



NOAA Technical Memorandum NMFS F/NWC-123

Pacific Northwest Exports of Edible Fishery Products, 1986

by
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September 1987

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ABSTRACT

Pacific Northwest exports of edible fishery products in 1986 totaled 286,015 metric tons (t) (591 million pounds) and were valued at \$1.0 billion, up 10% by quantity and 24% by value from a year earlier. The importance of the Northwest exports can be seen in its 83.6% share by value of total U.S. fishery exports in 1986, an increase from an average 75% in the 1981-84 period. Salmon products dominated Northwest exports, comprising 69% by value followed by assorted whole or dressed fish (9.6%), herring products (7.6%), and snow (Tanner) crab (6.6%). In 1986, exports from the Northwest were shipped to 28 countries. Japan was the leading buyer with \$776 million or 75% of the total. The United Kingdom was a distant second at \$71 million or 6.9%, followed by Canada with \$68 million or 6.6%. The next three countries were France (3.3%), Republic of Korea (2.6%), and Australia (1.2%). The six leading importing countries accounted for 96% of Northwest exports.

Direct sales by U.S. fishing vessels to foreign processing vessels or joint venture sales in waters off the Pacific Coast amounted to 1.3 million t (2.9 billion pounds), with an estimated value of \$154 million. If joint venture sales were added to Pacific Northwest exports, the sum would equal \$1.2 billion and comprise 85.4% of total U.S. exports including all joint venture sales.

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INTRODUCTION

Exports of edible fishery products from the Pacific Northwest have made major contributions to both total U.S. fishery exports and the earnings of the fishing industry in the Northwest. This report compares exports from the Pacific Northwest to total U.S. fishery exports, reviews major products or product groups, shows the major countries purchasing fishery products, and looks at recent trends and patterns in exports including joint venture sales.

The Pacific Northwest in this report is defined as the states of Oregon, Washington, and Alaska. All data presented here are from the U.S. Department of Commerce, Bureau of the Census, and were accessed from the National Marine Fisheries Service data base maintained on the computer system at the Northwest and Alaska Fisheries Center.

Two methods of identifying Pacific Northwest fishery exports were considered. One method was to use data on exports of species harvested in Oregon, Washington, and Alaska waters. There are two serious problems associated with defining regional exports on the basis of species. Exports of some species harvested in the Northwest cannot be distinguished from similar species harvested off the east coast or Gulf of Mexico states, and there are significant exports in the "other" category that include a large number of species from both the Northwest and other areas. The method used for this report, employs data on exports shipped from customs districts of the three states. This method accounts for all shipments from the Northwest, but it also

has two problems. It includes fishery products harvested or processed elsewhere but exported from the Northwest and it excludes Northwest fishery products exported through other customs districts.

Exports of Pacific salmon and king crab were considered to determine the extent to which predominately Northwest products are exported from other areas. Salmon exports from the Northwest amounted to 97% of total U.S. Pacific salmon exports, while about 99% of the catch was harvested in the Northwest waters. Exports of king crab from the Northwest were 94% of total king crab exports with the entire U.S. king crab harvest taking place off Alaska. In comparison, the Northwest customs districts accounted for relatively small percentages of total U.S. exports of butterfish and mullet, which are harvested off the east coast or Gulf of Mexico states. These results suggest that fishery products are typically exported from the areas in which they are harvested or processed; therefore, exports defined by customs districts tend to provide good estimates of Northwest fishery product exports.

Although export categories are fairly specific, they cannot always be identified by scientific name because a category may include several closely related genus, several unrelated species, or a family (Appendix Table 10). Scientific names for species identified in this report are listed in Appendix Table 11. Please note that totals in tables may not always add owing to rounding, and that percentages may not always agree because they may have been calculated from unrounded data.

NORTHWEST EXPORTS

Pacific Northwest exports of edible fishery products in 1986 were valued at \$1 billion (up 24% from a year earlier) and made up 83.6% of the total value of U.S. edible fishery product exports (Tables 1 and 2). The percentage is below that of 1985 but it is up from the early 1980s, when Northwest exports averaged about 75% of the U.S. total. The value of each major export category, except Pacific herring and canned sockeye salmon, increased in 1986.

On a product weight basis, the volume of Northwest exports totaled 286,015 metric tons (t) (591 million pounds), an increase of 10% from 1985. The major cause for the increase was higher shipments of sablefish, snow (Tanner) crab and canned salmon which more than offset decreases in shipments of herring and several categories of salmon.

Sales by U.S. fishing vessels to foreign processing vessels in the U.S. exclusive economic zone (EEZ), that is joint venture sales, are not included as U.S. fishery exports. If this component had been included for 1986, Northwest exports would have been \$1.2 billion and would have accounted for 85.4% of total U.S. edible fishery product exports rather than 83.6%. Although joint venture sales have been among the fastest growing outlet for U.S. fishery product sales to foreign nations, this source of export growth is expected to end in the near future as wholly domestic fisheries begin to replace joint venture fisheries.

Table 1 .--Comparison of Northwest exports of edible fishery products in millions of dollars excluding and including joint venture sales and percent of total edible U.S. Fishery exports, 1981-86.

Year	Excluding Joint Ventures			Including Joint Ventures		
	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	74.8
1983	668	908	73.6	715	959	74.6
1984	648	842	76.9	724	921	78.6
1985	833	983	84.7	936	1,087	86.1
1986	1,029	1,231	83.6	1,183	1,386	85.4

Source: U.S. Dep. of Commer., Bur. of the Census, and data base from Natl. Mar. Fish. Serv., Natl. Fish. Stat. Prog., Washington, D.C. 20235 and Northwest and Alaska Fish. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, Washington 98115-0070.

Table 2.--Pacific Northwest exports of edible fishery products in quantity (millions of pounds) and value (millions of dollars), and percent change in quantity and value from 1985 to 1986.

Product	1985		1986		% change	
	Quantity	Value	Quantity	Value	Quantity	Value
FRESH & FROZEN						
Whole/dressed						
Salmon						
Chum	36.5	\$ 45.0	43.9	\$ 55.3	+20	+23
Pink	52.5	36.6	49.6	42.0	-6	+15
Sockeye	154.3	302.1	143.0	350.9	-7	+16
Other	39.9	69.7	43.4	81.6	+9	+17
Subtotal	283.2	453.4	280.0	529.8	-1	+17
Herring	88.7	66.1	74.8	58.0	-16	-12
Sablefish	15.7	21.8	26.2	35.2	+67	+61
Other Whole/drs.						
Halibut	NA	NA	10.3	17.1	NA	NA
Other	31.4	34.0	42.1	44.3	NA	NA
Subtotal	31.4	34.0	52.4	61.4	+67	+81
Fillets & stks						
Herring	1.5	1.4	4.5	3.2	+195	+122
Salmon	.7	1.5	2.2	4.3	+236	+197
Other fillets						
Cod	NA	NA	7.2	9.7	NA	NA
Halibut	NA	NA	1.7	2.8	NA	NA
Other	5.9	7.2	7.9	9.7	NA	NA
Subtotal	5.9	7.2	16.8	22.2	+185	+209
King crab	1.7	9.1	3.7	23.4	+118	+156
Snow crab	21.9	36.4	29.5	68.3	+35	+88
CANNED						
Salmon						
Pink	16.9	23.6	37.2	51.0	+120	+115
Sockeye	22.8	46.5	14.1	37.8	-38	-19
Other	3.8	5.4	6.2	10.0	+64	+84
Subtotal	43.5	75.6	57.5	98.8	+32	+31
ROE						
Herring	9.4	36.5	9.1	17.0	-4	-53
Salmon	20.0	66.7	19.2	72.0	-4	+8
Other	.3	.9	1.0	1.9	+204	+112
N.E.S.	<u>13.4</u>	<u>22.4</u>	<u>14.0</u>	<u>33.8</u>	<u>+5</u>	<u>+50</u>
Total	537.2	\$833.1	590.9	\$1,029.5	+10	+24

Note: NA - Not available. N.E.S. - Not elsewhere specified.

Source: U.S. Dep. of Commer., Bur. of the Census, and data base from Natl. Mar. Fish. Serv., Natl. Fish. Stat. Prog., Washington, D. C. 2. 0235 and Northwest and Alaska Fish. Cent., 7600 Sand Point Way, N.E., BIN C15700, Seattle, WA 98115-0070.

Major Products

Table 2 documents the major products and product groups for 1985-86, while Table 3 illustrates the importance of various Northwest fishery products for 1981-86. When all salmon products are added for 1986, they accounted for \$707 million or 69% of Northwest fishery exports followed by other whole or dressed fish (\$99 million or 9.6%), herring products (\$78 million or 7.6%), and snow crab (\$68 million or 6.6%). The value of Northwest salmon exports increased by 18% (over \$100 million) in 1986, and accounted for 3.0% less of total Northwest exports in 1986 than in 1985. There has been a significant increase in whole or dressed fish (other than salmon and herring) from \$22 million in 1981 to \$99 million in 1986 which included \$35 million of sablefish and \$17 million of halibut. Total salmon, whole or dressed salmon, and canned salmon exports to country of destination are shown in Appendix Tables 1, 2, and 3, respectively. If joint venture sales had been included as exports in 1986, salmon would have accounted for 60% of Northwest fishery exports, and whole and dressed fish excluding salmon and herring would have accounted for 21.4% of total exports and would have been valued at \$253 million.

Major Importers

Fishery exports from the Northwest states were shipped to 28 countries in 1986 with 6 countries accounting for 96% of the total (Tables 4 and 5). Japan continues to be the major buyer of fishery products with \$776 million or 75% of the total value, up 22% from \$638 million in 1985. Purchases by the Japanese have

Table 3.--Pacific Northwest exports of edible fishery products or product groups by value (in millions of dollars) and percent, **1981-86.**

Year	Salmon	Herring	Other finfish*	King crab	Snow crab	Other	Total
VALUE							
1981	\$572	\$ 57	\$ 22	\$ 52	\$ 53	\$ 49	\$ 805
1982	531	60	19	25	62	42	739
1983	510	67	14	7	32	38	668
1984	480	60	38	10	26	34	648
1985	597	103	57	9	36	31	833
1986	707	78	99	23	68	54	1,029
PERCENT							
1981	71.0	7.1	2.7	6.5	6.6	6.1	100.0
1982	71.8	8.1	2.6	3.4	8.4	5.7	100.0
1983	76.4	10.0	2.1	1.0	4.8	5.7	100.0
1984	74.1	9.3	5.9	1.5	4.0	5.2	100.0
1985	71.7	12.4	6.8	1.1	4.3	3.7	100.0
1986	68.7	7.6	9.6	2.2	6.6	5.3	100.0

*Other whole or dressed finfish excluding salmon and herring.

Source: U.S. Dep. of Commer., Bur. of the **Census**, and data base from Natl. Mar. Fish. Serv., Natl. Fish. Stat. Prog., Washington, D.C. 20235 and Northwest and Alaska Fish. Cent., 7600 Sand Point Way N.E., BIN **C15700**, Seattle, Washington **98115-0070**.

Table 4.--Pacific Northwest exports of edible fishery products by country of destination in quantity (millions of pounds) and value (millions of dollars), and percent change in quantity and value from 1985 to 1986.

Country	1985		1986		% change	
	Quantity	Value	Quantity	Value	Quantity	Value
Japan	394.6	\$638.1	421.7	\$ 776.1	+7	+22
United Kingdom	24.9	43.5	41.5	71.1	+67	+63
Canada	49.5	59.0	42.6	68.0	-14	+15
France	14.7	24.1	20.5	34.4	+39	+43
Rep. Korea	16.9	18.0	26.5	26.7	+56	+49
Australia	6.4	11.9	8.6	12.5	+33	+5
Sweden	4.0	5.5	6.9	8.5	+72	+55
Netherlands	4.0	5.5	5.5	8.1	+39	+46
Belgium & Lux.	3.1	5.7	4.1	7.2	+32	+27
Fed. Rep. Germany	3.7	5.9	3.5	6.1	-4	+3
Denmark	4.1	5.9	2.8	3.7	-32	-37
China, P.R. of	2.5	1.8	1.9	1.4	-23	-22
Italy	.4	1.1	.6	1.1	+28	-1
Other	8.3	7.1	4.2	4.4	-50	-38
Total	537.2	\$833.1	590.9	\$1,029.5	+10	+24

Source: U.S. Dep. of Commer., Bur. of the Census, and data base from Natl. Mar. Fish. Serv., Natl. Fish. Stat. Prog., Washington, D. C. 20235 and Northwest and Alaska Fish. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, Washington 98115-0070.

Table 5. --Pacific Northwest exports of edible fishery products by country of destination, percentage of total Northwest exports, and cumulative total percent in quantity (millions of pounds) and value (millions of dollars), **1986**.

Country	1986		% Total		Cumulative %	
	Quantity	Value	Quantity	Value	Quantity	Value
Japan	421.7	\$ 776.1	71.4	75.4	71.4	75.4
United Kingdom	41.5	71.1	7.0	6.9	78.4	82.3
Canada	42.6	68.0	7.2	6.6	85.6	88.9
France	20.5	34.4	3.4	3.3	89.0	92.2
Rep. Korea	26.5	26.7	4.5	2.6	93.5	94.8
Australia	8.6	12.5	1.5	1.2	95.0	96.0
Sweden	6.9	8.5	1.2	.8	96.2	96.8
Netherlands	5.5	8.1	.9	.8	97.1	97.6
Belgium & Lux.	4.1	7.2	.7	.7	97.8	98.3
Fed. Rep. Germany	3.5	6.1	.6	.6	98.4	98.9
Denmark	2.8	3.7	.5	.4	98.9	99.3
China, P.R. of	1.9	1.4	.3	.1	99.2	99.4
Italy	.6	1.1	.1	.1	99.3	99.5
Other	4.2	4.4	.7	.5	100.0	100.0
Total	590.9	\$1,029.5	100.0	100.0		

Source: U.S. Dep. of Commer., Bur. of the Census and data base from Natl. Mar. Fish. Serv., Natl. Fish. Stat. Prog., Washington, D.C. 20235 and Northwest and Alaska Fish. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA **98115-0070**.

dominated Pacific Northwest fishery exports for a number of years, ranging from 63% to 77% in the 1980s (Table 6). Japanese firms were the leading buyers of whole or dressed salmon (84%), whole herring (77%), sablefish (98%), snow crab (85%), king crab (82%), salmon roe (96%), and herring roe (80%).

The United Kingdom (U.K.) ranked a distant second with purchases of \$71 million or 6.9% of the total Northwest exports despite a 63% increase from \$43 million in 1985. Canned salmon represented 86% of the U.K. total: in fact the U.K. was the leading buyer of canned salmon with 62% of the total (Appendix Table 3).

Canada slipped to third place after being the second leading buyer of Northwest fishery products for many years, purchasing \$68 million, up 15% from 1985. Total sales to Canada were higher in 1986 as greater shipments of shrimp, king crab, herring, other whole or dressed fish, and other fish fillets partially made up for the 27% drop in value of canned salmon exports (Appendix Table 5). In 1986, salmon accounted for one-half of the value of Northwest exports to Canada despite a 38% decline in quantity and an 11% drop in value.

After Canada, Northwest exports to France and the Republic of Korea (ROK) ranked fourth and fifth in total value. Exports to France increased by 43% based on the 38% jump in exports of whole or dressed salmon, which comprised over 87% of exports to France (Appendix Table 7). Trade with ROK rose by 48% from 1985. Some products shipped to ROK are processed there and re-exported to other countries including the United States. Whole herring

Table 6. --Pacific Northwest exports of edible fishery products, by country of destination in value (millions of dollars) and percent, **1986**.

Country	1981	1982	1983	1984	1985	1986
VALUE						
Japan	\$505.8	\$540.8	\$455.5	\$451.2	\$638.1	\$ 776.1
United Kingdom	77.7	30.9	52.6	51.1	43.5	71.1
Canada	82.6	55.3	62.0	54.4	59.0	68.0
France	43.2	40.4	24.8	25.1	24.1	34.4
Rep. Korea	20.9	13.1	12.5	10.1	18.0	26.7
Australia	18.5	8.2	12.5	13.2	11.9	12.5
Other	<u>56.3</u>	<u>50.1</u>	<u>48.0</u>	<u>42.7</u>	<u>38.5</u>	<u>40.7</u>
Total	805.0	738.8	667.9	647.8	833.1	1,029.8
PERCENT						
Japan	62.8	73.2	68.2	69.6	76.6	75.4
United Kingdom	9.6	4.2	7.8	7.9	5.2	6.9
Canada	10.3	7.5	9.3	8.4	7.1	6.6
France	5.4	5.4	3.7	3.9	2.9	3.3
Rep. Korea	2.6	1.8	1.9	1.6	2.2	2.6
Australia	2.3	1.1	1.9	2.0	1.4	1.2
Other	<u>7.0</u>	<u>6.8</u>	<u>7.2</u>	<u>6.6</u>	<u>4.6</u>	<u>4.0</u>
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: U.S.. Dep. of **Commer.**, **Bur.** of the Census, and data base from Natl. Mar. Fish. Serv., Natl. Fish. Stat. Prog., Washington, D.C. 20235 and Northwest and Alaska Fish. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA **98115-0070**.

are processed for the roe and sold on the Japanese market. There was a substantial increase in ROK's purchases of whole or dressed pink salmon in 1986, which jumped from 1.3 million pounds valued at \$0.7 million in 1985 to 8.8 million pounds valued at \$5.5 million in 1986 (Appendix Table 8).

Appendix Tables 4 through 9 list Pacific Northwest exports for the six leading countries by major products. Some comparisons between 1985 and 1986 are not valid because as new categories were established in 1986 the number of products in aggregated categories were reduced. For example, whole or dressed halibut was included in the "other whole or dressed fish" category in 1985 and halibut and cod fillets and steaks were listed under "other fillets, steaks and portions."

Exports by Customs District

The distribution of fishery product exports among the three states have shifted from the majority of products being shipped from the State of Washington 10 years ago to exports being evenly split between Washington and Alaska with 49% each by value and 2% from Oregon in 1986 (Table 7). The increased trade with Pacific Rim countries has made direct shipments more frequent and faster, although many Alaskan products are still shipped to Washington before being exported. The seasonality of exports are tied closely to the seasonal nature of the various species and more recently to the fishing season mandated by fishery management councils or commissions. Table 8 shows the percent of exports by month and customs district for the quantity and value. The

Table 7.--Comparison of Pacific Northwest exports of edible fishery products by customs districts, 1977-86 (in percentages).

Year	Quantity (%)			Value (%)		
	Oregon	Washington	Alaska	Oregon	Washington	Alaska
1977	2.1	83.3	14.6	2.2	61.6	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	45.4	53.1	1.8	49.0	49.2

Source: Based on data from U.S. Dep. of Commerce, Bur. of the Census, and data base from Natl. Mar. Fish. Serv., Natl. Fish. Stat. Prog., Washington, D.C. 20235 and Northwest and Alaska Fish. Cent., 7600 Sand Point Way N.E., **BIN C15700**, Seattle, WA **98115-0070**.

Table 8.--Percentage of Pacific Northwest exports of edible fishery products by customs district, districts combined, by month for 1986.

Month	Oregon	Washington	Alaska	Total
QUANTITY				
January	2.1	6.0	0.7	3.1
February	3.4	6.4	1.9	3.9
March	2.9	7.3	1.2	4.0
April	2.5	4.9	8.2	6.7
May	4.9	10.5	9.8	10.1
June	2.0	5.9	10.0	8.0
July	9.4	7.1	21.4	14.7
August	22.2	16.7	28.6	23.1
September	12.0	10.2	12.5	11.4
October	18.8	11.6	3.5	7.4
November	10.8	7.3	1.3	4.2
December	<u>9.0</u>	<u>6.1</u>	<u>0.9</u>	<u>3.4</u>
Total	100.0	100.0	100.0	100.0
VALUE				
January	1.6	5.9	1.0	3.4
February	2.6	5.9	2.9	4.4
March	2.6	7.5	1.7	4.6
April	1.4	4.7	5.6	5.1
May	3.7	8.5	5.9	7.1
June	1.3	5.3	5.7	5.4
July	8.2	7.5	28.9	18.0
August	20.5	18.6	34.3	26.3
September	11.5	10.4	9.5	10.0
October	23.4	11.5	2.7	7.4
November	12.8	8.2	1.1	4.8
December	<u>10.4</u>	<u>6.0</u>	<u>0.7</u>	<u>3.5</u>
Total	100.0	100.0	100.0	100.0

Source: Based on data from U.S. Dep. of Commer., Bur. of the Census, and data base from Natl. Mar. Fish. Serv., Washington, D. C. 20235 and Northwest and Alaska Fish. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

seasonality is dominated by the activity of the salmon industry during July and August when the fishery is operating almost around the clock.

JOINT VENTURES

Although joint venture sales are treated as imports by some nations, they are not officially classified as exports in U.S. trade statistics. Joint venture sales result from the catch by U.S. fishermen that is transferred at sea to foreign processing vessels. The joint venture catch in 1986 from the EEZ off the Pacific Coast totaled 1.3 million t (2.9 billion pounds) with an estimated value of \$154 million, up from the 0.9 million t (2 billion pounds) valued at \$103 million in 1985 (Table 9). The increases in the catch of walleye pollock, flatfish, Pacific whiting, and Pacific cod contributed to the 44% increase in the catch and the 49% increase in the value. The walleye pollock catch increased 47% from a year earlier to 904,111 t or just under 2 billion pounds and accounted for over 69% of the joint venture catch and 62% of the sales by value. Deliveries of Pacific cod rose by 81% from 1985, and Pacific whiting catch more than doubled. The only major species that failed to surpass 1985 catches was Atka mackerel, which fell 19% to 32,000 t (70.5 million pounds). Joint venture sales are expected to continue to increase in 1987, but to begin to decrease soon after that as more of the U.S. groundfish catch is processed domestically.

Table 9. --Pacific Coast joint venture catch by species in quantity
(millions of pounds) and value (millions of dollars), 1982-86.

Species	1982	1983	1984	1985	1986
QUANTITY					
Atka mackerel	27.5	24.9	80.5	88.0	70.5
Pacific cod	30.1	37.0	78.1	80.2	145.5
Flatfish	58.8	81.6	118.2	396.1	475.9
Alaska pollock	284.1	624.2	979.1	1,354.4	1,993.2
Rockfish	0.1	5.3	5.8	1.7	1.3
Sablefish	0.3	0.9	1.9	0.7	1.0
Pacific whiting	148.7	159.0	173.9	69.5	180.0
Other	<u>3.7</u>	<u>4.4</u>	<u>9.1</u>	<u>19.3</u>	<u>17.6</u>
Total	553.3	937.3	1,446.6	2,009.9	2,885.0
Total in thousand metric tons	251.0	425.2	656.2	911.7	1,308.6
VALUE					
Atka mackerel	\$ 1.9	\$ 1.5	\$ 5.6	\$ 6.1	\$ 4.8
Pacific cod	3.0	3.5	8.5	7.8	14.4
Flatfish	4.0	5.3	7.6	24.8	29.2
Alaska pollock	16.0	26.1	41.6	59.7	95.3
Rockfish	0.0	0.0	0.1	0.1	0.1
Sablefish	0.0	0.1	0.4	0.1	0.3
Pacific whiting	10.4	10.2	11.4	3.8	9.4
Other	<u>0.3</u>	<u>0.3</u>	<u>0.7</u>	<u>1.1</u>	<u>0.8</u>
Total	\$35.6	\$47.0	\$75.9	\$103.5	\$154.3

Source: NMFS office of Pacific Marine Fisheries Commission, Pacific Fisheries Information Network, 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070, and Fisheries of the United States, 1986, Natl. Mar. Fish. Serv., Washington, D.C. 20235, CFS No. 8385, April 1987.

Table A1 .--Pacific Northwest exports of all product forms of salmon by country of destination, **1985-86** (in thousands of pounds and thousands of dollars).

Country	1985		1986	
	Quantity	Value	Quantity	Value
JAPAN	246,789	\$450,012	236,547	\$516,491
UNITED KINGDOM	22,870	41,645	40,126	69,081
CANADA	36,475	38,990	22,706	34,752
FRANCE	13,875	23,137	19,669	33,399
AUSTRALIA	6,407	11,849	8,537	12,469
NETHERLANDS	3,884	5,414	5,506	8,051
SWEDEN	3,776	5,076	6,286	7,079
BELGIUM & LUXEMBOURG	2,812	5,272	3,816	7,003
REP. OF KOREA	1,456	1,107	9,420	6,630
WEST GERMANY	3,041	5,239	2,431	4,901
DENMARK	3,670	5,344	2,604	3,459
ITALY	430	1,063	509	1,018
SWITZERLAND	406	670	479	895
IRELAND	514	755	348	503
HONG KONG	395	627	313	487
SOUTH AFRICA	163	254	117	184
SPAIN	55	92	91	181
SINGAPORE	149	304	73	141
ISRAEL	0	0	44	100
OTHER	182	301	120	187
TOTAL	347,349	\$597,151	359,742	\$707,011

Source: U.S. Dep. of Commer., Bur. of the Census, and in data base from Natl. Mar. Fish. Serv., Natl. Fish. Stat. Prog., Washington, **D. C. 20235** and Northwest and Alaska Fish. Cent., 7600 Sand Point Way N.E., BIN c15700, Seattle, WA **98115-0070**.

Table A2.--Pacific Northwest exports of whole or dressed salmon by country of destination, 1985-86 (in thousands of pounds and thousands of dollars).

Country	1985		1986	
	Quantity	Value	Quantity	Value
JAPAN	226,665	\$384,039	216,281	\$444,154
FRANCE	13,078	21,543	18,298	29,895
CANADA	24,583	19,860	15,333	19,320
UNITED KINGDOM	3,634	5,385	5,619	7,651
SWEDEN	3,689	4,915	6,169	6,956
REP. OF KOREA	1,456	1,107	9,395	6,612
BELGIUM & LUXEMBOURG	1,503	3,120	2,177	4,751
DENMARK	3,655	5,308	2,532	3,295
WEST GERMANY	2,935	4,492	2,114	3,107
NETHERLANDS	518	959	526	1,185
SWITZERLAND	371	593	479	895
ITALY	243	693	348	830
HONG KONG	395	627	299	453
IRELAND	85	126	91	151
SPAIN	55	92	70	144
SINGAPORE	116	258	59	118
OTHER	201	320	198	318
TOTAL	283,182	\$453,437	279,988	\$529,835

Source: U.S. Dep. of Commer., Bur. of the Census, and in data base from Natl. Mar. Fish. Serv., Natl. Fish. Stat. Prog., Washington, D.C. 20235 and Northwest and Alaska Fish. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

Table A3.--Pacific Northwest exports of canned salmon by country of destination, 1985-86 (in thousands of pounds and thousands of dollars).

Country	1985		1986	
	Quantity	Value	Quantity	Value
UNITED KINGDOM	19,206	\$36,216	34,430	\$61,326
CANADA	11,788	18,875	6,564	13,934
AUSTRALIA	6,403	11,833	8,532	12,433
NETHERLANDS	3,350	4,423	4,980	6,867
BELGIUM & LUXEMBOURG	1,268	2,022	1,616	2,203
JAPAN	88	215	293	528
FRANCE	543	647	379	485
IRELAND	429	629	257	352
ITALY	188	370	162	188
OTHER	230	361	322	447
TOTAL	43,493	\$75,591	57,535	\$98,763

Source: U.S. Dep. of Commer., Bur. of the Census, and in data base from **Natl. Mar. Fish. Serv., Natl. Fish. Stat. Prog., Washington, D. C. 20235** and Northwest and Alaska Fish. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA **98115-0070**.

Table A4.--Pacific Northwest exports of edible fishery products to Japan by product, quantity (millions of pounds), value (millions of dollars), and percent change from 1985 to 1986.

Product	1985		1986		% change	
	Quant.	Value	Quant.	Value	Quant.	Value
HERRING WHOLE OR EVIS	71.1	\$52.2	60.0	\$44.4	-16	-15
SABLEFISH WHOLE OR EV	15.6	21.8	25.7	34.6	+65	+59
SALMON CHINOOK	3.1	7.4	3.5	8.1	+13	+9
SALMON CHUM	17.8	20.6	24.1	30.6	+35	+49
SALMON PINK	32.6	24.6	29.4	25.8	-10	+5
SALMON COHO WHOLE	NA	NA	12.6	21.0	NA	NA
SALMON SOCKEYE	152.2	297.7	138.7	342.8	-9	+15
SALMON OTHER FRESH OR	21.1	33.8	8.0	15.9	-62	-53
HALIBUT WHOLE OR EVIS	NA	NA	6.5	9.9	NA	NA
OTHER FISH FRESH/FRZN	23.6	26.7	39.3	42.8	+67	+60
SALMON FILLETS STEAKS	.3	.7	.5	1.0	+67	+43
HERRING FILLETS STEAK	.9	1.1	3.9	2.8	+333	+155
HALIBUT FILLETS FRESH	NA	NA	1.0	1.6	NA	NA
COD FILLETS STEAKS	NA	NA	6.8	9.1	NA	NA
OTHER FISH FILLETS ST	2.2	3.1	2.8	3.6	+27	+16
SALMON DRIED SALTED	NA	NA	.8	2.0	NA	NA
FISH DRIED SALTED SMO	2.5	4.8	.9	1.3	-64	-73
SALMON CANNED	.1	.2	.3	.5	+200	+150
OTHER CANNED FISH	.2	.3	0	0	--	--
FISH IN AIRTIGHT CONT	.4	.6	.2	.5	-50	-17
FISH STICKS & PORTION	0	0	.2	.2	--	--
HERRING ROE	7.6	31.0	5.9	13.7	-22	-56
SALMON ROE	19.8	65.1	18.7	68.8	-6	+6
OTHER FISH ROE	.3	.7	.9	1.7	+200	+143
FISH BALLS CAKES PUDD	0	0	.3	.3	--	--
KING CRAB FROZEN	1.1	6.0	2.8	19.2	+155	+220
SNOW CRAB FROZEN	19.5	33.1	23.0	58.2	+18	+76
CRABS OTHER FROZEN	2.8	6.5	4.4	14.7	+57	+126
SHELLFISH OTHER	0	.2	.4	1.1	--	+450
TOTAL JAPAN	394.6	\$638.1	421.7	\$776.2	+7	+22

Source: U.S. Dep. of Commer., Bur. of the Census, and in data base from Natl. Mar. Fish. Serv., Natl. Fish. Stat. Prog., Washington, D.C. 20235 and Northwest and Alaska Fish. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

Table A5. --Pacific Northwest exports of edible fishery products to Canada, by product, quantity (millions of pounds), value (millions of dollars), and percent change from 1985 to 1986.

Product	1985		1986		% change	
	Quant.	Value	Quant.	Value	Quant.	Value
HERRING WHOLE OR EVIS	3.0	\$ 2.2	4.3	\$ 3.2	+43	+45
SALMON CHINOOK	.3	.3	.3	.5	0	+67
SALMON CHUM	4.2	3.5	2.8	2.8	-33	-20
SALMON PINK	13.7	6.2	4.6	3.8	-66	-39
SALMON COHO WHOLE	NA	NA	1.9	3.1	NA	NA
SALMON SOCKEYE	1.6	3.3	3.6	6.2	+125	+88
SALMON OTHER	4.7	6.4	2.2	2.9	-53	-55
OTHER FISH FRESH CHL	3.7	4.8	4.9	7.9	+32	+65
FISH FILLETS & STEAKS	1.9	2.3	4.1	6.4	+116	+178
SALMON CANNED CHUM	1.2	1.5	.2	.3	-83	-80
SALMON CANNED PINK	3.6	5.0	3.2	4.7	-11	-6
SALMON CANNED SOCKEYE	6.6	11.9	2.7	8.1	-59	-32
SALMON CANNED OTHER	.4	.6	.5	.8	+25	+33
OTHER FISH CAN ROE ETC	1.6	1.8	3.3	4.1	+106	+128
KING CRAB FROZEN	.6	3.0	.9	4.0	+50	+33
SHRIMP FROZEN	1.0	3.4	1.5	5.5	+50	+62
SNOW CRAB FROZEN	.4	.9	.6	1.1	+50	+22
SHELLFISH OTHER	1.0	1.8	1.1	2.6	+10	+44
TOTAL CANADA	49.5	\$59.0	42.6	\$68.0	-14	+15

Source: U.S. Dep. of Commer., Bur. of the Census, and in data base from Natl. Mar. Fish. Serv., Natl. Fish. Stat. Prog., Washington, D.C. 20235 and Northwest and Alaska Fish. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

Table A6.--Pacific Northwest exports of edible fishery products to the United Kingdom, by product, quantity (millions of pounds), value (millions of dollars), and percent change from 1985 to 1986.

Product	1985		1986		% change	
	Quant.	Value	Quant.	Value	Quant.	Value
SALMON CHUM	2.2	\$ 3.3	3.1	\$ 4.2	+41	+27
SALMON OTHER	1.4	2.1	2.5	3.4	+79	+62
OTHER FISH FRESH/FRZN	1.1	1.0	.7	1.0	-36	0
OTHER FISH FILLETS STK	.9	.7	.8	.9	-11	+29
SALMON CANNED CHUM	.5	.6	.7	.8	+40	+33
SALMON CANNED PINK	6.8	9.8	21.7	30.7	+219	+213
SALMON CANNED SOCKEYE	11.1	24.4	9.6	25.6	-14	+5
SALMON CANNED OTHER	.7	1.4	2.4	4.2	+243	+200
OTHER FISH & SHELLFISH	0	.1	0	.1	--	0
TOTAL U.K.	24.9	\$43.5	41.5	\$71.1	+67	+63

Source: U.S. Dep. of Commer., Bur. of the Census, and in data base from Natl. Mar. Fish. Serv., Natl. Fish. Stat. Prog., Washington, D.C. 20235 and Northwest and Alaska Fish. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

Table A7.--Pacific Northwest exports of edible fishery products to France, by product, quantity (millions of pounds), value (millions of dollars), and percent change from 1985 to 1986.

Product	1985		1986		% change	
	Quant.	Value	Quant.	Value	Quant.	Value
SALMON CHINOOK	.5	\$ 1.3	.5	\$ 1.1	0	-15
SALMON CHUM	3.8	5.2	6.2	7.5	+63	+44
SALMON PINK	2.7	2.8	2.4	2.5	-11	-11
SALMON COHO WHOLE	NA	NA	4.9	10.7	NA	NA
SALMON SOCKEYE	.2	.2	.2	.4	0	+100
SALMON OTHER	5.9	12.1	4.0	7.6	-32	-37
OTHER FISH FRESH CHL	.3	.5	.4	.4	+33	-20
SALMON FILLETS STEAKS	.1	.2	.8	1.7	+700	+750
OTHER FISH FILLETS.ST	.5	.3	.4	.3	-20	0
SALMON CANNED	.5	.6	.4	.5	-20	-17
SALMON ROE	.1	.7	.2	1.4	+100	+100
OTHER FISH ROE	0	.1	0	0	--	--
TOTAL FRANCE	14.7	\$24.1	20.5	\$34.4	+39	+43

Source: U.S. Dep. of Commer., Bur. of the Census, and in data base from Natl. Mar. Fish. Serv., Natl. Fish. Stat. Prog., Washington, D.C. 20235 and Northwest and Alaska Fish. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0.070.

Table A8.--Pacific Northwest exports of edible fishery products to the Republic of Korea, by product, quantity (millions of pounds); value (millions of dollars), and percent change from **1985** to **1986**.

Product	1985		1986		% change	
	Quant.	Value	Quant.	Value	Quant.	Value
HERRING WHOLE OR EVIS	11.3	\$ 9.3	8.6	\$ 8.9	-24	-4
SALMON CHINOOK	0	0	.1	.3	--	--
SALMON CHUM	0	0	.3	.4	--	--
SALMON PINK	1.3	.7	8.8	5.5	+577	+686
SALMON SOCKEYE	.2	.3	.1	.1	-50	-67
SALMON OTHER	0	0	.1	.3	--	--
OTHER FISH FRESH CHL	.8	.2	.7	.8	-12	+300
OTHER FISH FILLETS, SK	.3	.2	1.3	.8	+333	+300
HERRING ROE	.8	4.5	.6	.5	-25	-89
SNOW CRAB FROZEN	2.0	2.3	5.9	8.9	+195	+287
CRABS OTHER FROZEN	.3	.4	.1	.2	-67	-50
TOTAL REP. KOREA	16.9	\$18.0	26.5	\$26.7	+57	+48

Source: U.S. Dep. of Commer., Bur. of the Census, and in data base from Natl. Mar. Fish. Serv., Natl. Fish. Stat. Prog., Washington, D.C. 20235 and Northwest and Alaska Fish. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

Table A9. --Pacific Northwest exports of edible fishery products to Australia, by product, quantity (millions of pounds), value (millions of dollars), and percent change from 1985 to 1986.

Product	1985		1986		% change	
	Quant.	Value	Quant.	Value	Quant.	Value
SALMON CANNED PINK	3.0	\$ 3.9	6.5	\$ 8.2	+117	+110
SALMON CANNED SOCKEYE	3.3	7.8	1.0	2.3	-70	-71
SALMON CANNED OTHER	.1	.2	1.1	1.9	+1000	+850
OTHER	0	.1	.1	.1	--	0
TOTAL AUSTRALIA	6.4	\$11.9	8.6	\$12.5	+34	+5

Source: U.S. Dep. of **Commer.**, Bur. of the Census, and in data base from Natl. Mar. Fish, Serv., Natl. Fish. Stat. Prog., Washington, **p. C. 20235** and Northwest and Alaska Fish. Cent., 7600 Sand Point Way N.E., BIN C15700, Seattle, WA 98115-0070.

Table A10.--Export categories of edible fishery products from the Pacific Northwest, 1981-86.

Product description	Year
HERRING WHOLE OR EVIS FRESH CHILLED OR FRZN	1981-86
MACKEREL WHOLE OR EVIS FRESH CHILLED OR FRZN	1981-86
POLLOCK WHOLE OR EVIS FRESH CHILLED OR FRZN	1981-86
SABLEFISH WHOLE OR EVIS FRESH CHILLED OR FRZN	1981-86
SALMON CHINOOK FRESH CHILLED OR FRZN	1981-86
SALMON CHUM FRESH CHILLED OR FRZN	1981-86
SALMON PINK FRESH CHILLED OR FRZN	1981-86
SALMON COHO WHOLE OR EVISERATED FRESH OR FROZEN	1986-
SALMON SOCKEYE FRESH CHILLED OR FRZN	1981-86
SALMON OTHER FRESH CHILLED OR FRZN	1986-
SALMON OTHER FRESH CHILLED OR FRZN	1981-85
OTHER FISH FRESH CHILLED OR FRZN	1981-85
HALIBUT WHOLE OR EVISERATED FRESH OR FROZEN	1986-
BUTTERFISH WHOLE OR EVISERATED FRESH OR FROZEN	1986-
OTHER FISH FRESH CHILLED OR FRZN	1986-
SALMON FILLETS STEAKS PORTIONS FRESH OR FROZEN	1978-86
HERRING FILLET, STEAKS, PORTIONS FRESH OR FROZEN	1981-86
OTHER FISH FILLETS,STKS,PORTIONS FRESH OR FROZEN	1981-85
HALIBUT FILLETS FRESH	1986-
COD FILLETS STEAKS PORTIONS FRESH OR FROZEN	1986-
OTHER FISH FILLETS,STKS,PORTIONS FRESH OR FROZEN	1986-
FISH DRIED SALTED SMOKED ETC CURED	1978-85
COD DRIED SALTED SMOKED	1986-
SALMON DRIED SALTED SMOKED	1986-
FISH DRIED SALTED SMOKED ETC CURED	1986-
SALMON CANNED CHUM	1981-86
SALMON CANNED PINK	1981-86
SALMON CANNED SOCKEYE	1981-86
SALMON CANNED OTHER	1981-86
OTHER CANNED FISH	1978-86
FISH IN AIRTIGHT CONTAINERS BUT NOT CANNED	1978-86
FISH STICKS & PORTIONS BREADED OR COATED WITH BATTER	1978-86
HERRING ROE	1981-86
POLLOCK ROE	1981-86
SALMON ROE	1981-86
SEA URCHIN ROE	1981-86
OTHER FISH ROE	1981-86
FISH BALLS CAKES PUDDINGS ETC CANNED	1978-86
FISH BALLS CAKES PUDDINGS ETC FRESH & FROZEN	1978-86
SHRIMP FRESH NOT PACKAGED	1978-86
SHRIMP FRESH PACKAGED	1978-86
SHELLFISH FRESH OR FROZEN EXCEPT SHRIMP	1978-86
SHELLFISH EXCEPT SHRIMP FRESH OR FROZEN PACKAGED	1978-86
SHELLFISH, NSPF, FRESH CHILLED	1985-85
SCALLOPS FRESH	1986-
SHELLFISH, NSPF, FRESH CHILLED	1986-
KING CRAB FROZEN	1978-136
SHRIMP FROZEN	1978-86
SNOW CRAB FROZEN	1978-85
SNOW CRAB (OPILIO) FROZEN	1986-
SNOW CRAB (OTILER) FROZEN	1986-
DUNGENESS CRAB FROZEN	1986-
CRABS OTHER FROZEN	1986-
SQUID FROZEN	1981-85
SQUID (LOLIGO) FROZEN	1986-
SQUID (OTHER) FROZEN	1986-
SHELLFISH FROZEN OTHER	1981-86
CRAB (EXCEPT SNOW & KING) FROZEN	1985-85
KING CRAB CANNED	1978-86
SHRIMP CANNED	1978-86
SQUID CANNED	1978-86
SHELLFISH CANNED OTHER INCLUD SHELLFISH JUICES	1978-86
SHELLFISH CANNED OTHER INCLUDES CURED NOT CANNED	1978-86

Source: U.S. Dep. of **Commer.**, **Bur.** of the Census.

Table Al 1.--Scientific names of species identified in report.

Common name	Scientific name
FISH	
Butterfish	<u>Peprilus triacanthus</u>
Cod, Pacific	<u>Gadus macrocephalus</u>
Flounders and soles	Pleuonectidae family
Hake, Pacific (Whiting)	<u>Merluccius productus</u>
Halibut, Pacific	<u>Hippoglossus stenolepis</u>
Herring, Pacific	<u>Clupea harengus pallasii</u>
Mackerel, Atka	<u>Pleurogrammus monoptyerygius</u>
Mullet	Mugil species
Ocean perch, Pacific	<u>Sebastes alutus</u>
Pollock, walleye	<u>Theragra chalcogramma</u>
Rockfishes	<u>Sebastes</u> and <u>Sebastolobus</u> species
Sablefish	<u>Anoplopoma fimbria</u>
Salmon, Pacific	<u>Oncorhynchus</u> species
Chinook	<u>O. tshawytscha</u>
Chum	<u>O. keta</u>
Coho	<u>O. kisutch</u>
Pink	<u>O. gorbuscha</u>
Sockeye	<u>O. nerka</u>
CRUSTACEANS	
Crab, king	<u>Lithodes</u> and <u>Paralithodes</u> species
Crab, snow (Tanner)	<u>Chionoecetes bairdi</u> and <u>opilio</u>
Shrimp	<u>Pandalus</u> , <u>Pandalopsis</u> , and <u>Crangon</u> species
