

## I. SUMMARY OF 1986 OCEAN SALMON MANAGEMENT

### Troll Fishing Regulations

A summary of the actual 1986 non-treaty troll fishing regulations for both the FCZ and state territorial waters (zero to three miles) is provided in Table I-1. Implementation of an emergency rule in 1986 allowed for additional inseason management flexibility to help maximize the available ocean harvests and also allowed for a deviation from the framework harvest allocation schedule north of Cape Falcon. A historical summary of troll fishing regulations for each of the three Pacific coast states and for treaty Indian troll fisheries is provided in Appendix C, Tables C-1, C-3, C-5, and C-7. Appendix C also contains a chronological summary of ocean salmon management events for 1986.

#### California South of Point Delgada

The May 1 through September 30 troll season for chinook south of Point Delgada was of the same duration as in 1985 and 1984. The all-species fishery in the area was opened on June 1 and closed on August 20 upon attainment of the overall coho quota south of Cape Falcon. The season continued for all-salmon-except coho through September 30.

#### Point Delgada to Cape Blanco

In contrast to a complete closure in 1985, a 22-day general troll season was conducted in 1986. An additional 61 days of season were provided by three local area fisheries inside of six nautical miles of the baseline from which the state territorial waters are measured. Fisheries in this area operated under both chinook and coho quotas. Weekly three-day closures during the early part of the general season and landing restrictions were used to help control the harvest rate, species composition, and provide for an earlier opening.

#### Cape Blanco to Cape Falcon

Between Cape Blanco and Cape Falcon special landing restrictions were implemented to maximize fishery benefits for day-boat fishermen targeting primarily on coho north of Cape Perpetua, and trip-boat fishermen targeting mainly on chinook in the area south of Cape Perpetua. Increased coho abundance allowed for a significantly higher coho quota south of Cape Falcon than in 1985.

#### North of Cape Falcon

North of Cape Falcon, the 1986 seasons were shorter than in 1985, even after excluding the 1985 pink salmon fishery from consideration. The 1986 quotas were nearly identical to those of 1985, but were not fully harvested by the troll fleet due to insufficient numbers of fish remaining in each quota to provide a full day of fishing without risk of exceeding the quota.

#### Treaty Troll

Actual seasons for 1986 treaty Indian troll fisheries in ocean management areas and Area 4B are summarized in Table I-2. Treaty troll fisheries were

Table 1-1. Summary of actual ocean troll salmon fishing regulations for 1986. <sup>a/</sup>

Area	Salmon Species	Dates	Season		Actual Quotas		Special Restrictions <sup>b/</sup>
			Salmon Species	Dates	Total Days	Chinook Coho	
U.S.-Canada Border to Cape Falcon, OR	All except coho	May 1-10		10	31.7	-	Conservation Zone 1 (Columbia River mouth) closed
		May 14-17		4			
		May 24-27		4			
U.S.-Canada Border to Carroll Island, WA	All	May 30-31		2			b/
		Aug. 2-3		2	6.0 <sup>c/</sup>	30.0 <sup>d/</sup>	
Leadbetter Pt., WA to Cape Falcon, OR	All	Aug. 8-9		2			b/
		Aug. 2-3		2	13.3	110.6 <sup>d/</sup>	
Cape Falcon to Cape Blanco, OR	All except coho	Aug. 7-9		3			b/e/
		May 1-June 30		61	None		
Cape Blanco, OR to Pt. Delgada, CA	All, with restrictions <sup>e/</sup>	July 1-20		20	None	f/	Not more than six lines per boat off California; Conservation zones closed are Humboldt Mountain to Sisters Rocks, Punta Gorda to Pt. Delgada, and a 12-mile square at the mouth of the Klamath River
		July 23-24		2	None	f/	
		July 25-Oct. 31		99	None		
Sisters Rocks to Chetco Pt., OR	All, with restrictions <sup>g/</sup>	June 16-19		4	75.0 <sup>h/</sup>	f/	Open only within six nautical miles off shore
		June 23-26		4			
		June 30-July 5		6			
Sisters Rocks to Mack Arch, OR	All except coho	July 17-24		8			Open only within six nautical miles off shore
		July 25-Aug. 26		33			
South Jetty, Humboldt Bay, to Punta Gorda, CA	All	May 1-June 6		37	7.5 <sup>h/</sup>	-	Open only within six nautical miles off shore; not more than six lines per boat
		Aug. 29		1	1.9 <sup>h/</sup>	-	
Pt. Delgada To U.S.-Mexico Border	All except coho	Sept. 8-30		23	10.0 <sup>i/</sup>	None	Not more than six lines per boat
		May 1-31		31	None	f/	
	All except coho	June 1-Aug. 20		81			
		Aug. 21-Sept. 30		41			

a/ In addition to the seasons listed here, ODFW established limited additional late fall salmon troll fishery. Details of these seasons are provided in Table C-3.

b/ Barless hooks required in all areas in 1986. Minimum size limits north of Cape Falcon, Oregon were 28 inches for chinook and 16 inches for coho. Minimum size limits south of Cape Falcon were 26 inches for chinook and 16 inches for coho caught north of Cape Blanco, Oregon and 22 inches for coho caught south of Cape Blanco.

c/ Adjusted upward inseason from 4,000 due to underharvest in the May troll fishery.

d/ Coho quotas north of Cape Falcon, Oregon were implemented by an emergency rule which provides for a deviation from the framework allocation schedule for 1986.

e/ North of Cape Perpetua a single daily possession or landing per boat of up to 50 coho was permitted without restriction. No coho in addition to the first 50 could be landed unless chinook were also landed at a ratio of at least 1 chinook for every 2 coho. South of Cape Perpetua no coho could be landed without landing chinook at a ratio of at least 1 chinook for each 2 coho. For the July 23 through July 24 season, the restrictions used for the subarea north of Cape Perpetua during the July 1 through July 20 season applied to the entire area.

f/ The ocean troll fishery south of Cape Falcon was managed not to exceed a harvest quota and hooking mortality of 463,000. From Cape Falcon to Pt. Delgada the subarea harvest quota was 383,000 coho and a hooking mortality of 50,000. South of Pt. Delgada the preseason subarea harvest quota was 26,800 and a hooking mortality of 3,200. Inseason the harvest quota was adjusted upward for the whole area to 404,000.

g/ At least 1 chinook must be possessed or landed for each 2 coho possessed or landed.

h/ The initial chinook troll quota for the area between Cape Blanco and Pt. Delgada was 83,200. The 68,200 quota originally specified for the fishery beginning June 16 was reduced inseason to 67,000 due to overharvest in the Sisters Rocks to Chetco Pt. fishery. On July 16, 8,000 chinook were transferred to the troll quota from the recreational quota in the same area. The original 7,500 quota for the Sisters Rocks to Mack Arch subarea was reduced inseason to 1,900 due to overharvest in the earlier fishery.

i/ The Klamath River fall chinook portion of the catch after September 7 will be counted against the 1987 troll allocation.

Table 1-2. Summary of actual treaty Indian troll seasons for 1986.

Tribe and Area	Species	Seasons		Minimum Size Limit (Inches)	
		Dates	Days	Chinook	Coho
Quinault, Hoh, and Quilleute Tribes	Chinook	May 1-31	31	26	-
	All	June 1-July 10	40	26	16
	All	July 11-Aug. 8 <sup>a/</sup>	28	26	16
Makah Tribe Inside 3 Miles, Areas 3N, 4, 4A	All	Jan. 1-Apr. 30	120	24	16
	Chinook	May 1-31	31	26	-
	All	June 1-Aug. 8	69	26	20
	All	Aug. 9 <sup>b/</sup>	1	26	20
	Coho	Aug. 10-12	2	-	20
3-200 Miles, Areas 3N, 4, 4A	Chinook	May 1-31	31	26	-
	All	June 1-July 12	42	26	20
	All	July 13-Aug. 8 <sup>c/</sup>	27	26	20
Area 4B	All	Jan. 1-Apr. 30	120	24	16
	Chinook	May 1-31	31	26	-
	All	June 1-Aug. 8	69	26	20
	All	Aug. 9 <sup>b/</sup>	1	26	20
	Coho	Aug. 10-12	2	-	20
	All	Nov. 1-Dec. 31	61	22	20
	All	Nov. 1-Dec. 31	61	22	20
Klallam Tribes (Area 4B)	All	Jan 1-Apr. 13	103	22	16
	All	Apr. 14-June 15	63	30	16
	All	June 16-Aug. 8	54	22	16
	All	Oct. 1-Dec. 31	92	22	16

a/ A 20 coho per chinook minimum catch ratio per day was instituted on July 11. The Quinault Tribe closed the fishery on July 18.

b/ A 10 coho per chinook minimum catch ratio was instituted.

c/ A 20 coho per chinook minimum landing ratio was instituted on July 13.

constrained by chinook and coho quotas. The fishery was closed on August 9 upon attainment of the chinook quota; however, the Makah Tribe continued to fish until closed by a federal court order on August 17.

### Recreational Fishing Regulations

A summary of the actual recreational fishing regulations for both the FCZ and state territorial waters is provided in Table I-3. Implementation of an emergency rule in 1986 allowed for additional inseason management flexibility to help extend the total number of days in the recreational seasons and to allow for a deviation from the framework harvest allocation schedule north of Cape Falcon, providing more salmon to the sport fishery. Even with special measures to slow the sport harvest rate, the seasons north of Cape Blanco ended well before the Labor Day target date. A summary of recreational fishing regulations since 1978, for each of the three Pacific coast states, is provided in Appendix C, Tables C-2, C-4 and C-6.

#### South of Point Delgada

The 1986 recreational fishery off California south of Point Delgada operated from mid-February to mid-November.

#### Point Delgada to Cape Blanco

Between Point Delgada and Cape Blanco the fishery was managed as a single unit to protect Klamath River fall chinook and Oregon coastal coho. This unit management resulted in a shortening of the usual northern California season. The fishery had quotas for both chinook and coho, but the recreational fishery would not close if the coho quota were reached.

#### Cape Blanco to Cape Falcon

The 1986 coho quota south of Cape Falcon was larger than for 1985, but the 1986 season between Cape Blanco and Cape Falcon was 20 days shorter. The catch rate by this fishery was unusually high. Despite the closure of the fishery on Sunday and Monday of each week, beginning on July 27, and a reduction of the weekly bag limit to two fish, the fishery was closed on August 13.

#### North of Cape Falcon

Fisheries in this area were regulated under subarea quotas for both coho and chinook. North of Cape Falcon, the high recreational catch rate in 1986 resulted in closing prior to the Labor Day target date. Even with a Friday and Saturday closure each week from the beginning of the season, one of the three management subareas was closed midnight, August 14 by state regulations and the other two followed on August 18.

### Fishing Effort and Harvest

#### Coastwide Summary

A coastwide summary of ocean fishing effort and harvest is provided in Tables I-4 through I-8 for chinook, coho, and pink salmon. The combined

Table 1-3. Summary of actual ocean recreational salmon fishing regulations for 1986.<sup>a/</sup>

Area	Salmon Species	Season	Dates	Total Days	Actual Quotas (thousands)		Bag Limit and Special Restrictions <sup>b/</sup>
					Chinook	Coho	
U.S.-Canada Border to Queets River, WA	All	June 29-Aug. 14 <sup>c/</sup>	33	2.3	28.0 <sup>d/</sup>	Two fish; closed Fridays and Saturdays	
Queets River to Klipsan Beach, WA	All	June 29-Aug. 18	37	23.1 <sup>d/</sup>	76.3 <sup>d/</sup>	Two fish; closed within 0-3 nautical miles through Aug. 7; closed Fridays and Saturdays	
Red Buoy Line to Cape Falcon, OR	All	June 29-Aug. 18	37	11.7	103.2	Two fish; closed Fridays and Saturdays	
Cape Falcon to Cape Blanco, OR	All	May 24-26 June 28-Aug. 13 <sup>f/</sup>	3 41	None None	e/ e/	First two fish per day; no more than six fish in seven days, beginning July 29 no more than two fish in seven days	
Cape Blanco to Pt. Delgada, CA	All	Feb. 15-Mar. 28 <sup>g/</sup> May 24-Sept. 7	42 107	- 32.0 <sup>h/</sup>	- e/	May 24 through June 22 not more than one coho and one chinook; after June 22 two fish. No more than six fish in seven days; 12-mile square at Klamath River mouth closed Aug. 1-31	
Pt. Delgada to U.S.-Mexico Border	All	Feb. 15-Nov. 16	275	None	e/	Two fish	

a/ In addition to the seasons listed here, ODFW established limited additional late all salmon except coho season inside state waters near the mouths of the Elk, Sixes, and Chetco rivers and at the mouth of Tillamook Bay. Details of these seasons are provided in Table C-4.

b/ Barbless hooks required in all areas south of Cape Blanco in 1986. Minimum size limits north of Cape Falcon, Oregon were 24 inches for chinook and 16 inches for coho. There were no minimum size limits between Cape Falcon and Cape Blanco. A 20-inch minimum size limit was implemented for both chinook and coho caught south of Cape Blanco.

c/ In concurrence with federal intent, the season closed at midnight on August 14 under state regulations. Federal closure was effective at midnight on August 17.

d/ During the season 1,800 chinook were transferred from the Klipsan Beach to Queets River subarea quota to the subarea quota north of the Queets River in exchange for 5,400 coho.

e/ The coho quota south of Cape Falcon was 189,000 fish. Coho caught south of Cape Blanco counted toward the total quota, but the fishery south of Cape Blanco did not close when the coho quota was met.

f/ Beginning July 27 the fishery was closed Sunday and Monday of each week.

g/ Season off California only.

h/ On July 16, the pre-season quota of 40,000 was reduced by 8,000 chinook which were transferred to the troll quota in the same area.

Table 1-4. Coastwide chinook catches (thousands of fish) in the ocean troll and sport fisheries, 1971-1986 with five year averages.

Year	California <sup>a/</sup>		Oregon <sup>b/</sup>		Washington <sup>c/</sup>		Council Area		Canadian		Southeast Alaska		Grand Total				
	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Sport					
<u>Averages</u>																	
1971-1975	563	169	732	208	41	258	280	211	490	1,051	430	1,481	1,173	238	299	16	3,206
1976-1980	619	93	711	234	41	275	214	115	329	1,067	248	1,315	1,078	446	303	18	3,160
1981-1985	461	108	569	151	33	184	86	55	141	699	196	894	812	285	243	23	2,258
1971	434	188	622	103	30	133	252	160	412	789	378	1,167	1,270	134	334	15	2,920
1972	492	200	692	127	44	171	203	212	415	822	456	1,278	1,223	175	242	15	2,933
1973	817	198	1,015	363	61	424	317	204	521	1,497	463	1,960	1,091	223	308	17	3,599
1974	492	157	649	224	37	261	353	215	568	1,069	409	1,478	1,178	271	322	17	3,266
1975	579	104	683	225	76	301	274	262	536	1,078	442	1,520	1,103	386	287	17	3,313
1976	540	81	621	184	79	263	359	171	530	1,083	331	1,414	1,249	506	231	17	3,417
1977	600	104	704	340	61	401	265	175	440	1,205	340	1,545	1,111	382	272	17	3,327
1978	638	72	710	192	23	215	166	96	262	996	191	1,187	1,033	486	376	17	3,099
1979	727	122	849	245	21	266	147	77	224	1,119	220	1,339	997	440	338	17	3,131
1980	589	84	673	209	19	228	135	54	189	933	157	1,090	1,002	414	300	20	2,826
1981	588	82	670	160	29	189	117	84	201	865	195	1,060	868	285	248	21	2,482
1982	765	144	909	233	39	272	160	107	267	1,158	290	1,448	994	196	242	26	2,906
1983	294	63	357	79	25	104	75	48	123	449	136	585	759	228	271	22	1,865
1984	300	89	389	64	17	81	28	7	35	392	113	505	811	443	236	22	2,017
1985	360	161	521	217	56	273	52	28	80	629	245	874	632	272	217	23	2,018
1986	786	134	920	402	22	424	50	21	71	1,238	177	1,415	637	202	236	21	2,511

a/ California troll catches are preliminary for 1985 and sport estimates are preliminary for 1981-1986.

b/ Includes troll catches from Alaska, Washington, and California landed in Oregon.

c/ Includes troll catches from Area 4B, Alaska, Oregon, and California landed in Washington. Preliminary data for 1985-1986.

Table 1-5. Coastwide coho catches (thousands of fish) in the ocean troll and sport fisheries, 1971-1986 with three year averages.

Year	California <sup>a/</sup>		Oregon <sup>b/</sup>		Washington <sup>c/</sup>		Council Area		Canadian		Southeast Alaska		Grand Total				
	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Sport	Troll	Sport					
<b>Averages</b>																	
1971-1973	316	48	364	1,037	264	1,301	847	587	1,434	2,200	899	3,099	2,770	236	574	NA	6,679 <sup>d/</sup>
1974-1976	494	52	546	1,207	356	1,563	1,063	673	1,736	2,764	1,081	3,845	2,327	547	528	NA	7,246 <sup>d/</sup>
1977-1979	182	23	205	591	212	803	662	417	1,079	1,435	652	2,087	2,575	733	842	36	6,273
1980-1982	75	19	94	508	234	742	389	269	658	973	521	1,494	2,439	501	964	38	5,435
1983-1985	39	21	60	139	151	290	117	143	260	296	314	610	2,948	525	1,334	57	5,473
1971	442	67	509	1,490	312	1,802	1,264	747	2,011	3,196	1,126	4,322	3,457	NA	391	NA	8,170 <sup>d/</sup>
1972	158	45	203	825	248	1,073	575	542	1,117	1,558	835	2,393	2,369	335	792	NA	5,889 <sup>d/</sup>
1973	348	32	380	796	232	1,028	702	472	1,174	1,846	736	2,582	2,483	373	540	NA	5,978 <sup>d/</sup>
1974	656	77	733	1,137	314	1,451	1,038	595	1,633	2,831	986	3,817	2,700	772	845	NA	8,134 <sup>d/</sup>
1975	204	21	225	657	252	909	774	481	1,255	1,635	754	2,389	1,404	454	214	NA	4,461 <sup>d/</sup>
1976	622	58	680	1,827	501	2,328	1,377	943	2,320	3,826	1,502	5,328	2,876	415	525	NA	9,144 <sup>d/</sup>
1977	45	14	59	446	195	641	710	490	1,200	1,201	699	1,906	2,248	682	507	36	5,373
1978	316	41	357	612	260	872	610	470	1,080	1,538	771	2,309	2,570	1,103	1,101	49	7,132
1979	184	15	199	715	181	896	667	290	957	1,566	486	2,052	2,906	414	919	23	6,314
1980	50	21	71	383	326	709	389	362	751	822	709	1,531	2,695	642	707	33	5,608
1981	84	9	93	620	200	820	400	238	638	1,104	447	1,551	2,112	406	862	28	4,959
1982	92	26	118	522	175	697	379	206	585	993	407	1,400	2,509	454	1,522	53	5,758
1983	60	28	88	320	147	467	68	209	277	448	384	832	3,456	404	1,280	55	6,027
1984	47	19	66	14	123	137	67	40	107	128	182	310	3,148	443	1,133	60	5,094
1985	11	15	26	84	182	266	216	179	395	311	376	687	2,259	728	1,589	55	5,298
1986	35	17	52	440	211	651	159	173	332	633	401	1,035	4,118	574	2,126	40	7,893

a/ California troll catches are preliminary for 1985-1986 and sport estimates are preliminary for 1981-1986.

b/ Includes troll catches from Alaska, Washington, and California landed in Oregon.

c/ Includes troll catches from Area 4B, Alaska, Oregon, and California landed in Washington. Preliminary data for 1985-1986.

d/ Incomplete.

Table 1-6. Coastwide pink salmon catches (thousands of fish) in the ocean troll and sport fisheries, 1971-1986 (data for 1986 are preliminary).

Year	California		Oregon		Washington		Council Area		Canadian	Southeast Alaska		Grand
	Troll	Total	Troll	Total	Troll	Total	Troll	Total	Troll	Troll	Total	Total
1971	1	2	NA	2	21	9	24	9	1,284	105	b/	1,422
1972	a/	a/	a/	4	4	a/	4	4	1,033	167	1,204	1,204
1973	19	3	2	5	55	8	63	10	1,232	135	1,454	1,454
1974	a/	a/	a/	a/	1	a/	1	0	609	265	875	875
1975	3	a/	1	1	77	14	91	15	1,288	77	1,460	1,460
1976	a/	0	0	0	2	0	2	0	781	194	977	977
1977	1	88	4	92	286	29	315	33	2,677	281	3,366	3,366
1978	NA	a/	0	a/	4	0	4	0	428	618	b/	1,050
1979	a/	21	1	22	561	18	579	19	4,036	629	5,266	5,266
1980	a/	a/	0	a/	1	0	1	0	1,295	268	1,564	1,564
1981	7	60	2	62	237	10	247	12	4,440	580	5,336	5,336
1982	a/	a/	0	a/	a/	0	a/	0	194	504	699	699
1983	a/	a/	a/	a/	106	4	110	4	2,990	498	3,598	3,598
1984	a/	0	a/	a/	a/	a/	a/	a/	1,521	573	2,094	2,094
1985	7	45	8	53	108	3	111	11	3,909	968	5,048	5,048
1986	0	a/	a/	a/	a/	a/	a/	a/	902	182	1,084	1,084

a/ Less than 500 fish.  
b/ Incomplete.



Table I-7. Ocean salmon troll effort and landings for California, Oregon, and Washington for 1981-1986 with 1971-1975 and 1976-1980 averages.

Area by Year	Effort in Thousands		Catch					
	Number of Deliveries	Days Fished	Numbers (thousands)			Pounds <sup>a/</sup> (thousands)		
			Chinook	Coho	Pink	Chinook	Coho	Pink
<u>California</u>								
1971-1975 Average	45.2	NA	562.7	361.6	7.8 <sup>b/</sup>	5,742.8	2,211.3	37.0 <sup>b/</sup>
1976-1980 Average	59.1	NA	618.7	243.4	1.3 <sup>b/</sup>	5,867.2	1,184.4	6.6 <sup>b/</sup>
1981	47.8	69.0	588.1	83.9	7.0	5,534.8	477.2	28.3
1982	57.7	92.6	765.2	91.9	c/	7,448.6	551.9	c/
1983	30.4	43.1	294.0	59.9	c/	2,144.4	266.4	c/
1984	25.0	42.5	299.8	47.0	0	2,620.6	348.7	0
1985 <sup>d/</sup>	32.4	53.3	360.3	11.1	7.0	4,506.2	81.2	39.7
1986 <sup>d/</sup>	31.6	53.3	785.7	34.5	0	7,145.6	190.6	0
<u>Oregon<sup>e/</sup></u>								
1971-1975 Average	45.6	NA	208.5	981.0	1.8 <sup>b/</sup>	2,127.9	6,015.4	8.0 <sup>b/</sup>
1976-1980 Average	56.0	NA	232.6	792.3	54.2 <sup>b/</sup>	2,406.3	4,251.5	251.2 <sup>b/</sup>
1981	35.1	45.2	160.4	620.3	60.2	1,573.4	3,324.3	324.0
1982	26.5	33.9	232.8	521.9	<0.1	2,351.3	2,708.4	<0.1
1983	17.4	22.1	79.6	319.8	<0.1	654.8	1,098.0	0.2
1984	5.6	7.9	64.3	14.1	0	549.7	71.0	0
1985 <sup>d/</sup>	15.7	21.1	216.6	84.0	44.9	2,029.8	483.8	258.6
1986 <sup>d/</sup>	25.8	32.5	402.0	439.6	<0.1	3,362.5	1,905.1	<0.1
<u>Washington<sup>f/</sup></u>								
1971-1975 Average	NA	53.8 <sup>g/</sup>	279.5	869.0	50.3 <sup>b/</sup>	3,211.2	4,804.1	240.6 <sup>b/</sup>
1976-1980 Average	NA	46.2 <sup>h/</sup>	214.4	750.5	423.1 <sup>b/</sup>	2,412.7	3,675.4	1,959.3 <sup>b/</sup>
1981	NA	28.7 <sup>h/</sup>	117.1	400.4	236.6	1,237.8	1,751.5	928.5
1982	NA	20.1 <sup>h/</sup>	160.3	378.9	0.3	1,650.2	1,935.2	0.9
1983	NA	13.5 <sup>h/</sup>	75.4	67.8	106.4	686.9	193.1	374.1
1984 <sup>d/</sup>	NA	3.1 <sup>h/</sup>	27.5	66.8	0	192.2	212.8	0
1985 <sup>d/</sup>	NA	8.1 <sup>h/</sup>	52.4	216.4	108.3	524.2	1,053.3	487.3
1986 <sup>d/</sup>	NA	5.9 <sup>h/</sup>	50.0	158.8	0.2	583.6	620.4	0.4

a/ Dressed weight.

b/ Odd-year average.

c/ Under 50.

d/ Preliminary.

e/ Includes catches made off California, Washington, and Alaska and landed in Oregon.

f/ Includes treaty Indian catches (ocean and Area 4B only) and catches made off Oregon, California, and Alaska and landed in Washington.

g/ This is a 1973-1975 average; 1971 and 1972 effort data are deliveries and are not comparable.

h/ Includes treaty Indian deliveries which represent a minimum estimate of days fished.

Table 1-8. Ocean salmon recreational effort and catch off California, Oregon, and Washington for 1981-1986 with 1971-1975 and 1976-1980 averages.

Area by Year	Angler Trips (thousands)		Catch (thousands of fish)				Salmon Per Angler Trip
	Salmon Trips	Total Trips	Chinook	Coho	Pinks	Total	
<u>California</u>							
1971-1975 Average	242.2		169.6	48.3		217.9	0.90
1976-1980 Average	166.5		92.6	29.9		122.5	0.74
1981 <sup>a/</sup>	128.0		82.3	9.3		91.6	0.72
1982 <sup>a/</sup>	170.4		144.3	26.1		170.4	1.00
1983 <sup>a/</sup>	111.6		63.2	27.7		90.9	0.81
1984 <sup>a/</sup>	123.6		88.6	19.0		107.6	0.87
1985 <sup>a/</sup>	185.6		160.6	15.2		175.8	0.95
1986 <sup>a/</sup>	181.7		133.7	16.8		150.5	0.83
<u>Oregon<sup>b/</sup></u>							
1971-1975 Average	NA	345.8	49.4	271.8	1.1 <sup>c/</sup>	321.8	0.93
1976-1980 Average	395.9	410.1	40.7	292.2	2.3	335.2	0.85
1981	311.0	346.7	29.2	199.8	1.6	230.6	0.74
1982	226.0	249.7	38.7	175.1		213.8	0.95
1983	226.0	261.5	24.7	146.9	<0.1	171.7	0.76
1984	153.1	203.6	17.0	123.3	<0.05	140.3	0.92
1985	251.6	270.9	55.9	182.5	7.7	246.1	0.98
1986 <sup>a/</sup>	186.1	212.6	22.4	211.6	<0.05	234.0	1.26
<u>Washington</u>							
1971-1975 Average	482.9		210.4	567.4	10.1 <sup>c/</sup>	787.9	1.60
1976-1980 Average	428.3		114.5	510.9	23.5	634.8	1.45
1981	234.7		84.4	237.6	10.2	332.2	1.42
1982 <sup>d/</sup>	218.1		106.7	206.0		312.7	1.43
1983	209.5		48.3	209.3	4.5	262.0	1.25
1984	36.8		6.9	40.4		47.3	1.29
1985 <sup>a/</sup>	114.8		26.6	167.9	3.1	194.5	1.69
1986 <sup>a/</sup>	107.8		21.0	173.0		194.0	1.80

a/ Preliminary.

b/ Oregon fish per angler computed on total angler trips prior to 1979 and on salmon trips beginning in 1979.

c/ Odd-year pink average for 1971-1975.

d/ Includes Washington-based effort and catch from Oregon state waters (July 26 through August 1) and Strait of Juan de Fuca after WDF and NMFS ocean closures.

harvest by the 1986 commercial troll ocean salmon fisheries of California, Oregon, and Washington amounted to 1,238,000 chinook and 633,000 coho. The recreational fleet harvested 177,000 chinook and 401,000 coho.

The commercial troll chinook harvest in the Council area was 197 percent of the 1985 landings and 118 percent of the 1971-1975 average. Recreational chinook harvest was 72 percent of the 1985 catch and only 41 percent of the 1971-1975 average.

The commercial troll coho harvest in the Council area was 204 percent of the 1985 landings, but only 29 percent of the 1971-1973 average. Recreational coho harvest was 107 percent of the 1985 catch but only 45 percent of the 1971-1973 average.

The pink salmon harvest is insignificant in even numbered years.

A complete listing of historical effort and harvest data for each state and for treaty Indian troll fisheries is provided in tabular form in Appendix A.

#### Quota Attainment

The 1986 ocean fishing regulations contained ten chinook and nine coho quotas, with subarea breakdowns of some overall quotas (Table I-9).

Several quotas were changed inseason, reflecting overages or underages in projected catches as well as revisions of hooking mortality estimates and transfer of fish between subareas to prolong the season.

Only two troll chinook quotas were exceeded, the quota from Cape Blanco to Point Delgada and the treaty Indian quota. No recreational chinook quotas were exceeded. Overall, the chinook total catch in the quota areas was less than the sum of the quotas.

For coho, all recreational catches were slightly over their quotas, while most troll catches were under their quotas. The overall troll quota south of Cape Falcon was exceeded by about 7,000 fish. Overall, the total coho catch in the quota areas was below the inseason totals for all quotas.

#### California Troll Fishery

Troll effort for California totaled 53,300 days fished (Table I-7). This was the same level of effort as estimated for 1985, but was only 56 percent of the 1978-1980 average of 95,300 days. Chinook landings of 785,700 fish were an increase of 118 percent over 1985 landings of 360,300 chinook and were 40 percent higher than the 1971-1975 average (562,700). Coho landings of 34,500 were higher than 1985 landings of 11,100 coho; but were only 10 percent of the 1971-1975 average (361,600).

#### California Recreational Fishery

California recreational fishery effort totaled 181,700 angler trips (Table I-8). This compares to 185,600 trips in 1985 and an average of 242,200 trips for the 1971-1975 period. Chinook landings were 133,700 fish compared

Table 1-9. Coho and chinook quotas for 1986 compared with actual harvest (thousands of fish) by management area and fishery. Numbers in parentheses are for inseason adjusted quotas.

Fishery Management Area	Chinook			Coho		
	Quota	Harvest	Percent of Quota	Quota	Harvest	Percent of Quota
<u>NON-TREATY</u>						
<u>Troll</u>						
North of Cape Falcon						
May Season	33.7	31.7	94	-	-	-
	( 31.7)					
August (Cape Flattery)	4.0	2.2	55	30.0	25.7	86
	( 6.0)		( 37)			
August (Columbia River)	13.3	5.4	41	110.6	93.9	85
Subtotal	51.0	39.3	77	140.6	119.6	85
South of Cape Falcon						
Cape Blanco to Pt. Delgada	-	-	-	383.0	404.5	106
				( 404.0)		(100)
Cape Blanco to Punta Gorda	83.2	96.4	116	-	-	-
	( 91.2)		(106)			
South Jetty to Punta Gorda	10.0	3.3	33	-	-	-
South of Pt. Delgada	-	-	-	26.8	23.8	89
				( 17.0)		(140)
Subtotal	93.2	99.7	107	409.8	428.3	105
	(101.2)		( 99)	( 421.0)		(102)
<u>Recreational</u>						
North of Cape Falcon						
North of Queets River	2.3	3.5	152	28.0	23.2	83
	( 4.1)		( 85)	( 22.6)		(103)
Queets River to Klipsan Beach	23.1	15.3	66	76.3	82.2	108
	( 21.3)		( 72)	( 81.7)		(101)
Red Buoy Line to Cape Falcon	11.7	4.2	36	103.2	104.4	101
Subtotal	37.1	23.0	62	207.5	209.8	101
South of Cape Falcon						
Cape Blanco to Pt. Delgada	40.0	25.6	64	-	-	-
	( 32.0)		( 80)			
<u>TREATY INDIAN</u>						
<u>Troll</u>	12.5	12.5 <sup>a/</sup>	100	86.0	84.3 <sup>b/</sup>	98
Grand Total	233.8	200.1	86	1,032.9	1,033.6	100
				(1,043.5)		( 99)

a/ An additional 250 hooking mortality was assessed by NMFS regional director for the impact of coho to chinook ratio fisheries conducted under tribal regulations.  
b/ An additional 258 coho were landed by treaty trollers under state license.

to 160,600 in 1985 and an average of 169,600 for the 1971-1975 period. Coho landings were 16,800 fish compared to 15,200 coho in 1985 and an average of 48,300 for the 1971-1975 period.

### Oregon Troll Fishery

Oregon's ocean troll fishery effort totaled 32,500 vessel days for the 1986 season, an increase of 11,400 days over 1985 (54 percent). Chinook landings set an historic record, reaching 402,000 fish. This was nearly double the 1985 catch of 216,600 and 11 percent above the previous record catch of 363,300 chinook harvested off Oregon in 1973. Coho landings increased substantially to 439,600 fish, well above the 84,000 coho harvested in 1985; but still below the 1971-1976 average of 981,000 (Table I-7). Pink landings were less than 100 fish compared to 44,900 fish landed in 1985 and a high of 88,000 landed in 1977.

### Oregon Recreational Fishery

Oregon recreational fishery effort for the 1986 season totaled 186,100 salmon angler trips compared to 251,600 trips in 1985 (Table I-8). Chinook landings in 1986 were 22,400 fish compared to 55,900 in 1985 and an average 40,700 for the period 1976-1980. Most of the ocean recreational chinook harvest occurred during July (11,100 fish) followed by August (5,400 fish). Brookings was again the leading port of landing with 10,700 chinook landed, followed by the ports of Coos Bay and Winchester Bay with 2,300 fish each. Coho landings in 1986 were 211,600 fish, 16 percent above the 1985 season catch of 182,500, and an average of 292,200 for the 1976-1980 period. Pink salmon landings were less than 50 fish compared to the record 7,700 fish landed in 1985 and an average of 2,300 fish for odd years during the period 1976-1980 (Table I-8).

### Washington Troll Fishery

Non-treaty - Non-treaty troll effort for Washington totaled 4,300 days fished (Appendix A, Table A-11). This effort was approximately one-third less than the 6,200 days fished in 1985 and only 8 percent of the 1971-1975 average of 52,400. Chinook landings of 33,700 fish were similar to the 1985 landings of 34,400 fish; but were only 13 percent of the 1971-1975 average of 264,900 fish. Coho landings of 74,200 were 42 percent less than the 129,100 coho landed in 1985 and just nine percent of the 1971-1975 average landings of 858,300.

Treaty Indian - Total deliveries by 1986 treaty Indian ocean (including Area 4B) troll fisheries were 1,600, approximately 89 percent of the number of deliveries in 1985 (Appendix A, Table A-13). Deliveries in the Strait of Juan de Fuca chinook fishery accounted for 50 percent of all deliveries, but were 14 percent lower than 1985. The total chinook harvest was 16,400 in 1986, compared to 17,900 in 1985. Approximately 24 percent of the total ocean chinook catch was taken in the Strait of Juan de Fuca during the winter season, substantially lower than previous years. However, the treaty troll catch in the Strait of Juan de Fuca east of Area 4B increased to 23,500, more than four times the previous high of 5,500 observed in 1985. Chinook catch in ocean management areas during the May to September period was 12,500. The fishery harvested 84,300 coho compared to 87,300 coho taken in 1985. Nearly all the coho harvest was taken in ocean management areas.

## Washington Recreational Fishery

Washington recreational fishery effort for the 1986 season totaled 107,800 angler trips, slightly less than 1985 season effort of 114,800 trips and 22 percent of the 1971-1975 period average of 482,900 trips (Table I-8). Chinook landings in 1986 were 21,000 fish, 21 percent less than the catch of 26,600 in 1985 and just 10 percent of the 1971-1975 average catch of 210,400. Coho landings in 1986 were 173,000 fish, a slight increase over the season catch of 167,900 in 1985, but only 30 percent of the 1971-1975 average catch of 567,400.

## Pacific Salmon Commission

The Pacific Salmon Treaty between the U.S. and Canada became effective in March 1985 and established the PSC with the responsibility for implementing the treaty. Because many of the stocks under the jurisdiction of the Council are significantly affected by management actions taken in Canadian and Alaskan waters, considerable interaction between the Council and the new commission can be expected at both the policy and technical levels.

The treaty established a number of harvest ceilings for chinook salmon for various Canadian and Alaskan fisheries in response to a coastwide program to rebuild depressed stocks of chinook salmon. Ceilings for northern British Columbia and Southeast Alaska fisheries affect far-northerly migrating stocks originating in Washington, Oregon, and Idaho. These include Washington coastal, upper Columbia River bright, spring and summer, and northern Oregon coastal chinook stocks. The ceiling for west coast Vancouver Island troll and Georgia Strait troll and sport fisheries affect far-northerly migrating stocks to a lesser degree and have a major impact on more southerly distributed Columbia River tule and Puget Sound stocks. Actual catches compared to PSC harvest ceilings are summarized in Table I-10.

No direct management measures for chinook within the Council management area were specified in the treaty except for a commitment to ensure that depressed naturally spawning chinook stocks, saved as a result of harvest ceilings in the northern area, accrue principally to escapement. The Council's ocean fisheries and inside fisheries on depressed chinook stocks were designed to minimize impacts on spawning escapements of these depressed stocks.

The PSC also established a 1.75 million coho harvest ceiling for the Canadian troll fishery off the west coast of Vancouver Island for 1985 and 1986. The actual 1986 catch by this fishery was approximately 2.2 million coho. The only coho management actions for U.S. fisheries specified in the treaty concerned continuation of net fishery restriction for certain northern Puget Sound and Strait of Juan de Fuca areas. The coho catch by U.S. net fisheries in management Areas 6, 7, and 7A totaled 102,300. These were incidentally taken during fisheries under Fraser River Panel authority and during chum fisheries. There were no directed commercial coho fisheries in these areas. The Fraser River Panel is responsible for inseason management of Fraser River sockeye and pink stocks and required to directly consider management of stocks and species other than Fraser River sockeye and pink salmon.

Table I-10. Actual catches (thousands of fish) compared to Pacific Salmon Commission harvest ceilings for 1986.

Area and Fishery	Chinook (thousands of fish)		Difference	
	Ceilings	Catch	Numbers	Percent
Southeast Alaska (T, N, S) <sup>a/</sup>	264 <sup>b/</sup>	279	14	+ 5
North and Central BC (T, N, S)	256	269	13	+ 5
West Coast Vancouver Island (T)	360	355	- 5	- 1
Georgia Strait (T, S)	263	229	(-34)	-13

a/ T = troll; N = net; S = sport.

b/ Adjusted for hatchery add-on of 10,400.

