

The shellfish subsector in 1990 produced mainly lobsters and lobster products, which accounted for 39 percent of shipments value, crabs 18 percent, shrimp 15 percent, scallops 14 percent, clams 7 percent, and other shellfish products 7 percent (Figure 2). The destination of 60 percent of east coast shellfish production value that year was the United States, with 15 percent exported to both Japan and the European Community (EC) and the remaining 10 percent to other countries.

Pelagic species and their products are also exported to the United States, but higher proportions are sold in other countries. Female capelin and frozen herring roe are exported principally to Japan. Other herring products, including canned sardines, marinated herring, frozen fillets and some smoked fish, are sold in several world markets.

Statistics Canada estimates that in 1990 there were 377 seafood processing establishments (not including small enterprises) in the four Atlantic provinces and Quebec. The full-time employment equivalent at these establishments was 22 124 people that year. The Atlantic industry thus accounted for 82 percent of total Canadian fishery processing establishments and 80 percent of industry employment. Department of Fisheries and Oceans (DFO) statistics, on the other hand,

which include smaller operations, report a total of some 900 firms in the east coast commercial industry in 1990. Two-thirds of these firms were seasonal, and employed an estimated 65 000 part-time employees.

Ten percent of all workers in Atlantic Canada have relied on the seafood processing industry for jobs. This ranges from a high of 25 percent on the south coast of Newfoundland to just over 2 percent in large cities like Halifax. Newfoundland and Nova Scotia are by far the predominant provinces in the Atlantic fishery. Together, they account for over 60 percent of east coast fishery processing in terms of landed value, landed volume and employment.

The Atlantic industry traditionally has been characterized by decentralized small enterprises that were unable to compete effectively in changing world markets, which were increasingly being dominated by large national and international firms. Following the recommendations of the Kirby Task Force on Atlantic Fisheries in 1982, the industry has been restructured. Two large companies, Fishery Products International Limited (FPI) of Newfoundland and National Sea Products Ltd. (NSP) of Newfoundland and Nova Scotia, were formed to replace a number of insolvent and redundant firms, reduce excess processing capacity and improve marketing. FPI and NSP both operate processing facilities in the United States. They and other Canadian companies ship directly to major customers and also use brokers and distributors. Most of the Atlantic seafood and marine products industry now is controlled by these two companies plus Clearwater Fine Foods Inc. of Nova Scotia and Connors Bros., Limited of New Brunswick.

All four large companies process a full range of fish products. FPI and NSP are primarily groundfish processors and include both retail and foodservice products in their lines. Both companies own fishing trawlers and also make use of independent fish harvesters to provide raw material. Clearwater Fine Foods began as a lobster company, and its principal field of business still is shellfish. Clearwater operates its own vessels and also buys product from independent fish harvesters. Connors Bros. is best known as a sardine canner, although it also processes other herring products and has become a major participant in salmon aquaculture.

The east coast seafood and marine products industry depends almost entirely on the processing and marketing of fish and shellfish harvested from the wild resource. However, a growing aquaculture industry is providing a significant share of the supply of species such as Atlantic salmon and mussels. Aquaculture in 1989 accounted directly for only \$40 million of the \$2.1 billion output of the Atlantic fishery that year. The east coast aquaculture industry produces mainly Atlantic salmon, a species that is rapidly gaining market share and generating market growth worldwide. Aquaculture

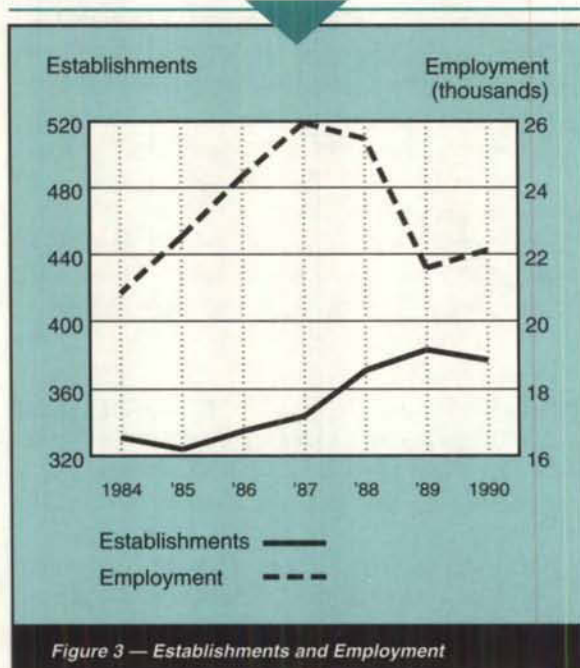


Figure 3 — Establishments and Employment

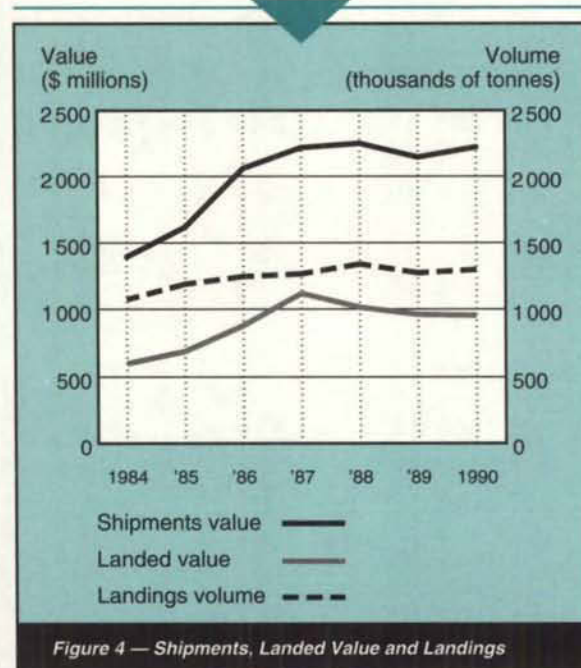


Figure 4 — Shipments, Landed Value and Landings

technology is also being used to improve productivity and quality in lobster and mussel operations and is being applied experimentally to the culture of other species including scallops, oysters and some high-value groundfish.

Performance

The Atlantic seafood processing industry showed growth in most areas up until the late 1980s, but has slowed or even decreased in some areas with the onset of the recent recession. Establishment numbers increased slowly from 331 in 1984 to 383 in 1989 before levelling off at 377 establishments in 1990 (Figure 3). Employment fluctuated more sharply, rising from 20 830 people in 1984 to peak at 25 950 people in 1987, then dropping again to 22 124 people in 1990.

East coast shipments of seafood and marine products increased from \$1 393 million in 1984 to \$2 249 million in 1988 before dropping slightly to \$2 221 million in 1990 (Figure 4). Total east coast landed value peaked in 1987 at \$1 117 million and has steadily declined, levelling off to \$953 million in 1990. Total landings remained fairly steady between 1984 and 1990, ranging between nearly 1.1 million tonnes to more than 1.3 million tonnes.

With the long-term growth in the Atlantic fishery processing industry since the early 1970s, Canada's position in world markets also increased. Formerly a supplier primarily to the Boston wholesale market, Canada is one of the world's leading exporters of seafood products.

Strengths and Weaknesses

Structural Factors

The principal factor affecting Atlantic fishery processing is the availability of resources.

The single most important event in the past two decades regarding fishery management has been the recognition by the Conferences on the Law of the Sea in the 1970s of extended jurisdiction over marine resources by coastal states. This led to the declaration by Canada on 1 January 1977 of its 370-kilometre (200-nautical-mile) exclusive fishing zone (EFZ), which is generally recognized by most nations (Figure 5). This area includes most of the excellent habitat for groundfish found on the wide continental shelf off Canada's east coast. Within this area, Canada exercises resource management responsibility, setting and allocating fishing quotas for both Canadian and foreign fish harvesters. Three areas of the continental shelf that are included in the normal range of some important groundfish stocks extend beyond the EFZ, where Canada has no jurisdiction over their harvest by foreign fish harvesters.

Groundfish stocks off Canada's east coast increased two- to threefold from 1977 to 1989 as Canada assumed resource management responsibility within the 370-kilometre EFZ. However, because of a combination of natural variation and commercial harvesting, some stocks have grown more



slowly. In the case of the northern cod stock, an assessment by the Canadian Atlantic Fisheries Scientific Advisory Committee indicates that since 1989 there has been an abrupt reduction in the biomass of northern cod and particularly in the numbers of spawning age.

Northern cod, which inhabits the area of the continental shelf east of Newfoundland and Labrador, is the single most important fishery in Atlantic Canada, having an estimated value to the Canadian economy of \$700 million in 1991, a poor year. To protect this resource and restore its viability, quotas have been progressively reduced from 266 000 tonnes in 1988 to 185 000 tonnes at the outset of 1992. In recent years, actual catches by Canadian fish harvesters have been below quota.

Seriously eroded breeding stocks required the DFO to impose a two-year moratorium commencing 1 July 1992 on the harvesting of northern cod. The EC also established a moratorium on northern cod and flounder outside the 370-kilometre limit. In addition, Canada placed restrictions on the harvesting of capelin, an important link in the food chain that sustains northern cod. These moratoria apply to northern cod, representing 40 percent of the Newfoundland fishery.

In August 1993 DFO imposed additional moratoria on cod and American plaice in certain other zones off Canada's east coast. The cod fisheries were closed in the southern Gulf of St. Lawrence, Sydney Bight, Eastern Scotian Shelf and south coast of Newfoundland. There is a moratorium on American plaice off the south coast of Newfoundland.

In order to assist those people involved in fishing and fish processing during the moratorium period, policies have been put in place to assist workers and communities in adjusting. Capital assistance is being considered in several forms to assist vessel and plant owners.

Most countries fishing off Canada's east coast belong to the Northwest Atlantic Fisheries Organization (NAFO), founded in 1979 to assess stocks and assign quotas outside the EFZ. However, compliance is voluntary and many countries, including some NAFO members, have historically exceeded their quotas, thereby aggravating groundfish shortages, notably of cod. This has resulted in higher prices for cod and has facilitated the entry of species such as hake into the lower-price end of the cod market.

The structure of the east coast shellfish processing subsector varies according to species, but is generally competitive in world markets. The combination of a coastline that provides an environmentally favourable habitat for commercial species and proximity to a large U.S. market places the industry in a good competitive position. In addition, Canadian companies have combined aquaculture technology with traditional culture practices to produce superior products, especially live lobsters and mussels.

As for the processing of pelagic species, the timing of their harvest is a key determinant of market share, especially for capelin, herring and mackerel. World competition is strong, and the later Canadian harvest relative to that of other nations frequently makes Canada a residual supplier. The capelin harvest, which is primarily for the Japanese market for roe-bearing females, takes place after that of Norway and the Commonwealth of Independent States (CIS). However, the Canadian-caught fish are preferred by the Japanese because of their generally larger size.

Canadian frozen herring fillets held a strong market position in Europe during the late 1970s when the North Sea and Baltic Sea stocks were depleted by overfishing. However, Canada has since lost market share in Europe now that the North Sea and Baltic Sea stocks have recovered and the European processors are once again purchasing fish caught locally. Atlantic Canada is a principal supplier of frozen herring roe to Japan, where it is used to produce a flavoured roe product that is becoming quite popular.

Canada is generally not competitive in the world market for mackerel, the third major pelagic species. Canada's costs of harvesting and production are higher than those of other



producer countries, especially those countries in the southwest Pacific, which have more abundant stocks. Mackerel has three principal uses: unprocessed mackerel is used as bait; small quantities of canned mackerel are produced primarily for international food aid programs; and some smoked mackerel is sold in the commercial market.

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.

The Atlantic seafood and marine products industry faces a range of tariffs, quotas and other NTBs that impede trade. Their removal is a key Canadian objective in the multilateral trade negotiations under the General Agreement on Tariffs and Trade (GATT). Japan, for example, has a relatively high tariff on cod and a quota system that further restricts imports. The EC extends preferential tariffs to some, but not all, of its supplier nations and, for some products including cod, has a reference price system to protect its own fish harvesters from what the EC considers to be unfair competition. 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.

Another example of NTBs hindering international trade occurs with the selective application of existing rules or regulations or the creation of inappropriate rules targeted at specific products. In 1991, for example, Canadian lobsters were barred entry to the United States because they did not comply with size regulations intended to protect American stocks from overfishing.

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 east 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 east 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. The Table below summarizes the main elements and impacts of the FTA.

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

Several other elements of the FTA also benefit the industry. The FTA binational dispute settlement mechanism for anti-dumping 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 seafood 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.

Under the FTA, quantitative trade restrictions taken for reasons such as supply shortage or resource management are applied to maintain traditional shares of the available resource. Certain provincial controls on the export of unprocessed fish are also protected under the FTA.

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. Among the most important restrictions are the U.S. Food and Drug Administration mercury content regulations for swordfish, possession limit requirements, particularly those stipulated by the New England Fisheries Management Council regarding size limits for groundfish, lobster and scallop imports, as well as prohibitions by Minnesota and Michigan against the sale of cold-smoked fish. 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.

Foreign investment provisions 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

Technological development and the degree of its application in Canada are often compared with those found in other regions such as Europe or Japan. In order to assess Canada's relative position in the world industry, a Canadian fisheries technology mission, organized by Industry, Science and Technology Canada (ISTC), was sent to Europe in 1991. The mission reported no fundamentally new technology and noted that the high rate of adoption of technological innovation in Europe could be explained in part by high wage rates that encouraged mechanization. On the other hand, preservation technologies, which are critical to the Canadian seafood and marine products industry because of the long distances that the product must travel across the country, are not as important in Europe.

In Canada, because of the seasonality of the fisheries, capital-intensive fish processing innovations have not generally been attractive choices for the processing sector. In recent years, however, there have been changes directed at improving product quality, and there have been significant advances in the way that fish are handled from the moment of harvest to finished product delivery. Boxing and freezing at sea are



becoming more prevalent. Clearwater Fine Foods has led in the development of a packing and shipping system that permits the delivery of live lobsters to any market in the world. This company is also responsible for developing a dry land pound system that regulates the moulting cycle of lobsters to permit marketing of live lobsters year-round.

Although fish processing is not technology-intensive, the Atlantic industry makes appropriate use of technology to meet its operational needs and marketing opportunities. A Canadian processor, Terra Nova Fishery Company Limited, working with the Marine Institute in St. John's, Newfoundland, was the first company to commercially adapt the Japanese process of making imitation crab sticks from surimi, a fish paste material used extensively in Japan for a range of fish-based food and snack products. Most countries use Alaska pollack, the most heavily harvested species in the world, for the production of surimi. Terra Nova Fishery, however, makes crab sticks and other surimi products from small cod.

NSP has a seasonal state-of-the-art plant at Arnold's Cove, Newfoundland, for producing conventional fish products. FPI has built a plant at Marystown, Newfoundland, to increase the edible-product yield from fish processing operations by manufacturing high-quality protein by-products. NSP has also introduced a wide range of fish-based consumer products, many of which are specially formulated for microwave-oven preparation. FPI has introduced a line of similar products in Japan. These product innovations are significant because they are market-responsive rather than resource-driven. Canadian companies have also co-operated with the U.S. foodservices industry by developing products such as portion-controlled packs that are appropriate to the needs of that market.

Other Factors

In addition to the EFZ and the moratoria on cod and American plaice, which are based on careful resource management, Atlantic fishery processing is directed by a number of regulatory controls designed to protect public health.

A growing concern for protection of environmental quality is prompting the introduction of additional regulations. The benefits of these regulations are being recognized by the industry, although applying them has been a difficult challenge. The technology exists for processors to recover previously unused portions of fish carcasses and to convert them to useful products such as fish meal and fish oil. However, the decentralized structure of the industry and the seasonality of many of its plants limit their ability to pay for such technological improvements. Moreover, in view of the importance of export markets to this industry, implementation of environmental controls has to be carefully timed to avoid jeopardizing Canada's ability to compete successfully with countries that

are moving more slowly to establish measures for protecting environmental quality. Progress has been made, although more research is required. For more information, see the industry profile titled *Fish Meal and Fish Oil*.

Evolving Environment

Fish processing was initiated in Canada in order to provide a means of preserving the fish until they could be delivered to market. Products were semiprocessed commodities such as frozen cod blocks, or staples such as canned salmon. These products from various suppliers 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. This resource-driven approach to marketing is still common throughout the industry. However, a market-responsive approach is gaining momentum among the more progressive companies that are facing more intense and sophisticated international competition. Individual, transferable quotas and the DFO's Enterprise Allocation Program, which allows quota holders to schedule their harvest to coincide with demand, as well as the potential of aquaculture and biotechnology to control the qualities of fish to satisfy market opportunities are expected to increase the trend toward market-responsive products.

The competitiveness of the east coast seafood and marine products industry will also continue to be affected by such external factors as the state of the resource, the market and the economy as well as by its own operational and marketing skills. Because seafood processing is export-oriented, these factors must be considered in a global context. Canadian groundfish processors will be affected not only by resource management policies, including the moratoria on cod and American plaice in certain zones, but also by decisions made by other nations with large groundfish resources. For example, proposals to divert some of the Alaska pollack harvested in the U.S. fishing zone from surimi use to fillets could erode the lower-quality end of the Canadian cod fillet market in the United States.

One of the most significant factors affecting the industry's performance is a shift away from the traditional resource-driven market strategies of the past. Companies are becoming more market-responsive both in their attention to quality and in their approach to product development.

Changes taking place in demographic and cultural patterns will change the nature of many markets. Value-added convenience products are becoming acceptable in markets that would not have considered them a few years ago; flavoured



herring roe and prepared fish dinners in Japan are two examples of markets in which Canadian companies have already taken part. Because fish is perceived as a healthful food, it is gaining ground against other protein foods in many markets. Lifestyle changes are making convenience foods more acceptable to consumers in markets that have historically preferred fresh fish.

Fresh fish is generally an expensive item for the consumer. It is highly perishable and care must be taken to protect its quality. Economies must be strong to support demand for the high-value-added products that the industry would prefer to market. Fish processors must develop markets for such higher-value-added products to counteract inroads already being made at the lower end of the quality scale through the substitution of less expensive species such as hake and Alaska pollack for cod in products such as fish sticks and breaded portions.

Fish must be promoted generically in order to improve their share of consumer markets now dominated by meat and poultry. Some countries consume a significantly higher percentage of fish than Canada mainly because of tradition and culture. Countries such as Germany, Italy and the United Kingdom, on the other hand, consume less. Past attempts to raise consumption based on consumer education and product promotion have been successful. Current marketing efforts include improving the delivery to market in order to protect quality and increase availability. Recognizing that the most populated market in Canada is up to 2 000 kilometres from where the product is landed, systems are being developed to move high-quality fish to market quickly, to have them displayed attractively and to have them sold by knowledgeable salespeople. Many large-city supermarkets in Ontario and Quebec now have properly equipped fish counters staffed by qualified sales consultants.

Internationally, a number of species are referred to as sardines. Connors Bros. is one of the world's leading producers of canned sardines using juvenile herring, and also cans other herring products such as kippers. The EC, however, is proposing to exclude herring from the list of fish eligible for packing as sardines, which may adversely affect Canadian exports to that market. Canada considers this move to be an NTB. At the time of writing, negotiations are under way to allow continued use of the term "sardine" to describe the Canadian product.

Competitiveness Assessment

The competitiveness of east coast commercial fishery products varies by product and by market. The industry has generally been successful in adjusting its harvesting efforts and marketing strategies to recognize this situation.

Rebuilding and maintaining fish stocks and competitiveness in service, quality and price remain the most important considerations in the day-to-day management of the industry. In order for processors to remain competitive in the face of globalization of trade, they must adopt a dynamic approach to keep abreast of the latest technology and marketing methods.

In most markets, even those where Canada is one of the leading foreign suppliers, the bulk of requirements are supplied by domestic industries. For example, Japan, the largest fish consumer in the world, is also the largest harvester, supplying 90 percent of its own requirements. Successful Canadian companies selling in Japan have concentrated on unique products such as live lobsters or on products such as redfish, queen crab or herring roe, for which there is a medium- to long-term shortage in Japanese domestic supplies.

Overall, the United States, because of its proximity and size, remains Canada's largest export market. Pressure from products at the lower-price end of the U.S. market is being met by Canadian processors who are targeting their products at the higher-quality end of the market. The diversion of some of the American Alaska pollack from surimi to fillet production will increase competition against Canadian cod. Canadian groundfish has a well-established and respected position in the U.S. market and is developing a smaller but potentially good market in Japan. In the European groundfish market, Canada is a secondary supplier. Canadian competitiveness in that market is not likely to improve significantly while preferential tariff treaties between the EC and Scandinavia are in effect.

Canadian sardines are competitive on world markets, and pickled and cured herring products are competitive in the United States. Frozen Atlantic herring roe competes successfully with similar product from other North Atlantic producers in the growing Japanese market. Frozen herring fillets, which were exported to Europe in large quantities during the collapse of the North Sea and Baltic Sea stocks, are no longer competitive there now that those stocks have recovered. Canadian shellfish are generally competitive, and world markets appear to be able to absorb anticipated supply increases. Species of fish that are not competitive on world markets either because of unreliability of supply or cost of production are not harvested or, like mackerel, are harvested in limited quantities.

Some plants have been shut down because of the shortages of groundfish, particularly cod. As well, there are problems including price and tariff barriers in marketing pelagic species. Companies that depend on continuity of supply to support expensive brand-name market development programs have had to modify long-range marketing plans. Canadian resource management policy is designed to allow for rebuilding fish stocks at a satisfactory rate, improving fishing opportunities for Canadians and fulfilling our international obligations under the Law of the Sea and bilateral arrangements.



Weak demand and supply conditions have delayed achievement of full market potential. The current performance of the industry should be viewed within the context of the generally weak economic conditions in the United States, the principal export market. Economic adversity is not new for this industry, which has faced unprecedented challenges since 1973. Fuel price increases of five- to sixfold (taking inflation into account) over the past two decades only aggravated the cost-price squeeze facing the industry. Recession in 1981-1982 also affected domestic conditions and contributed to depressed prices in world markets. However, the well-established competitive infrastructure, well-established skills in processing and marketing, and demand for the product, are factors which will assist the industry to regain its strength.

For further information concerning the subject matter contained in this profile or on the ISTC initiative listed on page 14, contact

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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
East Coast							
Establishments ^c	331	324	335	344	371	383	377
Employment ^c	20 830	22 522	24 338	25 950	25 470	21 582	22 124
Shipments ^b (\$ millions)	1 393	1 617	2 059	2 217	2 249	2 144	2 221
(thousands of tonnes)	540	599	597	606	642	640	682
Landed value ^b (\$ millions)	597	688	878	1 117	1 012	960	953
Landings ^b (thousands of tonnes)	1 072	1 188	1 245	1 265	1 339	1 272	1 297

^aSee *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.

^bData on shipments, landed value and landings are from Department of Fisheries and Oceans, *Canadian Fisheries Statistical Highlights*, annual. Data exclude aquaculture.

^cSee *Food Industries: Fish Products Industry*, Statistics Canada Catalogue No. 32-250B, annual (SIC 1021, fish products industry). Data include establishments and employment located in Quebec.



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

^aExport 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.

^bIt 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.

^cData 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

^aData are from Statistics Canada, International Trade Division, as cited by Department of Fisheries and Oceans, *Canadian Fisheries Statistical Highlights*, annual.

^bAlthough 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

^aData are from Statistics Canada, International Trade Division, as cited by Department of Fisheries and Oceans, *Canadian Fisheries Statistical Highlights*, annual.

^bAlthough 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

^aAtlantic data include Quebec.

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

^cSee *Canadian Fisheries Statistical Highlights*, Department of Fisheries and Oceans, annual.

MAJOR FIRMS, EAST COAST

Name	Country of ownership	Location of major plants
Clearwater Fine Foods Inc.	Canada	Alder Point, Nova Scotia Arichat, Nova Scotia Bedford, Nova Scotia Clarks Harbour, Nova Scotia
Connors Bros., Limited	Canada	Blacks Harbour, New Brunswick
Fishery Products International Limited	Canada	Burin, Newfoundland Marystown, Newfoundland St. Anthony, Newfoundland
National Sea Products Ltd.	Canada	Arnold's Cove, Newfoundland Bridgewater, Nova Scotia Lunenburg, Nova Scotia



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SECTORAL STUDIES AND INITIATIVES

For further information on the following initiative, contact Industry, Science and Technology Canada (see address on page 10).

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

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