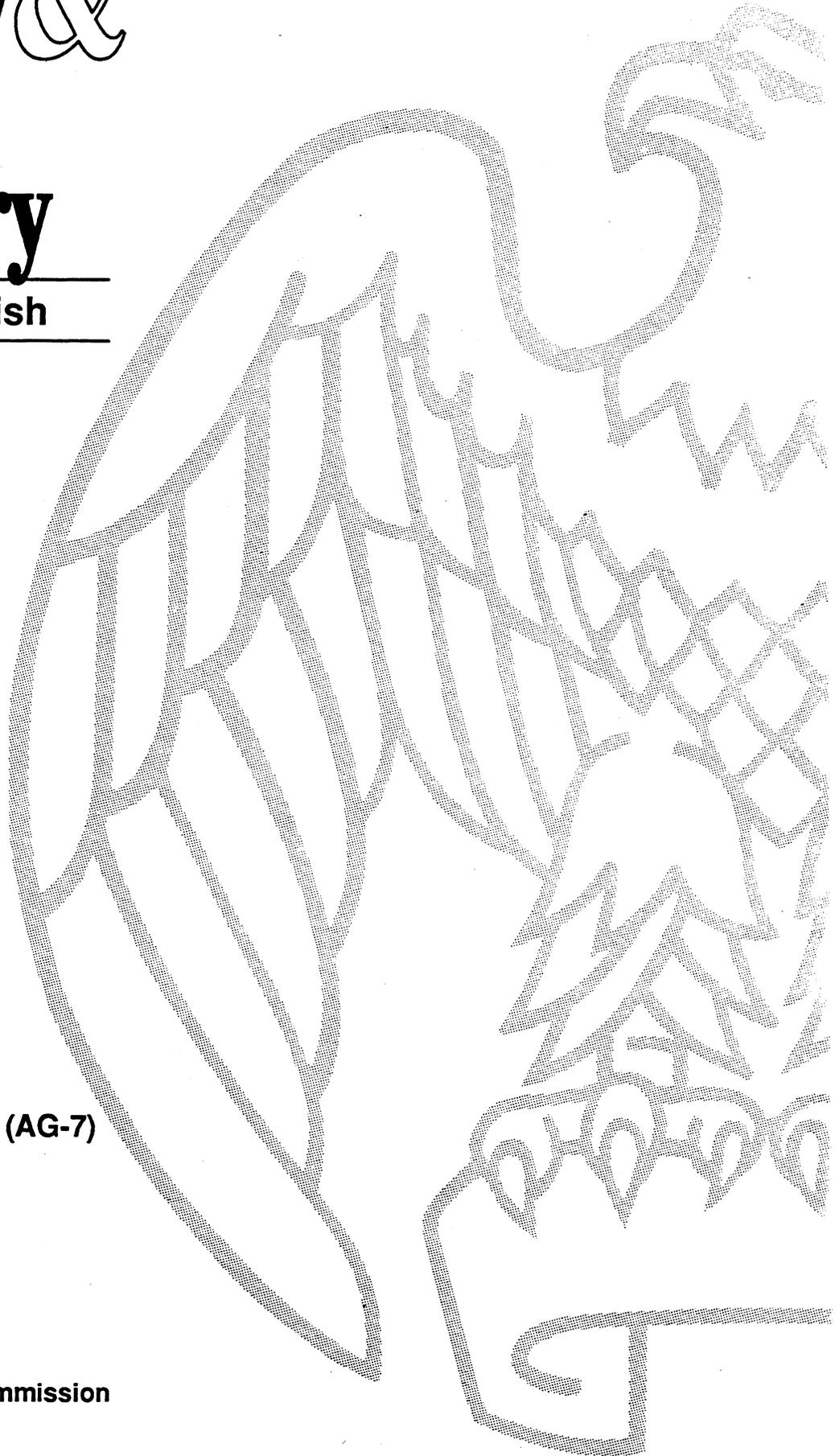


# Industry & Trade Summary

Fresh or Frozen Fish



**USITC Publication 2544 (AG-7)  
August 1992**

**OFFICE OF INDUSTRIES  
U.S. International Trade Commission  
Washington, DC 20436**

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## PREFACE

In 1991 the United States International Trade Commission initiated its current *Industry and Trade Summary* series of informational reports on the thousands of products imported into and exported from the United States. Each summary addresses a different commodity/industry area and contains information on product uses, U.S. and foreign producers, and customs treatment. Also included is an analysis of the basic factors affecting trends in consumption, production, and trade of the commodity, as well as those bearing on the competitiveness of U.S. industries in domestic and foreign markets.<sup>1</sup>

This report on fresh or frozen fish covers the period 1986-90 and represents one of approximately 250 to 300 individual reports to be produced in this series during the first half of the 1990s. Listed below are the individual summary reports published to date on the agricultural, animal, and vegetable products sector.

<i>USITC publication number</i>	<i>Publication date</i>	<i>Title</i>
2459(AG-1)	November 1991 .....	Live Sheep and Meat of Sheep
2462(AG-2)	November 1991 .....	Cigarettes
2477(AG-3)	January 1992 .....	Dairy Produce
2478(AG-4)	January 1992 .....	Oilseeds
2511(AG-5)	March 1992 .....	Live Swine and Fresh, Chilled, or Frozen Pork
2520(AG-6)	June 1992 .....	Poultry
2544(AG-7)	August 1992 .....	Fresh or Frozen Fish

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<sup>1</sup> The information and analysis provided in this report are for the purpose of this report only. Nothing in this report should be construed to indicate how the Commission would find in an investigation conducted under statutory authority covering the same or similar subject matter.



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## INTRODUCTION

This Industry and Trade Summary covers all fresh or frozen fish destined for human consumption.<sup>1</sup> Information is provided on the structure of the U.S. industry (including harvesters, aquaculturists ("fish farmers"), onshore and offshore processors), importers and exporters, and distributors such as wholesalers, retailers, and institutional marketers. Additional information is presented on certain foreign industries, domestic and foreign tariffs and nontariff measures, and the competitiveness of U.S. producers in both domestic and foreign markets. The report generally covers the period 1986 through 1990.

Finfish are limbless, vertebrate animals that live in salt- and freshwater bodies in every region of the world. Taxonomists have divided the more than 20,000 known species into three classes: Agnatha are the most primitive fishes, and include lampreys and other jawless fish; Chondrichthyes include sharks, stingrays, and other lungless fishes with cartilage in place of bones; and Osteichthyes, the most developed, are bony fishes with lungs.<sup>2</sup> Most fishes have scales and are cold-blooded; however, some, such as trout and catfish, have no scales, and some, such as tuna, are warm-blooded. Fish range in size from the smallest, the half-inch Philippine goby, to the largest, the 50-foot whale shark. The bluefin tuna, weighing in at up to 1,000 pounds, is the largest bony fish. Most fish species yield edible meat, but only a few are commercially important. Seafood is an important source of protein, and in some island nations (such as Japan and Iceland) it constitutes the principal type of meat consumed.

The U.S. fresh or frozen fish industry consists of four largely distinct sectors: fishing (harvesting), aquaculture, onshore processing, and offshore processing (factoryships). Harvesting and onshore processing are, by far, the largest sectors and they form the traditional base of the industry. Aquaculture and factoryships are relatively new developments in the U.S. industry (but are well developed and common in foreign industries) and have only a small place in the market to date, but the future potential, especially for aquaculture, is significant.

Fish destined for the fresh/frozen market (and indeed for all other seafood markets) are either harvested in the wild or raised by aquaculturists in coastal or inland fish farms. Wild harvest is the traditional method of production in most regions, including North America and Europe. U.S. harvesters and those of other developed economies employ a variety of fish-harvesting techniques. The particular technique employed depends on the species targeted by the harvester and on the eventual market. For example,

<sup>1</sup> Canned finfish, cured or otherwise prepared finfish, and shellfish are covered in other Industry and Trade Summaries.

<sup>2</sup> *A List of Common and Scientific Names of Fishes From the United States and Canada*, 4<sup>th</sup> ed., American Fisheries Society Special Publication No. 12, 1980.

large bag-shaped nets (called purse seines) are best suited for skipjack tuna and herring, which are schooling fish and are destined for canneries that are generally unconcerned about the bruising and other damage often done to fish by large nets. Bluefin tuna, on the other hand, are usually destined for the Japanese sushi market, so they often are caught by traditional pole-and-line methods that preserve the high quality of the freshly caught fish. Cod, haddock, and other species of groundfish dwell on the ocean bottom and are best harvested with large, bottom-dragging nets called otter trawls. All of these methods require significant investment in labor and capital: a complement of 10 to 12 crewmembers on a harvesting vessel is not uncommon, and the cost of a vessel (including hull, gear, and electronic sonar and other equipment) can range anywhere from \$50,000 for a small trawler to \$15 million for a large tuna purse seiner.

Aquaculture is a recent development in the U.S. fish industry, although it has been practiced for centuries in other countries, particularly in Asia.<sup>3</sup> Its growing popularity in the United States is due primarily to the rising cost of harvesting fish from rapidly depleting wild stocks of salmon and other commercially important fisheries. Aquaculture has thus far been used mainly for relatively valuable species (such as salmon); it is a particularly important source of fish for the fresh/frozen market, where fish traditionally command higher prices than for canning, curing, or other purposes.

Aquaculture technology is relatively straightforward. From eggs, fish larvae are raised in small containers (usually in hatcheries or other laboratories). Once the small fry have reached a certain size (e.g., a few centimeters in length), they are released into large swimming pool-like tanks encased in cement or into pens enclosed with netting that are suspended in a bay, estuary, or fjord whose circulation keeps the pens supplied with fresh water. Once the fish reach marketable size they are harvested from the pens with nets and shipped to market. Labor requirements consist mainly of skilled hatchery technicians; employment of family members is common in some aquaculture sectors. Capital investment can be quite substantial, in the hundreds of thousands of dollars, because of the high cost of sophisticated incubator tanks, grow-out tanks, and other specialized equipment, although apparent economies of scale can reduce the unit cost in large aquaculture operations. Facilities that do not raise their own larvae must buy it from hatcheries, which can be as expensive as doing it oneself.

<sup>3</sup> The terms aquaculture and mariculture are often used interchangeably; however, mariculture—the raising of plants and animals in seawater—is actually a branch of aquaculture. *Alaska Fisheries Handbook* (1990), p. 79. In the United States, freshwater aquaculture is important for some finfish (such as catfish, trout, and salmon), while mariculture is used primarily for shellfish and seaplants, which are covered in other Industry and Trade Summaries.

The main advantage to aquaculture is the elimination of the biological risk of supply fluctuations; i.e., the aquaculturist can more effectively control the number, size, and quality of the harvested fish. The fisherman, in contrast, is at the mercy of weather, fish abundance, and other elements of fishing "luck." In essence, therefore, aquaculture is to traditional fishing what farming is to hunting and gathering.

The principal market for both harvesters and aquaculturists is the processing sector. Fish processors are found both onshore and, less typically, offshore (on factoryships). Onshore processors produce both fresh and frozen fish products, while factoryships generally produce frozen fish (or other seafood, such as canned fish). Fresh-fish processing is highly labor intensive, mainly in the scaling, beheading, and filleting processes. These processes have been automated to some extent, but the success of these machines depends on high volume and consistent fish sizes, which the vagaries of fishing "luck" make hard to control. Frozen fish processing is more capital-intensive, largely because of the necessary investment in freezers, as well as the breaders, cookers, and other equipment used by makers of fish sticks and other processed products.

Factoryships are less common in the U.S. industry than in foreign industries such as Japan and the Soviet Union, mainly because U.S. harvesters need not travel far from the U.S. coastline to find rich fishery resources; their proximity to the coastline enables them to deliver their catch to onshore processors. In contrast, the fleets of Japan, the Soviet Union, and some other nations have relatively few undepleted fishery resources near their own shores, so they must travel great distances to find fishery resources. Factoryships of these nations follow the harvesting fleets (or are equipped to do their own harvesting) to reduce the spoilage of unprocessed fish.

Within the harvesting and processing sectors, there are further, equally important divisions based on geographical location and species of fish. The salmon fishermen and processors in Alaska, for example, are influenced only remotely by events in the fishery or markets for cod in New England, flounder in the Gulf of Mexico, or tuna in the so-called "distant water" fisheries of the South Pacific. Similarly, trout farmers in Idaho are neither directly affected by the supply of farmed catfish in Louisiana nor severely threatened by the possibility of future farming of tilapia anywhere.

In the United States, the largest markets for fresh and frozen fish are supermarkets, fishmongers, restaurants, and other retail links in the marketing chain between harvesters and households. The growth of chains of fast-food and seafood restaurants has been especially responsible for the growth in U.S. consumption of frozen fish and, indirectly, of fresh fish, because they have introduced seafood to many consumers, who are then more likely to buy fish at stores for home consumption. Other markets for harvested fish include the export market, which is of

increasing importance to the U.S. industry, and canneries and curing facilities, which are discussed in more detail in other Industry and Trade Summaries.

The world harvest of freshwater and saltwater fish (including finfish and shellfish) reached a record 99.5 million metric tons in 1989 (the latest year for which data are available), a nearly steady increase of 40 percent from the 1979 harvest of 71.1 million metric tons. Of the global total, about 45 percent is marketed in fresh or frozen form (about evenly split between the two forms). Three nations have traditionally vied for first place as the world's largest fish producer: Japan, the Soviet Union, and the People's Republic of China, which together accounted for 34 percent of the volume of the world harvest during 1986-89. The United States historically has ranked between 4th and 6th, accounting for about 6 percent of the world fish harvest during 1986-89.

In 1989, the United States displaced Canada as the world's largest exporter of fish (all forms and species), with a total of \$2.5 billion in exports, or about 8 percent of global exports. As an importer, the United States is second only to Japan, whose imports of \$10.1 billion in 1989 were almost twice the value of U.S. imports (\$5.7 billion), out of global imports of \$35.9 billion.<sup>4</sup>

In 1990, imports accounted for 58 percent of U.S. consumption of whole fresh or frozen fish, and 77 percent of U.S. consumption of fillets, steaks, and other fresh or frozen fish meat. The bulk of U.S. imports are semiprocessed products, such as frozen blocks of cod fillets destined for further processing into fish sticks, and raw tuna imported by canneries. In 1990, the United States imported \$780 million worth of whole fresh or frozen fish, and \$1.2 billion worth of fresh or frozen fillets and other fish meat.

## U.S. AND FOREIGN INDUSTRY PROFILES

### U.S. Industry

#### *Structure of the Industry*

The structure of the fresh/frozen fish industry in the United States is illustrated in figure 1. The Standard Industrial Classification (SIC) categories that pertain to the products in this Industry and Trade Summary are Commercial Fishing—Finfish (0912 pt.) and Prepared Fresh or Frozen Fish and Seafoods (2092 pt.)

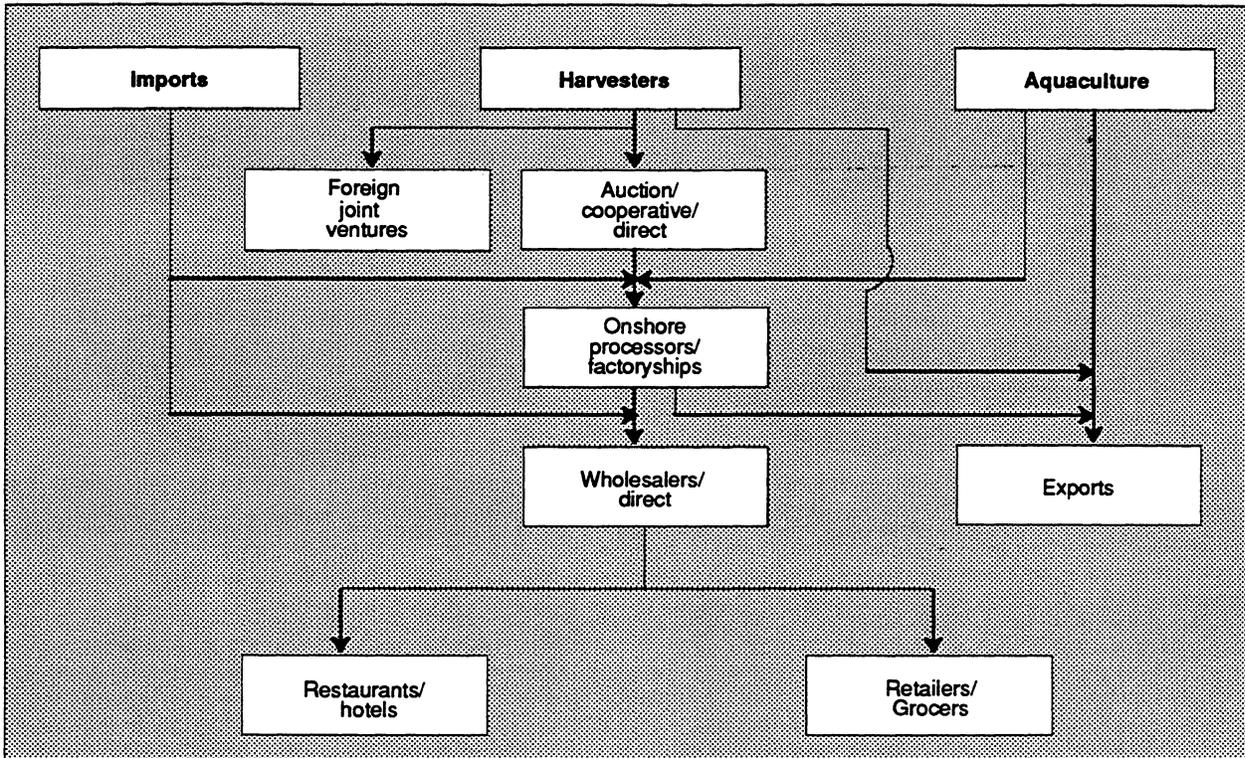
#### **Number of Firms, Geographic Distribution, and Concentration Among Firms**

#### *Harvesting*

The number of U.S.-flag fishing craft fell from 128,200 craft in 1986 to 92,900 in 1988 (the latest year for which official statistics are available). The Commission estimates that the fleet size subsequently

<sup>4</sup> For more information on the Canadian and Japanese seafood markets, see the foreign market profiles later in this report.

**Figure 1**  
**Fresh or frozen fish: Structure of the U.S. Industry and market**



Source: USITC staff.

increased somewhat to 95,000 craft in 1990 (table A-1).<sup>5</sup> Concentration is not widespread in the harvesting sector; most operations consist of only one or a few craft and some, especially small craft such as motorboats, belong to part-time harvesters. The size of fishing craft, however, varies within a wide range, from less than 5 gross register tons (GRT)<sup>6</sup> to 2,000 GRT or more. The vast majority of fishing craft are small; in a survey by the U.S. Department of Commerce of 17,859 craft in 1987, 11,532 craft or 65 percent of the total number, were less than 40 GRT, and only 9 vessels exceeded 1,000 GRT.<sup>7</sup> Data on craft numbers by geographic region are not available; however, regional data on fish landings (figure 2) indicate that the Pacific Coast region (including Alaska) contains the greatest harvesting capacity (62 percent of the total quantity of U.S. fish harvests in 1990), followed by the Gulf Coast (17 percent), the Chesapeake Bay (9 percent), and New England (7 percent) (table A-2).<sup>8</sup>

<sup>5</sup> Statistical tables are in appendix A.

<sup>6</sup> A gross register ton measures the vessel's volume (carrying capacity), not its weight. Vessels under 5 GRT are usually used by part-time fishermen and are not required to be registered with the U.S. Coast Guard.

<sup>7</sup> National Marine Fisheries Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, *Fisheries of the United States, 1990*, pp. 79-82.

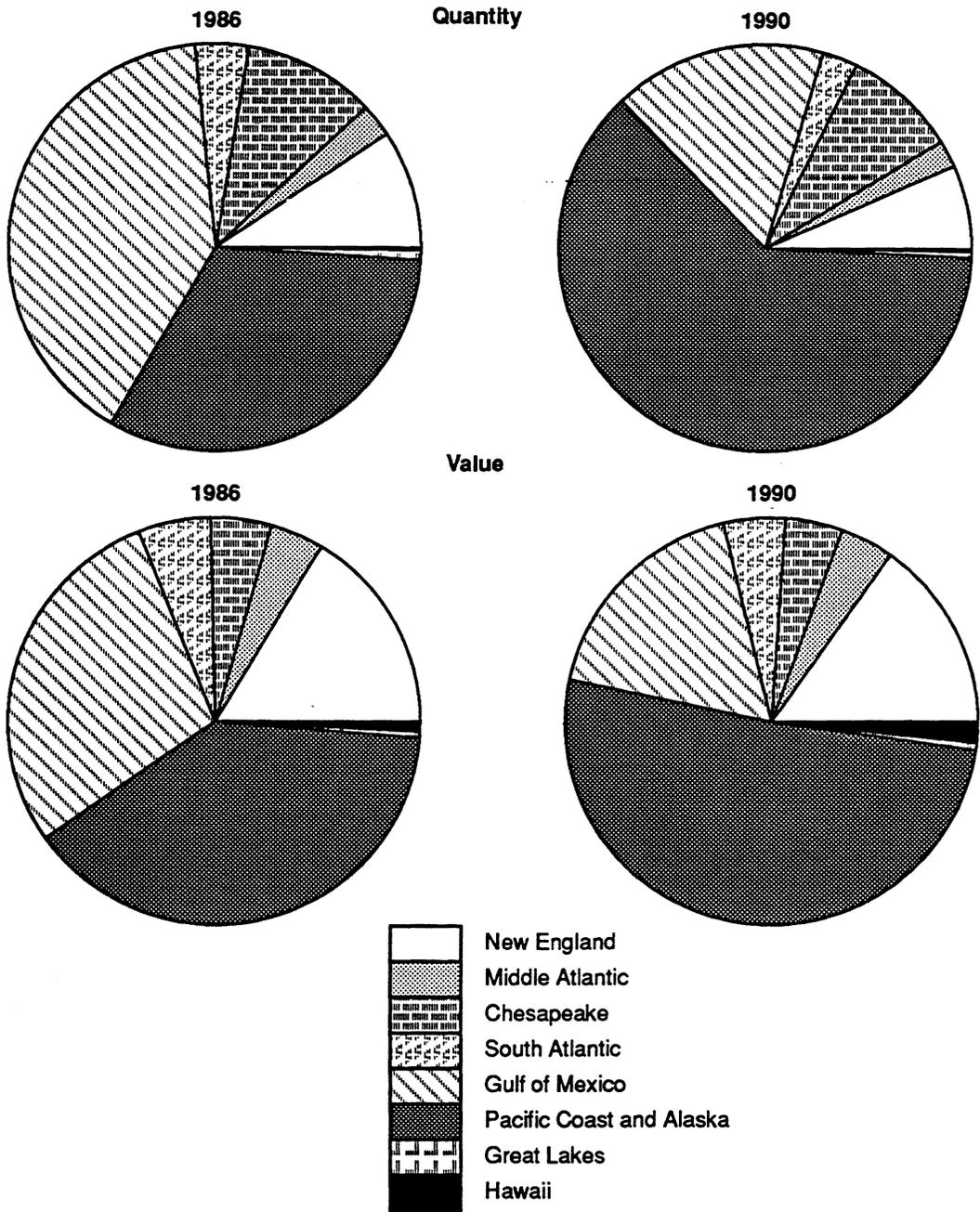
Employment in the harvesting of fish and shellfish increased from 247,000 persons in 1986 to 273,700 in 1988, and is estimated by Commission staff to have increased further to 300,000 in 1990. Many fish harvesting operations are family-run businesses and, in addition to documented employment, some labor is performed by family members at little or no out-of-pocket cost (unpaid labor). Immigrant labor is important in some fisheries, such as Pacific tuna and New England groundfish (as well as certain shellfish fisheries), partly because of the relatively low wages paid to such workers and partly because such workers often bring substantial experience in similar lines of business from their home countries; however, data on the numbers of such employment are not available.

#### Processing

In 1990, there were about 4,000 establishments engaged in the processing and/or wholesaling of fish; with the exception of several dozen salting and curing

<sup>8</sup> These data include all fish and shellfish; separate regional data on finfish are not available. The Gulf and Chesapeake regions are predominantly shellfish fisheries; therefore, the Pacific, Alaska, and New England coasts are probably the largest regions for the fresh and frozen finfish that are the subject of this summary.

**Figure 2**  
**U.S. fish landings, by region, 1986 and 1990**



Source: National Marine Fisheries Service, U.S. Department of Commerce.

establishments, most of the establishments in this total dealt in fresh or frozen fish. Most processors are also wholesalers, dealing directly with retailers and institutions; in addition, some sell to brokers or other middlemen. Processors of fresh or frozen fish range in size from large multinational firms (e.g., Gorton's) operating big factories with many dozens of employees, to small, dockside fish cutters employing a

handful of workers. They are usually but not always located near fishing ports, because fresh whole fish are more perishable than processed fish.

Employment in fish processing has ranged between 90,000 and 103,000 persons in recent years. These data include all types of fish processing; however, it appears that most such employment is in establishments that

process fresh or frozen finfish. As with harvesting, immigrant labor is quite common in some regions of the United States.

### **Labor Skill Levels and Productivity**

#### *Harvesting*

Fish harvesting requires considerable skill that comes mainly from on-the-job experience, not schooling. The vessel captain's skill in locating fish is the primary determinant of the economic success of the enterprise; to assist in this task, a wide variety of electronic sonar equipment ("fish finders") and satellite navigation gear are in use on most fishing vessels.

Physical productivity is difficult to measure in a natural resource industry—even more so in a common-property one such as a fishery. This is because of economic externalities: the quantity of fish available for harvest by one vessel depends in part on how much has been harvested by other vessels; thus, a harvester's output is affected by outside events beyond the control of the harvester (see the section below on "Special Considerations").

#### *Processing*

The cutting (or filleting) of fresh fish is probably the most complex manual job in fish processing, but it is a skill that is quickly learned on the job. To encourage quick learning and to reduce turnover, fish cutters in many establishments are paid according to the volume of fish processed; thus, the more fish processed, the higher the pay. Some establishments have introduced automated fish filleting machines, but their success has been limited by the fact that most models have to be reset to cut fish of different sizes or shapes. Moreover, the machines generally leave more flesh on the fish than a human fish cutter would, and their efficient operation requires consistent, large-scale production, which the volatility of fish landings prevents.<sup>9</sup>

### **Horizontal and vertical integration**

Horizontal integration in harvesting is quite limited. It is rare to find more than two vessels under the control of a single owner, and cases of a fleet of more than six or seven vessels under one owner are almost unknown. However, many harvesters are organized into fishermen's cooperatives in order to offset the economic imbalance in almost all ports between the large number of harvesters and the small number of processors and other fish buyers. Such

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<sup>9</sup> Therefore, the future growth of aquaculture in the United States will probably improve the economic viability of automated fish processing. The net effect of such adoption of automation on processing employment will depend, of course, on whether the increased aquaculture output enables the processing sector to grow enough to raise the aggregate demand for processing labor. However, estimation of the future growth of aquaculture production is beyond the scope of this report.

cooperatives operate mainly as marketing agents and supply houses (for bait, nets, and other inputs); some also act as harvesters' advocates to government agencies concerning regulatory policies, legislation, research programs, and other matters.

Horizontal integration in processing is also limited. Apparently, processors find it more economical to expand their firms by building larger establishments than by acquiring established ones. This is the case, for example, with the manufacture of breaded fish portions, which is a large-scale, capital-intensive process that can generate economies of scale with large plants. However, some processors (particularly of fresh fish, which is labor-intensive and therefore makes for limited scale economies for a single establishment) do own multiple establishments, usually in different ports in order to reduce the risks associated with dependency on one source of supply. This helps to overcome problems such as bad weather in one port which keeps the vessels from fishing, or when disgruntled fishermen tie up to protest low fish prices; the processor, having a buying agent already at work in another port, merely directs the agent to acquire more fish for the affected establishment.

Vertical integration occurs primarily among fishermen's cooperatives, some of which operate processing establishments for their members' output. Such "downstream" integration helps keep more of the consumer's fish dollar for the fishermen (or simply provides competition for independent processors in the same port). The reverse situation, "upstream" integration by a processor into harvesting, is less common in the fresh/frozen fish industry, although it has been common in the past in other seafood sectors such as canned tuna. However, upstream integration is common in the fresh/frozen fish industries of other countries, such as Japan and the Soviet Union, which have fleets of large vessels capable of traversing great distances; the reason that these vessels are owned by the processing companies is probably because they are beyond the financial reach of independent fishermen.

Some processors are integrated forward into retailing; examples include restaurant chains such as Red Lobster and Legal Seafoods. In the market for fresh fish, many supermarkets, fishmongers, and other noninstitutional retailers are processors in a sense, because they often do at least some of the preparation of the fish themselves, as do restaurants. However, since seafood makes up only a small share of the product line of most retailers, this Industry and Trade Summary does not treat such firms as processors of fish.

U.S. integration with foreign suppliers or marketers is common in the market for certain frozen fish products. Breaded fish sticks and portions, for example, are made almost exclusively from imported blocks of frozen fillets that domestic firms cut into individual portions. Some of these domestic firms are subsidiaries of the foreign exporters of the blocks; examples include Frionor, a Massachusetts-based subsidiary of Frionor of Norway, and National Sea Products, also of

Massachusetts, a subsidiary of a Canadian firm of the same name. Recently, Connors Brothers, a large Canadian fish processor and marketer, acquired Ocean Products, the largest U.S. salmon farming operation, located in Maine. Integration in the reverse direction—U.S. ownership of foreign subsidiaries—is rare and commercially unimportant in the industry as a whole.

### Marketing and pricing practices

The dockside, or ex-vessel, price of fresh fish—the price received by fishermen—is the key determinant of short-run prices for fresh or frozen fish throughout the marketing chain. At the ex-vessel level, fresh fish is marketed through a variety of methods. In many areas, such as New England, daily auctions are held in major ports (e.g., Boston and New Bedford, MA), where the combined harvests from several vessels are auctioned to local buyers. Fish of a given species and quality are generally highly fungible, so these auctions influence prices for similar species not only in the local port, but often throughout the region, as buyers and sellers elsewhere take the daily auction price as a guide to their own prices (with appropriate adjustments for transportation and local market conditions). New York City's Fulton Fish Market, the country's largest wholesale fish market, is another important influence on ex-vessel prices; the U.S. Department of Commerce publishes Fulton prices every other day and circulates them to industry members around the country.

Direct transactions between fishermen and processors are less common; they are found mainly in smaller or more isolated ports. In those cases as well, the prices prevailing in the larger ports often act as guides for the buyers and sellers in smaller ports. Some types of fish (e.g., fresh tuna on the Atlantic coast) are often destined for foreign markets (e.g., Tokyo), so local prices are reflective of conditions not in local markets but in foreign markets thousands of miles away; buyers of such fish often are representatives of foreign processors or wholesalers and once they take legal possession of the fish, the buyer makes all arrangements for transporting the fish to the foreign market.

In the case of Pacific tuna, which accounts for almost all of the U.S. tuna harvest, the catch is destined almost exclusively for the canning market. Canneries have in the past contracted for extended periods with independent harvesters (or owned their own fleets outright) in order to secure adequate supplies to keep their canneries operating efficiently. During the 1980s, however, the growing availability of imported frozen tuna on the spot market, and the subsequent fall in spot-market prices, made such contracts less desirable. In recent years (and for the foreseeable future) the contract system has largely broken down, and most frozen tuna now is sold to canneries on a spot basis.

Pacific pollock is noteworthy because of the dramatic increase in U.S. harvests at the expense of foreign fishing interests (see the "Special

Considerations" section below). Pacific pollock (unrelated to Atlantic pollock, which is marketed fresh like cod and haddock) has traditionally been sold to processors of surimi, a fish compound used to make imitation seafoods like artificial crabmeat ("kamaboko"). Surimi was developed long ago by the Japanese seafood industry, and for many years all domestic harvests of Pacific pollock were sold to Japanese processors (usually directly "over the side" to Japanese factoryships located in the Pacific fishing grounds). In recent years a significant U.S. market for surimi has developed, and after a few years of importing surimi from Japan, a domestic industry developed, so that now almost all domestic harvests are sold to U.S.-based surimi processors. The average ex-vessel price is still quite low (see table A-3), but the fish is normally harvested in such high volumes (i.e., several tons per haul) that it remains a profitable and growing domestic fishery (figure 3).

Some frozen fish products are marketed in a completely different way from fresh fish. For example, the 10- to 20-pound blocks of frozen fillets used to make breaded fish sticks and portions are produced on a large scale in a highly capital-intensive process. To ensure that this process runs efficiently, transactions for such blocks are usually contracted for in large volumes months in advance.<sup>10</sup> As with fresh fish, quality is paramount in the frozen-block business, for the marketers of, say, McDonald's fish sandwiches or of Mrs. Paul's fish sticks have built their market mainly on their reputation of consistent quality in every location and throughout the year. Contracts help reduce the uncertainty of price variations, supply volatility, and product quality by joining buyers and sellers in long-term economic relationships; however, aside from the block market, they are not common in the fresh/frozen fish industry.

### Special Considerations

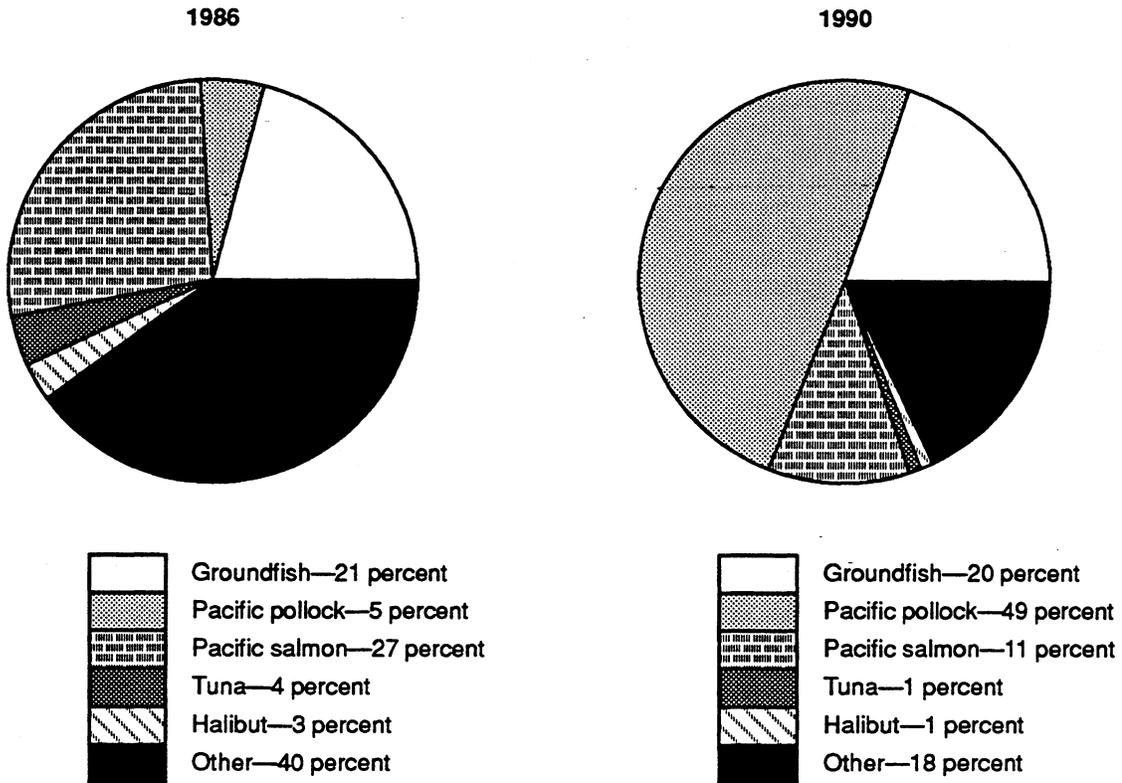
#### *Federal inspection*

In the U.S. market, seafood is the only meat whose processing is not subject to mandatory Federal inspection. Many firms, however, participate in a voluntary inspection program carried out by the U.S. Department of Commerce (USDC), covering such things as facility construction and maintenance, processing techniques, and employment practices. During 1990, a total of 213 inspected establishments processed a total of 842 million pounds of fishery products under USDC inspection. Such USDC inspection is paid for by the processors themselves (unlike the taxpayer-financed USDA meat inspection program), and enables processors to mark their products as "U.S. Grade A" or "Packed Under Federal Inspection."

Federal legislation has recently been introduced that would make seafood inspection mandatory. This

<sup>10</sup> As noted, almost all blocks are imported; the main exception is a small amount produced domestically for U.S. military sales.

**Figure 3**  
**U.S. fish landings, by species, 1986 and 1990**



Source: National Marine Fisheries Service, U.S. Department of Commerce.

legislation has the support of the industry because it is seen as likely to improve consumer confidence in and acceptance of seafood. However, at least two problems remain unresolved: one is which Federal agency (Commerce, Agriculture, or Health and Human Services (the Food and Drug Administration)) would take responsibility for the inspection program; the other is whether the industry would be charged for such mandatory inspection.

**Externalities**

As noted earlier, there are important economic externalities in harvesting a common-property natural resource such as a fishery. The quantity of fish available for harvest by one vessel depends not only on the vessel's own past harvest levels, but also on how much has been harvested by other vessels. In a common property (or open-access) fishery, the efforts of any one harvester to conserve the resource for greater future harvests are ineffective; thus, no harvester has any incentive to conserve or husband the resource. Each harvester seeks to take what is economical for it before others take it, but the true economic costs are borne by all harvesters who suffer from a depleted fishery. Eventually, as the resource is depleted, the costs of harvesting rise for all

harvesters.<sup>11</sup> Carried too far, such depletion reduces the fisherywide catch. There are more vessels than is optimal, and in the long term the eventual annual harvest is actually lower than it could be with fewer vessels—an economic waste that has been called “the tragedy of the commons.”<sup>12</sup>

In the past, many valuable U.S. fisheries have been subject to such high rates of harvest that industry-wide catch rates declined even as the harvesting effort or capacity grew; examples include cod, haddock and other groundfish species off New England, and swordfish off the southeastern United States. The productivity of the harvesters in these fisheries declined largely as a result of high catch rates by foreign fleets. The extension of the U.S. exclusive economic zone (EEZ) to 200 nautical miles from shore (the so-called 200-mile limit) was a response to uncontrolled foreign fishing that adversely affected U.S. fishing interests; the extension provided the means to exclude foreign-flag vessels from fisheries adjacent

<sup>11</sup> However, the resource's scarcity may cause price to increase by a commensurate amount, resulting in the backward bend typically observed in the long-run supply curve of most open-access fisheries.

<sup>12</sup> See G. Hardin, “The Tragedy of the Commons,” *Science*, Vol 162 (1968), pp. 1243-47.

to the United States.<sup>13</sup> More recently, Government efforts at licensing domestic harvesters or imposing seasonal or gear restrictions have been made in some fisheries.<sup>14</sup> Such efforts are carried out under Fishery Management Plans (FMPs) drawn up by any one of eight Regional Fishery Management Councils established by the MFCMA. Once approved by the Secretary of Commerce, such FMPs provide for fishing-effort restrictions or other measures needed to ensure the economic viability of individual fisheries that are or could be subjected to excessive harvesting levels. As of December 31, 1990, there were 32 FMPs in place, covering finfisheries as varied as salmon, swordfish, and anchovies, as well as other marine resources such as lobster, quahogs, and even corals.

### *International fisheries*

Another special consideration related to externalities is foreign competition within the U.S. EEZ. Both UNCLOS and the MFCMA require that a coastal nation allow foreign fleets access to underutilized or surplus fishery resources within its EEZ. The United States allows such access through Governing International Fishery Agreements (GIFAs) negotiated with foreign countries wishing to fish within the EEZ; a GIFA provides for an allocation for a certain species and a permit to enter the EEZ and fish for that species, and sets any conditions or restrictions on the activity. Foreign fleets are charged permit fees, poundage fees, a foreign fee surcharge, and an observer fee, which cover the costs of the permit program and capitalize a fund designed to compensate U.S. fishermen whose vessels or gear are lost or damaged because of conflicts with foreign vessels.

At the same time, the United States promotes development of the domestic fishing industry in order to capture more of the value of U.S. fishery resources for U.S. interests. Thus, over time, the level of foreign harvesting activity within the U.S. EEZ has declined. The most dramatic example of the success of

U.S. fishery development is the Pacific (or walleye) pollock fishery off Alaska, which traditionally was a Japanese fishery. In recent years, the above-noted growth of the U.S. market for surimi (made from pollock) has caused pollock harvests to skyrocket, with a corresponding decline in the surplus available for foreign fleets.

Competition still exists from foreign fleets, not only within the EEZ but from fleets operating just outside the 200-mile boundary; some of these fleets harvest U.S. fishery resources that are so large or far from shore that they overlap the 200-mile limit. High foreign harvest rates on the edges of these stocks can also reduce the stock's abundance within the boundary, and thereby raise fishing costs for U.S. harvesters. This type of competition is felt in the fisheries for Pacific pollock (where U.S. fishermen compete with Japanese and Soviet fleets in the Bering Sea), salmon (with Asian driftnet fleets in the Pacific), herring (with Canadian fleets in the Gulf of Maine), and swordfish (with Spanish fleets in the Atlantic), among others. In some cases, such as Pacific salmon, the United States has sought to protect the overall abundance of the resource by claiming U.S. management jurisdiction over overlapping resources beyond the 200-mile boundary. However, the success of this policy has been mixed, as the Coast Guard and the Commerce Department (the Federal agencies charged with fishery law enforcement) have had difficulties patrolling such large expanses of water.

Until 1992, tuna occupied a unique place in U.S. fishery management law. Following the 1976 creation of the 200-mile limit, the United States did not consider tuna found beyond the U.S. territorial sea (12 miles from shore) subject to U.S. jurisdiction. This was because tuna are highly migratory species that typically traverse thousands of miles of ocean every year; they are therefore not found within any one nation's EEZ for more than a few months per year. The U.S. Government therefore took the position that no single nation has adequate ability or motivation to properly manage tuna resources; reflecting this position, the United States for many years advocated a multilateral management system composed of all the nations within a tuna resource's migratory pattern.<sup>15</sup> The exclusion of tuna from national EEZ jurisdiction was unique to the United States and Japan; all other nations have treated tuna like the other fishery resources within their respective EEZs.

As an example of the multilateral approach to tuna management, the United States in 1986 joined with the members of the South Pacific Forum, which is composed of 16 South Pacific island nations,<sup>16</sup> in a

<sup>13</sup> One effect of the exclusion was the practice of "re-flagging," whereby foreign vessel owners would simply register their craft as a U.S.-flag vessel, enabling it to freely participate in a U.S. fishery. However, this practice largely ended with the enactment of the Commercial Fishing Industry Vessel Anti-Reflagging Act of 1987 (P.L. 100-239), which restricted foreign ownership of U.S.-flag fishing vessels to 49 percent and tightened the rules on reflagging, rebuilding, and obtaining a U.S. fishery vessel license. See James P. Walsh and Joseph D. Weinstein, "Foreign Investment in the U.S. Fishery Industry After the Anti-Reflagging Act of 1987," *The International Lawyer*, Vol. 22 (Winter 1988), pp. 1207-15.

<sup>14</sup> Since 1976 the Magnuson Fishery Conservation and Management Act (MFCMA) (P.L. 94-265) has provided for the conservation and management of all fishery resources within the U.S. EEZ. It also provides for fishery management authority over continental shelf resources and anadromous species (species that spawn in rivers, such as certain salmon) beyond the EEZ, except when they are found within a foreign nation's territorial sea or EEZ, to the extent that such sea or zone is recognized by the United States. See National Marine Fisheries Service, *Fisheries of the United States, 1990*,

<sup>14</sup>—Continued  
p. 86. The MFCMA is modelled after the fishery-law provisions of the United Nations Conference on the Law of the Sea (UNCLOS), to which the United States has not acceded for certain nonfishery reasons.

<sup>15</sup> Another likely reason for the U.S. position is that few commercially significant tuna resources are found within the U.S. EEZ.

<sup>16</sup> These nations include Australia, New Zealand, and 14 smaller island nations in the region.

fact to jointly manage the western Pacific tuna resources, the most valuable tuna resources to U.S. tuna fishermen. Similar ventures in the eastern Pacific among the United States and Latin American nations have met with less success because of the unwillingness of major regional countries (chiefly Mexico) to adopt the multilateral approach to tuna management.

Effective on January 1, 1992, the United States reversed its position on the inclusion of tuna within a nation's EEZ. The Fishery Conservation Acts Amendments of 1990 (FCAA),<sup>17</sup> signed into law by the President on November 28, 1990, amended the Magnuson Fishery Conservation and Management Act<sup>18</sup> (which created the 200-mile limit) by dropping the tuna exclusion and extending U.S. EEZ authority to include tuna species. The Secretary of Commerce is responsible for the management of East Coast tuna, as for all other fish species within the U.S. EEZ, and shares responsibility for Pacific stocks with the Pacific Fishery Management Council, a quasi-Governmental arm of the USDC.

Section 105 of the FCAA calls for the strengthening of international fishery agreements, including those allowing U.S. access to foreign fishing grounds, and for a renewal of the SPFFA treaty. An important inclusion is a declaration that the United States will implement a moratorium called for by the United Nations General Assembly in Resolution No. 44-225 (co-sponsored by the United States), which bans the use of large-scale driftnets beyond the EEZ of any nation after June 30, 1992. Such driftnets, which are deployed mainly by Japan, Korea, and Taiwan, annually kill hundreds of thousands of marine mammals, seabirds, and fish whose populations are already depleted, and are widely considered an irresponsible method of fishing.

### *Consumer Characteristics and Factors Affecting Demand*<sup>19</sup>

#### **Consumer Characteristics**

Despite significant market growth in recent years, fresh or frozen fish remain a minor meat group in the U.S. market. Annual consumption per person has ranged between 9 to 11 pounds in recent years, compared with 90 pounds of poultry and 125 pounds of red meat.<sup>20</sup> U.S. consumers are not among the world's

<sup>17</sup> Public Law No. 101-627.

<sup>18</sup> Public Law No. 94-265.

<sup>19</sup> This discussion covers only the consumer market for fresh or frozen fish. However, a large share of the U.S. fish harvest, while technically fresh or frozen fish, is destined for nonfresh/frozen uses such as the canning and curing industries.

<sup>20</sup> National Marine Fisheries Service, *Fisheries of the United States, 1990*; Economic Research Service, U.S. Department of Agriculture, *Livestock and Poultry Situation and Outlook Report*.

largest fish consumers; during 1986-88, consumption per person of fish and shellfish (all types; live-weight basis) totalled 45 pounds in the United States, compared with 59 pounds in Canada, 64 pounds in France, and 157 pounds in Japan.<sup>21</sup>

U.S. fresh-fish consumption is concentrated on the east and west coasts, mainly because of traditional consumer tastes and eating patterns and the difficulties with transporting perishable product long distances (although improvements in air-freight are removing this latter restriction<sup>22</sup>). In addition to small communities near fishing ports, consumption is concentrated in the large metropolitan markets of the Washington-Boston corridor, Chicago, Los Angeles, and other cities. Annual per-capita consumption of fillets and steaks (both fresh and frozen) rose from 2.4 pounds in 1981 to a record 3.6 pounds in 1987, before declining to 3.1 pounds in 1990.

Consumption of frozen fish occurs virtually nationwide, thanks in part to the growth of restaurant chains and nationally advertised brands of breaded fish products. However, it remains a stagnant or declining market overall; annual consumption per person of sticks and portions has declined steadily from its record 2.2 pounds in 1979, to a 20-year low of 1.5 pounds in 1988-90.<sup>23</sup>

#### **Factors Affecting Demand**

The demand for fresh or frozen fish is influenced by such factors as the prices of substitute meats—e.g., beef, pork, and poultry—consumer income, and consumer attitudes. Fish prices are generally higher than those of substitute meats, which probably contributes to the low consumption of fish compared with other meats. Estimated cross-price elasticities<sup>24</sup> with respect to other meats have generally yielded inconclusive results.<sup>25</sup> Some consumers reject fish species that taste or smell "fishy," which probably explains the traditional popularity of cod and other whitefish with a milder taste and a more subtle aroma

<sup>21</sup> Food and Agriculture Organization of the United Nations, *Yearbook of Fishery Statistics, 1989*, vol. 69. Data are in live-weight equivalents.

<sup>22</sup> Such improvements have been made mainly by foreign airlines (e.g., SAS and Air Canada) to help market fresh fish from Scandinavia and Newfoundland to the Midwest and the West Coast.

<sup>23</sup> National Marine Fisheries Service, *Fisheries of the United States, 1990*. One factor behind this decline may be health concerns that have turned consumers away from breaded and/or fried fish products.

<sup>24</sup> A price elasticity measures the percentage change in quantity resulting from a 1-percent change in price. For example, a price elasticity of demand measures the price responsiveness of the quantity demanded. A cross-price elasticity of demand measures the responsiveness of the quantity demanded of one product with respect to a change in the price of another product.

than oily fish such as tuna or mackerel.<sup>26</sup> Industry sources maintain that growing health perceptions among some consumers, especially perceptions about fat and cholesterol, may have a positive effect on demand for cod and other white fish, which is low in both fat and cholesterol.<sup>27</sup>

As would be expected of such a diverse group of foods, estimates of price elasticities of demand for fresh or frozen fish vary widely by commodity. The Commission recently estimated a range for the elasticity of demand for fresh Atlantic salmon of between -1.0 and -2.5,<sup>28</sup> a reflection of the fact that this product has several substitutes, including other species of salmon, other seafoods, and other meats. Another source statistically estimated elasticities for fresh or frozen cod (-0.54), flounders (-0.45), haddock (-0.56), ocean perch (-0.7), and snapper (-0.67).<sup>29</sup> These estimates, most of which were not statistically significant, seem rather low in view of the fact that, like salmon, each of these products has a wide variety of substitutes.

### Foreign Industries

The Soviet Union traditionally was the world's largest harvester of fish and shellfish, followed by the

<sup>25</sup> For example, one source found the following:

	Cross-price elasticity	
	Poultry	Red meat
Cod .....	0.61	0.17
Flounders .....	-0.55	-0.06
Haddock .....	-0.40	0.01
Perch .....	0.32	-0.10
Snapper .....	-1.78	-0.16

Hsiang-tai Cheng and Oral Capps, Jr. "Demand Analysis of Fresh and Frozen Finfish and Shellfish in the United States," *American Journal of Agricultural Economics*, August 1988, pp. 533-42.

<sup>26</sup> In addition to taste and smell, color (or the lack of it) appears to be an important demand consideration. Industry sources report that consumers rejected an attempt by a fast-food chain to sell fish sandwiches made from Atlantic pollock, a member of the cod family that has somewhat darker flesh than the nearly white flesh of cod. The switch was attempted because Atlantic pollock is significantly less expensive than cod (probably as a result of its color and consequent low consumer appeal).

<sup>27</sup> Industry representatives are trying to take advantage of this phenomenon. A recent advertising campaign by the National Fish and Seafood Promotion Council, for example, features the "Spokesfish" (formerly the "Sturgeon General"), a cartoon character that urges consumers to "eat fish twice a week" and "if it swims, grill it." The campaign is aimed at increasing consumer awareness of fish, as well as retailers' knowledge of seafood and salesmanship in marketing fish.

<sup>28</sup> *Fresh and Chilled Atlantic Salmon From Norway*, Investigation Nos. 701-TA-302 and 731-TA-454, Memorandum INV-0-048.

<sup>29</sup> Hsiang-tai Cheng and Oral Capps, Jr. "Demand Analysis of Fresh and Frozen Finfish."

People's Republic of China and Japan (table A-4 and figure 4). The combined coastal nations of Western Europe also constitute a large fish-harvesting region. One might intuitively expect that a principal determinant of the fish-producing capacity of a nation is the size and richness of the natural fishery resources in its lakes and rivers and adjacent to its shores. While this is true for the United States, Canada, and most of the less developed world, it is not true for the three largest producers. The Soviet Union and Japan achieved their dominant position by harvesting the resources of other nations' waters (usually under some form of joint venture or other access arrangement) or on the high seas, while China has developed a large aquaculture or fish-farming industry, enabling it to "artificially" supplement its limited natural fish resources. Of the major foreign industries, the countries of the former Soviet Union, Japan, and Canada are of greatest importance to the U.S. industry and market.

### The Soviet Union

Competition between the fishermen of the United States and the countries of the former U.S.S.R. dates back many years; indeed, one of the principal reasons for the U.S. extension of the EEZ to 200 miles was the severe depletion of valuable stocks of haddock and other groundfish in the North Atlantic caused by heavy fishing pressure by Soviet and eastern bloc trawlers and factoryships in the 1960s and 1970s. These "distant-water" fishing fleets of the Soviet Union are the world's largest, with more than 2,000 trawlers and other harvesting ships and about 500 factoryships and refrigerated carriers operating in every ocean and sea in the world.<sup>30</sup> Many of these vessels are 20 to 30 years old, and they will soon have to be retired and replaced, probably at great expense and possibly with western participation through joint ventures or other investment arrangements.

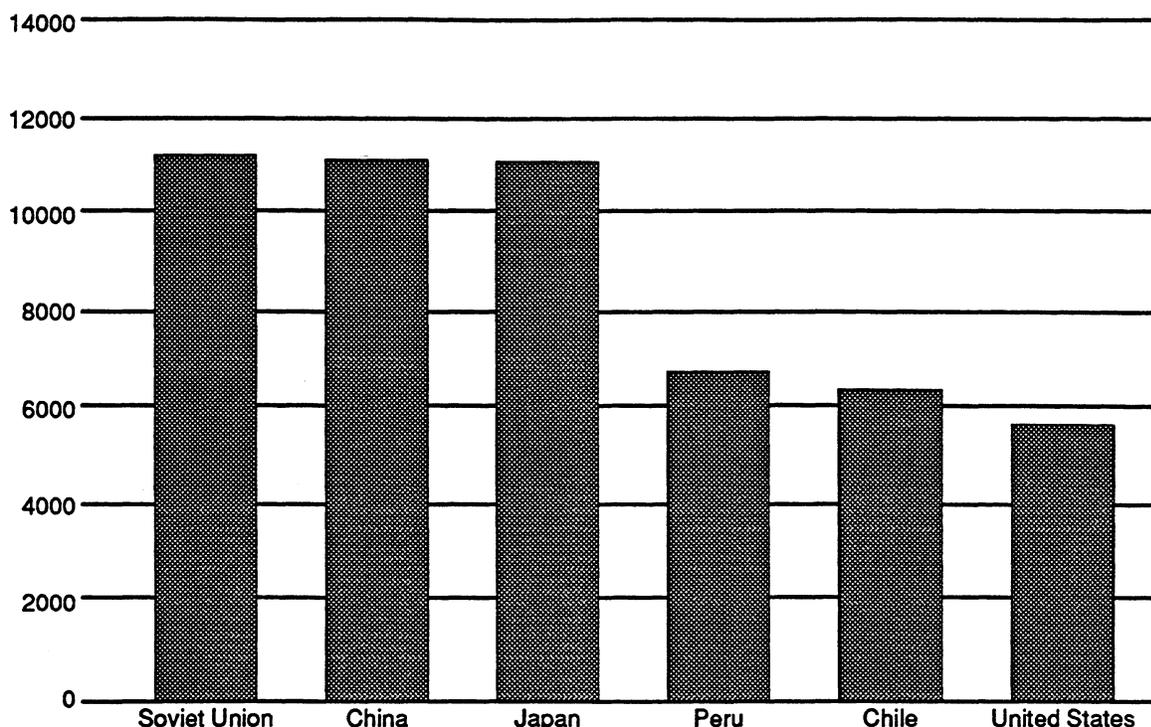
From a trade perspective, the former Soviet Union is neither a significant market for exports from the U.S. industry<sup>31</sup> nor an important source of imports into the U.S. market.<sup>32</sup> On the fishing grounds, however, Russian and East European harvesters have traditionally been both partner with and competitor to U.S. harvesters. Much Russian fishing and factoryship

<sup>30</sup> This fleet has also been highly subsidized in the past, requiring Government assistance of 2.3 million rubles in 1990, according to remarks of Dr. Ulrich Nussbaum at the 1991 Boston Seafood Show. However, this assistance, which covers vessel construction as well as fees for foreign fishery access, appears likely to end with the expected privatization of the fleet, most of which belongs to the Russian Republic. See "Russia Frees Fleet," *Fishing News International*, October 1991, pp. 1, 4.

<sup>31</sup> U.S.-harvested fish delivered over-the-side to foreign-flag ships typically are not counted as U.S. exports because the Soviet-flag vessel is usually located beyond the United States' 12-mile territorial sea (i.e., the U.S. Customs zone). See "U.S. Customs Treatment of Exports" below.

<sup>32</sup> An exception to this is caviar (sturgeon roe). World production and exports of caviar are dominated by the countries of the former Soviet Union and Iran, both of which border the Caspian Sea, where the greatest sturgeon resources are found.

**Figure 4**  
**Fish harvests by principal fishing nations, 1989**



Source: Food and Agriculture Organization of the United Nations.

activity consists of joint ventures with U.S. harvesters in the Atlantic Ocean, where most Russian fish harvests take place. These joint ventures, in which U.S. harvesters deliver their catch over-the-side to Russian factoryships or motherships, provide a large market for a number of fish species that have only a limited market in the United States, such as hake and squid. On the other hand, Russian harvesters in the Bering Sea fish some of the same groundfish stocks as are fished by Alaskan harvesters. In the past, Soviet agreements with various South Pacific nations gave them preferential treatment in gaining access to tuna resources in those nations' waters, which are also important to U.S. harvesters.

### *Japan*

A similar pattern of cooperation and competition is found between the Japanese and U.S. fishing industries. Japanese-U.S. trade is important to both nation's fish industries. As with the Soviet Union, Japanese-U.S. joint ventures have traditionally been important market opportunities for U.S. harvesters; yet there has also been significant competition in the Pacific groundfish, salmon, and tuna fisheries. Unlike the former Soviet Union, Japan is a major market for U.S. seafood exports (table A-5). It is not, however, a significant source of U.S. seafood imports.

The reduced access to foreign fishing grounds that began in the 1970s set in motion a transformation of the Japanese fish industry that continues to this day. Imports are supplying a larger share of total seafood consumption. Much of the fleet of distant-water harvesters and factoryships have been retooled as refrigerated transport vessels for joint-venture fish caught by foreign fishermen. The large fishing companies, such as Nippon Suisan and Taiyo, now do as much marketing as they do harvesting and processing. Aquaculture is making great strides as a means to replace lost ocean fisheries. Yet despite these changes, the Japanese industry remains one of the world's largest, with a fleet of trawlers, longliners, and factoryships that numbers in the thousands (unlike the Russian fleet, many of these vessels are modern, highly efficient vessels). Onshore, there is a complicated network of processing, wholesaling and retailing operations that is concentrated both nationally and at the local market level.

### *Canada*

The Canadian fresh/frozen fish industry is of interest because of its direct competition with U.S. harvesters and processors. This competition is felt in two ways: on the fishing grounds, where many fish resources are shared by both nations' harvesters, and in the U.S. marketplace, which is the biggest market for both nations' industries. Indeed, one observer has gone

so far as to suggest that the two nations' industries should be viewed as one, divided only by a political boundary.<sup>33</sup> The greatest competition is found on the Atlantic coast. Harvesters from the Maritime Provinces face off with harvesters from New England for the groundfish and shellfish resources on Georges Bank (due east of Cape Cod and south of Nova Scotia) and the Gulf of Maine, two of the richest fishing grounds in the world.<sup>34</sup>

Considerable U.S.-Canadian conflict over fisheries centers on the different fishery management policies employed by the respective governments. In particular, industry interests on both sides of the border believe that Canada exercises more effective management control over its fisheries than does the United States. The problem arises because, when two nations separately manage a shared fishery, the effectiveness of one nation's management actions is influenced by the management actions of the other nation. For example, to the extent that one side overfishes its resource, the other side suffers reduced resource abundance and higher harvesting costs. The potential conflict is of particular concern to Canada because of the greater socioeconomic dependence of Atlantic Canada on the fisheries. To date, however, no effective system of cooperative management of shared U.S.-Canadian Atlantic fisheries has been implemented.

There are about 40,000 registered fishing vessels in Canada, of which about 30,000 are found in the Atlantic Provinces, and the remainder are in British Columbia or freshwater fisheries. These fleets are supported by a workforce of 12,000 to 15,000 full-time fishermen and an equal number of part-time fishermen, most of whom are in the groundfish fisheries of the Maritimes and Newfoundland.<sup>35</sup> In 1988 (the latest

<sup>33</sup> Joel Garreau, *The Nine Nations of North America* (New York: Avon Books, 1981). Garreau argues that, for many geographic regions in North America, such as the area consisting of the Atlantic Provinces and New England, regional economic and social interests are more influential than the political boundary that the regions overlap.

<sup>34</sup> Following extensions of fishery jurisdictions in 1977, both countries claimed parts of Georges Bank, which both nations had fished for generations. The resulting protracted dispute eventually was resolved by the International Court of Justice in 1986. The court's decision to split the fishing grounds down the middle, which both nations' governments accepted, settled the political dispute. However, it did not end the two industries' conflict; to this day, the Canadian Coast Guard routinely tracks down and apprehends U.S. harvesters found illegally fishing in Canadian waters.

The West Coast is not immune from conflict. In particular, there remains some disagreement over the proper delimitation of the maritime boundary between British Columbia and Alaska (the "54°40' or fight" parallel made famous by early 19th-century American extremists in the dispute with Great Britain over the Oregon territory, and later used during the 1844 presidential campaign of James Polk).

<sup>35</sup> Full-time and part-time employment depends on how much of the year is spent fishing. However, in many ports in Newfoundland and Labrador, weather prevents

year for which official data are available), the Canadian harvest of finfish totalled 1.4 million metric tons, valued at Can\$945 million. Of this total, the Atlantic Provinces (the Maritimes, Quebec, and Newfoundland-Labrador) accounted for 1.1 million metric tons (or 82 percent of the total quantity), valued at Can\$471 million (50 percent of the total value). Atlantic groundfish landings in 1988 totalled 734,000 metric tons, valued at Can\$372 million.

Canadian production of fresh or frozen finfish products totalled Can\$1.33 billion in 1988, of which more than 70 percent was produced in Atlantic Canada. The principal products were fresh or frozen cod fillets and frozen cod blocks (primarily an Atlantic product), which accounted for 36 percent of the national total. On the Pacific coast, the largest product by far was fresh or frozen whole salmon, production of which totalled Can\$239 million in 1988, or 18 percent of the national total.

Canada's most important trading partner for fishery products, as for trade in general, is the United States. Total Canadian exports of fresh or frozen finfish products (chiefly frozen fillets and blocks) reached Can\$1.2 billion in 1988, of which the U.S. market accounted for Can\$824 million, or 70 percent of the total. On the import side, Canadian imports of fresh or frozen finfish products (chiefly groundfish) totalled Can\$193 million in 1988, of which the United States supplied Can\$131 million, or 68 percent of the total.

## TRADE MEASURES

### United States

#### *Tariffs*

Table A-6 shows the general and special pre-Uruguay Round MTN column 1 rates of duty applicable to U.S. imports of fresh or frozen fish for 1990 and U.S. exports and U.S. imports of the articles. The aggregate trade-weighted U.S. rate of duty for all products included in this Industry and Trade Summary averaged 0.2 percent in 1990, compared with 3.3 percent for U.S. imports of all products. Appendix B contains an explanation of tariff and trade agreement terms.

#### *Nontariff Measures*

The Nicholson Act (46 U.S.C. 251) prohibits most foreign fishing vessels from landing harvested fish directly to U.S. ports (other than insular possessions such as American Samoa); the fish must be landed in a foreign port first, then exported to the United States. An exception to this is Canadian albacore harvesters, which can land their catch directly to U.S. ports under

<sup>35</sup>—*Continued*  
fishermen from working for more than a few months per year; however, they have little or no other employment opportunities. Therefore, the extent of full-time fishing employment (in the sense of dependency on the fishery for a livelihood) is probably understated.

the Treaty on Pacific Coast Albacore Tuna Vessels and Port Privileges.<sup>36</sup>

The United States periodically has imposed embargoes on imports of fish products (primarily fresh, frozen, and canned tuna) under the authority of two acts, the MFCMA and the Marine Mammal Protection Act of 1972 (MMPA) (16 U.S.C. 1361 et seq.). Past embargoes on imports of tuna products generally have been imposed under the MFCMA as the result of the seizure of U.S. fishing vessels by foreign governments in waters claimed by those governments. However, until 1992, such claimed jurisdiction for the purpose of managing highly migratory species of fish (i.e., tuna) was not recognized by the U.S. Government, so the embargoes have been imposed in retaliation for the seizures. More recently, however, the focus of embargoes on tuna products has shifted to the authority of the MMPA when a foreign country does not effect a porpoise mortality protection plan that is similar to the one effected by the United States.<sup>37</sup>

The following tabulation presents information on recent embargoes of U.S. imports of tuna products:<sup>38</sup>

Affected country	Date imposed	Date rescinded	Statute
Costa Rica	04/24/86	10/10/86	MFCMA
El Salvador	10/10/86	09/18/89	MMPA
Venezuela	10/16/88	11/23/88	MMPA
Vanuatu	10/16/88	11/14/88	MMPA
Panama	10/16/88	11/23/88	MMPA
Ecuador	10/16/88	11/01/88	MMPA
Spain	12/14/88	02/21/89	MMPA
Ecuador	09/07/90	09/11/90	MMPA
Panama	09/07/90	11/16/90	MMPA
Mexico	10/10/90	(ongoing)	MMPA

An additional requirement of U.S. imports of fresh or frozen fish is inspection by the U.S. Food and Drug Administration for health and safety. There are no other nontariff restrictions on U.S. imports of fresh or frozen fish.

Some foreign interests, primarily the European Community (EC), view EEZs as potential nontariff

<sup>36</sup> T.I.A.S. No. 10057; instituted on May 26, 1982. The treaty provides for bilateral access to fishing grounds and bilateral access to fishing ports, for albacore vessels only.

<sup>37</sup> See 16 U.S.C. 1371. The concern with porpoise protection grew during the 1980's with the increase in U.S. and foreign harvests of tuna in the eastern tropical Pacific. There, porpoises swim with tuna (apparently because they rely on the same food source) and inadvertently get enclosed in tuna harvesters' nets. Most porpoises escape by jumping over the top of the nets, but some become trapped and drown, only to be discarded by the fishermen because there is no significant commercial market for porpoise meat.

<sup>38</sup> In each case, the embargo was applied to fresh or frozen yellowfin tuna and yellowfin tuna products, with the exception of the Costa Rica embargo, which covered all tuna and tuna products.

trade barriers because of the trade-distorting effects their imposition has had.<sup>39</sup> The nearly global wave of extended fishery jurisdictions in the 1970s forced EC fishing fleets out of important traditional fishing grounds (such as those adjacent to Canada, the United States, and the countries of the European Free Trade Area); this action was claimed to be the major reason why the EC shifted from a net seafood exporter before extended fishery jurisdictions to a net importer afterward. However, the EC position that fishery jurisdiction in EEZs should be a multilateral matter has been widely opposed on the grounds that the primary objective of extended fishery jurisdiction is to effect resource conservation and management, not trade policy, and that the best judge of the size of a surplus stock (and which foreign nations should be allowed access to nation's EEZ) is the nation claiming the EEZ.

### Commission Investigations

Over the past several years the Commission has conducted a number of investigations into various aspects of competition in the fishing industry, including fact-finding studies and investigations into allegations of injury from unfairly traded imports. A series of investigations of complaints of injury from imports of Canadian groundfish (cod, haddock, flounder, and similar species) were undertaken during 1978-80.<sup>40</sup> In all cases no action was taken, either because of a finding of no injury or because the subsidy margins were judged to be *de minimis*. A fact-finding investigation of the Northeast U.S. groundfish industry and market was conducted in 1984,<sup>41</sup> followed by an investigation into complaints of injury to that industry from imports of fresh Canadian groundfish.<sup>42</sup> In the latter investigation the Commission determined that the U.S. fresh groundfish harvesting industry was

<sup>39</sup> The EC position, circulated to participants in the Uruguay Round of the General Agreement on Tariffs and Trade (GATT), is that the management of fish resources within national EEZs should be made the responsibility of a multilateral body such as the GATT, rather than a unilateral responsibility as currently provided for under the UNCLOS. The EC rationale, according to U.S. industry sources, is that a multilateral body would determine the extent of, and allocate, surplus resources within a EEZ in a more equitable (i.e., less trade distorting) manner than the EC currently perceives to be the case in many countries.

<sup>40</sup> See *Certain Fish from Canada*, Investigation No. 303-TA-3, USITC Publication 919 (Sept. 1978); *Certain Fish and Certain Shellfish from Canada*, Investigation No. 303-TA-9, USITC Publication 966 (April 1979); *Certain Fish* Investigation No. TA-201-41, USITC Publication 1028 (Jan. 1980); *Fish, Fresh, Chilled or Frozen, Whether or Not Whole, But Not Otherwise Prepared or Preserved*, Investigation No. 701-TA-40, USITC Publication 1066 (May 1980).

<sup>41</sup> See *Conditions of Competition Affecting the Northeast U.S. Groundfish and Scallop Industries in Selected Markets*, Investigation No. 332-173, USITC Publication 1622 (Dec. 1984).

<sup>42</sup> *Certain Fresh Atlantic Groundfish From Canada*, Investigation No. 701-TA-257, USITC Publication 1844 (May 1986).

materially injured by reason of subsidized imports of whole fresh Atlantic groundfish (but not imports of fillets or other processed fish). As a result, a countervailing duty of 5.82 percent *ad valorem*<sup>43</sup> was placed on such imports from Canada. In addition, a number of investigations of the tuna industry have been conducted.<sup>44</sup>

The Commission recently investigated complaints by U.S. salmon aquaculturists of unfair competition from Norwegian exporters of fresh whole Atlantic salmon.<sup>45</sup> The Commerce Department had previously determined that Norwegian exporters of fresh Atlantic salmon were selling their product in the U.S. market at margins of between 15.65 and 31.81 percent below their costs of production, and that the Norwegian Government was conferring to the Norwegian industry countervailable subsidies equal to 2.27 percent of the value of such exports. Following these determinations, the Commission determined that the U.S. Atlantic salmon aquaculture industry was materially injured by reason of such imports from Norway, and, as a result, a duty of approximately 26 percent (equal to the sum of the subsidies and the weighted-average dumping margin) was imposed on U.S. imports of Norwegian fresh whole Atlantic salmon (fillets and other fish meat were not affected).

### *U.S. Customs Treatment of Exports*

One aspect of U.S. customs treatment of exports distinguishes fishery exports from other exported products. U.S.-harvested joint-venture fish delivered over-the-side to foreign-flag ships are not counted as U.S. exports unless (a) the fish are landed at a U.S. port first, or (b) the foreign-flag vessel is located within the United States' 12-mile territorial sea (i.e., the U.S. Customs zone). If either of these criteria is met, the fish are considered a U.S. export.

<sup>43</sup> This was the estimated net subsidy found by the Department of Commerce to be conferred on Canadian producers and exporters through some 55 Federal and Provincial Government programs. The subsidy was found to affect both whole fresh groundfish and fresh groundfish fillets.

<sup>44</sup> *Certain Canned Tuna Fish*, Investigation No. TA-201-54, USITC Publication No. 1558 (August 1984); *Competitive Conditions in the U.S. Tuna Industry*, Investigation No. 332-224, USITC Publication No. 1912 (October 1986); *Tuna: Competitive Conditions Affecting the U.S. and European Industries in Domestic and Foreign Markets*, Investigation No. 332-291, USITC Publication No. 2339 (December 1990); *Tuna: Current Issues Affecting the U.S. Industry*, Investigation No. 332-313 (to appear July 1992).

<sup>45</sup> *Fresh and Chilled Atlantic Salmon From Norway*, Investigations Nos. 701-TA-302 (Final) and 731-TA-454 (Final), USITC Publication 2371 (April 1991).

## Foreign Countries

### *Tariffs*

As in the United States, foreign nations apply relatively low tariffs to their imports of fresh or frozen fish, particularly whole fish. This reflects the general tendency for tariffs to be lower the more unprocessed the product is, in order to support domestic processing industries. Thus, whole fish is often duty-free, while fillets have moderate tariffs and breaded fish sticks or other finished products have relatively high duties.

Japanese imports of fresh or frozen fish from the United States are subject to tariffs ranging from 3 percent for sea bream to 10 percent for cod and other groundfish. The average Japanese import tariff on fresh or frozen fish is approximately 5 percent. Other important markets for U.S. exports are Canada (which has an average tariff of 4 percent) and the European Community (an average tariff of 5 percent).

### *Nontariff Measures*

Japan is by far the most important U.S. export market, but U.S. exporters face several nontariff measures in that market. Japanese importers of many fish products must obtain import licenses from the Government, although it is easier to obtain licenses now than in the past. The licensing system remains, according to industry sources, in order to maintain market stability. A system of import quotas on fish products has largely been removed, except for the following species: horse mackerel, mackerel, cod, yellowtail, herring, sardines, saury, and Alaska pollock. In addition, all fish is subject to the Quarantine Law and the Food Sanitation Law. The former applies mainly to imports from countries affected by cholera and so does not affect U.S. exports; the latter requires importers to submit to the Ministry of Health and Welfare a "Notification Form of Food Importation" for each import shipment, stating product name, quantity and weight, export port, names and addresses of domestic companies that will process the product, and a list of additives used. Imports are subject to inspection and testing on a random basis.

## U.S. INDUSTRY PERFORMANCE IN DOMESTIC AND FOREIGN MARKETS

### U.S. Market

#### *U.S. Production*

The quantity of U.S. landings of edible finfish has risen steadily in recent years, reaching 6.4 billion pounds in 1990, an increase of 160 percent over the 2.5 billion pounds landed in 1986 (table A-3). On a value

basis, the increase was somewhat irregular, peaking in 1988 at \$1.92 billion, before falling slightly to \$1.86 billion in 1990; the 1990 figure was 14 percent higher than the 1986-90 average annual value of landings of \$1.6 billion.

By far the greatest contributor to the increase in harvests is Pacific pollock, which grew in quantity from 130 million pounds in 1986 to 3.2 billion pounds in 1990, and in value from \$7.2 million to \$273 million during the same period (table A-3). As discussed earlier, this is the direct result of the successful "Americanization" of the pollock fishery, i.e., the steady displacement of foreign fishing fleets by U.S. harvesters in this valuable U.S. fishery. However, the Americanization of this fishery is nearly complete, and future gains in the volume of output are not likely to be nearly as large as in recent years; the value of output may be expected to continue to rise, because of the likelihood of continued growth in demand for surimi (a processed pollock product) in the U.S. market and abroad.

Another big contributor to the growth in U.S. harvests is groundfish, which grew in quantity from 511 million pounds in 1986 to 1.3 billion pounds in 1990, and in value from \$220 million to \$360 million during the same period (table A-3). Unlike pollock, this rapid growth in harvests is not coming at the expense of reduced foreign harvests; if, as it appears, the groundfish resources are being seriously depleted, future long-run production levels could be adversely affected. The groundfisheries experiencing the most significant increase in harvesting pressure are those off New England, where the number of full- and part-time U.S. harvesting vessels nearly tripled to around 1,500 between 1976 (when the U.S. 200-mile limit was created) and the mid 1980s. There, according to U.S. Commerce Department biologists, the haddock and flounder resources are at or near record lows, and the cod stocks—the mainstay of the industry—are falling rapidly. To make matters worse, the groundfish fisheries off Canada and Scandinavia are also reportedly in danger of depletion from overfishing, and so import supplies are not likely to be able to alleviate any future decline in domestic production. This makes it likely that prices will rise as supplies decrease, which will induce harvesters to continue to fish and further deplete the resources.

During 1991, proposals were made by the Commerce Department (which has responsibility for fisheries management), members of Congress, and others, to severely restrict harvesting effort. Such proposals included imposition of a vessel-retirement plan and restriction on future entry into the harvesting sector. However, such management systems, which are widely used in other fishing nations, have traditionally met fierce resistance by U.S. harvesters. It is uncertain whether an effective management plan can be designed that would both allow the recovery of the fish resources and maintain the economic health of the industry. If not, it seems certain that future U.S. groundfish harvests will decline.

## *U.S. Consumption*

Fueled mainly by imports, U.S. consumption of whole fish rose by 28 percent between 1986 and 1990 (table A-7 and figure 5).<sup>46</sup> Domestic production increased during this period, but the entire increase (plus some) was diverted to the export market. Thus, the share of apparent U.S. consumption held by imports increased from about 50 percent during 1987-88 to about 58 percent in 1990.

U.S. consumption of fresh or frozen fillets and other fish meat reached a peak of \$2.3 billion in 1987, and has since declined steadily, falling to \$1.55 billion in 1990, or 33 percent below the 1987 peak (table A-8 and figure 6). This decline is entirely attributable to two trends in U.S. trade, a decline in imports and an increase in exports. The value of U.S. imports declined by \$440 million, or 27 percent during 1987-90, while the value of U.S. exports increased by 380 million, or over 500 percent over the 1987 level. A possible reason for this consumption decline is that some U.S. consumers replaced breaded and/or fried seafood (such as fish sticks) with fresh fish products such as sushi, which is made directly from whole fish (usually domestically harvested).

## *U.S. Imports*

### **Products Imported**

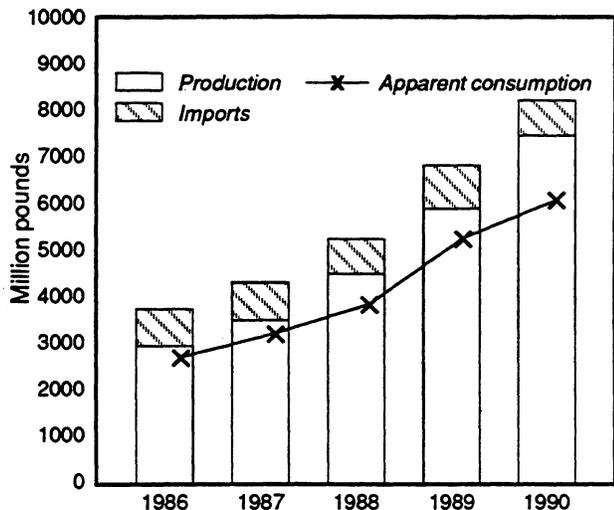
The principal fresh or frozen fish product imported by the United States is fresh or frozen groundfish fillets, either in individual fillet form or in 10- to 20-pound frozen blocks and slabs. Imports of these items, which reached \$750 million in 1990, accounted for about one-third of all imports of fresh or frozen fish products. Because only small amounts of groundfish blocks are produced domestically, imports are important to U.S. producers of fish sticks and portions, which are cut from groundfish blocks.

Fresh salmon is another important imported seafood. U.S. fresh salmon imports totaled over \$250 million in 1990, up by 220 percent over 1986 imports of \$78 million. The main reason for this increase is the growth of the salmon aquaculture industries of Norway, Canada, the United Kingdom, Chile, and the Faroe Islands, among others. For all of these producers, the United States is one of the world's two largest markets (the other being the European Community). The U.S. market is a supply-driven market (the Norwegian industry essentially created the market during the 1970s and 1980s), but there has been a ready demand, especially by restaurants that appreciate the steady supply and consistent quality of farmed salmon compared with wild-harvested salmon.

<sup>46</sup> U.S. "consumption" of whole fresh or frozen fish mainly consists of processors' utilization of the production from fishermen, aquaculturists, and import sources. Such processors include, in addition to fresh/frozen fish processors, canneries and other industry sectors not considered in this Summary. Nevertheless, data covering all consumption of whole fish are presented in table A-7.

**Figure 5**  
Whole fresh or frozen fish

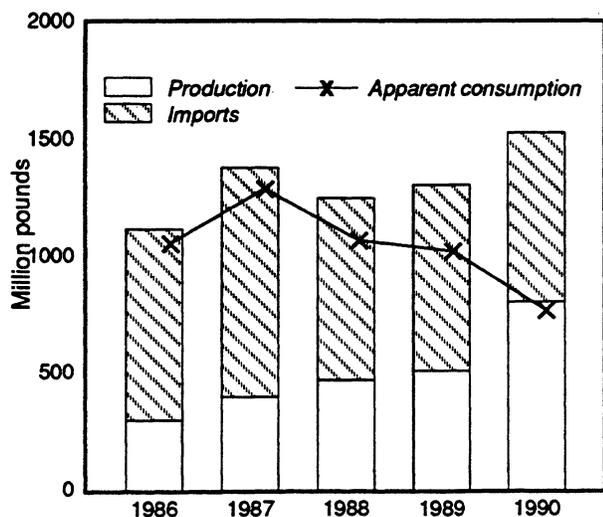
U.S. production, imports, and apparent consumption



Source: Compiled from official statistics of the U.S. Department of Commerce.

**Figure 6**  
Fresh or frozen fish fillets and other fish meat

U.S. production, imports, and apparent consumption



Source: Compiled from official statistics of the U.S. Department of Commerce.

### Import Levels and Trends

During 1986-90, the total value of U.S. imports of fresh or frozen fish has fluctuated around a five-year average of \$2 billion, ranging between a low of \$1.7 billion in 1986 and a high of \$2.3 billion in 1987 (table A-9). Similarly, the total quantity of imports has fluctuated around a five-year average of 1.6 billion pounds, ranging between a high of 1.8 billion pounds in 1987 and a low of 1.5 billion in 1990.

### Principal Import Suppliers

Canada is by far the largest source of U.S. imports of fresh or frozen fish, accounting for \$768 million in 1990, or nearly 40 percent of total imports, more than twice the total value of imports from the next three largest suppliers combined. Cod and other groundfish are the main species imported from Canada, although fresh or frozen salmon is also significant and, particularly in fresh form, is growing rapidly. As a result, Canada's share of the U.S. import market has increased somewhat from the 1986-90 average of about 37 percent of the total value of U.S. imports of fresh or frozen fish.

The Scandinavian group of nations is another important source of imports; Iceland, Norway, and Denmark together supplied imports valued at \$274 million in 1990. Scandinavia's 14-percent share of the U.S. import market declined in 1990 from an average of 18 percent for the period 1986-90 as a whole; this is due mainly to a reduction in exports of fresh salmon from Norway.<sup>47</sup>

### Foreign Markets

#### Foreign Market Profile

The major foreign markets for U.S. exports of fresh or frozen fish are Japan and Canada, which together accounted for 85 percent of the value of total U.S. exports during 1986-90. Japan is by far the world's largest market for fish, both in absolute terms and on a per-capita basis. The average Japanese annually consumes over 71 kilograms of fish (whole-weight basis), compared with 20.5 kilograms for the average U.S. consumer and 13.1 kilograms per person for the world as a whole. Culture is the primary influence on Japanese seafood consumption patterns. The traditional Japanese preference for sashimi (raw fish) reflects the Zen Buddhist influence, from which comes both the Japanese desire for foods that are as close to their

<sup>47</sup> The decline in exports of fresh salmon from Norway to the United States during 1990 has been attributed to the institution in early 1990 of an investigation by the U.S. Department of Commerce and the Commission into complaints by the U.S. salmon industry of economic injury from imports of Norwegian salmon that were alleged to be both subsidized and dumped (sold at less than fair value). See "Views of the Commission," in *Fresh and Chilled Atlantic Salmon From Norway*, investigation Nos. 701-TA-302 (Final) and 731-TA-454 (Final), pp. 17-18.

natural state as possible and the general distaste (especially among the older Japanese) for meat of land animals (i.e., livestock and poultry).

Most Japanese fish consumption is supplied by domestic harvesters, the world's second largest fishing fleet. (As noted earlier, most of these harvesters operate not in Japanese but in other nations' waters.) In addition, Japanese imports of \$10.1 billion in 1989 make it the world's largest seafood importer as well.

The United States exports large quantities of frozen salmon and fresh or frozen tuna to Japan. Both exports enjoy a reputation for high quality in the Japanese market. Competition in the Japanese salmon market from domestic Japanese sources has declined in recent years. Japanese salmon harvests come largely from U.S.-controlled salmon fisheries in the north Pacific, but the United States has restricted foreign access to these stocks because of public concern over the use of driftnets by Asian fishing fleets (such driftnets are opposed because they often trap and drown marine mammals). The resulting reduction in Japanese harvests of U.S. salmon has effectively widened the Japanese market for U.S. salmon exports.

Canada is the other major market for U.S. exports of fresh or frozen fish. With significant marine resources adjacent to its Atlantic, Arctic and Pacific coasts, Canada is an important producer of fishery products, but its domestic market is limited by the "western" eating habits of its consumers, who, like U.S. consumers, prefer beef, poultry, and other meats over fish. Canadian per-capita fish consumption averaged a respectable 27 kilograms during 1986-88. In addition, Canada annually exports about US\$2 billion worth of fishery products, making it second only to the United States as the world's largest exporter of fishery products.

The Canadian market is similar to the U.S. market—consumers prefer cod and other whitefish, and so breaded fish sandwiches, sticks and portions are popular; most such items are domestically supplied from the fisheries off Nova Scotia and Newfoundland. Consumption is spread between urban and rural areas more so than in the United States, since fish constitutes an important food source in the hundreds of rural fishing communities scattered around the Maritimes, Newfoundland, and Labrador. However, the large metropolitan markets of Toronto, Montreal, and other Canadian cities are too far away to be supplied by the Maritimes, especially Nova Scotia; as a result, most fresh and frozen fish production in the Maritimes and Newfoundland is exported to New England, and much of the consumption in the urban Canadian markets is supplied by imports from the United States.<sup>48</sup>

<sup>48</sup> Industry sources report that, paradoxically, some northeastern U.S. exports of fresh or frozen fish to urban markets in Canada are products made from whole fish imported from fishermen in the Maritimes.

## U.S. Exports

### Products Exported

The principal product exported by the U.S. industry is salmon (both whole and filleted),<sup>49</sup> the value of which totalled \$676 million in 1990, or about 40 percent of total exports. As mentioned earlier, Japan is the largest export market for this product, especially sockeye salmon, and accounted for \$564 million in U.S. salmon exports, or 83 percent of the 1990 total. Another export item of some significance is frozen whole cod, totalling \$128 million in 1990, which is mostly exported to Japan and South Korea.

### Export Levels and Trends

U.S. exports of fresh or frozen fish have increased significantly in recent years, reaching a record \$1.74 billion in 1990, an increase of 116 percent over 1986 exports of \$802 million (table A-5). The volume of exports has risen even faster; from a level of 234,000 metric tons in 1986, exports rose by 174 percent to 648,000 metric tons in 1990.

A large part of the explanation for the improved export performance of the U.S. fish industry is the success in "Americanizing" the U.S. EEZ. As noted earlier, the extension of the EEZ to 200 miles in 1977 enabled the United States to control foreign access to fishery resources within the EEZ, but unless there was sufficient U.S. capacity to harvest the resources, the United States was legally obligated to allow foreign access to any surplus resources.<sup>50</sup> The development of U.S. harvesting capacity thus became a priority of U.S. fisheries policy. Most surplus resources have been "nontraditional" species, the markets for which are (or used to be) small domestically but larger abroad.<sup>51</sup> Therefore, much of the increased U.S. harvest of nontraditional species needed to find export markets. It has been a U.S. policy ever since the EEZ extension to use the lure of access to U.S. fisheries as a tool to open up foreign seafood markets to U.S. exports. This so-called "fish and chips" policy has been successful in Japan and other Asian markets, the EC, and elsewhere, as evidenced by the rapid rise in U.S. fishery exports in recent years.

However, future gains from bilateral efforts to break down foreign trade barriers may be harder to

<sup>49</sup> Including small quantities of other members of the salmonidae family, such as trout.

<sup>50</sup> Which countries gain access to an EEZ, of course, is a matter open to bilateral negotiation with the country controlling the EEZ. However, U.S. and international law requires that foreign access to a surplus fishery with potential economic value ultimately has to be granted to someone; a fishery with economic value cannot go underutilized.

<sup>51</sup> Some of the nontraditional U.S. fisheries for which a domestic market has been created in recent years include dogfish and other sharks, monkfish (formerly known as devilfish), Pacific pollock (marketed as surimi), and squid (marketed as calimari). As can be seen, for some fish a mere change of name was all that was needed to start a market.

obtain. This is because the policy of U.S. fishery development has increased U.S. harvesting capacity and utilization of formerly nontraditional fisheries in the EEZ, thereby reducing the surpluses available to foreign fleets and weakening the effectiveness of foreign access to the EEZ as a bargaining chip. In the future, therefore, global or regional trade negotiations could increasingly involve fishery issues.

### *U.S. Trade Balance*

Table A-10 shows the U.S. trade balance for fresh or frozen fish. The United States has long been a net importer of these products, although the gap between imports and exports has narrowed sharply in recent years. From a recent peak of \$1.3 billion in 1987, the deficit in fishery trade fell by \$1.1 billion to \$233 million in 1990. This diminished deficit mainly reflects an improved export performance, as export value hit a

record \$1.7 billion in 1990, more than double the 1986 level of \$802 million. Lower imports also contributed to the reduced deficit; import value declined from a recent peak of \$2.3 billion in 1987 to \$1.9 billion in 1990.

The United States has long enjoyed a fishery trade surplus with Japan, and this surplus has increased sharply in recent years, from \$542 million in 1986 to \$1.2 billion in 1990. As noted earlier, this reflects reduced U.S. imports of surimi (as U.S. production has increased) and increased U.S. exports of frozen salmon. Likewise, the trade balance with the European Community has turned in the United States' favor, rising from a deficit of \$154 million in 1987 to a surplus of \$55 million in 1990, attributable to both reduced imports and increased exports. The trade balances with other countries have shown less dramatic changes.

**APPENDIX A**  
**STATISTICAL TABLES**

**Table A-1**  
**U.S. employment and number of operations in fish harvesting, processing and wholesaling, 1986-90**

<i>Item</i>	<i>1986</i>	<i>1987</i>	<i>1988</i>	<i>1989<sup>1</sup></i>	<i>1990<sup>1</sup></i>
	<i>(In thousands)</i>				
Employment in—					
Harvesting .....	247.0	256.0	273.7	295.0	300.0
Processing .....	100.0	103.1	90.0	90.0	90.0
Number of fishing craft .....	128.2	93.4	92.9	95.0	95.0
Number of processors and wholesalers .....	3.5	3.7	4.1	4.0	4.0

<sup>1</sup> Data for 1989 and 1990 are estimated by the Commission.  
 Source: National Marine Fisheries Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, *Fisheries of the United States* (annual), except where noted.

**Table A-2**  
**Fish and shellfish: U.S. domestic landings, by region, 1986-90**

	1986	1987	1988	1989	1990
<i>Quantity (million pounds)<sup>1</sup></i>					
New England .....	554.7	545.1	569.9	565.0	649.2
Middle Atlantic .....	155.9	162.8	156.4	172.3	206.6
Chesapeake .....	617.1	791.3	730.5	777.7	867.5
South Atlantic .....	248.6	235.1	280.1	256.4	261.7
Gulf of Mexico .....	2,367.9	2,500.6	1,937.5	1,789.4	1,624.6
Pacific Coast and					
Alaska .....	1,923.0	2,492.8	3,457.0	4,840.2	6,027.4
Great Lakes .....	48.2	41.8	40.1	37.6	44.7
Hawaii .....	10.6	16.1	21.1	24.4	26.6
Total .....	5,925.9	6,785.6	3,114.7	8,463.1	9,708.4
<i>Value (million dollars)</i>					
New England .....	448.6	512.5	493.6	508.9	542.6
Middle Atlantic .....	113.6	128.0	129.0	133.2	149.9
Chesapeake .....	130.9	159.7	730.5	152.1	160.4
South Atlantic .....	154.7	235.1	280.1	168.7	169.6
Gulf of Mexico .....	781.2	719.8	708.3	648.9	640.4
Pacific Coast and					
Alaska .....	1,065.4	1,360.4	1,808.7	1,556.0	1,824.9
Great Lakes .....	13.8	16.9	18.8	19.5	19.7
Hawaii .....	20.1	29.1	39.7	47.1	65.0
Total .....	2,728.2	3,076.8	3,520.3	3,238.4	3,572.4

<sup>1</sup> Quantity data reported in round (live) weight.

Note.—Because of rounding, figures may not add to the totals shown. Data are preliminary. Data do not include landings by U.S.-flag vessels at Puerto Rico and other ports outside the 50 States, or catches by U.S.-flag vessels unloaded onto foreign vessels (via joint ventures) within the U.S. 200-mile exclusive economic zone, or aquaculture finfish products. Source: National Marine Fisheries Service, National Oceanic and Atmospheric Administration, *Fisheries of the United States* (annual).

**Table A-3**  
**Fish: U.S. domestic landings, by principal species or group, 1986-90<sup>1</sup>**

	1986	1987	1988	1989	1990
<i>Quantity (million pounds)</i>					
Groundfish <sup>2</sup> .....	511.1	600.4	695.2	776.5	1,314.8
Pacific pollock .....	130.4	552.0	1,257.3	2,361.9	3,157.4
Pacific salmon .....	658.5	562.0	606.1	785.9	733.1
Tuna .....	87.8	100.1	111.3	89.4	62.4
Halibut .....	77.7	76.1	81.6	75.2	70.5
Other .....	1,013.9	1,105.3	1,068.0	1,067.5	1,095.6
<b>Total .....</b>	<b>2,479.4</b>	<b>2,995.9</b>	<b>3,819.5</b>	<b>5,156.4</b>	<b>6,433.8</b>
<i>Value (million dollars)</i>					
Groundfish <sup>2</sup> .....	220.1	275.8	258.7	259.5	359.8
Pacific pollock .....	7.2	45.8	95.3	186.9	272.6
Pacific salmon .....	493.9	596.4	910.7	591.2	612.4
Tuna .....	54.6	95.8	121.0	103.5	105.0
Halibut .....	82.9	88.3	72.7	85.1	96.7
Other .....	366.7	422.5	459.1	415.6	410.1
<b>Total .....</b>	<b>1,225.4</b>	<b>1,524.6</b>	<b>1,917.5</b>	<b>1,641.8</b>	<b>1,856.6</b>
<i>Unit value (dollars per pound)</i>					
Groundfish <sup>2</sup> .....	0.43	0.46	0.37	0.33	0.27
Pacific pollock .....	0.06	0.08	0.08	0.08	0.09
Pacific salmon .....	0.75	1.06	1.50	0.75	0.84
Tuna .....	0.62	0.96	1.09	1.16	1.68
Halibut .....	1.07	1.16	0.89	1.13	1.37
Other .....	0.36	0.38	0.43	0.39	0.37
<b>Average .....</b>	<b>0.49</b>	<b>0.51</b>	<b>0.50</b>	<b>0.32</b>	<b>0.29</b>

<sup>1</sup> Data are for fish for human consumption only.

<sup>2</sup> Includes cod, cusk, flounders, hake, haddock, Atlantic ocean perch, Atlantic pollock, and whiting.

Source: National Marine Fisheries Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, *Fisheries of the United States* (annual).

**Table A-4**  
**Fish and shellfish: Harvests by major fishing nations, 1986-89**

	1986	1987	1988	1989
	<i>Thousand metric tons</i>			
Soviet Union .....	11,260	11,160	11,332	11,310
China .....	8,000	9,346	10,359	11,220
Japan .....	11,976	11,849	11,967	11,174
Peru .....	5,614	4,584	6,638	6,832
Chile .....	5,572	4,815	5,210	6,454
United States .....	5,167	5,986	5,937	5,744
India .....	2,923	2,908	3,126	3,619
South Korea .....	3,103	2,876	2,727	2,832
Thailand .....	2,536	2,779	2,822	2,823
Indonesia .....	2,457	2,585	2,703	2,700
All others .....	34,168	35,386	35,942	34,827
<b>Total .....</b>	<b>92,776</b>	<b>94,274</b>	<b>98,763</b>	<b>99,535</b>

Note.—Data estimated by the FAO.

Source: Food and Agriculture Organization of the United Nations (FAO), *Yearbook of Fishery Statistics, 1989*, Vol. 68; reprinted in National Marine Fisheries Service, *Fisheries of the United States, 1990*, p. 31.

**Table A-5**  
**Fresh or frozen fish: U.S. exports of domestic merchandise, by principal markets, 1986-90**

<i>Source</i>	<i>1986</i>	<i>1987</i>	<i>1988</i>	<i>1989</i>	<i>1990</i>
<i>Quantity (million pounds)</i>					
Japan .....	387.3	399.8	560.8	628.7	885.0
Canada .....	39.2	55.6	47.3	72.0	88.9
South Korea .....	24.3	25.3	15.2	38.2	114.9
France .....	28.0	27.9	29.6	22.2	40.5
Germany .....	3.9	4.7	5.7	3.4	66.8
Norway .....	0.1	0.3	0.3	5.1	62.2
United Kingdom .....	8.5	14.5	14.4	12.7	19.9
Taiwan .....	0.7	1.2	2.0	4.5	5.9
All other .....	33.1	40.5	64.1	110.7	143.3
<b>Total .....</b>	<b>525.0</b>	<b>569.8</b>	<b>739.4</b>	<b>897.5</b>	<b>1,427.6</b>
<i>Value (million dollars)</i>					
Japan .....	631.6	725.0	1,116.1	1,131.2	1,262.3
Canada .....	47.6	80.8	72.6	94.8	124.8
South Korea .....	21.6	23.1	18.5	39.2	82.9
France .....	46.1	64.1	56.1	38.3	61.1
Germany .....	5.1	7.4	8.4	6.8	61.1
Norway .....	0.2	0.9	0.3	3.0	36.8
United Kingdom .....	11.3	20.5	22.7	20.3	27.9
Taiwan .....	1.6	1.5	2.3	8.0	10.4
All other .....	37.6	49.8	53.6	48.7	68.1
<b>Total .....</b>	<b>802.6</b>	<b>973.1</b>	<b>1,350.7</b>	<b>1,390.4</b>	<b>1,735.5</b>
<i>Unit value (dollars per pound)</i>					
Japan .....	1.63	1.81	1.99	1.80	1.43
Canada .....	1.21	1.45	1.53	1.32	1.40
South Korea .....	0.89	0.91	1.22	1.03	0.72
France .....	1.65	2.30	1.90	1.73	1.51
Germany .....	1.31	1.57	1.47	2.00	0.91
Norway .....	2.00	3.00	1.00	0.59	0.59
United Kingdom .....	1.33	1.41	1.58	1.60	1.40
Taiwan .....	2.29	1.25	1.15	1.78	1.76
All other .....	1.14	1.23	0.84	0.44	0.48
<b>Average .....</b>	<b>1.53</b>	<b>1.71</b>	<b>1.83</b>	<b>1.55</b>	<b>1.22</b>

Note.—Because of rounding, figures may not add to the totals shown.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table A-6

Fresh or frozen fish: Harmonized Tariff Schedule subheading; description; U.S. col. 1 rate of duty as of Jan. 1, 1991; final MTN concession rate of duty; U.S. exports, 1990; and U.S. imports, 1990

HTS subheading	Description	Col. 1 rate of duty As of Jan. 1, 1991		U.S. exports, 1990	U.S. imports, 1990
		General	Special <sup>1</sup>		
<i>Million dollars</i>					
Fresh fish, excluding fish fillets and other fish meat:					
0302.11.00	Trout . . . . .	Free	Free	0.9	2.1
0302.12.00	Pacific, Atlantic, and Danube salmon . . . . .	Free	Free	43.3	212.5
0302.19.00	Salmonidae other than trout and Pacific, Atlantic and Danube salmon . . . . .	Free	Free	1.0	3.0
0302.21.00	Halibut and Greenland turbot . . . . .	Free	Free	3.9	18.1
0302.22.00	Plaice . . . . .	0.1%AVE	Free (A,CA,E,IL)	0.9	( <sup>2</sup> )
0302.23.00	Sole . . . . .	0.4%AVE	Free (A,CA,E,IL)	1.7	5.7
0302.29.00	Flatfish other than halibut, turbot, plaice and sole . . . . .	0.8%AVE	Free (A,CA,E,IL)	3.1	8.7
0302.31.00	Albacore or longfinned tunas . . . . .	Free	Free	0.8	2.6
0302.32.00	Yellowfin tunas . . . . .	Free	Free	4.0	19.0
0302.33.00	Skipjack or stripe-bellied bonito . . . . .	Free	Free	1.5	( <sup>2</sup> )
0302.39.00	Tuna other than albacore, yellowfin and skipjack . . . . .	Free	Free	31.3	5.0
0302.40.00	Herrings . . . . .	Free	Free	1.7	3.2
0302.50.00	Cod . . . . .	Free	Free	10.7	7.5
0302.61.00	Sardines, sardinella, brisling and sprats . . . . .	0.7%AVE	Free (A,E,IL) 0.4%AVE (CA)	0.1	( <sup>2</sup> )
0302.62.00	Haddock . . . . .	Free	Free	0.1	18.2
0302.63.00	Atlantic pollock . . . . .	Free	Free	0.2	2.0
0302.64.00	Mackerel . . . . .	Free	Free	2.6	0.8
0302.65.00	Dogfish and other sharks . . . . .	0.9%AVE	Free (A,CA,E,IL)	2.1	3.3
0302.66.00	Eels . . . . .	Free	Free	0.9	0.3
0302.69.10	Fish, n.e.s.i., scaled, in immediate containers weighing with their contents 6.8 kg or less . . . . .	6%	Free (A,E,IL) 2.4% (CA)	10.0	0.1
0302.69.20	Smelts, cusk, hake, pollock, shad and sturgeon, swordfish, and freshwater fish, not scaled and not in immediate containers weighing with their contents 6.8 kg or less . . . . .	Free	Free	5.0	62.1
0302.69.40	Fish, n.e.s.i., not scaled and in immediate containers weighing with their contents 6.8 kg or less . . . . .	0.5%AVE	Free (A,CA,E,IL)	17.7	91.3
0302.70.20	Sturgeon roe (caviar) . . . . .	15%	Free (A,E,IL) 6% (CA)	0.0	0.2
0302.70.40	Livers and roes, except sturgeon roe . . . . .	Free	Free	10.9	1.6

See footnotes at end of table.

Table A-6—Continued

Fresh or frozen fish: Harmonized Tariff Schedule subheading; description; U.S. col. 1 rate of duty as of Jan. 1, 1991; final MTN concession rate of duty; U.S. exports, 1990; and U.S. imports, 1990

HTS subheading	Description	Col. 1 rate of duty		U.S. exports, 1990	U.S. imports, 1990
		As of Jan. 1, 1991 General	Special <sup>1</sup>		
Frozen fish, excluding fish fillets and other fish meat:					
0303.10.00	Pacific salmon	Free		626.6	19.6
0303.21.00	Trout	Free		2.3	0.9
0303.22.00	Atlantic and Danube salmon	Free		0.3	17.4
0303.29.00	Salmonidae other than trout and Pacific, Atlantic and Danube	Free			
0303.31.00	Hailbut and Greenland turbot	Free		1.3	0.5
0303.32.00	Plaice	Free		36.1	2.2
0303.33.00	Sole	0.3%AVE		3.9	( <sup>2</sup> )
0303.39.00	Flatfish other than halibut, turbot, plaice and sole	0.2%AVE		11.1	3.7
0303.41.00	Albacore or longfinned tunas	0.2%AVE		22.1	2.5
0303.42.00	Yellowfin tunas	Free		0.5	102.4
0303.43.00	Skipjack or stripe-bellied bonito	Free		1.3	19.9
0303.49.00	Tuna other than albacore, yellowfin and skipjack	Free		0.6	53.6
0303.50.00	Herrings	Free		5.0	4.3
0303.60.00	Cod	Free		57.5	2.0
0303.71.00	Sardines, sardinella, brisling and sprats	Free		128.5	1.9
		Free (A,E,IL)		1.9	0.8
		0.4%AVE (CA)			
0303.72.00	Haddock	Free		0.1	0.1
0303.73.00	Atlantic pollock	Free		3.4	2.7
0303.74.00	Mackerel	Free		15.4	3.1
0303.75.00	Dogfish and other sharks	0.4%AVE		3.7	0.3
0303.76.00	Eels	Free		3.7	3.4
0303.77.00	Sea bass	Free		0.3	0.1
0303.78.00	Whiting and hake	0.3%AVE		0.4	3.0
0303.79.20	Smelts, cusk, hake, pollock, shad, sturgeon, swordfish, and freshwater fish	Free			
0303.79.40	Fish, n.e.s.i., excluding livers and roes	0.5%AVE		50.0	22.4
0303.80.20	Sturgeon roe (caviar)	15%		48.3	( <sup>2</sup> )
		6% (ca)		0.5	
0303.80.40	Livers and roes, except sturgeon roe	Free		170.0	3.1

See footnotes at end of table.

Table A-6—Continued

Fresh or frozen fish: Harmonized Tariff Schedule subheading; description; U.S. col. 1 rate of duty as of Jan. 1, 1991; final MTN concession rate of duty; U.S. exports, 1990; and U.S. imports, 1990

HTS subheading	Description	Col. 1 rate of duty As of Jan. 1, 1991		U.S. exports, 1990	U.S. imports, 1990
		General	Special <sup>1</sup>		
Fish fillets and other fish meat, fresh or frozen:					
0304.10.10	Cod, cusk, haddock, pollock, and Atlantic ocean perch, fresh	1.1%AVE	Free (E,IL) 0.4%AVE (CA)	6.0	58.1
0304.10.30	Hake, fresh	1.3%AVE	Free (E,IL) 0.5%AVE (CA)	0.1	0.1
0304.10.40	Fresh fish, n.e.s.i., including flatfish and freshwater fish, fresh	Free	Free	3.3	66.3
0304.20.20	Fillets, skinned and frozen into blocks weighing over 4.5 kg, to be minced, ground or cut into pieces of uniform weights and dimensions	Free	Free	0.0	351.2
0304.20.30	Frozen fillets, not skinned and not in blocks weighing over 4.5 kg, of cod, cusk, haddock, pollock, and ocean perch	1.0%AVE	Free (E,IL) 0.6%AVE (CA)	8.5	292.7
0304.20.50	Frozen fillets, not skinned and not in blocks weighing over 4.5 kg, of hake	2.0%AVE	Free (A,E,IL) 1.2%AVE (CA)	0.0	0.1
0304.20.60	Frozen fillets, n.e.s.i., not skinned and not in blocks weighing over 4.5 kg	Free	Free	42.6	392.6
0304.90.10	Frozen fish meat other than fillets, in bulk or containers weighing with their contents over 6.8 kg	Free	Free (A,E,IL) 2.4% (CA)	214.7	21.5
0304.90.90	Frozen fish meat other than fillets, n.e.s.i.	6%		0.0	0.6

<sup>1</sup> Programs under which special tariff treatment may be provided, and the corresponding symbols for such programs as they are indicated in the "Special" subcolumn, are as follows: Generalized System of Preferences (A); United States-Canada Free-Trade Agreement (CA); Caribbean Basic Economic Recovery Act (E); and United States-Israel Free Trade Area (IL).  
<sup>2</sup> Less than \$50,000.

Source: U.S. exports and imports compiled from official statistics of the U.S. Department of Commerce.

**Table A-7****Whole fresh or frozen fish:<sup>1</sup> U.S. production, exports of domestic merchandise, imports for consumption, and apparent U.S. consumption, 1986-90**

<i>Year</i>	<i>U.S. production<sup>2</sup></i>	<i>U.S. exports</i>	<i>U.S. imports</i>	<i>Apparent U.S. consumption<sup>3</sup></i>	<i>Ratio of imports to consumption</i>
<i>Million dollars</i>					
1986 .....	1,225.4	742.5	581.0	1,063.9	54.6
1987 .....	1,524.6	891.5	639.7	1,272.8	50.3
1988 .....	1,917.5	1,232.2	692.8	1,378.1	50.3
1989 .....	1,641.8	1,144.5	840.3	1,337.6	62.8
1990 .....	1,856.6	1,279.3	780.4	1,357.7	57.5
<i>Million pounds</i>					
1986 .....	2,479.4	483.9	794.0	2,789.5	28.4
1987 .....	2,995.9	515.4	811.9	3,292.4	24.7
1988 .....	3,819.5	652.1	742.4	3,909.8	19.0
1989 .....	5,156.4	758.5	921.8	5,319.7	17.3
1990 .....	6,433.8	1,052.5	751.8	6,133.1	12.3

<sup>1</sup> "Whole" includes round or dressed fish, and excludes fillets or other fish meat, and livers and roes.<sup>2</sup> U.S. domestic landings of finfish, excluding landings by U.S.-flag vessels at Puerto Rico and other ports outside the 50 States and catches by U.S.-flag vessels unloaded onto foreign vessels within the U.S. 200-mile exclusive economic zone (joint ventures). Data exclude landings of menhaden and aquaculture production of all species. Quantity data are in round (live) weight.<sup>3</sup> Apparent U.S. consumption = Production - Exports + Imports.

Note.—Because of rounding, figures may not add to the totals shown.

Source: Compiled from official statistics of the U.S. Department of Commerce.

**Table A-8**

**Fresh or frozen fillets and other meat of fish: U.S. production, exports of domestic merchandise, imports for consumption, and apparent U.S. consumption, 1986-90**

<i>Year</i>	<i>U.S. production<sup>1</sup></i>	<i>U.S. exports<sup>2</sup></i>	<i>U.S. imports<sup>3</sup></i>	<i>Apparent U.S. consumption<sup>4</sup></i>	<i>Ratio of imports to consumption</i>
<i>Million dollars</i>					
1986 .....	538.6	57.9	1,162.8	1,643.5	70.8
1987 .....	753.0	75.7	1,627.2	2,304.5	70.6
1988 .....	776.9	112.4	1,267.4	1,931.9	65.6
1989 .....	742.4	245.9	1,255.6	1,752.1	71.7
1990 .....	820.1	456.2	1,188.2	1,552.1	76.6
<i>Million pounds</i>					
1986 .....	260.2	41.1	847.2	1,066.3	79.4
1987 .....	356.1	42.9	984.7	1,297.9	75.9
1988 .....	384.3	87.4	782.8	1,079.7	72.5
1989 .....	371.1	139.0	801.3	1,033.3	77.5
1990 .....	434.2	375.0	724.1	783.2	92.4

<sup>1</sup> U.S. production of fresh and frozen fillets, steaks, and other fish meat. Includes product processed from domestic landings and imported whole fish. Quantity data are in product weight.

<sup>2</sup> Includes product processed from domestic landings and imported whole fish, and fish livers and roes.

<sup>3</sup> Includes fresh or frozen fillets, steaks, and other fish meat, and fish livers and roes.

<sup>4</sup> Apparent U.S. consumption = Production - Exports + Imports.

Note.—Because of rounding, figures may not add to the totals shown.

Source: Compiled from official statistics of the U.S. Department of Commerce.

**Table A-9**  
**Fresh or frozen fish: U.S. imports for consumption, by principal sources, 1986-90**

<i>Source</i>	<i>1986</i>	<i>1987</i>	<i>1988</i>	<i>1989</i>	<i>1990</i>
<i>Quantity (million pounds)</i>					
Canada .....	536.8	567.1	531.8	599.1	532.6
Iceland .....	125.8	115.4	81.9	94.5	69.5
Taiwan .....	104.9	132.3	119.2	121.4	115.3
New Zealand .....	38.7	34.9	43.9	42.7	49.5
Chile .....	15.6	25.1	21.4	27.7	53.4
Norway .....	51.2	60.4	52.8	44.3	27.8
Japan .....	68.6	69.0	70.5	66.1	53.0
Denmark .....	68.0	84.1	41.8	38.5	31.8
All other .....	631.7	708.3	562.1	688.8	543.0
<b>Total .....</b>	<b>1,641.2</b>	<b>1,796.6</b>	<b>1,525.3</b>	<b>1,723.1</b>	<b>1,475.9</b>
<i>Value (million dollars)</i>					
Canada .....	618.7	797.4	723.0	794.0	767.6
Iceland .....	172.5	201.0	146.7	158.8	133.1
Taiwan .....	87.6	128.6	132.2	126.8	114.4
New Zealand .....	91.7	91.9	113.8	111.9	100.0
Chile .....	20.2	39.6	38.7	52.9	98.5
Norway .....	104.7	133.5	127.0	102.6	75.6
Japan .....	89.6	102.5	93.7	87.6	73.6
Denmark .....	96.2	151.6	74.0	59.7	65.3
All other .....	462.6	621.0	511.3	601.6	540.4
<b>Total .....</b>	<b>1,743.7</b>	<b>2,266.9</b>	<b>1,960.3</b>	<b>2,095.9</b>	<b>1,968.6</b>
<i>Unit value (dollars per pound)</i>					
Canada .....	1.15	1.41	1.36	1.33	1.44
Iceland .....	1.37	1.74	1.79	1.68	1.92
Taiwan .....	0.84	0.97	1.11	1.04	0.99
New Zealand .....	2.37	2.63	2.59	2.62	2.02
Chile .....	1.29	1.58	1.81	1.91	1.84
Norway .....	2.04	2.21	2.41	2.32	2.72
Japan .....	1.31	1.49	1.33	1.33	1.39
Denmark .....	1.41	1.80	1.77	1.55	2.05
All other .....	0.73	0.88	0.91	0.87	1.00
<b>Average .....</b>	<b>1.06</b>	<b>1.26</b>	<b>1.29</b>	<b>1.22</b>	<b>1.33</b>

Note.—Because of rounding, figures may not add to the totals shown.  
Source: Compiled from official statistics of the U.S. Department of Commerce.

**Table A-10**  
**Fresh or frozen fish: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected country and country group, 1986-90<sup>1</sup>**

(Million dollars)

<i>Item</i>	<i>1986</i>	<i>1987</i>	<i>1988</i>	<i>1989</i>	<i>1990</i>
<b>U.S. exports of domestic merchandise:</b>					
Japan .....	631.58	725.03	1,116.06	1,131.2	1,262.3
Canada .....	47.61	80.78	72.63	94.8	124.8
EC-12 <sup>2</sup> .....	79.04	118.53	115.75	80.6	182.3
Mexico .....	0.74	0.44	0.88	3.7	3.4
All other .....	43.65	48.35	45.37	80.1	162.6
<b>Total .....</b>	<b>802.63</b>	<b>973.12</b>	<b>1,350.68</b>	<b>1,390.4</b>	<b>1,735.4</b>
<b>U.S. imports for consumption:</b>					
Japan .....	89.58	102.45	93.71	87.6	73.6
Canada .....	618.71	797.36	723.01	794.0	767.6
EC-12 <sup>2</sup> .....	204.98	272.22	145.20	128.0	127.1
Mexico .....	13.07	36.58	26.82	33.9	29.1
All other .....	817.40	1,058.32	971.56	1,052.4	971.2
<b>Total .....</b>	<b>1,743.73</b>	<b>2,266.92</b>	<b>1,960.29</b>	<b>2,095.9</b>	<b>1,968.6</b>
<b>U.S. merchandise trade balance:</b>					
Japan .....	541.99	622.58	1,022.34	1,043.6	1,188.7
Canada .....	-571.09	-716.58	-650.37	-699.2	-642.8
EC-12 <sup>2</sup> .....	-125.94	-153.69	-29.45	-29.4	55.2
Mexico .....	-12.32	-36.14	-25.94	-30.2	-25.7
All other .....	-773.74	-1,009.96	-609.61	-972.3	-808.6
<b>Total .....</b>	<b>-941.11</b>	<b>-1,293.80</b>	<b>-609.61</b>	<b>-705.5</b>	<b>-233.2</b>

<sup>1</sup> Import values are based on Customs value; export values are based on f.a.s. value, U.S. port of export.

<sup>2</sup> The 12 members of the European Community include Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, and the United Kingdom.

Note.—Because of rounding, figures may not add to the totals shown.

Source: Compiled from official statistics of the U.S. Department of Commerce.



**APPENDIX B**  
**EXPLANATION OF TARIFF AND TRADE AGREEMENT TERMS**

## TARIFF AND TRADE AGREEMENT TERMS

The *Harmonized Tariff Schedule of the United States* (HTS) replaced the *Tariff Schedules of the United States* (TSUS) effective January 1, 1989. Chapters 1 through 97 are based on the internationally adopted Harmonized Commodity Description and Coding System through the 6-digit level of product description, with additional U.S. product subdivisions at the 8-digit level. Chapters 98 and 99 contain special U.S. classification provisions and temporary rate provisions, respectively.

Rates of duty in the *general* subcolumn of HTS column 1 are most-favored-nation (MFN) rates; for the most part, they represent the final concession rate from the Tokyo Round of Multilateral Trade Negotiations. Column 1-general duty rates are applicable to imported goods from all countries except those enumerated in general note 3(b) to the HTS, whose products are dutied at the rates set forth in *column 2*. Goods from Armenia, Bulgaria, the People's Republic of China, Czechoslovakia, Estonia, Hungary, Latvia, Lithuania, Moldova, Mongolia, Poland, Russia, the Ukraine and Yugoslavia are currently eligible for MFN treatment. Among articles dutiable at column 1-general rates, particular products of enumerated countries may be eligible for reduced rates of duty or for duty-free entry under one or more preferential tariff programs. Such tariff treatment is set forth in the *special* subcolumn of HTS column 1. Where eligibility for special tariff treatment is not claimed or established, goods are dutiable at column 1-general rates.

The *Generalized System of Preferences* (GSP) affords nonreciprocal tariff preferences to developing countries to aid their economic development and to diversify and expand their production and exports. The U.S. GSP, enacted in title V of the Trade Act of 1974 and renewed in the Trade and Tariff Act of 1984, applies to merchandise imported on or after January 1, 1976, and before July 4, 1993. Indicated by the symbol "A" or "A\*" in the special subcolumn of column 1, the GSP provides duty-free entry to eligible articles the product of and imported directly from desig-

nated beneficiary developing countries, as set forth in general note 3(c)(ii) to the HTS.

The *Caribbean Basin Economic Recovery Act* (CBERA) affords nonreciprocal tariff preferences to developing countries in the Caribbean Basin area to aid their economic development and to diversify and expand their production and exports. The CBERA, enacted in title II of Public Law 98-67, implemented by Presidential Proclamation 5133 of November 30, 1983, and amended by the Customs and Trade Act of 1990, applies to merchandise entered, or withdrawn from warehouse for consumption, on or after January 1, 1984; this tariff preference program has no expiration date. Indicated by the symbol "E" or "E\*" in the special subcolumn of column 1, the CBERA provides duty-free entry to eligible articles the product of and imported directly from designated countries, as set forth in general note 3(c)(v) to the HTS.

Preferential rates of duty in the special subcolumn of column 1 followed by the symbol "IL" are applicable to products of Israel under the *United States-Israel Free-Trade Area Implementation Act* of 1985, as provided in general note 3(c)(vi) of the HTS. When no rate of duty is provided for products of Israel in the special subcolumn for a particular provision, the rate of duty in the general subcolumn of column 1 applies.

Preferential rates of duty in the special duty rates subcolumn of column 1 followed by the symbol "CA" are applicable to eligible goods originating in the territory of Canada under the *United States-Canada Free-Trade Agreement*, as provided in general note 3(c)(vii) to the HTS.

Preferential nonreciprocal duty-free or reduced-duty treatment in the special subcolumn of column 1 followed by the symbol "J" or "J\*" in parentheses is afforded to eligible articles the product of designated beneficiary countries under the *Andean Trade Preferences Act* (ATPA), enacted in title II of Public Law 102-182 and implemented by Presidential Proclamation 6455 of July 2, 1992 (effective July 22, 1992), as set forth in general note 3(c)(ix) to the HTS.

Other special tariff treatment applies to particular *products of insular possessions* (general note 3(a)(iv)), goods covered by the *Automotive Products Trade Act* (general note 3(c)(iii)) and the *Agreement on Trade in Civil Aircraft* (general note 3(c)(iv)), and *articles imported from freely associated states* (general note 3(c)(viii)).

The *General Agreement on Tariffs and Trade* (GATT) (61 Stat. (pt. 5) A58; 8 UST (pt. 2) 1786) is the multilateral agreement setting forth basic principles governing international trade among its more than 90 signatories. The GATT's main obligations relate to most-favored-nation treatment, the maintenance of scheduled concession rates of duty, and national (nondiscriminatory) treatment for imported products. The GATT also provides the legal framework for customs valuation standards, "escape clause" (emergency) actions, anti-dumping and countervailing duties, and other measures. Results of GATT-sponsored multilateral tariff negotiations are set forth by way of separate schedules of concessions for each participating contracting party, with the U.S. schedule designated as schedule XX.

Officially known as "The Arrangement Regarding International Trade in Textiles," the *Multifiber Arrangement* (MFA) provides a framework for the negotiation of bilateral agreements between importing and producing countries, or for unilateral action by importing countries in the absence of an agreement. These bilateral agreements establish quantitative limits on imports of textiles and apparel, of cotton and other vegetable fibers, wool, manmade fibers, and silk blends, in order to prevent market disruption in the importing countries—restrictions that would otherwise be a departure from GATT provisions. The United States has bilateral agreements with more than 30 supplying countries, including the four largest suppliers: China, Hong Kong, the Republic of Korea, and Taiwan.

