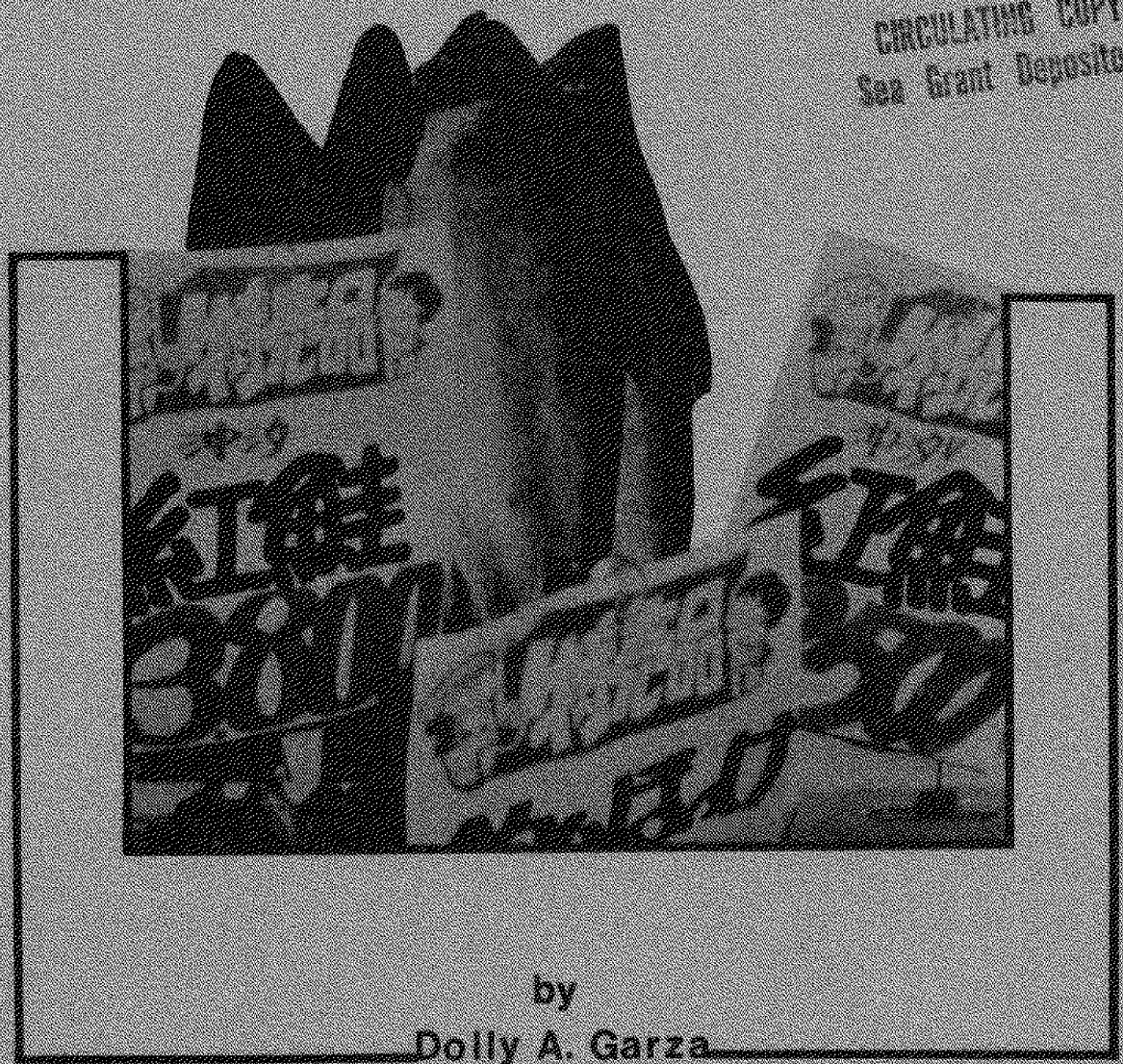
Market Structure and Marketing Potential for Kotzebue Chum Salmon



by
Dolly A. Garza

University of Alaska
Marine Advisory Program
Cooperative Extension Service

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FOR

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ACKNOWLEDGEMENTS

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INTRODUCTION

The Kotzebue Sound chum salmon fishery is the northernmost commerical fishery in the state of Alaska. The fishery has been in existence since the early 1960s and has rapidly expanded since the early 1970s. At present there are approximately 219 limited entry permits awarded to the area with about 80 percent of the permits held by Kotzebue area residents.

The set net fishery is the only major fishery in the Kotzebue area. The majority of fishermen are economically dependent on the fishery, supplementing their income with part-time construction or permanent employment of which there is limited availability.

The area's annual salmon harvests averaged about 850,000 pounds from 1962-72 but have increased to an average of 3,640,000 pounds from 1973-82.

Since the Kotzebue chum salmon fishery begins later than most others in Alaska, usually prices are not set until the day before the fishery opens after local buyers and processers have examined the harvest levels and the prices paid in the other chum salmon fisheries.

The fishery has experienced extreme price fluctuations ranging from $.80/lb in 1979 to $.25/lb in 1983. The low 1983 prices were a result of several factors including large chum harvests in 1980, 1981,and 1982, and a potentially large harvest in 1983.

During 1983, local fishermen formed the Kotzebue Fishermens Association. The association's aims include finding better fish prices and addressing local management problems. Extreme fluctuations in prices causes financial havoc for local fishermen who depend on the income to carry them through the winter. With either a poor season or poor prices they must search for alternative income, which is not always available.

This study, which is funded by the State of Alaska, is intended to provide local fishermen and processors with an overview of chum salmon marketing. It is hoped this information will be useful in terms of understanding markets, the competition in the markets and the need for establishing and maintaining certain quality standards in order to effectively compete in these markets.

Chapter 2 provides an historical perspective of the Kotzebue fishery. Chapter 3 covers the chum salmon resources of the world in relation to the Kotzebue fishery. Chapter 4 reviews the historic and present market structure of chum salmon including

export patterns, product use, and price structuring. Chapter 5 summarizes the information gathered from a trip made to Japan by the author and a local fisherwoman. Chapter 6 evaluates the potential for marketing Kotzebue chum salmon in major market areas and the problems or constraints which may be encountered.

KOTZEBUE CHUM SALMON FISHERY

Historical Uses

Chum salmon have been and remain a major subsistence resource for the people of the Kotzebue Sound. Salmon are used as a protein source for both the Inupiaqs and their dog teams. This resource is harvested from late June or early July through September at which time the ice begins to form.

Historically, various types of gear were used depending on the location of the community or fish camp. Seine or beach nets, set nets or gillnets, traps, spears, and other devices were used depending on the strength of the run and family needs. The fish were dried during the summer months and stored in cool shelter for future use.

During the 1950s, the average annual subsistence chum catch was estimated to be about 300,000 fish for the Kotzebue Sound communities.

Subsistence harvests of chum salmon have remained important to most Kotzebue Sound communities. From 1962 to present, the annual subsistence harvest for the area has ranged between 10,000 and 70,000 chum. The decrease in catches from the previous decade is attributed to a decrease in the use of dog teams and an increased dependence on commercial foods.

The first commercial fishery efforts occured between 1914 and 1918. At the time the Midnight Sun Packing Company annually processed between 8,000 and 27,000 fish for canning and/or salting.

The recent commercial fishery began in 1962 after government biologists surveyed the area and determined there were adequate resources to support a commercial venture.

The Fishery

From 1962 through 1974, prior to state regulations governing the chum fishery in the form of limited entry permits, an average of 79 fishermen participated in the fishery. The annual harvest averaged about 149,000 chum (Table 1). After implementation of Limited Entry in 1975, the number of participating fishermen increased to an average of 201 with an annual average harvest of 311,000 chum.

During the 1960s the fish were sold to a floating cannery and small-scale local buyers. Fishermen were paid $.15 per fish during the early 1960s with the price eventually increasing to approximately $1.50 per fish ($.15/lb).

During the early to mid 1970s there were a few large harvest years and the prices increased to about $.45/lb. Since the mid

TABLE 1. KOTZEBUE CHUM SALMON COMMERCIAL FISHERY**

YEAR	NUMBER CHUM	AVERAGE ROUND WEIGHT	AVERAGE PRICE PER POUND	VALUE ($) TO FISHERMEN	FRESH/ FROZEN RD WT
1962+	129948	--	0.35	45500	--
1963+	54445	--	0.35	9140	--
1964+	76499	8.3	0.45	34660	202993
1965+	40034	9	0.45	18000	207350
1966	30764	10.1	0.11	25000	310716
1967	29400	9.3	0.11	28700	273420
1968	30384	9.7	0.14	46000	288500
1969	59335	7.5	0.15	71000	455013
1970	159664	8.1	0.15	186000	1240000
1971	154956	8.1	0.16	200000	1264753
1972	169664	9.1	0.17	260000	1547041
1973	375432	9.1	0.25	925000	3416431
1974++	634479	8.5	0.34	1822784	5361130
1975++	563682	8.6	0.28	1365648	4877313
1976	159796	8.9	0.41	580375	1415549
1977	195895	9.6	0.56	1033950	1846340
1978	111533	9.1	0.57	575260	1009121
1979	141623	8.8	0.80	990263	1236429
1980	367284	8.6	0.46	1446633	3160984
1981	677239	9.1	0.53	3246793	6139518
1982	417790	9.3	0.51	1961518	3833051
1983	175762	9.4	0.25	420736	1647160
AVERAGE:	216164	8.91			

** SOURCE: ADF&G, KOTZEBUE
+ PRICE PER FISH
++ INCLUDES FISH FROM EXPERIMENTAL DEERING FISHERY
* VALUE MAY INCLUDE INCIDENTAL CATCHES OF OTHER FISH
-- DATA UNAVAILABLE

1970s, prices have generally started at about $.35/lb during the first week of fishing, then increased to between $.40 and .60/lb for the remainder of the season. During the 1979 season fishermen received the highest price of $.80/lb and the lowest recent price was $.25-.30/lb in 1983.

This small scale fishery provides an economic base to the community of Kotzebue. Extreme price fluctuations effect not only the profitability of the fishermen but also the local merchants, fish processors, and fish buyers.

CHUM SALMON RESOURCES

North Pacific

Chum Salmon are an important resource in the North Pacific waters and are harvested by the USSR, Japan, Canada and the United States. Prior to the 1970s, Japan harvested approximatley 40% of the resource, the USSR 29%, the U.S. 21%, and Canada 12% (Fig. 1). Since the 1970s, Japan's harvest has increased to 61% of the chum landings and USSR's harvest has decreased to an average of 9% while the United States and Canadian harvests have remained relatively stable.

There has been a change in the distribution of the chum harvests by these four countries. The U.S. harvest has increased from an average of 53.8 million pounds during the 1950s and 60s to an average of 55.3 million pounds during the 1970s and early 1980s (Table 2). Japan's harvest has increased from an average of 102.4 million pounds during the 1950s and 60s to and average of 178.5 million pounds during the 1970s and early 1980s. The USSR's average harvest has decreased from 78.8 million pounds during the 1950s and 60s to 25.7 million pounds during the 1970s and early 80s. During the same period, Canada's average harvest increased from 26 million pounds to 31.5 million pounds annually.

Several factors caused these changes in the distribution of chum

FIGURE 1. NORTH PACIFIC CHUM SALMON HARVESTS
(IN NUMBERS OF FISH)

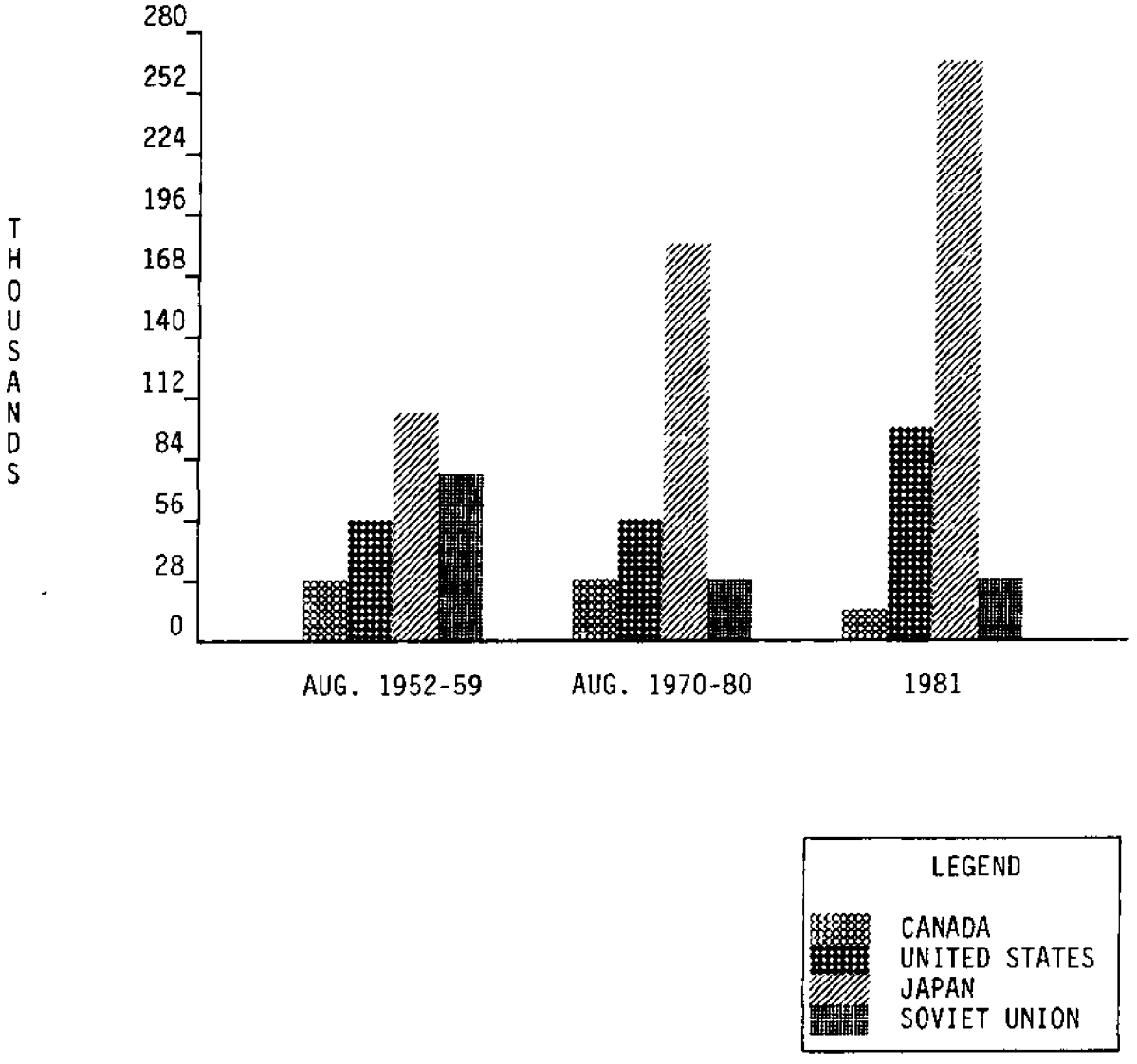


TABLE 2.

NORTH PACIFIC CHUM SALMON HARVESTS: 1952-81
(x 1,000 lb)

	CANADA	U.S.A.	JAPAN	USSR	TOTAL
1952	31958	80666	24692	97002	234349
1953	54439	66340	39903	74956	235672
1954	74275	80666	90168	115962	361113
1955	18073	34382	138008	144622	335099
1956	27330	61932	113316	170416	373018
1957	27330	72952	98105	70547	268961
1958	38129	61051	154763	61067	315037
1959	23142	38570	117505	84216	263450
1960	20277	49810	110450	95459	276016
1961	14546	48929	90168	80247	233908
1962	18073	59728	97664	74956	250443
1963	15428	39011	101632	74075	230160
1964	24024	65900	117064	55997	263009
1965	6612	33060	108246	69445	217374
1966	15428	56422	131615	60847	264332
1967	12122	34382	120151	45415	212083
1968	36586	60830	96782	30203	224428
1969	13444	24464	93034	13007	143960
1970	37027	57304	124119	27337	245813
1971	11902	57084	137567	23148	229719
1972	66561	65679	146385	11243	289905
1973	72071	57304	139331	11464	280205
1974	27550	42537	176809	15653	262568
1975	11902	33060	219578	17196	281748
1976	24024	56863	172841	22046	275795
1977	13224	57304	158511	32408	261466
1978	35044	50472	163361	36817	285716
1979	10138	45843	223767	51147	330910
1980	37027	84854	213626	32187	367727
1981	12342	98739	266316	28439	405867
total avg	27668	55871	132849	57584	273995
Avg 52-69	26179	53839	102404	78802	261245
Avg 70-80	31497	55300	178517	25757	282870

Sources:
1952-76: International North Pacific Fisheries Commission
1977-81: Food and Agriculture Org., Fisheries Statistics.

salmon harvests. First, Japan has intensified its chum salmon aquaculture program since the early 1970s, and the increased resources have been available to local Japanese fleets. The Japanese chum salmon hatchery returns increased from approximately 10 million from the 1970 brood stock to 21 million from the 1978 brood stock. Egg releases increased from 442 million in 1970 to slightly more than 1 billion in 1981. While Japan is presently nearing its rearing capacity for chum fry, aquaculturists are continually working on developing new technology and practices to further increase their production capabilities.

Alaska fishermen harvest approximately 87% of the annual U.S. chum salmon production. The remainder of the harvest comes from Washington waters. The U.S. production has increased since the 1970s for two major reasons: First, high seas harvest of this resource has been severely curtailed due to strict management regulations. Second, the imposition of stricter local management has led to an increase in returns of chum to Alaska's coastal fisheries.

Aquaculture programs play a variable role in determining the harvestable resource levels for these four countries, with Japan taking the leading role in chum salmon aquaculture.

There are several chum salmon aquaculture facilities in Alaska

operated by either the State or by private non-profit organizations. The State's facilities were established in areas where the natural resource was either severely depleted or substantially reduced, thus, these installations serve more to enchance the natural resource than to increase total production. The private non-profit hatchery systems are production oriented, and several, including the Prince William Sound Hatchery work with chum salmon.

The USSR has recently initiated salmon aquaculture programs in the Kamchatka area. Japan has agreed to provide technical expertise and financial support for these facilities in return for the right to fish in USSR waters. The USSR and Japan negotiate this contract annually.

Alaska Chum Resources

Chum salmon are harvested throughout Alaska's waters, with an annual average harvest of slightly more than 7 million fish (Fig. 2).

Alaska's fishermen have had above average harvests of chum during the 1980, 81, 82 and 83 seasons harvesting more than 10 million fish annually (Table 3).

While chum is the target species in the Kotzebue Sound, Norton Sound, Kuskokwim River, and Yukon River fisheries, the total

FIGURE 2. ALASKA AVERAGE REGIONAL CHUM SALMON CATCHES
1962-83 (NUMBER OF FISH)

BRISTOL BAY	789,940
UPPER COOK INLET	699,246
LOWER COOK INLET	124,767
KUSKOKWIM	171,901
YUKON	584,861
NORTON SOUND	140,284
KOTZEBUE SOUND	216,164
CHIGNIK	202,045
PRINCE WILLIAM SOUND	557,417
SOUTHEAST	1,592,618
KODIAK	762,136
SHUMIGAN AND SOUTH SHUMIGAN	332,909
AK PENINSULA AND ALEUTIANS	908,805

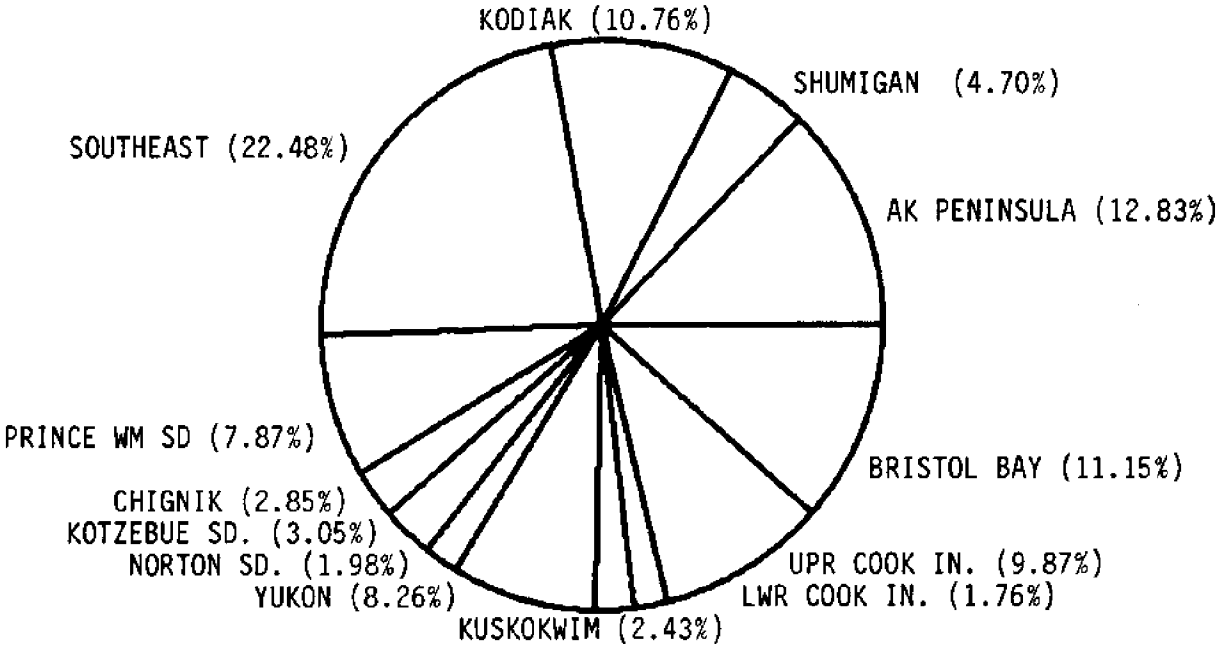


TABLE 3. ALASKA REGIONAL CHUM SALMON HARVESTS
1962-83++ (NUMBER OF FISH)

YEAR	BRISTOL BAY	UPPER COOK INLET	LOWER COOK INLET	KUSKOKWIM	YUKON	NORTON SOUND	KOTZEBUE SOUND
1962	677545	970582	179259	45707	53160	182784	129948
1963	370097	387027	138510	0	0	154789	54445
1964	802508	1079084	323335	707	8347	148862	76499
1965	360544	316444	28076	4242	23317	36795	40034
1966	343212	531825	129062	2610	71045	80245	30764
1967	476357	269037	85445	8235	49453	41756	29400
1968	363791	1119114	75134	19694	67395	45300	30384
1969	332989	269855	61203	50377	191860	82795	59335
1970	717846	775167	224158	60566	346724	107034	159664
1971	676906	327029	148602	99423	289684	131362	154956
1972	656906	630148	75543	97197	287844	100920	169664
1973	684498	667573	115513	184207	517934	119098	375432
1974	286372	396840	19210	196127	877368	162267	634479
1975	325416	951796	21646	223532	993312	212485	563682
1976	1329052	469807	50822	231877	761509	95956	159796
1977	1598164	1233733	145778	298959	797697	200455	195895
1978	1158090	571959	73518	282044	1288829	189279	111533
1979	930248	650357	223028	297167	1165980	140789	141623
1980	1404835	389113	73492	561483	1355884	180792	367284
1981	1475307	833549	339053	485635	1677871	169708	677239
1982	941000	1428621	197987	325471	839187	183335	417790
1983*	1467000	1114750	16500	306554	1202540	319437	175762
AVERAGE	789940	699246	124767	171901	584861	140284	216164

CONT. ON PAGE 15

TABLE 3. (cont.)

(CONT. FROM PAGE 14)

YEAR	CHIGNIK	PRINCE WM SOUND	SOUTHEAST	KODIAK	SHUMAGIN S. UMIGAN	AK PEN. & ALEUTIANS	STATE TOTALS
1962	364355	891880	1996400	794717	270000	861000	7417337
1963	112697	942900	1478700	305061	117000	511300	4572526
1964	333336	539047	1936200	932219	228000	892000	7300144
1965	120589	201043	1473900	431340	166000	626000	3828324
1966	238861	426628	3273200	762765	232000	578000	6700217
1967	75543	274234	1810400	221149	124000	286000	3751009
1968	223861	342939	2644300	749854	166000	400000	6247766
1969	67721	320661	561400	536808	267000	419000	3221004
1970	464674	230661	2445700	919306	452000	1035000	7938500
1971	353952	574265	1946100	1541227	669000	1430900	8343406
1972	78356	45370	2942400	1164526	576000	812200	7637074
1973	8701	740017	1832200	317921	212000	448700	6223794
1974	34454	89210	1682600	247879	15000	106800	4748606
1975	25161	101286	686600	84431	101000	141600	4431947
1976	80221	370668	1030900	740495	401000	606100	6328203
1977	110452	576395	738700	1072313	115000	372300	7455841
1978	120889	489771	869000	814345	123000	710200	6802457
1979	188169	349615	888300	358400	105000	548900	5987576
1980	312572	477699	1651200	1075557	528000	2056300	10434211
1981	580332	1884845	849500	1345328	575000	2483700	13377067
1982	390096	1346038	1187900	1266187	1094000	2609700	12227312
1983*	160000	1048000	1112000	1085165	788000	2058000	10853708
AVERAGE	202045	557417	1592618	762136	332909	908805	7083092

++-FROM VARIOUS ADF&G ANNUAL MANAGEMENT REPORTS
*-PRELIMINARY DATA
+-INCLUDES EXPERIMENTAL DEERING FISHERY

landings for these fisheries represent less than 20% of Alaska's total chum landings. The Yukon fisheries average 8% of the state's chum landings, Kotzebue 3%, and the Kuskokwim and Norton Sound fisheries both 2% (Fig. 2). All of these are gill net fisheries.

Southeast fishermen harvest the largest volume of Alaska's chum salmon, averaging 1.6 million fish annually (Fig. 2). The Upper Cook Inlet, Bristol Bay, Alaska Peninsula and Aluetians, Kodiak, and Prince William Sound fisheries all harvest substantial volumes of chum, all regions averaging more than 500,000 chum annually. Relatively small numbers of chum also are harvested incidentally to other salmon species in the Lower Cook Inlet, Chignik and Shumagin fisheries.

The State's chum runs peak at various times. The harvests, however, reach an overall peak during the first week of August (Fig. 3). Weekly tallies of chum salmon catches for the various fisheries during the 1982 season are summarized in Table 4. Although the fishing seasons fluctuate in the various fisheries, and are influenced by factors such as weather, this data is valuable in reviewing the general volume of chum salmon leaving Alaska and available to buyers throughout the fishing season.

The harvest levels of chum in any of the fisheries differ considerably from year to year as illustrated in Table 3.

FIGURE 3: ALASKA'S WEEKLY CHUM HARVEST, 1982
(X 100,000 FISH)

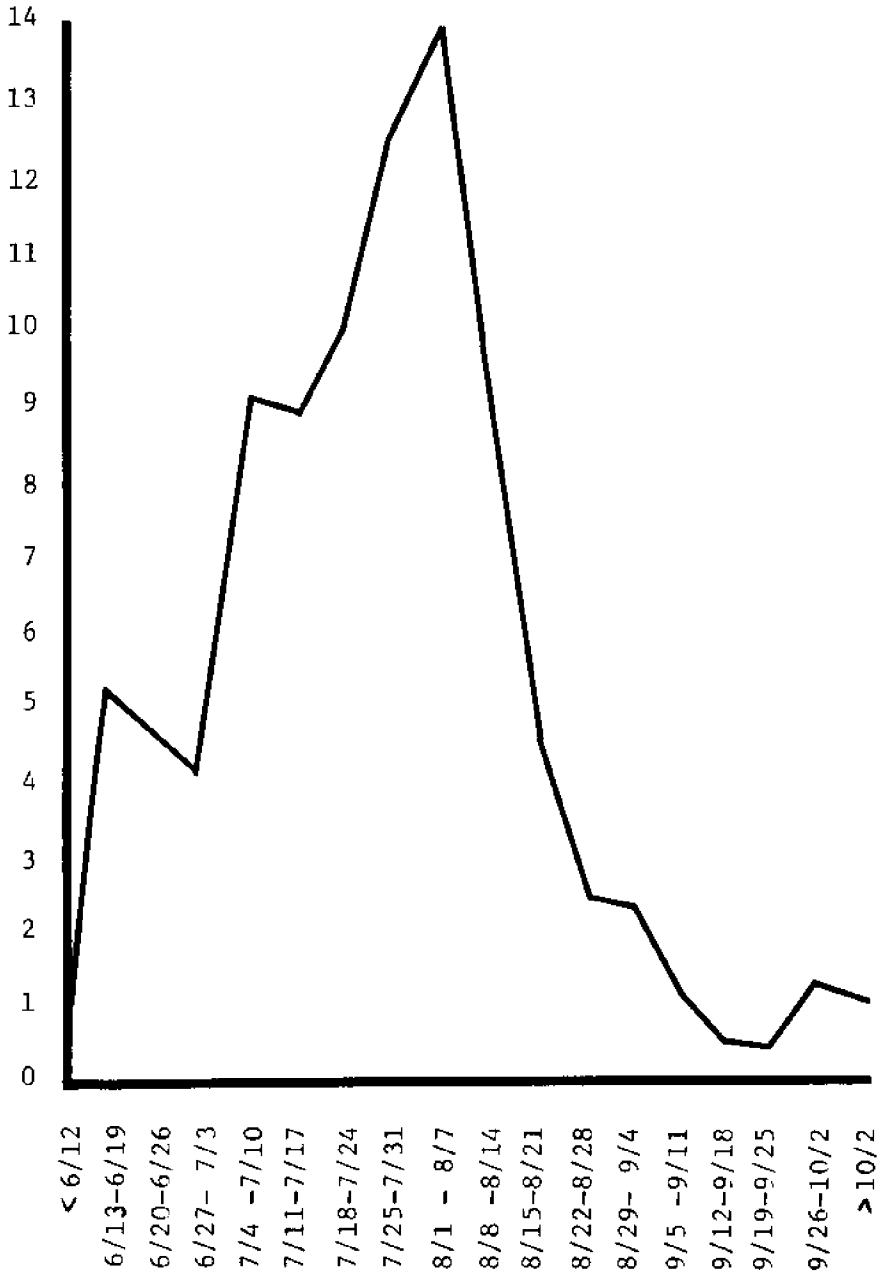


TABLE 4: 1982 CHUM HARVEST BY REGION (in numbers of fish)

	KODIAK	BRISTOL BAY	AK PEN-ALEUTION	CHIGNIK	PRINCE WM SD	COOK INLET	SOUTH EAST
< 6/12	0	964	119148	0	0	237	90
6/13-6/19	5423	7243	506753	0	0	233	561
6/20-6/26	14932	81259	353481	0	21154	3354	5175
6/27-7/3	0	193959	149810	6276	33782	27981	7082
7/4-7/10	117070	312009	137328	6957	112632	197234	19124
7/11-7/17	48966	169450	211910	16929	141036	226348	76444
7/18-7/24	37912	130314	227410	41754	202007	317356	66982
7/25-7/31	156598	35134	272739	48118	286454	428022	27170
8/1-8/7	337283	7742	341365	80577	293885	268714	58128
8/8-8/14	331836	2927	182391	52048	186395	122446	99053
8/15-8/21	91246	493	101573	369	79805	34703	142670
8/22-8/28	71265	46	855	203	3123	3767	158616
8/29-9/4	34089	10	3129	68	0	1282	189760
9/5-9/11	18032	0	1724	0	0	371	94814
9/12-9/18	887	0	76	0	0	3	55840
9/19-9/25	200	0	20	0	0	0	55436
9/26-10/2	448	0	0	0	0	0	125731
>10/2	0	0	0	0	0	0	102997
TOTALS	1266187	941550	2609712	253299	1360273	1632051	1285673

	YUKON RIVER	KOTZEBUE SOUND	NORTON SOUND	KUSKOKWIM RIVER	STATE TOTAL
< 6/12	0	0	0	0	120439
6/13-6/19	9956	0	4105	9223	520213
6/20-6/26	31352	0	43110	30613	479355
6/27-7/3	30723	0	57470	158985	418890
7/4-7/10	85148	4203	30908	81791	902354
7/11-7/17	28129	13456	21037	32711	891083
7/18-7/24	11337	36438	13651	6731	1023735
7/25-7/31	29036	56589	4041	3299	1254235
8/1-8/7	37252	167642	3453	2079	1387694
8/8-8/14	16384	82700	3717	759	977096
8/15-8/21	32705	44996	1069	213	450859
8/22-8/28	0	11766	545	55	237875
8/29-9/4	0	0	0	22	228338
9/5-9/11	0	0	0	0	114941
9/12-9/18	2593	0	0	0	56806
9/19-9/25	4823	0	0	0	55656
9/26-10/2	0	0	0	0	126179
>10/2	0	0	0	0	102997
TOTALS	319438	417790	183106	326481	9348745

The Aluetian fishery, which targets on sockeye, is the first to peak in the chum catch during the third week of June. The area had a 1982 peak harvest for that week of 506,753 chums (Fig. 4).

The Kuskokwim and Norton Sound chum fisheries both peak during the last part of June and the first part of July (Fig. 5) with a weekly harvest of 158,985 and 57,470 chums respectively during 1982. The Yukon chum salmon fishery follows, peaking during July 4-10 with a 1982 weekly harvest of 136,383.

The Bristol Bay fishery, which targets sockeye, peaks during the week of July 4-10 with a 1982 weekly peak harvest of 312,009 chums (Fig. 4).

Kotzebue is the latest western fishery with a harvest peaking during the first week in August with a 1982 weekly harvest of 167,642 chums.

In the western Gulf of Alaska, the chum runs peak from late July to the first part of August. The Cook Inlet run peaked during the last week of July in 1982 with a weekly harvest of 428,022 chum (Fig. 6). Both the Kodiak and Chignik runs peaked during the first week of August with a 1982 harvest of 337,283 and 80,577 chum respectively.

FIGURE 4. SOUTHWEST ALASKA WEEKLY CHUM HARVESTS, 1982 (NUMBER OF FISH).

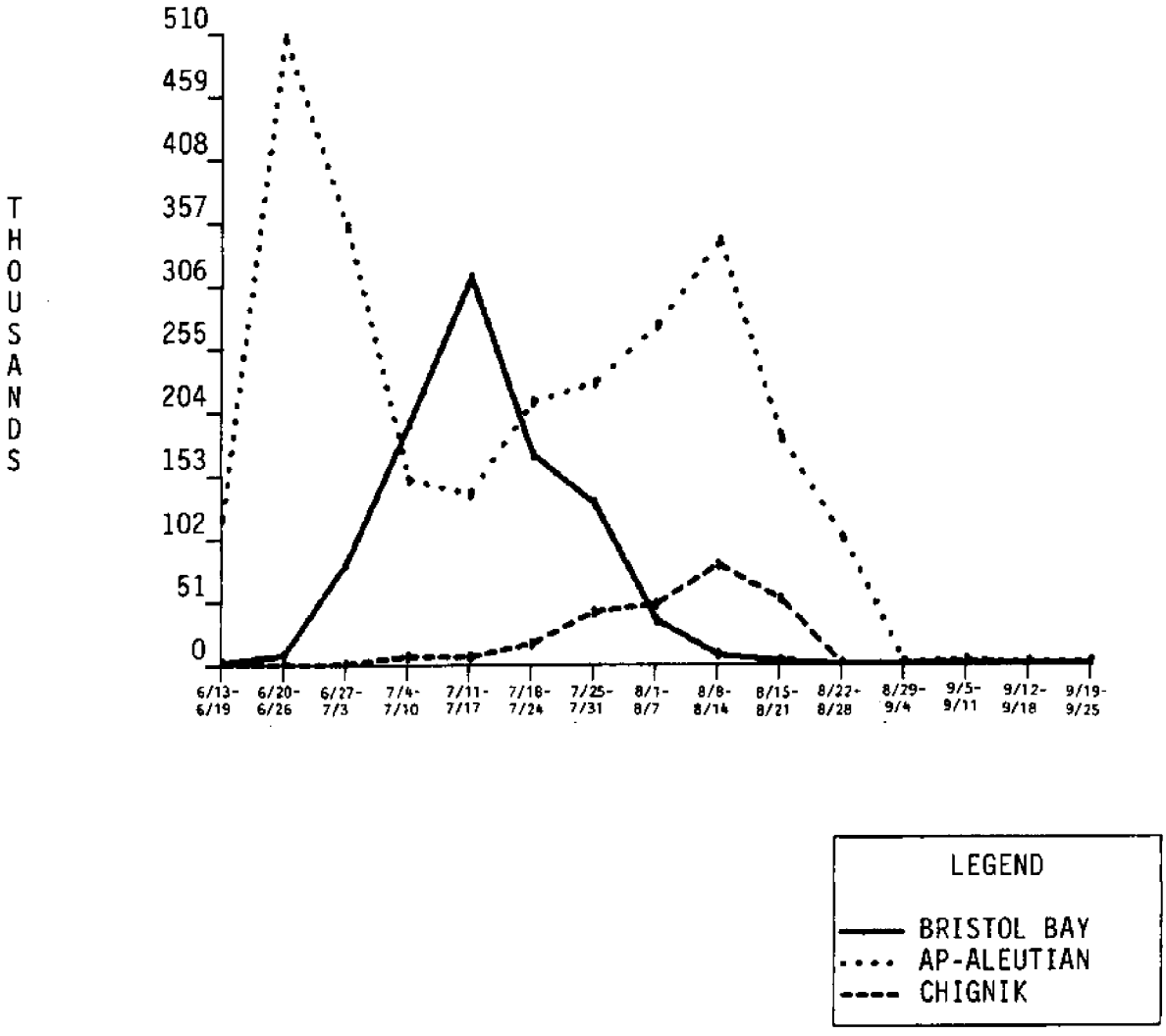


FIGURE 5. NORTHWEST ALASKA WEEKLY CHUM HARVEST, 1982
(NUMBER OF FISH)

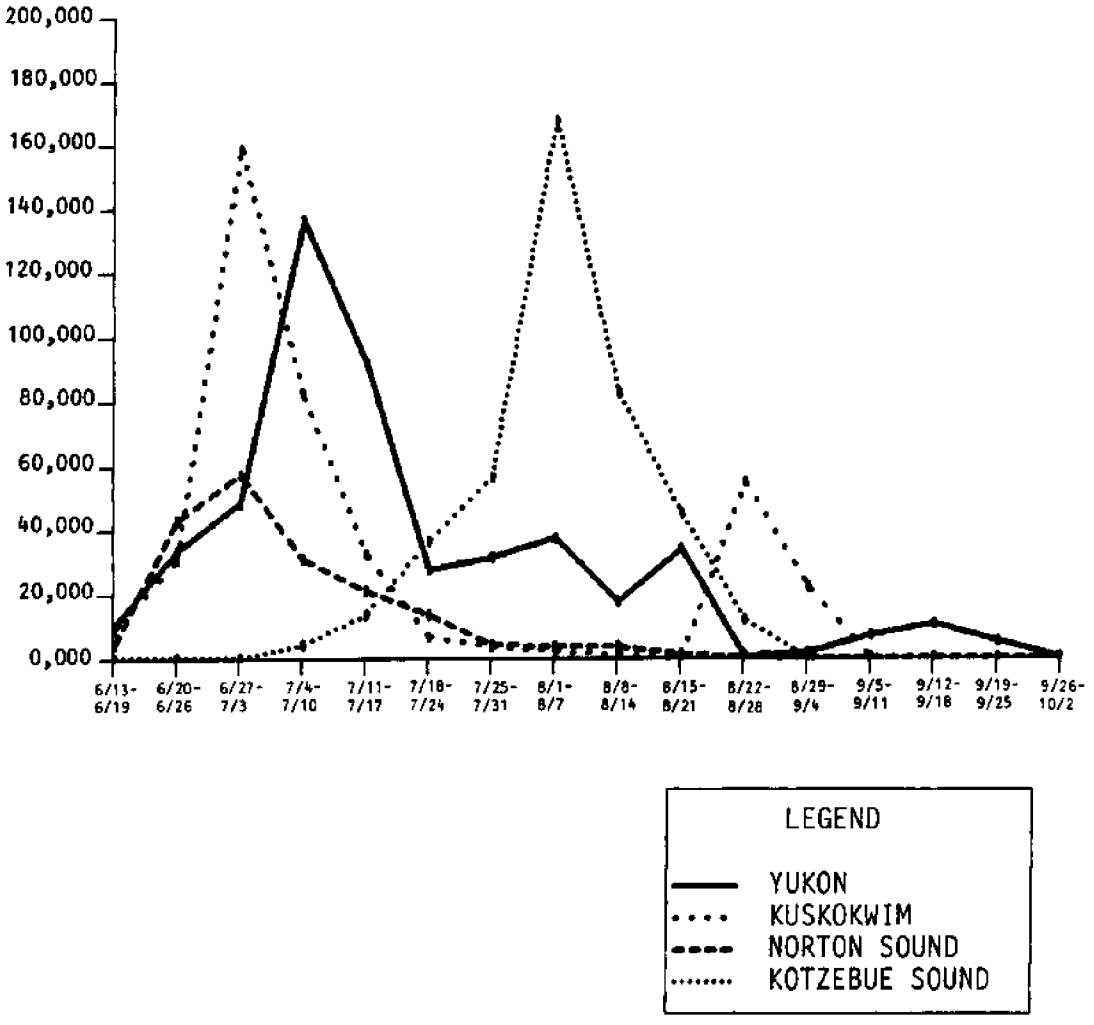
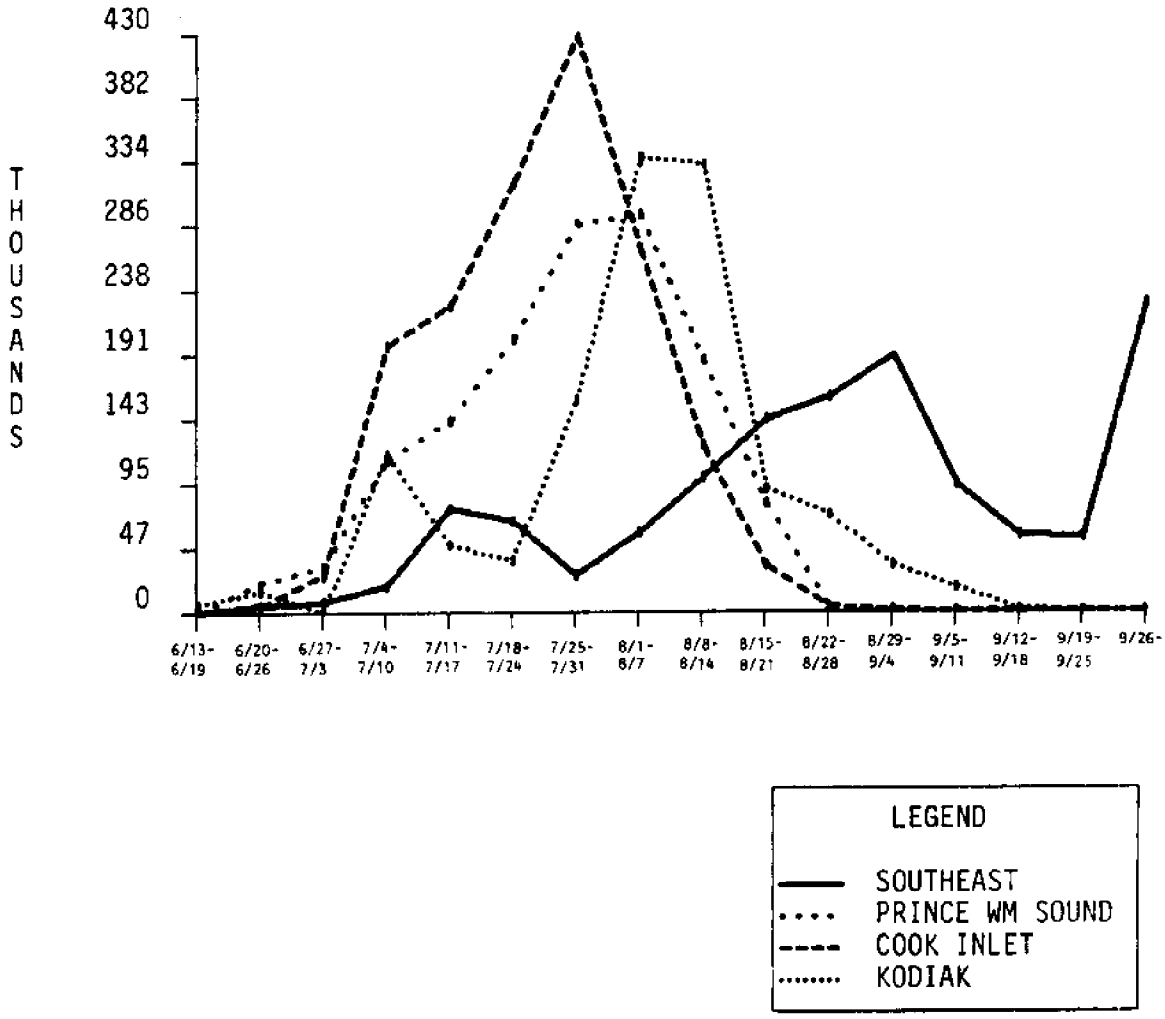


FIGURE 6. GULF OF ALASKA WEEKLY CHUM HARVEST, 1982
(NUMBER OF FISH)



In the eastern Gulf of Alaska, the Prince William Sound chum run peaked during the first week of August with a 1982 harvest of 293,885 chum. In Southeast the run peaked during the last part of August and first part of September with a 1982 weekly harvest of 189,760 chum.

In the eastern Pacific, the Japanese highseas chum fishery occurs during July with an average annual take of over 8.8 million fish in the mothership and drift net operations. The coastal chum fishery begins about September 1 and goes through early December with a recent average harvest of over 17 million chum. During September and October, 90% of the harvest are brites and after that there are a good percent of darks harvested.

TRADITIONAL CHUM SALMON MARKET CHANNELS

Since a large portion of the fresh fish consumption by the American consumer goes through small, local, port-of-landing markets that consumption is not documented. In addition, except for canned products, consumption patterns and market channels of salmon are not well documented.

Prior to 1981, the U.S. National Marine Fisheries Service did not require that export data differentiate between species of salmon; hence, although we know historic volumes of salmon exports, we do not know the species composition of these exports. Since 1981 salmon exports (except salmon eggs) have been recorded by species.

Export Patterns

Chum salmon is primarily exported either canned or frozen with the largest volumes traditionally going to Europe, Canada, and Japan although smaller market centers exists and new markets are developing in some of the other countries. In addition, the eggs are exported, primarily to Japan, as a salted product.

Exports of canned and frozen chum have increased since 1981; salmon roe exports have decreased (Table 5). The export value of canned chum increased from 1981 to 1983 while the export value of

TABLE 5. U.S. CHUM SALMON EXPORTS*

ALL SALMON ROE

	POUNDS	VALUE	AVERAGE PRICE/LB
1981	19036989	92014113	4.83
1982	17271241	74158587	4.29
1983	17813941	67631878	3.80

CANNED CHUM SALMON

	POUNDS	VALUE	AVERAGE PRICE/LB
1981	3028383	4883800	1.52
1982	5717583	6783425	1.19
1983	4858189	5862430	1.21

FROZEN CHUM SALMON

	POUNDS	VALUE	AVERAGE PRICE/LB
1981	24280671	36856409	1.52
1982	29220659	40437973	1.38
1983	26617897	31085055	1.17

* FROM NMFS COMPUTER PRINT OUT

frozen chum and salmon roe decreased. Since 1981, monthly export data on canned and frozen chum, as well as salmon eggs, have been available. This section will summarize this data and Appendix B contains the monthly and yearly summaries of these exports by country including prices, volumes, and values.

In 1983 Japan imported approximately 98% (17.6 million pounds) of U.S. salmon egg exports (Fig. 7) and paid $66 million for the product (Fig. 8). Since 1981, between 11 and 13 countries have imported salmon eggs. As mentioned, salmon eggs are not distinguished by species in the export data but chum eggs account for a large percentage of salmon egg exports.

The chum egg prices were fairly high in the late 1970's but decreased in the early 1980's. This decrease probably is due to an increase in the supply of eggs taken from the chum returning to the Japanese hatcheries.

Canned chum salmon exports have fluctuated between 3 and 5.7 million pounds annually from 1981 through 1983 and the overall average price per pound has decreased from $1.52/lb to $1.21/lb. The decrease in price is most likely due to the botulism death and subsequent scare during 1981 and 1982.

The number of countries importing canned chums has decreased from 12 in 1981 to 8 in 1983. Canned chum salmon is imported in

Fig. 7

U.S. SALMON ROE EXPORTS 1983 (POUNDS)

JAPAN	17,611,213
GERMANY	84,880
FRANCE	80,115
OTHER:	
CANADA	17,385
VENEZUELA	566
CHILI	2,005
SWITZERLAND	115
IRAQ	400
CHINA	2,528
AUSTRALIA	3,684
KOREA	3,000
BELGIUM	6,050
DENMARK	2,000

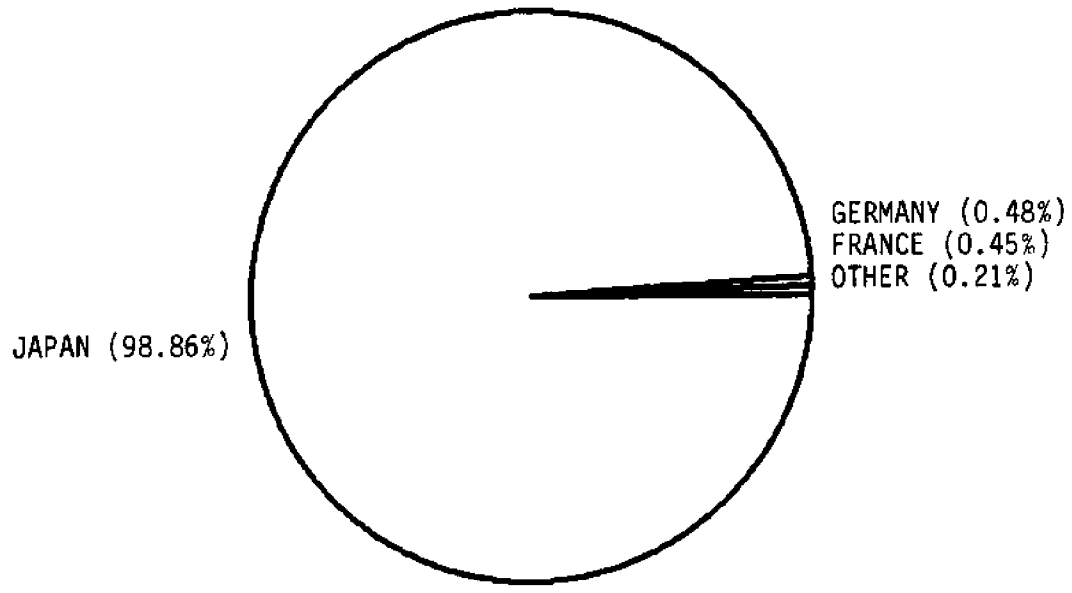
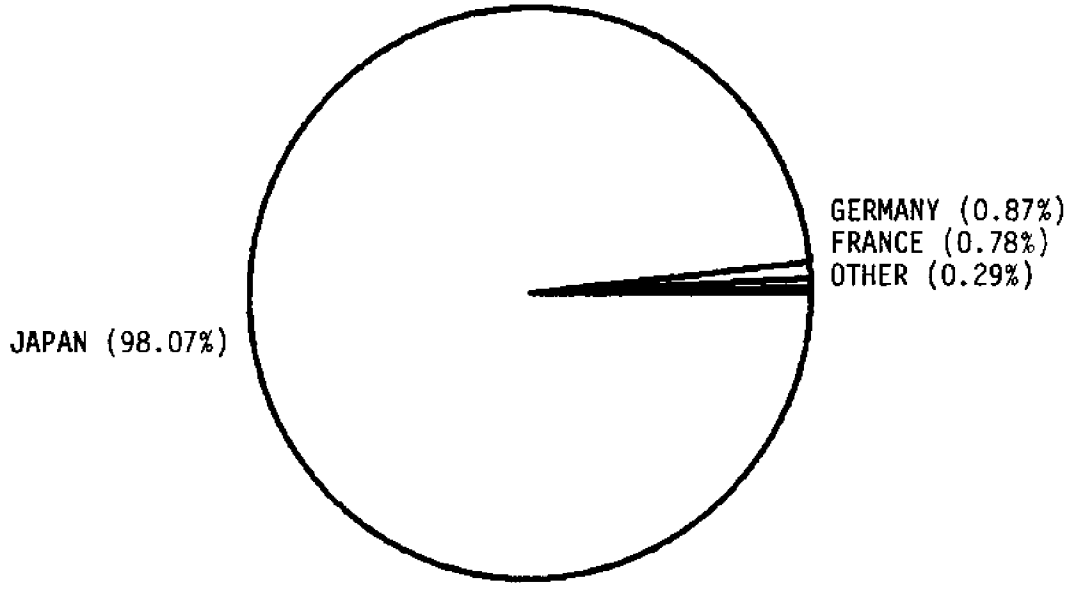


FIGURE 8. U.S. SALMON ROE EXPORTS, 1983
(VALUE IN $, FAS)

GERMANY	589,246
FRANCE	525,064
OTHER:	
CANADA	93,923
VENEZUELA	5,000
CHILI	4,410
SWITZERLAND	850
IRAQ	3,689
CHINA	5,562
AUSTRALIA	24,336
KOREA	6,600
BELGIUM	37,426
DENMARK	12,140



substantial quantities by several countries with U.S. exports totaling 4.8 million pounds in 1983. Canada imported the largest volume in 1983 totaling 1.4 million pounds (Fig. 9) followed by France at 1.1 million pounds (23%), England at 1 million pounds (22%) and the Netherlands at .8 million pounds (17%). Other major importers included Finland, Belgium, Japan, and Singapore. The value of these 1983 exports totaled $5.8 million with similar prices paid by the various importers (Fig.10).

In 1982 the U.S. exported 5.7 million pounds of canned chums valued at $6.8 million (Appendix B). In the 1981 the U.S. exported 3.2 million pounds, valued at $4.9 million.

In 1981 Belgium, where the botulism death occurred, imported 9.5% of the U.S. exports but imported only 2.6% in 1983.

Seventeen countries imported frozen chums in 1981, 1982, and 1983. Frozen chum exports have fluctuated from 24.3 million pounds in 1981 to 29.2 million pounds in 1982 to 26.6 million pounds in 1983. The overall average price per pound has increased from $1.52/lb in 1981 to $1.77/lb in 1983.

The end product of frozen chums depends on the importing country. Japan primarily sells fresh/frozen slices. Several European countries import chums for use in smoking.

Fig. 9

U.S. CANNED CHUM SALMON EXPORTS, 1983 (POUND)

CANADA	1,400,496
FRANCE	1,125,498
ENGLAND	1,068,124
NETHERLANDS	822,789
FINLAND	264,892
BELGIUM	125,498
JAPAN	24,480
SINGAPORE	2,787

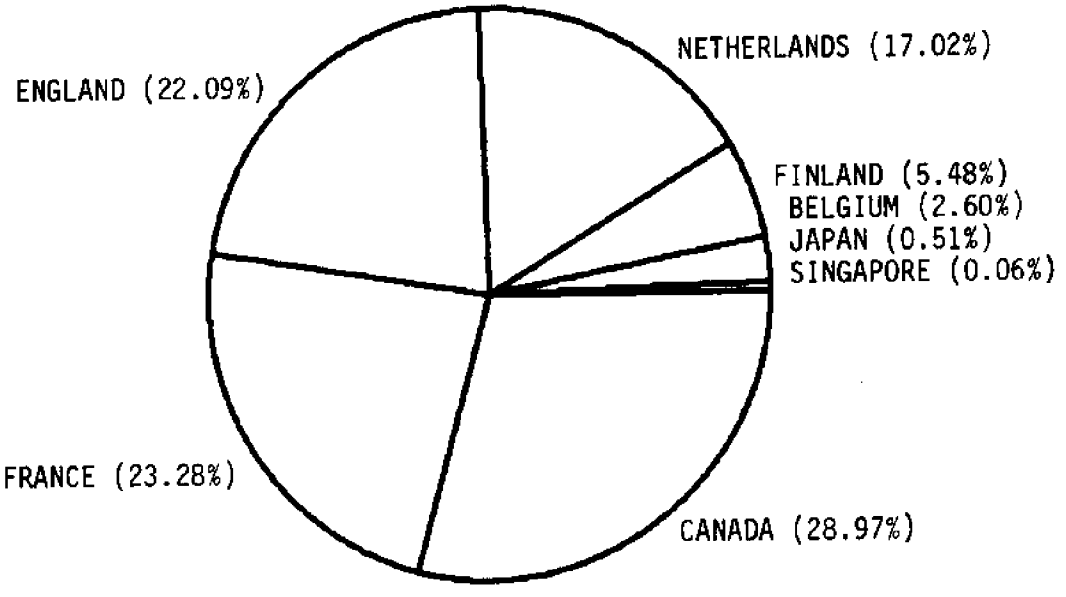
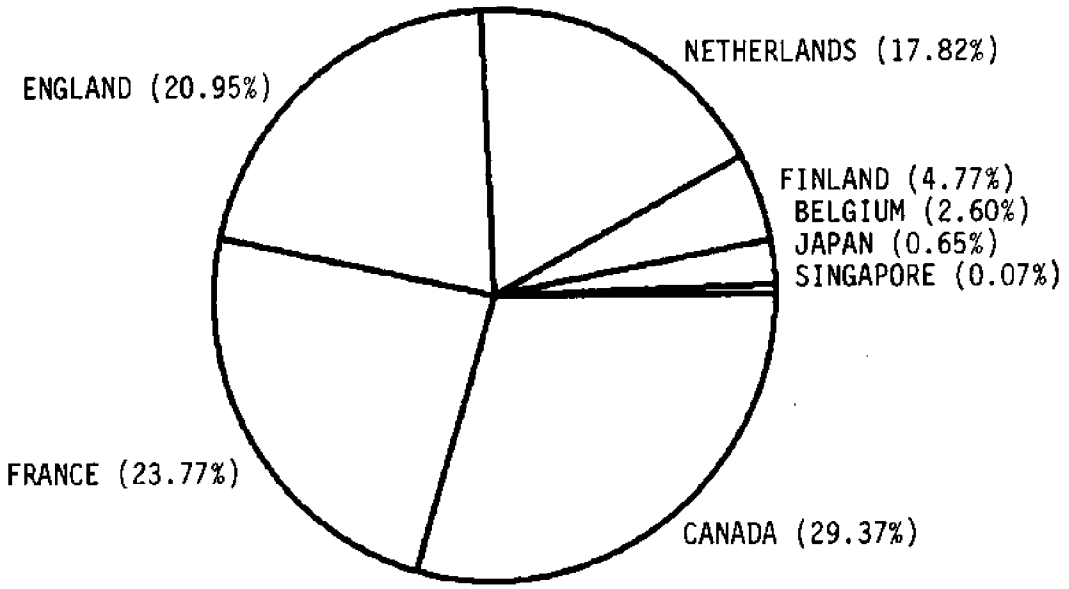


Fig. 10

U.S. CANNED CHUM SALMON EXPORTS, 1983
VALUE $ FAS

CANADA	1,714,078
FRANCE	1,387,056
ENGLAND	1,222,487
NETHERLANDS	1,039,575
FINLAND	278,450
BELGIUM	151,554
JAPAN	38,080
SINGAPORE	3,900



Since 1981 Japan has been the main importer of frozen chum salmon, averaging over 13 million pounds anually. In 1983 Japan imported 49% of the U.S. chum exports (Fig. 11) but paid only 43% of the total export value (Fig. 12). France and England both imported over 2.8 million pounds of chum in 1983, 10% of the U.S. exports and 12% of the export value. In addition several other countries import substantial quantities of frozen chums including Canada, Sweden, Denmark and Germany.

Japan did not start importing large volumes of salmon until the early 1970s when their high seas fisheries were severly curtailed with the imposition of fishing regulations by Canada, the U.S., and the USSR. Japan's largest salmon imports are sockeye from the Bristol Bay area. Chum salmon are imported from the Northwest for their eggs and salted steaks or smoked sides.

FIGURE 11. U.S. FROZEN CHUM SALMON EXPORTS, 1983
(POUNDS)

U.S. CHUM SALMON FROZEN EXPORTS 1983 (POUNDS)

JAPAN	13,193,516
ENGLAND	2,886,414
FRANCE	2,856,809
CANADA	2,485,540
SWEDEN	1,793,993
DENMARK	1,298,470
GERMANY	939,146
OTHER:	
NETHERLANDS	221,319
SPAIN	36,000
BELGIUM	115,800
IRELAND	85,893
THAILAND	63,600
ITALY	365,500
HONG KONG	84,435
KOREA	124,561
S. AFRICA	49,401
CANARY ISLAND	17,500

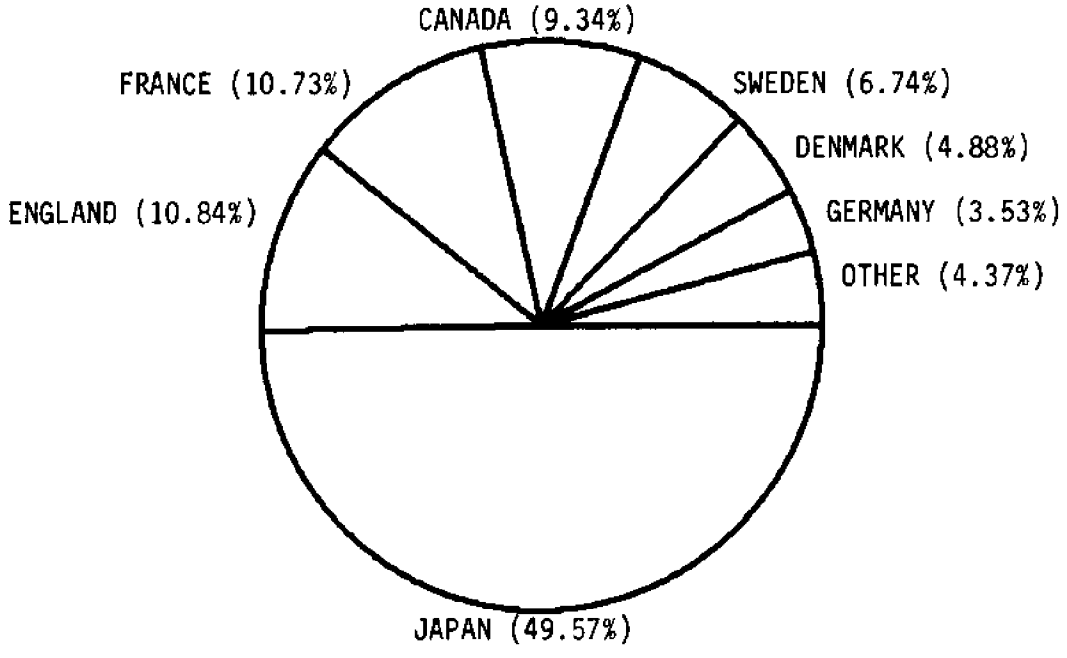
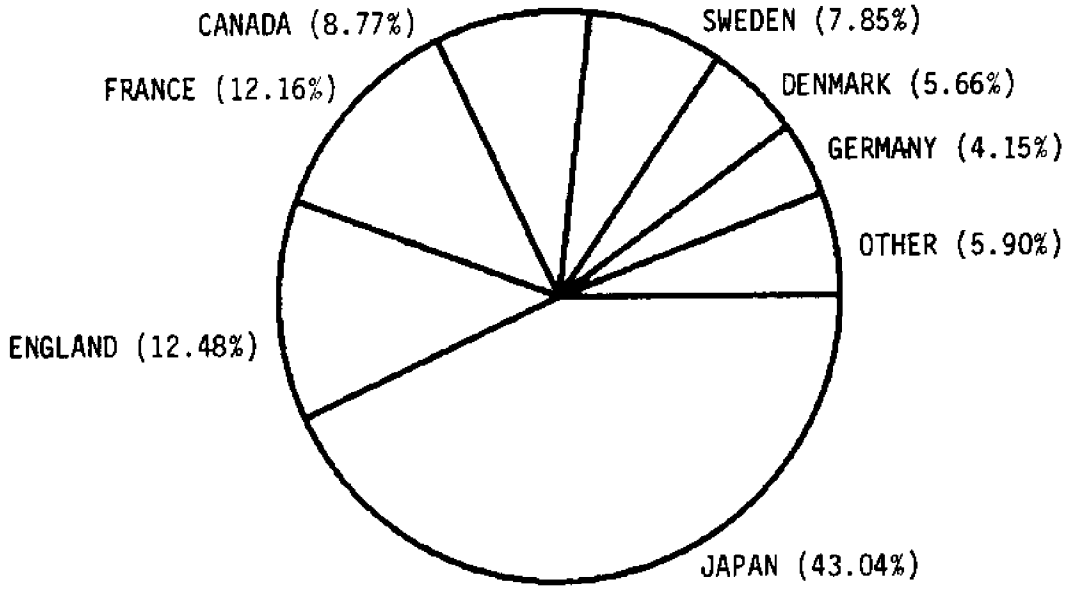


FIGURE 12. U.S. FROZEN CHUM SALMON EXPORTS, 1983
(VALUE IN $, FAS)

U.S. CHUM SALMON FROZEN EXPORTS 1983
VALUE, $ FAS

JAPAN	13,378,858
ENGLAND	3,878,256
FRANCE	3,779.062
CANADA	2,727,451
SWEDEN	2,439,278
DENMARK	1,760,325
GERMANY	1,288,916
OTHER:	
NETHERLANDS	346,450
SPAIN	61,710
BELGIUM	181,874
IRELAND	106,653
THAILAND	102,600
ITALY	676,156
HONG KONG	130,168
KOREA	123,587
S. AFRICA	79,583
CANARY ISLAND	24,128



Price Structuring

One of the major concerns of fishermen is why they get paid so little for the fresh product while the consumer pays so much for the final product at a store or restuarant. The basis for that concern is documented by the following price structure information which is a distillation of lectures by Doug Humes, Marketing Specialist, Bering Sea Fishermen's Association, and fisheries consultant, Clinton Atkinson of Seattle.

Seafood costs that are incurred between the time the fish is caught and the time it reaches the consumer depend on where the fishery is in relation to the market, and also on the final product form; however, many of the costs are similar. The costs for Kotzebue processing and shipping fish will be more than for Southeast fish because Kotzebue is farther from a major market center, and the costs in Kotzebue of production, including labor and electricity, are higher.

An example of selling Kotzebue fish as a fresh/frozen product will demonstrate the various costs incurred (Fig. 13). The fishermen is paid $.30/lb by the buyer or processor. The salmon then must be headed and gutted; and at a recovery rate of 60-75%, the actual cost to the processor will be $.40-.50/lb. Estimating a processing cost of $.30/lb, which includes labor and overhead, the FOB Kotzebue costs range between $.70 and .80/lb.

Fig. 13 PRODUCT FLOW AND COSTS FOR FRESH/FROZEN SALMON

	ADDED COSTS	TOTAL COST
FISHERMEN PAID		$.30/LB
ACTUAL COST TO PROCESSOR WITH 70-80 % MEAT RECOVERY:		$.40/LB
PROCESSING: HEADING AND GUTTING: LABOR, OVERHEAD, ETC.	$.30/LB	$.70/LB
AIR FREIGHT TO ANCHORAGE AT $.17/LB	$.17/LB	$.87/LB
ANCHORAGE HANDLING TO FREEZER/STORAGE	$.03/LB	$.90/LB
SHIPPING TO SEATTLE AT $.05/LB	$.05/LB	$.95/LB
SEATTLE HANDLING TO COLD STORAGE	$.03/LB	$.98/LB
SEATTLE FISH TAX	$.02/LB	$1.00/LB

ADDITIONAL COSTS DEPEND ON FINAL DESTINATION OF FISH:

OPTION A: DOMESTIC SALES IMMEDIATE		OPTION B: DOMESTIC SALES WITH STORAGE		OPTION C: EXPORTED WITH STORAGE	
ADDED COSTS	TOTAL COSTS	ADDED COSTS	TOTAL COSTS	ADDED COSTS	TOTAL COSTS
1 MONTH STORAGE AT $.03/LB	$1.03/LB	6 MONTH STORAGE AT $.11/LB	$1.11/LB	1 MONTH STORAGE AT $.03/LB	$1.03/LB
BROKERAGE FEE AT 3-5% $.08LB	$1.11/LB	TRANSPORTATION TO NEW YORK AT $.12/LB	$1.23/LB	TRANSPORTATION TO JAPAN AT $.15/LB	$1.18/LB
ADDITIONAL COST RETAIL STORE OR RESTURANT: HANDLING, ADVERTISING, ETC.		BROKERAGE FEE AT 3-5% $.08/LB	$1.31/LB	BROKERAGE FEE AT 3-5% $.08/LB	$1.26/LB
		ADDITIONAL COSTS TO RETAIL STORE HANDLING, ETC.,		IMPORT DUTY AT 5% $.07/LB	$1.33/LB
				ADDITONAL COSTS OF STORAGE, REPACKAGING, TRANSPORTATION, COMMISSIONS, LICENSED BROKERAGE FEES FOREIGN EXCHANGE ETC.	

After initial processing, the fish must be transferred by air or barge to such market centers as Anchorage or Seattle. Recent airfreight costs have varied from $.17/lb to $.45/lb. from Kotzebue to Anchorage. Anchorage custom freezing costs total about $.30/lb. Anchorage intra-city handling costs, from the airport to retail or ocean shipping outlets average about $.03/lb.

If the fish are transferred to Seattle, they will encumber costs of $.05/lb for transportation to Seattle and an additional $.02/lb for handling and transportation to storage. The fish may be kept in a Seattle storage for several months at $.11/lb for 6 months. Washington's fish tax of $.02/lb will be levied.

If the fish are sold in a major market center such as Los Angeles or New York, the transportation cost will range between $.05 and .19/lb

Additional costs will depend on the final product form and the prevailing market conditions. Packaging for domestic sales to retail stores, promotion, repackaging, and distribution costs may also be incurred.

The processor or buyer may sell through a broker who may charge between 3 and 5% or approximately $.08/lb. If the processor financed the season, his interest varies considerably. The final

costs will vary depending on the additional handling and costs the fish encounters before reaching the consumer.

As an example if the FOB Seattle price were $.95/lb, dock handling $.03/lb, state fish tax $.02/lb, cold storage for 3 months at $.055/lb, repackaging $.10/lb, and a broker sold them, at 3% profit, to a large retail store, the final price to the consumer would be over $1.20/lb.

Additional costs can include promotion, profit to the retail store, and distribution. These costs can substantially increase the final consumer costs.

If the salmon are to be exported, additional costs will be encountered. Often, exported salmon are headed and gutted but not further processed. Generally, processors or buyers will go through an exporting broker who charges between 3 and 5%. Shipment costs will vary but $.15/lb for a commericial carrier to Japan is a reasonable estimate.

Once the fish reaches Japan it encounters another series of costs. First is the import duty, which is presently 5%. Additional handling and storage fees will be levied. Local dealer commissions and/or fish market brokerage fees will be added before sales. Sales through Japan's fish markets must be made through an authorized licensed broker whose fee is set by

the government at 5.5%.

In addition, the buyer and seller will consider the prevailing exchange rate, insurance costs, and time of arrival in relation to present volumes on the market or in storage.

These costs will be offset by the sale of roe which is a high valued product, although the average export price has decreased from $4.83/lb in 1981 to $3.80/lb in 1983.

The example domestic and export whole sale prices estimated in Table 5 are both higher than the average export price of $1.17/lb for 1983 chum. The actual fresh/frozen export prices for 1983 have ranged between $.85/lb and $3.84/lb (Appendix B) and prices vary considerably depending on such factors as quality, volume of sales, and prevailing competition.

CHUM SALMON SUPPLY AND DEMAND IN JAPAN

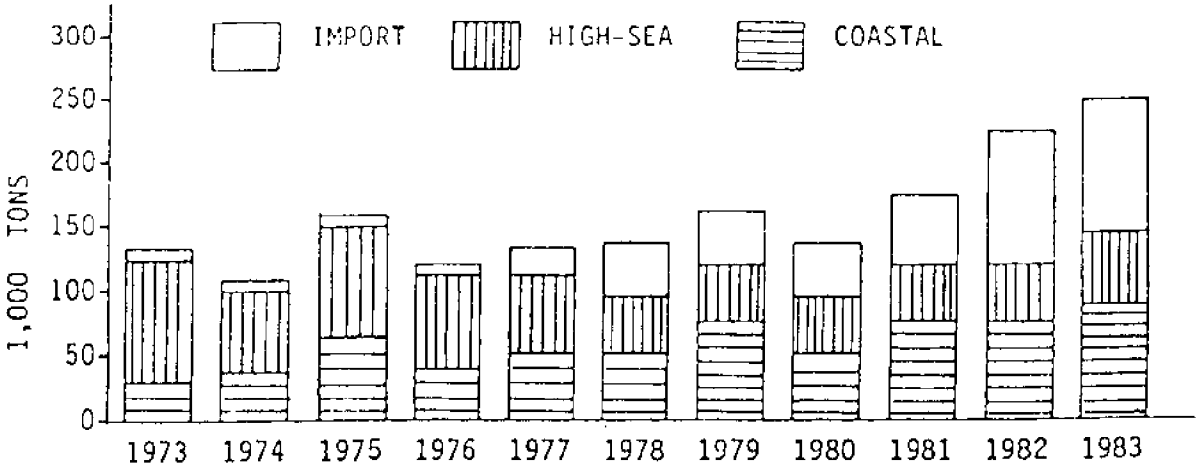
This section summarizes data gathered during a recent trip made by Univeristy of Alaska Marine Advisory Agent Dolly Garza, Kotzebue Fishermen Association representative Aurora Kramer and Fisheries Consultant William C. Atkinson to four major market centers in Japan. The itinerary is summarized in Appendix C.

Overall Supply and Demand

Japan is a major fish consuming and harvesting country, producing 11.9 million tons of fish and importing an additional 1.3 million tons in 1983. Salmon production and imports, roughly 260,000 mt, approximates 2.3% of the total Japanese fishery supply.

The Japanese salmon market is supplied by the local coastal and high seas fisheries and by imports (Fig.14).

Fig. 14: JAPANESE SALMON SUPPLY BY SOURCE



Source: Minato Shinbun, January, 1984 (Courtesy William C. Atkinson)

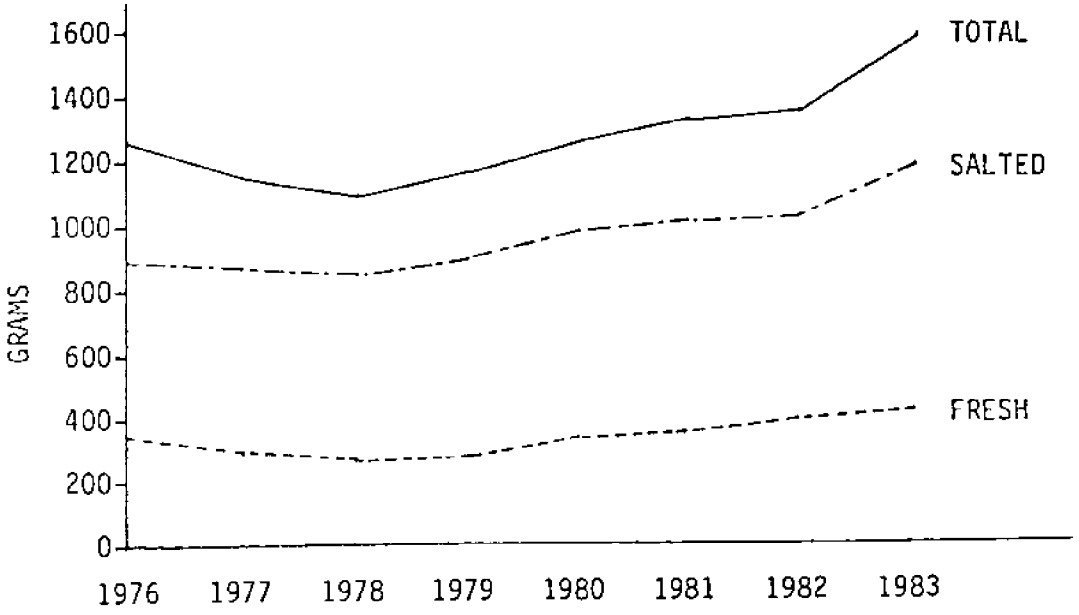
The total supply of salmon has increased due to increases in imports and the domestic coastal harvest.

Japan's increase in its coastal catch is largely attributed to the increased production by Japanese chum salmon aquaculture programs. The increase in imports is due to the strict international regulations imposed in recent years on the Japanese high seas salmon fleets, resulting in a decrease in their catches, and hence a need to secure a supply elsewhere.

During the early 1980s the Bristol Bay sockeye fishery experienced a substantial increase in harvest levels. Japanese buyers absorbed most of the increase.

The corresponding increase in Japanese per capita consumption of salmon has been attributed to the increase in supply, a decrease in price, and an increase in the promotion of salmon (Fig. 15).

Fig. 15: JAPANESE SALMON CONSUMPTION PER CAPITA



Salmon are sold in various product forms in Japan, and the prices and volumes sold vary considerably. Fresh and salted whole chum salmon are top of the line products. In addition, chum salmon is sold smoked, pickled, sliced and salted, or flaked. The product form depends upon the quality of the salmon when processed.

Chum salmon quality is characterized by three factors:

1) skin color, with a preference for silver brites,
2) meat color and quality, with a preference for a dark flesh which is firm, fresh and unblemished, and
3) oil content with a preference for 10% or more.

Domestic Production

The Japanese domestic coastal and high seas fisheries annually provide approximately 160,000 mt (352 million lb) of salmon, of which approximately 75% are chum. Japan's chum salmon harvests have increased from 56,300 mt (124 million lb) in 1970 to 120,800 mt (266 million lb) in 1981. The Japanese government hopes to achieve a chum salmon return of 150,000 mt through increased hatchery production.

The Japanese coastal fishery increased its salmon harvest from 48,400 mt (106 million lb) in 1977 to 86,300 mt (190 million lb) in 1982 (Atkinson, 1984). Presently, there are 824 coastal set net licenses with a given number of licenses allocated to each hatchery area. The Japanese high seas salmon harvest, which has

been curtailed by international harvest restrictions, has decreased from 62,000 mt (137 million lb) in 1977 to 41,800 mt (92 million lb) in 1982.

The Japanese government promotes consumption of locally caught chum salmon. As a result top quality chums caught by domestic fleets on the high seas command the highest price. Next in price are top quality chums caught in coastal waters, and those imported from abroad. Differences in price depend on prevailing market conditions; however, imported chum generally are $.10/lb (50 yen/kilo) less than high seas chum.

Imports

Of the 85,804 mt (189 million lb) of frozen salmon imported by Japan from the U.S. in 1983, 83% were sockeye and 7.1% were chum. In 1982, chum represented 9% of the 91,147 mt (201 millionlb) of the U.S. frozen salmon exports to Japan. Prior to the advent of large sockeye runs in Bristol Bay beginning in 1979, chum accounted for up to 50% of the salmon imports.

In terms of chum salmon, Northwest Alaska provides the most desirable imports. Chums from the Northwest including the Yukon and Kotzebue Sound have the three desirable quality characteristics of high skin and meat quality, and high oil content. The Lower Yukon River chums have a name for quality among knowledgeable consumers.

The reputation of Kotzebue chum as a high quality fish is maintained to the brokerage level; but that identity is lost before reaching the consumer. There are differences between the Yukon and Kotzebue chum. First, the Yukon chums are said to be handled better in having fewer scales and fins lost. Brokers continually emphasize that the top quality product must look like it just swam out of the ocean. In addition, the lower Yukon chums have a slightly higher oil content then Kotzebue's chum.

Market Distribution Systems

Japan has several distribution systems for fishery products. Coastally caught salmon go through a different channel and have a different grading system than do high seas or imported salmon.

Japanese coastal fishermen sell through port-of-landing fish markets, on consignment to an authorized market broker. These fish are processed, generally salted then frozen, and sent to other markets. Such coastally caught salmon generally go through a fixed distribution pattern. Approximately 80% go to large volume buyers, 15% to market brokers, and 5% to volume sale stores (Atkinson, 1984).

As coastally caught fish are often water marked, to varying degrees, the Japanese incorporate a seven step grading system for them, which ranges from ocean bright to marked. Approximately

59% of Hokkaido's chums are brights and semi-brights and the remainder are various stages of dark and/or marked.

Import and high seas salmon go through somewhat different distribution channels although high seas caught salmon set the grading standards. While both import and high seas salmon go to processors, fish brokers or consumer wholesalers, import salmon are treated differently.

Imports generally come in through fishing companies or trading companies and are held in cold storage for an average of 2 months; although if poor market conditions prevail, they might be held for six months to a year.

High seas caught salmon generally enter Japan through one of several major ports on Hokkaido. From there they go to processors, local fish markets or to fish brokers. They may go through additonal processing, eventually going to retail stores, restuarants or small fish stands in consumer markets.

Imported salmon generally enter Japan through any of several major ports of which Tokyo is a primary one. Some of the major ports and fish markets on Hokkaido choose not to handle import salmon as they prefer to work with their domestically caught product. From the ports, imported salmon go to processors, fish brokers, local fish markets, restaurants, retail grocery stores

or fish stands. They may be sold on consignment or purchased directly, depending on prevailing market conditions.

The high seas chum, which are of highest quality, are sold as a speciality product known as "arimaki." Arimaki is a lightly salted whole fish which is sold in large quantities during special occassions such as the Japanese New Year.

Import chum, like high seas and coastally caught chum, generally are salted and frozen. The salted chum are steaked and sold as an everyday product, commanding a much lower price than arimaki.

Chum of poorer quality often are cooked and flaked or sold as jerky, which is a new product developed by Kyokko Suissan. These products sell at a low price hence costs must be kept to a minimum in order to secure a profit.

MARKET POTENTIAL

What is the marketing potential for Kotzebue's chum salmon? Factors to consider in evaluating the market potential include the markets, the volumes, the product forms and the quality standards.

Resource Potential

Kotzebue residents harvest an average of 2 million pounds of chum salmon annually, although annual harvests of up to 6.6 million pounds have ocurred. Those 2 million pounds represent approximately 3% of the average Alaska landings of chum, and less than 1% of the average annual world chum landings of 282.7 million pounds. Any substantial increase in the average harvest of Kotzebue chum will be dependent on the local hatchery whose success is presently unknown.

It is possible that the total world landings of chum salmon may increase if Japan increases its production from its hatcheries and if the USSR targets on chum salmon in its aquaculture facilities. If Japan is successful in increasing its hatchery production by 66 million pounds, as it hopes to, the total world harvest could increase from the current 282 million pounds to approximately 349 million pounds.

Markets

Japan is the major market center for chum salmon, importing 13 million pounds of frozen chum (50% of the U.S. exports) 24,480 pounds of canned chums (less than 1% of the U.S. exports), and 17 million pounds (98%) of all U.S. salmon roe exports in 1983.

In addition, chum salmon is marketed in European countries. Both England and France imported 2.8 million pounds of frozen chum and more than 1 million pounds of canned chum salmon in 1983. Other major European importing countries include Netherlands, Finland, Belgium, Denmark, Germany and Sweden.

Canada, a country which harvests an average of 31 million pounds of chum annually, imported 2.5 million pounds of frozen chum and 1.4 million pounds of canned chum.

Buyers recognize the U.S. as a major consumer of chum salmon, but U.S. consumption statistics are not kept. On the average, Americans consumed 8 pounds of fresh/frozen fish and 4.6 pounds of canned fish in 1983. Of this, they consumed .5 lb of canned salmon. It is impossible to estimate American consumption of fresh/frozen salmon as much of this product goes through small market channels and is not reported. In 1981, the U.S. either consumed or stored 71% of its canned salmon pack (all species) and 25% of the frozen pack (DPRA, 1982).

Quality Standards

Chum salmon are sold fresh/frozen, whole or as steaks and roasts, or are further processed and pickled, salted or smoked as sides or strips. In addition, new products such as cooked flakes or jerky are being developed to use the lower quality salmon. Again, the final form depends on the quality charactersitics of the fish.

The importance of skin quality, meat quality and oil content depends on consumer preference. Most Japanese consumers look for bright skin color as a sign of high quality in fresh or frozen whole fish or roasts. Fish with darker skin are used for steaks, or for further processing into smoked, pickled, flaked or salted products.

Firm, unblemished meat is essential for fresh/frozen portions and for smoking. Any damage to the meat, such as blood bruising or separated meat, will render it unsuitable for smoking or for fresh/frozen sales. Such fish will have to be processed further, yet will bring a lower price.

Meat color plays an important role in determining a salmon's final product form. Most countries, including Japan and many European countries, prefer the darker flesh for fresh/frozen sales. A few countries, including Denmark prefer the lighter flesh color for sales as fresh/frozen portions. In either case,

the less desirable color will cause the fish to be used in another product form in which meat color is not as important.

Oil content also is a major consideration when determining the final product form. A high percent oil content is preferred by both Japanese consumers and European smokeries.

The combination of these three characteristics determine how competitive a salmon from one area will be in relation to fish from other areas. In addition, consistency of quality determines the long term demand for fish from a given area.

Fish from any area may have desirable skin color, meat color and oil content; but if it is not consistently handled well brokers and buyers will be hesitant to purchase the fish despite its desirable characteristics.

Kotzebue Chum

In developing markets and a marketing strategy for Kotzebue chums, several considerations are relevant:

First, Kotzebue Chum represent only a small portion of the total supply. In addition, the fishery starts and peaks later than its major local competitor, the Yukon chum fishery. Finally, the costs of production of Kotzebue chum are relatively high; hence, it becomes necessary to target high return markets. These three

factors will continue to affect Kotzbue chum's competitiveness in the general fresh/frozen markets.

On the other hand, Kotzebue chums are known as high quality fish. They are a bright fish, and have dark meat and high oil content. In addition they are known to be handled fairly well by both fishermen and processors. The combination of these qualities are not found in chum from all fisheries.

The fact that Kotzebue chum are of high quality gives them the potential for fitting into a specific market structure as a well known quality product that commands a fair price, one which is not easily influenced by the harvest levels of chums in other fisheries.

Three high value markets include the fresh market, the fresh/frozen market, and the smoked fish market. All three are found both domestically and in other countries. The two major factors which will affect Kotzebue's competitiveness in these major markets are the costs of production in relation to the end product price and the consistency in quality, which is necessary to create a long term, consistent demand.

Targeting the fresh market will require the fish be sent out immediately and reach the fresh market centers quickly. Greater risk is involved in targeting this market, because fish not sold

immediately have to be used for a lower quality, lower valued product. Since those fish will have encumbered the higher costs of handling and shipping, however, the result will be a loss of profits.

The fresh/frozen market is less risky but the value (hence the profit) is lower. Competition in this market is greater and preference for the various quality characteristics fluctuate among market centers. As previously mentioned, Japanese consumers prefer dark flesh and high oil content where as some European consumers prefer lighter meat color and lower oil content.

The smoked fish market requires a fish with a high oil content and unblemished meat, while skin color for this market is relatively unimportant. Fish which have blood bruises around the vertebrae (generally caused by lifting the fish by the tail) are unacceptable as the darker color is seen in the final product and consuemrs are not willing to pay a top price for it. Thus, consistent proper handling is necessary to maintain a niche in this higher valued market. Presently there are major smoked fish market centers in Europe, and smaller market centers developing in the U.S.

Developing specific markets for Kotzebue chum will require a cooperative effort between fishermen and interested buyers and

processors. The fish will have to be handled correctly, consistently. To attract the attention of buyers in the high-value markets, samples of Kotzebue chum will have to be sent to potential buyers along with convincing information on harvest levels, processing conditions, and other factors that help establish the worthiness of the kotzebue chum in the world salmon market.

APPENDIX A

ALASKA REGIONAL WEEKLY CHUM SALMON HARVEST SUMMARIES, 1982

APPENDIX A: 1982 CHUM HARVEST BY REGION (in numbers of fish)

	KODIAK	BRISTOL BAY	AK PEN-ALEUTION	CHIGNIK	PRINCE WM SD	COOK INLET	SOUTH EAST
< 6/12	0	964	119148	0	0	237	90
6/13-6/19	5423	7243	506753	0	0	233	561
6/20-6/26	14932	81259	353481	0	21154	3354	5175
6/27-7/3	0	193959	149810	6276	33782	27981	7082
7/4-7/10	117070	312009	137328	6957	112632	197234	19124
7/11-7/17	48966	169450	211910	16929	141036	226348	76444
7/18-7/24	37912	130314	227410	41754	202007	317356	66982
7/25-7/31	156598	35134	272739	48118	286454	428022	27170
8/1-8/7	337283	7742	341365	80577	293885	268714	58128
8/8-8/14	331836	2927	182391	52048	186395	122446	99053
8/15-8/21	91246	493	101573	369	79805	34703	142670
8/22-8/28	71265	46	855	203	3123	3767	158616
8/29-9/4	34089	10	3129	68	0	1282	189760
9/5-9/11	18032	0	1724	0	0	371	94814
9/12-9/18	687	0	76	0	0	3	55840
9/19-9/25	200	0	20	0	0	0	55436
9/26-10/2	448	0	0	0	0	0	125731
>10/2	0	0	0	0	0	0	102997
TOTALS	1266187	941550	2609712	253299	1360273	1632051	1285673

	YUKON RIVER	KOTZEBUE SOUND	NORTON SOUND	KUSKOKWIM RIVER	STATE TOTAL
< 6/12	0	0	0	0	120439
6/13-6/19	9956	0	4105	9223	520213
6/20-6/26	31352	0	43110	30613	479355
6/27-7/3	30723	0	57470	158985	418890
7/4-7/10	85148	4203	30908	81791	902354
7/11-7/17	28129	13456	21037	32711	891083
7/18-7/24	11337	36438	13651	6731	1023735
7/25-7/31	29036	56589	4041	3299	1254235
8/1-8/7	37252	167642	3453	2079	1387694
8/8-8/14	16384	82706	3717	759	977096
8/15-8/21	32705	44996	1069	213	450859
8/22-8/28	0	11766	545	55	237875
8/29-9/4	0	0	0	22	228338
9/5-9/11	0	0	0	0	114941
9/12-9/18	2593	0	0	0	56806
9/19-9/25	4823	0	0	0	55656
9/26-10/2	0	0	0	0	126179
>10/2	0	0	0	0	102997
TOTALS	319438	417790	183106	326481	9348745

APPENDIX A. BRISTOL BAY CHUM HARVEST BY DISTRICT

	NAKNEK-KVICHAK	EGIGIK	UGASHIK	NUSHAGAK	TOGIAK	BRISTOL B TOTAL:
< 6/12	0	0	5	959	0	964
6/13-6/19	204	4265	38	2354	382	7243
6/20-6/26	9184	8542	1477	58112	3944	81259
6/27-7/3	47204	12510	6957	123024	4264	193959
7/4-7/10	58024	26647	16112	162572	48654	312009
7/11-7/17	11180	15985	18371	76536	47378	169450
7/18-7/24	50129	9412	5323	27400	38050	130314
7/25-7/31	17387	1745	694	4293	11015	35134
8/1-8/7	528	1768	1000	901	3545	7742
8/8-8/14	371	443	306	286	1521	2927
8/15-8/21	45	117	0	4	327	493
8/22-8/28	0	0	0	0	46	46
8/29-9/4	0	0	0	0	10	10
9/5-9/11	0	0	0	0	0	0
9/12-9/18	0	0	0	0	0	0
9/19-9/25	0	0	0	0	0	0
	0	0	0	0	0	0
TOTAL	194256	81434	50283	456441	159136	941550

ALASKA PENINSULA AND ALUETIONS CATCH BY DISTRICT

	STEPOVAK	RENSHAW-ALIAKSIN	SHUMAGIN ISLANDS	BLACK PT VODAPOINT	PT ALIAK -PT BLK	COLD BAY	THIN POINT
< 6/12	0	0	5983	0	0	0	0
6/13-6/19	611	190	63829	0	0	0	0
6/20-6/26	1260	1338	91496	0	0	0	0
6/27-7/3	2464	1482	0	0	1765	0	0
7/4-7/10	2565	2014	35780	0	25652	0	0
7/11-7/17	44175	9963	60930	0	39466	215	0
7/18-7/24	38990	29853	45766	832	46205	1076	0
7/25-7/31	49428	32797	89324	7373	43378	2980	56
8/1-8/7	71435	30062	34458	63872	26387	27358	4770
8/8-8/14	43022	22522	30007	39198	17024	9967	2634
8/15-8/21	0	0	0	36246	22166	23731	277
8/22-8/28	0	0	0	0	0	0	0
8/29-9/4	332	1784	83	0	356	0	0
9/5-9/11	197	1149	40	6	330	0	0
9/12-9/18	20	29	27	0	0	0	0
9/19-9/25	8	1	11	0	0	0	0
9/26-10/2	0	0	0	0	0	0	0
TOTALS:	254507	133184	457734	147527	222729	65327	7737

	MORZHOVOI BAY	KENNORE	UNALASKA ISLAND	URILIA BAY	IZEMBEK MOFFET B	BLACK HILLS	NELSON LAGOON
< 6/12	0	113165	0	0	0	0	0
6/13-6/19	0	440276	0	0	0	0	1
6/20-6/26	0	254465	0	0	0	0	1
6/27-7/3	0	126577	0	0	0	0	463
7/4-7/10	0	4156	0	12930	0	28	72
7/11-7/17	6038	1934	297	4340	0	14	1358
7/18-7/24	8491	3828	1190	2	12414	0	1645
7/25-7/31	6392	4106	1985	290	7749	0	3683
8/1-8/7	4276	4312	1680	4827	36523	0	13140
8/8-8/14	3870	1374	764	1440	764	0	769
8/15-8/21	0	434	32	13362	0	0	247
8/22-8/28	0	0	0	0	0	0	42
8/29-9/4	0	0	0	470	0	0	5
9/5-9/11	0	0	0	0	0	0	0
9/12-9/18	0	0	0	0	0	0	0
9/19-9/25	0	0	0	0	0	0	0
9/26-10/2	0	0	0	0	0	0	0
TOTALS:	29067	954627	6148	37661	57450	42	21426

ALASKA PENINSULA AND ALUETIONS-CONTINUED

	HERENDEEN BAY	PORT MOLLER	3 HILLS-ILNIK	PORT HEIDEN	TOTALS
< 6/12	0	0	0	0	119148
6/13-6/19	0	1846	0	0	506753
6/20-6/26	0	4921	0	0	353481
6/27-7/3	4457	11628	867	107	149810
7/4-7/10	17005	30092	6709	325	137328
7/11-7/17	11791	25855	5277	257	211910
7/18-7/24	9107	22747	5229	35	227410
7/25-7/31	0	21998	1200	0	272739
8/1-8/7	0	16749	1316	0	341365
8/8-8/14	0	8678	358	0	182391
8/15-8/21	0	4838	240	0	101573
8/22-8/28	0	810	3	0	855
8/29-9/4	0	99	0	0	3129
9/5-9/11	0	2	0	0	1724
9/12-9/18	0	0	0	0	76
9/19-9/25	0	0	0	0	20
9/26-10/2	0	0	0	0	0
TOTALS:	42360	150263	21199	724	ERROR

	MORZHOVOI BAY	KENMORE	UNALASKA ISLAND	URILIA BAY	IZEMBEK MOFFET B	BLACK HILLS	NELSON LAGOON
< 6/12	0	113165	0	0	0	0	0
6/13-6/19	0	440276	0	0	0	0	1
6/20-6/26	0	254465	0	0	0	0	1
6/27-7/3	0	126577	0	0	0	0	463
7/4-7/10	0	4156	0	12930	0	28	72
7/11-7/17	6038	1934	297	4340	0	14	1358
7/18-7/24	8491	3828	1190	2	12414	0	1645
7/25-7/31	6392	4106	1985	290	7749	0	3683
8/1-8/7	4276	4312	1880	4827	36523	0	13140
8/8-8/14	3870	1374	764	1440	764	0	769
8/15-8/21	0	434	32	13362	0	0	247
8/22-8/26	0	0	0	0	0	0	42
8/29-9/4	0	0	0	470	0	0	5
9/5-9/11	0	0	0	0	0	0	0
9/12-9/18	0	0	0	0	0	0	0
9/19-9/25	0	0	0	0	0	0	0
9/26-10/2	0	0	0	0	0	0	0
TOTALS:	29067	954627	6148	37661	57450	42	21426

ALASKA PENINSULA AND ALUETIONS-CONTINUED

	HERENDEEN BAY	PORT MOLLER	3 HILLS-ILNIK	PORT HEIDEN	TOTALS
< 6/12	0	0	0	0	119148
6/13-6/19	0	1846	0	0	506753
6/20-6/26	0	4921	0	0	353481
6/27-7/3	4457	11628	867	107	149810
7/4-7/10	17005	30092	6709	325	137328
7/11-7/17	11791	25855	5277	257	211910
7/18-7/24	9107	22747	5229	35	227410
7/25-7/31	0	21998	1200	0	272739
8/1-8/7	0	16749	1316	0	341365
8/8-8/14	0	8678	358	0	182391
8/15-8/21	0	4838	240	0	101573
8/22-8/28	0	810	3	0	855
8/29-9/4	0	99	0	0	3129
9/5-9/11	0	2	0	0	1724
9/12-9/18	0	0	0	0	76
9/19-9/25	0	0	0	0	20
9/26-10/2	0	0	0	0	0
TOTALS:	42360	150263	21199	724	2609712

APPENDIX A. PRINCE WILLIAM SOUND

	GENERAL SEINE	COGHHILL GILLNET	COGHHILL SEINE	PWS TOTAL
< 6/12	0	0	0	0
6/13-6/19	0	0	0	0
6/20-6/26	0	21154	0	21154
6/27-7/3	0	33782	0	33782
7/4-7/10	49934	43500	19198	112632
7/11-7/17	127725	12863	448	141036
7/18-7/24	92857	67390	41760	202007
7/25-7/31	164722	58543	63189	286454
8/1-8/7	273419	8590	11876	293885
8/8-8/14	177115	872	8408	186395
8/15-8/21	79805	0	0	79805
8/22-8/28	3123	0	0	3123
8/29-9/4	0	0	0	0
9/5-9/11	0	0	0	0
9/12-9/18	0	0	0	0
9/19-9/25	0	0	0	0
9/26-10/2	0	0	0	0
TOTALS:	968700	246694	144879	1360273

YUKON RIVER BY DISTRICTS

	334-1	-20	-3	334-40	334-50	334-60	TOTAL
< 6/12	0	0	0	0	0	0	0
6/13-6/19	34228	9956	0	0	0	0	9956
6/20-6/26	52188	31352	0	1940	0	0	33292
6/27-7/3	69572	27810	2913	17772	0	0	48495
7/4-7/10	82146	83975	1173	51235	0	0	136383
7/11-7/17	17457	28126	0	63659	234	3	92022
7/18-7/24	32061	10256	0	16149	0	1081	27486
7/25-7/31	15752	23934	1560	2555	0	3542	31591
8/1-8/7	9093	25238	2397	487	0	9617	37739
8/8-8/14	34365	6639	806	1131	0	8939	17515
8/15-8/21	0	31653	1052	1254	0	0	33959
8/22-8/28	0	0	0	318	0	0	318
8/29-9/4	0	0	0	1591	0	0	1591
9/5-9/11	0	0	0	898	5969	0	6867
9/12-9/18	0	0	0	0	7709	2593	10302
9/19-9/25	0	0	0	0	0	4823	4823
9/26-10/2	0	0	0	0	0	0	0
TOTALS:	346862	278939	9901	158989	13912	30598	492339

	CENTRAL	EASTERN	WESTERN	PERRYVILLE	CHIGNIK	TOTAL
< 6/12	0	0	0	0	0	0
6/13-6/19	127	0	0	0	9	136
6/20-6/26	1167	8	0	0	105	1280
6/27-7/3	809	0	6276	227	396	7708
7/4-7/10	1392	0	6957	6438	4649	19436
7/11-7/17	400	0	16929	0	0	17329
7/18-7/24	0	10191	41754	83	291	52319
7/25-7/31	1278	11981	48118	5285	4602	71264
8/1-8/7	17365	22335	80577	3548	2393	126218
8/8-8/14	9323	17848	52048	6562	1159	86940
8/15-8/21	1522	1629	369	0	1830	5350
8/22-8/28	286	360	203	0	489	1338
8/29-9/4	0	81	68	438	96	683
9/5-9/11	0	0	0	0	13	13
9/12-9/18	0	0	0	0	1	1
9/19-9/25	0	0	0	0	0	0
9/26-10/2	0	0	0	0	0	0
TOTALS:	33669	64433	253299	22581	16033	390015

	S O U T H E A S T				SOUTHEAST
	JUNEAU	KETCHIKAN	PETERS.	SITKA	TOTAL
< 6/12	48	2	2	40	92
6/13-6/19	283	268	202	10	763
6/20-6/26	1444	3635	862	96	6037
6/27-7/3	2382	4611	979	89	8061
7/4-7/10	3649	15363	2252	112	21376
7/11-7/17	16999	58566	1690	879	78134
7/18-7/24	21197	40461	6055	5324	73037
7/25-7/31	11945	14220	2971	1005	30141
8/1-8/7	16021	36095	5101	6012	63229
8/8-8/14	11257	83067	14132	4729	113185
8/15-8/21	20525	117497	4049	4648	146719
8/22-8/28	35463	118724	3044	4429	161660
8/29-9/4	35438	152830	8018	1492	197778
9/5-9/11	31409	63007	16015	398	110829
9/12-9/18	54189	1643	505	8	56345
9/19-9/25	54804	628	3	4	55439
9/26-10/2	67811	57920	0	0	125731
>10/2	64104	38893	0	0	102997
TOTALS:	448968	807430	65880	29275	1351553

	KOTZEBUE SOUND	NORTON SOUND	COOK INLET
< 6/12	0	0	237
6/13-6/19	0	4105	233
6/20-6/26	0	43110	3354
6/27-7/3	0	57470	27981
7/4-7/10	4203	30908	197234
7/11-7/17	13456	21037	226348
7/18-7/24	36438	13651	317356
7/25-7/31	56589	4041	428022
8/1-8/7	167642	3453	268714
8/8-8/14	82700	3717	122446
8/15-8/21	44996	1069	34703
8/22-8/28	11766	545	3767
8/29-9/4	0	0	1282
9/5-9/11	0	0	371
9/12-9/18	0	0	3
9/19-9/25	0	0	0
9/26-10/2	0	0	0
>10/2	0	0	0
TOTALS:	417790	183106	1632051

KUSKOKWIM CHUM CATCHES BY DISTRICT

	#1	#2	#4	#5	TOTAL
< 6/12	0	0	0	0	0
6/13-6/19	7226	274	1556	167	9223
6/20-6/26	22911	2729	3681	1292	30613
6/27-7/3	145219	7060	4430	2276	158985
7/4-7/10	58257	8811	9666	5057	81791
7/11-7/17	20709	0	8019	3983	32711
7/18-7/24	0	0	5957	774	6731
7/25-7/31	2599	0	565	135	3299
8/1-8/7	1573	0	399	107	2079
8/8-8/14	531	144	50	34	759
8/15-8/21	165	34	14	0	213
8/22-8/28	46	0	9	0	55
8/29-9/4	18	0	0	4	22
9/5-9/11	0	0	0	0	0
9/12-9/18	0	0	0	0	0
9/19-9/25	0	0	0	0	0
9/26-10/2	0	0	0	0	0
TOTALS:	259254	19052	34346	13829	326481

SOURCE: VARIOUS ADF&G ANNUAL REPORTS

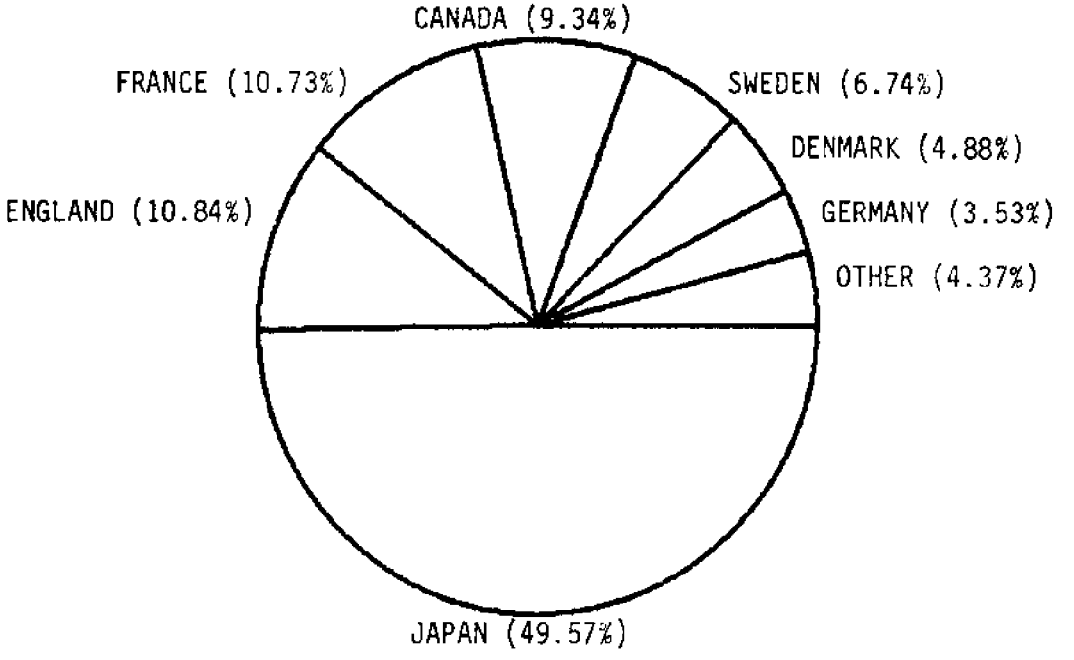
APPENDIX B

U.S. CHUM SALMON EXPORTS, 1981-1983

APPENDIX B:

U.S. CHUM SALMON FROZEN EXPORTS 1983 (POUNDS)

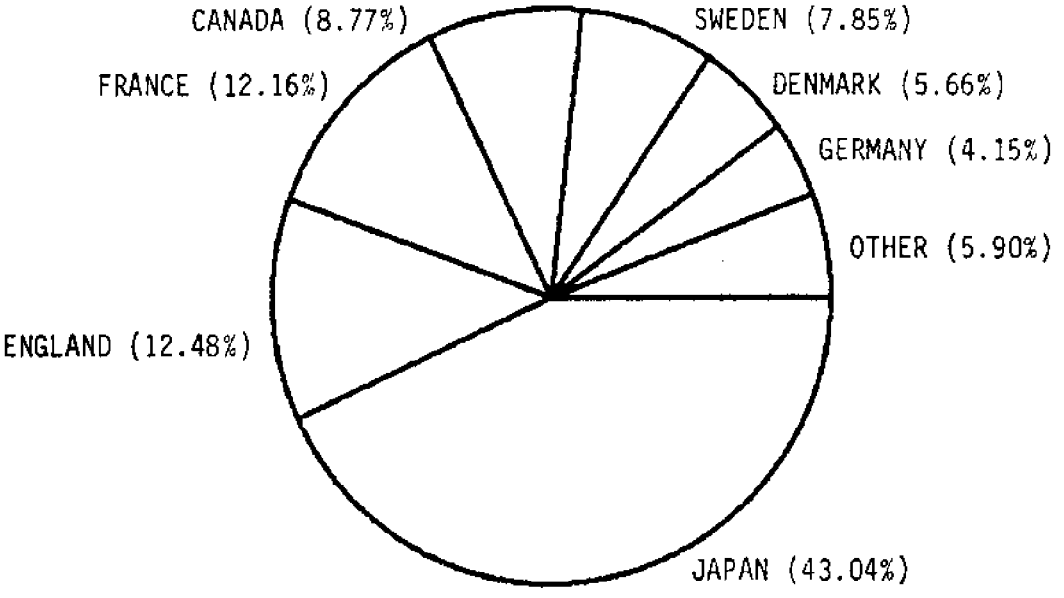
JAPAN	13,193,516
ENGLAND	2,886,414
FRANCE	2,856,809
CANADA	2,485,540
SWEDEN	1,793,993
DENMARK	1,298,470
GERMANY	939,146
OTHER:	
NETHERLANDS	221,319
SPAIN	36,000
BELGIUM	115,800
IRELAND	85,893
THAILAND	63,600
ITALY	365,500
HONG KONG	84,435
KOREA	124,561
S. AFRICA	49,401
CANARY ISLAND	17,500



APPENDIX B:

U.S. CHUM SALMON FROZEN EXPORTS 1983
VALUE, $ FAS

JAPAN	13,378,858
ENGLAND	3,878,256
FRANCE	3,779.062
CANADA	2,727,451
SWEDEN	2,439,278
DENMARK	1,760,325
GERMANY	1,288,916
OTHER:	
NETHERLANDS	346,450
SPAIN	61,710
BELGIUM	181,874
IRELAND	106,653
THAILAND	102,600
ITALY	676,156
HONG KONG	130,168
KOREA	123,587
S. AFRICA	79,583
CANARY ISLAND	24,128



MONTH	COUNTRY	POUNDS	% TOT LB	VALUE	% TOT VAL	PRICE/LB
JANUARY	Canada	39486	0.02	35752	0.02	0.91
	Sweden	79478	0.05	104433	0.05	1.31
	Denmark	17500	0.01	20125	0.01	1.15
	England	253000	0.16	367484	0.16	1.45
	Netherlands	18799	0.01	24760	0.01	1.32
	France	345144	0.21	419704	0.18	1.22
	Germany	54020	0.03	87175	0.04	1.61
	Italy	37500	0.02	71250	0.03	1.90
	Thailand	8000	0.00	12800	0.01	1.60
	Japan	778658	0.48	1129490	0.50	1.45
	Total	1631585		2272973		1.39
FEBRUARY	Canada	210911	0.13	273933	0.11	1.30
	Sweden	61488	0.04	91806	0.04	1.49
	Denmark	17500	0.01	29750	0.01	1.70
	England	204570	0.12	275597	0.12	1.35
	France	117133	0.07	165809	0.07	1.42
	Germany	76037	0.05	102592	0.04	1.35
	Italy	76100	0.05	118906	0.05	1.56
	Japan	901058	0.54	1312321	0.55	1.46
	Canary Is	17500	0.01	24128	0.01	1.38
	Total	1682297		2394842		1.42
MARCH	Canada	218107	0.29	238923	0.24	1.10
	Sweden	128933	0.17	177452	0.18	1.38
	Denmark	52500	0.07	54075	0.05	1.03
	England	87150	0.12	107013	0.11	1.23
	Netherlands	10000	0.01	13700	0.01	1.37
	Belgium	1000	0.00	1480	0.00	1.48
	France	51840	0.07	76498	0.08	1.48
	Germany	67343	0.09	88019	0.09	1.31
	Italy	76800	0.10	175000	0.17	2.28
	Hong Kong	3000	0.00	4000	0.00	1.33
	Japan	58652	0.08	69345	0.07	1.18
	Total	755325		1005505		1.33
APRIL	Canada	163049	0.97	166278	0.14	1.02
	Sweden	224233	1.33	296110	0.25	1.32
	Denmark	52500	0.31	59325	0.05	1.13
	England	70500	0.42	89375	0.08	1.27
	Netherlands	18000	0.11	28000	0.02	1.56
	Belgium	6000	0.04	8700	0.01	1.45
	France	114766	0.68	142731	0.12	1.24
	Germany	85788	0.51	119337	0.10	1.39
	Thailand	4800	0.03	7200	0.01	1.50
	Hong Kong	7000	0.04	9560	0.01	1.37
	Japan	168277	1.00	240007	0.21	1.43
	Total	914913		1166623		1.28

APPENDIX B: U.S. FROZEN CHUM SALMON EXPORTS: 1983 (CONT.)

MAY	Canada	136546	0.15	145051	0.14	1.06
	Sweden	38324	0.04	34726	0.03	0.91
	Denmark	58422	0.06	112754	0.11	1.93
	England	220698	0.24	221834	0.21	1.01
	Belgium	17500	0.02	14809	0.01	0.85
	France	215039	0.23	249084	0.23	1.16
	Germany	52500	0.06	65100	0.06	1.24
	Thailand	26800	0.03	41920	0.04	1.56
	Japan	166617	0.18	180599	0.17	1.08
	Total	932446		1065877		1.14
JUNE	Canada	85880	0.08	89998	0.07	1.05
	Sweden	129886	0.12	183648	0.15	1.41
	Denmark	70000	0.06	77000	0.06	1.10
	England	85485	0.08	88968	0.07	1.04
	Belgium	17500	0.02	26250	0.02	1.50
	France	122500	0.11	137125	0.11	1.12
	Germany	59592	0.05	84850	0.07	1.42
	Japan	543917	0.49	554826	0.45	1.02
	Total	1114760		1242665		1.11
JULY	Canada	60286	0.01	66199	0.01	1.10
	Sweden	54800	0.01	70820	0.01	1.29
	Denmark	70000	0.01	95900	0.02	1.37
	England	118119	0.02	165463	0.03	1.40
	Netherlands	17500	0.00	23625	0.00	1.35
	Belgium	3800	0.00	14610	0.00	3.84
	France	76943	0.01	91722	0.02	1.19
	Hong Kong	18635	0.00	33793	0.01	1.81
	Japan	5865805	0.93	5524564	0.91	0.94
	Total	6285888		6086696		0.97
AUGUST	Canada	117397	0.03	138913	0.03	1.18
	Sweden	125370	0.03	131067	0.03	1.05
	Denmark	172300	0.04	220520	0.05	1.28
	England	93908	0.02	126558	0.03	1.35
	Ireland	16911	0.00	21991	0.01	1.30
	France	55000	0.01	64753	0.02	1.18
	Germany	67378	0.02	105842	0.02	1.57
	Korea	86061	0.02	85087	0.02	0.99
	Japan	3597695	0.83	3343980	0.79	0.93
	Total	4332020		4238711		0.98

APPENDIX B: U.S. FROZEN CHUM SALMON EXPORTS: 1983 (CONT.)

SEPTEMBER	Canada	644891	0.20	582983	0.16	0.90
	Sweden	105672	0.03	123971	0.03	1.17
	Denmark	262500	0.08	367625	0.10	1.40
	England	534364	0.17	699032	0.20	1.31
	France	272591	0.08	369960	0.10	1.36
	Germany	189820	0.06	239526	0.07	1.26
	Italy	125100	0.04	223500	0.06	1.79
	Thailand	12000	0.00	16800	0.00	1.40
	Korea	38500	0.01	38500	0.01	1.00
	Hong Kong	18500	0.01	21350	0.01	1.15
	Japan	1014572	0.32	881128	0.25	0.87
	Total	3218510		3564375		1.11
OCTOBER	Canada	633394	0.28	777308	0.25	1.23
	Sweden	132347	0.06	199087	0.06	1.50
	Denmark	261450	0.11	361015	0.11	1.38
	England	369778	0.16	548292	0.17	1.48
	Ireland	68982	0.03	84662	0.03	1.23
	Netherlands	106694	0.05	169550	0.05	1.59
	Belgium	52500	0.02	98875	0.03	1.88
	France	493106	0.21	662571	0.21	1.34
	Germany	57001	0.02	68577	0.02	1.20
	Thailand	12000	0.01	23880	0.01	1.99
	Hong Kong	21800	0.01	36125	0.01	1.66
	Japan	93606	0.04	129347	0.04	1.38
	Total	2302658		3159289		1.37
NOVEMBER	Canada	108997	0.06	143414	0.05	1.32
	Sweden	297500	0.16	358650	0.14	1.21
	Denmark	137461	0.07	178880	0.07	1.30
	England	520247	0.28	797260	0.31	1.53
	Netherlands	35035	0.02	57809	0.02	1.65
	Belgium	17500	0.01	17150	0.01	0.98
	France	579869	0.31	821189	0.31	1.42
	Germany	159224	0.09	224317	0.09	1.41
	Japan	4659	0.00	13251	0.01	2.84
	Total	1860492		2611920		1.40

APPENDIX B: U.S. FROZEN CHUM SALMON EXPORTS: 1983 (CONT.)

DECEMBER	Canada	66596	0.04	68699	0.03	1.03
	Sweden	415962	0.26	667508	0.29	1.60
	Denmark	126337	0.08	183356	0.08	1.45
	England	328595	0.21	391380	0.17	1.19
	Netherlands	15291	0.01	29006	0.01	1.90
	France	412878	0.26	577916	0.25	1.40
	Germany	70443	0.04	103581	0.05	1.47
	Spain	36000	0.02	61710	0.03	1.71
	Italy	50000	0.03	87500	0.04	1.75
	Hong Kong	15500	0.01	25340	0.01	1.63
	S. Africa	49401	0.03	79583	0.03	1.61
	Total	1587003		2275579		1.43
YEAR-END TOTAL: 1983		26617897		31085055		1.17

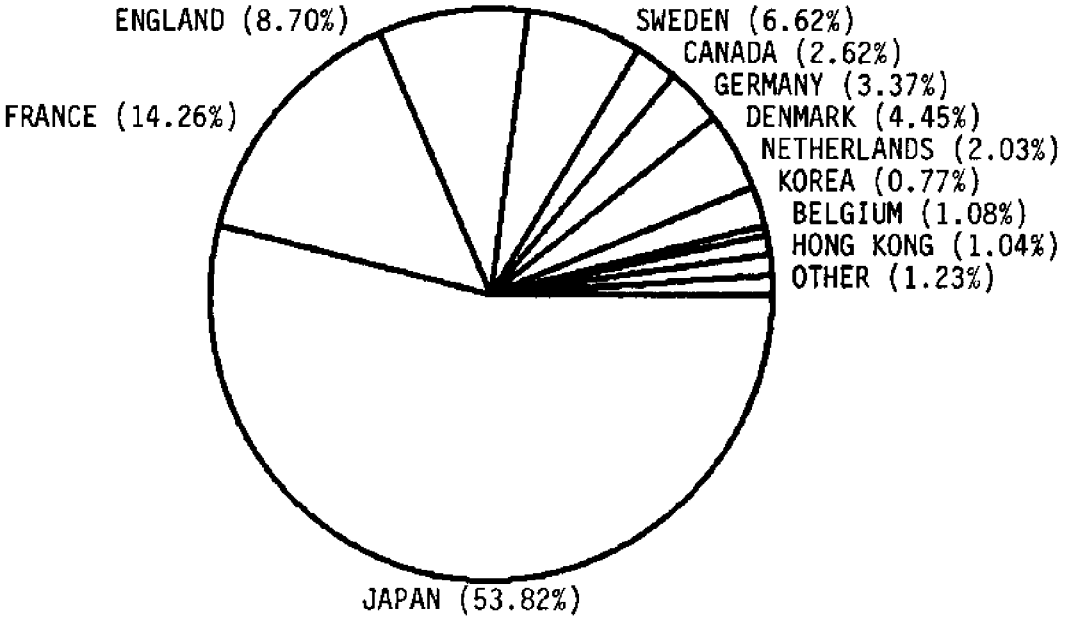
YEAR END TOTAL BY COUNTRY:

	POUNDS	% TOTAL LB	VALUE	% TOTAL VALUE
Canada	2485540	0.09	2727451	0.09
Sweden	1793993	0.07	2439278	0.08
Denmark	1298470	0.05	1760325	0.06
England	2886414	0.11	3878256	0.12
Netherlands	221319	0.01	346450	0.01
France	2856809	0.11	3779062	0.12
Germany	939146	0.04	1288916	0.04
Spain	36000	0.00	61710	0.00
Belgium	115800	0.00	181874	0.01
Japan	13193516	0.50	13378858	0.43
Ireland	85893	0.00	106653	0.00
Thailand	63600	0.00	102600	0.00
Italy	365500	0.01	676156	0.02
Hong Kong	84435	0.00	130168	0.00
Korea	124561	0.00	123587	0.00
S. Africa	49401	0.00	79583	0.00
Canary Is.	17500	0.00	24128	0.00
Total	26617897		31085055	

APPENDIX B:

U.S. Chum Salmon Frozen Exports 1982, Pounds

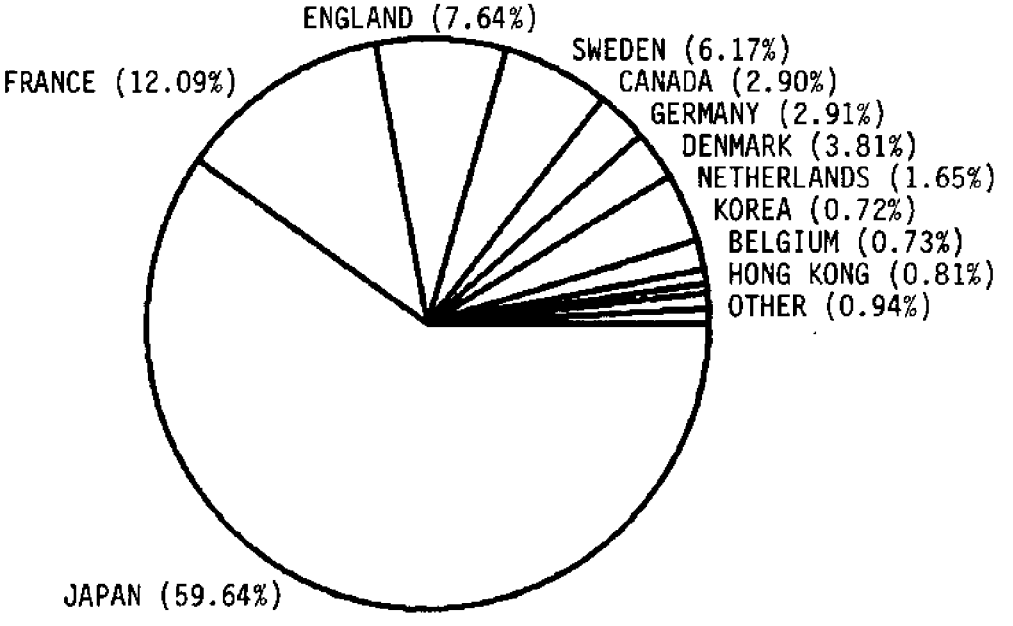
Japan	17,425,960	
France	3,533,133	
England	2,233,062	
Sweden	1,802,527	
Canada	848,316	
Germany	851,725	
Denmark	1,112,191	
Netherlands	482,030	
Korea	209,255	
Belgium	213,577	
Hong Kong	235,622	
Other:		
Thailand	66,997	495,987
Ireland	102,364	
Switzerland	8,100	
Spain	71,000	
Singapore	7,300	
Canary Islands	17,500	



APPENDIX B:

U.S. Chum Salmon Frozen Exports 1982, Value $ FAS

Japan	21,763,996	
France	5,765,442	
England	3,519,745	
Sweden	2,675,768	
Canada	1,061,039	
Germany	1,362,493	
Denmark	1,799,891	
Netherlands	819,973	
Korea	312,757	
Belgium	438,404	
Hong Kong	422,478	
Other:		
Thailand	151,773	273,261
Ireland	147,269	
Switzerland	16,140	
Spain	139,475	
Singapore	15,330	
Canary Islands	26,000	



APPENDIX B: U.S. FROZEN CHUM SALMON EXPORTS: 1982

MONTH	COUNTRY	POUNDS	% TOT LBS	VALUE	% TOT VAL	PRICE/LB
JANUARY	Canada	24000	0.02	30209	0.01	1.26
	Sweden	95000	0.07	129650	0.05	1.36
	Denmark	55000	0.04	101775	0.04	1.85
	England	157137	0.11	299921	0.13	1.91
	Netherlands	4045	0.00	9101	0.00	2.25
	France	379900	0.27	709398	0.30	1.87
	Germany	87472	0.06	145513	0.06	1.66
	Hong Kong	70000	0.05	136150	0.06	1.95
	Japan	548075	0.39	813094	0.34	1.48
	Total	1420629		2374811		1.67
FEBRUARY	Canada	31263	0.03	39078	0.02	1.25
	Sweden	209838	0.20	383505	0.22	1.83
	Denmark	17500	0.02	19750	0.01	1.13
	England	33603	0.03	56496	0.03	1.68
	Netherlands	13024	0.01	23757	0.01	1.82
	Belgium	33538	0.03	55284	0.03	1.65
	France	330769	0.32	587463	0.34	1.78
	Germany	64082	0.06	76898	0.04	1.20
	Spain	35000	0.03	69275	0.04	1.98
	Hong Kong	3000	0.00	5210	0.00	1.74
	Japan	277360	0.26	429403	0.25	1.55
	Total	1048977		1746119		1.66
MARCH	Canada	39150	0.05	60702	0.05	1.55
	Sweden	112653	0.14	176474	0.13	1.57
	Netherlands	5130	0.01	12551	0.01	2.45
	France	181650	0.23	327003	0.24	1.80
	Germany	34395	0.04	53361	0.04	1.55
	Singapore	7300	0.01	15330	0.01	2.10
	Japan	405045	0.52	699541	0.52	1.73
	Total	785323		1344962		1.71
APRIL	Canada	25900	0.06	27350	0.04	1.06
	Sweden	98683	0.21	172485	0.24	1.75
	Denmark	35000	0.08	66500	0.09	1.90
	England	18519	0.04	29290	0.04	1.58
	Netherlands	26100	0.06	39980	0.06	1.53
	France	76010	0.16	101965	0.14	1.34
	Germany	70819	0.15	86839	0.12	1.23
	Thailand	17985	0.04	43309	0.06	2.41
	Japan	94116	0.20	153265	0.21	1.63
	Total	463132		720983		1.56

APPENDIX B: U.S. FROZEN CHUM SALMON EXPORTS: 1982 (CONT.)

	Country	Pounds	% Tot lb	Value	% Tot val	Price/lb
MAY	Canada	9118	0.05	15500	0.05	1.70
	Sweden	63286	0.33	105975	0.34	1.67
	Denmark	41467	0.22	80027	0.26	1.93
	England	17500	0.09	36750	0.12	2.10
	France	41204	0.22	47850	0.15	1.16
	Germany	12158	0.06	17021	0.05	1.40
	Japan	4320	0.02	7344	0.02	1.70
	Total	189053		310467		1.64
JUNE	Canada	13110	0.03	24128	0.04	1.84
	Sweden	3904	0.01	9955	0.02	2.55
	Netherlands	6000	0.01	11100	0.02	1.85
	Thailand	16000	0.04	40934	0.07	2.56
	Japan	372126	0.91	471345	0.85	1.27
	Total	411140		557462		1.36
JULY	Canada	142560	0.04	210967	0.04	1.48
	Sweden	95826	0.03	173907	0.04	1.81
	England	135976	0.04	225921	0.05	1.66
	France	158500	0.04	241050	0.05	1.52
	Germany	16784	0.00	29391	0.01	1.75
	Thailand	17512	0.00	42155	0.01	2.41
	Japan	3050294	0.84	3814621	0.81	1.25
	Total	3617452		4738012		1.31
AUGUST	Canada	158434	0.02	224041	0.03	1.41
	Sweden	51336	0.01	86975	0.01	1.69
	Denmark	157500	0.02	297725	0.04	1.89
	England	264263	0.04	426241	0.05	1.61
	Netherlands	102500	0.01	146500	0.02	1.43
	Belgium	17500	0.00	24325	0.00	1.39
	France	386675	0.05	587245	0.07	1.52
	Germany	78252	0.01	122835	0.01	1.57
	Hong Kong	8000	0.00	13600	0.00	1.70
	Japan	5933192	0.83	6459223	0.77	1.09
	Total	7157652		8388710		1.17

APPENDIX B: U.S. FROZEN CHUM SALMON EXPORTS: 1982 (CONT.)

	Country	Pounds	% Tot lb	Value	% Tot val	Price/lb
SEPTEMBER	Canada	145962	0.02	162928	0.02	1.12
	Sweden	283670	0.04	346553	0.03	1.22
	Denmark	415984	0.06	707315	0.07	1.70
	England	494670	0.07	842844	0.08	1.70
	Ireland	18500	0.00	27750	0.00	1.50
	Netherlands	59500	0.01	116950	0.01	1.97
	Belgium	107939	0.02	257940	0.03	2.39
	France	638922	0.09	1205326	0.12	1.89
	Germany	87005	0.01	177698	0.02	2.04
	Switzerland	7500	0.00	15000	0.00	2.00
	Spain	36000	0.01	70200	0.01	1.95
	Korea	72651	0.01	100293	0.01	1.38
	Hong Kong	37000	0.01	66600	0.01	1.80
	Japan	4675567	0.66	6106796	0.60	1.31
	Total	7080870		10204193		1.44
OCTOBER	Canada	113546	0.03	122259	0.02	1.08
	Sweden	334649	0.09	477872	0.09	1.43
	Denmark	185615	0.05	284249	0.05	1.53
	England	762877	0.21	1133399	0.21	1.49
	Ireland	66364	0.02	93794	0.02	1.41
	Netherlands	167831	0.05	309012	0.06	1.84
	Belgium	33000	0.01	78512	0.01	2.38
	France	607435	0.17	937626	0.18	1.54
	Germany	218987	0.06	383928	0.07	1.75
	Switzerland	600	0.00	1140	0.00	1.90
	Thailand	11500	0.00	18975	0.00	1.65
	Korea	48858	0.01	66204	0.01	1.36
	Hong Kong	59000	0.02	101645	0.02	1.72
	Japan	1009657	0.28	1306882	0.24	1.29
	Canary Is	17500	0.00	26000	0.00	1.49
	Total	3637419		5341497		1.47
NOVEMBER	Canada	47292	0.03	57912	0.02	1.22
	Sweden	315733	0.19	441573	0.19	1.40
	Denmark	52500	0.03	64050	0.03	1.22
	England	53818	0.03	83337	0.04	1.55
	Netherlands	27900	0.02	42522	0.02	1.52
	Belgium	16400	0.01	15024	0.01	0.92
	France	354808	0.22	503415	0.21	1.42
	Germany	84532	0.05	128308	0.05	1.52
	Thailand	4000	0.00	6400	0.00	1.60
	Korea	87746	0.05	146260	0.06	1.67
	Hong Kong	3122	0.00	4483	0.00	1.44
	Japan	587481	0.36	867721	0.37	1.48
	Total	1635332		2361005		1.44

APPENDIX B: U.S. FROZEN CHUM SALMON EXPORTS: 1982 (CONT.)

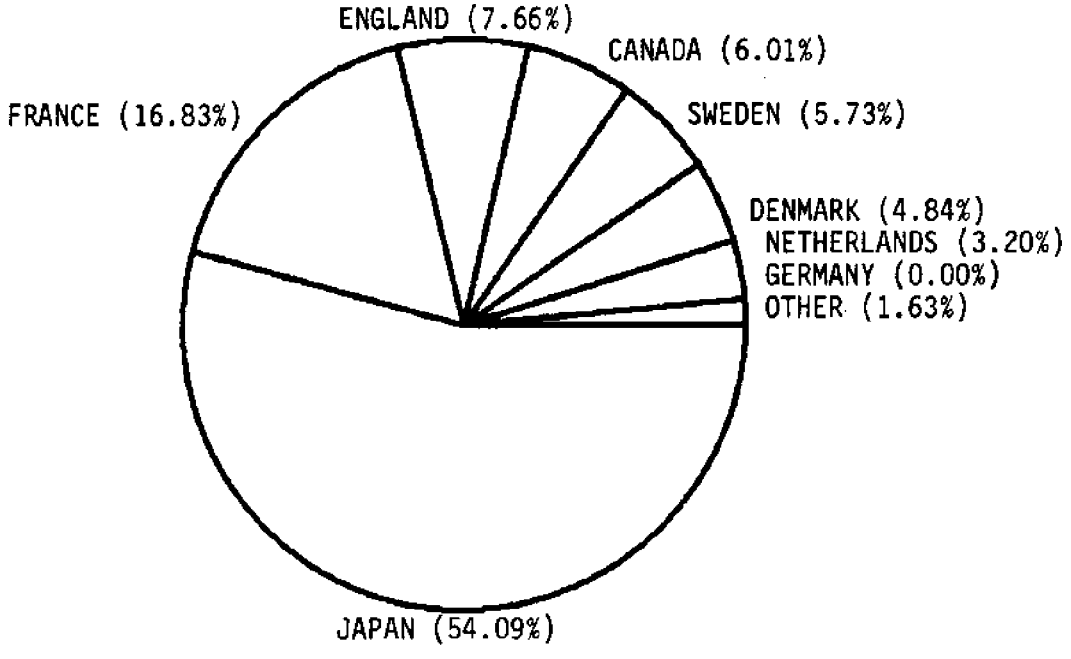
	Country	Pounds	% Tot lb	Value	% Tot val	Price/lb
DECEMBER	Canada	97981	0.06	85965	0.04	0.88
	Sweden	137949	0.08	170844	0.07	1.24
	Denmark	151625	0.09	178500	0.08	1.18
	England	294699	0.17	385546	0.16	1.31
	Ireland	17500	0.01	25725	0.01	1.47
	Netherlands	70000	0.04	108500	0.05	1.55
	Belgium	5200	0.00	7319	0.00	1.41
	France	377260	0.21	517101	0.22	1.37
	Germany	97239	0.05	140701	0.06	1.45
	Hong Kong	55500	0.03	94790	0.04	1.71
	Japan	468727	0.26	634761	0.27	1.35
	Total	1773680		2349752		1.32
YEAR-END TOTAL: 1982		29220659		40437973		1.38

YEAR END TOTAL BY COUNTRY:	LBS	% LBS	VALUE	% VALUE
Japan	17425960	0.60	21763996	0.54
France	3533133	0.12	5765442	0.14
England	2233062	0.08	3519745	0.09
Sweden	1802527	0.06	2675768	0.07
Canada	848316	0.03	1061039	0.03
Germany	851725	0.03	1362493	0.03
Denmark	1112191	0.04	1799891	0.04
Netherlands	482030	0.02	819973	0.02
Korea	209255	0.01	312757	0.01
Belgium	213577	0.01	438404	0.01
Hong Kong	235622	0.01	422478	0.01
Thailand	66997	0.00	151773	0.00
Ireland	102364	0.00	147269	0.00
Switzerland	8100	0.00	16140	0.00
Spain	71000	0.00	139475	0.00
Singapore	7300	0.00	15330	0.00
Canary Is.	17500	0.00	26000	0.00
TOTAL:	29220659		40437973	

APPENDIX B:

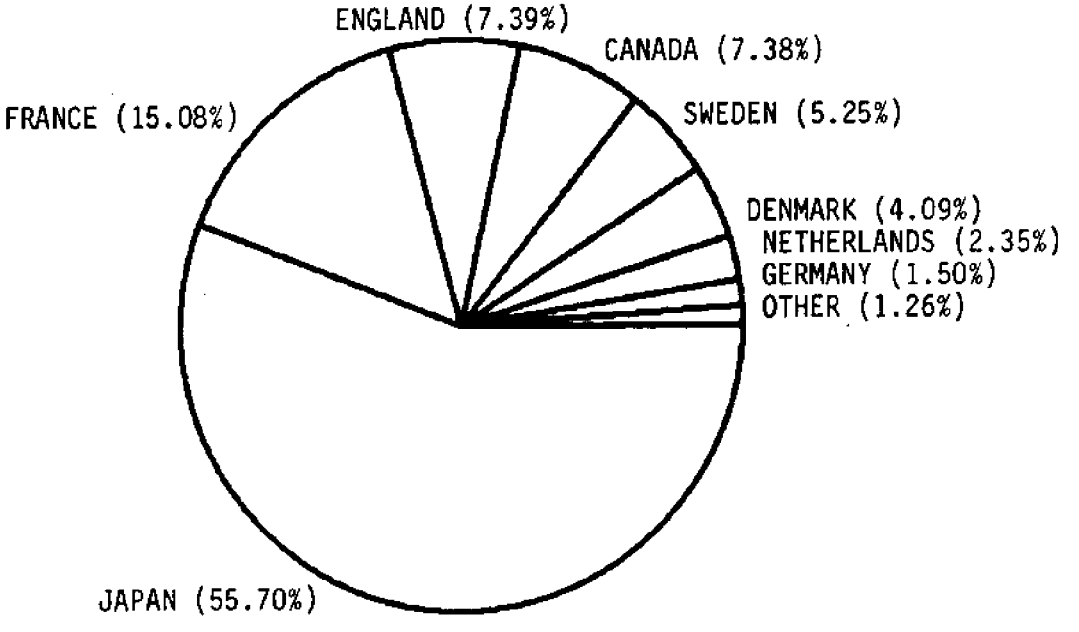
U.S. Chum Salmon Frozen Exports 1981, Pounds

Japan	13,525,179	
France	3,660,399	
England	1,794,903	
Canada	1,790,890	
Sweden	1,274,634	
Denmark	992,289	
Netherlands	570,362	
Germany	365,198	
Other:		
Hong Kong	33,508	
Spain	70,000	
Italy	34,767	
Belgium	52,026	
Thailand	34,519	306,817
Korea	52,026	
Ireland	15,000	
Switzerland	47,345	
Singapore	5,390	



APPENDIX B: Value of U.S. Chum Salmon Frozen Exports 1981, ($, FAS)

Japan	19,611,675	
France	6,103,370	
England	2,778,953	
Canada	2,178,890	
Sweden	2,078,363	
Denmark	1,756,563	
Netherlands	1,158,715	
Germany	598,855	
Other:		
Hong Kong	63,595	590,688
Spain	141,050	
Italy	67,635	
Belgium	91,444	
Thailand	85,340	
Korea	13,548	
Ireland	22,500	
Switzerland	95,376	
Singapore	10,200	



Month	Country	POUNDS	% TOT LB	VALUE	% TOT VAL	PRICE/LB
JANUARY	Canada	500556	0.35	798944	0.33	1.60
	Sweden	69812	0.05	164037	0.07	2.35
	Denmark	124875	0.09	221687	0.09	1.78
	England	60481	0.04	83440	0.03	1.38
	Netherland	48062	0.03	85025	0.04	1.77
	France	414014	0.29	814977	0.34	1.97
	Germany	17500	0.01	22750	0.01	1.30
	Hong Kong	6500	0.00	11825	0.00	1.82
	Japan	175648	0.12	225400	0.09	1.28
	Total	1417448		2428085		1.71
FEBRUARY	Canada	50145	0.09	72393	0.09	1.44
	Sweden	82467	0.15	138444	0.16	1.68
	England	26308	0.05	25421	0.03	0.97
	Netherland	75625	0.14	130500	0.16	1.73
	Belgium	2400	0.00	3630	0.00	1.51
	France	106930	0.19	178464	0.21	1.67
	Italy	34767	0.06	67635	0.08	1.95
	Hong Kong	2500	0.00	5000	0.01	2.00
	Japan	173254	0.31	219018	0.26	1.26
	Total	554396		840505		1.52
MARCH	Canada	209387	0.13	206547	0.09	0.99
	Sweden	100815	0.06	190552	0.08	1.89
	Denmark	35000	0.02	54250	0.02	1.55
	England	85578	0.05	94032	0.04	1.10
	Netherland	132457	0.08	290698	0.13	2.19
	France	155005	0.10	254078	0.11	1.64
	Switzerland	2200	0.00	4300	0.00	1.95
	Hong Kong	12008	0.01	23520	0.01	1.96
	Japan	870164	0.54	1123890	0.50	1.29
	Total	1602614		2241867		1.40
APRIL	Canada	57997	0.02	58558	0.02	1.01
	Sweden	85228	0.03	94923	0.03	1.11
	Denmark	17433	0.01	27125	0.01	1.56
	England	54936	0.02	106196	0.03	1.93
	Netherlands	78583	0.03	170157	0.05	2.17
	France	319848	0.13	516767	0.15	1.62
	Germany	43364	0.02	86019	0.03	1.98
	Japan	1897408	0.74	2358584	0.69	1.24
	Total	2554797		3418329		1.34

APPENDIX B: U.S. FROZEN CHUM SALMON EXPORTS: 1981 (CONT.)

	Country	Pounds	% Tot lb	Value	% Tot Val	Price/Lb
MAY	Canada	82700	0.12	82160	0.08	0.99
	Sweden	139929	0.21	264199	0.26	1.89
	England	88623	0.13	132652	0.13	1.50
	Netherlands	10033	0.02	20066	0.02	2.00
	France	70795	0.11	72527	0.07	1.02
	Spain	35000	0.05	74550	0.07	2.13
	Japan	240694	0.36	364005	0.36	1.51
	Total	667774		1010159		1.51
JUNE	Canada	12600	0.02	13250	0.01	1.05
	Sweden	164252	0.20	228685	0.19	1.39
	Denmark	69547	0.08	68197	0.06	0.98
	England	48858	0.06	63900	0.05	1.31
	France	213860	0.26	271451	0.22	1.27
	Thailand	17971	0.02	46185	0.04	2.57
	Japan	295517	0.36	518405	0.43	1.75
	Total	822605		1210073		1.47
JULY	Canada	40314	0.01	59653	0.01	1.48
	Sweden	77522	0.02	124821	0.02	1.61
	Denmark	33232	0.01	39513	0.01	1.19
	England	51358	0.01	94187	0.01	1.83
	Netherlands	22100	0.01	63375	0.01	2.87
	France	313105	0.07	559042	0.09	1.79
	Japan	3819427	0.88	5531868	0.85	1.45
	Total	4357058		6472459		1.49
AUGUST	Canada	408221	0.21	417117	0.15	1.02
	Sweden	35000	0.02	20625	0.01	0.59
	England	172852	0.09	262649	0.09	1.52
	Netherlands	5000	0.00	7500	0.00	1.50
	Belgium	5000	0.00	10500	0.00	2.10
	France	496832	0.26	848540	0.30	1.71
	Thailand	16548	0.01	39155	0.01	2.37
	Hong Kong	5000	0.00	8250	0.00	1.65
	Japan	793155	0.41	1176988	0.42	1.48
	Total	1937608		2791324		1.44
SEPTEMBER	Canada	132699	0.03	108810	0.02	0.82
	Sweden	35000	0.01	53375	0.01	1.53
	Denmark	86137	0.02	175774	0.03	2.04
	England	330000	0.09	500220	0.08	1.52
	Ireland	15000	0.00	22500	0.00	1.50
	Netherlands	41989	0.01	73304	0.01	1.75
	France	603259	0.16	937065	0.15	1.55
	Germany	17500	0.00	24860	0.00	1.42
	Korea	14262	0.00	13548	0.00	0.95
	Japan	2585569	0.67	4243896	0.69	1.64
	Total	3861415		6153352		1.59

APPENDIX B: U.S. FROZEN CHUM SALMON EXPORTS: 1981 (CONT.)

	Country	Pounds	% Tot lb	Value	% Tot val	Price/lb
OCTOBER	Canada	136273	0.06	158801	0.04	1.17
	Sweden	196101	0.09	307333	0.08	1.57
	Denmark	261500	0.12	492828	0.13	1.88
	England	231058	0.10	353572	0.09	1.53
	Netherlands	116513	0.05	251540	0.07	2.16
	Belgium	17500	0.01	35000	0.01	2.00
	France	485310	0.22	842247	0.22	1.74
	Germany	140000	0.06	224875	0.06	1.61
	Singapore	5390	0.00	10200	0.00	1.89
	Hong Kong	7500	0.00	15000	0.00	2.00
	Japan	651026	0.29	1076547	0.29	1.65
	Total	2248171		3767943		1.68
NOVEMBER	Canada	103052	0.05	122508	0.04	1.19
	Sweden	204316	0.09	347043	0.10	1.70
	Denmark	197643	0.09	380725	0.11	1.93
	England	441644	0.20	715620	0.21	1.62
	Belgium	27126	0.01	42314	0.01	1.56
	France	273144	0.12	431527	0.12	1.58
	Germany	45000	0.02	75250	0.02	1.67
	Spain	35000	0.02	66500	0.02	1.90
	Japan	906309	0.41	1287039	0.37	1.42
	Total	2233234		3468526		1.55
DECEMBER	Canada	56946	0.03	80149	0.03	1.41
	Sweden	84192	0.04	144326	0.05	1.71
	Denmark	166922	0.08	296464	0.10	1.78
	England	203207	0.10	347064	0.11	1.71
	Netherlands	40000	0.02	66550	0.02	1.66
	France	208297	0.10	377022	0.12	1.81
	Germany	101834	0.05	165101	0.05	1.62
	Switzerland	45145	0.02	91076	0.03	2.02
	Japan	1117008	0.55	1486035	0.49	1.33
	Total	2023551		3053787		1.51
1981 YEAR-END TOTAL		24280671		36856409		1.52

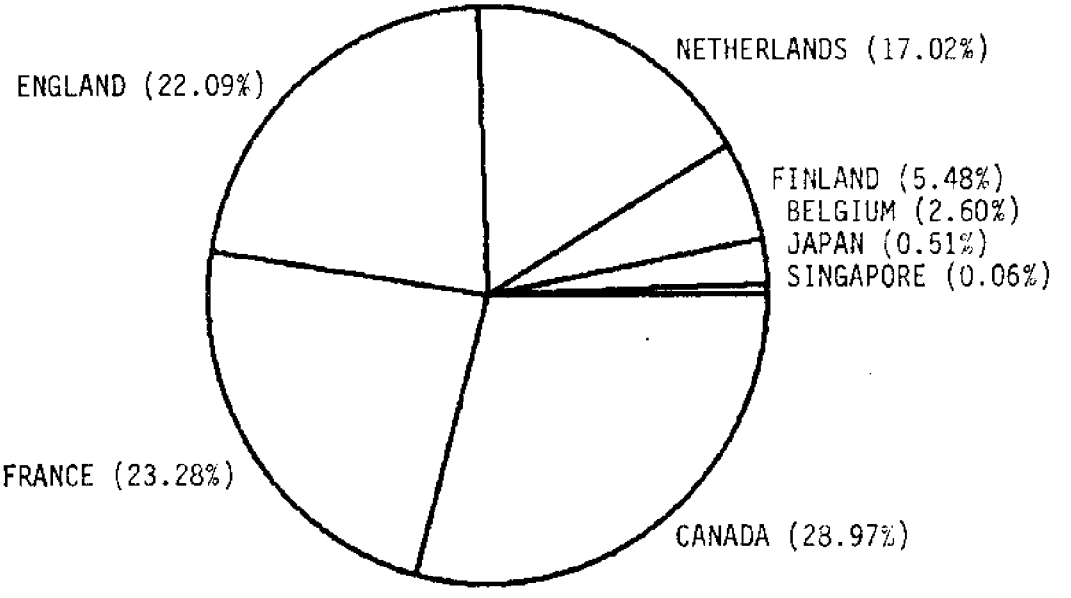
APPENDIX B: U.S. FROZEN CHUM SALMON EXPORTS: 1981 (CONT.)

YEAR END TOTAL BY COUNTRY:	LBS	% LBS	VALUE	% VALUE
Japan	13525179	0.56	19611675	0.53
France	3660399	0.15	6103707	0.17
England	1794903	0.07	2778953	0.08
Canada	1790890	0.07	2178890	0.06
Sweden	1274634	0.05	2078363	0.06
Denmark	992289	0.04	1756563	0.05
Netherlands	570362	0.02	1158715	0.03
Germany	365198	0.02	598855	0.02
Hong Kong	33508	0.00	63595	0.00
Spain	70000	0.00	141050	0.00
Italy	34767	0.00	67635	0.00
Belgium	52026	0.00	91444	0.00
Thailand	34519	0.00	85340	0.00
Korea	14262	0.00	13548	0.00
Ireland	15000	0.00	22500	0.00
Switzerland	47345	0.00	95376	0.00
Singapore	5390	0.00	10200	0.00
TOTAL	24280671		36856409	

APPENDIX B:

U.S. CANNED CHUM SALMON EXPORTS, 1983 (POUND)

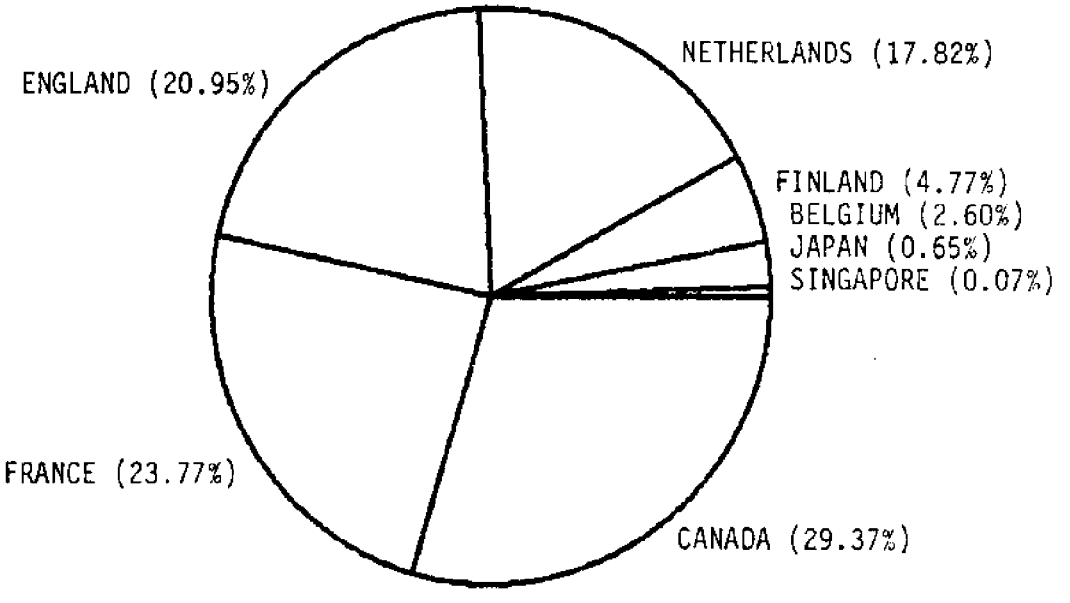
CANADA	1,400,496
FRANCE	1,125,498
ENGLAND	1,068,124
NETHERLANDS	822,789
FINLAND	264,892
BELGIUM	125,498
JAPAN	24,480
SINGAPORE	2,787



APPENDIX B:

U.S. CANNED CHUM SALMON EXPORTS, 1983
VALUE $ FAS

CANADA	1,714,078
FRANCE	1,387,056
ENGLAND	1,222,487
NETHERLANDS	1,039,575
FINLAND	278,450
BELGIUM	151,554
JAPAN	38,080
SINGAPORE	3,900



APPENDIX B: U.S. CANNED SALMON EXPORTS: 1983

MONTH	COUNTRY	POUNDS	% TOTAL LB	VALUE	% TOT VALUE	PRICE/LB
JANUARY	England	61404	0.11	58184	0.09	0.95
	Netherlands	400750	0.75	502500	0.78	1.25
	Belgium	31248	0.06	34944	0.05	1.12
	France	31200	0.06	32500	0.05	1.04
	New Zealand	11625	0.02	13500	0.02	1.16
	Total	536227		641628		1.20
FEBRUARY	Canada	47025	0.15	37950	0.12	0.81
	England	79900	0.26	77141	0.24	0.97
	Netherlands	89598	0.29	107494	0.33	1.20
	France	93600	0.30	103025	0.32	1.10
	Total	310123		325610		1.05
MARCH	Canada	266133	0.39	293326	0.36	1.10
	Finland	38125	0.06	38000	0.05	1.00
	England	106875	0.16	115461	0.14	1.08
	Netherlands	60000	0.09	70000	0.09	1.17
	France	202612	0.30	296991	0.36	1.47
	Singapore	1163	0.00	1625	0.00	1.40
	Total	674908		815403		1.21
APRIL	Finland	118950	0.29	122850	0.24	1.03
	England	147317	0.36	152571	0.30	1.04
	France	130425	0.32	215725	0.43	1.65
	New Zealand	12000	0.03	13750	0.03	1.15
	Total	408692		504896		1.24
MAY	Canada	12520	0.07	16276	0.09	1.30
	Finland	76249	0.43	76000	0.40	1.00
	England	58985	0.33	61632	0.33	1.04
	France	31200	0.17	34125	0.18	1.09
	Total	178954		188033		1.05
JUNE	Canada	56400	0.27	76600	0.32	1.36
	England	71250	0.34	76974	0.32	1.08
	Netherlands	17066	0.08	15181	0.06	0.89
	Belgium	33800	0.16	38025	0.16	1.13
	France	31200	0.15	32825	0.14	1.05
	Total	209716		239605		1.14

APPENDIX B: U.S. CANNED SALMON EXPORTS: 1983 (CONT.)

JULY	Canada	132000	0.65	174450	0.70	1.32
	Finland	31568	0.16	41600	0.17	1.32
	France	39650	0.20	33150	0.13	0.84
	Total	203218		249200		1.23
AUGUST	Canada	98849	0.22	123121	0.26	1.25
	England	30039	0.07	23676	0.05	0.79
	France	324800	0.72	334750	0.70	1.03
	Total	453688		481547		1.06
SEPTEMBER	Canada	30225	0.17	33735	0.14	1.12
	England	30225	0.17	33735	0.14	1.12
	Netherlands	84375	0.48	112500	0.48	1.33
	France	5236	0.03	15500	0.07	2.96
	Japan	24480	0.14	38080	0.16	1.56
	Total	174541		233550		1.34
OCTOBER	Canada	441255	0.59	564760	0.60	1.28
	England	30225	0.04	36400	0.04	1.20
	Netherlands	142875	0.19	194400	0.21	1.36
	France	129350	0.17	144300	0.15	1.12
	Total	743705		939860		1.26
NOVEMBER	Canada	152289	0.22	189950	0.21	1.25
	England	332492	0.49	439268	0.49	1.32
	Netherlands	28125	0.04	37500	0.04	1.33
	Belgium	60450	0.09	78585	0.09	1.30
	France	106225	0.16	144165	0.16	1.36
	Singapore	1624	0.00	2275	0.00	1.40
	Total	681205		891743		1.31
DECEMBER	Canada	163800	0.58	203910	0.58	1.24
	England	119412	0.42	147445	0.42	1.23
	Total	283212		351355		1.24
YEAR END TOTAL:		4858189		5862430		1.21

APPENDIX B: U.S. CANNED SALMON EXPORTS: 1983 (CONT.)

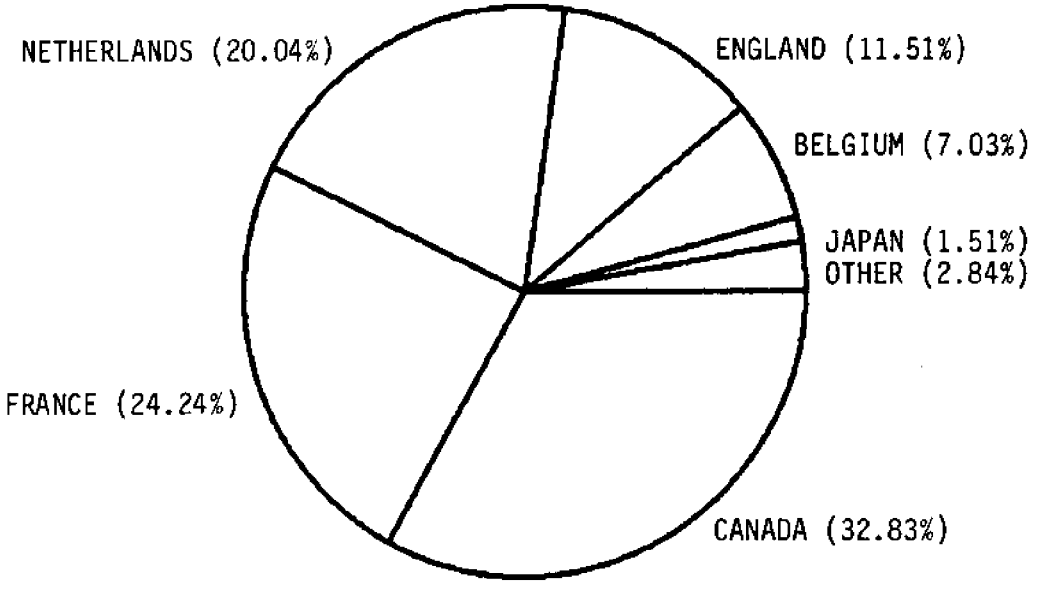
YEAR END TOTAL BY COUNTRY:

	POUNDS	% TOTAL LBS	VALUE	% TOT VALUE
Canada	1400496	0.29	1714078	0.29
England	1068124	0.22	1222487	0.21
Netherlands	822789	0.17	1039575	0.18
Belgium	125498	0.03	151554	0.03
France	1125498	0.23	1387056	0.24
New Zealand	23625	0.00	27250	0.00
Finland	264892	0.05	278450	0.05
Singapore	2787	0.00	3900	0.00
Japan	24480	0.01	38080	0.01
Total	4858189		5862430	

APPENDIX B:

U.S. Canned Chum Salmon Exports 1982, Pounds

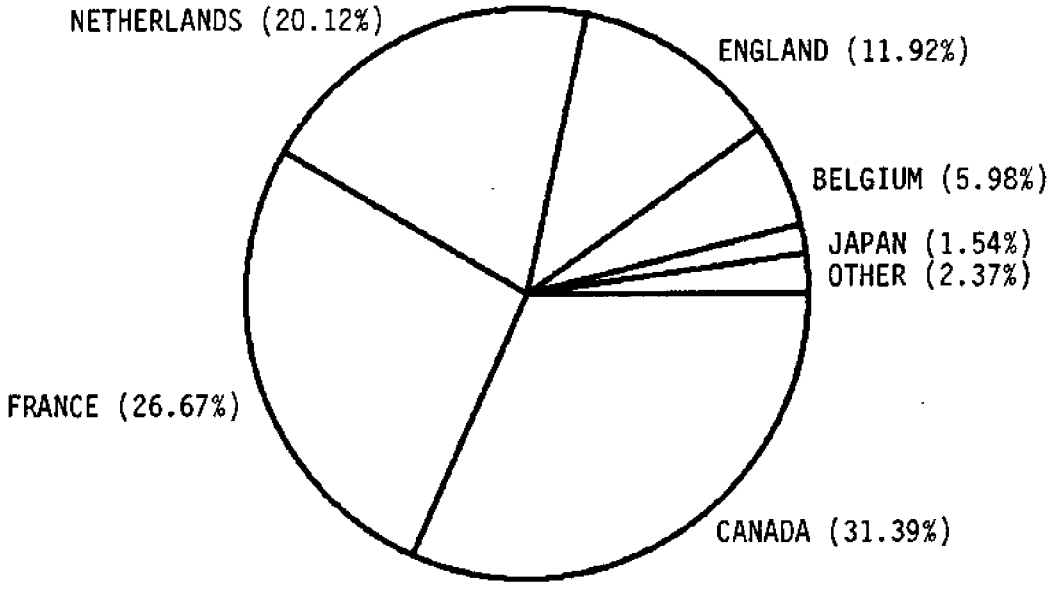
Canada	1,794,957	
France	1,524,657	
Netherlands	1,150,606	
England	681,647	
Belgium	341,795	
Japan	88,327	
Other:		
Switzerland	64,004	135,594
Pacific Islands	31,325	
Germany	18,050	
Spain	1,200	
Australia	11,625	
Finland	6,600	
Singapore	2,790	



APPENDIX B:

U.S. Canned Chum Salmon Exports 1982, $ Value

Canada	2,226,786	
France	1,644,033	
Netherlands	1,359,697	
England	780,865	
Belgium	477,190	
Japan	102,263	
Other:		
Switzerland	82,871	192,591
Pacific Islands	48,050	
Germany	29,186	
Spain	1,700	
Australia	15,125	
Finland	11,040	
Singapore	4,619	



APPENDIX B: U.S. CANNED SALMON EXPORTS: 1982

MONTH	COUNTRY	POUNDS	% TOT LBS	VALUE	% TOT VAL	PRICE/LB
JANUARY	Canada	271701	0.47	357633	0.46	1.32
	England	49773	0.09	68404	0.09	1.37
	Netherlands	58500	0.10	83200	0.11	1.42
	France	196346	0.34	275418	0.35	1.40
	Total	576320		784655		1.36
FEBRUARY	Canada	95328	0.39	136116	0.37	1.43
	France	121577	0.49	182130	0.50	1.50
	Pacific Is.	30225	0.12	46800	0.13	1.55
	Total	247130		365046		1.48
MARCH	Canada	175859	0.91	230374	0.91	1.31
	France	17500	0.09	22750	0.09	1.30
	Total	193359		253124		1.31
APRIL	Canada	89310	0.39	99000	0.36	1.11
	Sweden	17500	0.08	17500	0.06	1.00
	England	30225	0.13	32500	0.12	1.08
	Belgium	45518	0.20	65130	0.24	1.43
	France	35714	0.16	45540	0.17	1.28
	Germany	7500	0.03	9750	0.04	1.30
	Spain	1200	0.01	1700	0.01	1.42
	Pacific Is.	1100	0.00	1250	0.00	1.14
	Total	228067		272370		1.19
MAY	Canada	35895	0.21	40206	0.18	1.12
	Netherlands	89748	0.52	123388	0.55	1.37
	Belgium	6862	0.04	7250	0.03	1.06
	France	28575	0.17	40005	0.18	1.40
	Australia	11625	0.07	15125	0.07	1.30
	Total	172705		225974		1.31
JUNE	Canada	109265	0.43	128092	0.42	1.17
	England	30225	0.12	27715	0.09	0.92
	Netherlands	86625	0.34	107800	0.36	1.24
	France	25575	0.10	39600	0.13	1.55
	Total	251690		303207		1.20

APPENDIX B: U.S. CANNED SALMON EXPORTS: 1982 (CONT.)

JULY	Canada	157667	1.00	177478	1.00	1.13
AUGUST	Canada	143662	0.22	147566	0.23	1.03
	Finland	6600	0.01	11040	0.02	1.67
	England	30225	0.05	31200	0.05	1.03
	Netherlands	59428	0.09	49330	0.08	0.83
	Belgium	62496	0.10	67401	0.11	1.08
	France	355129	0.54	327218	0.52	0.92
	Total	657540		633755		0.96
SEPTEMBER	Canada	179176	0.24	153650	0.20	0.86
	Netherlands	184289	0.25	207215	0.27	1.12
	Belgium	61067	0.08	82290	0.11	1.35
	France	252914	0.34	277110	0.36	1.10
	Japan	60487	0.08	51413	0.07	0.85
	Total	737933		771678		1.05
OCTOBER	Canada	206958	0.15	263563	0.17	1.27
	Sweden	15610	0.01	23973	0.02	1.54
	England	198525	0.14	206201	0.13	1.04
	Netherlands	375316	0.27	434764	0.27	1.16
	Belgium	10817	0.01	14912	0.01	1.38
	France	580865	0.41	589127	0.37	1.01
	Japan	27840	0.02	50850	0.03	1.83
	Total	1415931		1583390		1.12
NOVEMBER	Canada	264524	0.47	426632	0.56	1.61
	Sweden	30894	0.06	41398	0.05	1.34
	England	127353	0.23	123327	0.16	0.97
	Netherlands	127950	0.23	151500	0.20	1.18
	Germany	10550	0.02	19436	0.03	1.84
	Total	561271		762293		1.36
DECEMBER	Canada	65612	0.13	66476	0.10	1.01
	England	93744	0.18	109388	0.17	1.17
	Netherlands	168750	0.33	202500	0.31	1.20
	Belgium	155035	0.30	240207	0.37	1.55
	France	32039	0.06	27265	0.04	0.85
	Singapore	2790	0.01	4619	0.01	1.66
	Total	517970		650455		1.26
YEAR-END TOTAL: 1982		5717583		6783425		1.19

APPENDIX B: U.S. CANNED SALMON EXPORTS: 1982 (CONT.)

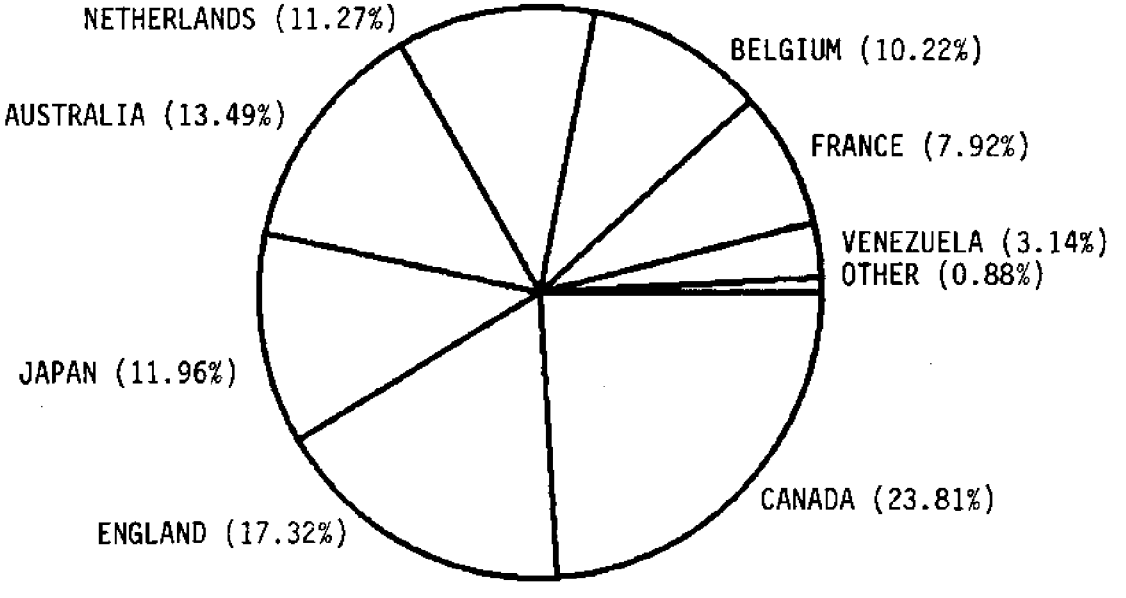
YEAR END TOTAL BY COUNTRY:

	POUNDS	% TOT LBS	VALUE	% TOT VAL
Canada	1794957	0.31	2226786	0.33
France	1524657	0.27	1644033	0.24
Netherlands	1150606	0.20	1359697	0.20
England	681647	0.12	780865	0.12
Belgium	341795	0.06	477190	0.07
Japan	88327	0.02	102263	0.02
Switzerland	64004	0.01	82871	0.01
Pacific Is.	31325	0.01	48050	0.01
Germany	18050	0.00	29186	0.00
Spain	1200	0.00	1700	0.00
Australia	11625	0.00	15125	0.00
Finland	6600	0.00	11040	0.00
Singapore	2790	0.00	4619	0.00
TOTAL:	5717583		6783425	

APPENDIX B:

U.S. Canned Chum Salmon Exports 1981, Pounds

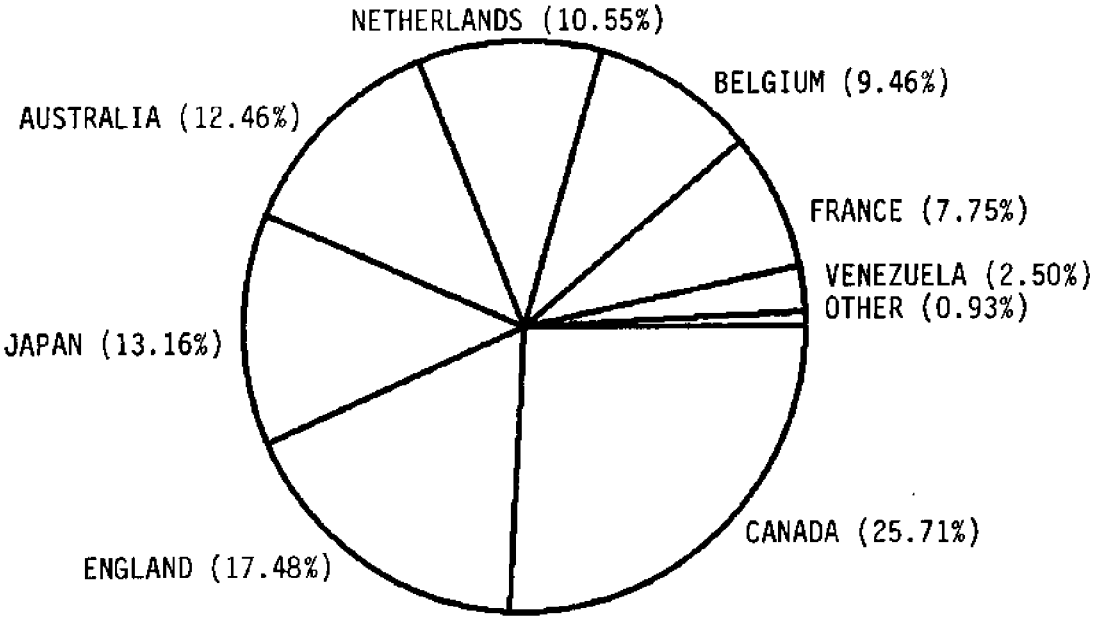
Canada	825,035	
England	560,782	
Japan	422,216	
Australia	399,691	
Netherlands	338,574	
Belgium	303,481	
France	248,562	
Venezuela	80,297	
Other:		
Singapore	9,994	42,741
New Zealand	8,719	
Pacific Islands	8,632	
Bolivia	2,400	



APPENDIX B:

U.S. Canned Chum Salmon Exports 1981, $

Canada	1,162,892	
England	845,914	
Japan	583,959	
Australia	658,739	
Netherlands	550,320	
Belgium	499,034	
France	386,910	
Venezuela	153,291	
Other:		
Singapore	17,740	29,745
New Zealand	9,525	
Pacific Islands	11,476	
Bolivia	4,000	



APPENDIX B: U.S. CANNED SALMON EXPORTS: 1981

MONTH	COUNTRY	POUNDS	% TOT LB	VALUE	% TOT VAL	PRICE/LB
JANUARY	Canada	42800	0.19	45638	0.13	1.07
	Venezuala	7038	0.03	20870	0.06	2.97
	Bolovia	2400	0.01	4000	0.01	1.67
	England	57969	0.26	89089	0.25	1.54
	Netherlands	11625	0.05	21000	0.06	1.81
	Singapore	2595	0.01	4545	0.01	1.75
	Australia	98240	0.44	171781	0.48	1.75
	New Zealand	1337	0.01	2023	0.01	1.51
	Total	224004		358946		1.60
FEBRUARY	Canada	154480	0.28	218540	0.26	1.41
	England	81182	0.15	131135	0.16	1.62
	Belgium	38160	0.07	55000	0.07	1.44
	Singapore	1100	0.00	3300	0.00	3.00
	Japan	62840	0.11	105570	0.13	1.68
	Australia	213326	0.39	316958	0.38	1.49
	Total	551088		830503		1.51
MARCH	Canada	211327	0.36	314809	0.32	1.49
	Venezuala	31500	0.05	65520	0.07	2.08
	England	31180	0.05	69888	0.07	2.24
	Belg. & Lux	134113	0.23	229888	0.23	1.71
	Japan	92083	0.16	127275	0.13	1.38
	Australia	88125	0.15	170000	0.17	1.93
	New Zealand	2255	0.00	2813	0.00	1.25
	Fr. Pac. Is	1200	0.00	2315	0.00	1.93
	Total	591783		982508		1.66
APRIL	Canada	44092	0.88	38774	0.81	0.88
	Venezuala	6000	0.12	9000	0.19	1.50
	Total	50092		47774		0.95
MAY	Canada	72601	0.89	75115	0.84	1.03
	Venezuala	3251	0.04	5439	0.06	1.67
	Singapore	2325	0.03	3600	0.04	1.55
	Fr. Pac Is	3525	0.04	5171	0.06	1.47
	Total	81702		89325		1.09

APPENDIX B: U.S. CANNED SALMON EXPORTS: 1981 (CONT.)

JUNE	England	58125	1.00	86875	1.00	1.49
	Total	58125		86875		1.49
JULY	Canada	51626	0.20	94651	0.42	1.83
	Venezuala	23058	0.09	37462	0.17	1.62
	England	7008	0.03	11098	0.05	1.58
	Japan	178595	0.69	223230	1.00	1.25
	Total	260287		366441		1.41
AUGUST	England	2064	0.47	5485	0.56	2.66
	Singapore	1624	0.37	2695	0.28	1.66
	New Zealand	663	0.15	1534	0.16	2.31
	Total	4351		9714		2.23
SEPTEMBER	Canada	8653	0.06	10566	0.05	1.22
	England	31200	0.22	44200	0.22	1.42
	Netherlands	28125	0.20	49375	0.25	1.76
	France	30225	0.21	50700	0.25	1.68
	Japan	41822	0.29	41458	0.21	0.99
	Fr. Pac Is	3022	0.02	3000	0.02	0.99
	Total	143047		199299		1.39
OCTOBER	Canada	65470	0.10	118669	0.11	1.81
	England	201518	0.31	281660	0.27	1.40
	Netherlands	185499	0.28	316045	0.31	1.70
	Belgium	59428	0.09	96950	0.09	1.63
	France	141612	0.22	218110	0.21	1.54
	New Zealand	4464	0.01	3155	0.00	0.71
	Total	657991		1034589		1.57
NOVEMBER	Canada	80163	0.29	118668	0.27	1.48
	Venezuela	9450	0.03	15000	0.03	1.59
	England	29063	0.10	40500	0.09	1.39
	Netherlands	11625	0.04	18400	0.04	1.58
	Belgium	38780	0.14	64601	0.15	1.67
	France	60450	0.22	93600	0.21	1.55
	Singapore	2350	0.01	3600	0.01	1.53
	Japan	46876	0.17	86426	0.20	1.84
	Total	278757		440795		1.58

APPENDIX B: U.S. CANNED SALMON EXPORTS: 1981 (CONT.)

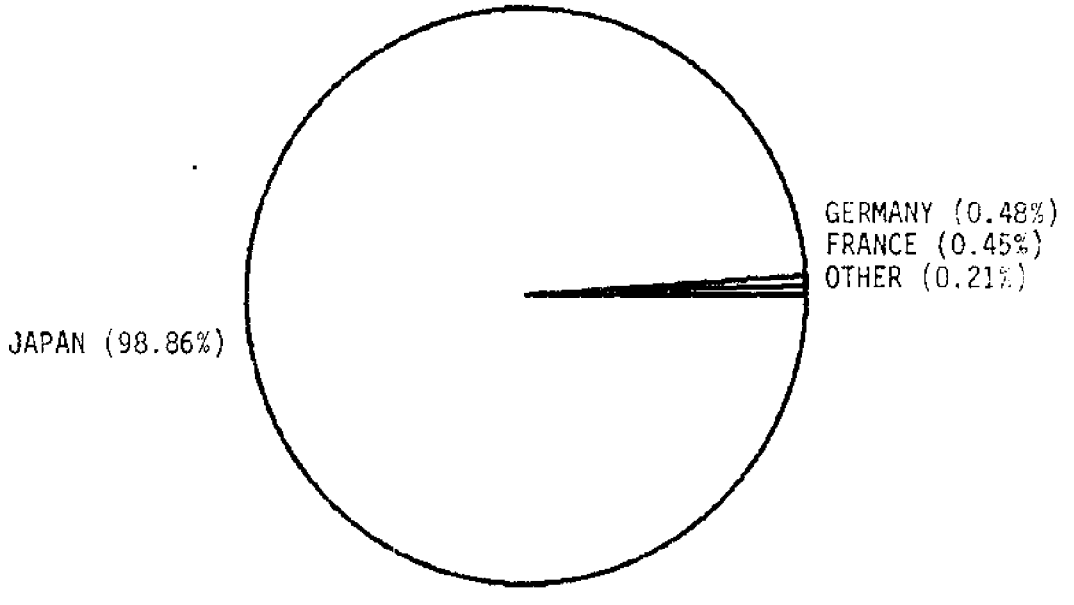
DECEMBER	Canada	93823	0.31	127462	0.29	1.36
	England	61473	0.20	85984	0.20	1.40
	Netherlands	101700	0.33	145500	0.33	1.43
	Belgium	33000	0.11	52595	0.12	1.59
	France	16275	0.05	24500	0.06	1.51
	Fr Pac Is.	885	0.00	990	0.00	1.12
	Total	307156		437031		1.42
YEAR-END TOTAL:		3208383		4883800		1.52

YEAR-END TOTAL BY COUNTRY:	LBS	% TOT LBS	VALUE	% TOT VAL
Canada	825035	0.26	1162892	0.24
England	560782	0.17	845914	0.17
Japan	422216	0.13	583959	0.12
Australia	399691	0.12	658739	0.13
Netherlands	338574	0.11	550320	0.11
Belgium	303481	0.09	499034	0.10
France	248562	0.08	386910	0.08
Venezuala	80297	0.03	153291	0.03
Singapore	9994	0.00	17740	0.00
New Zealand	8719	0.00	9525	0.00
Fr. Pac Is	8632	0.00	11476	0.00
Bolivia	2400	0.00	4000	0.00
TOTAL:	3208383		4883800	

APPENDIX B:

U.S. SALMON ROE EXPORTS 1983 (POUNDS)

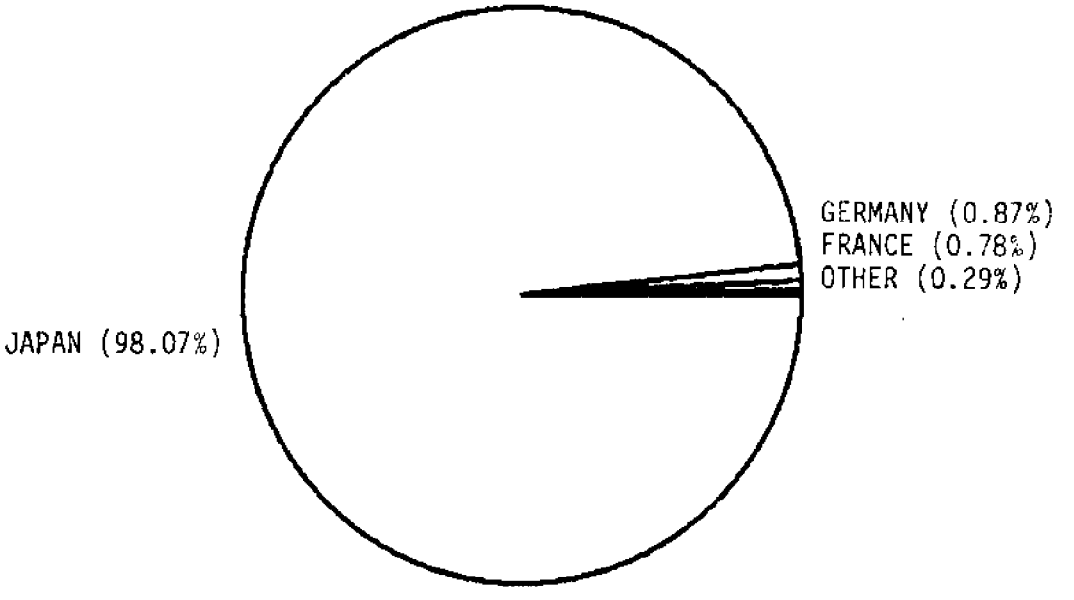
JAPAN	17,611,213
GERMANY	84,880
FRANCE	80,115
OTHER:	
CANADA	17,385
VENEZUELA	566
CHILI	2,005
SWITZERLAND	115
IRAQ	400
CHINA	2,528
AUSTRALIA	3,684
KOREA	3,000
BELGIUM	6,050
DENMARK	2,000



APPENDIX B:

U.S. SALMON ROE EXPORTS 1983 VALUE $ - FAS

JAPAN	66,323,632
GERMANY	589,246
FRANCE	525,064
OTHER:	
CANADA	93,923
VENEZUELA	5,000
CHILI	4,410
SWITZERLAND	850
IRAQ	3,689
CHINA	5,562
AUSTRALIA	24,336
KOREA	6,600
BELGIUM	37,426
DENMARK	12,140



APPENDIX B: U.S. SALMON ROE EXPORTS: 1983

MONTH	COUNTRY	POUNDS	% TOTAL LB	VALUE	% TOT VALUE	PRICE/LB
JANUARY	France	2552	0.07	20905	0.14	8.19
	Germany	150	0.00	975	0.01	6.50
	Japan	31720	0.92	127991	0.85	4.04
	Total	34422		149871		4.35
FEBRUARY	Belgium	3550	0.09	23465	0.11	6.61
	France	792	0.02	7000	0.03	8.84
	Germany	11991	0.30	75830	0.36	6.32
	Japan	23080	0.59	107048	0.50	4.64
	Total	39413		213343		5.41
MARCH	Japan	35767	1.00	145426	1.00	4.07
APRIL	Japan	33000		19800		0.60
MAY	Germany	5300	0.13	40280	0.23	7.60
	Japan	35980	0.87	133056	0.77	3.70
	Total	41280		173336		4.20
JUNE	Canada	3335	0.01	19678	0.01	5.90
	Japan	481502	0.99	1884462	0.99	3.91
	Total	484837		1904140		3.93
JULY	Canada	3000	0.00	9300	0.00	3.10
	Japan	3364372	1.00	11634572	1.00	3.46
	Total	3367372		11643872		3.46
AUGUST	Canada	940	0.00	3290	0.00	3.50
	France	17955	0.00	161595	0.01	9.00
	Germany	2932	0.00	17450	0.00	5.95
	Japan	5023464	1.00	20442170	0.99	4.07
	Total	5045291		20624505		4.09

APPENDIX B: U.S. SALMON ROE EXPORTS: 1983 (CONT.)

SEPTEMBER	Germany	5514	0.00	33769	0.00	6.12
	Japan	6421574	1.00	24630599	1.00	3.84
	Australia	3684	0.00	24336	0.00	6.61
	Total	6430772		24688704		3.84
OCTOBER	Canada	2970	0.00	20790	0.00	7.00
	France	10000	0.01	65220	0.01	6.52
	Germany	7921	0.01	63673	0.01	8.04
	Japan	1513567	0.99	5292759	0.97	3.50
	Total	1534458		5442442		3.55
NOVEMBER	Canada	5940	0.01	37145	0.02	6.25
	Denmark	2000	0.00	12140	0.01	6.07
	Belgium	2500	0.00	13961	0.01	5.58
	France	14000	0.02	91450	0.05	6.53
	Germany	23522	0.04	166006	0.09	7.06
	Japan	513850	0.91	1592115	0.83	3.10
	Total	561812		1912817		3.40
DECEMBER	Canada	1200	0.01	3720	0.01	3.10
	Venezuala	566	0.00	5000	0.01	8.83
	Chili	2005	0.01	4410	0.01	2.20
	France	34816	0.17	178894	0.25	5.14
	Germany	27550	0.13	191263	0.27	6.94
	Switzerland	115	0.00	850	0.00	7.39
	Iraq	400	0.00	3689	0.01	9.22
	China	2528	0.01	5562	0.01	2.20
	Korea	3000	0.01	6600	0.01	2.20
	Japan	133337	0.65	313634	0.44	2.35
	Total	205517		713622		3.47
YEAR END TOTAL		17813941		67631878		3.80

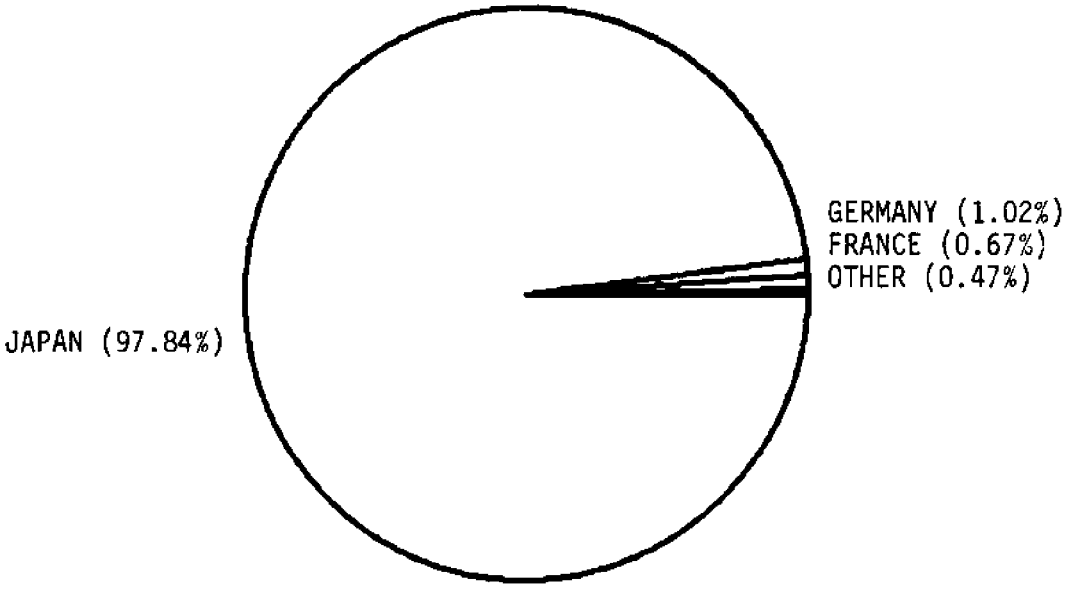
APPENDIX B: U.S. SALMON ROE EXPORTS: 1983 (CONT.)

YEAR END TOTAL BY COUNTRY:

	POUNDS	% TOTAL LB	VALUE	% TOT VALUE
Japan	17611213	0.99	66323632	0.98
France	80115	0.00	525064	0.01
Germany	84880	0.00	589246	0.01
Canada	17385	0.00	93923	0.00
Venezuala	566	0.00	5000	0.00
Chili	2005	0.00	4410	0.00
Switzerland	115	0.00	850	0.00
Iraq	400	0.00	3689	0.00
China	2528	0.00	5562	0.00
Australia	3684	0.00	24336	0.00
Korea	3000	0.00	6600	0.00
Belgium	6050	0.00	37426	0.00
Denmark	2000	0.00	12140	0.00
Total	17813941		67631878	

U.S. Salmon Roe Exports 1982 Pounds - FAS

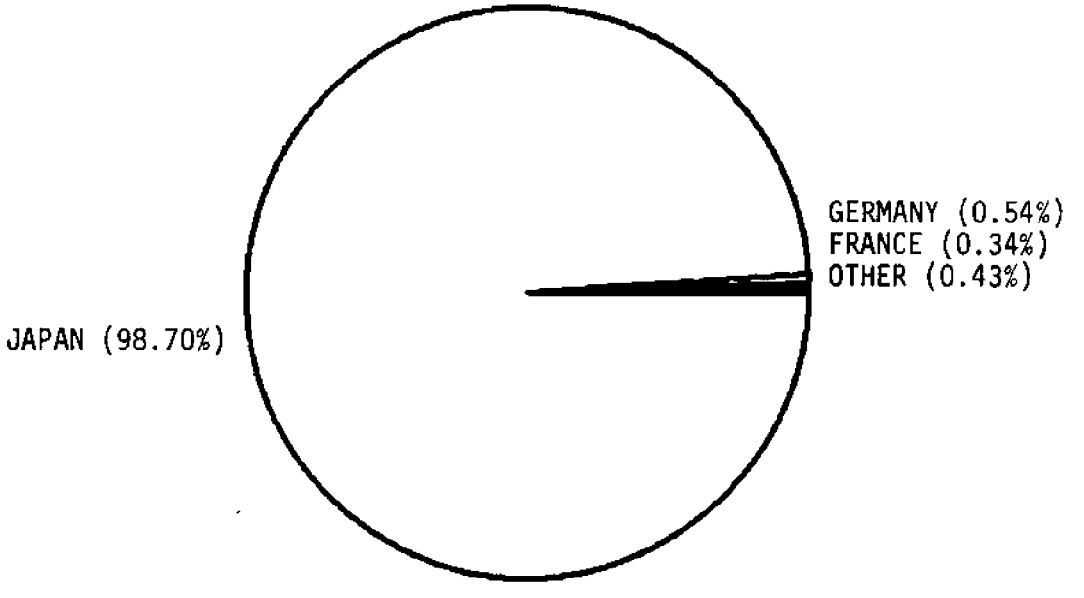
Japan	17,046,066	
Germany	92,582	
France	58,856	
Other:		
Canada	27,754	350,344
Belgium	22,000	
Korea	12,290	
China	5,239	
Mexico	4,435	
Australia	1,835	
Denmark	87	
Kenya	97	



APPENDIX B:

U.S. Salmon Roe Exports 1982, $

Japan	72,553,635	
Germany	775,885	
France	498,723	
Other:		
Canada	150,463	
Belgium	83,000	
Korea	64,688	
China	11,525	73,737
Mexico	23,054	
Australia	16,045	
Denmark	718	
Kenya	851	



APPENDIX B: U.S. SALMON ROE EXPORTS: 1982

MONTH	COUNTRY	POUNDS	% TOT LBS	VALUE	% TOT VAL	PRICE/LB
JANUARY	Germany	3025	0.03	29200	0.21	9.65
	China	2000	0.02	4400	0.03	2.20
	Japan	95167	0.95	104354	0.76	1.10
	Total	100192		137954		1.38
FEBRUARY	France	3000	0.39	27000	0.41	9.00
	Germany	3450	0.45	31740	0.49	9.20
	Japan	591	0.08	1300	0.02	2.20
	Australia	560	0.07	5208	0.08	9.30
	Total	7601		65248		8.58
MARCH	Japan	27506	1.00	129675	1.00	4.71
APRIL	Germany	2580	1.00	9712	1.00	3.76
MAY	Japan	2046	1.00	8800	1.00	4.30
JUNE	Mexico	4435	0.02	23054	0.02	5.20
	Japan	286710	0.98	1335301	0.98	4.66
	TOTAL	291145		1358355		4.67
JULY	Germany	2749	0.00	23860	0.00	8.68
	Japan	2726311	1.00	13766840	1.00	5.05
	Total	2729060		13790700		5.05
AUGUST	Canada	1011	0.00	9180	0.00	9.08
	Belgium	17000	0.00	44000	0.00	2.59
	Germany	2750	0.00	22550	0.00	8.20
	Japan	5068848	1.00	22876997	1.00	4.51
	Total	5089609		22952727		4.51

APPENDIX B: U.S. SALMON ROE EXPORTS: 1982 (CONT.)

SEPTEMBER	Canada	530	0.00	2109	0.00	3.98
	France	16456	0.00	155088	0.01	9.42
	Germany	5374	0.00	49054	0.00	9.13
	Japan	6223254	1.00	24198686	0.99	3.89
	Total	6245614		24404937		3.91
OCTOBER	Canada	20025	0.01	110138	0.02	5.50
	Denmark	87	0.00	718	0.00	8.25
	Germany	2800	0.00	23386	0.00	8.35
	Korea	9908	0.01	59448	0.01	6.00
	Japan	1324731	0.97	5515322	0.96	4.16
	Australia	1275	0.00	10837	0.00	8.50
	Total	1358826		5719849		4.21
NOVEMBER	Canada	2970	0.00	17226	0.00	5.80
	Belgium	5000	0.00	39000	0.01	7.80
	France	39400	0.04	316635	0.07	8.04
	Germany	52104	0.05	420555	0.10	8.07
	Japan	988099	0.91	3528432	0.82	3.57
	Total	1087573		4321848		3.97
DECEMBER	Canada	3218	0.01	11810	0.01	3.67
	Germany	17750	0.05	145828	0.12	8.22
	China	3239	0.01	7125	0.01	2.20
	Korea	2382	0.01	5240	0.00	2.20
	Japan	302803	0.92	1087928	0.86	3.59
	Kenya	97	0.00	851	0.00	8.77
	Total	329489		1258782		3.82
YEAR-END TOTAL: 1982		17271241		74158587		4.29

APPENDIX B: U.S. SALMON ROE EXPORTS: 1982 (CONT.)

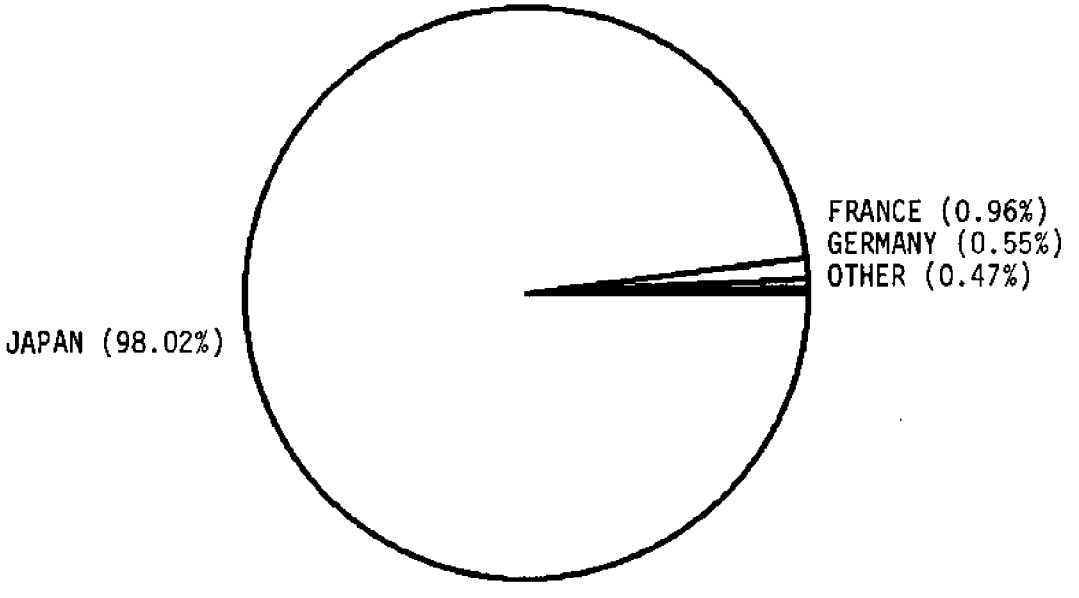
YEAR END TOTAL BY COUNTRY:

	POUNDS	% TOT LBS	VALUE	% TOT VAL
Japan	17046066	0.99	72553635	0.98
Germany	92582	0.01	755885	0.01
France	58856	0.00	498723	0.01
Canada	27754	0.00	150463	0.00
Belgium	22000	0.00	83000	0.00
Korea	12290	0.00	64688	0.00
China	5239	0.00	11525	0.00
Mexico	4435	0.00	23054	0.00
Australia	1835	0.00	16045	0.00
Denmark	87	0.00	718	0.00
Kenya	97	0.00	851	0.00
TOTAL:	17271241		74158587	

APPENDIX B:

U.S. Salmon Roe Exports 1981, Pounds

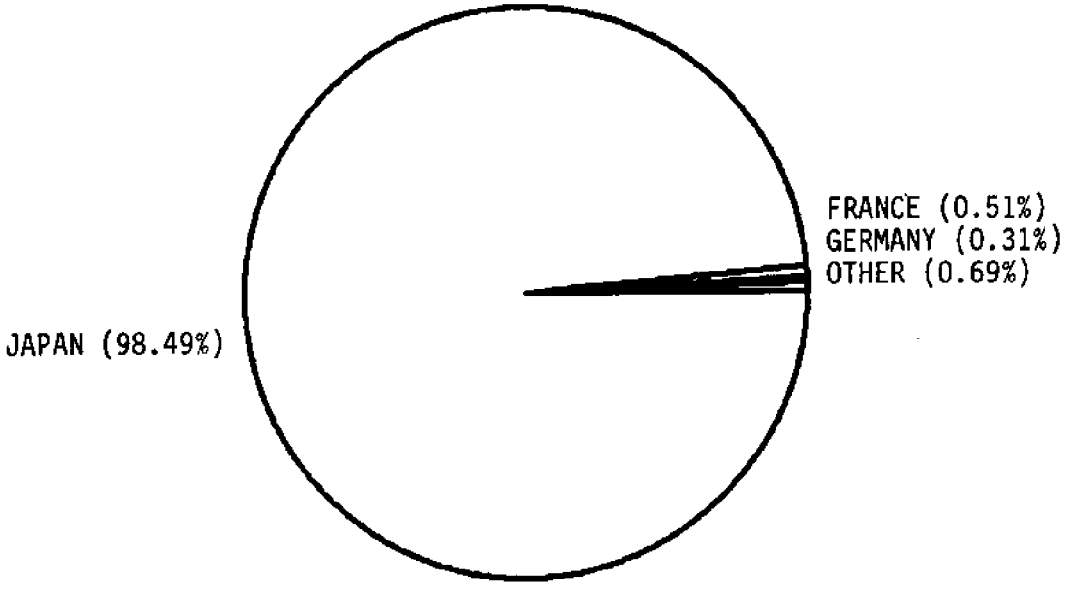
Japan	18,750,429	
France	96,946	
Germany	58,896	
Other:		
Italy	45,950	130,718
Canada	35,459	
Australia	32,131	
Ireland	2,500	
Korea	3,172	
Mexico	2,625	
Denmark	4,213	
Belgium	2,000	
Switzerland	2,668	



APPENDIX B:

U.S. Salmon Roe Exports 1981, $

Japan	90,195,769	
France	879,249	
Germany	504,503	
Other:		
Italy	113,684	434,592
Canada	104,410	
Australia	94,118	
Ireland	22,750	
Korea	6,975	
Mexico	11,827	
Denmark	39,400	
Belgium	17,100	
Switzerland	24,328	



APPENDIX B: U.S. SALMON ROE EXPORTS: 1981

MONTH	COUNTRY	POUNDS	% TOT LB	VALUE	% TOT VAL	PRICE/LB
JANUARY	Canada	6947	0.08	17020	0.06	2.45
	Germany	1500	0.02	13650	0.05	9.10
	Japan	50116	0.57	191765	0.67	3.83
	Australia	29063	0.33	63438	0.22	2.18
	Total	87626		285873		3.26
FEBRUARY	Ireland	2500	0.06	22750	0.20	9.10
	Italy	32975	0.85	80284	0.72	2.43
	Korea	3172	0.08	6975	0.06	2.20
	Japan	168	0.00	1050	0.01	6.25
	Total	38815		111059		2.86
MARCH	France	17275	0.60	59343	0.68	3.44
	Japan	11433	0.40	27531	0.32	2.41
	Total	28708		86874		3.03
APRIL	Canada	1211	0.14	2663	0.05	2.20
	Japan	7513	0.86	46480	0.95	6.19
	Total	8724		49143		5.63
MAY	Canada	2639	0.11	6634	0.08	2.51
	Italy	12975	0.56	33400	0.41	2.57
	Japan	7452	0.32	40944	0.51	5.49
	Total	23066		80978		3.51
JUNE	Mexico	2625	0.00	11827	0.00	4.51
	Japan	1651862	1.00	8882424	1.00	5.38
	Total	1654487		8894251		5.38
JULY	Canada	600	0.00	3000	0.00	5.00
	Germany	59	0.00	532	0.00	9.02
	Japan	5811826	1.00	28928815	1.00	4.98
	Total	5812485		28932347		4.98

APPENDIX B: U.S. SALMON ROE EXPORTS: 1981 (CONT.)

AUGUST	Canada	6976	0.00	11925	0.00	1.71
	France	5040	0.00	77338	0.01	15.34
	Japan	2035005	0.99	10610597	0.99	5.21
	Total	2047021		10699860		5.23
SEPT	Canada	10216	0.00	15568	0.00	1.52
	Denmark	4213	0.00	39400	0.00	9.35
	Germany	3894	0.00	35112	0.00	9.02
	Japan	7654969	1.00	35010797	1.00	4.57
	Australia	1568	0.00	15680	0.00	10.00
	Total	7674860		35116557		4.58
OCT	Canada	1020	0.00	2397	0.00	2.35
	Belgium	2000	0.00	17100	0.00	8.55
	France	22741	0.02	263042	0.05	11.57
	Germany	4250	0.00	38125	0.01	8.97
	Japan	1233047	0.98	5154778	0.94	4.18
	Total	1263058		5475442		4.34
NOV	France	22200	0.10	203320	0.17	9.16
	Germany	31693	0.15	254834	0.22	8.04
	Switzer	2668	0.01	24328	0.02	9.12
	Japan	159904	0.73	676718	0.58	4.23
	Australia	1500	0.01	15000	0.01	10.00
	Total	217965		1174200		5.39
DEC	Canada	5850	0.03	45203	0.04	7.73
	France	29690	0.16	276206	0.25	9.30
	Germany	17500	0.10	162250	0.15	9.27
	Japan	127134	0.71	623870	0.56	4.91
	Total	180174		1107529		6.15
YEAR END TOTAL:		19036989		92014113		4.83

APPENDIX B: U.S. SALMON ROE EXPORTS: 1981 (CONT.)

YEAR END TOTAL BY COUNTRY:

	POUNDS	% TOT LB	VALUE	% TOT VAL
Japan	18750429	0.98	90195769	0.98
France	96946	0.01	879249	0.01
Germany	58896	0.00	504503	0.01
Italy	45950	0.00	113684	0.00
Canada	35459	0.00	104410	0.00
Australia	32131	0.00	94118	0.00
Ireland	2500	0.00	22750	0.00
Korea	3172	0.00	6975	0.00
Mexico	2625	0.00	11827	0.00
Denamrk	4213	0.00	39400	0.00
Belgium	2000	0.00	17100	0.00
Switzerland	2668	0.00	24328	0.00
TOTAL:	19036989		92014113	

APPENDIX C

JAPAN TRIP ITINERARY

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APRIL 19: TOKYO

Tsukiji Fish Market

Un-accompanied tour of the Tokyo Central Wholesale Fish Market at Tsukiji. Viewed preparation of fish and fisheries products for sale; selection of fish lots by buyers; auction; transporting of fish by middle wholesalers to their stalls in the market; middle wholesaler's stalls.

American Embassy; John Gissberg, Regional Fisheries Attache

Reviewed itinerary for chum salmon survey. Explained goals for the study, and how it would fit into the total project.

Japan Fisheries Association

Ichiro Nakamura, Director, International Division
Hajime Nishimura, Vice-Director, International Division
Kenji Tomita, Fisheries Specialist

Discussed functions of Japan Fisheries Association, and their relations to the salmon operations by the Japanese in Alaska. Reviewed the Japanese regulatory procedures, and operational restrictions.

Alaska State Office; Tomohiro Asakawa, Market Development Officer

Discussed the functions of the Alaska State Office.

Japan Fishery Agency; Mori, Department Chief, Fisheries Promotion Department

Discussed the Japanese salmon propagation program; the goals set for the Japanesechum salmon fishery are returns in the fall of up to 150,000 tons, or more than 40 million fish.

APRIL 20:	TOKYO
National Federation of Fisheries Co-Ops (ZENGYOREN)	Reizo Hamazaki, Managing Director Masaaki Sato, Assistant Chief Discussed the role of the associations and federations in the management of fisheries in Japan. Questioned maintenance of identity of import salmon in Japan, with limited response (as a matter of function and responsibility, the ZENGYOREN is against imports).
Kyokuyo Co., Ltd.	Takashi Kamii, Trading Department Discussed place of import chum salmon in Japan. Were briefed on the distribution import and mothership chum in Japan, including information on Kotzebue salmon on the Japanese market
Hokkaido Fisheries Company Ltd.,	Yoshiharu Kashio, Manager, International Department Daisuke Terasawa, Manager, Operations Section Takahiro Fujii, Assistant Manager Operations Discussed Kotzebue salmon and its reputation on the Japanese market. They were rather non-committal about the product and inidcated that it was of only average demand.
Marubeni Corporation	Akio Shiokawa, Assistant Manager, Northern Marine Products Section Tsuneo Shiihara, Section Chief, Operations Marubeni Cold Storage Co. Shigemi Niwa, Staff, Marubeni Cold Store Discussed Marubeni operations in Alaska; discussed their familiarity with Kotzebue chum salmon. Reviewed pricing trends for import salmon.
APRIL 21:	TOKYO
Chuo Gyorui Co. Ltd.	Yoshiaki Tsutsumi, Assistant Section Chief, Frozen Fish Department

Hiroyasu Itoh, Director,
Frozen Fish Department
Hayama, Staff, Frozen Fish Department

Discussed the salmon distribution system for imports, centering on the wholesale markets; outlined the import chum salmon, such as from the Yukon area and Kotzebue, and its relation to mothership salmon. Saw a Kotzebue salmon from last year's (1983) fishery in the middle of wholesaler stalls.

APRIL 23: SAPPORO

Marui-Imai — Department Store, Basement

Saw various styles of salmon - fresh, sliced, pickled, smoked, dried, etc.

Fish Market — Tetsuyuki Akiba, Former Professor

Accompanied along the retail fish stalls in Sapporo. Fish of all styles sold at bargain prices.

APRIL 24: SAPPORO

Naka-no-Shima — Yasuji Ozaki, Assistant Division
Manager Fishery Agency Hokkaido
Salmon Propagation Center
Katsuhiro Umeda, Fisheries Technician

Discussed salmon fisheries in Hokkaido. Planning for hatchery system. Operational procedures.

Chitose Hatchery — Masaichi Okubo, Director,
Chitose Hatchery

Toured hatchery facilities. Explanation of workings and timing of hatchery operation and fish release.

APRIL 25: HAKODATE

Heiwa Cold Storage — Shinzo Ogatsu, President

Reviewed salmon salting operation, using Japan Sea pink salmon and import pink salmon from Alaska (Whitney-Fidalgo

fish).

Hokkaido University College of Fisheries	Capt. Takeharu Fujii, Professor and Captain, Oshoro Maru
	Reviewed voyage plan and schedule for the Oshoro Maru research voyage this summer. Viewed marine museum samples from research vessel voyages and other university studies.

APRIL 26: HAKODATE/KUSHIRO

Hakodate Fish Market	"Asa-Ichi"
	Toured stalls in major bargain retail market.
Kyokko Suisan	Shigeyoshi Kitano, President Yoshi Yoshiizumi, Manager, Trading Department
	Discussed Alaska fisheries, including herring operations and other Kyokko related industries.

APRIL 27: KUSHIRO

Nichiro Cannery	Masaichiro Ideda, Plant Manager
	Discussed salmon canning operations. Kushiro cannery only Nichiro salmon cannery in Hokkaido.
Kushiro Fish Co-Op	Takeyoshi Itoh, Director Hashimoto, Dept. Chief, Market Dept. Takikawa, Dept. Chief, General Services
Hokkaido Federation of Fisheries Co-ops	Takashi Yawada, Asst. Manager Takao Ideda
	Discussed role of fisheries associations and Co-operatives in the management and operation of salmon fisheries.

APRIL 28: KUSHIRO

Kyokko Suisan	Yoshi Yoshiizumi, Manager Trading Department
Towa Foods	Matsugoro Michiguchi, Chairman

Tsutomu Sugimota, Assistant
Manager, Prod. Department

Reviewed production facilities of Towa foods, which is majority owned by Kyokko Suisan. Were processing herring roe, smoked salmon, salmon flakes, etc.

APPENDIX D.

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