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A Provisional Report on the 2004 Salmon Season

by

The Working Group on Stock Assessment

Submitted to the

NORTH PACIFIC ANADROMOUS FISH COMMISSION

By

CSRS

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Summary

Canada, Japan, Russia, and United States provided preliminary commercial catch statistics for 2004. Although harvesting is still underway, ~689,000 tonnes of Pacific salmon have been caught in commercial fisheries in the North Pacific so far this year (Table 1). Pink salmon contributed ~292,000 or ~42% of the total, the largest proportion of which came from Alaska fisheries. ~113,000 tonnes of pink salmon were caught in Russia. The total chum catch to date was ~230,000 tonnes with ~141,000 tonnes from Japan. However, Japanese chum fisheries are still underway. The 2004 Russian catch of chum was ~27,400 tonnes. In 2004, ~136,000 tonnes of sockeye have been reported caught, with ~117,000 tonnes from Alaska, ~16,000 tonnes from Russian, and ~2600 tonnes from Canada. The total catch of coho and chinook in 2004 was ~31, 000 tonnes.

Commercial catches for 2003 were ~954,000 tonnes, the second largest catch since 1972 (Fig. 1). Catches increased for all species except coho.

Historical catch statistics from Canada, Russia, Japan, Korea, Alaska and Washington, Oregon, and California are presented in Appendices to put the provisional 2004 catch statistics into context.

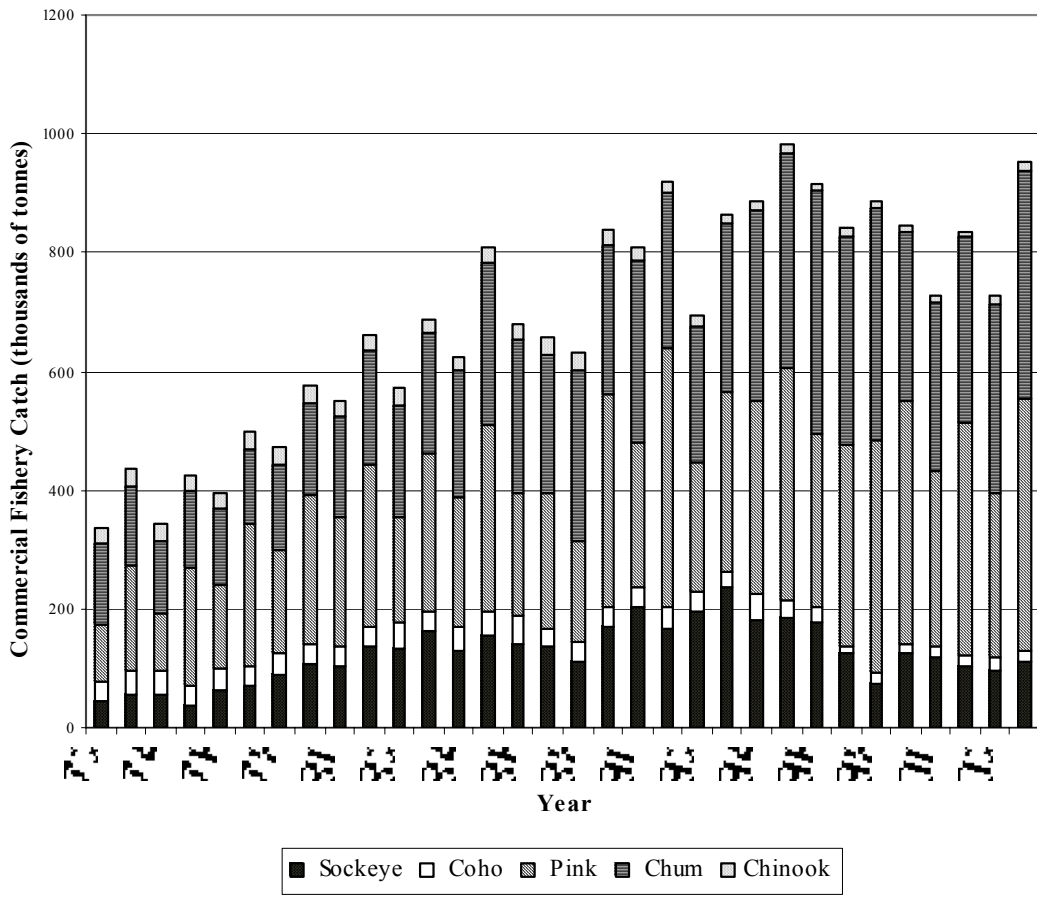


Figure 1. Commercial harvests, by species, for Canada, Japan, Russia, Korea, and the United States from 1972 to 2003 (round weight in thousands of tonnes).

Table 1. Preliminary 2004 commercial catch estimates in tonnes (AK is Alaska and WA/OR/CA is Washington, Oregon, and California).

	Chinook	Sockeye	Coho	Pink	Chum	Total
Canada	1,709	2,592	431	2,548	2,029	9,309
Japan	---	---	---	11,709	141,249	152,958
Russia	322	16,212	1,456	113,366	27,390	158,746
United States						
Alaska	5,628	116,990	17,569	164,395	59,023	363,604
WA/OR/CA	4,105	127	73	1	1	4,307
Total	11,764	135,921	19,529	292,019	229,692	688,924

Canada

Conservation remained a primary objective in managing the Pacific salmon resource during 2004. An integrated fisheries management plan contained comprehensive decision guidelines that set out the rationale for management decisions, and described the range of departmental responses to changing in-season information. Commercial harvest in 2004 (to September 1) was ~9,300 tonnes (Table 2). Historical catches from 1952 to 2003 are summarized in Appendix Table 1.

Stocks of significant conservation concern in 2004 included Interior Fraser coho salmon and steelhead trout, Sakinaw Lake sockeye, Cultus Lake sockeye, Okanogan sockeye, Nimpkish sockeye, early timed chinook to the Fraser, West Coast of Vancouver Island chinook, Rivers and Smith Inlet sockeye, North Coast chum, and Skeena steelhead. Directed fisheries on these stocks of concern were limited or not permitted, and fisheries targeting other species and stocks were constrained as required to achieve conservation objectives. Of particular concern were coho from the interior Fraser River and sockeye from Cultus and Sakinaw lakes; these populations were designated as endangered by the Committee on the Status of Endangered Wildlife in Canada.

Table 2. Preliminary 2004 commercial salmon catch in British Columbia (round weight, tonnes) by species and area. Information derived from sales slips received to September 1, 2004.

REGION	CHINOOK	CHUM	COHO	PINK	SOCKEYE	Grand Total
QUEEN CHARLOTTE	1,041	3	255	58	2	1,358
NORTH COAST	163	1,975	176	2,412	1,157	5,883
WEST COAST VANCOUVER ISLAND	476	3		0	137	616
SOUTH COAST	29	48	0	78	1,297	1,452
Grand Total	1,709	2,029	431	2,548	2,592	9,309

Japan

As of October 10, 2004, ~141,000 tonnes of chum salmon had been harvested in offshore and coastal seas around Japan (Table 3). A total of 41.7 million chum salmon, including catch and hatchery broodstock, returned to rivers or coastal seas. This was an increase from 2.5 million for the same period in 2003. The number of returning adult chum salmon has been at high levels since 2000. Historic catch statistics for Japan are supplied for comparison in Appendix Table 2. Chum salmon runs will continue in Hokkaido and Honshu until February.

Approximately 11,700 tonnes of pink salmon were harvested this season in offshore and coastal seas as of October 10 (Table 4). The number of pink salmon that returned to rivers and coastal seas has decreased to 5.8 million, compared to 11.8 million the previous year. Pink salmon runs are nearly finished for this season.

Table 3. Preliminary chum salmon catch and hatchery broodstock in Japan for the 2004 season, as of October 10.

		Coastal or offshore catch		Hatchery broodstock (thousands)
		Number (thousands)	Weight (tonnes)	
Hokkaido	Okhotsk Sea Coast	13,505	49,506	1,063
	Japan Sea Coast	4,129	13,668	528
	Pacific Coast	20,539	74,664	852
Honshu	Japan Sea Coast	31	95	16
	Pacific Coast	935	2,985	78
Offshore	Pacific	158	323	-
Total		39,297	141,249	2,537

Table 4. Preliminary pink salmon catch and hatchery broodstock in Japan for the 2004 season as of October 10.

		Coastal or offshore catch		Hatchery broodstock (thousands)
		Number (thousands)	Weight (tonnes)	
Hokkaido	Okhotsk Sea Coast	4,606	7,595	583
	Japan Sea Coast	2	5	-
	Pacific Coast	522	852	69
Offshore	Japan Sea	506	517	-
	Pacific	2,323	2,740	-
Total		7,959	11,709	652

United States

Alaska

The very preliminary all-species commercial harvest was 167.8 million fish which was considerably lower than the forecasted harvest of 196 million. The 2004 harvest will be the eight largest in the history of the Alaska salmon harvest. Detailed catch statistics for Alaska are found in Table 5. The pink salmon catch was 100.3 million, also the ninth largest on record. Highlights of the 2004 for individual areas are provided below.

In Southeast Alaska the preliminary pink salmon catch was 45 million below the recent 10-year average. The Chinook salmon harvest was 472 thousand, the highest since statehood, and due to increased abundance of Chinook. Coho runs were very strong with catch well above the recent 10-year average. Escapements were within or above targets for all stocks.

In the Prince William Sound/Copper River area, the sockeye harvest was the eighth largest on record. The preliminary pink salmon harvest was 25 million, one half of the record 2003 harvest. Escapements were within or above targets for all areas.

Returns of sockeye salmon to Upper Cook Inlet were strong with the 5.7 million the highest in the last 10 years.

The 2004 Kodiak Area sockeye salmon harvest of approximately 4.1 million fish and pink salmon harvest of 21 million were higher than the recent 10-year average.

In the Chignik area the early-run sockeye salmon harvest was slightly below the recent 10-year average. The late-run sockeye salmon run was very weak with harvest well below the recent average. Sockeye salmon escapements were within targets.

The 2003 Alaska Peninsula Area sockeye salmon harvest of approximately 4.6 million fish and pink salmon harvests were at recent 10-year averages. The Coho salmon runs were very strong but received little fishing effort. Escapements in the area were within management targets.

The Bristol Bay inshore run of sockeye salmon of approximately 43.5 million fish was the tenth largest on record, and was 24% above the 1983 - 2002 average of 35.2 million. It was approximately 7% below the preseason forecast of 46.6 million fish. The commercial harvest of 23.6 million sockeye salmon was 24% below the 34.6 million forecast. A total escapement of approximately 17.6 million sockeye salmon was achieved.

In the Kuskokwim River the salmon harvest was 688 thousand of which 540 thousand were coho salmon. Coho salmon runs to the Kuskokwim River have improved greatly since the weak runs of the late 1990s.

In the Yukon River, the chinook salmon and fall chum salmon runs were stronger than they have been in recent years. The runs were sufficient to support commercial fisheries with the chinook catch 53 thousand. Subsistence fishing opportunity throughout the drainage was not reduced and subsistence harvest levels are anticipated to be near average.

The 2004 salmon run was very good in most areas of Norton Sound and the commercial salmon fishery was a great improvement over recent years. The Coho salmon run was well above average which allowed the normal commercial fishing schedule. There were some restrictions in subsistence fishing in some areas including the Nome Sub-district.

For the first time since 2001 Kotzebue Sound had an onsite buyer. The commercial harvest consisted of 51 thousand chum salmon.

Table 5. Very preliminary Pacific salmon catch statistics for Alaska as of October 20, 2004. Note that some harvest as of that date are not included.

Source: ADF&G, October 20, 2004

PRELIMINARY DATA: 2004 Salmon Season

Area	Species	Avg. Wt. (pounds)	Number of Fish (thousands)	Lbs. of Fish (thousands)
SOUTHEAST	CHINOOK	15.01	472	7,085
	SOCKEYE	5.91	1,985	11,731
	COHO	7.03	3,040	21,366
	PINK	3.63	45,017	163,270
	CHUM	8.17	11,234	91,727
	totals			61,748
PRINCE WILLIAM SOUND	CHINOOK	22.44	36	808
	SOCKEYE	5.93	1,858	11,023
	COHO	8.42	606	5,101
	PINK	3.67	24,224	88,830
	CHUM	7.48	2,089	15,622
	totals		28,813	121,384
COOK INLET	CHINOOK	23.97	29	695
	SOCKEYE	6.02	5,054	30,431
	COHO	6.71	320	2,148
	PINK	3.51	2,872	10,067
	CHUM	7.86	352	2,765
	totals		8,627	46,107
BRISTOL BAY	CHINOOK	15.27	111	1,695
	SOCKEYE	5.76	26,265	151,341
	COHO	6.87	69	474
	PINK	4.06	52	211
	CHUM	6.52	788	5,140
	totals		27,286	158,861
KODIAK	CHINOOK	11.31	29	328
	SOCKEYE	5.29	4,143	21,913
	COHO	7.67	484	3,712
	PINK	3.64	21,438	78,072
	CHUM	7.66	1,121	8,591
	totals		27,215	112,616
CHIGNIK	CHINOOK	18.68	2	44
	SOCKEYE	6.40	697	4,460
	COHO	7.65	<1	<1
	PINK	3.19	2	6
	CHUM	7.53	1	4
	totals		702	4,514

Table 5 (cont.). Very preliminary Pacific salmon catch statistics for Alaska as of October 20, 2004. Note that some harvest as of that date are not included.

AK PEN/ALEUTIAN IS.	CHINOOK	15.95	18	280
	SOCKEYE	5.73	4,636	26,584
	COHO	6.65	271	1,802
	PINK	3.29	6,683	21,969
	CHUM	6.56	807	5,295
	totals		12,415	55,930
KUSKOKWIM	CHINOOK	12.23	30	367
	SOCKEYE	6.66	65	433
	COHO	6.87	540	3,710
	PINK		0	0
	CHUM	6.88	52	358
	totals		688	4,868
YUKON	CHINOOK	20.83	53	1,104
	SOCKEYE		0	0
	COHO	5.85	20	117
	PINK		0	0
	CHUM	6.63	24	159
	totals		97	1,380
NORTON SOUND	CHINOOK		0	0
	SOCKEYE	6.35	<1	<1
	COHO	7.20	42	302
	PINK		0	0
	CHUM	6.73	6	42
	totals		48	345
KOTZEBUE	CHINOOK	11.43	>1	1
	SOCKEYE	7.33	>1	>1
	COHO		0	0
	PINK		0	0
	CHUM	8.22	51	419
	totals		51	420
ALASKA TOTALS	CHINOOK	15.91	780	12,407
	SOCKEYE	5.77	44,703	257,916
	COHO	7.18	5,392	38,732
	PINK	3.61	100,288	362,425
	CHUM	7.87	16,525	130,122
	totals		167,688	801,602

Preliminary figures may not exactly total due to rounding.

Estimates based on reports from Area Managers & Preliminary Area Salmon Fishery Summaries.

Washington, Oregon, and California

Preliminary estimates of commercial landings of salmon caught in California, Oregon, and Washington are provided in Table 6. Estimates are given for 2003 as well as 2004 since the former were not included in last years report. A historical catch summary is provided in Appendix Table 6.

Table 6. Commercial landings of salmon in California, Oregon, and Washington during 2002 and 2003 (metric tons).

	2003	2004 ¹
chinook	8,022	4,105
chum	6,925	1
coho	2,524	73
pink	2,287	1
sockeye	795	127
Total	20,696	4,378

¹2004 estimates until 17 October.

Russia

The preliminary Russian salmon catch totalled 159,737 tones (Table 7). This catch was approximately 100 thousand tons lower than the preseason forecast. The low catch was due to extreme weather conditions. More than 100 beach seines were damaged in storm, and a significant number of pink salmon escaped before the nets could be repaired.

The pink salmon catch was 113,366 tones or 71% of the total. The chum salmon catch was 27,390 and was only 60 % of the preseason forecast. The sockeye catch was 16,212 tones ore close to the preseason forecast. The main fishing regions in 2004 were western Kamchatka and the south Kuriles. The catch in these regions was 109,367 or 68% of the total Russian catch

Table 7. Preliminary total salmon catch in Russia (Far East) by species, region and subregion, in tones, 2004.

Region, subregion	Pink	Chum	Sockeye	Coho	Masu	Chinook	Char	Total
Western Bering Sea	7.8	464.1	111.0				0.9	583.8
Eastern Kamchatka	6036.9	3971.0	2884.8	711.5		285.8	346.0	14236.0
Kuriles	33028.5	3565.1	170.2	127.0		1.5		36892.3
The Sea of Okhotsk								
Western Kamchatka	54025.3	3493.1	13019.7	349.6		33.4	355.8	71276.9
Continental Coast	406.9	6856.0	26.5	268.1			276.9	7834.4
Sakhalin Coast	14372.5	3733.1			1.1			18106.7
Amur Basin	1822.4	2440.9						4263.3
The Sea of Japan								
Primor'e	3478.3	13.4			9.2		2.2	3503.1
Southwestern Sakhalin	187.4	2853.2			0.7			3041.3
Total	113366.0	27389.9	16212.2	1456.2	10.9	320.7	981.7	159737.7

Korea

Total catch of chum salmon was 36,259 or 115 metric tonnes in 2003. Among these, 22,431 fish or 71 metric tonnes were caught in coastal areas by commercial fishermen and 13,828 fish or 44 metric tonnes were taken in the river to be used for artificial propagation (Table 8).

There are 4 chum salmon hatcheries and fry are released in 18 streams. The total number of fry released in 2003 (2002 brood) and 2004 (2003 brood) respectively were 14,735,000 and 12,820,000 (Table 9). Appendix Table 6 provides historical estimates of juvenile chum released and adult chum returning to Korea.

Table 8. Chum salmon catch by area and province in the Republic of Korea, 2003.

Area	Region (Province)	Catch (no. of fish)	Catch (wt, mt)
Coastal Area	East Sea	22,431	71
River	Gangwon	12,168	39
	Gyeongbuk	1,584	5
	Jeonnam	76	0
Total		36,259	115

Table 9. Numbers of chum salmon released (thousands of fish) in the Republic of Korea in 2003 and 2004.

Province	Hatchery/Location (Main River)	2003	2004
Gangwon	Yangyang (Namdae-cheon)	9,435	8,000
	Samcheok (Maup-cheon)	2,500	2,600
Gyeonbuk	Gyeongbuk (Wangpi-cheon)	2,200	1,800
Others		600	525
Total		14,735	12,820

Appendix Table 1. Preliminary commercial salmon catch (round weight, tonnes) in Canada by species and year, 1952-2003.

Year	Chinook	Sockeye	Coho	Pink	Chum	All
1952	7.10	15.21	10.83	25.28	15.74	74.16
1953	7.72	17.46	11.38	30.48	26.88	93.91
1954	6.64	23.23	10.22	12.72	36.75	89.57
1955	6.20	8.22	11.65	31.27	8.98	66.32
1956	6.77	10.62	12.42	14.31	13.55	57.67
1957	6.26	7.77	11.27	28.30	13.46	67.06
1958	7.03	36.61	12.23	16.75	18.82	91.44
1959	6.69	8.92	9.69	17.32	11.42	54.03
1960	5.11	7.65	7.05	8.39	10.04	38.23
1961	4.49	13.15	12.24	24.73	7.22	61.82
1962	4.47	9.93	13.16	46.23	8.92	82.71
1963	5.00	5.87	12.60	29.93	7.62	61.01
1964	6.57	11.34	15.66	18.16	11.82	63.55
1965	6.27	8.01	18.13	11.34	3.29	47.04
1966	7.57	12.70	19.10	36.29	7.59	83.25
1967	7.37	18.35	10.56	25.31	6.01	67.59
1968	7.35	20.70	16.35	28.26	18.13	90.78
1969	6.92	11.92	8.52	6.82	6.62	40.79
1970	6.73	12.41	12.64	26.17	18.26	76.21
1971	9.03	18.87	14.89	19.18	5.90	67.87
1972	8.87	10.32	10.96	19.45	32.60	82.20
1973	7.93	23.39	11.70	14.46	35.57	93.04
1974	8.07	23.62	10.77	12.20	13.59	68.25
1975	7.77	6.18	8.09	11.13	5.87	39.04
1976	8.26	13.44	9.65	18.58	11.90	61.82
1977	8.06	18.93	10.49	26.82	6.57	70.86
1978	8.50	24.32	9.99	16.69	17.26	76.76
1979	7.46	15.75	11.21	26.89	5.09	66.39
1980	7.29	8.53	10.01	15.30	18.75	59.89
1981	6.45	22.76	8.18	41.66	6.66	85.71
1982	7.72	32.78	10.07	4.33	16.43	71.34
1983	5.87	15.52	11.39	43.07	5.33	81.17
1984	6.83	13.97	11.00	13.14	9.80	54.74
1985	5.96	34.29	9.78	41.07	25.75	116.86
1986	5.46	33.57	14.45	32.13	27.44	113.06
1987	5.72	16.32	9.14	29.33	11.97	72.48
1988	6.43	12.93	7.68	35.08	32.98	95.10
1989	5.68	37.31	9.49	33.76	10.15	96.39
1990	5.67	40.33	11.48	28.57	18.71	104.75
1991	5.50	27.38	10.93	38.22	11.15	93.17
1992	5.79	22.66	7.96	16.24	19.56	72.20
1993	5.22	46.10	4.68	17.47	18.81	92.28
1994	3.86	33.36	8.33	3.68	22.13	71.36
1995	1.62	11.24	5.23	21.52	13.19	52.81
1996	0.45	16.68	4.19	9.39	7.14	37.84
1997	1.76	27.38	0.81	13.30	9.45	52.70
1998	1.51	5.47	0.01	4.27	21.68	32.93
1999	0.81	1.82	0.01	10.36	5.44	18.43
2000	0.53	9.50	0.02	7.86	3.10	21.00
2001	0.71	7.69	0.05	11.95	6.37	26.78
2002	1.68	10.07	0.46	8.61	12.34	33.16
2003	2.17	6.29	0.80	15.45	13.72	38.42

Appendix Table 2. Historic commercial salmon catches (tonnes) in Japan.

Year	Ref	Sockeye					Pink					Chum					Coho					Chinook				
		Mother-ship	Pacific landbased	Japan Sea	Coastal	Fresh-water	Mother-ship or Offshore	landbased	Japan Sea	Coastal	Fresh-water	Mother-ship or Offshore	landbased	Japan Sea	Coastal	Fresh-water	Mother-ship	Pacific landbased	Japan Sea	Coastal	Fresh-water	Mother-ship	Pacific landbased	Japan Sea	Coastal	
1976	1, 4	3,943	4,901	-	-	-	13,044	5,026	2,778	258	17,898	20,067	-	36,763	3,637	1,842	5,849	-	-	1	-	677	881	-	51	
1977	1, 4	2,651	1,848	-	-	-	10,191	17,978	3,834	2,816	114	10,337	11,223	-	46,828	3,521	170	3,582	-	-	-	217	609	-	88	
1978	1, 4	3,353	1,814	-	0	-	2,232	8,968	4,120	1,832	78	8,067	6,176	-	55,849	3,970	1,443	4,320	-	0	-	304	720	-	51	
1979	1, 4	3,934	1,072	-	0	-	4,192	14,326	3,830	1,448	305	6,327	4,951	-	84,521	6,135	640	2,067	-	0	-	356	752	-	117	
1980	1, 4	4,596	1,125	-	0	-	702	13,870	3,815	1,908	-	6,685	5,562	-	75,342	9,207	1,545	2,159	-	0	-	1,913	508	-	72	
1981	1, 4	3,814	1,287	-	0.5	-	4,930	13,795	3,869	2,747	360	5,237	5,320	-	101,844	8,440	1,186	2,089	-	9	-	278	662	-	245	
1982	1, 4	3,039	1,094	-	0	-	2,214	13,099	3,771	1,501	239	6,858	6,291	-	89,545	9,106	2,957	2,065	-	0.5	-	361	619	-	40	
1983	1, 4	2,992	1,387	-	0	-	5,104	13,995	3,754	1,723	747	6,450	4,838	-	113,894	8,269	598	2,034	-	0	-	270	676	-	50	
1984	1, 4	2,990	376	-	2	-	1,844	10,526	3,501	2,619	317	7,217	4,535	-	115,861	8,639	2,202	1,669	-	0.5	-	269	335	-	59	
1985	1, 4	2,284	267	-	2	-	3,605	12,881	3,975	6,525	317	6,055	2,908	-	159,092	8,639	296	1,467	-	13	-	226	354	-	109	
1986	1, 4	1,545	254	-	1	-	483	7,868	2,549	4,281	516	4,076	1,966	-	142,070	9,410	149	898	-	7	-	215	264	-	153	
1987	1, 4	1,366	263	-	0.5	-	1,258	7,766	2,206	7,047	1,091	4,065	2,058	-	132,943	7,490	77	878	-	25	-	132	263	-	311	
1988	1, 4	478	214	-	2	-	69	6,665	2,179	6,187	716	1,918	1,751	-	145,510	9,979	0.5	555	-	19	-	86	167	-	94	
1989	1, 4	473	189	-	1	-	433	6,649	1,853	7,803	854	1,264	1,661	-	165,761	12,345	4	443	-	9	-	44	184	-	77	
1990	1, 4	423	123	-	0	-	307	4,639	1,420	5,877	549	1,067	1,218	-	205,314	15,284	42	368	-	19	-	82	163	-	50	
1991	1, 4	286	112	-	2	-	425	3,929	1,234	11,863	1,436	696	935	-	184,112	11,839	34	251	-	40	-	45	105	-	141	
1992	1	-	-	-	6	3	-	1,325	1,252	16,006	1,520	-	86	-	137,114	8,630	-	-	-	18	-	-	-	-	-	177
1993	2	-	-	-	20	3	-	2,737	1,207	15,224	828	-	194	-	187,664	12,240	-	-	-	20	-	-	-	-	-	177
1994	2	-	-	-	4	1	-	2,979	1,352	23,348	2,379	-	333	-	191,190	16,806	-	-	-	25	-	-	-	-	-	197
1995	2	-	-	-	6	2	-	3,290	1,240	16,008	739	-	348	-	230,705	17,736	-	-	-	42	-	-	-	-	-	69
1996	2	-	-	-	7	1	-	2,906	985	24,668	3,327	-	358	-	265,787	19,502	-	-	-	72	-	-	-	-	-	89
1997	3	-	-	-	7	0	-	3,145	711	9,184	934	-	355	-	236,993	18,588	-	-	-	101	-	-	-	-	-	253
1998	3	-	-	-	5	0	-	3,806	692	17,830	1,961	-	397	-	178,142	15,583	-	-	-	37	-	-	-	-	-	205
1999	3	-	-	-	3	1	-	3,936	619	10,266	1,117	-	392	-	157,909	12,449	-	-	-	22	-	-	-	-	-	48
2000	3	-	-	-	3	3.2	-	2,013	725	21,059	2,021	-	320	-	139,608	12,558	-	-	-	6	-	-	-	-	-	48
2001	3	-	-	-	2	1	-	2,844	355	6,160	648	-	248	-	199,220	12,431	-	-	-	54	-	-	-	-	-	20
2002	3	-	-	-	1	0.2	-	2,793	541	19,268	2,256	-	338	-	193,450	16,166	-	-	-	14	-	-	-	-	-	45
2003	3	-	-	-	4	0.3	-	2,740	517	18,509	2,130	-	323	-	257,222	19,856	-	-	-	105	-	-	-	-	-	38

References: 1 INPFC Statistical Yearbook 1976-1992; 2 NPAFC Statistical Yearbook 1993-1996; 3 NPAFC Doc. 338, 413, 479, 537, 542, 613, 618, 713, 720, 784, 790; 4 FAO yearbook, Fishery statistics, catch and landings 1976-1992. Vol. 42-74.

Appendix Table 3. Historic commercial salmon catches in Alaska, in tonnes.

Year	Chinook	Coho	Pink	Chum	All	
1972	4.35	18.49	6.41	24.41	25.47	79.14
1973	4.55	15.11	4.95	16.46	22.77	63.84
1974	4.04	13.86	6.41	18.65	16.86	59.83
1975	3.15	19.11	3.45	24.07	14.30	64.08
1976	4.07	34.24	5.05	46.46	21.64	111.47
1977	5.75	40.61	7.20	58.74	27.48	139.78
1978	7.73	52.86	9.33	84.17	23.87	177.96
1979	7.15	77.83	11.04	85.69	20.45	202.16
1980	5.98	84.63	10.42	102.69	32.61	236.33
1981	7.39	102.38	12.32	110.92	45.20	278.21
1982	7.73	85.00	21.23	101.52	41.38	256.86
1983	7.32	138.08	12.37	88.33	35.87	281.97
1984	5.81	100.68	20.30	130.61	47.16	304.55
1985	6.19	101.65	21.74	138.90	37.77	306.25
1986	5.58	88.10	21.74	118.31	44.04	277.77
1987	6.32	101.75	11.75	75.61	36.43	231.86
1988	5.18	85.35	16.24	81.52	55.14	243.43
1989	5.45	118.03	15.61	151.36	27.95	318.41
1990	5.55	138.59	18.63	125.05	28.19	316.00
1991	5.21	119.24	20.36	159.98	27.01	331.81
1992	4.89	155.70	24.41	92.39	34.54	311.94
1993	5.15	171.73	17.49	152.03	37.72	384.13
1994	5.24	132.49	34.14	165.49	55.71	393.08
1995	5.75	158.98	22.60	197.52	66.29	451.14
1996	4.45	142.78	20.90	140.95	85.97	395.06
1997	5.39	85.00	10.70	120.08	64.13	285.30
1998	4.62	58.02	16.68	169.46	148.82	397.60
1999	3.38	110.49	13.02	195.96	84.82	407.68
2000	2.64	93.76	14.33	113.82	98.14	322.69
2001	2.95	77.59	15.91	194.36	58.81	349.61
2002	4.18	61.39	17.71	136.31	63.54	283.14
2003	4.56	85.14	14.07	201.92	56.71	362.40

Appendix Table 4. Historic commercial salmon catches in Russia, in tonnes (research vessel catches not included).

Year	Chinook	Sockeye	Coho	Pink	Chum	All
1972	1.93	1.05	2.24	20.35	6.30	31.87
1973	2.16	1.89	2.21	90.90	6.94	104.10
1974	3.88	1.05	1.83	33.03	9.07	48.85
1975	3.28	1.40	2.23	110.40	9.29	126.60
1976	3.41	1.17	1.96	54.50	12.84	73.88
1977	4.01	1.87	3.10	115.19	16.13	140.30
1978	2.35	3.38	2.95	57.65	21.93	88.26
1979	4.03	2.88	2.41	103.78	26.36	139.45
1980	2.36	3.89	1.06	79.30	17.56	104.16
1981	3.66	3.83	1.40	87.93	17.03	113.85
1982	3.76	2.97	1.34	47.78	15.72	71.57
1983	3.43	4.26	1.78	107.72	23.87	141.05
1984	4.81	6.30	1.68	56.65	15.19	84.63
1985	5.30	9.34	1.47	96.41	27.90	140.42
1986	3.28	7.54	1.80	40.96	25.62	79.21
1987	4.02	11.90	1.39	98.82	29.82	145.96
1988	3.14	8.36	1.46	40.66	29.11	82.73
1989	3.13	9.67	1.20	149.61	25.39	189.01
1990	2.61	16.40	1.00	76.11	30.36	126.48
1991	3.44	14.41	1.00	211.92	22.01	252.79
1992	4.74	15.37	1.10	87.34	21.57	130.11
1993	2.65	13.98	1.31	108.08	22.97	148.99
1994	2.51	10.66	1.10	125.17	28.23	167.67
1995	1.48	14.20	0.91	145.30	28.23	190.12
1996	1.95	16.80	0.53	110.03	24.92	154.23
1997	1.88	8.95	0.60	188.39	19.43	219.26
1998	1.70	10.14	0.46	192.10	25.14	229.52
1999	1.25	11.93	0.72	187.73	23.64	225.26
2000	1.71	15.11	0.45	147.57	30.77	195.61
2001	1.73	18.12	0.45	170.77	29.65	220.73
2002	0.56	23.02	1.26	107.66	23.37	155.86
2003	0.23	17.70	1.42	180.06	32.08	231.48

Appendix Table 5. Numbers of juvenile chum salmon released, adults returning to hatcheries, and captured (numbers plus, when available, preliminary estimates of weights in tonnes (mt)) in coastal fisheries in Korea from 1967-2004.

Year	No. of juveniles released (thousand)	No. of adults returning		
		Total catch numbers (mt)	Brood Stock	Coastal catch
1967	100	-	-	-
1968	30	-	-	-
1969	243	95	95	-
1970	617	410	410	-
1971	1,972	507	507	-
1972	1,596	273	273	-
1973	2,606	182	182	-
1974	1,778	440	440	-
1975	2,402	207	207	-
1976	741	578	578	-
1977	344	262	262	-
1978	102	322	322	-
1979	534	769	769	-
1980	409	970	970	-
1981	730	1,728	1,728	-
1982	1,234	1,997	1,997	-
1983	2,108	3,317	3,317	-
1984	3,139	4,786	4,786	-
1985	3,810	6,011	6,011	-
1986	5,590	8,977	8,977	-
1987	6,820	9,950	9,950	-
1988	7,350	14,164	14,164	-
1989	9,028	21,540	21,540	-
1990	10,300	104,113	29,542	74,571
1991	12,000	102,658 (257)	23,003	79,655
1992	10,000	110,666 (277)	27,471	83,195
1993	14,660	119,672 (299)	29,527	90,145
1994	16,110	136,200 (341)	37,166	99,034
1995	15,800	143,115 (358)	34,963	108,152
1996	16,000	215,026 (538)	30,265	184,761
1997	16,340	221,136 (553)	30,943	190,193
1998	19,410	157,711 (394)	36,954	120,757
1999	21,500	114,156 (285)	22,245	91,911
2000	19,000	16,985 (51)	7,137	9,848
2001	5,320	43,802 (107)	19,341	24,461
2002	10,450	59,932 (170)	18,093	41,839
2003	14,735	36,259 (115)	13,828	22,431
2004	12,820	-	-	-

Appendix Table 6. Historic commercial salmon catches in Washington, Oregon, and California, in tonnes.

Year	Chinook	Sockeye	Coho	Pink	Chum	All
1972	8.53	3.253	7.96	0	4.323	24.07
1973	13.16	7.013	10.21	5.802	3.073	39.26
1974	8.98	7.499	13.34	0	2.362	32.18
1975	10.77	4.334	9.82	3.749	1.025	29.69
1976	9.70	3.615	12.39	0	4.144	29.84
1977	10.62	5.149	7.07	6.068	2.274	31.18
1978	8.48	4.121	6.78	0	6.42	25.80
1979	8.82	4.844	8.05	10.614	0.618	32.94
1980	8.33	1.365	7.50	0	4.767	21.96
1981	6.85	3.419	5.40	9.031	2.739	27.43
1982	9.03	8.367	7.60	0	5.476	30.47
1983	3.44	1.032	3.32	3.815	2.706	14.31
1984	4.05	4.406	3.36	0	3.619	15.44
1985	6.63	7.45	5.35	10.006	5.39	34.83
1986	9.73	7.878	8.98	0	6.024	32.61
1987	13.68	5.41	7.28	4.358	6.302	37.03
1988	17.07	2.408	6.68	0	8.367	34.52
1989	9.98	5.559	5.70	6.884	4.425	32.55
1990	6.97	5.612	4.61	0	5.421	22.62
1991	4.47	4.418	3.71	6.121	4.582	23.30
1992	3.27	1.562	1.46	0	6.597	12.89
1993	3.33	6.281	0.87	3.701	4.391	18.58
1994	2.91	4.807	1.47	0	5.879	15.06
1995	5.63	1.045	1.40	4.615	3.021	15.71
1996	4.77	0.897	1.24	0	2.865	9.77
1997	5.15	3.143	0.44	3.204	1.91	13.85
1998	2.63	1.467	0.76	0	2.948	7.81
1999	3.38	0.055	1.00	0.0351	1.1808	5.65
2000	4.66	1.4736	2.16	0	1.3955	9.69
2001	4.86	0.6983	2.92	1.4325	6.6751	16.59
2002	7.32	1.4061	2.42	0	8.9441	20.09
2003	8.02	0.7946	2.52	2.287	6.9246	18.27