



NOAA Technical Memorandum NMFS-AFSC-44

Oregon, Washington, and Alaska Exports of Edible Fishery Products, 1993

by
R. K. Kinoshita and J. M. Terry

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
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ABSTRACT

Oregon, Washington, and Alaska (defined in this report as the Pacific Northwest) exports of edible fishery products in 1993 declined 4.7% in quantity from 1992 to 1.49 billion pounds (lb) or 676,272 metric tons (t). The value of these fishery exports declined by 16.2% to \$2.15 billion. Although there were declines in exports of groundfish, salmon, crab, and herring, the decrease in total exports was primarily due to the 25% decline in groundfish exports and the 10.5% decline in salmon exports. In 1993, groundfish exports of \$833 million and salmon exports of \$798 million accounted for 38.7 and 37%, respectively, of the total value of Pacific Northwest fishery exports. The value of Pacific Northwest exports comprised 72.7% of total U.S. edible fishery exports, down from 76.6% in 1992. In 1993, Pacific Northwest exports were shipped to 37 countries with the top 4 countries accounting for 94% of the total. Except for increased trade with Canada and the People's Republic of China, trade of fishery products declined with the major importing countries (Japan, Republic of Korea, the United Kingdom, France, and Australia). Exports to Japan totaled \$1.7 billion or 79.7% of the total, down 16.7% in value from \$2.06 billion in 1992. Canada jumped to the second spot with shipments increasing by nearly 50% to \$142 million or 6.6% of total exports. The Republic of Korea slipped to the third spot with \$98 million or 4.6% of the total exports, down 22.8% from \$127 million in 1992. Pacific Northwest exports to the United Kingdom dropped 38.5% from 1992 to \$77 million or 3.6% of the total exports.

CONTENTS

	Page
Abstract	iii
Introduction	1
Pacific Northwest Exports	2
Major Products	7
Major Importers	15
Exports by Customs District	21
Citations	27
Appendix	29

INTRODUCTION

Exports of edible fishery products from Oregon, Washington, and Alaska continue to be a major contributor to both total U.S. fishery exports and to the economy of the Pacific Northwest. This report compares exports of edible fishery products from the Pacific Northwest with total U.S. fishery exports, examines fishery exports by product and major importing country, reviews changes in patterns in exports, and updates the report of Kinoshita and Terry (1993).

For the purposes of these analyses, the Pacific Northwest is defined as the states of Oregon, Washington, and Alaska. The export data used in this report are from the U.S. Department of Commerce, Bureau of the Census. The database is maintained by the National Marine Fisheries Service (NMFS), Fishery Statistics Division, Silver Spring, Maryland.

Export data from the Oregon, Washington, and Alaska customs districts were used in this report. This method covers the major exports of salmon, groundfish, crabs, and herring. Also included are categories of exports not identified by species but as whole or dressed fish, minced fish, fish balls, cakes and pudding, and fish sticks. This approach to assessing exports of fishery products is not without problems. First, species harvested in the Pacific Northwest may be exported from customs districts outside the region. Second, species harvested in other regions may be shipped from Oregon, Washington, and Alaska customs districts. However, both problems appear to be minor. There were 22 export items in 1993 that were likely to have originated from other parts of the United States. These 22 fishery products, mostly tropical tunas and lobsters, accounted for 0.35% of the total value of 1993 Pacific Northwest exports and were not included in this report. Most fishery products are shipped from the general area where they are harvested or processed, provided there are sufficient quantities to be shipped. Two major

products shipped from the Pacific Northwest, whole or dressed Pacific salmon and frozen crab, accounted for 92 and 96%, respectively, of total U.S. exports of these two products in 1993. In recent years, much of the fish harvested in Alaska has been shipped directly to Pacific Rim countries. Other products may be first shipped to Washington State, then exported to their final destination.

The Harmonized System (HS) of coding imports and exports replaced the old Tariff Schedule of the United States (TSUSA) in 1989. The HS product codes, in most cases, provided greater detail by species, product, and condition. The HS in 1989 had 179 categories compared with only 62 under the old TSUSA. Since 1989, there has been numerous changes as products were added, while others were eliminated. In 1993, there were 201 export categories of edible fishery products. After eliminating products not likely to originate from the Pacific Northwest and products not exported in 1993, there were 140 products recorded. The HS product codes appear in Appendix Table 1. Scientific names of species identified in this report are listed in Appendix Table 2. Note that totals and percentages in the tables may-not always agree because of rounding, and that percentage changes may not agree because they were calculated from unrounded data.

PACIFIC NORTHWEST EXPORTS

After quadrupling from 1984 to 1992, the value of Pacific Northwest exports of edible fishery products in 1993 declined for the first time since 1984, down 16.2% from 1992 to \$2.15 billion, and accounted for 72.7% of the total U.S. exports of edible fishery products (Table 1). The quantity of Pacific Northwest exports on a product weight basis totaled 1.49 billion pounds (lb) or 676,272 metric tons (t), a drop of 4.7% from 1992 (Table 2 and Fig. 1).

Table 1.--Pacific Northwest exports of edible fishery products (million dollars) excluding and including joint venture sales and percent of total U.S. exports of edible fishery products, 1981-93.

Year	<u>Excluding joint ventures</u>			<u>Includine joint ventures</u>		
	Pacific Northwest	Total U.S.	% Total U.S.	Pacific Northwest	Total U.S.	% Total U.S.
1981	\$ 805	\$1,073	75.0	\$ 818	\$1,094	74.8
1982	739	999	74.0	775	1,035	74.9
1983	668	908	73.6	715	959	74.6
1984	648	842	77.0	724	921	78.6
1985	837	1,010	82.9	940	1,115	84.3
1986	1,034	1,290	80.2	1,187	1,445	82.1
1987	1,232	1,578	78.1	1,432	1,792	79.9
1988	1,700	2,162	78.6	1,920	2,383	80.6
1989	1,747	2,277	76.7	1,872	2,395	78.2
1990	2,071	2,779	74.5	2,114	2,831	74.7
1991	2,218	3,037	73.0	2,218	3,041	72.9
1992	2,570	3,357	76.6	2,570	3,357	76.6
1993	2,154	2,963	72.7	2,154	2,963	72.7

Note: Joint ventures off the Pacific Northwest ended in 1990 and ended off the East Coast in 1991.

Sources: U.S. Dep. Commer., Bureau of the Census; database from Natl. Mar. Fish. Serv., Fish. Stat. Div., Silver Spring, MD 20910; Alaska Fish. Sci. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070; and Natl. Mar. Fish. Serv., Fisheries of the United States, 1991, Silver Spring, MD 20910.

Table 2.--Pacific Northwest exports of edible fishery products, percent change in quantity (million lb) and value (million dollars) from 1992 to 1993.

Product	Quantity			Value		
	1992	1993	% change	1992	1993,	%change
Fresh and frozen						
Salmon						
Chinook	6.5	4.2	-35.8	\$ 22.0	\$ 12.1	-45.2
chum	28.6	26.2	-8.4	35.0	28.3	-19.2
Pink	13.6	15.7	15.2	16.1	16.7	3.8
Sockeye	202.2	235.2	16.3	517.6	436.4	-15.7
Coho	24.8	16.9	-32.0	48.5	32.0	-34.1
Not specified	4.2	6.1	46.7	10.4	12.6	21.4
Subtotal	280.0	304.3	8.7	649.7	538.0	-17.2
Groundfish						
Halibut	6.5	6.7	2.9	12.0	13.6	12.7
Flatfish	114.8	133.3	16.1	56.4	62.5	10.7
Cod	125.0	73.1	-41.5	94.5	55.0	-41.8
Pollock	2.3	2.1	-8.6	1.3	1.0	-22.8
Mackerel	12.3	42.2	243.3	8.5	18.3	116.2
Whiting	9.3	2.3	-75.5	13.2	1.8	-86.3
Sablefish	32.7	44.1	34.9	77.0	88.5	14.9
Other, nspf	190.1	126.5	-33.5	140.9	98.2	-30.3
Subtotal	492.9	430.3	-12.7	403.9	338.9	-16.1
Herring	107.4	72.0	-33.0	67.1	44.1	-34.2
Filletts						
Cod	3.2	1.7	-46.4	3.2	3.1	-1.6
Halibut	1.2	1.6	34.4	2.1	3.1	48.8
Pollock	6.2	4.7	-23.9	4.2	4.0	-4.7
Other, nspf	7.9	9.0	14.2	12.3	14.7	19.3
Subtotal	18.4	17.0	-7.8	21.8	24.9	14.5
Fish roe						
Pollock	38.7	23.8	-38.4	178.0	103.8	-41.7
Herring	6.1	11.7	91.2	21.6	28.7	33.0
Salmon	18.8	22.9	21.5	89.3	119.6	33.8
Other, nspf	7.9	8.8	11.7	24.3	21.0	-13.7
Subtotal	71.5	67.2	-6.0	313.3	273.1	-12.8
Other						
Surimi	231.8	326.5	40.8	360.2	298.3	-17.2
Minced	11.0	7.2	-34.7	12.6	4.5	-64.7
Meat	17.5	14.3	-18.4	16.0	13.4	-16.2
Balls, cake, etc.	52.7	1.4	-97.3	63.9	0.9	-98.6
Fish sticks	18.4	23.6	28.6	28.1	25.5	-9.1

Table 2.--Continued.

Product	Quantity			Value		
	1992	1993	% change	1992	1993	% change
Cod, cured	1.7	1.5	-10.8	\$ 3.3	\$ 2.3	-29.6
Canned						
Salmon						
Pink	31.1	28.6	-7.8	47.1	45.7	-2.9
Sockeye	36.4	38.7	6.3	90.2	81.1	-10.2
Other	8.3	5.9	-28.2	13.7	12.2	-11.2
Subtotal	75.7	73.2	-3.3	151.1	139.0	-8.0
Crab						
King	7.9	12.8	61.4	58.5	84.2	44.1
Snow	135.5	100.3	-26.0	301.2	268.1	-11.0
Dungeness	0.7	0.8	1.1	2.4	3.2	31.6
Not specified	22.2	15.0	-32.3	64.8	36.9	-43.1
Subtotal	166.3	128.8	-22.5	426.9	392.4	-8.1
Crabmeat	2.7	3.5	30.3	6.3	10.6	67.9
Sea urchin	1.4	2.1	47.6	6.1	6.1	0.9
Fish, other	3.3	3.7	12.7	5.5	6.9	24.8
Caviar	0.4	0.3	-27.3	4.9	4.4	-9.8
Shrimp	5.8	4.5	-21.3	19.3	16.2	-16.1
Crustaceans	0.2	0.2	1.3	0.5	0.6	17.4
Molluscs	5.8	9.3	61.1	9.8	13.4	37.8
Total	1,564.8	1,490.9	-4.7	\$2,570.4	\$2,153.6	-16.2

nspf - Not specifically provided for.

Note: Discrepancies in totals are due to rounding and percentages are based on unrounded numbers.

Sources: U.S. Dep. Commer., Bur. of the Census; database from Natl. Mar. Fish. Serv., Fish. Stat. Div., Silver Spring, MD 20910; and Alaska Fish. Sci. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

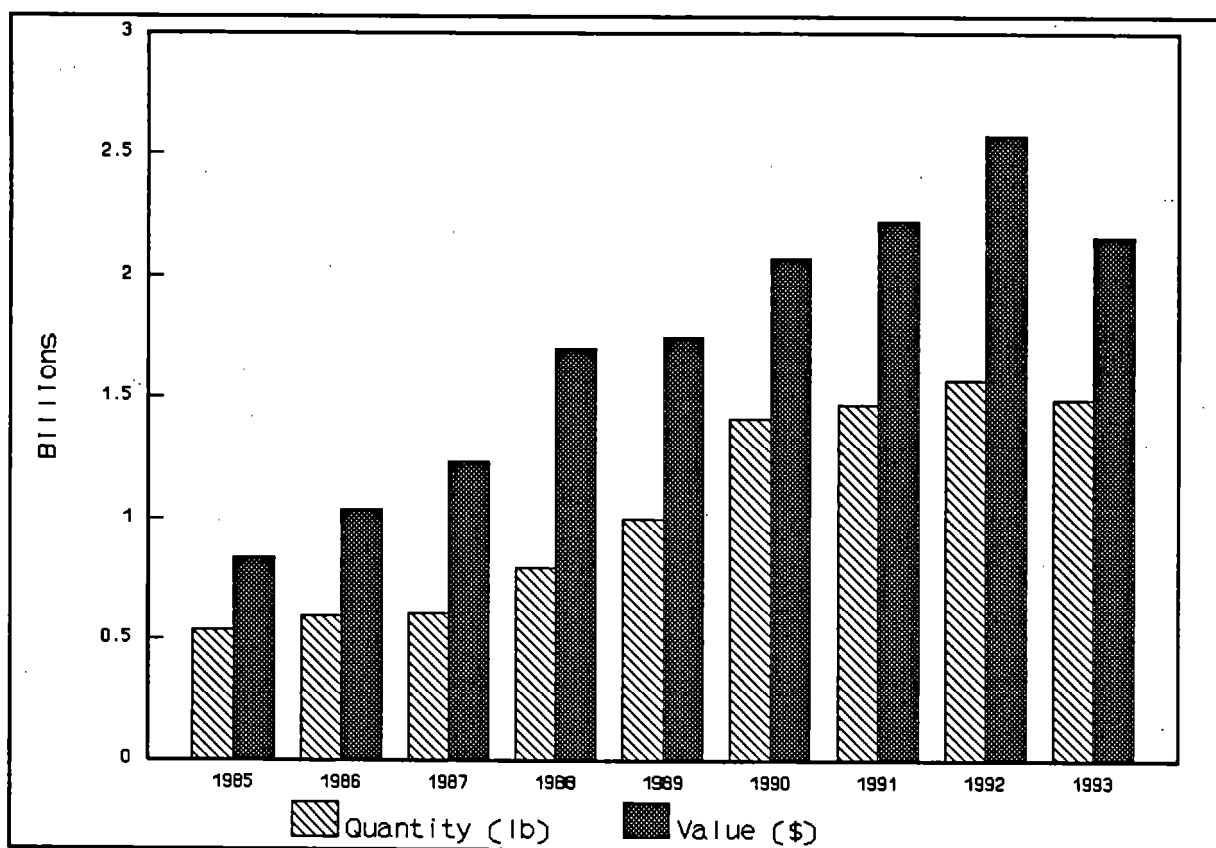


Figure 1. --Quantity and value of Pacific Northwest exports of edible fishery products, 1985-93.

The upward trend, which started in 1985, was reversed in 1993 (Fig. 2). The decline in 1993 resulted mostly from the \$278.8 million (25%) drop in groundfish exports. Exports of salmon, crabs, and herring also declined but not to the extent or severity of groundfish exports.

Part of the upward trend of exports in the 1980s was in the form of joint venture sales (i.e., direct sales by U.S. fishing vessels to foreign processing vessels in the U.S. Exclusive Economic Zone (EEZ)) off Alaska and the Pacific Coast. They were not included with Pacific Northwest exports in official U.S. merchandise trade data. For a complete picture of exports, joint venture sales were added to fishery exports from 1981 to 1991 (Gharrett 1992). Joint venture sales in the U.S. EEZ off Alaska and the Pacific Coast ended in 1990 and were terminated off the East Coast in 1991.

Major Products

Groundfish exports, including halibut, declined 25% in value to \$833 million or 38.7% of the region's exports of edible fishery products in 1993 and were the major reason for the drop in fishery exports. Since 1990, groundfish exports have accounted for 38 to 48% of total Pacific Northwest exports. Pacific salmon exports dropped 10.5% from \$891 million to \$798 million in 1993, and accounted for 37% of fishery exports, up from the 34.7% in 1992. Prior to 1990 and before the major expansion of the domestic Alaska groundfish fishery, salmon exports had accounted for 50 to 76% of total exports. Crab products ranked third with a value of \$403 million or 18.7% of the total, followed by herring products with \$73 million or 3.4% of the total. The Pacific Northwest exports of edible fishery products, by major products and product groups for 1992 and 1993, are presented in Table 2. Table 3 and Figure 3 summarize Pacific Northwest exports in more general product groups.

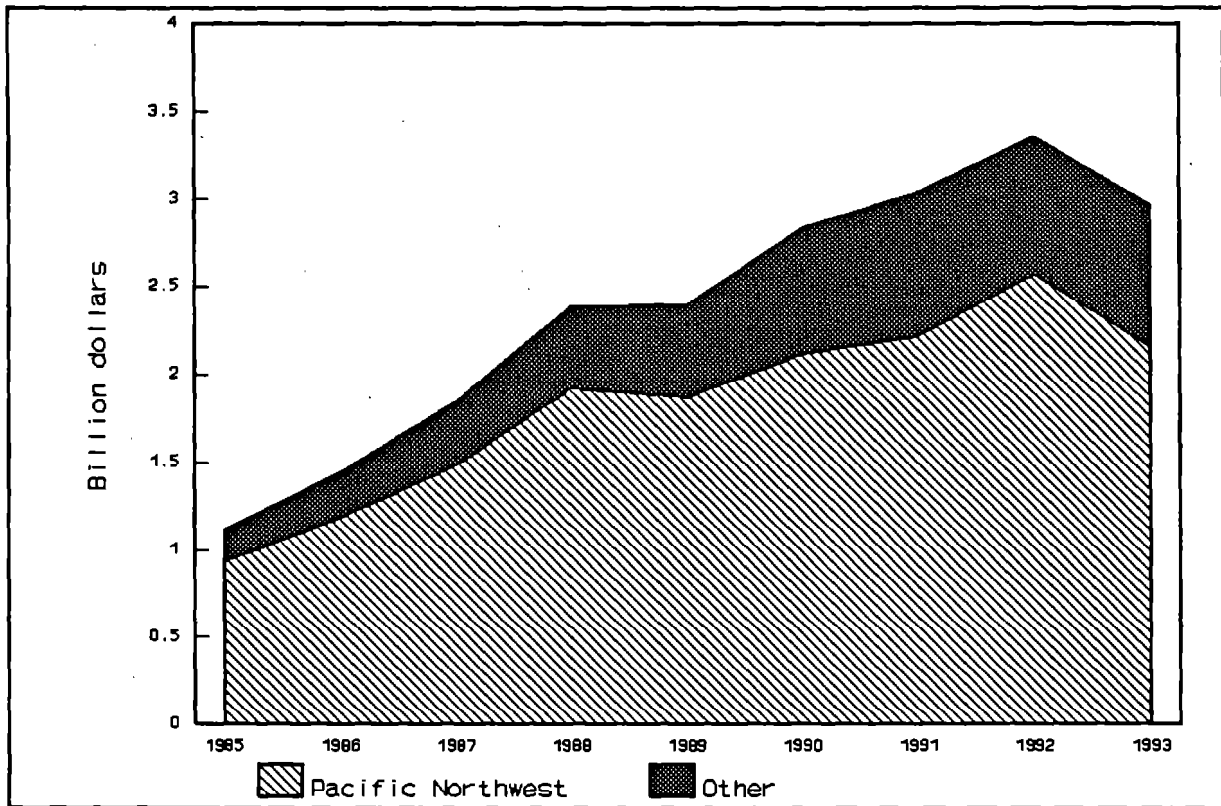


Figure 2. --Pacific Northwest and total U.S. exports of edible fishery products, 1985-93. Includes joint venture sales.

Table 3.-- Pacific Northwest exports of edible fishery products or product groups (million dollars) and percent of total, 1981-93.

Year	Salmon	Herring	Ground- fish*	Crab	Other	Total
Value						
1981	\$572	\$ 57	\$ 30	\$106	\$40	\$ 805
1982	531	60	25	87	36	739
1983	510	67	23	40	29	668
1984	480	60	47	36	25	648
1985	597	104	66	53	17	837
1986	707	78	126	107	16	1,034
1987	728	93	204	184	24	1,232
1988	967	115	358	231	29	1,700
1989	878	59	531	242	37	1,747
1990	822	71	795	345	38	2,071
1991	612	76	1,074	417	39	2,218
1992	891	89	1,112	433	45	2,570
1993	798	73	833	403	47	2,154
Percent						
1981	71.0	7.1	3.7	13.2	5.0	100.0
1982	71.9	8.1	3.3	11.8	4.9	100.0
1983	76.4	10.0	3.4	6.0	4.3	100.0
1984	74.1	9.3	7.2	5.5	3.9	100.0
1985	71.3	12.4	7.9	6.4	2.0	100.0
1986	68.4	7.5	12.2	10.4	1.5	100.0
1987	59.1	7.5	16.6	14.9	1.9	100.0
1988	56.9	6.8	21.0	13.6	1.7	100.0
1989	50.3	3.4	30.4	13.8	2.1	100.0
1990	39.7	3.4	38.4	16.7	1.8	100.0
1991	27.6	3.4	48.4	18.8	1.8	100.0
1992	34.7	3.5	43.3	16.8	1.7	100.0
1993	37.0	3.4	38.7	18.7	2.2	100.0

* Other fresh, frozen, cured, roe, and processed finfish excluding salmon, herring, and other nongroundfish species.

Note: Discrepancies in totals are due to rounding.

Sources: U.S. Dep. Commer., Bureau of the Census; database from Natl. Mar. Fish. Serv., Fish. Stat. Div., Silver Spring, MD 20910; and Alaska Fish. Sci. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

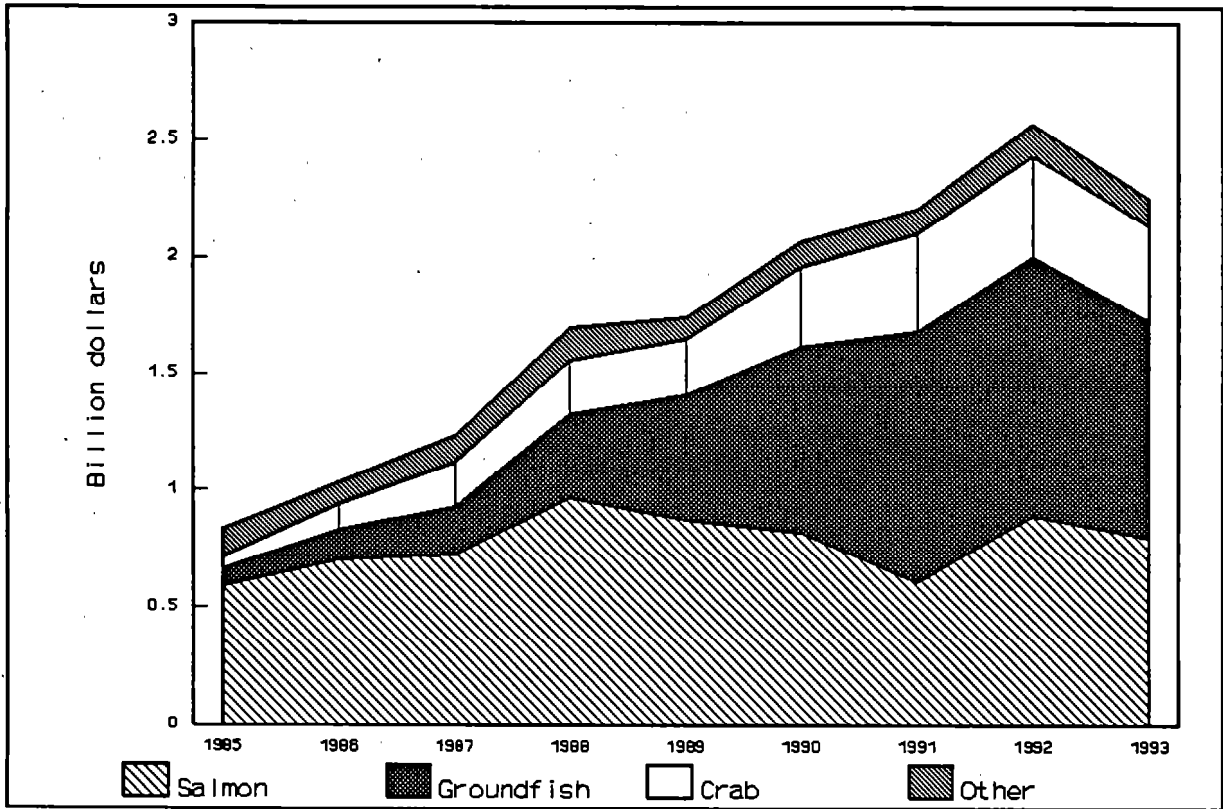


Figure 3.-- Pacific Northwest exports of edible fishery products by major products groups, 1985-93.

Exports of fresh, frozen, cured, and processed groundfish declined by only 4.1% in quantity, but the value dropped by 25% from \$1.11 billion in 1992 to \$833 million in 1993. The drop in groundfish exports primarily reflected the weaker economy in Japan and lower prices for surimi, pollock roe, and sablefish in 1993. Groundfish exports were made up of \$338.6 million of whole or dressed fish; \$24.9 million of fillets; \$124.8 million of fish roe; \$342.6 million of surimi and minced fish including meat, balls, cakes, and minced fish sticks; and \$2.3 million of cured fish (Table 4).

The Alaska groundfish catch in 1993 was up about 7% above 1992 levels (Bearden 1994). The catch of the most important species, walleye (Alaska) pollock, totaled over 3.2 billion lb (1.48 million t) in 1993, up 10% from a year earlier. The increase in the groundfish catch could have been greater except for the decline of the Pacific cod and rockfish catch due to lower catch quotas. Production of a major export commodity, pollock surimi, was estimated at 331 million lb (150,288 t), down 7.7% from 1992, as production was shifted to pollock fillets, up 60% from 1992 (Tromble 1994). Exports of surimi and minced fish including meat, balls, cakes, and sticks increased 19% from 331 million lb in 1992 to 373 million lb in 1993, with the value dropping by 28.8% to \$342.6 million. Surimi exports in 1993 totaled 326 million lb, valued at \$298 million. Exports of whole or dressed groundfish were down 12.7% to 430 million lb in 1993, and with lower prices, the value fell by 16% to \$338.6 million. Strong competition from Norwegian and Russian catches of cod and an 8% cut in the cod quota limited exports of whole or dressed cod to 73 million lb, down 41.5% from 1992. Pollock roe exports declined by 41.7% in value due to the 32% decline in roe production caused by large amounts of immature roe in the catch (Atkinson 1993). Groundfish exports by country of destination are shown in Appendix Table 3.

Table 4. --Pacific Northwest exports of groundfish products including Pacific halibut, percent change in quantity (million lb) and value (million dollars) from 1992 to 1993.

Product	Quantity			Value		
	1992	1993	% change	1992	1993	% change
Whole or dressed						
C o d	125.0	73.1	-41.5	\$ 94.5	\$ 55.0	-41.8
Halibut	6.5	6.7	2.9	12.0	13.6	12.7
Flatfish	114.8	133.3	16.1	56.4	62.5	10.7
Subtotal	121.3	140.0	15.4	68.4	76.0	11.1
Pollock	2.3	2.1	-8.6	1.3	1.0	-22.8
Mackerel	12.3	42.2	243.3	8.5	18.3	116.2
Whiting	9.3	2.3	-75.5	13.2	1.8	-86.3
Sablefish	32.7	44.1	34.9	77.0	88.5	14.9
Other, nspf	190.1	126.5	-33.5	140.9	98.2	-30.3
Subtotal	492.9	430.3	-12.7	403.9	338.6	-16.1
Filletts						
Cod	3.2	1.7	-46.4	3.2	3.1	-1.6
Halibut	1.2	1.6	34.4	2.1	3.1	48.8
Pollock	6.2	4.7	-23.9	4.2	4.0	-4.7
Other, nspf	7.9	9.0	14.2	12.3	14.7	19.3
Subtotal	18.4	17.0	-7.8	21.8	24.9	14.5
Fish roe						
Pollock	38.7	23.8	-38.4	178.0	103.8	-41.7
Other, nspf	7.9	8.8	11.7	24.3	21.0	-13.7
Subtotal	46.6	32.7	-29.9	202.4	124.8	-38.3
Other						
Surimi	231.8	326.5	40.8	360.2	298.3	-17.2
Minced	11.0	7.2	-34.7	12.6	4.5	-64.7
Meat	17.5	14.3	-18.4	16.0	13.4	-16.2
Balls, cake, pudding	52.7	1.4	-97.3	63.9	0.9	-98.6
Fish sticks, minced	18.4	23.6	28.6	28.1	25.5	-9.1
Subtotal	331.3	372.9	19.0	480.8	342.6	-28.8

Table 4.--Continued.

Product	Quantity			Value		
	1992	1993	% change	1992	1993	% change
Cured Cod	1.7	1.5	-10.8	\$ 3.3	\$ 2.3	-29.6
T o t a l	890.9	854.4	-4.1	\$1,112.2	\$833.4	-25.1

nspf - Not specifically provided for.

Note: Discrepancies in totals are due to rounding and percentages are based on unrounded numbers.

Sources: U.S. Dep. Commer., Bur. of the Census; database from Natl. Mar. Fish. Serv., Fish. Stat. Div., Silver Spring, MD 20910; and Alaska Fish. Sci. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

The quantity of total salmon exports in 1993 increased by 6.9% to 400 million lb, but the value declined 10.5% to \$797.5 million. The 1993 Alaska salmon catch amounted to 847 million lb, up 23.4% from the 686 million lb in 1992 (Bearden 1994). The sockeye salmon catch increased 11% to 381 million lb, and the pink salmon catch jumped 64% to 335 million lb. In contrast to the increase of the sockeye salmon catch, ex-vessel prices dropped by 41.7% from 1992. Average ex-vessel prices of all species of salmon declined by 41.7% from a year ago, with the value of the catch amounting to \$391 million, down from \$544 million in 1992. The quantity of whole or dressed salmon exported in 1993 increased by 8.7% from 1992, while the value declined by 17.2% to \$538 million. The overall increase of salmon exports was due to a 16% increase in quantity of sockeye salmon exports, while the export price was 27% lower than in 1992. Japanese salmon prices were adversely affected by higher holdings of sockeye salmon and increased competition from farmed salmon from Norway and Chile. At the same time, canned salmon exports were off by 3.3% in quantity and 8% in value from 1992. Exports by country of destination for total salmon, whole or dressed salmon, and canned salmon are presented in Appendix Tables 4, 5, and 6, respectively.

Exports of crab and crabmeat fell to 132 million lb in 1993, down 21.7%, and were valued at \$403 million, down 7% by value from 1992. Catches of snow crab (Chionocetes onilio) were 26.8% less than the previous year and amounted to 229 million lb in 1993 (Bearden 1994). The catch of snow crab (C. bairdi) crab was down by 30% to 45 million lb, and the king crab catch increased by almost 30% from 1992. Exports of fresh and frozen whole crab as well as sections were grouped into one category beginning in 1989, but they were again reported by species in 1991. The comparisons with 1991 and 1992 by species may not reflect what actually took place as nearly one-half of crab exports in 1991 was reported

in the not-specified category. The snow crab exports for 1992 were revised upward to 135.5 million lb from 128.9 million lb reported in last year's report. The percentage in the not-specified category in 1993 was down to 11.6% of the total, down from 13.3% in 1992.

Exports of herring products in 1993 amounted to 83.7 million lb and were valued at \$72.9 million, down 26% by quantity and 18% by value. Exports of whole herring were off by 33% by quantity from 1992, while herring roe exports were up by 91%. By value, whole fish were down by 34%, and herring roe was up by 33%. The supply of herring was down as the Alaska catch declined to 96.5 million lb, down 33.5% from 1992.

Major Importers

Pacific Northwest exports of edible fishery products were sold to 37 countries in 1993, with Japan being the leading buyer. The top four countries purchased 94% of the total (Tables 5 and 6, and Fig. 4). There were significant declines in the value of exports to Japan (16.7%), the Republic of Korea (22.8%), the United Kingdom (38.5%), and France (52.2%) in 1993. At the same time, exports increased to Canada (47.3%), the People's Republic of China (36.4%), and Taiwan (75.4%).

Japan's imports of edible fishery products from the Pacific Northwest dropped 16.7% to \$1.7 billion and accounted for 79.7% of the total value of the Pacific Northwest's fishery exports in 1993. Purchases by Japan in the 1985-93 period have ranged from 75 to 82% of Pacific Northwest fishery exports. In 1993, the Japanese were the leading buyers of whole or dressed Pacific salmon (89%), whole Pacific herring (91%), sablefish (99%), crab (92%), surimi (85%), and total fish roe (97%) (Appendix Table 7). Exports of the most important category sold to Japan, whole or dressed salmon, increased 12% in quantity but

Table 5.--Quantity (million lb) and value (million dollars) of Pacific Northwest edible fishery products exported to the leading countries for 1992 and 1993 and percent change, 1992-93.

country	Quantity			Value		
	1992	1993	% change	1992	1993	% change
Japan	1,140.2	1,069.0	-6.2	\$2,060.9	\$1,716.6	-16.7
Canada	55.9	86.7	55.1	96.7	142.4	47.3
Rep. of Korea	172.0	194.0	12.8	127.4	98.3	-22.8
United Kingdom	72.1	38.9	-46.1	125.7	77.3	-38.5
People's Republic of China	14.0	16.9	21.2	17.9	24.4	36.4
France	22.2	12.1	-45.6	36.2	17.3	-52.2
Australia	8.2	7.2	-12.2	15.7	13.3	-15.0
Netherlands	9.0	6.2	-31.6	13.5	10.1	-25.0
Taiwan	5.2	11.3	119.5	5.1	8.9	75.4
Federal Republic of Germany	5.6	9.6	71.7	7.1	8.5	19.8
Thailand	13.8	17.2	25.1	7.0	8.4	19.7
Belgium	4.1	2.4	-40.6	7.1	4.3	-39.4
Hong Kong	1.2	1.4	14.0	2.9	3.4	18.8
Portugal	20.4	3.5	-83.0	17.3	3.2	-81.5
Denmark	5.0	2.9	-41.8	7.9	3.2	-59.7
Sweden	5.8	2.3	-60.6	8.8	3.1	-65.3
Norway	3.6	2.8	-23.7	4.0	2.6	-34.3
Spain	0.7	1.1	44.3	0.8	1.8	122.2
New Zealand	0.6	1.0	52.0	1.0	1.6	57.4
Italy	0.6	1.4	125.4	1.6	1.3	-17.2
Ireland	1.3	0.5	-58.9	2.0	1.0	-53.2
Other	3.1	2.6	-17.7	3.8	2.6	-31.7
Total	1,564.8	1,490.9	-4.7	\$2,570.4	\$2,153.6	-16.2

Note: Discrepancies in totals are due to rounding.
Percentages are based on unrounded data.

Sources: U.S. Dep. Commer., Bureau of the Census, database from Natl. Mar. Fish. Serv., Fish. Stat. Div., Silver Spring, MD 20910; and Alaska Fish. Sci. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

Table 6. --Value (million dollars) and percent of Pacific Northwest edible fishery products exported to major countries, 1985-93.

Country	1985	1986	1987	1988	1989	1990	1991	1992	1993
Value									
Japan	\$639.9	\$ 776.8	\$ 936.7	\$1,401.3	\$1,426.1	\$1,608.1	\$1,660.4	\$2,060.9	\$1,716.6
Canada	60.8	71.6	92.5	90.4	124.8	100.6	96.0	96.7	142.4
Rep. of Korea	18.0	26.7	31.5	35.9	52.5	94.4	145.9	127.4	98.3
United Kingdom	43.5	71.1	58.4	66.0	56.5	80.5	113.8	125.7	77.3
France	24.1	34.4	48.9	31.2	18.0	29.8	32.5	36.2	17.3
Australia	11.9	12.5	14.3	15.3	16.2	14.4	11.8	15.7	13.3
Other	<u>38.5</u>	<u>40.7</u>	<u>49.5</u>	<u>60.0</u>	<u>53.2</u>	<u>142.7</u>	<u>157.9</u>	<u>107.8</u>	<u>88.4</u>
Total	\$836.7	\$1,033.7	\$1,231.8	\$1,700.1	\$1,747.3	\$2,071.1	\$2,218.3	\$2,570.4	\$2,153.6
Percent									
Japan	76.5	75.1	76.0	82.4	81.6	77.7	74.9	80.2	79.7
Canada	-7.3	6.9	7.5	5.3	7.2	4.8	4.3	3.8	6.6
Rep. of Korea	2.1	2.6	2.6	2.1	3.0	4.6	6.6	4.9	4.6
United Kingdom	5.2	6.9	4.7	3.9	3.2	3.9	5.1	4.9	3.6
France	2.9	3.3	4.0	1.9	1.0	1.4	1.5	1.4	0.8
Australia	1.4	1.2	1.2	0.9	0.9	0.7	0.5	0.6	0.6
Other	<u>4.6</u>	<u>3.9</u>	<u>4.0</u>	<u>3.5</u>	<u>3.1</u>	<u>6.9</u>	<u>7.1</u>	<u>4.2</u>	<u>4.1</u>
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: Discrepancies in totals are due to rounding.

Sources: U.S. Dep. Commer., Bur. of the Census; database from Natl. Mar. Fish. Serv., Fish. Stat. Div., Silver Spring, MD 20910; and Alaska Fish. Sci. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0700.

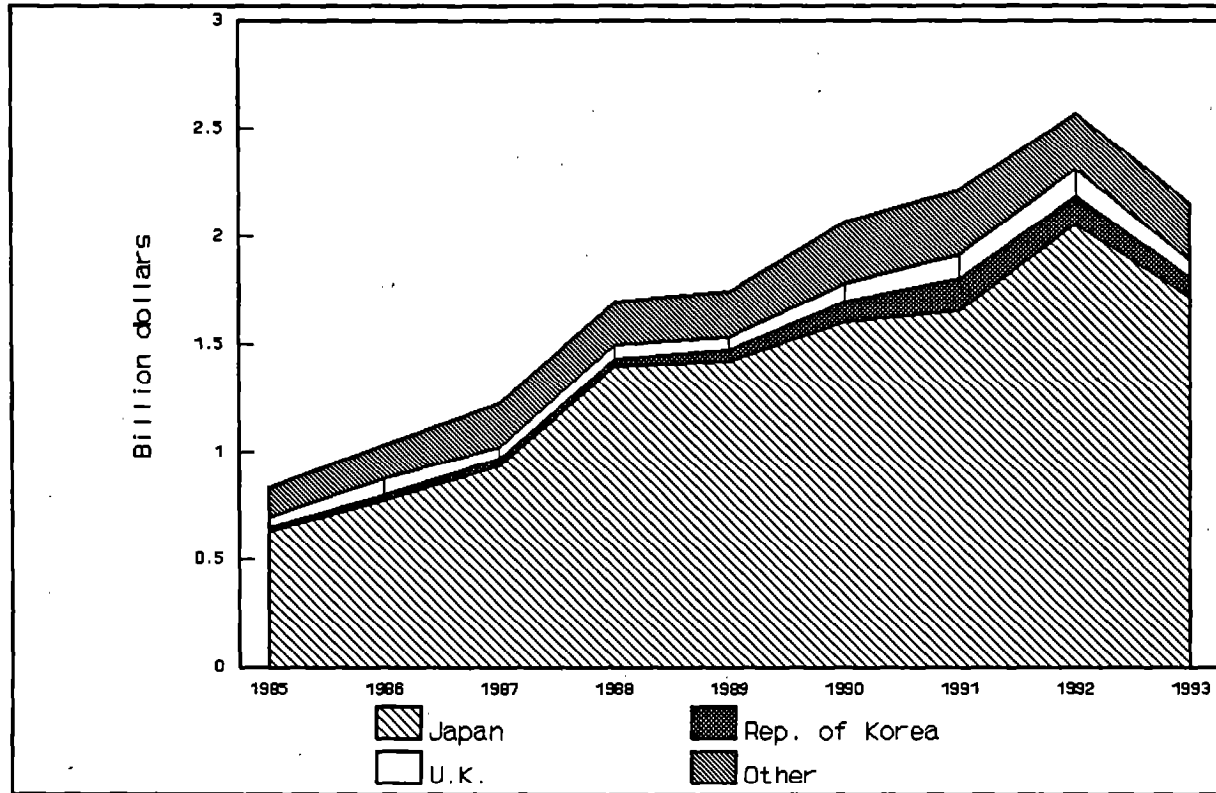


Figure 4. --Pacific Northwest exports of edible fishery products by country of destination, 1985-93.

declined 16.4% in value to \$480 million. Except for salmon and herring roe, king crab, and sablefish exports, most products declined in value. The decline of exports to Japan can be attributed to the sluggish economy and resulting slow consumption, increased international competition, and an imbalance in supply and demand (Atkinson 1993). The Japanese economy in 1993 was barely ahead of the previous year, with gross national expenditure up just 0.1% from 1992.

Increased imports of farmed salmon from Norway and Chile and non-pollock surimi from Thailand, Chile, China, Vietnam, and India added downward pressure to prices of the two products from the United States.

Canada was the second largest importer, up from fourth in 1992, with purchases of \$142.4 million or 6.6% of the total Pacific Northwest fishery exports, up 47.3% from \$96.7 million in 1992. Increased purchases of canned salmon and whole or dressed salmon accounted for most of the increase (Appendix Table 8). Canada is a net exporter of salmon products. However, they may augment their supply of salmon by purchasing fresh, frozen, and canned salmon from U.S. producers when there is a shortfall in their catch. The British Columbia salmon catch in 1993 was just under 142 million lb (64,250 t), down 24% from the previous year.

Dropping one notch from second to third was the Republic of Korea which imported 4.6% of the total exports. Exports fell 12.8% in quantity, and the value declined 22.8% from 1992 to \$98.3 million in 1993. Reduced purchases of whole or dressed groundfish and pollock roe were responsible for the decline (Appendix Table 9).

The United Kingdom was fourth largest importer with purchases of \$77.3 million or 3.6% of the total (Appendix Table 10). The quantity of imported edible fishery products declined by 46%, and the value slipped by 38.5% from 1992. Most of the decline was attributed to lower sales of canned salmon,

which fell 25.9% in 1993 to 37.2 million lb in quantity and declined by 28.9% to \$74.6 million in value. The decline in canned salmon exports was partially due to the large inventories on hand after strong purchases made in 1991 and 1992 (NMFS 1993). The United Kingdom was the leading buyer of canned salmon, with 53.7% of the canned salmon exports, down from 69.5% in 1992. Purchases of whole or dressed cod fell from 13.2 million lb, worth \$8.9 million in 1992 to zero in 1993, and whole or dressed salmon was down 74.9% to \$1.5 million in 1993.

Advancing to the fifth spot as an importer was the People's Republic of China, with purchases of \$24.4 million, up 36% from the \$17.9 million in 1992. The People's Republic of China's purchases were centered on snow crab which accounted for about two-thirds of the total imports (Appendix Table 12). Fishery exports to this country began in 1990 with only \$132,000 of edible fishery products imported and have increased each year.

Exports to France ranked sixth, down one spot, declining 45.6% in quantity and 52% in value to 12 million lb and \$17.3 million, respectively (Appendix Table 11). The drop was attributed to the fall of imports, of whole or dressed salmon and fish fillets. Whole or dressed salmon exports totaled \$14.2 million, down 46.6% from 1992 and comprised 82% of fishery exports to France.

Rounding out the top 10 leading importers were Australia, the Netherlands, Taiwan, and the Federal Republic of Germany with purchases of \$13.3, \$10.1, \$8.9, and \$8.5 million, respectively. Exports to Australia were down 15% from \$15.7 million in the previous year. Australia was the third leading buyer of canned salmon, with \$13 million or 9.4% of the total canned salmon exports from the Pacific Northwest. Exports to the Netherlands dropped by 25% from \$13.5 million in 1992, primarily due to reduced purchases of salmon products. In the ninth position was Taiwan, up 75.4% from the previous year, resulting from a doubling of groundfish exports; Exports to Germany were up one-fifth as

groundfish exports were up 42.4% from 1992 to \$8.5 million in 1993. This, however, was 18 and 23%, respectively, below levels shipped in 1990 and 1991.

Two countries that dropped out of the list of the top 10 importers were Portugal and Sweden. The supply of groundfish in the European market continued to be influenced by higher catches of cod by Norway and Russia in the Barents Sea (FAO/Globefish 1993). Consequently, purchases of cod by Portugal from the Pacific Northwest were down drastically from 1991 and 1992. Portugal dropped from seventh place in 1992 to 14th in 1993, and exports were down 81.5% from \$17.3 million in 1992 to just \$3.2 million in 1993. Sweden slid from the ninth position to 16th, purchasing only \$3.1 million in 1993, down 65% from \$8.8 million in 1992. Exports of whole or dressed salmon to Sweden declined from 4.3 million lb in 1992 to 1.4 million lb in 1993, valued at \$1.4 million.

Exports-by Customs District

By quantity, 1.1 billion lb or 74% of Pacific Northwest fishery exports in 1993 were shipped from the Alaska customs district, compared with 373 million lb or 25% from Washington, and 14.3 million lb or 1% from Oregon (Tables 7 and 8). By value, \$1.47 billion or 68.5% of the total was from Alaska, \$650 million or 30.2% was from Washington, and \$29 million or 1.3% was from Oregon (Fig. 5). Table 9 presents the percentage distribution by customs district from 1977.

Pacific Northwest fishery exports in 1993 destined for Pacific Rim countries declined to \$1.88 billion or 87.1% of total exports compared with the \$2.24 billion in 1992, with \$1.44 billion shipped from Alaska and \$400.6 million from Washington in 1993. Exports to Europe totaled \$134.5 million in 1993, or 6.2% of the total, down from \$233.8 million or 9.1% of total exports in 1992, with \$123.3 million shipped from Washington and \$11.1 million from Alaska in 1993. Exports to Europe fell by 42.5% as lower sales of canned salmon to the

Table 7.--Quantity (1,000 pounds), value (1,000 dollars), and percent of total 1992 value of Pacific Northwest edible fishery products exported by customs district to area or country of destination, 1992.

District	Asia*	Europe	Canada	Other	Total
Quantity					
Alaska	1,172,380	41,246	8,165	--	1,221,790
Washington	167,260	110,355	47,750	752	326,117
Oregon	16,137	755	10	--	16,901
Total	1,355,776	152,356	55,925	752	1,564,808
Value					
Alaska	\$1,841,474	\$ 31,135	\$11,349	--	\$1,883,959
Washington	363,359	201,998	85,292	\$1,182	651,832
Oregon	33,899	678	23	--	34,599
Total	\$2,238,732	\$233,811	\$96,664	\$1,182	\$2,570,390
Percent of total value					
Alaska	71.7	1.2	0.4	--	73.3
Washington	14.1	7.9	3.3	0.0	25.4
Oregon	1.3	0.0	0.0	--	1.3
Total	87.1	9.1	3.8	0.0	100.0

* Includes Australia and New Zealand.

Note: Discrepancies in totals are due to rounding.

Sources: U.S. Dep. Commer., Bureau of the Census; database from Natl. Mar. Fish. Serv., Fish. Stat. Div., Silver Spring, MD 20910; and Alaska Fish. Sci. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

Table 8.--Quantity (1,000 pounds), value (1,000 dollars), and percent of total 1993 value of Pacific Northwest edible fishery products exported by customs district to area or country of destination, 1993.

District	A s i a *	Europe	Canada	Other	Total
Quantity					
Alaska	1,075,810	13,897	14,280	44	1,104,031
Washington	229,617	70,198	72,424	315	372,556
Oregon	14,245	63	14	--	14,322
Total	1,319,672	84,158	86,718	359	1,490,909
Value					
Alaska	\$1,446,893	\$ 11,111	\$ 16,137	\$ 18	\$1,474,160
Washington	400,596	123,271	126,231	375	650,475
Oregon	28,879	93	20	--	28,990
Total	\$1,876,368	\$134,475	\$142,388	\$393	\$2,153,625
Percent of total value					
Alaska	67.2	0.5	0.7	0.0	68.5
Washington	18.6	5.7	5.9	0.0	30.2
Oregon	1.3	0.0	0.0	--	1.3
Total	87.1	6.2	6.6	0.0	100.0

* Includes Australia and New Zealand.

Note: Discrepancies in totals are due to rounding.

Sources: U.S. Dep. Commer., Bureau of the Census; database from Natl. Mar. Fish. Serv., Fish. Stat. Div., Silver Spring, MD 20910; and Alaska Fish. Sci. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

Table 9.--Pacific Northwest exports of edible fishery products by customs districts in percentage of the total for each year from 1977 to 1993.

Year	Quantity (%)			Value (%)		
	Oregon	Washington	Alaska	Oregon	Washington	Alaska
1977	2.1	83.3	14.6	2.2	81.6	16.2
1978	2.5	68.3	29.3	2.4	65.1	32.5
1979	2.8	51.6	45.6	1.9	51.6	46.5
1980	1.4	55.4	43.2	1.4	59.5	39.1
1981	1.4	53.9	44.7	1.5	57.5	41.0
1982	2.0	42.4	55.6	2.3	50.1	47.6
1983	1.3	40.6	58.1	1.6	48.8	49.6
1984	1.8	43.8	54.4	1.8	53.9	44.3
1985	1.7	39.5	58.8	1.7	45.6	52.7
1986	1.5	45.5	53.1	1.9	49.0	49.2
1987	1.6	46.4	52.0	1.8	51.6	46.6
1988	1.6	34.5	63.9	2.2	44.3	53.5
1989	1.1	31.7	67.2	1.4	38.2	60.4
1990	0.6	21.9	77.5	1.0	30.7	68.3
1991	0.7	23.1	76.2	1.0	29.4	69.6
1992	1.1	20.8	78.1	1.3	25.4	73.3
1993	1.0	25.0	74.0	1.3	30.2	68.5

Note: Discrepancies in percentages not adding to 100% are due to rounding.

Sources: U.S. Dep. Commer., Bureau of the Census; database from Natl. Mar. Fish. Serv., Fish. Stat. Div., Silver Spring, MD 20910; and Alaska Fish. Sci. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

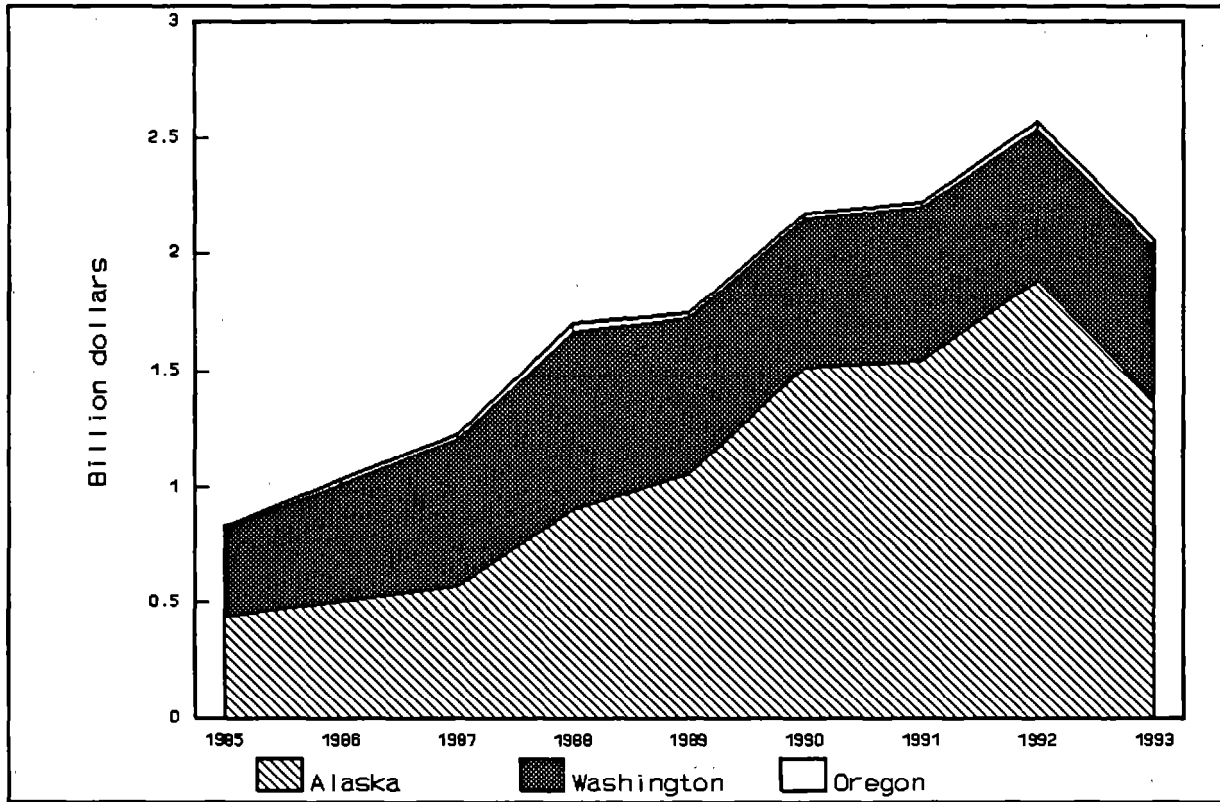


Figure 5. --Pacific Northwest exports of edible fishery products by customs districts, 1985-93.

United Kingdom and of groundfish to the United Kingdom and Portugal contributed to most of the decline.

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APPENDIX

Appendix Table 1. --Export categories of edible fishery products for 1993.

Product description
Trout, rainbow, fresh, farmed
fresh
Salmon, Atlantic, fresh, farmed
Atlantic, fresh, wild
chinook, fresh
chum, fresh
pink, fresh
sockeye, fresh
coho, fresh
Danube, fresh
Salmonidae, nspf, fresh
Flatfish, halibut, Greenland turbot, fresh
plaice, fresh
sole, fresh
nspf, fresh
Tuna, albacore, fresh
Herring, fresh
Groundfish, cod, nspf, fresh
Groundfish, pollock, Atlantic, fresh
Mackerel, fresh
Shark, dogfish, fresh
Eels, fresh
Sablefish, fresh
Lingcod, fresh
Fish, nspf, fresh
Fish, nspf, liver and roe, fresh
Salmon, chinook, frozen
chum, frozen
pink, frozen
sockeye, frozen
coho, frozen
Pacific, nspf, frozen
Trout, frozen
Salmon, Atlantic, Danube, frozen
Salmonidae, nspf, frozen
Flatfish, halibut, Atlantic, Pacific, frozen
turbot, Greenland, frozen
plaice, frozen
sole, frozen
nspf, frozen
Tuna, albacore, frozen
Herring, frozen
Groundfish, cod, nspf, frozen
Groundfish, pollock, Atlantic, frozen
Mackerel, frozen
Shark, dogfish, frozen

Appendix Table 1. -- Continued.

Product description

Eels, frozen
Sea bass, frozen
Groundfish, hake, whiting, frozen
Sablefish, frozen
Fish, nspf, frozen
Sturgeon roe, frozen
Herring roe, frozen
Salmon, nspf, roe, frozen
Groundfish, pollock, Alaska roe, frozen
Fish, nspf, liver and roe, frozen
Fish, nspf, fillet, fresh
Groundfish, cod fillet, frozen
Flatfish, halibut, nspf, fillet, frozen
Groundfish, pollock, Alaska fillet, frozen
Fish, nspf, fillet, frozen
Surimi
Groundfish, cod, nspf, minced, frozen > 6.8 kg
Fish, nspf, minced, frozen > 6.8 kg
Fish, nspf, meat, frozen
Salmon, nspf, roe, cured
Herring roe, cured
Fish, nspf, liver and roe, cured
Fish, nspf, fillet, dried/salted/brined
Salmon, smoked
Herring, smoked
Fish, nspf, smoked
Groundfish, cod, dried
Fish, nspf, dried
Herring, salted
Groundfish, cod, salted
Fish, nspf, salted
Shrimp, shell-on, frozen < 15 count size
 shell-on, frozen 15/20 count size
 shell-on, frozen 21/25 count size
 shell-on, frozen 26/30 count size
 shell-on, frozen 31/40 count size
 shell-on, frozen 41/50 count size
 shell-on, frozen 51/60 count size
 shell-on, frozen 61/70 count size
 shell-on, frozen > 70 count size
 peeled, frozen
Crabmeat, nspf, frozen
Crab, king, frozen
 snow, frozen
Dungeness, frozen
nspf, frozen

Appendix Table 1. --Continued.

Product description

Crawfish, freshwater, frozen
Crustaceans, nspf, frozen
Shrimp, live/fresh/dried/salted/brined
Crabmeat, nspf, fresh/dried/salted/brined
Crab, nspf, live/fresh/dried/salted/brined
Crustaceans, nspf, live/fresh/dried/salted/brined
Oysters, -live/fresh/frozen/dried/salted/brined
Scallops, live/fresh
Scallops, frozen/dried/salted/brined
Mussels, live/fresh, farmed
 live/fresh, wild
 frozen/dried/salted/brined
Squid, (Loligo), live/fresh
 nspf, live/fresh
 nspf, and cuttlefish, live/fresh
 nspf, fillet, frozen
 (Loligo opalescens), frozen/dried/salted/brined
 (Loligo pealei), frozen/dried/salted/brined
 (Loligo, nspf), frozen/dried/salted/brined
 nspf, frozen/dried/salted/brined
 and cuttlefish, frozen/dried/salted/brined
Octopus, live/fresh
 frozen/dried/salted/brined
Snail, other than sea snail, live/fresh/frozen/salted
Sea urchin, roe, fresh
 live/fresh
Molluscs, nspf, live/fresh
Clam, frozen/dried/salted/brined
Molluscs, nspf, frozen/dried/salted/brined
Fish, shellfish, nspf, juice
Salmon, nspf, canned in oil
 chum, canned not in oil
 pink, canned not in oil
 sockeye, canned not in oil
 nspf, canned not in oil
 nspf, prepared/preserved not in airtight container
Herring, prepared/preserved
Mackerel, prepared/preserved
Sticks, type products, coated, not minced
 type products, not coated, not minced
Fish, nspf, prepared meals containing shellfish
Fish balls, cakes, pudding, prepared/preserved
Sticks, type products, coated of minced
 type products, not coated of minced
Caviar, caviar substitute, prepared/preserved

Appendix Table 1. --Continued.

Product description
Crab product prepared meals containing fish
Crabmeat, king in airtight container
snow (<u>Chionocetes opilio</u>) in airtight container
snow, other in airtight container
Dungeness in airtight container
nspf, in airtight container
king, frozen
snow (<u>Chionocetes opilio</u>), frozen
snow, other, frozen
Dungeness, frozen
nspf, frozen
nspf, other preparations
Crab, nspf, other preparations
Shrimp, products prepared meals containing fish,
'frozen in airtight containers
frozen
canned
other preparations
Crustaceans, nspf, products prepared meals containing fish
nspf, prepared/preserved
Molluscs/other, nspf, products prepared meals containing fish
Clam, prepared/preserved
Abalone, prepared/preserved
Scallops, prepared/preserved
Squid (<u>Loligo</u>), prepared/preserved
Squid, nspf, prepared/preserved
Molluscs, nspf, prepared/preserved
Soups, broths, based on fish or other seafood

nspf - Not specifically provided for.

Sources: U.S. Dep. Commer., Bur. of the Census; U.S. Dep. of Treasury, Bur. of Customs; and available from Alaska Fish. Sci. Cent, 7600 Sand Point Way N.E., BIN C215700, Seattle, WA 98115-0070.

Appendix Table 2. --Scientific names of species identified in this report.

Common name	Scientific name
FISH	
Cod, Pacific	<u>Gadus macrocephalus</u>
Flounders and soles	<u>Pleuronectidae</u> family
Halibut, Pacific	<u>Hippoglossus stenolevis</u>
Herring, Pacific	<u>Clupea pallasii</u>
Mackerel, Atka	<u>Pleurogrammus mononterycius</u>
Perch, Pacific ocean	<u>Sebastes alutus</u>
Pollock, walleye	<u>Theragra chalcogramma</u>
Rockfish	<u>Sebastes</u> and <u>Sebastolobus</u> species
Sablefish	<u>Anonlopoma fimbria</u>
Salmon, Pacific	<u>Oncorhynchus</u> species
Chinook	0. <u>tshawytscha</u>
chum	0. <u>keta</u>
Coho	0. <u>kisutch</u>
Pink	0. <u>gorbusha</u>
Sockeye	0. <u>nerka</u>
Turbot, Greenland	<u>Reinhardtius hippoglossoides</u>
Whiting (hake), Pacific	<u>Merluccius productus</u>
CRUSTACEANS	
Crab, Dungeness	<u>Cancer magister</u>
Crab, king	<u>Lithodes</u> and <u>Paralithodes</u> species
Crab, snow (Tanner)	<u>Chionoecetes bairdi</u> and <u>onilio</u>
Shrimp	<u>Pandalus</u> , <u>Pandalopsis</u> , and <u>Crangon</u> species

Appendix Table 3. --Pacific Northwest exports of groundfish products including halibut by country of destination, quantity (million lb), value (million dollars), and percent change from 1992 to 1993.

Country	Quantity			Value		
	1992	1993	% change	1992	1993	% change
Japan	624.3	585.1	-6.3	\$ 893.5	\$662.0	-25.9
Rep. of Korea	168.9	189.6	12.2	121.9	89.7	-26.4
Canada	22.1	24.9	12.8	33.7	41.3	22.7
Taiwan	4.7	11.0	131.4	3.9	8.0	106.2
Federal Republic of Germany	4.1	8.5	105.1	4.8	6.8	42.4
Thailand	12.4	16.0	29.6	4.6	6.4	39.0
Portugal	20.4	3.5	-83.0	17.3	3.2	-81.5
France	5.3	1.3	-74.7	8.7	2.9	-67.2
People's Republic of China	3.6	4.3	18.2	1.6	2.3	44.1
Hong Kong	0.6	0.7	17.6	1.2	1.7	36.0
Norway	2.8	2.4	-13.7	2.2	1.5	-32.0
Spain	0.3	0.8	228.1	0.3	1.5	470.5
Denmark	0.7	1.4	102.2	0.9	1.2	38.1
Italy	0.2	1.4	776.8	0.1	1.2	1,126.8
United Kingdom	17.8	0.7	-96.3	13.8	0.9	-93.5
Sweden	0.8	0.5	-41.5	1.3	0.6	-53.1
Netherlands	0.5	0.3	-47.0	0.8	0.4	-53.9
Other	1.5	2.0	32.2	1.7	1.8	10.3
Total	890.9	854.4	-4.1	\$1,112.2	\$833.4	-25.1

Note: Discrepancies in totals are due to rounding and percentages are based on unrounded numbers.

Sources: U.S. Dep. Commer., Bur. of the Census; database from Natl. Mar. Fish. Serv., Fish. Stat. Div., Silver Spring, MD 20910; and Alaska Fish. Sci. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

Appendix Table 4. --Pacific Northwest exports of salmon products (fresh, frozen, canned, cured, and roe) by country of destination, quantity (million lb), value (million dollars), and percent change from 1992 to 1993.

country	Quantity			Value		
	1992	1993	% change	1992	1993	% change
Japan	253.8	285.5	12.5	\$665.4	\$600.7	-9.7
United Kingdom	54.0	38.1	-29.4	110.9	76.1	-31.4
Canada	13.6	41.8	208.5	28.1	66.3	135.8
France	16.7	10.7	-36.1	27.1	14.3	-47.3
Australia	8.2	6.9	-16.3	15.7	13.0	-17.1
Netherlands	8.4	5.8	-30.7	12.6	9.6	-23.7
Belgium	3.7	2.4	-35.6	6.5	4.0	-38.9
Denmark	3.9	1.5	-61.0	6.1	2.0	-67.5
Rep. of Korea	1.2	1.2	6.4	2.3	2.0	-14.2
Federal Republic of Germany	1.2	1.0	-15.8	2.1	1.6	-22.3
New Zealand	0.6	1.0	63.9	1.0	1.6	62.5
Sweden	4.3	1.5	-66.3	5.5	1.5	-73.4
Ireland	1.3	0.5	-57.7	2.0	1.0	-51.2
People's Republic of China	0.3	0.6	134.1	0.5	0.8	72.0
Hong Kong	0.5	0.5	5.0	0.9	0.8	-14.6
Thailand	0.3	0.5	78.5	0.2	0.5	112.5
South Africa	0.7	0.3	-55.9	1.1	0.4	-66.6
Spain	0.2	0.2	9.7	0.3	0.3	33.4
Taiwan	0.1	0.2	18.5	0.3	0.3	0.3
Other	1.8	0.4	-79.3	2.9	0.9	-69.9
Total	374.8	400.7	6.9	\$891.4	\$797.5	-10.5

Note: Discrepancies in totals are due to rounding and percentages are based on unrounded numbers.

Sources: U.S. Dep. Commer., Bur. of the Census; database from Natl. Mar. Fish. Serv., Fish. Stat. Div., Silver Spring, MD 20910; and Alaska Fish. Sci. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

Appendix Table 5. --Pacific Northwest exports of fresh and frozen salmon by country of destination, quantity (million lb), value (million dollars), and percent change from 1992 to 1993.

Country	Quantity			Value		
	1992	1993	% change	1992	1992	% change
Japan	233.6	262.1	12.2	\$574.1	\$480.0	-16.4
Canada	9.2	21.4	132.9	16.9	29.6	75.7
France	16.4	10.6	-35.4	26.5	14.2	-46.6
Rep. of Korea	1.2	1.2	6.0	2.3	2.0	-14.7
Belgium	2.2	1.2	-46.6	4.1	1.8	-55.7
Denmark	3.9	1.4	-63.1	6.1	1.8	-70.7
United Kingdom	3.8	0.9	-75.7	5.8	1.5	-74.9
Sweden	4.3	1.4	-67.4	5.5	1.4	-74.2
Federal Republic of Germany	1.1	0.9	-18.5	1.8	1.4	-23.0
People's Republic of China	0.3	0.6	134.1	0.5	0.8	72.0
Netherlands	0.8	0.4	-43.7	1.3	0.8	-40.3
Hong Kong	0.5	0.5	5.0	0.9	0.8	-14.6
Thailand	0.3	0.5	78.5	0.2	0.5	112.5
Spain	0.2	0.2	9.7	0.3	0.3	33.4
Taiwan	0.1	0.1	7.6	0.2	0.2	-5.1
Other	2.2	0.6	-72.1	3.3	1.0	-70.1
Total	280.0	304.3	8.7	\$649.7	\$538.0	-17.2

Note : Zero indicates less than 50,000 lb or \$50,000.
Discrepancies in totals are due to rounding and percentages are based on unrounded numbers.

Sources: U.S. Dep. Commer., Bur. of the Census; database from Natl. Mar. Fish. Serv., Fish. Stat. Div., Silver Spring, MD 20910; and Alaska Fish. Sci. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

Appendix Table 6. --Pacific Northwest exports of canned salmon by country of destination, quantity (million lb), value (million dollars), and percent change from 1992 to 1993.

country	Quantity			Value		
	1992	1993	% change	1992	1993	% change
United Kingdom	50.2	37.2	-25.9	\$105.0	\$74.6	-28.9
Canada	4.3	20.4	378.6	10.7	36.6	242.8
Australia	8.2	6.9	-16.3	15.7	13.0	-17.2
Netherlands	7.6	5.3	-29.9	11.3	8.8	-22.2
Belgium	1.5	1.2	-20.9	2.4	2.2	-10.7
New Zealand	0.6	1.0	73.1	1.0	1.6	68.1
Japan	1.5	0.6	-59.8	2.3	1.0	-55.5
Ireland	1.3	0.5	-60.3	2.0	0.9	-53.8
Other	0.6	0.2	-69.7	0.8	0.3	-61.8
Total	75.7	73.2	-3.3	\$151.1	\$139.0	-8.0

Note: Discrepancies in totals, are due to rounding and percentages are based on unrounded numbers.

Sources: U.S. Dep. Commer., Bur. of the Census; database from Natl. Mar. Fish. Serv., Fish. Stat. Div., Silver Spring, MD 20910; and Alaska Fish. Sci. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

Appendix Table 7. --Pacific Northwest exports of edible fishery products to Japan by product, quantity (million lb), value (million dollars), and percent change from 1992 to 1993.

Product	Quantity			Value		
	1992	1993	% change	1992	1993	% change
Whole or dressed						
Salmon						
Chinook	5.7	3.4	-39.6	\$ 20.6	\$ 10.8	-47.7
Chum	14.0	11.5	-17.6	14.9	11.7	-22.0
Pink	1.8	7.0	284.2	2.1	6.3	203.1
Sockeye	197.7	226.0	14.3	508.9	423.8	-16.7
Coho	13.3	11.5	-13.3	23.9	21.4	-10.1
Other	1.1	2.7	138.7	3.7	6.1	66.7
Subtotal	233.6	262.1	12.2	574.1	480.0	-16.4
Groundfish						
Halibut	1.7	.8	-52.3	2.8	1.7	-38.4
Oth, flatfish	51.6	48.5	-6.0	32.2	36.6	13.7
Cod	60.4	40.9	-32.3	50.9	34.0	-33.2
Pollock	0.4	0.4	5.6	0.4	0.4	-14.6
Mackerel	6.1	19.6	223.3	5.2	11.3	119.2
Hake	6.0	2.3	-62.4	9.0	1.8	-79.9
Sablefish	31.5	43.7	38.8	75.8	87.4	15.3
Other, nspf	141.4	99.7	-29.5	114.1	83.3	-27.0
Subtotal	299.0	255.8	-14.4	290.3	256.5	-11.6
Herring	96.9	64.0	-33.9	61.3	40.2	-34.4
Roe						
Pollock	34.9	23.1	-33.8	161.0	100.4	-37.6
Herring	5.8	11.3	93.9	21.2	28.1	32.3
Salmon	18.6	22.8	22.0	88.7	119.3	34.5
Other, nspf	6.8	8.4	23.0	19.5	17.9	-8.4
Subtotal	66.3	65.6	-1.0	290.5	265.7	-8.5
Fillets	3.3	5.4	61.7	3.6	9.5	165.0
Other						
Surimi	208.1	264.9	27.3	328.6	253.1	-23.0
Minced	6.7	6.2	-8.6	7.4	3.6	-51.6
Meat, nspf	12.1	6.6	-45.2	9.9	6.0	-39.4
Balls, cake, and pudding	43.9	0.0	-99.9	57.0	0.1	-99.9
Sticks, mince	9.3	14.5	55.3	16.2	14.9	-8.3
Subtotal	280.1	292.3	4.3	419.1	277.6	-33.8
Fish, other	2.6	2.2	-13.5	3.9	4.6	17.9

Appendix Table 7. --Continued.

Product	Quantity			Value		
	1992	1993	% change	1992	1993	% change
Crab						
King	7.7	12.1	57.6	\$ 56.8	\$ 81.2	43.0
Snow	126.9	91.4	-28.0	284.2	247.1	-13.1
Dungeness	0.4	0.5	41.7	1.0	2.5	165.2
Other, nspf	20.5	12.8	-37.8	60.0	30.9	-48.5
Subtotal	155.5	116.8	-24.9	402.0	361.7	-10.0
Crabmeat	1.4	2.4	74.8	4.7	8.9	89.8
Sea urchin	0.7	0.9	38.8	5.5	5.3	-4.4
Caviar	0.4	0.3	-32.5	4.8	4.0	-17.1
Shellfish; other	0.5	1.0	120.5	1.2	2.6	119.5
Total	1,140.2	1,069.0	-6.2	\$2,060.9	\$1,716.6	-16.7

nspf - Not specifically provided for.

Note: Discrepancies in totals are due to rounding and percentages are based on unrounded numbers.

Sources: U.S. Dep. Commer., Bur. of the Census; database from Natl. Mar. Fish. Serv., Fish. Stat. Div., Silver Spring, MD 20910; and Alaska Fish. Sci. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

Appendix Table 8. --Pacific Northwest exports of edible fishery products to Canada by product, quantity (million lb), value (million dollars), and percent change from 1992 to 1993.

Product	Quantity			Value		
	1992	1993	% change	1992	1993	% change
Whole or dressed						
Salmon						
Chinook	0.3	0.2	-6.1	\$ 0.6	\$ 0.6	0.8
Chum	1.9	5.1	171.1	2.6	6.1	138.3
Pink	2.5	5.2	109.3	4.0	6.6	64.5
Sockeye	2.6	7.7	200.6	5.1	10.3	102.9
Coho	1.2	1.3	1.2	2.6	2.6	-1.3
Other	0.8	1.9	152.1	2.0	3.5	74.1
Subtotal	9.2	21.4	132.9	16.9	29.6	75.7
Halibut	3.5	5.1	43.7	6.8	10.5	54.3
Flatfish, other	0.1	0.2	91.2	0.3	0.5	89.1
Herring	7.6	3.7	-51.6	4.7	1.5	-67.4
Cod	2.2	1.1	-47.9	2.8	2.0	-28.9
Other, nspf	1.8	2.3	25.0	2.4	3.6	51.3
Fish roe	0.4	0.4	0.8	0.7	0.8	15.6
Filletts						
Cod	0.4	0.7	78.4	0.6	1.3	124.1
Halibut	0.7	1.3	84.6	1.3	2.3	75.3
Other, nspf	4.6	4.5	-0.7	6.2	7.7	25.7
Subtotal	5.7	6.5	15.4	8.1	11.4	41.0
Surimi, minced, meat, balls, cake, and pudding						
Sticks, minced	1.7	2.2	26.5	2.7	3.1	13.8
	6.7	7.2	8.0	9.9	9.8	-1.7
Canned salmon						
Pink	1.2	9.4	709.1	2.2	15.0	595.6
S o c k e y e	2.4	7.4	211.8	7.2	13.9	93.4
Other	0.7	3.5	397.2	1.3	7.7	479.9
Subtotal	4.3	20.4	378.5	10.7	36.6	242.8
Fish, other	1.2	1.4	21.8	2.2	2.4	8.5

Appendix Table 8. --Continued.

Product	Quantity			Value		
	1992	1993	% change	1992	1993	% change
Crab	1.4	1.1	-20.5	\$5.9	\$5.1	-14.2
Crabmeat	0.6	0.8	25.2	1.0	1.0	1.7
Shrimp	3.7	3.3	-11.9	13.7	12.5	-9.0
Shellfish, other	5.8	9.5	64.4	7.9	12.1	52.5
Total	55.9	86.7	55.1	\$96.7	\$142.4	47.3

nspf - Not specifically provided for.

Note: Discrepancies in totals are due to rounding.
Percentages are based on unrounded numbers.

Sources: U.S. Dep. Commer., Bur. of the Census; database from Natl. Mar. Fish. Serv., Fish. Stat. Div., Silver Spring, MD 20910; Alaska Fish. Sci. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

Appendix Table 9. --Pacific Northwest exports of edible fishery products to the Republic of Korea by product, quantity (million lb), value (million dollars), and percent change from 1992 to 1993.

Product	Quantity			Value		
	1992	1993	% change	1992	1993	% change
Whole or dressed						
Groundfish						
Cod	25.5	21.8	-14.8	\$ 13.9	\$11.9	-14.3
Flatfish	45.9	66.4	44.8	17.7	18.5	4.8
Pollock	1.5	1.7	9.5	0.5	0.6	21.3
Mackerel	6.1	22.5	271.2	3.2	7.0	118.7
Other, nspf	47.6	20.9	-56.0	26.2	8.8	-66.3
Subtotal	126.5	133.3	5.3	61.4	46.8	-23.8
Salmon	1.2	1.2	6.0	2.3	2.0	-14.7
Herring	0.2	0.8	230.5	0.1	0.7	358.6
Fish roe						
Pollock	3.7	0.7	-81.5	16.5	3.3	-79.8
Other	0.4	0.1	-68.6	0.8	0.5	-34.8
Subtotal	4.0	0.8	-80.3	17.2	3.8	-77.8
Filletts	2.8	0.5	-81.0	1.3	0.1	-88.4
Other						
Surimi	21.1	50.8	140.6	29.3	36.3	23.8
Minced, nspf	3.6	--	--	4.3	--	--
Meat, nspf	2.0	2.5	26.3	1.5	2.0	31.1
Balls, cake and pudding	8.0	1.3	-84.1	5.9	0.6	-89.2
Sticks, minced	0.8	0.4	-56.2	0.9	0.3	-72.3
Subtotal	35.4	55.0	55.1	41.9	39.2	-6.6
Crab						
Snow	0.8	1.0	28.9	1.5	2.7	82.9
Other	0.3	0.8	215.0	0.9	2.1	141.7

Appendix Table 9. --Continued.

Product	Quantity			Value		
	1992	1993	% change	1992	1993	% change
Other fish and shellfish	0.7	0.6	-11.6	\$ 0.7	\$ 0.9	30.8
Total	172.0	194.0	12.8	\$127.4	\$98.3	22.8

nspf - Not specifically provided for.

Note: Zero indicates less than 50,000 lb or \$50,000.
Discrepancies in totals are due to rounding and percentages are based on unrounded numbers.

Sources: U.S. Dep. Commer., Bur. of the Census; database from Natl. Mar. Fish. Serv., Fish. Stat. Div., Silver Spring, MD 20910; Alaska Fish. Sci. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

Appendix Table 10. --Pacific Northwest exports of edible fishery products to the United Kingdom by product, quantity (million lb), value (million dollars), and percent change from 1992 to 1993.

Product	Quantity			Value		
	1992	1993	% change	1992	1993	% change
Whole or dressed						
Salmon						
chum	1.6	0.4	-75.6	\$ 2.6	\$ 0.6	-77.4
Sockeye	0.3	0.3	14.0	0.4	0.6	39.9
Other	1.9	0.2	-87.6	2.8	0.3	-90.7
Subtotal	3.8	0.9	-75.7	5.8	1.5	-74.9
Cod	13.2	--	--	8.9	--	--
Other	1.1	0.2	-80.5	1.6	0.4	-73.3
Fillets	0.8	0.1	-91.1	1.0	0.2	-82.2
Surimi, minced, and meat	2.6	0.4	-86.1	2.3	0.3	-87.3
Canned						
Salmon						
Chum	16.0	10.4	-34.7	25.3	17.2	-32.1
Sockeye	28.1	24.9	-11.3	69.8	54.0	-22.7
Other	6.1	1.8	-69.9	9.9	3.5	-64.8
Subtotal	50.2	37.2	-25.9	105.0	74.6	-28.9
Fish, other	0.1	0.1	9.2	0.1	0.1	4.9
Shellfish, all	0.4	0.1	-83.3	1.0	0.2	-76.7
Total	72.1	38.9	-46.1	\$125.7	\$77.3	-38.5

Note: Discrepancies in totals are due to rounding.
Percentages are based on unrounded numbers.

Sources: U.S. Dep. Commer., Bur. of the Census; database from Natl. Mar. Fish. Serv., Fish. Stat. Div., Silver Spring, MD 20910; Alaska Fish. Sci. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

Appendix Table 11. --Pacific Northwest exports of edible fishery products to the People's Republic of China by product, quantity (million lb), value (million dollars), and percent change from 1992 to 1993.

Product	Quantity			Value		
	1992	1993	% change	1992	1993	% change
Whole or dressed						
Flatfish	3.5	3.0	-13.9	\$1.0	\$0.9	-3.9
Herring	2.6	3.4	28.7	1.0	1.7	69.2
Other	0.3	0.8	171.9	0.5	0.9	79.1
Crab						
Snow	6.5	7.0	7.3	12.3	15.9	29.2
Other	0.8	1.2	47.2	2.4	2.9	20.3
Other	0.2	1.5	712.7	0.6	2.0	226.6
Total	14.0	12.1	21.2	\$17.9	\$24.4	36.4

Note: Discrepancies in totals are due to rounding.
Percentages are based on unrounded numbers.

Sources: U.S. Dep. Commer., Bur. of the Census; database from Natl. Mar. Fish. Serv., Fish. Stat. Div., Silver Spring, MD 20910; Alaska Fish Sci. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

Appendix Table 12. --Pacific Northwest exports of edible fishery products to France by product, quantity (million lb), value (million dollars), and percent change from 1992 to 1993.

Product	Quantity			Value		
	1992	1993	% change.	1992	1993	% change
Whole or dressed						
Salmon						
chum	5.2	5.3	0.9	\$ 6.2	\$ 5.3	-14.6
Pink	3.9	1.9	-49.9	4.2	2.0	-51.5
Coho	6.3	2.4	-62.1	13.9	4.9	-64.6
Other	1.0	1.0	-0.9	2.2	1.9	-14.0
Subtotal	16.4	10.6	-35.4	26.5	14.2	-46.6
Roe	0.3	0.1	-69.4	2.1	1.5	-30.1
Filletts	3.6	0.3	-91.9	5.2	0.5	-89.6
Surimi, minced, meat, and fish sticks	0.7	0.9	39.4	0.7	0.8	17.1
Other	1.2	0.2	-86.4	1.7	0.3	-86.4
Total	22.1	12.1	-45.6	\$36.2	\$17.3	-52.2

Note: Discrepancies in totals are due to rounding.
Percentages are based on unrounded numbers.

Sources: U.S. Dep. Commer., Bur. of the Census; database from Natl. Mar. Fish. Serv., Fish. Stat. Div., Silver Spring, MD 20910; Alaska Fish Sci. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

Appendix Table 13. --Pacific Northwest exports of edible fishery products to Australia by product, quantity (million lb), value (million dollars), and percent change from 1992 to 1993.

Product	Quantity			Value		
	1992	1993	% change	1992	1993	% change
Canned						
Salmon						
Pink	5.4	4.2	-23.4	\$ 8.5	\$ 6.5	-23.9
Sockeye	2.3	2.4	3.3	6.2	5.8	-7.3
Other	0.5	0.3	-31.3	1.0	0.8	-21.2
Subtotal	8.2	6.9	-16.3	15.7	13.0	-17.2
Other	--	0.3	--	--	0.3	--
Total	8.2	7.2	-12.2	\$15.7	\$ 13 . 3	-15.0

Note: Discrepancies in totals are due to rounding.
Percentages are based on unrounded numbers.

Sources: U.S. Dep. Commer., Bur. of the Census; database from Natl. Mar. Fish. Serv., Fish. Stat. Div., Silver Spring, MD 20910; Alaska Fish. Sci. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

Appendix Table 14. --Pacific Northwest exports of edible fishery products to the Netherlands by product, quantity (million lb), value (million dollars), and percent change from 1992 to 1993.

Product	Quantity			Value		
	1992	1993	% change	1992	1993	% change
Whole or dressed						
Salmon						
Chum	0.4	0.2	-53.4	\$ 0.5	\$ 0.2	-54.5
Sockeye	0.1	0.1	43.2	0.1	0.1	-14.7
Coho	0.2	0.1	-46.9	0.5	0.3	-40.1
Other	0.1	0.1	-44.6	0.1	0.1	-14.7
Subtotal	0.8	0.4	-47.2	1.3	0.8	-40.3
Canned						
Salmon						
Pink	4.5	2.4	-46.7	5.6	3.4	-38.2
Sockeye	2.6	2.8	9.2	4.8	5.2	8.3
Other	0.5	0.1	-78.8	0.9	0.1	-87.5
Subtotal	7.6	5.3	-29.9	11.3	8.8	-22.2
Other	0.6	0.4	-36.9	0.9	0.5	-38.9
Total	9.0	6.2	-31.6	\$13.5	\$10.1	-25.0

Note: Discrepancies in totals are due to rounding.
Percentages are based on unrounded numbers.

Sources: U.S. Dep. Commer., Bur. of the Census; database from Natl. Mar. Fish. Serv., Fish. Stat. Div., Silver Spring, MD 20910; Alaska Fish Sci. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

Appendix Table 15. --Pacific Northwest exports of edible fishery products to Taiwan by product, quantity (million lb), value (million dollars), and percent change from 1992 to 1993.

Product	Quantity			Value		
	1992	1993	% change	1 9 9 2	1993	% change
Whole or dressed						
Salmon	0.1	0.1	7.6	\$0.2	\$0.2	-5.1
Groundfish	1.6	0.2	-86.0	0.8	0.2	-69.8
Surimi	0.6	6.7	1,004.0	0.7	5.7	764.7
Minced, meat, balls, cakes, and sticks	2.6	3.5	35.5	2.4	2.0	-18.1
Fish, other	0.0	0.6	3,193.6	0.1	0.3	234.6
Shellfish, total	0.3	0.1	-55.5	0.9	0.5	-39.4
Total	5.2	11.3	119.5	\$5.1	\$8.9	75.4

Note: Discrepancies in totals are due to rounding.
Percentages are based on unrounded numbers.

Sources: U.S. Dep. Commer., Bur. of the Census; database from Natl. Mar. Fish. Serv., Fish. Stat. Div., Silver Spring, MD 20910; Alaska Fish Sci. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

Appendix Table 16. --Pacific Northwest exports of edible fishery products to the Federal Republic of Germany by product, quantity (million lb), value (million dollars), and percent change from 1992 to 1993.

Product	Quantity			Value		
	1992	1993	% change	1992	1993	% change
Whole or dressed						
Salmon	1.1	0.9	-18.5	\$1.8	\$1.4	-23.0
Cod	1.1	2.3	113.1	0.8	1.4	71.2
Other	1.5	2.6	70.6	1.1	1.8	66.5
Fish roe	0.2	0.1	-70.1	1.6	0.6	-61.4
Fillets	0.9	3.1	244.9	0.9	2.6	178.4
Surimi, minced, meat, and sticks	0.6	0.5	-16.4	0.5	0.4	-18.8
Fish, other	0.0	0.1	209.0	0.1	0.2	89.7
Crab and crabmeat	0.2	0.0	-86.4	0.2	0.1	-67.0
Total	5.6	9.6	71.7	\$7.1	\$8.5	19.8

Note: Discrepancies in totals are due to rounding.
Percentages are based on unrounded numbers.

Sources: U.S. Dep. Commer., Bur. of the Census; database from Natl. Mar. Fish. Serv., Fish. Stat. Div., Silver Spring, MD 20910; Alaska Fish Sci. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

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