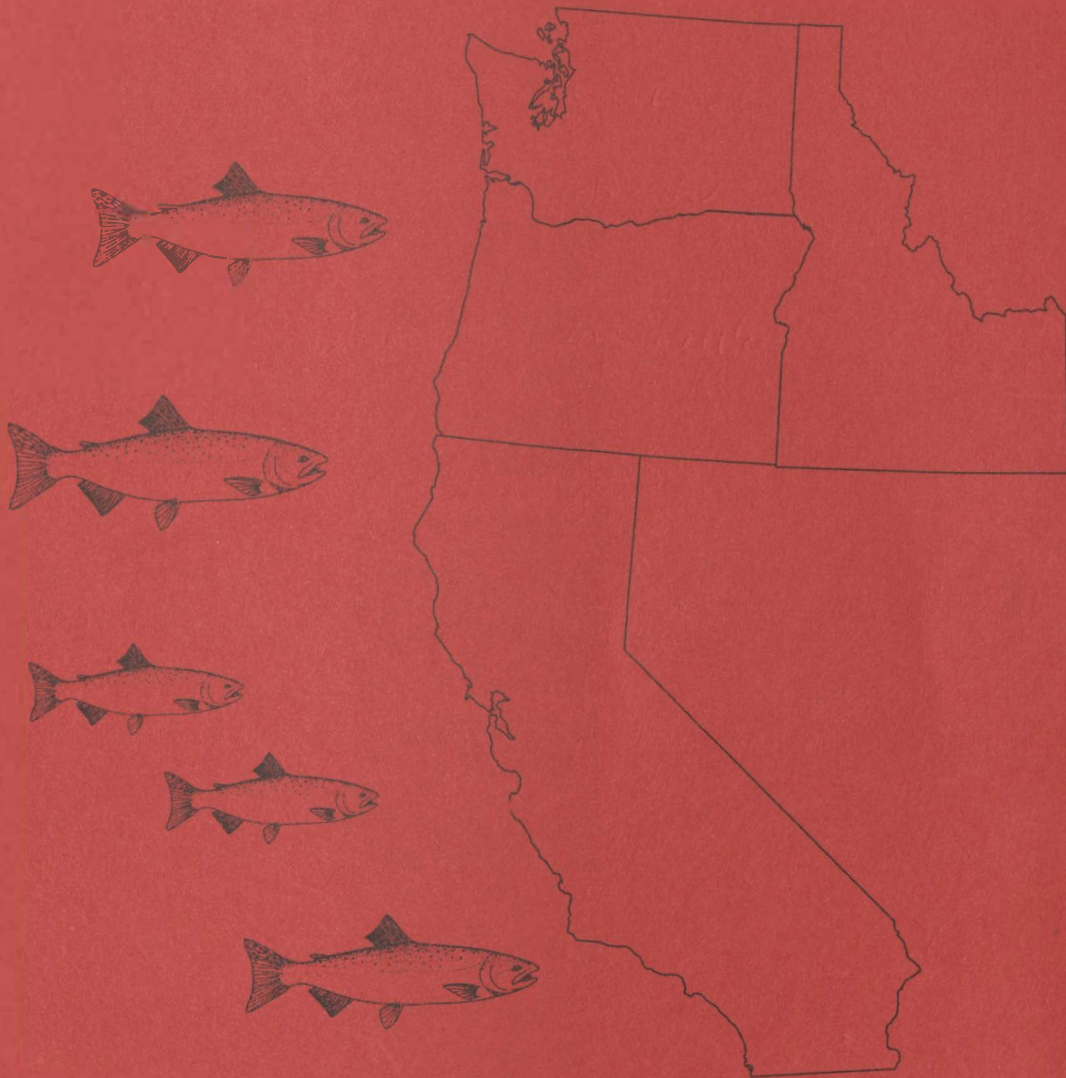


# REVIEW OF 1997 OCEAN SALMON FISHERIES



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**February 1998**

# ACKNOWLEDGEMENTS

Chapters I through III and Appendices A, B, and C of this review were prepared by the Salmon Technical Team. Chapter IV and Appendix D were prepared by Mr. James Seger, Pacific Fishery Management Council staff economist, with assistance from Salmon Technical Team members. Compilation and final editing of the report were performed by the Pacific Fishery Management Council staff.

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A report of the Pacific Fishery Management Council pursuant to National Oceanic and Atmospheric Administration Award Number NA87FC0008.



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## INTRODUCTION

# LIST OF ACRONYMS AND ABBREVIATIONS

ADFG	Alaska Department of Fish and Game
CDFG	California Department of Fish and Game
Council	Pacific Fishery Management Council
CRFMP	Columbia River Fishery Management Plan
CRTAC	Columbia River Technical Advisory Committee
CVI	Central Valley Index
CWT	coded-wire tag
EEZ	exclusive economic zone (from 3-200 miles from shore)
ESA	Endangered Species Act
FMP	fishery management plan
FRAM	Fisheries Regulatory Assessment Modeling
GSI	genetic stock identification
HRM	Harvest Rate Model
KMZ	Klamath management zone (ocean zone between Humbug Mountain and Horse Mountain where management emphasis is on Klamath River fall chinook)
KRTAT	Klamath River Technical Advisory Team
LFI	Lyons Ferry age three/four fall chinook index
LRH	lower Columbia River hatchery (tule fall chinook returning to hatcheries below Bonneville Dam)
LRW	lower Columbia River wild (bright fall chinook spawning naturally below Bonneville Dam)
MCB	mid-Columbia River brights (bright hatchery fall chinook released in the Mid-Columbia River)
MOC	mid-Oregon coast
NA	not available
NMFS	National Marine Fisheries Service
NOC	north Oregon coast
ODFW	Oregon Department of Fish and Wildlife
OCN	Oregon coastal natural (coho)
OPI	Oregon Production Index (coho salmon stock index south of Leadbetter Point)
PSC	Pacific Salmon Commission
SCH	Spring Creek Hatchery (tule fall chinook returning to Spring Creek Hatchery)
SRS	Stratified Random Sampling
STT	Salmon Technical Team (formerly the Salmon Plan Development Team)
TAC	total allowable catch
URB	upper river brights (naturally spawning bright fall chinook normally migrating past McNary Dam)
USFWS	U.S. Fish and Wildlife Service
VSI	visual stock identification
WCVI	West Coast Vancouver Island
WDFW	Washington Department of Fish and Wildlife
WFMP	Willamette Fish Management Plan

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# INTRODUCTION

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The Salmon Technical Team has prepared this postseason review of the 1997 ocean salmon fisheries off the coasts of Washington, Oregon and California in accordance with Section 11.0 of the Pacific Coast Salmon Plan as revised in 1996. This report provides a portion of the information required by Section 602.12(e) of the guidelines for regional council fishery management plans. The salmon team will provide the remaining information to assist the Council in its development of management recommendations in three preseason reports for 1998. These reports will provide estimates of stock abundance and analyze the impacts of the Council's proposed and adopted management recommendations.

Pacific Coast fisheries in Council-managed waters (ocean fisheries south of the Canadian border to Mexico from 3 to 200 miles offshore) are directed toward and harvest primarily chinook or king salmon *Oncorhynchus tshawytscha* and coho or silver salmon *Oncorhynchus kisutch*. Small numbers of pink salmon *Oncorhynchus gorbuscha* also are harvested, especially in odd numbered years. There are no directed fisheries for other Pacific salmon species and they occur rarely (sockeye) or in very limited numbers (steelhead and chum) in Council-managed harvests.

The Council's annual review of ocean fisheries provides a summary of important biological and socioeconomic data from which to assess the impacts of past management actions, determine how well management objectives are being met and improve regulations for the future. The Council will formally review this report at its March meeting prior to the development of management options for the approaching fishing season.

Chapter I of this review summarizes ocean salmon fisheries by gear type and management area. The summary includes management objectives, regulations, effort and harvest, fishery goal assessment, and management actions under the Pacific Salmon Treaty. Appendix A includes tables which detail historical harvest data by state and by management area.

Chapters II and III review inside catch and escapement data for chinook and coho salmon, respectively. Chapters on other salmon species are not included since Council fisheries have very minor impacts on pink salmon escapements and no measurable impacts on sockeye or chum salmon. The status of salmon species listed under the Endangered Species Act (ESA) is also reported in Chapter II for listed chinook and Chapter III for listed coho. Snake River Sockeye salmon, listed as endangered, also pass through the Council management area. However, as noted above, impacts on sockeye salmon in the Council management area are believed to be insignificant.

Socioeconomic impacts of the regulations are discussed in Chapter IV. Appendices B through D provide historical data on inland landings and escapements, ocean regulations and fishery related socioeconomics, respectively.

## COMMON TABLE CONVENTIONS

All 1997 data provided in this report are preliminary at this time. Tables containing Oregon historical ocean fishery data reflect recent statistical modifications to earlier estimates which were first applied in the 1995 report. The following conventions apply with respect to the report's tables:

1. Totals may not precisely equal the sum of individual years due to rounding of numbers;
2. A dash indicates that there are no data appropriate for a particular table cell, or in the case of fishing effort or landings, that the season was closed;
3. A double dash indicates no records are available.
4. Zeros indicate no landings or activity even though the season was open;
5. "NA" indicates that data are not available at the time of publication.



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# CHAPTER I

## THE 1997 OCEAN SALMON FISHERIES

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### COASTWIDE FISHERY SUMMARY

Summaries of the actual 1997 non-Indian troll, treaty Indian troll and recreational salmon fishing regulations for both the exclusive economic zone (3 to 200 miles from shore) and state territorial waters (0 to 3 miles from shore) are provided in Tables I-1, I-2 and I-3, respectively. Historical summaries of the regulations for each of the three Pacific Coast states and for treaty Indian troll fisheries are provided in Appendix C, Tables C-1 through C-7. Table C-9 provides a summary of inseason regulatory actions and events during the 1997 season.

Coastwide ocean salmon landings of chinook, coho, and pink salmon for recreational and troll fisheries in each state since 1971 are summarized in Tables I-4 through I-6. Further harvest details for each of the three Pacific Coast states are displayed in Table I-7 for commercial fisheries and Table I-8 for recreational fisheries. Historical harvest data by state are provided in Appendix A, Tables A-1 through A-19. Historical harvest data by management area are provided in Appendix A, Tables A-20 through A-29.

Table I-9 lists the 1997 coho and chinook quotas for each fishery and compares them with actual harvests. Historic records of the annual preseason catch quotas for the area north of Cape Falcon, as well as the stocks that were critical for ocean fishery management actions, are provided in Appendix C, Table C-8.

The chapter sections which follow contain detailed assessments of management objectives, regulations, fishing effort and harvest, and fishery goal assessment by management area. The final section in the chapter contains a summary of management under the Pacific Salmon Treaty with Canada. In 1997, no agreement was reached by the Pacific Salmon Commission (PSC) on catch ceilings for Alaskan and Canadian fisheries. Each manager unilaterally established regulatory measures for its fisheries.

### TROLL FISHERIES BY MANAGEMENT AREA

#### U.S.-Mexico Border to Horse Mountain

##### Management Objectives

###### Chinook

Ocean troll management objectives for chinook salmon fisheries south of Horse Mountain (near Shelter Cove, California) were based on: (1) the escapement goal range for Sacramento River fall chinook of 122,000 to 180,000 hatchery and natural adults combined; (2) an exploitation rate on age-4 Klamath River fall chinook (for fisheries from September 1, 1996, through August 31, 1997) of 12% to accommodate inriver recreational and tribal subsistence and commercial fisheries, as well as a minimum adult natural spawning escapement of 35,000; and (3) Sacramento River winter chinook impacts reduced to provide for a 31% increase in escapement. The preseason estimated troll harvest south of Horse Mountain was 301,600 fish. The anticipated spawning escapement in the Sacramento River was 312,900 fall chinook adults.

###### Coho

Coho are managed as a unit south of Cape Falcon and are discussed more fully in the Cape Falcon to Humbug Mountain section. No troll harvest of coho was allowed south of Horse Mountain in 1997.



TABLE I-1. Summary of actual ocean non-Indian troll salmon fishing regulations for 1997. (Page 1 of 1)

Area and Season	Salmon Species	Actual Quota		Special Restrictions <sup>b/</sup>
		Chinook	Coho <sup>a/</sup>	
U.S.-Canada Border to Cape Falcon, Oregon May 1-June 15 (46 days)	All except coho	11,500	-	Fishers must land and deliver fish within 48 hours of any closure.
Cape Falcon to Cape Arago, Oregon Apr. 15-June 27; Aug. 1-31; Sept. 4-Oct. 31 (163 days)	All except coho	None	-	No more than 4 spreads per line. Closed Apr. 15-Sept. 15 at mouth of Tillamook Bay.
Twin Rocks to Pyramid Rock, Oregon Nov. 1-15 (15 days)	Chinook only	None	-	No more than 4 spreads per line. Open 0-3 miles.
Cape Arago to Oregon-California Border Apr. 15-May 28 (44 days)	All except coho	5,300	-	No more than 4 spreads per line.
Cape Arago to Humbug Mt., Oregon Aug. 1-Aug. 31 (31 days)	All except coho	8,800	-	No more than 4 spreads per line.
Sept. 1-Oct 31 (61 days)	All except coho	10,000	-	No more than 4 spreads per line.
Cape Blanco to Humbug Mt., Oregon (off Elk R.) Nov. 1-30 (30 days)	Chinook only	None	-	No more than 4 spreads per line. Open 0-3 miles. Landings restricted to Port Orford.
Sisters Rocks to Mack Arch, Oregon (off Rogue R.) Aug. 1-2; 5-6; 9-10; 13-31 (25 days)	All except coho	3,000	-	No more than 4 spreads per line. Open 0-4 nautical miles. Salmon must be landed in Port Orford, Gold Beach or Brookings within 24 hours of each closure. Closed within 1 mi of the Rogue River mouth.
Goat Isl. to 42°01'20" N, Oregon (off Chetco R.) Oct. 13-25; 29-30 (15 days)	Chinook only	1,000	-	No more than 4 spreads per line. Open 0-3 miles. Single daily landing limit of 20 chinook into the port of Brookings.
Oregon-California Border to Humboldt S. Jetty Sept 1-30 (30 days)	All except coho	6,000	-	All fish must be landed in the area under a limit of 30 fish per day. Klamath River mouth control zone closed.
Horse Mt., California to Pt. Arena, California Sept. 1-30 (30 days)	All except coho	None	-	
Pt. Arena to Pt. Reyes, California July 16-Sept. 30 (77)	All except coho	None	-	
Pt. Reyes to Pt. San Pedro July 1-Sept. 30 (92 days)	All except coho	None	-	
Pt. San Pedro to U.S.-Mexico Border May 1-31; June 23-July 18; Sept. 1-30 (87 days)	All except coho	None	-	
Pt. Lopez to Pt. Mugu Apr. 15-22 (8 days)	All except coho	10,000	-	All fish must be landed within the area.

a/ The preseason hook-and-release mortality impact was estimated to be 7,900 coho for all ocean fisheries south of Cape Falcon.

b/ Single-point, single-shank barbless hooks required in all open areas coastwide. Minimum size limits: 28 inches for chinook north of Cape Falcon and 26 inches for chinook south of Cape Falcon, unless otherwise noted. No more than 6 lines per boat allowed off California.

CHAPTER 1  
THE 1997 OCEAN TROLL FISHERIES

TABLE I-2. Summary of actual treaty Indian ocean and Area 4B troll salmon seasons for 1997. (Page 1 of 1)

Tribe and Area	Salmon Species	Seasons <sup>a/</sup>			Minimum Size Limit (Inches)	
		Dates	Days	Chinook	Coho	
<b>Quinault</b>						
Areas 2 and 3	All except coho	May 1-June 30	61	24	-	
	All	Aug. 4-29; Sept. 3-7	31	24	16	
<b>Hoh and Quileute</b>						
Area 3	All except coho	May 1-June 30	61	24	-	
	All	Aug. 4-29	26	24	16	
<b>Makah</b>						
Areas 3N, 4 and 4A	All except coho	May 1-June 30	61	24	-	
	All	Aug. 4-31; Sept. 3-6	32	24	16	
Area 4B	All except coho	Jan. 1-Apr. 15; May 1-June 30; Nov. 1-30	196	24 <sup>b/</sup>	-	
	All	Aug. 4-31; Sept. 3-6; Dec. 1-31	63	24 <sup>b/</sup>	16	
<b>S'Klallam</b>						
Area 4B	All except coho	Jan. 1-Apr. 15; May 1-June 30; Nov. 1-30	196	24 <sup>b/</sup>	-	
	All	Aug. 4-29; Sept. 3-7; Dec. 1-31	62	24 <sup>b/</sup>	16	

a/ The overall quotas for these fisheries, during the May 1-Sept. 30 ocean management period, were 15,000 chinook and 12,500 coho. These quotas include troll catches by the S'Klallam and Makah tribes in Washington State Statistical Area 4B from May 1-Sept. 30. The May 1-Jun. 30 chinook season was limited by a 7,500 chinook harvest guideline. Barbless hooks were required in all ocean fisheries.

b/ Minimum length limit 22 inches prior to May 1 and after September 30.

TABLE I-3. Summary of actual ocean recreational salmon fishing regulations for 1997. (Page 1 of 1)

Area and Season	Salmon Species	Actual Quota (*Guideline)		Daily Limit and Special Restrictions <sup>b/</sup>
		Chinook	Coho <sup>a/</sup>	
U.S.-Canada Border to Cape Alava, Washington July 21-23 (3 days)	All except coho	550	-	2 salmon.
Cape Alava to Queets River, Washington July 21-Aug. 3 (14 days)	All salmon	150*	800	2 salmon.
Queets River to Leadbetter Pt., Washington Sun.-Thurs.: July 21-Sept. 4 (34 days)	All salmon	3,000*	14,000	2 salmon, except July 21-Aug. 12: 2 salmon but no more than 1 chinook. No more than 4 fish in 7 consecutive days. Closed 0-3 miles July 21-Aug. 12.
Leadbetter Pt. to Cape Falcon, Oregon Sun.-Thurs.: July 21-Aug. 7 (14 days)	All salmon	1,500*	17,500	2 salmon; no more than 4 fish in 7 consecutive days. Closed in Columbia River mouth control zone and 0-3 mi north of the zone.
Cape Falcon to Humbug Mt., Oregon Apr. 15-July 6; Aug. 1-Oct. 31 (175 days)	All except coho	None	-	2 salmon; no more than 6 fish in 7 consecutive days. Special gear restriction. <sup>c/</sup> See special state restrictions for area between Twin Rocks and Pyramid Rock within 0-3 miles.
Twin Rocks to Pyramid Rock (off Tillamook Bay) Aug. 1-Nov. 15 (107 days)	Chinook only	None	-	2 salmon; no more than 4 fish in 7 consecutive days; open 0-3 miles. Same gear restriction as required from Cape Falcon to Humbug Mt., except barbless hooks are voluntary and flashers are totally prohibited.
Cape Blanco to Humbug Mt., Oregon (off Elk R.) Nov. 1-30 (30 days)	Chinook only	None	-	1 salmon; no more than 4 fish in 7 consecutive days; open 0-3 miles.
Humbug Mt., Oregon to Horse Mt., California May 24-30; June 17-July 6; Aug. 12-Sept. 14 (61 days)	All except coho	None	-	1 salmon; no more than 4 fish in 7 consecutive days. Klamath River mouth control zone closed.
Goat Is. to 42°01'20" N, Oregon (off Chetco R.) Oct. 4-12 (9 days)	Chinook only	None	-	1 salmon; no more than 4 fish in 7 consecutive days. Open 0-3 miles.
Horse Mt. to Pt. Arena, California Feb. 15-July 6; Aug. 1-Nov. 16 (249 days)	All except coho	None	-	2 salmon. Gear restricted when fishing with bait and 1 pound or less of weight. <sup>d/</sup>
Pt. Arena to Pigeon Pt. Mar. 29-Nov. 2 (219 days)	All except coho	None	-	2 salmon; south of Pt. Reyes from July 1-Sept. 1, daily bag limit of first 2 fish (no minimum size restriction). Gear restricted when fishing with bait and 1 pound or less of weight. <sup>d/</sup>
Pigeon Pt. to U.S.-Mexico Border Mar. 15-Oct. 19 (218 days)	All except coho	None	-	2 salmon. Gear restricted when fishing with bait and 1 pound or less of weight. <sup>d/</sup>

a/ Overall recreational hook-and-release mortality between Cape Falcon and the U.S.-Mexico border was projected preseason to be 7,700 coho.

b/ No more than one rod and single-point, single-shank barbless hooks required north of Pt. Conception, California. Unless otherwise noted: minimum size limits are (1) 24 inches for chinook and 16 inches for coho north of Cape Falcon, (2) 20 inches for chinook from Cape Falcon to Horse Mt. and (3) 24 inches for chinook in openings south of Horse Mt.

c/ Gear limited to artificial lures, plugs or bait, no less than 6 inches long (excluding hooks and swivels) with no more than 2 single point, single shank, barbless hooks; divers prohibited; flashers prohibited thru Apr. 30 and then may be used only with downriggers.

d/ From May 1-Sept. 1, when fishing with bait and 1 pound or less of weight in the area between Horse Mt. and Pt. Conception, you may use no more than 2 barbless hooks. When using only 1 hook, the hook must measure no less than 3/4 inch from the point to the shank. When using 2 hooks, the terminal hook must measure no less than 3/4 inch from point to shank and the upper hook no less than 5/8 inch. The hooks must be permanently tied in place so that the space between them does not exceed 5 inches when measured from the eye of the top hook to the inner base of the curve of the lower hook. Beginning Sept. 2, the hooks used must be circle hooks. At all times, hook size and type restrictions do not apply when fishing with artificial lures.



TABLE I-4. Chinook landings in thousands of fish for the Washington, Oregon and California ocean commercial troll and recreational fisheries. A double dash ("--") indicates no records are available. (Page 1 of 1)

Year	California			Oregon <sup>a/</sup>			Washington <sup>b/</sup>			Council Area		
	Troll	Sport	Total	Troll	Sport	Total	Troll	Sport	Total	Troll	Sport	Total
1950	--	--	--	--	--	--	257	62	319	--	--	--
1951	--	--	--	--	--	--	326	155	481	--	--	--
1952	474	--	--	248	--	--	407	68	475	--	--	--
1953	492	--	--	151	--	--	419	38	457	--	--	--
1954	771	--	--	197	--	--	384	57	441	--	--	--
1955	763	--	--	310	--	--	385	80	465	--	--	--
1956	958	--	--	343	--	--	295	119	414	--	--	--
1957	474	--	--	257	--	--	361	93	454	--	--	--
1958	375	--	--	175	--	--	270	75	345	--	--	--
1959	514	--	--	54	--	--	202	71	273	--	--	--
1960	540	--	--	128	--	--	122	89	211	--	--	--
1961	774	--	--	116	--	--	182	75	257	--	--	--
1962	556	120	676	53	--	--	159	87	246	--	--	--
1963	662	84	746	152	--	--	204	94	298	--	--	--
1964	687	101	788	67	--	--	164	107	271	--	--	--
1965	705	60	765	58	--	--	96	129	225	--	--	--
1966	554	74	628	95	37	132	167	144	311	816	255	1,071
1967	338	73	411	100	43	143	132	160	292	570	276	846
1968	472	154	626	110	25	135	163	144	307	745	323	1,068
1969	551	156	707	140	32	172	187	154	341	878	342	1,220
1970	517	148	665	165	43	208	214	161	375	896	352	1,248
1971	434	188	622	103	30	132	252	160	412	788	378	1,166
1972	492	201	693	127	44	171	203	212	415	822	457	1,279
1973	817	198	1,015	363	61	424	317	204	521	1,497	463	1,960
1974	492	157	649	223	35	258	353	215	568	1,068	407	1,475
1975	579	104	683	225	75	300	274	262	536	1,078	441	1,519
1976	540	81	621	184	79	263	359	171	530	1,083	331	1,414
1977	600	104	704	340	58	398	265	175	440	1,205	337	1,542
1978	638	73	711	192	23	215	166	96	262	996	192	1,188
1979	727	120	847	245	21	266	147	77	224	1,119	218	1,337
1980	589	85	674	209	19	228	135	54	189	933	158	1,091
1981	588	84	672	161	29	190	103	84	187	852	197	1,049
1982	765	139	904	232	39	271	142	107	249	1,139	285	1,424
1983	294	64	358	80	25	105	58	48	106	432	137	569
1984	300	88	388	64	17	81	14	7	21	378	112	490
1985	366	171	537	217	56	273	47	27	74	630	254	884
1986	826	142	968	403	23	426	46	21	67	1,275	186	1,461
1987	876	193	1,069	529	59	588	75	41	116	1,480	293	1,773
1988	1,317	171	1,488	470	38	508	106	19	125	1,893	228	2,121
1989	531	187	718	353	32	385	73	20	93	957	239	1,196
1990	423	140	563	232	27	259	63	30	93	718	197	915
1991	295	81	376	75	14	89	50	13	63	420	108	528
1992	163	74	237	110	13	123	66	18	84	339	105	444
1993	280	110	390	82	6	88	55	13	68	417	129	546
1994	296	183	479	25	6	31	5	-	5	326	189	515
1995	679	397	1,076	215	7	222	12	1	13	906	405	1,311
1996	381	164	545	177	11	188	12	c/	13	554	175	729
1997 <sup>d/</sup>	488	229	716	150	8	158	20	4	24	658	241	899

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

b/ Includes (1) troll catches from Area 4B (May 1-Sept. 30); (2) troll catches from Alaska, Oregon and California landed in Washington; (3) treaty Indian troll catches (May 1-Sept. 30); and (4) beginning in 1989, includes catch from Washington state-waters Area 4B recreational fishery.

c/ Less than 500 fish.

d/ Preliminary.

TABLE I-5. Coho landings in thousands of fish for the Washington, Oregon and California ocean commercial troll and recreational fisheries. A double dash ("--") indicates no records are available. (Page 1 of 1)

Year	California			Oregon <sup>a/</sup>			Washington <sup>b/</sup>			Council Area		
	Troll	Sport	Total	Troll	Sport	Total	Troll	Sport	Total	Troll	Sport	Total
1950	--	--	--	--	--	--	649	6	655	--	--	--
1951	--	--	--	--	--	--	637	7	644	--	--	--
1952	92	--	--	356	--	--	843	22	865	--	--	--
1953	102	--	--	275	--	--	665	45	710	--	--	--
1954	64	--	--	227	--	--	403	65	468	--	--	--
1955	56	--	--	256	--	--	494	64	558	--	--	--
1956	66	--	--	443	--	--	706	154	860	--	--	--
1957	89	--	--	551	--	--	733	188	921	--	--	--
1958	13	--	--	197	--	--	574	131	705	--	--	--
1959	35	--	--	175	--	--	577	163	740	--	--	--
1960	18	--	--	112	--	--	181	78	259	--	--	--
1961	79	--	--	329	--	--	542	183	725	--	--	--
1962	48	13	61	292	--	--	633	296	929	--	--	--
1963	162	33	195	457	--	--	602	275	877	--	--	--
1964	247	40	287	557	--	--	603	253	856	--	--	--
1965	217	21	238	666	--	--	967	500	1,467	--	--	--
1966	446	32	478	646	228	874	885	341	1,226	1,977	601	2,578
1967	414	50	464	1,004	351	1,355	779	455	1,234	2,197	856	3,053
1968	362	40	402	825	266	1,091	714	447	1,161	1,901	753	2,654
1969	193	28	221	557	233	790	464	403	867	1,214	664	1,878
1970	183	15	198	990	257	1,247	744	493	1,237	1,917	765	2,682
1971	442	67	509	1,490	312	1,802	1,264	747	2,011	3,196	1,126	4,322
1972	158	45	203	825	248	1,073	575	542	1,117	1,558	835	2,393
1973	348	32	380	785	232	1,017	702	472	1,174	1,835	736	2,571
1974	656	77	733	1,137	306	1,443	1,038	595	1,633	2,831	978	3,809
1975	204	21	225	657	250	907	774	481	1,255	1,635	752	2,387
1976	622	58	680	1,827	500	2,327	1,377	943	2,320	3,826	1,501	5,327
1977	45	14	59	446	180	626	710	490	1,200	1,201	684	1,885
1978	316	41	357	612	259	871	610	470	1,080	1,538	770	2,308
1979	184	21	205	715	181	896	667	290	957	1,566	492	2,058
1980	50	21	71	383	326	709	389	362	751	822	709	1,531
1981	84	11	95	622	200	822	401	238	639	1,107	449	1,556
1982	92	27	119	564	175	739	380	206	586	1,036	408	1,444
1983	60	27	87	320	147	467	70	209	279	450	383	833
1984	47	19	66	14	123	137	67	40	107	128	182	310
1985	11	16	27	84	182	266	218	168	386	313	366	679
1986	36	19	55	440	219	659	160	175	335	636	413	1,049
1987	44	47	91	354	181	535	138	124	262	536	352	888
1988	51	35	86	623	227	850	73	89	162	747	351	1,098
1989	42	50	92	456	273	729	145	213	358	643	536	1,179
1990	61	52	113	122	201	323	190	225	415	373	478	851
1991	82	69	151	307	259	566	136	208	344	525	536	1,061
1992	2	12	14	50	186	236	92	124	216	144	322	466
1993	-	30	30	2	58	60	75	126	201	77	214	291
1994	-	c/	c/	-	c/	c/	-	-	-	-	c/	c/
1995	-	1	1	-	12	12	57	68	125	57	81	138
1996	-	1	1	c/	7	7	36	51	87	36	59	95
1997 <sup>d/</sup>	-	c/	c/	-	6	6	14	25	39	14	31	45

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

b/ Includes (1) troll catches from Area 4B (May 1-Sept. 30); (2) troll catches from Alaska, Oregon and California landed in Washington; (3) treaty Indian troll catches (May 1-Sept. 30); and (4) beginning in 1989, includes catch from Washington state-waters Area 4B recreational fishery.

c/ Less than 500 fish, including illegal catch.

d/ Preliminary.

TABLE I-6. Pink salmon landings in thousands of fish for the Washington, Oregon and California ocean commercial troll and recreational fisheries. (Page 1 of 1)

Year	Oregon			Washington			Council Area			
	California Troll	Troll	Sport	Total	Troll	Sport <sup>a/</sup>	Total	Troll	Sport	Total
1971	1	2	NA	2	21	9	30	24	9	33 <sup>b/</sup>
1972	c/	c/	c/	0	4	c/	4	4	0	4
1973	19	3	2	5	55	8	63	77	10	87
1974	c/	c/	c/	0	1	c/	1	1	0	1
1975	3	c/	1	1	77	14	91	80	15	95
1976	c/	0	0	0	2	0	2	2	0	2
1977	1	88	4	92	286	29	315	375	33	408
1978	NA	c/	0	0	4	0	4	4	0	4 <sup>b/</sup>
1979	c/	21	1	22	561	18	579	582	19	601
1980	c/	c/	0	0	1	0	1	1	0	1
1981	7	60	2	62	237	10	247	304	12	316
1982	c/	c/	0	0	c/	0	0	0	0	0
1983	c/	c/	c/	0	106	4	110	106	4	110
1984	c/	0	c/	0	c/	c/	0	0	0	0
1985	7	44	8	52	108	3	111	159	11	170
1986	0	0	c/	0	c/	c/	0	0	0	0
1987	1	18	1	19	19	2	21	38	3	41
1988	0	0	0	0	0	0	0	0	0	0
1989	1	4	1	5	47	2	49	52	3	55
1990	0	0	0	0	c/	0	0	0	0	0
1991	c/	2	c/	2	48	2	50	50	2	52
1992	0	c/	c/	0	c/	c/	0	0	0	0
1993	0	c/	c/	c/	6	2	8	6	2	8
1994	0	0	0	0	-	-	-	0	0	0
1995	0	c/	c/	c/	42	3	45	42	3	45
1996	0	c/	0	c/	0	c/	0	c/	c/	c/
1997 <sup>d/</sup>	0	c/	0	c/	2	1	3	2	1	3

a/ Beginning in 1989, includes pinks landed in the Washington state-waters Area 4B recreational fishery.

b/ Incomplete.

c/ Less than 500 fish.

d/ Preliminary.



TABLE I-7. Ocean salmon commercial troll effort and landings for California, Oregon and Washington. (Page 1 of 2)

Year or Average	Days Fished <sup>a/</sup> (thousands)	Catch					
		Numbers (thousands)			Pounds (thousands) <sup>b/</sup>		
		Chinook	Coho	Pink	Chinook	Coho	Pink
<b>CALIFORNIA</b>							
1971-1975	NA	562.7	361.6	7.8 <sup>c/</sup>	5,743.0	2,211.3	37.0 <sup>c/</sup>
1976-1980	95.0 <sup>d/</sup>	618.6	243.4	1.3 <sup>c/</sup>	5,867.2	1,184.3	6.6 <sup>c/</sup>
1981-1985	59.8	462.7	58.7	4.7	4,453.6	344.9	22.7
1986-1990	58.5	794.7	46.8	0.8	8,097.4	262.2	4.0
1982	93.1	765.2	91.9	e/	7,448.6	551.9	e/
1983	43.5	294.0	59.9	e/	2,144.4	266.4	e/
1984	42.2	299.8	47.0	0.0	2,621.2	348.4	0.0
1985	51.6	366.3	11.0	7.0	4,519.2	80.4	39.7
1986	54.7	825.6	36.4	0.0	7,396.8	201.6	0.0
1987	58.6	876.3	43.7	0.9	9,047.1	245.6	3.4
1988	75.7	1,317.2	51.0	0.0	14,430.8	319.5	0.0
1989	57.4	530.9	41.9	0.7	5,489.8	230.6	4.5
1990	46.2	423.4	61.0	0.0	4,122.4	313.7	0.0
1991	35.3	294.9	82.3	e/	3,237.9	459.2	e/
1992	20.3	163.4	2.5	0.0	1,632.1	11.3	0.0
1993	25.9	279.6	-	0.0	2,536.9	-	0.0
1994	21.2	295.6	-	0.0	3,103.1	-	0.0
1995	25.8	679.3	-	0.0	6,633.5	-	0.0
1996	21.1	380.6	-	0.0	4,113.4	-	0.0
1997 <sup>f/</sup>	18.7	487.5	-	0.0	5,200.1	-	0.0
<b>OREGON<sup>g/</sup></b>							
1971-1975	NA	239.5	882.3	1.8 <sup>c/</sup>	2,127.9	6,015.4	8.0 <sup>c/</sup>
1976-1980	44.4 <sup>h/</sup>	236.6	803.7	54.2 <sup>c/</sup>	2,406.3	4,251.5	251.2 <sup>c/</sup>
1981-1985	26.0	151.1	321.0	21.0	1,431.8	1,537.1	116.6
1986-1990	38.3	397.6	399.1	4.3	3,728.4	1,957.2	21.0
1982	33.7	232.0	564.0	e/	2,351.3	2,708.4	0.0
1983	22.1	79.5	319.6	e/	654.8	1,098.0	0.2
1984	7.9	64.3	13.8	0.0	549.7	71.0	0.0
1985	21.0	217.0	84.2	44.0	2,029.8	483.8	258.6
1986	32.5	402.7	440.4	0.0	3,362.5	1,905.1	0.0
1987	39.5	529.3	354.0	18.0	5,182.3	1,915.9	87.3
1988	51.1	470.0	623.2	0.0	4,384.7	3,335.9	0.0
1989	42.3	353.5	455.7	4.0	3,531.9	1,995.5	17.6
1990	26.2	232.4	122.3	0.0	2,180.6	633.6	0.0
1991	14.9	74.8	306.9	2.0	693.5	1,410.2	7.6
1992	9.2	110.5	49.8	e/	1,013.2	206.2	e/
1993	9.5	81.5	1.7	e/	760.7	8.8	e/
1994	3.8	25.3	-	0.0	286.7	-	0.0
1995	7.9	214.8	-	0.1	1,940.7	-	0.4
1996	8.5	177.1	e/	e/	1,924.7	e/	e/
1997 <sup>f/</sup>	7.8	149.7	-	e/	1,539.9	-	0.1

TABLE I-7 Ocean salmon commercial troll effort and landings for California, Oregon and Washington. (Page 2 of 2)

Year or Average	Days Fished <sup>a/</sup> (thousands)	Catch					
		Numbers (thousands)			Pounds (thousands) <sup>b/</sup>		
		Chinook	Coho	Pink	Chinook	Coho	Pink
<b>WASHINGTON<sup>i/</sup></b>							
1971-1975	53.3 <sup>j/</sup>	279.5	869.0	50.3 <sup>c/</sup>	3,211.2	4,804.1	240.6 <sup>c/</sup>
1976-1980	45.3	214.4	750.5	423.1 <sup>c/</sup>	2,412.7	3,675.4	1,959.3 <sup>c/</sup>
1981-1985	13.4	72.7	227.1	151.1 <sup>c/</sup>	858.3	1,029.2	596.6 <sup>c/</sup>
1986-1990	6.9	72.6	141.2	33.6 <sup>c/</sup>	775.5	612.7	120.5 <sup>c/</sup>
1982	18.6	142.3	379.9	0.3	1,650.2	1,935.2	0.9
1983	12.2	58.4	69.8	107.7	686.9	193.1	374.1
1984	1.9	13.8	66.6	0.0	192.2	212.8	0.0
1985	7.5	46.6	217.8	108.7	524.2	1,053.3	487.3
1986	5.5	46.0	160.4	0.2	583.6	620.4	0.4
1987	4.5	75.1	138.4	19.3	763.4	567.9	70.9
1988	8.9	106.1 <sup>k/</sup>	72.7 <sup>l/</sup>	0.0	1,122.0	295.0	0.0
1989	7.3	73.1	144.7	47.9	783.3	595.0	170.0
1990	8.3	62.9	189.7	0.1	625.0	985.0	0.3
1991	6.4	49.7	136.0 <sup>m/</sup>	48.2	482.9	634.3	160.6
1992	6.0	66.2	92.3	0.0	677.8	334.8	0.0
1993	5.5	55.4	75.2	6.1	563.4	336.1	19.9
1994	0.2	5.2	-	0.0	52.8	-	0.0
1995	0.8	11.5	56.7	42.0	85.1	254.8	136.7
1996	0.8	12.4	35.8	0.0	0.0 <sup>n/</sup>	69.8 <sup>n/</sup>	0.0 <sup>n/</sup>
1997 <sup>f/</sup>	0.9	20.1	14.4	1.7	80.9 <sup>n/</sup>	n/	e/n/

a/ For Washington, days fished includes treaty Indian deliveries.

b/ Dressed weight.

c/ Odd-year average.

d/ Days fished estimates are for 1978-1980. Data unavailable for 1976-1977.

e/ Less than 50.

f/ Preliminary.

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

h/ Days listed are for 1979-1980. Data unavailable for 1976-1978.

i/ Includes treaty Indian landings (ocean and Area 4B only from May 1-Sept. 30) and catches made off Oregon, California and Alaska and landed in Washington.

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

k/ Includes 300 chinook landed from vessels fishing illegally off Washington.

l/ Includes 2,200 coho landed from vessels fishing illegally off Washington.

m/ Includes 100 coho landed from vessels fishing illegally off Washington.

n/ Non-Indian only.

TABLE I-8. Ocean salmon recreational effort and catch off California, Oregon, and Washington. (Page 1 of 2)

Year or Average	Thousands of Salmon Angler Trips	Catch (thousands of fish)				Total	Salmon Per Angler Trip
		Chinook	Coho	Pinks			
<b>CALIFORNIA</b>							
1971-1975	247.4	169.6	48.3	0.0	217.9	0.9	
1976-1980	163.5	92.4	31.2	0.0	123.6	0.8	
1981-1985	147.0	109.1	19.9	0.0	129.0	0.9	
1986-1990	241.3	166.5	40.3	0.0	206.8	0.9	
1982	171.3	138.7	26.7	0.0	165.4	1.0	
1983	122.7	63.8	27.2	0.0	91.0	0.7	
1984	127.0	87.8	19.0	0.0	106.8	0.8	
1985	191.9	171.1	15.8	0.0	187.1	1.0	
1986	195.6	141.6	18.7	0.0	160.3	0.8	
1987	268.3	192.5	47.3	0.0	239.8	0.9	
1988	245.4	171.8	34.4	0.0	206.2	0.8	
1989	244.9	186.6	49.6	0.0	236.2	1.0	
1990	252.1	139.8	51.6	0.0	191.4	0.8	
1991	196.6	80.8	69.3	0.0	150.1	0.8	
1992	127.9	73.6	11.5	0.0	85.1	0.7	
1993	174.9	110.0	29.8	0.0	139.8	0.8	
1994	189.9	183.2	0.5	0.0	183.7	1.0	
1995	378.5	397.2	0.9	0.0	398.1	1.1	
1996	225.4	164.2	0.6	0.0	164.8	0.7	
1997 <sup>a/</sup>	234.3	228.9	0.5	0.0	229.4	1.0	
<b>OREGON<sup>b/</sup></b>							
1971-1975	364.5 <sup>c/</sup>	46.8	261.4	1.5 <sup>d/</sup>	309.7	0.9	
1976-1980	387.7	40.0	289.2	2.5 <sup>d/</sup>	331.7	0.9	
1981-1985	233.5	33.1	165.4	3.3 <sup>d/</sup>	201.8	0.9	
1986-1990	241.1	35.8	220.0	0.4 <sup>d/</sup>	256.2	1.1	
1982	226.0	38.7	175.1	0.0	213.8	0.9	
1983	226.0	24.7	146.9	0.1	171.7	0.8	
1984	153.1	17.0	122.6	e/	139.6	0.9	
1985	251.6	55.9	182.5	8.0	246.4	1.0	
1986	187.0	22.8	218.9	e/	241.7	1.3	
1987	255.1	59.4	180.5	1.0	240.9	0.9	
1988	250.7	38.3	226.9	0.0	265.2	1.1	
1989	266.3	32.0	273.3	1.3	306.6	1.2	
1990	246.6	26.5	200.6	0.0	227.1	0.9	
1991	190.1	14.4	259.1	0.3	273.8	1.4	
1992	165.3	12.6	185.8	e/	198.4	1.2	
1993	79.6	6.4	58.1	e/	64.5	0.8	
1994	26.9	6.0	f/	0.0	6.0	0.2	
1995	35.9	6.7	11.9	e/	18.6	0.5	
1996	44.0	11.2	7.2	0.0	18.4	0.4	
1997 <sup>a/</sup>	30.2	7.7	6.0	0.0	13.7	0.5	



TABLE I-8. Ocean salmon recreational effort and catch off California, Oregon, and Washington. (Page 2 of 2)

Year or Average	Thousands of Salmon Angler Trips	Catch (thousands of fish)			Total	Salmon Per Angler Trip
		Chinook	Coho	Pinks		
<b>WASHINGTON<sup>g/</sup></b>						
1971-1975	483.0	210.3	566.8	9.9 <sup>d/</sup>	787.0	1.6
1976-1980	429.8	114.6	511.8	23.8 <sup>d/</sup>	650.2	1.5
1981-1985 <sup>h/</sup>	163.3	54.7	172.4	5.9 <sup>d/</sup>	233.0	1.4
1986-1990	119.4	26.1	165.1	1.9 <sup>d/</sup>	193.1	1.6
1982 <sup>h/</sup>	218.7	106.8	206.5	0.0	313.3	1.4
1983	209.7	48.4	209.3	4.5	262.2	1.3
1984	36.8	6.9	40.4	0.0	47.3	1.3
1985	114.8	26.6	167.9	3.1	197.6	1.7
1986	109.3	21.1	174.8	0.0	195.9	1.8
1987	101.5	40.5	123.9	1.8	166.2	1.6
1988	68.9	18.9	88.9	0.0	107.8	1.6
1989	142.2	19.9	212.9	2.0	234.8	1.7
1990	175.2	30.0	224.9	0.0	254.9	1.5
1991	127.2	12.7	207.7	2.2	222.6	1.8
1992	108.9	18.4	123.6	0.0	142.0	1.3
1993	128.8	13.0	126.0	2.4	141.4	1.1
1994	-	-	-	-	-	-
1995	55.0	0.5	68.3	2.8	71.6	1.3
1996	43.3	0.2	51.4	0.0	51.6	1.2
1997 <sup>a/</sup>	29.7	4.0	26.8	1.4	32.1	1.1

a/ Preliminary.

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

c/ Angler days estimates are for 1974-1975. Data unavailable for 1971-1973.

d/ Odd-year average.

e/ Less than 50 fish.

f/ Less than 50 fish (illegal catch).

g/ Beginning in 1989, includes angler trips and catch in state-managed, late-season Area 4B fishery. See Table IV-16 for Area 4B data.

h/ Includes Washington-based effort and catch from Oregon state waters (July 26-Aug. 1) and Strait of Juan de Fuca after WDFW and NMFS ocean closures in 1982.

TABLE I-9. Coho and chinook harvest quotas for 1997 compared with actual harvest in thousands of fish by management area and fishery. (Page 1 of 1)

Fishery Governed by Quota	Chinook			Coho		
	Quota	Catch	Percent <sup>a/</sup>	Quota	Catch	Percent <sup>a/</sup>
<b>NORTH OF CAPE FALCON</b>						
TREATY INDIAN TROLL						
May 1-Jun. 30; Aug. 1-Sept. 15 <sup>b/</sup>	15.0	13.6	91	12.5	14.4	115
NON-INDIAN TROLL						
U.S.-Canada Border to Cape Falcon (May 1-Jun. 15)	11.5	6.4	56	Coho Retention Prohibited <sup>c/</sup>		
RECREATIONAL						
U.S.-Canada Border to Cape Alava (July 21-23)	0.55 <sup>d/</sup>	0.48	87	Coho Retention Prohibited		
Cape Alava to Queets River (July 21-Aug. 3)	0.15 <sup>d/</sup>	0.06	41	0.8	1.1	138
Queets River to Leadbetter Pt. (July 21-Sept. 4)	3.0 <sup>d/</sup>	3.08	103	14.0	13.2	94
Leadbetter Pt. to Cape Falcon (July 21-Aug. 7)	1.5 <sup>d/</sup>	0.53	35	17.5	16.9	96
Subtotal Recreational	5.2	4.1	79	32.3	31.1	96
TOTAL NORTH OF CAPE FALCON	31.7	24.2	76	44.8	45.5	102
<b>SOUTH OF CAPE FALCON</b>						
TROLL (all except coho)				Coho Retention Prohibited		
Cape Arago to OR-CA Border (Apr. 15-May 28)	5.3	6.6	125			
Cape Arago to Humbug Mt. (Aug. 1-31)	8.8	2.6	30			
Cape Arago to Humbug Mt. (Sept. 1-Oct. 31)	10.0	1.0	10			
Klamath Management Zone:						
Sisters Rocks to Mack Arch (Aug. 1-2, 5-6, 9-10, 13-31)	3.0	0.3	11			
OR-CA Border to Humboldt S. Jetty (Sept. 1-30)	6.0	1.4	23			
Goat Island to 42°01'20" N (Oct. 13-25; 29-30)	1.0	0.9	90			
Pt. Lopez to Pt. Mugu (Apr. 15-22)	10.0	11.8	118			
Subtotal Troll	44.1					
RECREATIONAL (all except coho)	-	-	-	Coho Retention Prohibited		
TOTAL SOUTH OF CAPE FALCON	44.1			Coho Retention Prohibited		
Buoy 10 (opening Aug. 1)	5.2 <sup>e/</sup>	13.2	253	16.0 <sup>e/</sup>	20.4	127

a/ Percent based on actual catch, not rounded numbers.

b/ Chinook guideline of 7,500 fish during the May 1-June 30 all-salmon-except-coho fishery.

c/ Trollers traded 8,800 coho for 3,200 chinook from the recreational fishery.

d/ Guideline within an overall recreational quota of 5,200 chinook.

e/ Expected catch, not a quota or guideline.

## Regulations

In attempting to achieve the chinook management objectives listed above, the troll fishery in the area between Horse Mountain and Point Arena was open September 1-30 for all-salmon-except-coho, and a minimum size of 26 inches. South of Point Arena, the minimum size for all troll fisheries was 26 inches, also. There was a troll fishery between Point Reyes and Point Arena from July 16 through September 30. The area between Point San Pedro and Point Reyes was open July 1 through September 30. The area south of Point San Pedro was open from May 1-31, June 23 through July 18, and September 1-30. Between Lopez Point and Point Mugu, a troll fishery was conducted from April 15-22, when it attained the 10,000 chinook quota.

Coho harvest was not permitted.

## Effort and Harvest

Commercial trollers harvested 486,100 chinook salmon from ocean waters south of Horse Mountain, approximately 31% more than the 1996 harvest of 371,800 chinook and 61% above the preseason estimate of 301,600.

Effort by trollers fishing south of Horse Mountain totaled 18,600 days fished, compared to 20,700 days fished in 1996.

## Fishery Goal Assessment

Indices of ocean exploitation and population size of Central Valley chinook have been developed based on ocean troll and recreational harvests south of Point Arena and Central Valley adult chinook salmon spawning escapements. Central Valley chinook stocks probably comprise 85-95% of chinook catches south of Point Arena.

The Central Valley index (CVI) has been calculated since 1970, when escapement estimates for all races of Central Valley chinook were available (Table I-10). In the 1970s and early 1980s, the ocean fishery pattern was stable, with harvest occurring both north and south of Point Arena in significant numbers. However, since the mid-1980s harvest north of Point Arena has been progressively more restricted. This regulation structure is undoubtedly affecting the CVI, both numerically and as it relates to the ocean harvest index.

Also, the CVI can be influenced by changes in the magnitude of the inland sport harvest relative to spawning escapement. Recent basinwide angler surveys have estimated inland recreational catch at levels approaching 25% of the fish entering the basin. This may be significantly higher than inland recreational harvest in the early years of the CVI database, increasing the ocean harvest index by an unknown degree.

As a result of these factors, comparison of either the actual CVI abundance or the ocean harvest index is not a satisfactory way to evaluate population or harvest impact trends in the long term. The 1997 abundance index for Central Valley chinook was 1,046,200, compared to 741,600 in 1996 (Figure I-1). The ocean harvest index of 66 was 2 points higher than the 1996 index, but still 12 points lower than the 1995 index of 78 (Figure I-2). The fact that the 1997 index was slightly higher than 1996 but still substantially lower than 1995 reflects the slight easing of harvest constraints on Sacramento winter chinook and the significant restriction (compared to previous years) on commercial fishing time south of Point Arena because of the diminished Klamath River fall chinook stock abundance and concern for the endangered Snake River fall chinook whose surrogate stock (Lyons Ferry fall chinook) has been known to occur as far south as Pigeon Point.



TABLE I-10. Indices of annual abundance and ocean fishery impacts on California Central Valley chinook in thousands of fish. (Page 1 of 1)

Year	Ocean Chinook Landings South of Pt. Arena			Hatchery and Natural Escapements of Central Valley Adults			Abundance Index (Ocean + River Totals)	Ocean Harvest Index (%) <sup>b/</sup>
	Troll	Sport	Total	Fall	Other <sup>a/</sup>	Total		
1970	226.8	111.1	337.9	190.5	55.6 <sup>c/</sup>	246.1	584.0	58
1971	150.7	166.3	317.0	190.6	62.0	252.6	569.6	56
1972	229.8	187.6	417.4	99.6	46.1	145.7	563.1	74
1973	422.5	180.9	603.4	227.1	27.1	254.2	857.6	70
1974	282.7	141.6	424.3	205.6	35.7	241.3	665.6	64
1975	234.4	92.7	327.1	159.2	47.6	206.8	533.9	61
1976	237.9	68.6	306.4	168.8	43.8	212.6	519.0	59
1977	263.8	76.6	340.4	148.7	42.8	191.5	531.9	64
1978	291.0	65.9	356.9	136.9	17.1	154.0	510.9	70
1979	234.1	108.5	342.6	167.9	11.3	179.2	521.8	66
1980	294.3	77.1	371.4	155.9	31.6	187.5	558.9	66
1981	289.9	73.8	363.7	189.3	18.7	208.0	571.7	64
1982	418.4	122.5	540.9	177.2	36.8	214.0	754.9	72
1983	178.2	53.0	231.2	121.0	14.2	135.2	366.4	63
1984	221.7	78.7	300.3	197.5	17.6	215.1	515.4	58
1985	212.3	121.8	334.1	308.9	19.0	327.9	662.0	50
1986	502.5	114.8	617.3	259.0	30.3	289.3	906.6	68
1987	446.8	152.8	599.7	188.0	25.2	213.2	812.9	74
1988	830.5	130.4	960.9	244.9	23.3	268.2	1,229.1	78
1989	363.8	130.9	494.7	149.6	16.4	166.0	660.7	75
1990	336.2	112.6	448.8	108.3	13.5	121.8	570.6	79
1991	254.6	62.1	316.7	112.3	15.1	127.4	444.1	71
1992	163.5	66.7	230.2	85.3	7.6	92.9	323.1	71
1993	259.7	99.3	359.0	131.5	10.1	141.6	500.6	72
1994	290.4	159.9	450.3	148.8	11.2	160.0	610.3	74
1995	665.5	354.6	1,020.1	272.0	19.9 <sup>d/</sup>	291.9	1,312.0	78
1996	348.9	129.3	478.2	255.3	8.1	263.4	741.6	64
1997 <sup>e/</sup>	482.3	208.2	690.5	350.9	4.8	355.7	1,046.2	66

a/ Spring run of the current calendar year and late fall and winter runs of the following calendar year.

b/ Ocean harvest landed south of Pt. Arena as a percent of the abundance index.

c/ Percent of adults in 1970 spring run assumed the same as 1971 (72%, 5,500 total).

d/ Winter run assumed to be the same as previous year.

e/ Preliminary.

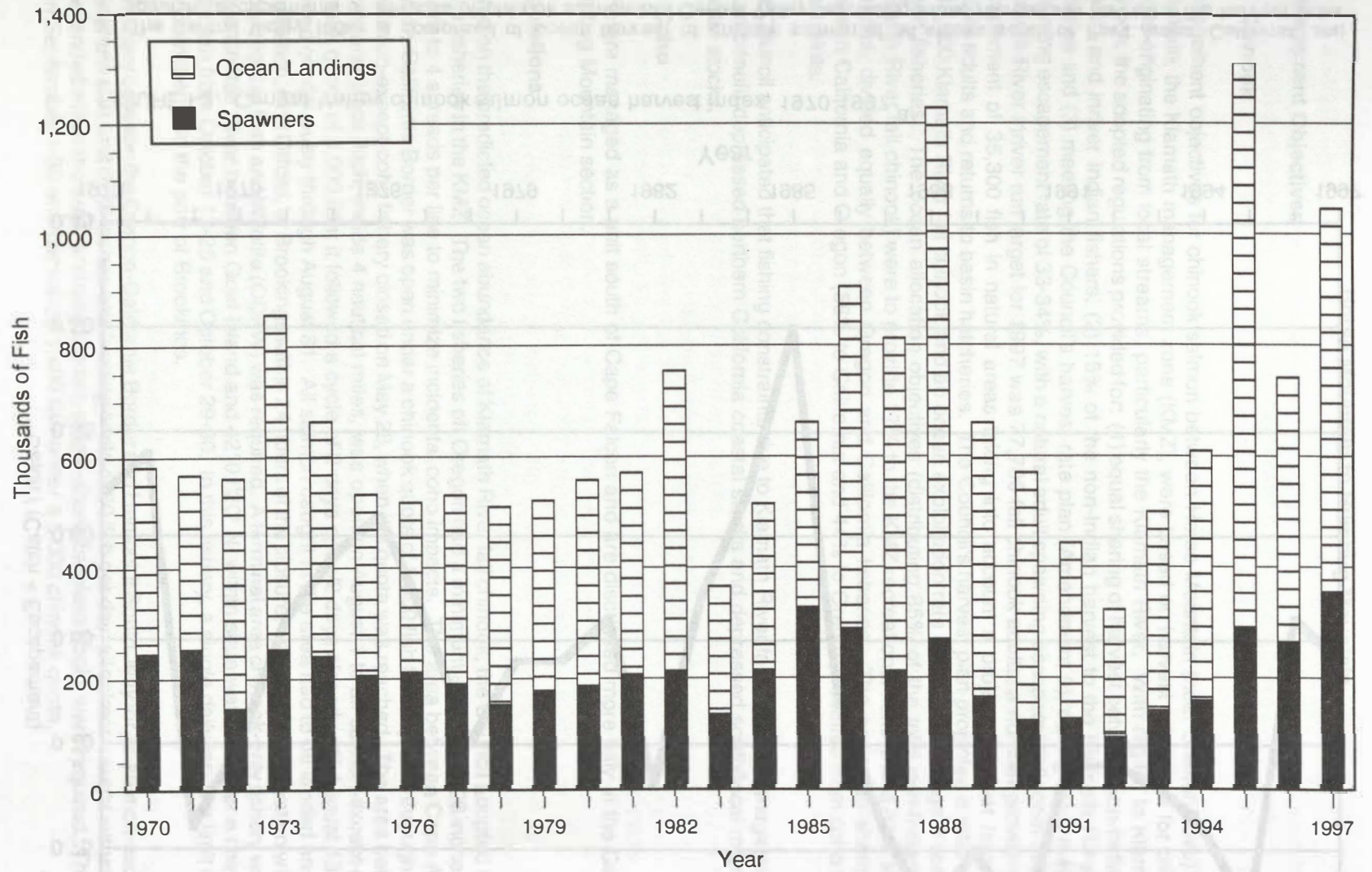


FIGURE I-1. Central Valley chinook salmon annual abundance index, 1970-1997.



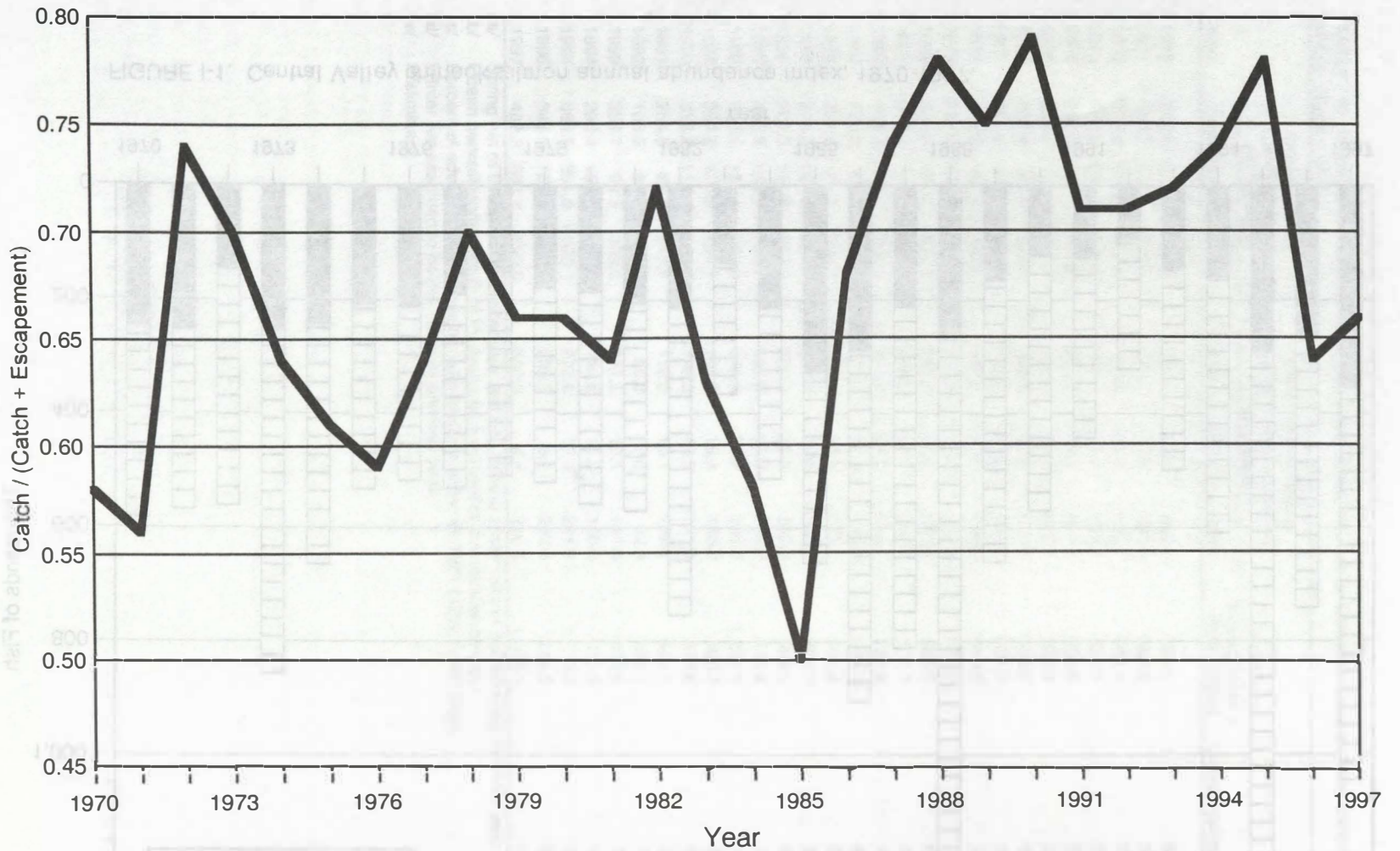


FIGURE I-2. Central Valley chinook salmon ocean harvest index, 1970-1997.<sup>a/</sup>

a/ The Central Valley Index is comprised of ocean harvest of chinook salmon of all stocks south of Point Arena, California, and spawning escapements of all races of chinook salmon into Central Valley, excluding inland recreational harvest. The harvest index is the ocean catch divided by the sum of ocean catch and Central Valley spawning escapement. It does not represent a true harvest rate on Central Valley chinook.



## Horse Mountain to Humbug Mountain

### Management Objectives

#### Chinook

Management objectives for chinook salmon between Horse Mountain (near Shelter Cove) and Humbug Mountain, the Klamath management zone (KMZ), were based on harvest rate goals for chinook salmon stocks originating from local streams, particularly the Klamath River. With regard to Klamath River fall chinook, the adopted regulations provided for: (1) equal sharing of harvest between non-Indian (ocean and inriver) and inriver Indian fishers, (2) 15% of the non-Indian harvest to the Klamath River recreational fisheries and (3) meeting the Council's harvest rate plan (Amendment 9), calling for a minimum natural spawning escapement rate of 33-34%, with a natural adult spawning escapement floor of 35,000 fish. The Klamath River inriver run target for 1997 was 77,700 fall chinook adults, a number providing a spawning escapement of 35,300 fish in natural areas taking into account a projected inriver harvest impact of 26,500 adults and returns to basin hatcheries. The Council's harvest plan projected a total ocean harvest of 17,600 Klamath River fall chinook and an ocean exploitation rate of 12% on the age-4 component in all ocean fisheries. The ocean allocation objectives (distributing 85% of the total non-Indian allocation of Klamath River fall chinook) were to provide 17% to the KMZ recreational fishery and 83% to other ocean fisheries, divided equally between Oregon and California fisheries. The projected sharing imbalance between California and Oregon (56% to California and 44% to Oregon) resulted from coho management constraints.

The Council anticipated that fishing constraints due to Klamath River fall chinook management objectives would benefit depressed northern California coastal stocks and depressed south/local migrating Oregon coastal stocks.

#### Coho

Coho are managed as a unit south of Cape Falcon and are discussed more fully in the Cape Falcon to Humbug Mountain section.

### Regulations

Based on the predicted ocean abundance of Klamath River fall chinook, the Council adopted three chinook quota fisheries in the KMZ. The two fisheries off Oregon had a minimum size limit of 26 inches, and limited fishers to 4 spreads per line to minimize incidental coho impacts. The area between Cape Arago and the Oregon-California Border was open under a chinook quota of 5,300 fish from April 15 through May 31. The all-salmon-except-coho fishery closed on May 28, when the quota was reached. The area between Sisters Rocks and Mack Arch, inside 4 nautical miles, was open on August 1 to all-salmon-except-coho under a chinook quota of 3,000 fish; it followed a cycle of 2 days open/2 days closed until August 13, when it was opened continuously through August 31. All salmon caught in the area had to be landed and delivered in Gold Beach, Port Orford, or Brookings within 24 hours of the closure, and vessel registration with the Oregon Department of Fish and Wildlife (ODFW) was required. A terminal area chinook-only fishery was conducted off the Chetco River between Goat Island and 42°01'20" N, within state waters, under a chinook quota of 1,000 fish from October 13-25 and October 29-30. In this fishery, a single daily landing limit of 20 chinook was permitted into the port of Brookings.

The fishery between the Oregon-California Border and Humboldt South Jetty for all-salmon-except-coho had a minimum size limit of 26 inches and landing limits of 30 fish per day; all salmon caught within the area had to be landed within the area; and single-point, single-shank barbless hooks were required. The fishery was open September 1-30 and harvested 1,400 fish under a 6,000 chinook quota.

## **Effort and Harvest**

Troll fishery effort between Horse Mountain and Humbug Mountain totaled 400 vessel days, compared to 1,400 in 1996. Chinook harvest was 5,800 fish, compared to 17,400 fish in 1996. Coho retention was not allowed in either 1997 or 1996. No pink salmon were landed in either 1997 or 1996.

## **Fishery Goal Assessment**

### **Chinook**

The Council's harvest allocation goals and the ocean fishery exploitation rate on age-4 Klamath River fall chinook for 1997 ocean troll and recreational fisheries cannot be determined at this time because some CWT data are not yet available. The total inriver escapement was 81,700 adults, above the 77,000 projected preseason. The natural spawner escapement of 45,900 adults exceeded the goal by 31%.

Harvest during May and June, between Cape Arago and the Oregon-California Border, totaled 6,500 chinook, compared to the 5,300 chinook quota. Harvest during August between Sisters Rocks and Mack Arch totaled 300 chinook, compared to the 3,000 chinook quota. Harvest during September 1-30, between the Oregon-California Border and Humboldt South Jetty, was 1,400 chinook compared to the quota of 6,000 chinook. Harvest during October off the Chetco River totaled 900 chinook compared to the 1,000 chinook quota.

### **Coho**

Goal assessment for coho is discussed in the Humbug Mountain to Cape Falcon section.

## **Humbug Mountain to Cape Falcon**

### **Management Objectives**

#### **Chinook**

Commercial ocean troll chinook salmon fisheries in 1997 between Humbug Mountain (near Port Orford, Oregon) and Cape Falcon (near Manzanita, Oregon) were constrained due to Oregon coastal natural (OCN) coho and Snake River fall chinook management objectives with subarea chinook quotas reflecting Klamath River fall chinook management. South of Cape Falcon, chinook fisheries were constrained by: 1) a coastwide Klamath River fall chinook exploitation rate limited to 12% on age-4 fish (for fisheries from September 1, 1996 through August 31, 1997); 2) a 30% reduction in Snake River fall chinook impacts from the 1988-93 base period; and 3) an OCN coho exploitation rate of 13%. Fishery objectives also took into account the index escapement goal range for Oregon coastal chinook of 150,000 to 200,000 adult chinook. Closed periods during late June and early September were necessary to meet Snake River fall chinook impact limits.

A discussion of details leading to the adoption of the 12% ocean exploitation rate for Klamath River fall chinook was presented in the management objectives section for the area from Horse Mountain to Humbug Mountain.

It was anticipated that fishery constraints due to OCN coho, Klamath River fall chinook, and Snake River fall chinook management objectives would benefit Oregon south coast chinook stocks. Humbug Mountain to Cape Falcon chinook fisheries have a minor impact on most of the stocks originating from the north Oregon coast which have a northerly marine distribution pattern.

#### **Coho**

Coho retention was not allowed in 1997 ocean commercial troll fisheries south of Cape Falcon due to projected poor Oregon Production Index (OPI) area coho abundance, both from hatchery and natural production, and OCN coho management objectives. The OPI, which includes all fishery impacts and ocean



escapements south of Leadbetter Point, Washington, has been calculated since 1970. Based on studies from 1990-1995, which indicated that the OCN spawner escapements have been overestimated, annual OPI abundances from 1990 forward also have been calculated using stratified random sampling (SRS) estimates of natural spawner escapement. The 1997 abundance for Oregon Production coho in both index and SRS accounting methods were a near record low (Table I-11 and Figure I-3).

Council-area ocean and Oregon inside fisheries in 1997 were managed for a combined 11% exploitation rate on OCN coho (10% ocean; 1% inside) as allowed under Amendment 11. Chinook directed fisheries with no coho retention were adopted for 1997 in south of Cape Falcon ocean and most Oregon inside fisheries, while some directed harvest was allowed in fisheries north of Cape Falcon. To accomplish this exploitation rate goal, south of Cape Falcon fisheries between Point Arena and Cape Falcon were closed during the month of July. Based on the projected OPI area coho abundance, the Council-adopted fishery regime was expected to result in a hook-and-release mortality of 7,900 coho and an OCN spawner escapement of 44 adults per mile on standard index surveys.

## **Regulations**

Retention of coho was not permitted south of Cape Falcon in 1997. The area between Humbug Mountain and Cape Arago was open to all-salmon-except-coho April 15 through May 28, and August 1 through October 31. Three chinook quota fisheries were established. From April 15 through May 28, the area between the Oregon-California border and Cape Arago was open under a 5,300 chinook quota. The area from Humbug Mountain through Cape Arago was open August 1-31 under an 8,800 chinook quota and September 1 through October 31 under a 10,000 chinook quota.

The area between Cape Arago and Cape Falcon was open to all salmon except coho April 15 through June 27, August 1-31, and September 4 through October 31. The mouth of Tillamook Bay was closed April 15 through September 15 to increase escapement of spring chinook (April through June) and coho (August through September). Four state-water fisheries occurred in 1997. Four fishing periods were open off the Rogue River (0-4 miles) during August with landings restricted to Port Orford, Gold Beach, or Brookings. The terminal area off the Chetco River (0-3 miles) was open during October. The Tillamook terminal area fishery (0-3 miles) was open during November. The traditional late-season chinook salmon fishery off the Elk River (0-3 miles) was open during November with landings restricted to Port Orford.

For the Humbug Mountain through Cape Falcon area, the minimum size limit for chinook was 26 inches in commercial troll fisheries. Single-point, single-shank barbless hooks were required. Also, the fishery operated under a gear restriction of no more than 4 spreads per line to reduce coho mortalities.

## **Effort and Harvest**

Commercial troll fishery effort between Humbug Mountain and Cape Falcon totaled 7,500 vessel days, compared to 8,000 vessel days in 1996. Chinook landings totaled 147,300 fish, compared to 167,800 chinook in 1996. No pink salmon were landed in 1997 compared to 1 and 129 pink salmon landed in 1996 and 1995, respectively.

## **Fishery Goal Assessment**

### **Chinook**

The preliminary ocean exploitation rate on Klamath River fall chinook is not available (further details are provided in the fishery goal assessment discussion for the area from Horse Mountain to Humbug Mountain). Actual reductions in Snake River fall chinook age-3 and age-4 index exploitation rates are not available.

Commercial troll harvest during April and May between the Oregon-California border and Cape Arago totaled 6,500 chinook compared to the 5,300 chinook quota. Harvest between Humbug Mountain and Cape Arago during August was 2,600 chinook compared to the 8,800 chinook quota, while harvest during September and October was 900 chinook compared to the 10,000 chinook quota.



TABLE 1-11. Oregon production index (OPI) coho harvest , spawning and abundance estimates by index and SRS accounting in thousands of fish.<sup>a/</sup> (page 1 of 1)

Year	Oregon and California Coastal Returns									
	Ocean Fisheries <sup>b/</sup>		Hatcheries and Freshwater Harvest <sup>c/</sup>	OCN Spawners <sup>d/</sup>			Columbia River Returns	Abundance		Ocean Exploitation Rate <sup>e/</sup> Index (%)
	Troll	Sport		Index	SRS	Private Hatcheries		Index	SRS	
1970	1,463.7	499.0	80.3	249.2	-	-	895.3	3,187.5	-	62
1971	2,543.5	715.8	53.8	322.4	-	-	544.5	4,180.0	-	78
1972	1,275.6	560.3	29.9	126.9	-	-	277.8	2,270.5	-	81
1973	1,320.3	443.2	42.2	161.1	-	-	291.3	2,258.1	-	78
1974	2,095.1	668.6	49.5	132.8	-	-	460.8	3,406.8	-	81
1975	1,079.2	463.7	19.2	158.6	-	-	292.5	2,013.2	-	77
1976	2,936.1	977.7	62.6	158.3	-	-	337.0	4,471.7	-	88
1977	664.4	412.1	21.4	66.8	-	4.2	93.8	1,262.8	-	85
1978	1,104.2	524.6	12.6	73.8	-	12.3	307.1	2,034.6	-	80
1979	1,056.6	334.4	27.4	173.6	-	49.2	275.1	1,916.3	-	74
1980	506.9	526.4	32.1	108.9	-	38.7	301.6	1,514.6	-	69
1981	830.9	339.9	34.1	73.0	-	117.8	170.3	1,566.0	-	79
1982	740.9	300.4	37.1	132.6	-	184.7	453.1	1,848.8	-	59
1983	429.6	275.0	18.2	58.8	-	133.9	100.5	1,016.0	-	75
1984	95.8	174.2	51.2	208.7	-	115.4	414.2	1,059.5	-	27
1985	166.4	280.4	45.4	190.9	-	332.0	366.2	1,381.3	-	38
1986	643.5	320.6	81.8	190.8	-	453.7	1,527.8	3,218.2	-	32
1987	469.1	296.2	45.3	82.5	-	119.3	307.6	1,320.0	-	57
1988	844.7	297.2	62.4	160.8	-	116.1	664.8	2,146.0	-	53
1989	646.9	425.5	62.3	144.5	-	46.9	701.6	2,027.7	-	52
1990	277.6	357.1	30.6	104.0	20.9	35.6	196.1	1,001.0	917.9	62
1991	450.6	469.9	84.0	135.5	36.4	35.1	934.3	2,109.3	2,010.2	43
1992	67.5	256.5	52.6	138.6	39.3	-	210.9	726.1	627.2	44
1993	13.2	140.8	41.5	168.0	54.5	-	113.9	477.4	363.8	32
1994	2.7	3.0	31.8	130.5	43.7	-	168.9	337.9	251.1	2
1995	5.4	43.5	39.3	131.3	52.4	-	74.0	293.4	214.6	17
1996	7.0	31.8	49.6	212.1	73	-	111.3	411.8	278.0	9
1997 <sup>f/</sup>	5.5	22.4	26.3	68.6	24.1	-	140.5	263.3	218.8	10

a/ The OPI includes ocean and inside harvest impacts and escapement to streams and lakes south of Leadbetter Point, Washington.

b/ Includes estimated nonretention mortality: troll fishery--hook-and-release mortality for 1982-1997 and drop-off mortality for all years; sport fishery--hook and release mortality for 1994-1997 and drop-off mortality for all years.

c/ Includes returns from STEP smolt releases.

d/ Spawners returning to rivers have historically been estimated by a nonrandom standard index. Beginning in 1990, returns have also been estimated with a stratified random sampling (SRS) method. The SRS method indicates that actual total natural spawners are less than those projected by the standard index. Beginning in 1998, the Council will no longer use the index numbers for management of OCN coho (Amendment 13 to the salmon plan).

e/ Ocean fishery impacts on private hatchery stock and returns to private hatcheries are excluded in calculating the OPI area stock aggregate ocean exploitation rate index. Because of uncertainties in estimates of OCN coho spawners, the Oregon production exploitation rate index does not represent a true exploitation rate on OPI coho.

f/ Preliminary.

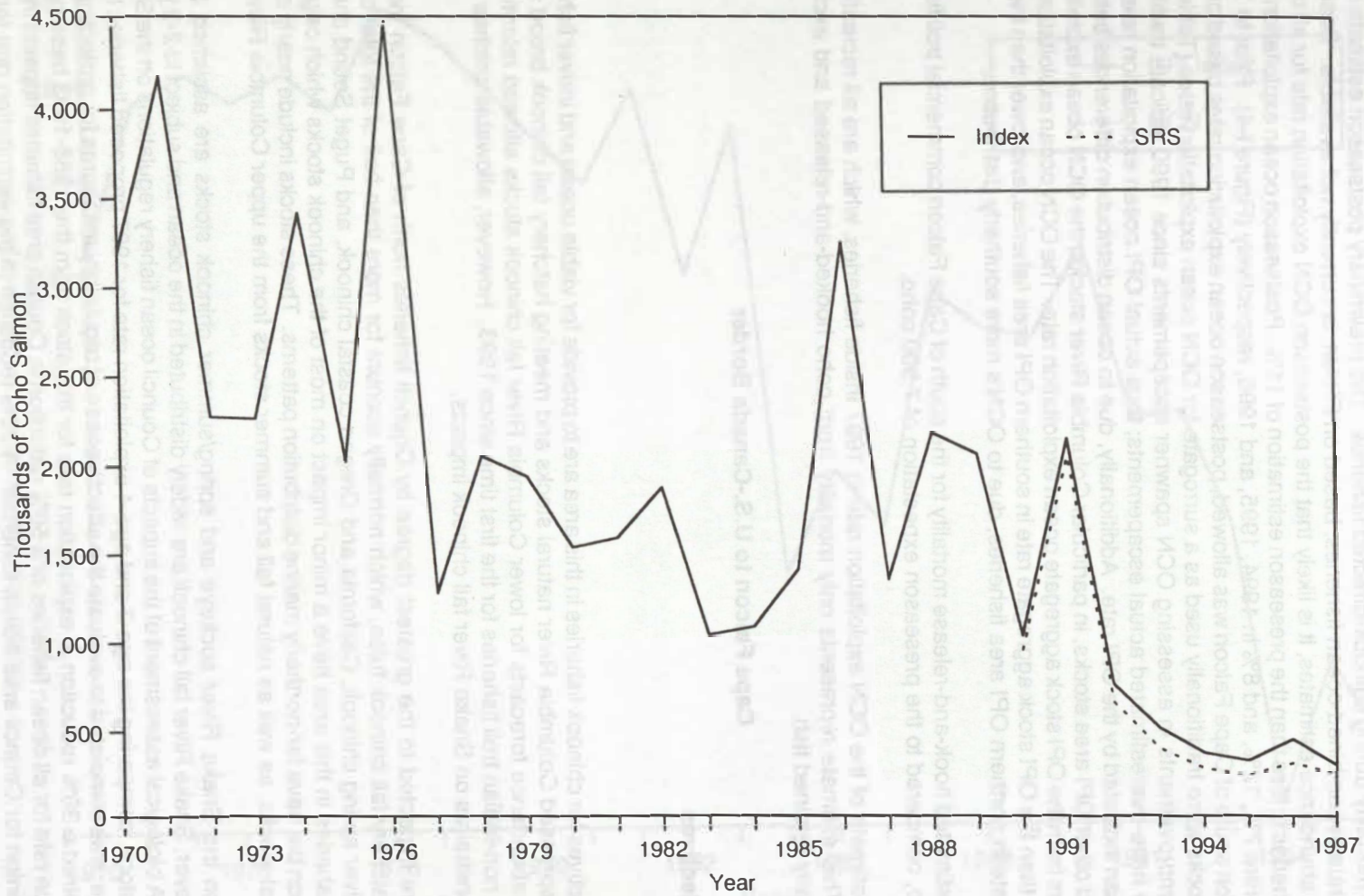


FIGURE I-3. Oregon production area coho salmon abundance estimates by index and SRS accounting methods, 1970-1997.



## **Coho**

The preseason estimate of the OCN exploitation rate in Council-area 1997 ocean fisheries of ten percent, based on the coho Fisheries Regulatory Assessment Model (FRAM), was largely a result of expected coho hook-and-release mortality during chinook-directed fisheries. The preliminary postseason estimate of the OCN exploitation rate in combined ocean fisheries, based on FRAM, is currently not available. Based on postseason stock abundance estimates, it is likely that the postseason OCN exploitation rate for all ocean and freshwater fisheries is less than the preseason estimation of 11%. Postseason ocean exploitation rates based on FRAM were 7%, 12%, and 8% in 1994, 1995, and 1996, respectively (Figure I-4). Prior to 1994, when coho retention south of Cape Falcon was allowed, postseason ocean exploitation rates based on OPI area aggregate stocks were traditionally used as a surrogate for OCN ocean exploitation rates (Table I-11 and Figure I-4). Improvements in assessing OCN spawner escapements since 1990 indicate traditional assessments may have overestimated actual escapements; thus actual OPI ocean exploitation rates are probably higher than indicated by the OPI rate. Additionally, due to ocean distribution differences between the OCN stock and other OPI area stocks, in particular Columbia River stocks, the OCN ocean exploitation rate probably differs from the OPI stock aggregate ocean exploitation rate. The OCN ocean exploitation rate is probably higher than the OPI stock aggregate rate in southern OPI area fisheries, and lower than the OPI stock aggregate rate in northern OPI area fisheries, due to OCN's more southerly distribution.

The postseason estimated hook-and-release mortality for the south of Cape Falcon commercial troll fishery totaled 5,500 coho, compared to the preseason expectation of 7,900 coho.

The postseason estimate of the OCN exploitation rate in 1997 inside fisheries, which are all recreational, is one percent. This estimate represents only mortality from coho hooked-and-released and excludes impacts from illegally retained fish.

## **Cape Falcon to U.S.-Canada Border**

### **Management Objectives**

#### **Chinook**

Management objectives for chinook fisheries in this area are to provide for viable ocean and inriver fisheries while protecting depressed Columbia River natural stocks and meeting hatchery fall chinook brood stock needs. Improved abundance forecasts for lower Columbia River fall chinook stocks allowed retention of chinook salmon in non-Indian troll fisheries for the first time since 1993. However, allowable catches were very low due to constraints on Snake River fall chinook impacts.

The stocks that are impacted to the greatest degree by Council fisheries north of Cape Falcon include Columbia River hatchery fall chinook tules, which normally account for more than half of the total catch, lower Columbia River spring chinook, California and Oregon coastal chinook, and Puget Sound chinook stocks. Council fisheries in this area have a minor impact on most of the chinook stocks which originate north of Cape Falcon but have far-northerly marine distribution patterns. These stocks include nearly all the Washington coastal stocks, as well as natural fall and summer stocks from the upper Columbia River.

Council impacts on the Snake River sockeye and spring/summer chinook stocks are assumed to be insignificant. However, Snake River fall chinook are widely distributed in the ocean and subject to 2-3 years of ocean harvest. A biological assessment of the impacts of Council ocean fishery regulations on the Snake River fall chinook stock, comparing the age-3 and age-4 exploitation rate for 1997 proposed fisheries to the 1988-1993 average, was completed to evaluate the effectiveness of regulatory measures for protecting this stock. NMFS required a 30% reduction in exploitation rate for this stock from the 1988-1993 base period average exploitation rate for all ocean fisheries or a 50% reduction in Council area fisheries impacts in their 1997 biological opinion for Council area ocean fisheries. A 30% reduction in the exploitation rate for total ocean fisheries and a 63% reduction in impacts for fisheries in the Council area were projected for 1997.

Non-Indian commercial troll and recreational fisheries were regulated under quotas of 11,500 and 5,200 chinook, respectively. The Council adopted a treaty Indian quota of 15,000 chinook.





FIGURE I-4. Oregon Production coho salmon ocean exploitation rate index, 1970-1997 compared with Oregon Coastal Natural coho salmon ocean exploitation estimates based on FRAM, 1994-1996.

## **Coho**

Management goals for ocean fisheries that impact coho in the area from Cape Falcon to the U.S.-Canada border are described in the fishery management plan (FMP). Coho stocks impacted by these fisheries include natural and hatchery stocks which originate from Oregon coastal rivers and lakes, the Columbia River, Washington coastal rivers, Puget Sound and southern British Columbia. Generally, Washington coastal and Puget Sound origin stocks are found in greater concentrations in more northerly areas, while increasing contributions to catches by Columbia River and Oregon coastal stocks occur in southern fishery areas. OCN coho have historically contributed a minor portion of their total harvest to fisheries north of Cape Falcon, however, in recent years as south of Cape Falcon harvests have decreased, OCN impacts north of Cape Falcon have become more important.

Fisheries in this area are constrained by management objectives and Indian treaty obligations for individual stock management units. The allowable harvest for fisheries operating in this area in 1997 was based on the need to protect several depressed natural Puget Sound and Washington coastal coho stocks as well as OCN coho. Preseason abundance forecasts for Washington coastal and Puget Sound stocks managed for natural production were a mixture with some above 1996 expectations, but some key wild stocks below 1996 expectations. All the Washington coastal wild stocks were below the 1996 expected abundances and all Puget Sound wild stocks except Skagit River and Hood Canal natural fall coho showed a decrease from the 1996 forecast.

The Council's primary consideration in adopting a coho total allowable catch (TAC) for the area north of Cape Falcon was to meet the management objectives for naturally spawning stocks of coho from the Washington coast, Puget Sound and the Oregon coast. The Council adopted a non-Indian TAC of 33,500 coho in April (this includes 1,200). This total allowable harvest was all allocated to the non-Indian recreational fisheries in an agreement involving a trade of chinook to the commercial troll fishery for the entire coho TAC. The non-Indian commercial TAC of 0 coho for 1997 compares to a TAC of 47,500 in 1993, a TAC of 0 in 1994, a TAC of 25,000 for 1995, and 20,800 for 1996.

In April, the Council adopted a treaty Indian TAC of 12,500 coho. This compares to a treaty Indian coho TAC of 90,000 in 1993, a treaty Indian coho TAC of 0 in 1994 and a treaty Indian coho TAC of 30,000 in 1995 and 1996.

### **Non-Indian Regulations**

For 1997, the Council established one non-Indian commercial troll fishery over the entire area from the U.S.-Canada border to Cape Falcon. This fishery opened May 1 with a quota of 11,500 chinook. The minimum size limit for chinook was 28 inches and coho retention was not allowed. Single point, single shank barbless hooks were required. Participating vessels were required to land their catch within 24 hours of each closure in the area fished or an adjacent closed area. The fishery proceeded as scheduled for 46 days and closed on June 15.

### **Non-Indian Effort and Harvest**

The total number of days fished in the non-Indian troll fishery in the area north of Cape Falcon in 1997 was 600 days, compared to 408 in 1996; 471 days in 1995; 0 in 1994, and 3,900 fishing days in 1993. The 1997 fishery harvested no coho and 6,400 chinook, compared to 17,500 coho and 0 chinook in 1996; 25,400 coho and 0 chinook in 1995, and no landings in 1994.

### **Non-Indian Fishery Goal Assessment**

The non-Indian troll fishery north of Cape Falcon harvested 5,100 fewer chinook than allowed under the 11,500 chinook TAC established for this area in 1997.



## **Treaty Indian Troll Regulations**

Treaty Indian troll fisheries operating between May 1 and September 30 in ocean areas and Area 4B during 1997 were constrained by concerns for impacts on Columbia River chinook stocks and low abundance of Grays Harbor, Queets, Hoh, Quillayute, and Strait of Juan de Fuca naturally spawning coho stocks. Quotas of 12,500 coho and 15,000 chinook were established. The basis for 1997 quotas is discussed in the description of management objectives for the non-Indian fisheries for the area north of Cape Falcon. The treaty troll fishery operated under tribal regulations and landing schedules. A chinook directed fishery was conducted from May 1 through June 30, while an all-species fishery was conducted from August 4 through August 29 and from September 3 through September 7. The Makah Tribe kept its troll fishery open on August 30 and 31 and closed its fishery again on September 6. The Hoh and Quileute Tribes kept their fisheries closed after August 29. The season duration was 61 days of chinook only fishing and 35 days of all-species fishing for the Makah Tribe, 29 days for the Hoh and Quileute Tribes, and 34 days for the other treaty troll tribes.

## **Treaty Indian Troll Effort and Harvest**

Fishing effort in 1997 treaty Indian ocean and Area 4B troll fisheries totaled 393 deliveries (landings), compared to 764 deliveries in 1996, and 849 deliveries observed in the 1995 season (Appendix A, Table A-14). Deliveries during the May-September period numbered 361, compared to 552 in 1996, and 702 deliveries observed in the 1995 season. For the entire year, the 165 deliveries in the Strait of Juan de Fuca (Area 4B) chinook fishery accounted for 42% of all treaty troll deliveries.

Chinook catch in ocean management areas and Area 4B during the May 1 through September 30 period was 13,640 fish, compared to 12,307 fish in 1996, and 9,487 chinook harvested in 1995. The total chinook troll harvest in ocean management areas and Area 4B during the entire year was 14,092 fish, compared to 14,949 fish in 1996, and 11,335 fish in 1995. Approximately 3% of the total chinook catch was taken in the Strait of Juan de Fuca (Area 4B) during the winter season.

Coho harvest in ocean management areas during August and early September totaled 14,365 fish in 1997, compared with 18,526 in 1996 and 30,770 in 1995.

## **Treaty Indian Troll Fishery Goal Assessment**

During May through September in ocean management areas (including Area 4B), the treaty Indian troll chinook catch was 9.1% below the quota of 15,000 fish and the coho catch was 14.9% above the quota of 12,500 fish.

## **RECREATIONAL FISHERIES BY MANAGEMENT AREA**

### **U.S.-Mexico Border to Horse Mountain**

#### **Management Objectives**

The Council's management objectives for recreational fisheries in this area parallel those discussed previously for the commercial fisheries. An issue that is noteworthy is the objective to reduce impacts on Sacramento River winter chinook, as required by the ESA.

#### **Regulations**

Recreational fishery regulations south of Horse Mountain were similar to those in place in 1996. Projected harvest impacts on Sacramento River winter chinook were slightly increased because a spawning escapement increase of 31% (compared to 35% for 1996) was determined to be sufficient by the NMFS to meet the ESA requirements for this stock. North of Point Conception, barbless hooks were required as in previous seasons and ocean anglers could use only one rod when fishing for salmon, or any species, from a boat with a salmon on board.



Additional gear restrictions were required of those anglers fishing with bait and one pound or less of weight (mooching) in the area between Point Conception and Horse Mountain. The purpose of the gear restrictions were to reduce hook-and-release mortality for sublegal fish caught by anglers using mooching, rather than trolling techniques (see Table I-3 for the specific restrictions). After September 1, anglers fishing with bait and one pound of weight or less were required to use only "circle" hooks. Circle hooks have generally been found to cause a lower hook-and-release mortality than "J" hooks, but were not expected to be commonly available during the earlier part of the season. These restrictions were reviewed at the November Council meeting and the circle hook restriction was approved for use in the 1998 openings prior to May 1.

The daily bag limit was two salmon of any species except coho. The minimum size limit was 24 inches for the entire season, except for the area between Point Reyes and Pigeon Point, from July 1 through September 1, where anglers were required to keep the first two salmon caught, except coho, regardless of size. In addition, an inseason regulation change allowed that all salmon on board a vessel meet the minimum size and other requirements for the area in which they were caught, rather than in both the area caught and the area in which they were landed. This change was necessary to avoid a regulations conflict for fish caught between Point Reyes to Pigeon Point during July and August when there was no minimum size, and landed either north or south of that area where the minimum size was 24 inches. The season north of Point Arena ran from February 15 through July 6 and August 1 through November 16. South of Point Arena to Pigeon Point, the season opened from March 29 through November 2. South of Pigeon Point the season ran from March 15 through October 19.

### **Effort and Harvest**

Recreational chinook landings at ports south of Horse Mountain were 209,900 compared to 153,300 fish in 1996, which makes 1997 the second highest recorded catch for this area; the highest was 1995 with 383,600 chinook. Recreational angler effort south of Horse Mountain was 215,400 angler trips, compared to 200,000 trips in 1996. The chinook salmon catch per angler trip averaged 1.05 chinook, compared to 0.77 chinook in 1996.

Recreational coho landings south of Horse Mountain totaled 300 fish. This represents an illegal harvest by anglers unable or unaccustomed to having to differentiate between chinook and coho.

### **Fishery Goal Assessment**

#### **Chinook**

The fishery goal for this area relating to the ocean harvest index on Central Valley stocks is discussed in the commercial section. The recreational fishery was constrained by the ESA requirement to reduce impacts on winter chinook sufficiently to increase spawning escapement 31%, since available information indicated that the recreational fishery was creating the majority of the impact on this stock. The shortened recreational fishery south of Point Arena combined with increased minimum size limits and gear restrictions were included in the regulations to accomplish this objective.

#### **Coho**

The closure of the recreational salmon fishery during July in the area between Horse Mountain and Point Arena was effective in limiting impacts on coho salmon. Few coho were observed in this area until the end of May. In June, coho contacts increased significantly, reflected in the landing of 100 coho by anglers who were either unfamiliar with the prohibition on possessing coho, or who could not differentiate them from chinook. Likewise, when the fishery reopened on August 1, coho contacts remained common, but decreased rapidly. Only 100 coho were landed in August and less than 30 landed during the remainder of the season.

## Horse Mountain to Humbug Mountain

### Management Objectives

#### Chinook

The Council's objective in the Horse Mountain to Humbug Mountain area (KMZ) recreational fishery centered around protection of Klamath River fall chinook, which was discussed more fully under the troll fisheries section. With regard to Klamath River fall chinook, the fisheries were structured to provide 15% of the total allowable non-Indian harvest to the recreational fishery in the Klamath River and 17% of the allowable non-Indian ocean harvest to the recreational fishery in the KMZ. For 1997, season structuring rather than quota management was used in the KMZ ocean fishery to achieve both Klamath River fall chinook management objectives and Oregon/California port allocation objectives.

#### Coho

Coho are managed as a unit south of Cape Falcon and are discussed more fully in the Humbug Mountain to Cape Falcon section. The KMZ area recreational chinook fishery was structured with an early July through mid-August closure to meet OCN coho management objectives.

### Regulations

Retention of coho was not permitted south of Cape Falcon in 1997 due to projected poor OPI area abundance, both from hatchery and natural production, and OCN management objectives. The recreational fishery in this area was also shaped to help minimize incidental coho impacts.

The KMZ fishery was open May 24-30, June 17 through July 6, and August 12 through September 14. A late-season, Oregon state-water chinook salmon fishery off the Chetco River occurred from October 4-12 between Goat Island and 42°01'20"N.

For the Horse Mountain to Humbug Mountain area, the minimum size limit for chinook in all recreational fisheries was 20 inches and single-point, single-shank barbless hooks were required. The bag limit was 1 chinook per day, no more than 4 in 7 consecutive days. Anglers were restricted to one rod each (as in all areas north of Point Conception, California).

### Effort and Harvest

Recreational fishery effort in the KMZ totaled 35,600 angler trips and included 1,300 angler trips in the late-season, state-water fishery off the Chetco River. This compares to 48,800 angler trips in 1996. Chinook landings of 13,900 fish in 1997 compare to 19,100 fish in 1996. Illegal landings of coho were estimated at approximately 300 coho in 1997 compared to 400 coho in 1996.

### Fishery Goal Assessment

#### Chinook

Information to assess the Council's harvest allocation goals and ocean exploitation rate on Klamath River age-4 fall chinook is not available at this time. Klamath River natural spawner escapement was 45,900 adult chinook, compared to the expected 35,000 fish, the floor spawner objective.

Under the 1997 season structure within the KMZ, fishers landed 64% of the chinook harvest in California ports and 36% in Oregon ports. This compares to a 1996 chinook harvest distribution among ports of 57% to California and 43% to Oregon, and a 1974-1990 average distribution of 54% to California and 46% to Oregon. Although actual chinook harvest was less than preseason expectations, information is not available at this time to compare the ocean exploitation rate in the KMZ area fishery with preseason expectations.



## **Coho**

Achievement of OCN coho management objectives is discussed in the Humbug Mountain to Cape Falcon troll fishery section.

### **Humbug Mountain to Cape Falcon**

#### **Management Objectives**

The Council's management objectives for recreational fisheries in this area parallel those discussed previously for commercial troll fisheries. Because of near record low abundance of OPI area coho, both from hatchery and natural production, no fisheries were allowed to retain coho in ocean waters south of Cape Falcon in 1997. To meet OCN management objectives, ocean salmon fisheries between Humbug Mountain and Cape Falcon were closed during the month of July. Coho hook-and-release mortality in the nonretention recreational fishery south of Cape Falcon was projected to be 7,700 coho.

#### **Regulations**

Retention of coho was not permitted in this area in 1997. The all-salmon-except-coho fishery in the Humbug Mountain to Cape Falcon area was open from April 15 through July 6 and August 1 through October 31. In addition, terminal area late-season state water (0-3 miles) chinook salmon fisheries occurred off Tillamook Bay and Elk River during November. A closure at the mouth of Tillamook Bay was in effect from April 15 through September 15 to increase escapement of spring chinook (April through June) and coho (August through September).

For the Humbug Mountain to Cape Falcon area, the bag limit was 2 salmon per day (1 salmon in the Elk River terminal area fishery) and no more than 6 salmon in 7 consecutive days (4 in 7 consecutive days in the Tillamook Bay and Elk River terminal area fisheries). The minimum size limit for chinook was 20 inches, except there was no minimum size in the late-season terminal area fisheries off Tillamook Bay and Elk River. Legal gear was limited to artificial lures, plugs or bait no less than 6 inches long (excluding hooks and swivels) with no more than 2 single-point, single-shank, barbless hooks; divers prohibited; flashers prohibited through April 30 and then could only be used in combination with downriggers.

#### **Effort and Harvest**

Recreational fishery effort between Humbug Mountain and Cape Falcon totaled 10,000 angler trips compared to 15,000 angler trips in 1996. Chinook landings in 1997 were 2,400 fish compared to 3,000 chinook in 1996. Angler trips and chinook harvest estimates for the late-season terminal area fishery off the Elk River are not available. Due to inclement weather in November, effort and harvest in the Tillamook Bay terminal area fishery were negligible. Less than 50 coho were landed illegally in 1997 compared to less than 100 coho in 1996. No pink salmon were landed in 1997.

#### **Fishery Goal Assessment**

Preliminary information to assess attainment of chinook and coho salmon management goals is contained in the commercial troll fishery section for this area. The postseason estimated hook-and-release mortality in the south of Cape Falcon recreational fishery totaled 4,800 coho, compared to the preseason expectation of 7,700 coho.

### **Cape Falcon to U.S.-Canada Border**

#### **Management Objectives**

##### **Chinook**

Management objectives for chinook stocks in this area are described in the troll fishery section. The total allowable catch for the ocean fishery north of Cape Falcon was constrained by Snake River wild fall chinook



in 1997. The recreational TAC of 5,200 chinook in 1997 compares to a TAC of 0 in 1996, 1995, and 1994; and 25,000 chinook in 1993.

## **Coho**

Management objectives for coho stocks in this area are described in the troll fishery section. Following a trade of 3,200 chinook to the troll fishery for 8,800 coho, the 1997 recreational TAC north of Cape Falcon was set at 32,300 coho. In addition, the recreational allocation contained another 2,700 coho for the Neah Bay area of which 1,200 coho were projected to hook-and-release mortality to allow a chinook directed fishery (the remainder could not be utilized while meeting Council management constraints). The chinook directed fishery at Neah Bay allowed more angler opportunity than an all-salmon season since there were not enough coho to assure that a 1 day season would not exceed the coho quota. The 1997 TAC compares to a TAC of 0 coho in 1994, 75,000 coho in 1995, and represents a reduction of 46% from the 1996 recreational TAC of 62,200 coho.

## **Regulations**

The overall recreational quota of 33,500 coho north of Cape Falcon was divided into 4 subarea quotas in accordance with the allocation schedule detailed in the salmon FMP. Ocean salmon recreational fisheries in this area were open 5 days per week, Sunday through Thursday, south of the Queets River, and 7 days per week from the U.S.-Canada border to the Queets River. Coho retention was not allowed in the area from Cape Alava to the U.S.-Canada border. A 2-fish daily bag limit and a restriction of barbless hooks applied in all areas with the exception of the area from Queets River to Leadbetter Point which started the season with a 2-fish daily bag limit, only one of which could be a chinook. Weekly bag limits of no more than 4 fish in 7 consecutive days were in effect in areas south of the Queets River. The area from 0-3 miles from shore from the Queets River to the Control Zone at the mouth of the Columbia River was closed to salmon fishing to reduce impacts on chinook salmon.

The area from Leadbetter Point to Cape Falcon was allocated a subarea quota of 17,500 coho and a guideline of 1,500 chinook. Control Zone 1, at the mouth of the Columbia River, was closed to salmon fishing. The fishery opened July 21 and ran through August 7, when it was projected to achieve the coho subarea quota. The area was open for recreational salmon fishing for a total of 14 days in 1997.

The area from the Queets River to Leadbetter Point opened on July 21 with a subarea quota of 14,000 coho and a guideline of 3,000 chinook. The daily bag limit changed inseason on August 13 from 2-fish, only one of which can be a chinook, to a 2-fish daily bag limit. The closure from 0-3 mile was lifted at the same time. The fishery ran through September 4, when it was projected to attain the coho quota. The area was open for recreational salmon fishing for a total of 34 days in 1997.

The area from Cape Alava to the Queets River opened on July 21 with a subarea quota of 800 coho and a guideline of 150 chinook. The fishery ran through August 3, when it was projected to attain the coho quota plus some transfer of coho from Neah Bay and Westport. The area was open for recreational salmon fishing for a total of 14 days in 1997.

The area from the U.S.-Canada border to Cape Alava opened for all-salmon-except coho fishing on July 21 with a subarea quota of 550 chinook. This fishery closed on July 25, when it was projected to attain the chinook quota. The area was open for recreational ocean salmon fishing for a total of 3 days in 1997.

A state-waters fishery from the Bonilla-Tatoosh Line east to the Sekiu River (Washington Area 4B) was scheduled to open on a 7 day per week schedule for all salmon except coho and chinook (pink directed) after the ocean area from the U.S.-Canada border to Cape Alava closed. A 2-fish daily bag limit was in effect. The fishery opened July 25 through August 30, then continued two days for all salmon except chinook, closing August 31.

## **Effort and Harvest**

Salmon catches in the Leadbetter Point to Cape Falcon recreational fishery were 16,900 coho and 528 chinook. The coho catch was 97% of the 17,500 coho subarea quota and compares to no allowed harvest in 1994; 36,400 coho in 1995, and a reduction of 32% from the 24,800 coho caught in 1996.

The recreational fishery from the Queets River to Leadbetter Point caught 13,200 coho and 3,100 chinook. The coho catch was 4% less than the subarea quota of 14,000 fish and compares to no allowed harvest in 1994; 28,900 coho in 1995 and a reduction of 43% from the 1996 catch of 23,100 coho.

The recreational fishery from Cape Alava to the Queets River harvested a total of 1,100 coho and 61 chinook. The coho catch was 138% of the 800 coho subarea quota (an inseason transfer covered the overage) and compares to no allowed harvest in 1994, a 1995 harvest of 1,900 coho, and a reduction of 31% from the 1996 harvest of 1,600 coho.

The all-salmon-except-coho recreational fishery from the U.S.-Canada border to Cape Alava harvested 478 chinook. The chinook catch was 87% of the 550 fish subarea quota and compares to 0 chinook in 1996, 1995, and 1994. The closure for coho compares to harvests of 19,000 coho in 1993, no allowed harvest in 1994; 8,200 coho harvested in 1995, and 6,600 coho in 1996.

The late-season state-waters recreational fishery, which operated in the area from the Bonilla-Tatoosh line east to the Sekiu River (Washington Area 4B) from July 26 through August 31, harvested (coho harvest only allowed the last two days) 1,500 coho.

A total of 31,400 angler trips occurred in the ocean recreational fishery north of Cape Falcon (excluding the late-season Area 4B fishery) in 1997. This was a decrease of 34% from the 47,400 trips occurring in 1996. An additional 1,900 angler trips occurred in the late-season Area 4B fishery, compared to 1,500 trips in 1996.

## **Fishery Goal Assessment**

Overall, the 1997 ocean recreational fisheries north of Cape Falcon fell short of the coho TAC established for this area by 1,200 fish. Approximately 4,100 chinook were landed, almost 79% of the 5,200 overall recreational chinook quota for this area. The north of Cape Falcon ocean recreational fisheries harvested 31,100 coho, 96% of the 32,300 allowable coho harvest for this area. These coho catches were a reduction of 45% from the 56,100 coho caught in 1996.

## **PACIFIC SALMON COMMISSION**

The Pacific Salmon Treaty between the U.S. and Canada became effective in March 1985 and established the Pacific Salmon Commission (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 PSC can be expected at both the policy and technical levels. Actual catches for fisheries of the most relevance to the Council are summarized in Table I-12. Note that these catch statistics do not reflect incidental mortality losses associated with the regulation of these fisheries, except as noted.

### **Chinook**

The treaty established a number of harvest ceilings for chinook salmon for various Canadian and Alaskan fisheries as part of a coastwide program to rebuild depressed natural chinook stocks. Ceilings for northern British Columbia and southeast Alaska fisheries affect far-north migrating stocks originating in Washington, Oregon, and Idaho. These include Washington coastal, Columbia River bright, spring, and summer; and far-north migrating Oregon coastal chinook stocks. The ceilings for West Coast Vancouver Island (WCVI) troll, and Georgia Strait troll and recreational fisheries affect far-north migrating stocks to a lesser degree, but have a major impact on more southerly distributed Columbia River tule and Puget Sound stocks.



TABLE I-12. Southeast Alaska chinook catches and Canadian catches of chinook and coho in thousands of fish. (Page 1 of 1)

**Chinook Catch By Southeast Alaska Marine Fisheries**

Year	Total Catches			Treaty Chinook		
	Troll	Net	Sport	Troll	Net	Sport
1985	216.1	34.7	24.9	212.2	34.2	23.0
1986	237.7	21.7	22.6	231.6	20.5	19.2
1987	242.6	15.5	24.3	231.1	14.0	20.5
1988	231.4	21.8	26.2	217.1	17.4	22.2
1989	235.7	24.2	31.1	224.2	18.5	26.8
1990	287.9	27.7	51.2	263.6	16.1	41.4
1991	264.1	32.8	60.5	231.6	20.0	45.1
1992	183.7	32.1	42.9	162.6	24.0	35.3
1993	226.9	28.0	49.2	212.4	16.5	42.7
1994	186.2	35.7	42.4	177.1	23.3	35.5
1995	138.1	48.0	49.7	115.3	28.6	34.9
1996	141.4	37.4	38.5	108.1	9.2	29.1
1997 <sup>a</sup>	246.5	25.0	67.7	221.9	13.9	55.8

**Chinook Catch By Canadian Marine Fisheries**

Year	Northern B.C.		Central B.C.		N/C BC	WCVI				Strait of Georgia		Strait of Georgia Sport		Juan de Fuca		
	Troll	Net	Troll	Net	Sport	NW Troll	SW Troll	Net	Out. Sport	Troll	Net	North	South	Troll	Net	Sport
1985	186.7	70.7	28.8	27.3	9.9	74.3	279.8	22.0	10.2	55.7	7.6	127.8	79.2	0.0	44.6	27.8
1986	153.0	42.7	52.6	55.3	12.6	81.0	261.1	5.9	4.1	43.9	3.4	100.4	47.1	0.3	59.9	34.4
1987	177.5	41.2	64.0	21.4	13.8	113.1	265.8	0.6	26.5	38.7	2.8	52.7	43.5	0.0	11.3	24.9
1988	152.4	40.4	31.1	21.8	19.3	171.3	237.4	16.5	24.3	19.6	0.7	56.5	31.4	0.0	11.8	31.2
1989	207.7	48.9	19.1	7.5	35.7	71.5	132.2	40.8	38.0	28.5	2.4	72.1	28.2	0.0	32.0	32.5
1990	154.1	39.0	27.3	30.3	32.0	114.8	183.1	29.6	50.2	34.4	2.0	58.6	23.2	0.0	12.8	30.1
1991	194.0	56.6	27.9	18.9	32.5	74.8	128.1	61.3	42.5	32.2	2.0	75.3	21.2	0.0	11.8	19.0
1992	142.3	43.8	42.3	20.8	37.9	216.5	130.2	9.8	44.1	37.3	2.7	75.1	20.4	0.0	15.6	21.1
1993	161.8	45.0	24.8	11.2	38.2	167.8	106.9	29.4	63.1	33.4	4.1	79.0	25.9	0.0	2.8	14.0
1994	164.5	26.5	20.1	15.4	38.9	71.0	75.0	3.7	50.6	13.0	1.2	45.1	11.4	0.0	13.8	14.4
1995	56.4	28.2	4.7	9.1	30.0	28.8	52.2	0.5	28.2	0.0	0.2	38.0	9.7	0.0	1.5	14.4
1996	0.0	30.9	0.0	4.1	11.0	0.0	0.0	0.0	3.2	0.0	0.0	55.2	15.3	0.0	0.6	19.0
1997 <sup>a</sup>	82.1	18.9	10.5	1.8	36.5	25.9	26.6	0.2	NA	0.8	0.0	35.3	7.5	0.0	0.4	13.5

**Coho Catch By Canadian Marine Fisheries**

Year	Northern B.C.		Central B.C.		N/C BC	WCVI				Strait of Georgia		Strait of Georgia Sport		Juan de Fuca		
	Troll	Net	Troll	Net	Sport	NW Troll	SW Troll	Net	Out. Sport	Troll	Net	North	South	Troll	Net	Sport
1985	527.8	176.4	135.2	96.9	NA	377.0	1012.0	7.5	1.6	191.2	31.8	569.7	133.2	0.3	224.7	25.3
1986	1089.5	212.6	593.4	277.5	NA	610.5	1546.3	10.6	1.1	181.4	16.2	442.4	94.8	2.9	202.5	34.7
1987	595.7	100.3	214.5	93.3	NA	525.1	1295.9	7.2	24.6	217.5	14.0	472.1	107.9	0.2	216.4	61.6
1988	348.0	61.7	183.9	107.8	NA	555.9	1039.9	11.0	5.3	256.5	3.5	824.3	184.6	0.2	56.7	75.9
1989	573.4	161.4	123.2	28.9	NA	578.8	1373.2	39.7	44.5	73.3	5.1	332.6	75.1	0.1	342.1	89.4
1990	974.8	163.7	261.2	153.5	NA	729.5	1134.1	2.7	19.8	163.2	8.0	493.1	67.5	0.1	154.1	69.4
1991	982.3	196.2	105.7	47.6	NA	664.6	1225.3	5.2	49.8	11.6	7.2	35.0	11.5	0.0	180.4	110.6
1992	516.3	122.1	237.8	67.6	NA	935.5	736.3	9.7	37.5	137.3	5.7	358.5	117.3	0.0	106.0	119.7
1993	337.2	134.5	72.6	37.8	NA	422.0	531.8	3.5	13.7	276.0	7.2	552.1	177.7	0.0	6.2	108.9
1994	740.0	174.5	57.6	94.1	NA	207.7	1044.1	4.7	16.4	50.8	0.7	148.0	28.2	0.0	131.0	118.6
1995	295.4	111.1	18.7	28.1	NA	276.9	1068.5	1.4	41.2	0.0	0.0	11.2	3.5	0.0	36.7	71.5
1996	424.9	122.2	12.2	29.5	NA	235.9	552.7	1.0	25.1	0.0	0.0	26.7	7.1	0.7	4.2	94.0
1997 <sup>a</sup>	158.6	28.6	8.2	12.0	NA	0.0	0.0	0.0	NA	0.0	0.0	2.6	2.8	0.0	0.4	99.5

a/ Preliminary.



In 1997, the U.S. and Canada failed to reach agreement on fishing regimes. However, the U.S. and Canada agreed to abide by general obligations of the Pacific Salmon Treaty, particularly with respect to a commitment not to intentionally increase interceptions and to manage consistently with resource conservation concerns.

In response to continuing conservation concerns for depressed Canadian chinook stocks, Canada implemented unilateral restrictions on all its troll fisheries for chinook salmon in 1997. Fisheries in the North/Central and WCVI areas were constrained due to concerns for fall chinook returning to river systems on the west coast of Vancouver Island. Approximately 151,500 chinook were harvested in the North/Central coast area (93,800 troll, 21,200 net, 36,500 sport). The WCVI troll catch of chinook is estimated at 51,400 fish. Troll fisheries in the Strait of Georgia and Johnstone Strait areas were managed under nonretention restrictions due to concerns for Lower Georgia Strait stocks. The recreational catch of chinook in the Strait of Georgia was estimated at 56,300 fish to the end of October.

Chinook fisheries in Southeast Alaska were managed under the terms of an agreement between the U.S. Commissioners to the PSC. The total allowable catch range was 277,200 to 291,000 "treaty chinook" (excluding hatchery add-on catch). The total catch of treaty chinook is estimated as 291,600 fish for 1997 (182,200 troll, 25,100 net, 67,600 sport).

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

### **Coho**

Canadian WCVI fisheries significantly impact many of the coho stocks that influence the Council's management actions in the area north of Cape Falcon. In response to coho conservation concerns for the west coast of Vancouver Island, Strait of Georgia, and Fraser River stocks, Canada implemented non retention restrictions for its WCVI and Strait of Georgia troll fisheries in 1997. The hook-and-release mortality associated with the 1997 WCVI troll fishery is estimated at 22,900 coho.

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## CHAPTER II INSIDE CHINOOK SALMON FISHERIES AND SPAWNING ESCAPEMENTS

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### CENTRAL VALLEY STOCKS

#### Inside Harvest

Although no estimate is made for the 1997 season, recreational harvest regulations continued to allow extensive harvest of fall chinook. A comprehensive angler survey of the Sacramento River system, conducted from 1990-1994, showed the recreational catch averaged 25% of the river run. The river regulations, as they have since 1992, closed the mainstem Sacramento River to salmon fishing during the time winter chinook adults are present. In response to low escapements in recent years, the San Joaquin River and its tributaries (Stanislaus, Toulumne, and Merced) were closed to recreational salmon fishing.

#### Escapement and Goal Assessment

##### **Sacramento River Fall Chinook**

In 1997, a total of 323,900 fall chinook adults returned to spawn in the Sacramento River Basin. This was less than four percent over the preseason expectation of 312,900 adults. The 1997 escapement was approximately 33% greater than the 1996 escapement of 244,400 fish (Table II-1, Figure II-1) and above the Council's goal range of 122,000-180,000 adult spawners for the second year in a row. Sacramento River Hatchery returns totaled 64,600 adults, almost double the 1996 adult escapement of 32,900 fish. Available data indicate that a majority of the Sacramento River Basin's naturally spawning fall chinook population is comprised of hatchery-produced fish.

The upper Sacramento River total escapement (above the Feather River) of 200,200 adults (77% natural) was nearly double that of the 1996 adult escapement of 102,600 fish. The lower Sacramento River escapement of 123,700 adults (84% natural) was approximately 13% less than the 1996 escapement of 141,800 fish. Lower river hatcheries retained 16% of the lower river adult spawning escapement.

##### **Sacramento River Late-fall, Winter and Spring Chinook**

Late-fall chinook salmon escapement after 1993-1994 (1994 brood) has not been estimated because Red Bluff Diversion Dam gates were open over the entire time span of adult migration.

Winter chinook returns to the upper Sacramento River in 1997 were estimated using partial counts at the Red Bluff Diversion Dam fish ladders. The gates at the dam were opened during the first part of the winter run in an attempt to facilitate salmon passage. Spawning escapement of winter chinook salmon in 1997 was estimated to be approximately 500 adults, about 78% of the 1996 escapement of approximately 600 fish, and only two percent of the 1971-1975 average of 22,500 fish (Appendix B, Table B-3), but approximately triple that of its parental brood (<200 fish) in 1994. Adults leave the ocean (January through April) prior to the beginning of major commercial fisheries for the current year. Therefore, the primary ocean fishery impact on returns of winter chinook in 1997 were by 1996 California ocean fisheries as well as early season California ocean recreational fisheries in 1997.

The spring chinook salmon return to the Sacramento River totaled approximately 4,300 adult fish. The upper river return (above the mouth of the Feather River) was 1,400 adults, about 64% of the 1996 return and less than 28% of the 1971-1975 average of 5,100 fish. The Feather River spring chinook return of 3,000 adults was slightly more than 55% of last year's return of 5,300 adults.



TABLE II-1. Sacramento River natural and hatchery adult fall chinook escapements in thousands of fish. (Page 1 of 1)

Year	Upper River			Lower River			Total		Grand Total
	Hatchery	Natural <sup>a/</sup>	Subtotal	Hatchery	Natural <sup>a/</sup>	Subtotal	Hatchery	Natural <sup>a/</sup>	
1970	3.0	64.0	67.0	10.2	83.0	93.2	13.2	147.0	160.2
1971	1.5	62.6	64.1	10.2	75.3	85.5	11.7	137.9	149.6
1972	1.6	35.0	36.6	6.8	44.0	50.8	8.4	79.0	87.4
1973	3.0	48.0	51.0	18.0	151.0	169.0	21.0	199.0	220.0
1974	1.3	66.0	67.3	11.6	122.0	133.6	12.9	188.0	200.9
1975	1.8	71.0	72.8	10.8	69.0	79.8	12.6	140.0	152.6
1976	1.8	79.0	80.8	8.6	75.3	83.9	10.4	154.3	164.7
1977	4.7	46.8	51.5	13.2	83.0	96.2	17.9	129.8	147.7
1978	1.1	76.0	77.1	10.0	47.0	57.0	11.1	123.0	134.1
1979	4.7	77.0	81.7	10.6	71.0	81.6	15.3	148.0	163.3
1980	8.8	53.0	61.8	16.5	72.0	88.5	25.3	125.0	150.3
1981	5.7	51.0	56.7	25.1	91.0	116.1	30.8	142.0	172.8
1982	16.2	37.0	53.2	14.5	93.5	108.0	30.7	130.5	161.2
1983	5.4	40.6	46.0	12.5	49.5	62.0	17.9	90.1	108.0
1984	18.7	48.7	67.4	19.1	68.5	87.6	37.8	117.2	155.0
1985	13.1	107.7	120.8	12.9	101.3	114.2	26.0	209.0	235.0
1986	11.3	109.5	120.8	11.3	102.9	114.2	22.6	212.4	235.0
1987	11.3	73.4	84.7	9.9	77.0	86.9	21.2	150.4	171.6
1988	12.5	125.2	137.7	14.2	71.8	86.0	26.7	197.0	223.7
1989	10.2	65.9	76.1	15.7	54.5	70.2	25.9	120.4	146.3
1990	13.5	50.8	64.3	8.9	34.1	43.0	22.4	84.9	107.3
1991	10.0	33.6	43.6	14.7	53.1	67.8	24.7	86.7	111.4
1992	6.2	33.0	39.2	15.4	29.2	44.6	21.6	62.2	83.8
1993	7.1	54.4	61.5	17.1	48.9	66.0	24.2	103.3	127.5
1994 <sup>b/</sup>	11.5	50.4	61.9	17.7	62.1	79.8	29.2	112.5	141.7
1995 <sup>b/</sup>	24.8	92.8	117.6	16.8	133.4	150.2	41.6	226.2	267.8
1996 <sup>b/</sup>	18.8	83.8	102.6	14.1	127.7	141.8	32.9	211.5	244.4
1997 <sup>b/</sup>	45.4	154.8	200.2	19.2	104.5	123.7	64.6	259.3	323.9

a/ Fish spawning in natural areas are the result of hatchery and natural production.

b/ Preliminary.



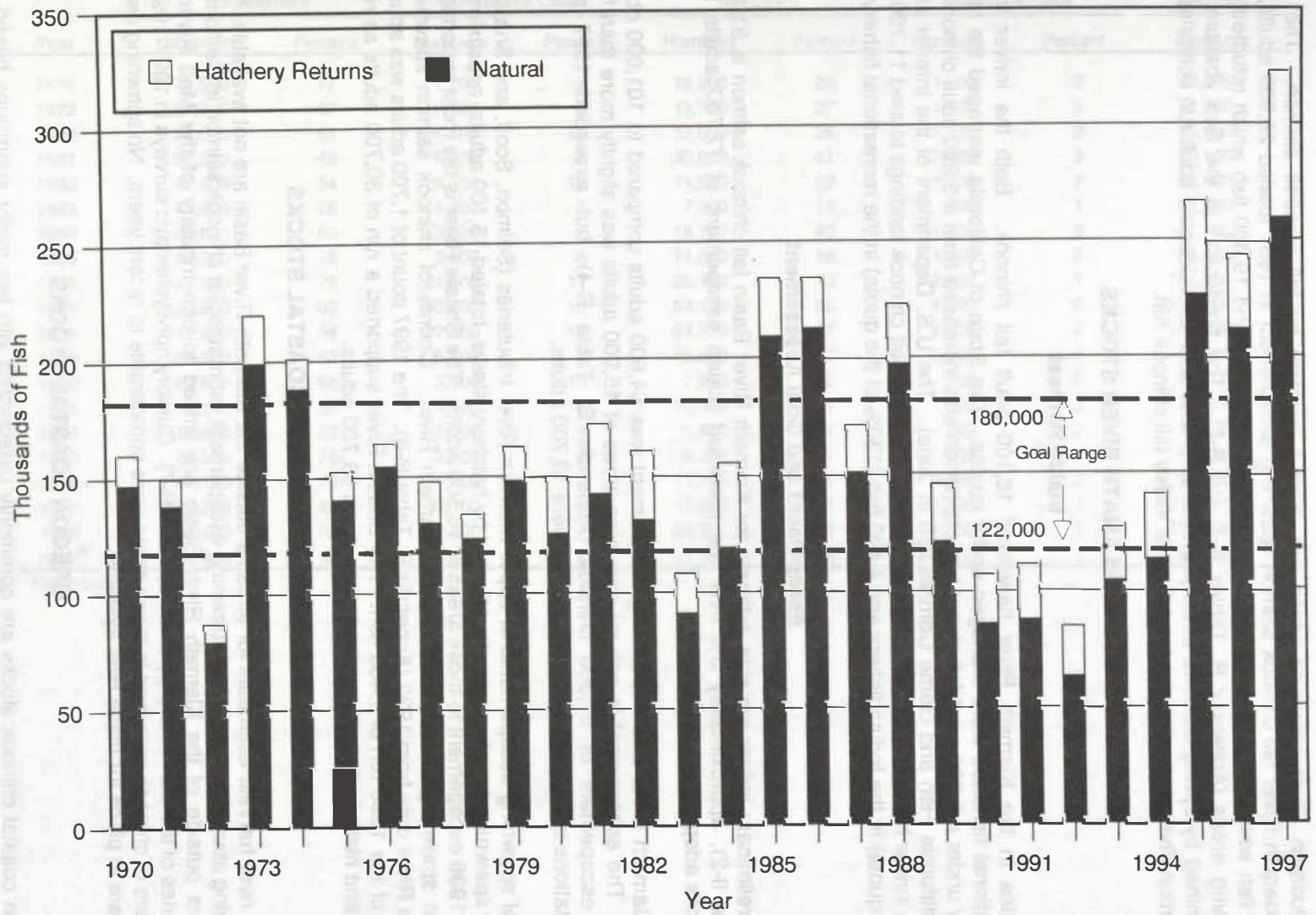


FIGURE II-1. Sacramento River fall chinook spawning escapements, 1970-1997.

## **San Joaquin River Fall Chinook**

San Joaquin River spawning areas are utilized primarily by fall chinook salmon. The estimated San Joaquin River fall chinook salmon spawning escapement in 1997 totaled 26,900 adults, including 7,100 fish which were spawned in the two basin hatcheries and 19,800 fish which returned to natural spawning areas (Appendix B, Tables B-1 and B-2). The production in the San Joaquin is largely determined by spring outflows three years earlier. The total San Joaquin adult run comprised a small proportion (five percent) of the total Central Valley fall chinook run.

## **KLAMATH RIVER STOCKS**

### **Inside Harvest**

Fisheries in the Klamath River harvested 16,100 adult fall chinook. Both the inriver Indian and recreational fisheries were managed under quotas. The State of California managed the recreational fishery under a 3,500 adult fall chinook quota (which was increased from a 3,200 adult chinook quota by the California Fish and Game Commission in June). The U.S. Department of the Interior adopted an Indian inriver harvest quota of 21,600 adult fall chinook. Adult chinook landings totaled 11,700 fish (54% of the quota) in the Indian fishery and 4,400 fish (130% of the quota) in the recreational fishery (Table II-2).

### **Escapement and Goal Assessment**

The preliminary inriver run size estimate for Klamath River Basin fall chinook salmon is 81,700 adults (Figure II-2), approximately 5% over the predicted ocean escapement of 77,700 adults under the Council's adopted regulations.

The Klamath River Basin spawning escapement was 64,600 adults compared to 101,000 observed in 1996. The escapement to natural spawning areas of 45,900 adults was slightly more than half of the 1996 escapement of 81,300 chinook (Appendix B, Table B-4), but exceeded 1997 pre-season expectations of 35,300. Hatchery returns were 18,700 adults.

Natural spawning escapements in upper Klamath River tributaries (Salmon, Scott, and Shasta Rivers), where spawning is only minimally affected by hatchery strays, totaled 15,100 adults, approximately 82% of the 1996 escapement to those areas of 18,500 adults. The Shasta River is the most important chinook salmon spawning stream in the upper Klamath River. Counts of chinook salmon spawners in the Shasta River date from 1930 (Appendix B, Table B-6). The 1997 count of 1,700 adults was approximately 119% of the 1996 run of 1,400 fish. The Shasta River supported a run of 30,700 adults as recently as 1964, and historically has received as many as 63,700 adults.

## **NORTHERN CALIFORNIA COASTAL STOCKS**

Inside river harvest estimates for streams outside the Klamath River Basin are not available. Indices of spawning abundance, or actual spawning escapement estimates, for chinook salmon in California coastal streams outside of the Klamath River Basin are limited to one tributary of the Mad River and two tributaries of the Eel River (Appendix B, Table B-7). cursory nonsystematic surveys in 1997-1998 indicate numbers of chinook spawned in those areas were comparable to recent years. No spawning escapement goals are in place for these river systems.

## **OREGON COASTAL STOCKS**

Oregon coastal chinook stocks are commonly categorized into two major subgroups based on ocean migration patterns. Although their ocean harvest distributions somewhat overlap, they have been labeled as either north or south/local migrating.

TABLE II-2. Klamath River adult inriver fall chinook run size, spawning escapement, recreational catch, Indian net harvest and non-landed fishing mortalities in numbers of fish and percent of the total inriver run size. (Page 1 of 1)

Year	Spawning Escapement		Inriver Recreational Catch		Indian Net Catch		Non-landed Fishing Mortality		Inriver Run Size
	Numbers	Percent	Numbers	Percent	Numbers	Percent	Numbers	Percent	Numbers
1978	71,500	77	1,700	2	18,200	20	1,500	2	92,800
1979	34,300	67	2,100	4	13,700	27	1,100	2	51,200
1980	28,000	61	4,500	10	12,000	26	1,100	2	45,600
1981	38,300	48	6,000	7	33,000	41	2,800	3	80,100
1982	42,400	64	8,300	12	14,500	22	1,300	2	66,500
1983	44,600	78	4,200	7	7,900	14	700	1	57,500
1984	23,600	50	3,300	7	18,700	40	1,600	3	47,100
1985	48,200	75	3,600	6	11,600	18	1,000	2	64,400
1986	146,300	75	21,000	11	25,100	13	2,400	1	194,800
1987	130,800	63	20,200	10	53,100	25	4,700	2	208,800
1988	112,800	59	22,200	12	51,700	27	4,600	2	191,300
1989	65,900	53	8,800	7	45,600	37	3,800	3	124,000
1990	23,600	66	3,600	10	7,900	22	700	2	35,800
1991	18,100	56	3,400	10	10,200	31	900	3	32,600
1992	19,400	73	1,000	4	5,800	22	500	2	26,700
1993	43,500	76	3,200	6	9,600	17	800	1	57,100
1994	47,100	76	1,800	3	11,700	19	1,000	2	61,600
1995	190,700	89	6,100	3	15,600	7	1,400	1	213,700
1996	101,000	58	12,800	7	56,500	32	4,800	3	175,400
1997 <sup>a/</sup>	64,600	80	4,400	5	11,700	14	1,000	1	81,700

a/ Preliminary.



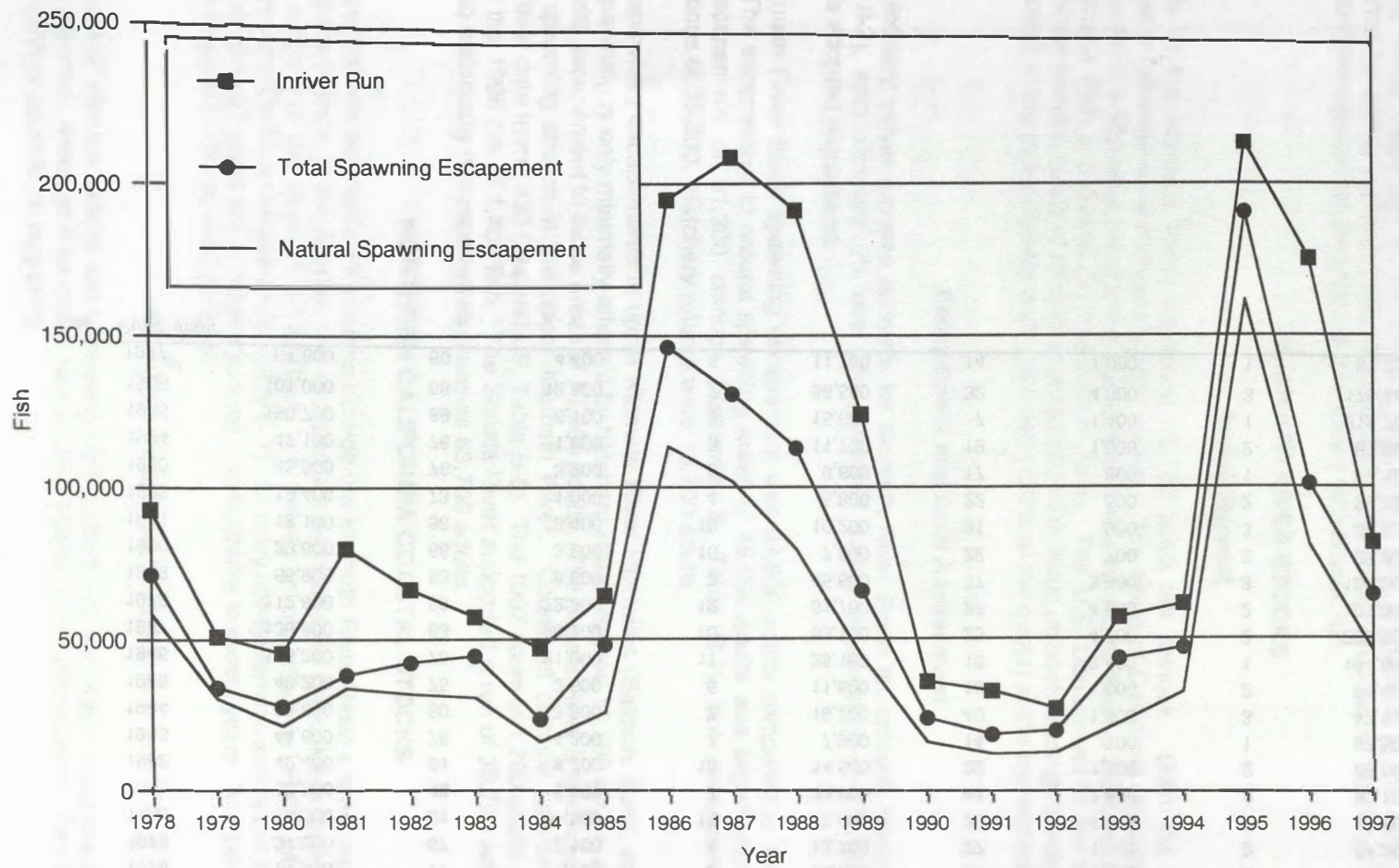


FIGURE II-2. Klamath River fall chinook salmon inriver run and spawning escapements, 1978-1997.

North migrating chinook stocks include stocks north of and including the Elk River, with the exception of Umpqua River spring chinook. Based on coded-wire tag (CWT) analysis, the populations from ten major north Oregon coast (NOC) river systems from the Nehalem through the Siuslaw Rivers are harvested primarily in PSC ocean fisheries off British Columbia and southeast Alaska, and to a much lesser degree in Council area fisheries off Washington and Oregon, primarily in terminal area fisheries. Analysis of CWTs indicates that the population from five major mid-Oregon coast (MOC) systems from the Coos through the Elk Rivers are harvested primarily in ocean fisheries off British Columbia, Washington and Oregon, with minor contributions to California fisheries.

South/local migrating chinook stocks include Rogue River spring and fall chinook, and fall chinook from smaller rivers south of the Elk River. These stocks are important contributors to ocean fisheries off Oregon and northern California. Another central Oregon stock, Umpqua River spring chinook, contributes primarily to ocean fisheries off Oregon and California, and to a lesser degree off Washington, British Columbia and southeastern Alaska.

### **Inside Harvest**

Inside recreational harvest of fall and spring chinook occurs in most Oregon coastal estuaries and rivers. Complete estimates of the 1997 recreational chinook harvest are not available at this time. Historical estimates of the recreational harvest of fall and spring chinook, derived from Oregon Department of Fish and Wildlife (ODFW) salmon and steelhead angler tag returns, are reported in Table II-3.

Inside commercial chinook harvest in recent years has been limited to returns to private aquaculture operations (Table II-3). All private Oregon facilities have ceased operations; thus, there were no returns in 1997.

### **Escapement and Goal Assessment**

Oregon coastal chinook are managed for an aggregate spawning escapement of 150,000-200,000 naturally spawning adults. Actual escapement is not estimated for this stock aggregate. Achievement of this goal is assessed through spawning escapement indices (e.g., stream surveys, dam counts, etc.). The escapement goal is equivalent to peak spawner index counts of 60-90 adults per mile for both subgroups, and includes both spring and fall chinook, as stated in the fishery management plan (FMP).

#### **North Migrating Chinook**

An index of spawning adults (peak count per index mile) in nine standard streams is used to measure natural spawning escapement trends for north migrating fall chinook stocks. Data have been collected since about 1950 for most systems. Overall peak chinook adult index spawning counts in 1997 are preliminarily estimated at 86 adults per mile, which meets the goal range of 60-90 adults per mile (Table II-4, Figure II-3).

#### **South/Local Migrating Chinook**

Standard fall chinook spawning index escapement data for the smaller southern Oregon coastal rivers (south of the Elk River) are available for the Winchuck, Chetco, and Pistol Rivers (Appendix B, Table B-8). Rogue River carcass counts are used as a trend indicator of escapement for naturally produced fall chinook (Table II-4). In addition, two trend indicators of escapement for naturally produced spring chinook are utilized: (1) Rogue River counts at Gold Ray Dam and (2) Umpqua River counts at Winchester Dam (Table II-4). Escapement based on these indicators peaked during the 1986-1988 period, following several years of reduced abundance (Figures II-3 and II-4). Ocean and spawner escapement returned to low levels from 1989-1997.

The aggregate Oregon coastal goal of 150,000-200,000 naturally spawning chinook adults was probably met in 1997.



TABLE II-3. Oregon coastal spring and fall chinook hatchery return and harvest in estuary and freshwater fisheries. (Page 1 of 1)

Year	Return to Facilities				
	Public Hatchery <sup>a/</sup>		Private	Estuary and Freshwater Harvest <sup>b/</sup>	
	Spring	Fall	All	Spring	Fall
<b>THOUSANDS OF CHINOOK</b>					
1976	2.9	0.5	-	13.5	24.3
1977	2.4	4.2	-	13.8	35.6
1978	4.4	1.6	-	13.1	43.4
1979	7.0	2.0	0.4	16.4	31.2
1980	7.9	1.8	3.4	11.9	22.7
1981	2.5	1.8	5.1	11.2	30.0
1982	4.1	2.3	12.1	11.6	25.1
1983	3.9	4.0	6.1	4.9	21.5
1984	5.6	3.3	6.3	4.1	29.0
1985	8.7	3.5	34.6	9.0	29.5
1986	30.6	5.8	70.8	17.3	36.5
1987	22.8	7.1	38.7	20.2	54.8
1988	22.0	6.4	25.0	28.9	61.7
1989	32.7	4.3	14.7	23.7	53.7
1990	6.3	3.4	7.8	15.5	39.8
1991	5.4	3.1	4.1	11.1	47.7
1992	2.7	4.4	-	8.0	44.5
1993	10.6	2.8	-	16.4	54.8
1994	4.8	3.0	-	9.2	46.7
1995	55.0	3.3	-	NA	NA
1996	26.7	3.6	-	NA	NA
1997 <sup>c/</sup>	29.0	1.9	-	NA	NA

a/ Adults only.

b/ Freshwater harvests are derived from ODFW salmon/steelhead angler tag information and represent fish larger than 24 inches (i.e., adults). Includes both hatchery and natural fish.

c/ Preliminary.

TABLE II-4. Spawner Indices for naturally produced Oregon coastal fall chinook and south migrating/localized spring chinook. (Page 1 of 2)

Year	Fall Chinook Spawner Indices		South/local Migrating Spring Chinook Spawner Indices	
	North Migrating Peak Count Adults Per Mile	Rogue River (south/local migrating) Adult Carcass Counts (thousands)	Rogue River Gold Ray Dam Counts (thousands)	Umpqua River Winchester Dam Counts (thousands)
1941	-	-	41.8	-
1942	-	-	36.1	-
1943	-	-	30.6	-
1945	-	-	32.0	-
1946	-	-	28.4	2.5
1947	-	-	22.6	3.8
1948	-	-	27.0	2.5
1949	-	-	18.8	2.6
1950	-	-	15.5	2.3
1951	-	-	19.4	3.6
1952	-	-	15.9	5.2
1953	-	-	31.5	3.9
1954	-	-	24.7	1.5
1955	-	-	15.7	6.6
1956	-	-	28.1	8.0
1957	-	-	17.7	4.0
1958	-	-	15.0	3.6
1959	-	-	14.0	3.1
1960	-	-	24.4	3.4
1961	51	-	31.8	4.4
1962	42	-	31.4	3.3
1963	56	-	40.6	8.7
1964	63	-	37.3	6.6
1965	59	-	47.6	9.0
1966	62	-	31.4	6.7
1967	50	-	14.7	6.5
1968	33	-	19.5	6.2
1969	37	-	59.0	10.7
1970	80	-	45.1	6.1
1971	43	-	28.3	6.0
1972	41	-	30.0	7.9
1973	52	-	34.7	11.4
1974	59	-	16.5	5.8
1975	55	-	20.4	5.4
1976	49	-	20.4	5.5
1977	71	1.1	14.9	6.8
1978	73	9.2	40.2	5.4
1979	81	8.0	29.3	5.5
1980	89	2.2	24.2	5.7
1981	82	4.4	12.8	4.6
1982	90	2.8	23.2	6.5
1983	42	1.6	9.8	3.0
1984	98	2.0	8.4	4.5
1985	132	5.5	27.8	7.5
1986	109	16.9	40.4	8.3
1987	121	29.1	37.4	8.3
1988	214	20.7	38.8	7.8
1989	137	7.4	7.9	7.6
1990	121	1.9	18.0	5.5
1991	150	2.8	9.3	2.4
1992	138	2.3	2.2	2.5



TABLE II-4. Spawner Indices for naturally produced Oregon coastal fall chinook and south migrating/localized spring chinook.<sup>b/</sup> (Page 2 of 2)

Year	Fall Chinook Spawner Indices		South/local Migrating Spring Chinook Spawner Indices	
	North Migrating Peak Count Adults Per Mile	Rogue River (south/local migrating) Adult Carcass Counts (thousands)	Rogue River Gold Ray Dam Counts (thousands)	Umpqua River Winchester Dam Counts (thousands)
1993	63	5.4	12.6	3.8
1994	125	7.4	3.6	2.8
1995	101	4.0	20.7	6.2
1996	147	1.7	10.3	4.3
1997 <sup>b/</sup>	86	1.6	9.6	3.3

a/ North migrating peak counts are taken on 9 miles of standard index surveys over 9 river systems (see Appendix B, Table B-11 for individual system counts). Complete carcass counts are listed in Appendix B, Table B-10. Complete counts for Gold Ray and Winchester dams are listed in Appendix B, Table B-9.

b/ Preliminary.

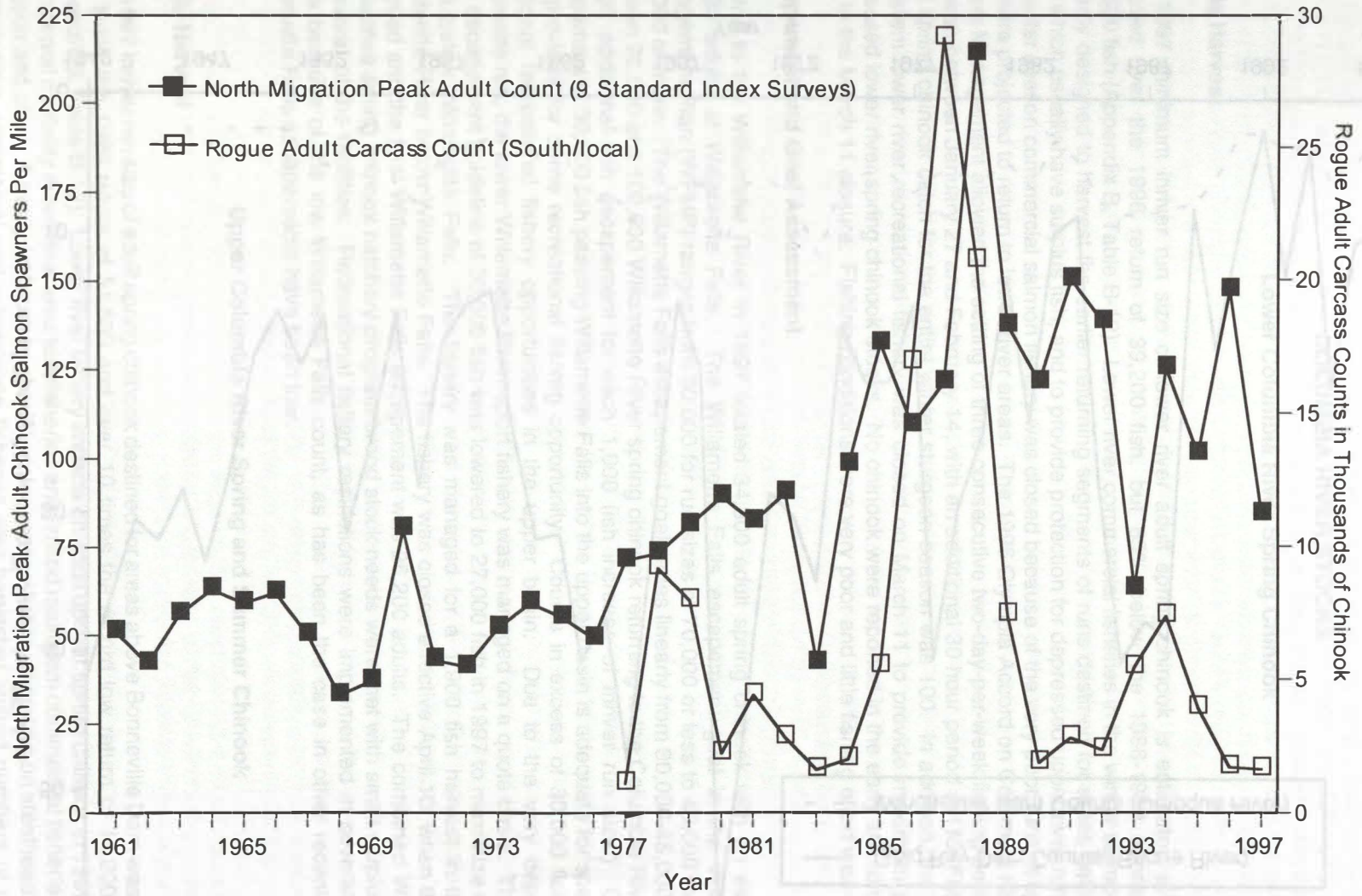


FIGURE II-3. Spawner indices for naturally produced Oregon Coastal fall chinook. (See Appendix B, Tables B-10 and B-11 for detailed counts).

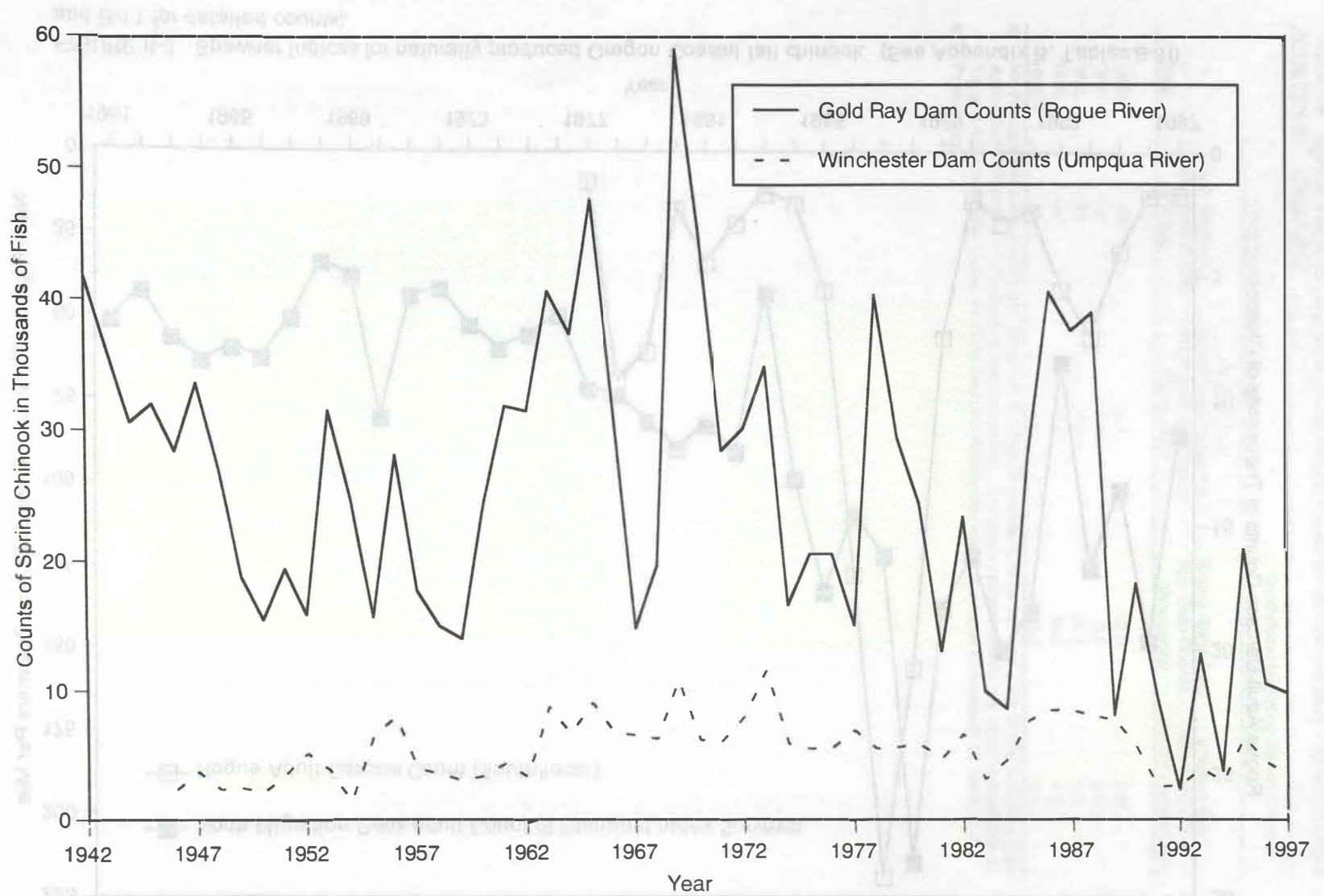


FIGURE II-4. Escapement indices for naturally produced Oregon coastal south/local migratory spring chinook, 1942-1997 (See Appendix B, TABLE B-9 for counts of hatchery produced chinook).



Preliminary estimates of total fall and spring chinook returns to Oregon coastal hatcheries in 1997 are 1,900 and 29,000 adults, respectively (Table II-3). Hatchery egg-take goals are expected to be met at all stations.

## **COLUMBIA RIVER STOCKS**

### **Lower Columbia River Spring Chinook**

#### **Inside Harvest**

The 1997 minimum inriver run size of lower river adult spring chinook is estimated at 45,500 fish, improved over the 1996 return of 39,200 fish, but 65% below the 1986-1990 average return of 131,500 fish (Appendix B, Table B-12). Lower river commercial fisheries in the winter salmon season are primarily designed to harvest the earlier returning segments of runs destined for areas below Bonneville Dam which usually have surplus fish, and to provide protection for depressed upper river runs. For 1997, the winter season commercial salmon fishery was closed because of the very poor runs of spring chinook that were projected to return to lower river areas. The 1996 Olympia Accord on Columbia River Sturgeon Fishery Management allowed the setting of three consecutive two-day-per-week fishing periods targeting sturgeon between January 27 and February 14, with an additional 30 hour period set for February 17-18. Total spring chinook catch for the entire winter sturgeon season was 100. In addition, the early season mainstem lower river recreational fishery was closed on March 11 to provide maximum protection for depressed lower river spring chinook stocks. No chinook were reported in the early season sport fishery prior to the March 11 closure. Fishing conditions were very poor and little fishing effort was observed.

#### **Escapement and Goal Assessment**

Returns to the Willamette River in 1997 totaled 34,300 adult spring chinook with an escapement of 26,200 adults at Willamette Falls. The Willamette Falls escapement goal in the Willamette Fish Management Plan (WFMP) ranges from 30,000 for run sizes of 70,000 or less to 45,000 for run sizes of 100,000 or more. (The Willamette Falls escapement goal varies linearly from 30,000-45,000 for run sizes between 70,000 and 100,000 Willamette River spring chinook returning to the Columbia River at the rate of 500 additional fish escapement for each 1,000 fish increase of inriver run size.) Generally, an escapement of 30,000 fish passing Willamette Falls into the upper basin is adequate for spawning needs and provides for some recreational fishing opportunity. Counts in excess of 30,000 fish provide for additional recreational fishery opportunities in the upper basin. Due to the very depressed 1997 Willamette run, the lower Willamette River sport fishery was managed on a quota basis. The Willamette Falls escapement guideline of 30,000 fish was lowered to 27,000 fish in 1997 to maximize the allowable catch below Willamette Falls. The fishery was managed for a 1,900 fish harvest in the mainstem Willamette River below Willamette Falls. The fishery was closed effective April 10, when the quota was achieved and the final Willamette Falls escapement was 26,200 adults. The combined Willamette and Clackamas spring chinook hatchery program brood stock needs were met with small surpluses available at several of the facilities. Recreational fishery restrictions were implemented in several upper basin areas because of the low Willamette Falls count, as has been the case in other recent years when Willamette Falls escapements have been low.

### **Upper Columbia River Spring and Summer Chinook**

#### **Inside Harvest**

The 1997 inriver run size of adult spring chinook destined for areas above Bonneville Dam was 114,100 fish, over twice the 1996 return of 51,500 and over 10 times the record low return of 10,200 fish in 1995 (Appendix B, Table B-13). Lower river fishery impacts on adult upriver spring chinook in 1997 were limited to incidental mortality in terminal area test fisheries and limited mainstem commercial fisheries targeting on sturgeon and shad. A treaty Indian commercial winter season fishery targeting on steelhead and sturgeon and mainstem ceremonial and subsistence fisheries also harvested limited numbers of upriver spring chinook in 1997. Total inriver catch of adult upriver spring chinook was estimated at 8,300 fish.

The Columbia River Technical Advisory Committee (CRTAC) used run reconstruction methodology to estimate impacts on adult wild Snake River spring and summer chinook for its biological assessment of Columbia River mainstem fisheries. It was estimated that the 1997 lower river and Zone 6 treaty Indian mainstem fisheries had a total harvest related impact of 239 adult wild Snake River spring chinook, compared to 216 adults in 1996 and the 1986-1990 average harvest-related impact of 1,109 adults. Estimated incidental handling mortalities during lower river spring season commercial shad fisheries and test gillnet fisheries are included in these total impacts. The inriver harvest impact rate for these fisheries on adult wild Snake River spring chinook was estimated at 7.3% in 1997, compared to 5.5% in 1996 and the 1986-1990 average harvest impact rate of 10.7%. The harvest rate impact in 1997 was the result of management of Columbia River spring chinook fisheries under the 1996-1998 Management Agreement for Upper Columbia River Spring Chinook, Summer Chinook, and Sockeye in conjunction with the Columbia River Fishery Management Plan (CRFMP). The 1996-1998 Management Agreement limits total impacts on Endangered Species Act (ESA) listed Snake River stocks to minimal levels when upriver and Snake River populations are at very low levels.

The inriver run size of adult summer chinook destined for areas above Bonneville Dam in 1997 was 28,000 fish, a 74% increase from the 1996 return and almost twice the 1995 record low return of 15,000 fish (Appendix B, Table B-14). Major fisheries targeting summer chinook in the Columbia River have been eliminated since 1964 due to the chronically depressed status of this stock. There was no incidental treaty Indian summer chinook harvest impact associated with commercial sockeye fisheries as occurred in 1985-1988. Treaty Indian ceremonial and subsistence catch of adult summer chinook in 1997 was estimated at 315 fish. No treaty Indian commercial seasons targeting sockeye have occurred since 1988.

### **Escapement and Goal Assessment**

Escapement of upriver spring chinook, measured as the count of adult fish passing Bonneville Dam minus Zone 6 mainstem treaty commercial and ceremonial and subsistence harvest, was 105,800 (Appendix B, Table B-13), over twice the 1996 escapement of 48,700, and 92% of the interim goal of 115,000 adults. Under the CRFMP, an interim escapement goal of 115,000 adult upriver spring chinook was adopted in October 1988. This interim goal is within the 100,000-120,000 original adult upriver spring chinook escapement goal range at Bonneville Dam, which was developed when the composition of the run was approximately 70% natural and 30% hatchery. In recent years, the natural/hatchery split at Bonneville Dam has almost reversed, with the natural component generally comprising less than one-third of the upriver run.

Escapement of upper Columbia River summer chinook, measured as the count of adult fish passing Bonneville Dam minus Zone 6 mainstem treaty commercial and ceremonial and subsistence harvest, was 27,600 adults (Appendix B, Table B-14), 78% above the 1996 escapement of 15,500 adults, but still far below the goal of 80,000-90,000 adults.

Snake River total escapement of adult hatchery and wild spring chinook at Lower Granite Dam in 1997 was 33,900 fish, the highest count since at least 1979, and eight times the 1996 escapement of 4,200 adults. The 1997 escapement of adult wild Snake River spring chinook at Lower Granite Dam, however, was estimated at 1,400 fish, similar to the 1996 escapement, but well below the 1986-1990 average return of 5,900 fish, and the CRFMP interim management goal of 25,000 adults.

The 1997 escapement of adult wild Snake River summer chinook at Lower Granite Dam was estimated to be 6,500, compared to 2,100 fish in 1996 and the 1986-1990 average return of 2,900 fish. The 1997 wild Snake River summer chinook escapement estimate is the largest since at least 1979.

The combined adult wild Snake River spring/summer chinook escapement at Lower Granite Dam in 1997 was estimated to be 7,900 fish, compared to 3,500 fish in 1996 and the 1986-1990 average return of 8,800 fish.



## Columbia River Fall Chinook

### Inside Harvest

Columbia River mainstem fisheries which typically harvest significant numbers of fall chinook include the treaty Indian gillnet fishery operating in the area between Bonneville Dam and McNary Dam, the non-Indian gillnet fishery operating in the area below Bonneville Dam, and the recreational fishery from the river mouth (Buoy 10) to Priest Rapids Dam. Inside fishery harvest, escapement, and run size data for Columbia River fall chinook stocks are presented in Appendix B, Tables B-15 to B-19.

Mainstem fisheries in 1997 were managed based upon allowable impacts of wild Snake River fall chinook identified in the 1996-1998 Management Agreement for Upper Columbia River Fall Chinook in conjunction with the CRFMP. Returns of upriver fall chinook, although below average, were projected to have significant harvestable numbers. Lower river commercial fisheries were closed during much of the normal chinook fishery time frame. However, mainstem sport fisheries upstream from Buoy 10 proceeded under a normal fall season schedule. The Buoy 10 sport fishery opened to the retention of chinook on August 1. The Zone 6 treaty Indian fishery season above Bonneville Dam occurred over four weeks in late August and September for a total of 18 days.

Historically, four stocks have contributed significantly to the Columbia River fall chinook fisheries. These include two lower river stocks, lower Columbia River Hatchery (LRH) tules and lower Columbia River wild (LRW) chinook, and two upper river stocks, Spring Creek Hatchery (SCH) tules and upriver bright (URB) chinook. Since the early 1980s, large numbers of hatchery upriver bright fall chinook have been released in the mid-Columbia River area (Bonneville Dam to McNary Dam). These fish have been termed mid-Columbia River brights (MCB). Inriver returns from MCB production have increased from the 1982-1985 average of 10,300 adults and have improved over the recent 1991-1995 average of 32,400 adults. Preliminary estimates of adult ocean escapement for the five stocks, based upon preliminary CWT readings, skin color categorization of brights and tules at Bonneville Dam and in the fisheries, and hatchery chinook returns, are 25,200 SCH, 56,700 LRH, 13,800 LRW, 167,900 URB, and 57,000 MCB.

Preliminary catch estimates for the major commercial and recreational fall chinook fisheries are based upon fishery sampling and fish ticket summaries. Non-Indian early fall season (August through early September) commercial chinook fisheries below Bonneville Dam were designed to target surplus upriver stocks and sturgeon, while reducing impacts on depressed Snake River and lower river tule fall chinook stocks. The fishery occurred for two days and resulted in a total catch of 1,400 fall chinook. The late fall season (late September-early November) non-Indian commercial fishery occurred for 29 days and targeted primarily on sturgeon. The total salmon catch was 3,700 chinook and 3,400 coho. An additional 4,200 fall chinook were harvested in selected terminal area gillnet fisheries. The treaty Indian commercial gillnet fishery operated for 18 days during four fishing periods with a six day closure below the Hood River Bridge for gill nets during the third period of the season to reduce impacts on SCH tules. Ceremonial and subsistence harvest by the treaty Indian fisheries also occurred during the fall season time frame. The combined harvest for these treaty Indian fisheries in 1997 was 70,900 fall chinook.

The 1997 inriver mainstem recreational fishery opened as scheduled on August 1 for the area above the Astoria-Megler Bridge upstream to Pasco, Washington. The Buoy 10 recreational fishery also opened as scheduled on August 1. The total mainstem recreational fishery catch was 24,000 fall chinook. The Hanford Reach recreational fishery above Pasco, Washington, opened to the retention of adult chinook as scheduled on August 16 and added an additional 3,500 adults to the Columbia River mainstem sport catch.

Inriver fisheries, both above and below Bonneville Dam, were managed to be consistent with the Snake River fall chinook impact guidelines in the 1996-1998 Management Agreement for Upper Columbia River Fall Chinook, in conjunction with the CRFMP, and to provide substantial protection for lower river hatchery fall chinook brood stock. The Columbia River Joint Technical Staff has preliminarily estimated a 26.9%



harvest rate on wild Snake River fall chinook for 1997 Columbia River fisheries, compared to the 1997 allowable harvest rate of 29.7%, an estimated 23.0% harvest rate in 1996, and the 1988-1993 average harvest rate of 34.9%. A final estimate of the 1997 Columbia River fisheries' harvest rate on wild Snake River fall chinook will not be available until March or April.

### **Escapement and Goal Assessment**

Total ocean escapement of SCH in 1997 was 25,200 adults, lower than the return of 33,100 adults in 1996 and the 1990-1995 average return of 30,200 adults, but well above the 1986-1990 average return of 16,700. The escapement to Spring Creek Hatchery was 8,700 adults. No trapping of Spring Creek tule fall chinook occurred at the Bonneville Dam north shore fish ladder in 1997. The Spring Creek Hatchery escapement goal was reduced from 8,200 adults to 7,000 adults in 1994 after review of recent egg-to-smolt survival rates and production capacity. Improved handling and rearing conditions at the hatchery in recent years have resulted in reduced numbers of brood stock and a reduced egg take necessary to meet full production at the facility. The 8,700 adult escapement at Spring Creek Hatchery provided full egg take in 1997.

Total ocean escapement of LRH in 1997 was 56,700 adults, 75% of the 1996 return of 75,500 adults, similar to the recent 1991-1995 average of 58,200 adults, but well below the 1986-1990 average return of 200,000 adults. The 1997 mainstem lower Columbia River commercial fishery season was structured to provide protection for Snake River wild fall chinook and LRH brood stock. Because of major reductions in Mitchell Act funding for 1997, ODFW decided to discontinue much of its LRH tule production in deference to maintaining other production programs (primarily coho and steelhead).

Total ocean escapement of LRW in 1997 was 13,800 adults, similar to the 1996 return of 14,600 adults and the 1991-1995 average of 14,800, but below the 1986-1990 average return of 32,600 adults. The natural spawning escapement goal of 5,700 adults was achieved.

Total ocean escapement of URB in 1997 was 167,900 adults, improved over the 1996 return of 143,200 adults and the 1991-1995 average return of 105,200 adults, but well below the 1986-1990 average return of 291,300 adults. The escapement of URB adults counted at McNary Dam was 66,800 fish, compared to the FMP goal of 40,000 adults over the dam. (The escapement goal for inriver management was increased by 5,000 chinook to 45,000 adults counted at McNary Dam for 1990-1993, by agreement of the CRFMP parties, to account for increased brood stock hatchery needs and to provide additional protection to Snake River fall chinook. The CRFMP parties revised the escapement goal to 43,500 in 1995 and retained that goal for 1996-1998.) However, inriver fisheries in 1994-1997 were managed for allowable impacts on adult wild Snake River fall chinook rather than a McNary Dam escapement goal, as in past years. The 1996-1998 Management Agreement for Upper Columbia River Fall Chinook, in conjunction with the CRFMP, provided the specific guidance for 1997 inriver fisheries management.

Total ocean escapement of MCB in 1997 was 57,000 adults, compared to a return of 59,700 adults in 1996 and the 1986-1990 average return of 61,000 adults. The MCB hatchery stock currently has no established overall escapement goal. Surplus eggs are shared between the various facilities that rear this stock. MCB hatchery rack returns were sufficient to meet all program production goals in 1997.

The preseason expectation for LRH fall chinook, under Council-adopted seasons and harvest quotas and planned inside fishery impacts, was to meet hatchery brood stock needs. LRH program reductions due to Mitchell Act funding cuts have decreased the hatchery brood stock goal to 15,100. The Council's management goals for natural stocks (URB and LRW), of achieving the McNary Dam FMP and LRW escapement goals and significantly reducing the exploitation rate on Snake River fall chinook, were expected to be met in 1997.

Total ocean escapement of all Columbia River fall chinook stocks was similar to the expected 1997 return with greater than expected returns of LRW stocks but less than the expected returns of MCB stocks. Ocean escapements for combined bright fall chinook stocks (URB, LRW, and MCB) and combined tule

stocks (SCH and LRH) were comparable to preseason expectations presented at the March 1997 Council meeting. The March preseason forecasts are ocean escapements based on terminal run size and stock-specific cohort relationships affected by the historical "normal" ocean fisheries during the brood year data base time period (generally 1978-1993). As part of the ocean fisheries chinook modeling process, the March forecasts are adjusted in April, after the structure of the current fisheries seasons is defined, to better reflect the resulting escapements from anticipated ocean fisheries.

Ocean fisheries impacting the Columbia River chinook stocks in 1997 were restricted by U.S. and Canadian managers to provide needed conservation measures to protect and rebuild depressed chinook stocks. Council area and treaty Indian ocean chinook fisheries north of Cape Falcon were restricted in 1997.

No specific escapement goal has been established for Snake River fall chinook or its wild component. Because nearly all spawning of the wild Snake River fall chinook stock occurs upstream from Lower Granite Dam, establishing a spawning escapement goal at Lower Granite Dam would be appropriate. In their Proposed Recovery Plan for Snake River Salmon, the National Marine Fisheries Service (NMFS) has proposed a delisting goal for Snake River fall chinook of an eight-year (approximately two generation) geometric mean of at least 2,500 natural spawners in the mainstem Snake River annually. Historical estimates of the number of adult wild Snake River fall chinook counted at Lower Granite Dam are provided in Appendix B, Table B-18. The total adult fall chinook count at Lower Granite Dam in 1997 was 1,456 fish, compared to 1,308 fish in 1996 and the 1986-1990 average return of 691 fish. A very preliminary estimate of adult wild fall chinook at Lower Granite Dam in 1997 is a count of 700 fish. Estimates of adult wild fall chinook for previous recent years were counts of 639 in 1996, 350 in 1995; 406 in 1994; 742 in 1993; 549 in 1992; 318 in 1991; and the 1986-1990 average return of 289 adult wild fish.

## **WASHINGTON COASTAL STOCKS**

### **Willapa Bay Chinook**

#### **Inside Harvest**

Run size, harvest and escapement data for Willapa Bay fall chinook are presented in Appendix B, Table B-22.

The chinook non-Indian gillnet fishery in July and the first half of August has not occurred since 1993. This fishery generally harvests Columbia River tule stocks in a mix similar to adjacent ocean area catches. It was not scheduled because of continuing concern over low forecasts for these Columbia River stocks.

An initial forecast of 64,000 fall chinook provided seven directed chinook non-Indian gillnet days from mid-August through September 20. The inseason update pointed to a run size of 36,000 fish. Due to concerns that hatchery broodstock needs would not be met with the lowered run size, three remaining chinook directed gill net openings were canceled. Any remaining harvestable chinook were set aside for the mixed species fisheries which began September 16 and ran through October 4 in the main part of the Bay. The forecasted run size for chum was below the escapement goal, consequently, no fisheries were scheduled in the main part of the bay after October 4. Originally, a five-day net fishery in a small area near the mouth of the Willapa River was scheduled to harvest chinook. This fishery was canceled based on the inseason update. The chinook harvest in these fisheries totaled 12,300. Although, not a record low for the Willapa Bay commercial fishery, the 1997 harvest was less than half the 1990-1996 average (Table B-22).

Recreational harvest estimates are not yet available for 1997. All recreational fisheries opened at the usual times and were of normal duration. Anecdotal information suggests that salt water sport catches were very poor within the bay. Freshwater sport catches were likely reduced over past years but flow conditions and straying of hatchery chinook may have compensated somewhat for the low run size.



## **Escapement and Goal Assessment**

Willapa Bay chinook are managed for hatchery stocks, which are the predominant component of the run. Chinook returns to hatcheries totaled 6,000 fish, compared to an escapement goal of about 8,200.

The escapement goals for naturally spawning chinook in Willapa Bay tributaries total 4,350. About 11,000 chinook are estimated to have spawned naturally in Willapa Bay in 1997, including 7,162 hatchery strays.

## **Grays Harbor Chinook**

### **Inside Harvest**

Run size, harvest and escapement data for Grays Harbor chinook are presented in Appendix B, Table B-24.

The 1997 terminal run forecast for spring chinook was 1,920 fish. This exceeded the escapement goal of 1,400, thus providing harvestable spring chinook. Net fisheries were scheduled by the Quinault Indian Nation and Chehalis Tribe. A recreational season was conducted on the Chehalis River. Final recreational catch estimates are not yet available but an expanded fishery in 1997 will likely increase recreational harvest over the long term average.

No summer non-Indian gillnet fishery was conducted in 1997 due to poor preseason expectations for Columbia River tule hatchery stocks.

The 1997 Grays Harbor fall chinook forecast was strong, but harvest opportunity was constrained by very poor run size expectations for Grays Harbor wild coho. Inseason information suggested a poorer chinook return than forecasted, but aside from closing a non-treaty gill net fishery early no other management actions were taken.

Total fall chinook taken in net fisheries in 1997 was 9,600 fish, an increase of about 13 % from the 1996 harvest of 8,600 chinook. This included 2,700 chinook in the non-Indian commercial fishery, 6,600 chinook in the Quinault Nation fishery and 311 chinook in the Chehalis Tribe's fishery.

Recreational catch estimates are not yet available.

## **Escapement and Goal Assessment**

Chehalis River spring chinook are of natural origin and managed for an escapement goal of 1,400 adults. A final escapement estimate for 1997 is not yet available.

Grays Harbor fall chinook are managed for a natural spawning escapement goal of 14,600 adults. Final escapement estimates are not yet available. There is no management goal for Grays Harbor fall chinook hatchery production.

## **Quinault River Chinook**

### **Inside Harvest**

Historical terminal gillnet harvest data for Quinault River chinook stocks are presented in Appendix B, Table B-26.

A run of naturally spawning spring/summer chinook enters the river from April-July, followed by hatchery and natural fall chinook. The spring/summer chinook run is typically small. The treaty Indian gillnet catch

of spring/summer chinook was less than 20 fish. These fish were taken incidentally during fisheries directed at sockeye and steelhead.

The 1997 harvest of Quinault River fall chinook was taken while the treaty Indian fishery targeted hatchery salmon production during August through mid-November. The treaty Indian net catch totaled 2,600 chinook.

### **Escapement and Goal Assessment**

Natural escapement estimates are not yet available for 1997. Hatchery production egg take for fall chinook was slightly below the goal.

### **Queets River Chinook**

#### **Inside Harvest**

Historical terminal run size, catch and escapement data for Queets River spring/summer and fall chinook are presented in Appendix B, Tables B-28 and B-29, respectively.

Historical terminal run size, catch and escapement data for Queets River spring/summer and fall chinook are presented in Appendix B, Tables B-28 and B-29, respectively.

The treaty Indian gillnet fishery harvest of spring/summer fish was limited to a small evaluation fishery and harvested less than 100 fish. This fishery utilized small mesh gear to increase the catch of summer steelhead while collecting the available spring/summer chinook in-season update information and age data. The anticipated non-treaty inriver recreational fishery harvest is less than 25 fish.

Fall chinook were harvested in conjunction with fall coho, beginning September 1, utilizing a fishing pattern set forth in a preseason management agreement between the Quinault Nation and the Washington Department of Fish and Wildlife (WDFW). The inriver natural run was estimated inseason to be 4,500 fish. The treaty Indian gillnet fishery harvested 1,700 fall chinook; the inriver recreational fishery was expected to harvest less than 100 fish from this stock. The management agreement was intended to minimize impacts on wild coho, given the run size anticipated under the preseason forecasts and the Council's adopted regulations. Under the agreement, the fishing plan harvested 89% of the number of chinook that were available for harvest (based on scheduled harvest rates and inseason run size estimates).

### **Escapement and Goal Assessment**

Preliminary data indicate that the 1997 spawning escapement for the Queets River spring/summer chinook stock was at or near the escapement floor level of 700 fish.

In-season run size and catch estimates suggest that spawning escapements for Queets River natural fall chinook should exceed 2,900 adults, above the minimum goal established for this stock. Hatchery escapement should exceed 900 fish.

### **Hoh River Chinook**

#### **Inside Harvest**

Historic terminal run size, catch, and escapement data for Hoh River spring/summer and fall chinook are presented in Appendix B, Tables B-31 and B-32, respectively.

The tribal spring/summer chinook fishery on the Hoh River targeted spring/summer chinook at a rate of 21%, based on a preseason forecast of 2,123 fish. The tribal fishery was scheduled at one day per week for the first five weeks beginning the first week in May; two days per week for the next seven weeks to the week of July 21; one day during the week of July 28; two days for the first week of August; then



finishing at one day per week for the final three weeks of August. The tribal fishery caught 473 chinook, below the number expected after accounting for hatchery dip-ins. The sport fishery for Hoh River Spring/Summer Chinook was open May 16 through August 10. The season was closed three weeks early by emergency regulation from August 11 through August 31 to limit nontreaty harvest to a target of 15.5% of the run.

The tribal fall fishery on the Hoh River targeted fall chinook at a rate of 31% on a projected run size of 4,220 fish. Harvest rates can vary substantially depending upon coho management, river flows, and run entry timing. The schedule began in September at two days per week during weeks 36 through 39, using regular 6-inch mesh size. During weeks 40 through 46, mesh size was limited to eight-inch or larger to retain chinook while passing most coho. Weeks 47 and 48 were closed. A flexible schedule allowed two days per week fishing during weeks 41, 43, and 45 and one day per week, otherwise, to target peak chinook entry. The fishery reopened for steelhead beginning week 49. The recreational fishery operated the full season, but was limited to below the Highway 101 bridge at river mile 15.2. The tribal gillnet fishery, which was targeting chinook using large mesh gear to avoid coho, caught 1,149 fall chinook, near what would be expected given preseason run size forecasts.

### **Escapement and Goal Assessment**

Preliminary spawning ground estimates indicate that the run size and escapement for the spring/summer run may be larger than the preseason expectation. Based on preliminary index regression analysis, it is estimated that spring/summer chinook escapement could be as high as 2,600 fish, depending on final spawner distribution patterns.

Spawning survey information suggests the fall run size could be smaller than expected. The run's peak entry, as measured by catch, was earlier than observed in recent years (weeks 41 to 45 in 1997, compared to weeks 44 to 45 in recent years). Preliminary estimates for fall chinook escapement is near 1,800 fish, based on routine survey estimation procedures. Fall chinook spawner distribution appeared normal except for a lack of spawners in Owl Creek. Historically, Owl Creek was a prime spawning tributary, but has been washed out routinely by high flows since 1991 (the latest washout occurred in 1995).

## **Quillayute River Chinook**

### **Inside Harvest**

Historical terminal run size, catch and escapement data for Quillayute River spring, summer and fall chinook are presented in Appendix B, Tables B-34 and B-35, respectively. Spring and summer chinook are managed separately. However, spring and summer data are combined in Table B-34, because separate data for each stock are only available back to 1988.

The recreational and tribal fisheries for spring, summer and fall chinook were established by preseason agreement between WDFW and the Quileute Tribe. The preseason terminal run size prediction for spring chinook was 687 adults. The Treaty Indian gillnet spring chinook catch was 78 fish, taken during and early May to late June fishery. The recreational catch estimate is not available.

The preseason summer chinook run size estimate was 1,800 adults. Total gillnet catch for the season was 28 fish, taken from early May through August. Recreational fishing effort on this stock is low during the summer period, due to low streamflows and small run size. The recreational spring/summer chinook fishery opened March 1<sup>st</sup> and continued through the summer season. The recreational catch estimate is not available.

The preseason fall chinook run size estimate was 6,600 adults. Total catch for the treaty gillnet fishery was 262 fish. A catch estimate for the recreational fishery is not available.

## **Escapement and goal assessment**

The spring/summer management agreement called for an escapement goal of 200 hatchery spring chinook. The actual rack return was 198 adults, meeting the egg take requirements.

The summer chinook run is managed to achieve a 1,200 adult and jack escapement. The preliminary escapement of 900 falls short of the goal. Broodstock taken from the river for and enhancement program by the Quileute Tribe are counted as part of the natural escapement estimate.

Terminal area fisheries on fall chinook are managed for a target 40% harvest rate, with a minimum escapement of 3,000 adults. The preliminary estimate of fall chinook escapement is 5,400.

## **PUGET SOUND STOCKS**

### **Inside Harvest**

Commercial inside fishery harvest of Puget Sound chinook is managed on the basis of six regional stock management units: Strait of Juan de Fuca, Nooksack-Samish, Skagit, Stillaguamish-Snohomish, South Puget Sound, and Hood Canal. Harvest of chinook for each management unit is regulated according to the natural spawning escapement goal or hatchery program escapement goal for that unit. Commercial net and troll harvest (treaty Indian and non-Indian) is presented in Appendix B, Table B-37. These catches include some fish of non-Puget Sound origin. The total commercial chinook harvest in Puget Sound in 1997 was 112,700 fish, a 44% increase from the 78,200 chinook caught in 1996. The non-Indian net catch was 54,300 chinook, a 490% increase from the 9,200 fish caught in 1996. The treaty Indian net and troll harvest was 58,400 chinook, a 15% decrease from the 69,000 fish caught in 1996.

Historic chinook recreational catches in the Puget Sound recreational fishery for years from 1976-1996 are presented in Appendix B, Table B-38. Catch estimates for the 1997 Puget Sound recreational fishery are not yet available.

### **Escapement and Goal Assessment**

Historic hatchery and natural run component escapements and net catches for summer/fall chinook for each Puget Sound region of origin are presented in Appendix B, Table B-39. Historic spring chinook escapement data are presented in Appendix B, Table B-42.

Puget Sound spring chinook hatchery escapements were close to the preseason predictions while preliminary data suggest that most Puget Sound hatcheries met their summer/fall chinook goals with two exceptions: Hood Canal and Elwha.

Puget Sound summer/fall chinook remained depressed in 1997. Estimates of 1997 natural spawning escapements for summer/fall chinook stocks are unavailable at this time. Preliminary data suggest that the Puget Sound spring chinook natural stocks did not meet their escapement goals.

## **STOCKS LISTED UNDER THE ENDANGERED SPECIES ACT**

### **Sacramento Winter Chinook**

Spawning escapement of Sacramento winter chinook salmon in 1997 was estimated at approximately 500 adults, 83% of the 1996 escapement of 600 adults, but triple the escapement of the parental brood in 1994 which was less than 200 adults. This escapement remains substantially lower than historic levels, amounting to about 2% of the 1971-1975 average of 22,500 fish (Appendix B, Table B-3). Ocean fishery impacts affecting the 1997 escapement primarily occurred in the 1996 California ocean recreational and



commercial fisheries, based on studies of winter chinook ocean distribution and fishery impacts carried out for 1993 brood year winter chinook produced and coded-wire tagged at Coleman National Fish Hatchery. As in 1996, this harvest impact reduction was accomplished in 1997, south of Horse Mountain, California, by shortened seasons, increased minimum sizes, and specific gear restrictions, primarily in the recreational fishery.

Concerns for the failure to significantly increase spawning escapement of this stock, in comparison to the parental broods, resulted in NMFS issuing a Biological Opinion in early March 1996 under the ESA. The Biological Opinion required harvest impacts on Sacramento winter chinook salmon be reduced by 50% from the current levels. This reduction was expected to increase 1997 spawning escapement of this stock by 35% above the three-year geometric mean of the cohort replacement rates (defined as the ratio of a brood's spawning escapement to the spawning escapement of its parental brood three years before) for the 1989-1991 brood years. For 1997, NMFS reanalyzed the adult spawning escapement data using the cohort replacement rates for the 1989-1993 brood years. In the January 31, 1997 addendum to the February 23, 1996 Biological Assessment, the NMFS concluded that Sacramento winter chinook should be managed for a 31% increase in adult spawning escapement rates compared to the 1989-1993 base period (as represented by the five-year geometric mean cohort replacement rate). In 1997, a cohort replacement rate of 1.77 would be sufficient to meet the ESA requirements for restoration of the stock; the estimated cohort replacement rate for 1997 is 3.14.

### **Snake River Spring/Summer Chinook**

Impacts on the Snake River spring/summer chinook stock by Council fisheries are believed to be insignificant.

It is estimated by the CRTAC that the 1997 lower river and Zone 6 treaty Indian mainstem Columbia River winter and spring season fisheries had a total harvest impact of 239 adult wild Snake River spring chinook, compared to 216 adults in 1996 and the 1986-1990 average impact of 1,109 adults. The CRTAC also estimates that these fishery impacts compare to Columbia River dam passage losses of 1,453 adults in 1997; 2,227 in 1996; and a 1986-1990 average impact of 2,864 adults. Estimated incidental handling mortalities of wild spring chinook during lower river spring season commercial shad fisheries and test gillnet fisheries are included in these harvest related impacts. The total inriver fishery harvest rate impact on wild Snake River spring chinook was estimated at 7.3% in 1997, compared to 5.5% in 1996 and the 1986-1990 average harvest rate impact of 10.7%. The low harvest rate impact in 1997 was in response to management of Columbia River fisheries under the 1996-1998 Management Agreement for Upper Columbia River Spring Chinook, Summer Chinook, and Sockeye in conjunction with the CRFMP. The 1996-1998 Management Agreement limits total Columbia River fishery impacts on the ESA listed Snake River stocks to minimal levels when upriver and Snake River populations are at very low levels.

The 1997 escapement of adult wild Snake River spring chinook at Lower Granite Dam was estimated to be 1,429 fish, compared to 1,358 fish in 1996 and the 1986-1990 average escapement of 5,900 fish (Appendix B, Table B-13).

The 1997 escapement of adult wild Snake River summer chinook at Lower Granite Dam was estimated to be 6,458 fish, a threefold increase over the 1996 escapement of 2,129 and more than double the 1986-1990 average escapement of 2,900 fish (Appendix B, Table B-14).

The 1997 combined adult wild Snake River spring/summer chinook escapement at Lower Granite Dam was estimated to be 7,887 fish, compared to 3,487 fish in 1996 and the 1986-1990 average escapement of 8,800 fish.

## Snake River Fall Chinook

In relation to the 1988-1993 index average, the 1997 adult equivalent ocean fishery exploitation rates projected pre-season for age-three and age-four Lyons Ferry fall chinook (fingerling releases) were as listed below. (Fingerling releases of Lyons Ferry Hatchery stock have been used to represent wild Snake River fall chinook for impact analyses.)

All fisheries south of Cape Falcon:	68% reduction
All fisheries north of Cape Falcon:	54% reduction
Total Council area fishery impacts:	63% reduction
Total ocean area fishery impact:	30% reduction

In their 1997 biological opinion for ocean fisheries, NMFS required that all ocean fisheries impacts on Snake River fall chinook, as reflected by the Lyons Ferry age-three and age-four fall chinook index (LFI), be reduced by at least 30% from the 1988-1993 base period average. If this did not occur, Council area fisheries would be required to reduce their impacts by 50% from the 1988-1993 base period average. Due to the poor survival of this stock, as well as the lack of representative tagging of the wild stock or the surrogate Lyons Ferry fall chinook, stock-specific data are not adequate to complete an annual post-season estimate of the actual LFI values.

The 1997 harvest rate on wild Snake River fall chinook for Columbia River fisheries is preliminarily estimated to be 26.9%, compared to 23% in 1996. This is a 23% reduction from the 1988-1993 average harvest rate of 34.9%. Inriver fisheries for 1997 were managed under the constraints of the 1996-1998 Management Agreement for Upper Columbia River Fall Chinook in conjunction with the CRFMP. Under the 1996-1998 Management Agreement, Columbia River fisheries are managed for a 30% harvest rate reduction from the 1988-1993 base period average harvest rate, consistent with the management intent for ocean fisheries harvest limits on Snake River fall chinook. A 30% reduction from the base period is equal to a harvest rate of 24.7%. The Management Agreement provides the opportunity for the CRFMP parties to have further discussions on allowable harvest rates if certain inseason contingencies occur. After discussions among the parties, the allowable harvest rate on Snake River wild fall chinook was increased to 29.7% when inseason estimates indicated that Lower Granite escapement goals would be met.

The total Lower Granite Dam adult fall chinook count for 1997 was 1,456 fish, compared to 1,308 fish in 1996. A very preliminary estimate of the 1997 adult wild Snake River fall chinook escapement at Lower Granite Dam is 700 fish. Recent adult wild fall chinook returns to Lower Granite Dam totaled 639 fish in 1996; 350 fish in 1995; 406 fish in 1994 and a 1986-1990 average escapement of 289 adult wild fish (Appendix B, Table B-18). Lower Granite Dam is the uppermost counting station for Snake River fall chinook. Most of the natural spawning for this stock occurs above this point in the river.

### COASTWIDE GOAL ASSESSMENT SUMMARY

A summary of 1997 performance for chinook stocks in relation to Council escapement goals is presented in Table II-5.



TABLE II-5. Preliminary summary of 1997 performance for chinook stocks in relation to escapement goals. (Page 1 of 1)

Stock	1997 Escapement Goal	Escapement Goal Assessment
Sacramento River		
Fall Chinook	122,000-180,000 natural and hatchery adults.	Escapement of 259,300 adults was well above the goal range.
Winter Chinook (Endangered)	No less than a 31% increase in the adult 3-year old replacement rate above the mean rate observed for the 1989-1993 brood years. This is equivalent to a 1.77 cohort replacement rate.	Cohort escapement rate of 3.14.
Klamath River		
Fall Chinook	Inriver run size target of 229,800 adults to provide an expected escapement of 66,500 naturally spawning adults.	Inriver run size of 81,700 adults was approximately 5% above the 1997 target, while the natural spawner escapement of 45,900 adults exceeded the goal by 31%.
Oregon Coastal Chinook	Escapement of 150,000-200,000 naturally spawning adults.	Probably met the goal range.
Columbia River		
Upper River Fall Chinook (Brights)	Escapement of 40,000 adults above McNary Dam, plus meet treaty Indian obligations.	McNary Dam escapement was 66,800 or 167% of the FMP goal.
Snake River Fall Chinook (threatened)	No less than a 30% reduction from the 1988-1993 base period exploitation rate for all ocean fisheries combined.	Preseason expectation of a 30% reduction. No postseason estimated can be made.
Upper River Spring Chinook	Escapement of 115,000 adults above Bonneville Dam plus meet treaty Indian obligations. Escapement of 35,000 minimum to Snake River.	Zone 6 escapement was 105,800; 92% of the goal. Snake River escapement was 33,900 or 97% of the goal. The Bonneville Dam goal was developed when the natural component comprised about 70% of the run. In recent years, the natural component has averaged only about one-third of the return. Naturally produced upriver spring chinook remain severely depressed.
Upper River Summer Chinook	Escapement of 80,000-90,000 adults above Bonneville Dam (not attainable) plus meet treaty Indian obligations.	Zone 6 escapement was 27,600; 35% of the lower end of the range.
Lower River Spring Chinook (Willamette River)	Escapement of 30,000-45,000.	Escapement of 26,300 was 88% of the lower end of the escapement goal range.
Washington Coastal Fall Chinook	Meet natural spawning escapement objectives and treaty Indian obligations.	Hatchery egg-take goals were achieved. Escapement objectives for Queets, Hoh, and Quillayute rivers met. Natural escapement estimates for Grays Harbor are not yet available. Data necessary for allocation determinations not available.
Washington North Coastal Spring/Summer Chinook	Meet natural spawning escapement objectives and treaty Indian obligations.	Escapement estimates for Quinault are not yet available. Escapement objections met for Queets, Hoh, and Quillayute Rivers. Escapement objectives were not met for Quillayute summers. Data necessary for allocation determinations not yet available.
Puget Sound Chinook	Minor part of Washington ocean harvest and the Council's ocean management not directed toward these stocks.	Natural chinook stock escapement estimates not available. Summer/fall chinook egg-take goals not met for three facilities. For details see Chapter II text.

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## CHAPTER III INSIDE COHO SALMON FISHERIES AND SPAWNING ESCAPEMENTS

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### CALIFORNIA STOCKS

Inside harvest estimates of coho are not available for any river system in California. Spawning escapement estimates are available for Klamath River Basin hatcheries, but not for coho spawning in natural areas. In 1997, coho returns to Iron Gate and Trinity River hatcheries totaled 13,100 adults, compared to a combined goal of 2,000.

### OREGON COASTAL STOCKS

Oregon coastal natural (OCN) coho stocks are managed as one stock aggregate that includes coho produced from Oregon river and lake systems south of the Columbia River. The OCN stock aggregate contributes primarily to ocean fisheries off Oregon and California, and to a lesser degree to ocean fisheries off Washington and British Columbia. As discussed in the fishery management plan (FMP), ocean fisheries within the Oregon Production Index (OPI) area (Leadbetter Point, Washington to the U.S.-Mexico border) are managed to achieve OCN coho spawner escapement goals.

#### Inside Harvest

The inside recreational harvest of coho in 1997, as in recent years, was very restricted. Coho harvest in river fisheries was limited to areas where surplus hatchery coho returns were expected. Estimates of the 1997 inriver recreational coho harvest are not available at this time. Historical estimates of the recreational harvest of adult coho in Oregon coastal estuaries and rivers, derived from Oregon Department of Fish and Wildlife (ODFW) salmon and steelhead angler tag returns, are reported on Table III-1.

Inside commercial coho harvest in recent years has been limited to returns to private aquaculture operations. All private Oregon facilities have ceased operations; thus, there were no returns in 1997 (Table III-1).

#### Escapement and Goal Assessment

The preliminary assessment of OCN spawner escapement indicates about 15 adults per mile on standard index surveys compared to the predicted 44 adults per mile (Table III-2 and Figure III-1). Natural spawner escapement to Oregon coastal river and lake systems is preliminarily estimated at 24,100 adult coho in stratified random sampling (SRS) accounting, which compares to 73,000 coho in 1996. In 1997, an estimated 15,500 coho spawned in river systems from the Coquille River north and 8,600 coho spawned in lake systems. Historical spawner escapement estimates of naturally produced coho are reported in Table III-1 in terms of SRS accounting (initiated in 1990) and traditional natural spawner "index" estimates to OCN river systems since 1970. Based on the results of the SRS assessment program, historical spawner escapements into river systems are probably less than reported by index accounting.

Preliminary information based on SRS surveys suggests that the recent trend of disproportionate spawner distribution among coastal rivers continued in 1997. The number of adult spawners observed per mile on north coast rivers was estimated at 74% and 14% of the densities observed on north-central and south-central rivers, respectively (Table III-3 and Figure III-2).

Preliminary estimates of total coho returns to Oregon coastal public hatcheries and STEP smolt production facilities were 17,600 and 200 adults, respectively (Table III-1). Hatchery egg-take goals are expected to be met at all public hatchery stations.



TABLE III-1. Estimated **adult** escapement in thousands of Oregon coastal hatchery and natural **coho**, 1970-1997. (Page 1 of 1)

Year	OCN Spawner Escapement <sup>a/</sup>										Estimated Ocean Escapement to Oregon Coast <sup>a/</sup>	
	Returns to Facilities			Count at NF Umpqua Winchester Dam	Lakes	Rivers		Total		Inside Harvest Impacts <sup>b/</sup>	Index	SRS
	Private	Public	STEP <sup>c/</sup>			Index	SRS	Index	SRS			
1970	-	36.2	-	0.2	20.5	228.7	-	249.2	-	39.8	325.4	-
1971	-	29.1	-	0.6	29.2	293.2	-	322.4	-	24.1	376.2	-
1972	-	12.9	-	0.3	10.0	116.9	-	126.9	-	16.6	156.7	-
1973	-	18.4	-	0.4	17.6	143.5	-	161.1	-	15.4	195.3	-
1974	-	35.1	-	0.4	6.4	126.4	-	132.8	-	13.5	181.8	-
1975	-	4.9	-	0.5	5.6	153.0	-	158.6	-	13.5	177.5	-
1976	-	38.7	-	0.3	1.5	156.8	-	158.3	-	19.6	216.9	-
1977	4.2	6.5	-	0.4	5.8	61.0	-	66.8	-	13.5	91.4	-
1978	12.3	5.6	-	0.5	1.6	72.2	-	73.8	-	4.5	96.7	-
1979	49.2	22.2	-	0.4	6.6	167.0	-	173.6	-	1.5	246.9	-
1980	38.7	21.9	-	0.2	4.7	104.2	-	108.9	-	6.3	176.0	-
1981	117.8	21.2	-	0.1	2.5	70.5	-	73.0	-	9.9	222.0	-
1982	184.7	14.8	-	2.7	7.9	124.7	-	132.6	-	14.7	349.5	-
1983	133.9	9.5	-	1.2	3.3	55.5	-	58.8	-	6.8	210.2	-
1984	115.4	28.6	-	3.2	14.7	194.0	-	208.7	-	17.4	373.3	-
1985	332.0	15.8	-	4.0	7.6	183.3	-	190.9	-	15.7	558.4	-
1986	453.7	35.8	2.5	9.6	11.8	179.0	-	190.8	-	30.3	722.7	-
1987	119.3	12.3	0.2	2.2	4.2	78.3	-	82.5	-	7.7	224.2	-
1988	116.1	33.7	1.2	1.2	5.8	155.0	-	160.8	-	13.3	326.3	-
1989	46.9	37.3	1.2	3.0	4.8	139.7	-	144.5	-	15.1	248.0	-
1990	35.6	15.4	1.6	2.3	4.4	99.6	16.5	104.0	20.9	9.5	168.4	85.3
1991	35.1	39.6	4.9	5.2	7.3	128.2	29.1	135.5	36.4	31.5	251.8	152.7
1992	-	23.3	0.6	6.0	2.0	136.6	37.7	138.6	39.7	18.7	187.2	88.3
1993	-	20.2	2.0	3.3	10.1	157.9	44.3	168.0	54.4	13.3	206.8	93.2
1994	-	23.4	1.8	2.8	5.8	124.7	37.9	130.5	43.7	3.4	161.9	75.1
1995	-	25.2	0.4	4.2	11.2	120.1	41.2	131.3	52.4	3.5	164.6	85.7
1996	-	23.8	1.0	6.2	13.5	198.6	59.5	212.1	73.0	4.4	247.5	108.4
1997 <sup>d/</sup>	-	17.6	0.2	3.6	8.6	60.0	15.2	68.6	24.1	2.7	92.7	48.2

a/ Spawner escapements to rivers have historically been estimated by a nonrandom standard index. A spawner escapement methodology study based on stratified random sampling (SRS) has been in effect since 1990. The SRS methodology indicates that actual escapements are probably less than indicated by the standard rivers index.

b/ Freshwater sport catch from ODFW salmon/steelhead angler tag information and represents only those fish greater than 24 inches. Includes estimated mortality from hook-and-release.

c/ Oregon coastal STEP production from hatchery smolt rearing sites only.

d/ Preliminary.

TABLE III-2. Oregon coastal natural adult coho spawner escapements compared with the Council goal.<sup>a/</sup>  
(Page 1 of 1)

Year of Adult Return	Spawner Goal		Spawner Escapement	
	Index Escapement <sup>b/</sup>	Total Adults per Mile <sup>c/</sup>	Index Escapement <sup>d/</sup>	Total Adults per Mile <sup>e/</sup>
1981	175,000	-	73,000	18
1982	172,000	-	132,600	32
1983	140,000	-	58,800	14
1984	135,000	-	208,700	44
1985	175,000	-	190,900	45 <sup>e/</sup>
1986	143,000	-	190,800	42 <sup>e/</sup>
1987	200,000	-	82,500	19 <sup>e/</sup>
1988	200,000	-	160,800	33 <sup>e/</sup>
1989	200,000	-	144,500	28 <sup>e/</sup>
1990	161,000	-	104,000	15 <sup>e/</sup>
1991	200,000	-	135,500	24 <sup>e/</sup>
1992	135,000	-	138,600	25 <sup>e/</sup>
1993	142,000	-	168,000	29 <sup>e/</sup>
1994	-	26	130,500	27 <sup>e/</sup>
1995	-	38	131,300	26 <sup>e/</sup>
1996	-	32	212,100	43
1997 <sup>f/</sup>	-	44	68,600	15

a/ Council goal initially established in 1981 to rebuild OCN stocks and amended in 1987 (Amendment 7) to provide a range of 135,000 to 200,000 coho. The goal was amended again in 1993 (Amendment 11) to 42 adults per mile on standard index surveys. Amendment 11 allows up to a 20% exploitation rate if it does not cause irreparable harm to the stock.

b/ Salmon framework amendment rebuilding goal of 170,000 was modified by the Council for optimum yield considerations in 1986. The goals in 1990, 1992 and 1993 reflect the sliding scale portion of the Council framework amendment spawner goal in Amendment 7.

c/ Total adults per mile on standard index surveys. The total adults per mile on standard index surveys is calculated as total adults on all standard index surveys/total standard index survey miles. Based on projections of OCN abundance, the annual goals for spawner density reflect the following expected exploitation rates (largely attributable to hook-and-release and drop-off mortality in chinook directed fisheries):

1994	11.0%
1995	12.0%
1996	12.5%
1997	11.0%

d/ Spawner escapements prior to 1985 were calculated using complete OCN spawner habitat mileage (streams and lakes combined) and based on a coastwide average adult spawners per mile value observed for rivers. Estimates since 1984 are calculated by individual coastal river basins with adult spawners per mile values calculated for each basin separately. A spawner escapement methodology study based on stratified random sampling (SRS) has been in effect since 1990. The SRS methodology indicates that actual escapements are probably less than indicated by the standard rivers index. Changes in estimates from previous reports reflect revisions in escapements into lake systems.

e/ Adjusted to remove hatchery fish. No hatchery strays were identified in 1991.

f/ Preliminary.



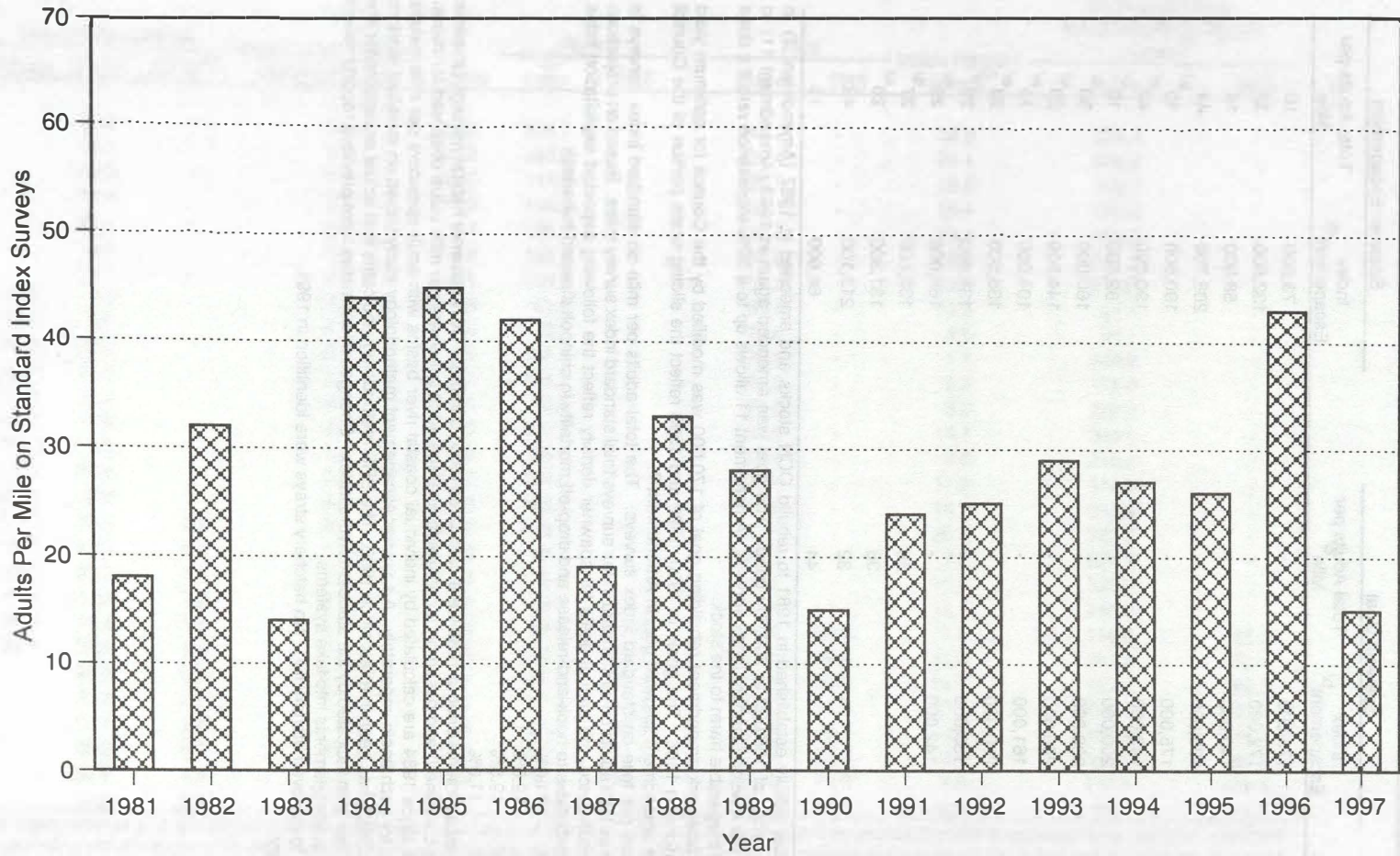


FIGURE III-I. Total Oregon Coastal Natural adult coho salmon per mile on standard index spawner surveys, 1981-1997. Amendment 11 goal of 42 adults per mile was implemented in 1994. It included an allowance for up to a 20% exploitation rate for all ocean and inside fisheries combined if it does not cause irreparable harm to the stock. Because of low projected abundances, the expected adults per mile under adopted regulations in 1994 and 1995 were 26 and 28 adults, respectively.

TABLE III-3. Oregon coastal natural adult coho salmon spawner escapement and spawner per habitat mile by coastal region, based on stratified random sampling (SRS). (Page 1 of 1)

Year	Adjusted SRS Adult Coho Spawner Population Estimates (Thousands) <sup>a/</sup>					Adult Coho Spawners Per Spawner Habitat Mile				
	Northern <sup>b/</sup>	North Central <sup>c/</sup>	South Central <sup>d/</sup>	Southern <sup>e</sup>	Coastwide	Northern <sup>b/</sup>	North Central <sup>c/</sup>	South Central <sup>d/</sup>	Southern <sup>e/</sup>	Coastwide Average
1990	2.2	5.6	13.1	2.8	23.7	2	5	8	7	6
1991	9.3	6.7	20.3	0.8	37.1	10	6	13	2	9
1992	2.4	15.4	21.9	1.9	41.6	3	13	14	5	10
1993	4.5	7.8	42.1	0.2 <sup>f/</sup>	54.6	5	7	26	f/	13
1994	4.1	9.7	29.9	5.3	49	5	8	18	13	11
1995	3.7	13.6	34.8	4.2	56.6	4	12	21	10	13
1996	3.4	18.8	56.2	5.4	83.8	4	16	35	13	20
1997 <sup>g/</sup>	2.5	3.4	17.9	7.8	31.6	3	3	11	19	8

a/ A spawner escapement methodology study based on SRS has been in effect since 1990 in which coho salmon population estimates have been made for Oregon coastal river systems from the Coquille River and north. Spawner population estimates include an adjustment for observation error.

b/ Includes runs from the Necanicum through Neskowin Rivers. Total spawner habitat is estimated at 899 miles.

c/ Includes runs from the Salmon through Siuslaw Rivers. Total spawner habitat is estimated at 1,163 miles.

d/ Includes runs from the Umpqua through Coquille Rivers and Lakes. Total spawner habitat is estimated at 1,622 miles.

e/ Includes runs from the Rogue River. Total spawner habitat is estimated at 410 miles. Population estimates are based on a mark-recapture methodology.

f/ Poor estimate.

g/ Preliminary.



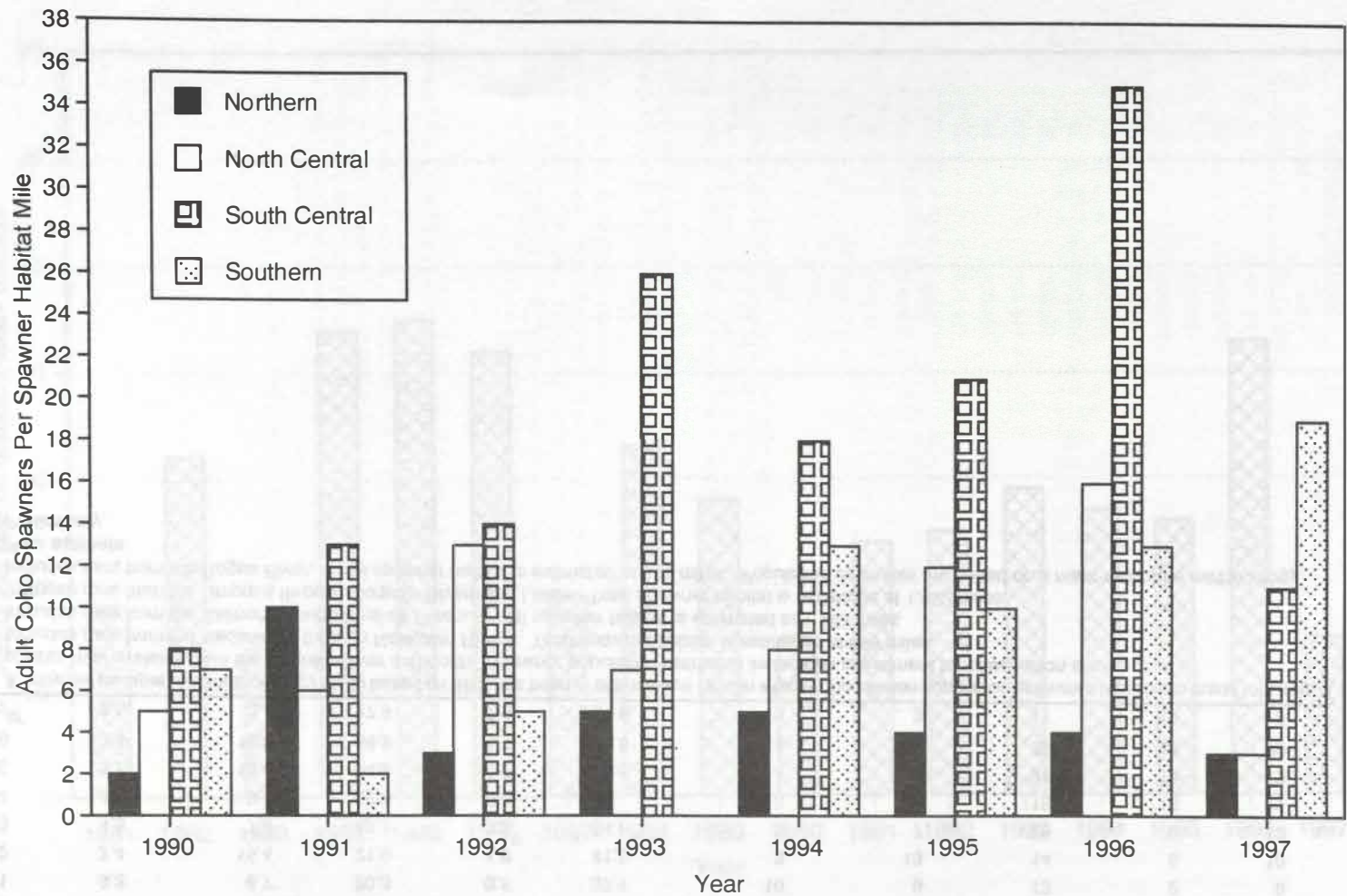


FIGURE III-2. Oregon Coastal Natural adult coho salmon spawners per spawner habitat mile by coastal region based on SRS, 1990-1997. The northern region includes the Necanicum through Neskowin Rivers. The north-central region includes from the Salmon through Siuslaw Rivers. The south-central region includes the Siltcoos through Sixes Rivers. The southern region includes the Elk through Winchuck Rivers. Excludes spawner escapement to all Oregon coastal lake systems.

Preliminary estimates of total coho returns to Oregon coastal public hatcheries and STEP smolt production facilities were 17,600 and 200 adults, respectively (Table III-1). Hatchery egg-take goals are expected to be met at all public hatchery stations.

## **COLUMBIA RIVER STOCKS**

### **Inside Harvest**

Coho harvest statistics for Columbia River commercial and recreational fisheries are presented in Appendix B, Table B-20. The 1997 Columbia River non-Indian commercial gillnet fishery harvested 20,900 adult coho. Most of this catch occurred in the Youngs Bay terminal area gillnet fishery (14,000 coho). Other terminal area fisheries in both Oregon and Washington caught an additional 3,500 coho. The lower river mainstem commercial gillnet fishery landed coho during late September and October all-species seasons for a total mainstem catch of 3,400. The 1997 catch of 20,900 adult coho compares to the 1996 catch of 26,200 coho and the 1986-1990 average catch of 392,200 coho. The treaty Indian mainstem commercial gillnet coho catch was 600 fish, compared to the 1996 catch of 100 coho and the 1986-1990 average catch of 5,600 coho.

The mainstem, Buoy 10 recreational fishery below Bonneville Dam harvested 24,200 adult coho. In 1997, Columbia River managers opened the Buoy 10 fishery as scheduled on August 1 for both chinook and coho retention. The Buoy 10 catch totaled 20,400 coho in 1997, a four-fold increase over the 1996 catch of 4,500 coho, but only 25% of the 1986-1990 average catch of 82,300 coho. Compared to recent year levels, fishing effort increased dramatically in 1997 to 55,700 angler trips (Table III-4). This is a three-fold increase in effort from 1996 and represents the highest observed effort since 1993. Historical Buoy 10 catch and effort data are provided in Appendix B, Table B-21.

### **Escapement and Goal Assessment**

The 1997 ocean escapement of adult early and late Columbia River coho stocks was 140,500 fish, a 26% increase over the 1996 return of 111,300 adults, but still well below the long-term average (Appendix B, Table B-20). The 1997 Columbia River coho abundance was sufficient to meet all hatchery brood stock escapement. Even with the complete closure of Council area coho fisheries south of Cape Falcon, ocean escapement of Columbia River coho was the sixth lowest on record.

## **WASHINGTON COASTAL STOCKS**

### **Willapa Bay Coho**

#### **Inside Harvest**

Run size, harvest, and escapement data for Willapa Bay coho are presented in Appendix B, Table B-23.

The gillnet catch of coho in Willapa Bay totaled 1,548 fish. Based on the preseason forecast of 30,000 fish the scheduled fisheries were expected to harvest approximately 9,600 coho. Inseason schedule changes to reduce chinook impacts were not expected to reduce coho harvest significantly (less than 600 fish). The 1997 gillnet harvest is the lowest seen since 1969.

Recreational harvest estimates are not yet available for 1997. All recreational fisheries opened at the usual time and were of normal duration.

#### **Escapement and Goal Assessment**

Willapa Bay coho are managed for hatchery production. Escapement to Willapa Bay hatcheries in 1997 numbered 6,400 coho, just exceeding the 5,200 fish needed to provide for hatchery production goals. Preliminary estimates of natural spawning escapement are available for 1996 and 1997. The estimates include large numbers of hatchery fish that spawn in the wild.



TABLE III-4. Estimated weekly effort (in angler trips) and catches of chinook and coho in the 1997 Buoy 10 recreational fisheries (all data are preliminary).<sup>a</sup> (Page 1 of 1)

Week Number	Ending Date of Period	Angler Trips	Catch		Catch Per Trip
			Chinook	Coho	
31	Aug. 3	938	23	269	0.31
32	Aug. 10	2,949	338	372	0.45
33	Aug. 17	6,290	1,266	373	0.26
34	Aug. 24	9,707	3,575	2,836	0.66
35	Aug. 31	15,317	4,396	8,458	0.84
36	Sept. 7	9,675	2,317	5,310	0.79
37	Sept. 14	5,383	673	1,964	0.49
38	Sept. 21	1,418	1	404	0.29
39-43	Oct. 26	948	0	128	0.14
Total		55,725	13,153	20,357	0.60

<sup>a</sup> Includes boat-based and shore-based fisheries at Clatsop Spit, the South Jetty of the Columbia River and the North Jetty of the Columbia River after the ocean closed.

## Grays Harbor Coho

### Inside Harvest

Run size, harvest and escapement data for Grays Harbor coho are presented in Appendix B, Table B-25. The forecasted run size for Grays Harbor wild coho was below the escapement goal. Consequently, fisheries were structured to maximize chinook and hatchery coho harvest with only incidental catch of wild coho. A total of 5,600 coho of natural, hatchery and net-pen origin were harvested in net fisheries. This included 5,400 coho in the Quinault Indian Nation fishery, approximately 100 coho in the non-Indian fishery, and a little over 100 coho in the Chehalis Tribe fishery.

Recreational harvest estimates are not yet available for 1997.

### Escapement and Goal Assessment

Grays Harbor coho are managed for natural production. Natural spawning escapement estimates are not yet available. Initial indications are that the escapement goal of 35,400 fish will not be met.

The preliminary estimates of the total return to Grays Harbor hatcheries is 5,400 coho. This return will meet on-station as well as cooperative coho rearing project needs. Net-pen reared coho also returned to Grays Harbor in 1997 and contributed to the coho harvest, but no estimate of escapement is available.

## Quinault River Coho

### Inside Harvest

Historical terminal run size, harvest and escapement for Quinault River coho are presented in Appendix B, Table B-27.

Quinault River coho are managed for hatchery production. The treaty Indian gillnet fishery targeted chinook mainly with large mesh gear from early September through mid-November. A total of 365 coho were harvested by the gillnet fishery in 1997.

### Escapement and Goal Assessment

Quinault River coho are managed for hatchery production. Preliminary data indicate that hatchery and natural escapements of Quinault River coho in 1997 were 900 and 4,400 fish, respectively. Hatchery production objectives were achieved for Quinault River coho.

## Queets River Coho

### Inside Harvest

Historical terminal run size, harvest and escapement for Queets River coho are presented in Appendix B, Table B-30.

Queets River fisheries were established by preseason agreement, based on preseason abundance estimates and planned Council ocean fisheries. The treaty Indian gillnet fishery was structured to target returning hatchery coho during September and early October, followed by a reduced level of fishing to update natural coho and chinook run sizes through mid-October. The in-season updates indicated that the natural coho run was above the preseason forecast. The total harvest of fall coho by the net fishery was 3,100 fish. The gillnet harvest was comprised primarily of hatchery fish (roughly 200 natural fish were taken). Recreational fisheries operated in the Queets, Clearwater, and Salmon Rivers.



## **Escapement and Goal Assessment**

Analysis of spawning escapement survey data for Queets River coho has not yet been completed. Based on the in-season run size and in-river catch estimates, the preliminary natural spawning escapement estimate is 3,600 adults, below the lower end of the escapement goal range of 5,800 to 14,500 natural adults, as expected pre-season.

### **Hoh River Coho**

#### **Inside Harvest**

Historical terminal run size, harvest and escapement for Hoh River coho are presented in Appendix B, Table B-33.

The pre-season terminal run size forecast was 1,625 under Council regulations, below the low end of the spawning escapement range established for this stock. This low forecast, coming off the low parent brood of 1,161 and an anticipated poor ocean survival, severely limited management options for the Hoh River fall fisheries. The tribal terminal fishery was conducted with 8-inch stretch mesh beginning in week 40 to avoid wild coho catch, and the river sport fishery was closed to coho retention. These fisheries are described in greater detail in the fall chinook section. The tribal fishery opened with normal 6" mesh at the beginning of steelhead season during week 49. Smaller than expected catches of coho were observed. The 1997 tribal fishery was expected to catch 10% of the terminal run, but, operating with a large mesh fishery seems to produce a lower than anticipated impact when coho run sizes are low, as in 1994. The Tribe harvested about 100 coho.

## **Escapement and Goal Assessment**

Preliminary escapement data suggest the 1997 coho escapement will be below goal, and comparable to escapements observed in 1993 and 1994, both in magnitude and distribution of spawners. Given indications that Canada conducted conservative fisheries on coho in 1997, it is likely that ocean run size was substantially smaller than forecasted for 1997, and smaller than the 1994 parent brood.

### **Quillayute River Coho**

#### **Inside harvest**

Historical terminal run size, harvest, and escapements for Quillayute River summer and fall coho are presented in Appendix B, Table B-36.

The recreational and Tribal fisheries for summer and fall coho were established by pre-season agreement between WDFW and the Quileute Tribe. The summer coho run in the Quillayute River is managed primarily for its hatchery component. The treaty gillnet fishery harvested 70 summer coho from mid-August through mid-September. A small recreational fishery harvested a limited number of summer coho during this period.

The fall coho pre-season terminal run size prediction was 5,243 hatchery adults and 5,127 wild adults. Due to the very low returns of wild fall coho to the Quillayute river the treaty gillnet fishery required an 8-inch minimum mesh restriction from mid-September through October to minimize impacts to fall coho. The recreational coho fishery was closed September 1 for the season. The treaty gillnet fishery harvested 436 total coho during this period. A recreational harvest is not available.

## **Escapement and goal assessment**

The summer coho run in the Quillayute River is managed primarily for the hatchery component. The summer coho hatchery rack return was 1,509 adults, far in excess of the 300 adult goal.

The hatchery fall coho rack return was 2,645 adults, far in excess of the 600 adult goal. Preliminary spawner escapement estimates indicate that the wild escapement will be below the lower end of the goal range established for this stock of 6,300 to 15,800 adults.

## **PUGET SOUND STOCKS**

### **Inside Harvest**

Commercial inside fishery harvest of Puget Sound coho is managed on the basis of six regional management stock units: Strait of Juan de Fuca, Nooksack-Samish, Skagit, Stillaguamish-Snohomish, South Puget Sound and Hood Canal. Harvest of coho for each management unit is regulated according to the natural spawning escapement or hatchery program escapement goal for that unit. Commercial net and troll harvest (treaty Indian and non-Indian) for all coho stocks combined is presented in Appendix B, Table B-37. The 1997 total Puget Sound commercial catch of coho was 174,200 fish, an increase of 5% from the 1996 catch of 165,300 coho. Non-Indian harvest was 31,700 coho, an increase of 53% from the 20,700 coho caught in 1996. Treaty Indian net and troll fisheries harvested 142,500 coho, a decrease of 2% from the 145,300 coho caught in 1996.

Historic coho recreational catches in the Puget Sound recreational fishery for the years from 1976-1996 are listed in Appendix B, Table B-38.

### **Escapement and Goal Assessment**

Estimates of 1997 natural spawning escapements are unavailable at this time. Historic hatchery and natural run component escapements and net catches for each Puget Sound region of origin are presented in Appendix B, Table B-40.

In general, Puget Sound hatchery coho escapement and egg-take goals were met in all regions in 1997.

## **STOCKS LISTED UNDER THE ENDANGERED SPECIES ACT**

### **Central California Coho**

Central California coho were listed as threatened by NMFS on October 31, 1996. Beginning with the 1993 commercial season and after April 30, 1995 in the recreational season, retention of coho salmon has been prohibited in all California ocean fisheries. It is believed that these restrictions sufficiently limit harvest impacts to a level which does not jeopardize recovery of the central California coho stock.

### **Rogue/Klamath Coho**

Rogue/Klamath coho were listed as threatened by NMFS on May 6, 1997. Beginning with the 1993 season, retention of coho salmon has been prohibited in all commercial ocean salmon fisheries south of Cape Falcon, Oregon. Except for the recreational seasons prior to May 1, 1995 south of Horse Mountain, California, retention of coho has been prohibited in all recreational fisheries south of Cape Falcon beginning in 1994. It is believed that these restrictions, as well as specific limits on the allowable harvest impact rates implemented for the conservation of OCN coho in Council area fisheries, limit harvest impacts to a level which does not jeopardize recovery of the Rogue/Klamath coho stock.



## COASTWIDE GOAL ASSESSMENT SUMMARY

A summary of 1997 performance for coho salmon by stock in relation to escapement goals is presented in Table III-5.

Observed ocean escapements of coho stocks were below expectations, despite lower than anticipated Canadian ocean fishery impacts. This suggests that preseason forecasts substantially overestimated actual abundance levels.

### PUGET SOUND STOCKS

Historical ocean escapement data for the Puget Sound region are presented in Table III-5. The data show that escapement goals were generally met or exceeded in 1997. This is consistent with the overall trend of increasing escapement levels over the past several years. The data also indicate that escapement goals were generally met or exceeded in 1997. This is consistent with the overall trend of increasing escapement levels over the past several years. The data also indicate that escapement goals were generally met or exceeded in 1997. This is consistent with the overall trend of increasing escapement levels over the past several years.

### Escapement and Goal Assessment

Escapement and goal assessment for Puget Sound stocks in 1997. The data show that escapement goals were generally met or exceeded in 1997. This is consistent with the overall trend of increasing escapement levels over the past several years. The data also indicate that escapement goals were generally met or exceeded in 1997. This is consistent with the overall trend of increasing escapement levels over the past several years.

### STOCKS LISTED UNDER THE ENDANGERED SPECIES ACT

Stocks listed under the Endangered Species Act. The data show that escapement goals were generally met or exceeded in 1997. This is consistent with the overall trend of increasing escapement levels over the past several years. The data also indicate that escapement goals were generally met or exceeded in 1997. This is consistent with the overall trend of increasing escapement levels over the past several years.

TABLE III-5. Summary of 1997 performance for coho salmon stocks in relation to escapement goals (preliminary data).  
(Page 1 of 1)

System and Stock	1997 Escapement Goal	Escapement Goal Assessment
Columbia River and Oregon Coastal Coho (OPI)	OCN spawner escapement of no less than 44 adults per mile on standard index surveys (11% exploitation rate).	Preliminary OCN spawner escapement is 15 adults per mile on standard index surveys. All hatchery egg-take goals were met.
Rogue/Klamath Coho	Total exploitation rate on OCN coho of no more than 13%.	Preseason estimate of an 11% exploitation rate on OCN coho and 5% on Rogue/Klamath coho. Postseason estimates are currently not available.
Central California Coho	Total exploitation rate on OCN coho of no more than 13%.	Preseason estimate of an 11% exploitation rate on OCN coho. Postseason estimate is currently not available.
Washington Coastal Coho	Natural spawning escapements as provided in state-tribal agreements. Grays Harbor natural escapement of 35,400; meet hatchery egg-take goals; meet treaty Indian obligations.	Queets, Quillayute River fall, and Hoh natural escapement below lower end of range, as expected. Grays Harbor natural escapement estimate unavailable, but initial indications are goal will not be met. Hatchery egg-take goals achieved. No information available on catch allocation.
Puget Sound Coho	Meet escapement objectives for natural and hatchery stocks. (Preseason expectation was that Skagit River, Hood Canal and Strait of Juan de Fuca natural escapement goals would not be met in 1996.) Meet treaty Indian allocation requirements, and inside non-Indian fishery needs for 6 management units.	Data not available for natural spawning escapement. Hatchery egg-take goals met. No information available on catch allocation.



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## CHAPTER IV

# SOCIOECONOMIC ASSESSMENT OF THE 1997 OCEAN SALMON FISHERIES

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Total exvessel value for the Council-managed non-Indian troll fishery was \$9.8 million. In inflation-adjusted terms, exvessel value was six percent above 1996 revenues, and 76% below the 1976-1996 average. The number of vessel-based ocean salmon sport angler trips taken on the West Coast in 1997 (292,300 angler trips) decreased five percent from 1996 and was 44% less than the 1979-1996 average. The total state level personal income impact associated with the recreational and commercial ocean fisheries for all three states combined was \$49.9 million, up five percent compared to 1996, but still 64% below the 1976-1996 average (adjusted for inflation).

### ALLOCATION OF THE SALMON RESOURCE

Salmon management by the Council involves numerous allocation issues including:

- determination of the amount of salmon available for ocean harvest after consideration of expected harvests by inside fisheries and Council spawning escapement goals;
- allocation of harvest among broad management areas and among ports within the management areas;
- allocation of harvest between Indian and non-Indian harvesters; and
- allocation of the non-Indian harvest between troll and recreational harvesters.

The amount of fish available for harvest in Council management areas depends, in part, on harvest in Canada and Alaska. Allocation of harvest between the West Coast, Canada, and Alaska is determined within the constraints of the Pacific Salmon Treaty Act.

Figures IV-1 and IV-2 show the catches which have resulted from the Council's allocation between the ocean commercial troll and recreational fisheries. The figures show that, in general, the recreational fishery has tended to have a more stable harvest than the troll fishery (in both absolute and relative terms); the majority of the annual variation in available ocean harvest is usually taken up in the troll fishery. However, both fisheries have suffered substantial declines in recent years, the effects of which are amplified when specific geographic areas are considered. In 1997, as in 1994, there were no non-Indian commercial ocean troll coho fishing opportunities. However, for the area north of Cape Falcon this was the result of a trade made between the commercial and recreational fisheries, that sent the commercial share of the non-Indian coho harvest opportunities (8,800 fish) to the ocean recreational fishery, in return for 3,200 chinook from the recreational fishery.

Fisheries in different areas will impact a particular stock at different rates, therefore, decisions on allowable harvests for a particular stock often have implicit allocational effects on the geographic distribution of the salmon harvest. Seasons are often shaped with an eye toward providing the needed stock protection, while balancing the often conflicting objectives of maximizing ocean harvest and fairly distributing the conservation burdens along the coast. The following briefly describes some of the major stock conservation concerns that have magnified the conflict between these objectives in recent years and presented the Council with some of its greatest season shaping challenges.

To protect OCN coho, a prohibition on the retention of all coho salmon south of Cape Falcon has been in continuous effect beginning in 1993 for the commercial fishery and 1994 for the recreational fishery. This restriction has had a devastating impact on the recreational fishery off central Oregon and a somewhat less but still significant impact on the troll fishery in the same area, both of which have historically depended primarily on coho harvest. To date, the restriction has had virtually no affect on California fisheries south of Point Arena which depend primarily on chinook and have relatively minor coho impacts. However, beginning in 1996, recreational seasons south of Point Arena were significantly shortened to reduce impacts on Sacramento River winter chinook. Recreational seasons north of Point Arena and within the KMZ, already severely limited to protect Klamath River fall chinook, have been further shaped in some years to

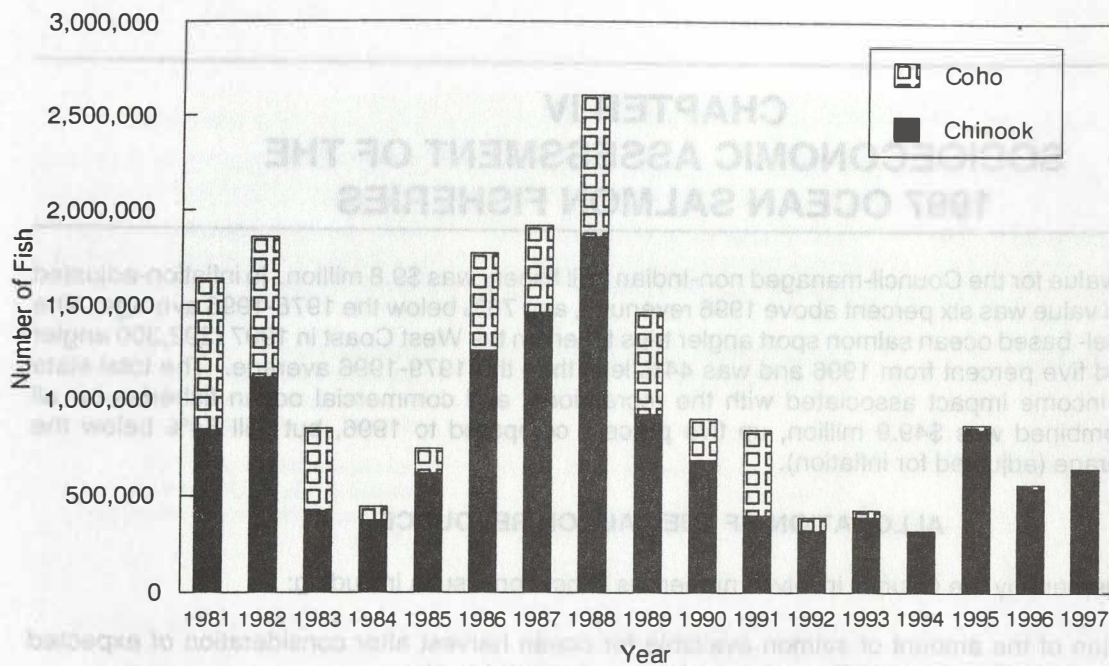


FIGURE IV-1. West Coast non-Indian ocean commercial troll chinook and coho harvest.

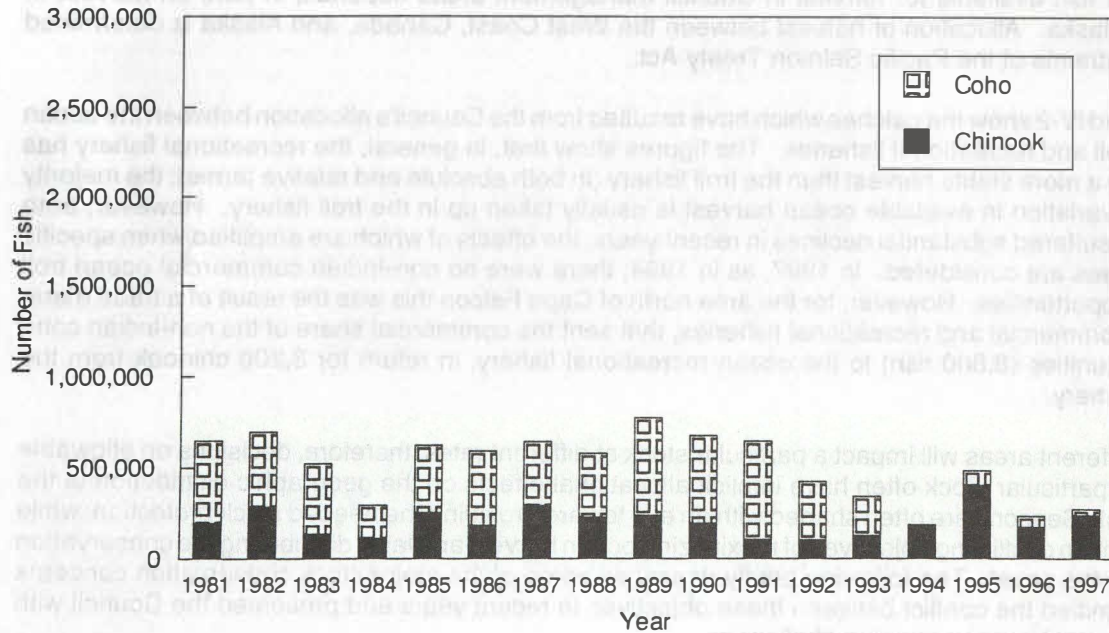


FIGURE IV-2. West Coast recreational ocean chinook and coho harvest.



protect coho. In 1997, the need to reduce impacts on Snake River fall chinook also limited fishing opportunity in the California troll fishery south of Point Arena.

Commercial and recreational fisheries in the KMZ area have been restricted, because they have a high impact rate on Klamath River fall chinook--a stock which has been depressed for several years. In 1996, there had been some improvement and fisheries were allowed to expand to a small degree: there was a commercial troll fishery in the Crescent City and Eureka areas for the first time since 1991, and the first commercial Indian fishery in the river since 1989. However, 1997 saw lower abundances which led managers to reduce fishing opportunities. While fishing opportunities were reduced, a small ocean troll fishery was provided in the area for the second year in a row, after the total absence of the commercial troll fishery from 1992-1995. One of the geographic allocation controversies for the 1997 fishery was how to apportion Klamath River fall chinook impact between the Oregon and California areas. Revised and corrected modeling indicated greater impacts in the California area and lesser impacts in Oregon than had been indicated when the Council initially developed season options in March 1997. The previous intent had been to split impacts on Klamath fall chinook 50/50 between Oregon and California, excluding the KMZ ocean recreational fishery. Data for recent years indicated that the actual split had been about 60/40 in favor of California. For 1997, it was agreed that projected impacts would be split 56/44 favoring California.

Success in achievement of management goals and objectives is evaluated in the first three chapters of this review.

## **COMMERCIAL SALMON**

### **West Coast Non-Indian Ocean Troll Fishery**

#### **Inseason Price Trends**

Monthly exvessel price data provide information on seasonal trends in price (Table IV-1). In general, 1997 prices were high at the start and end of the fishing season, reaching low points in June. In 1996, the lowest prices for chinook generally occurred in July. In 1995, the low price month was September in Oregon and July in California. The absence of a breakdown of price by size category for California makes it difficult to tell whether price changes there are a function of changing market conditions or a shift in the size category of fish landed.

#### **Annual Trends (Seasons, Value, Prices, and Pounds)**

Available information on salmon exvessel price and value by species, compiled from state fish tickets and expressed both in nominal terms and real (inflation adjusted) 1997 dollars, is presented in Tables IV-2, IV-3, and IV-4. The gross domestic product implicit price deflator, developed by the Bureau of Economic Analysis, is used to adjust nominal to real values (Table D-22). Weight of landings by species and port is presented in Tables IV-5, IV-6 and IV-7. These tables and the following discussion refer to the non-Indian commercial troll fishery in Council management areas and associated state territorial ocean area waters.

Total exvessel value for the Council-managed non-Indian troll fishery in 1997 was \$9.8 million. In inflation adjusted terms, exvessel value was six percent above 1996 revenues, and 76% below the 1976-1996 average. Revenues in 1997 were only slightly better than 1992-1994 and 1996 levels. After taking inflation into account, exvessel revenues continued to be below the values observed in the 1983 and 1984 El Niño impacted fisheries. In 1997, there were no non-Indian commercial ocean troll coho fishing opportunities anywhere along the coast (see above discussion on harvest allocation). There were some commercial ocean troll fisheries for all port areas of the coast, though opportunities were sparse at best north of Cape Falcon, in the KMZ, and in the Fort Bragg area. In 1996, there were also commercial troll fisheries coastwide with the exception of the area around Ilwaco/Astoria, and in 1995 there had not been any troll fisheries in ocean areas around Westport, Ilwaco/Astoria, Crescent City, and Eureka. The 1997 California commercial troll catch was 64% below its 1976-1996 average exvessel value, the 1997 value for the Oregon commercial troll catch was 81% below the 1976-1996 average, and the 1997 value for the Washington non-Indian ocean commercial troll catch was 98% below the 1976-1996 average (all values adjusted for inflation).

TABLE IV-1. Average monthly exvessel troll salmon price in dollars per dressed pound for California, Oregon, and Washington in 1997. (Page 1 of 1)

Species/Grade	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season
<b>CALIFORNIA</b>									
Chinook <sup>a/</sup>	1.87	1.45	1.20	1.20	1.95	1.95	-	-	1.38
Coho	-	-	-	-	-	-	-	-	-
<b>OREGON</b>									
Chinook									
Large (>11 Pounds)	2.26	1.89	1.49	1.50	1.72	1.81	2.01	1.98	1.76
Medium (7-11 Pounds)	1.98	1.64	1.25	1.50	1.49	1.55	1.74	1.91	1.50
Small (<7 Pounds)	1.56	1.32	1.01	1.50	1.23	1.20	1.36	1.93	1.21
Ungraded Chinook	2.22	1.91	1.47	-	1.58	1.46	2.24	2.00	1.65
Weighted Average	2.15	1.78	1.38	1.50	1.53	1.54	2.00	1.98	1.60
Mixed Coho	-	-	-	-	-	-	-	-	-
<b>WASHINGTON<sup>b/</sup></b>									
Chinook									
Large (>11 Pounds)	-	1.82	1.50	-	-	-	-	-	1.73
Medium (8-11 Pounds)	-	1.52	1.30	-	-	-	-	-	1.49
Small (<8 Pounds)	-	1.39	1.20	-	-	-	-	-	1.33
Ungraded Chinook	-	-	-	-	-	-	-	-	-
Weighted Average	-	1.67	1.40	-	-	-	-	-	1.55
Mixed Coho	-	-	-	-	-	-	-	-	-

a/ Chinook salmon are typically sold in two and sometimes three size categories. Prices paid in these categories are not extracted from dealer ticket information.

b/ Non-Indian data only.



TABLE IV-2. Troll salmon landed in California, estimates of exvessel value and average price (dollars per dressed pound). (Page 1 of 1)

Year	Chinook				Coho				Total <sup>a/</sup>	
	Nominal Value (thousands of dollars)	Real Value <sup>b/</sup> (thousands of dollars)	Nominal Price Per Pound (dollars)	Real Price Per Pound <sup>b/</sup> (dollars)	Nominal Value (thousands of dollars)	Real Value <sup>b/</sup> (thousands of dollars)	Nominal Price Per Pound (dollars)	Real Price Per Pound <sup>b/</sup> (dollars)	Nominal Value (thousands of dollars)	Real Value <sup>b/</sup> (thousands of dollars)
1979	17,356	35,334	2.53	5.15	2,303	4,689	2.19	4.46	19,659	40,023
1980	12,741	23,746	2.27	4.23	408	760	1.36	2.53	13,149	24,506
1981	13,417	22,854	2.25	3.83	905	1,542	1.94	3.30	14,322	24,396
1982	18,754	30,051	2.55	4.09	735	1,178	1.36	2.18	19,489	31,229
1983	4,290	6,593	2.09	3.21	318	489	1.25	1.92	4,608	7,082
1984	6,875	10,182	2.67	3.95	687	1,017	1.99	2.95	7,562	11,200
1985	11,390	16,308	2.56	3.67	125	179	1.57	2.25	11,515	16,487
1986	14,874	20,755	2.01	2.80	238	332	1.18	1.65	15,112	21,087
1987	25,130	34,019	2.78	3.76	493	667	2.00	2.71	25,623	34,686
1988	41,221	53,838	2.86	3.74	706	922	2.21	2.89	41,927	54,760
1989	13,095	16,411	2.39	3.00	390	489	1.69	2.12	13,485	16,900
1990	11,434	13,735	2.77	3.33	622	747	1.98	2.38	12,056	14,483
1991	8,351	9,648	2.58	2.98	696	804	1.52	1.76	9,047	10,453
1992	4,487	5,045	2.74	3.08	18	20	1.63	1.83	4,505	5,065
1993	5,707	6,252	2.25	2.46	-	-	-	-	5,707	6,252
1994	6,437	6,887	2.07	2.21	-	-	-	-	6,437	6,887
1995	11,693	12,201	1.76	1.84	-	-	-	-	11,693	12,201
1996	5,984	6,105	1.44	1.47	-	-	-	-	5,984	6,105
1997 <sup>c/</sup>	7,200	7,200	1.38	1.38	-	-	-	-	7,200	7,200

a/ Does not include pink landings.

b/ Expressed in 1997 dollars.

c/ Preliminary.

IV-5

TABLE IV-3. Troll salmon landed in Oregon, estimates of exvessel value and average price (dollars per dressed pound). (Page 1 of 1)

Year	Chinook				Coho				Total <sup>a/</sup>	
	Nominal Value (thousands of dollars)	Real Value <sup>b/</sup> (thousands of dollars)	Nominal Price Per Pound (dollars)	Real Price Per Pound <sup>b/</sup> (dollars)	Nominal Value (thousands of dollars)	Real Value <sup>b/</sup> (thousands of dollars)	Nominal Price Per Pound (dollars)	Real Price Per Pound <sup>b/</sup> (dollars)	Nominal Value (thousands of dollars)	Real Value <sup>b/</sup> (thousands of dollars)
1971-1975	2,036	6,157	0.89	2.74	3,658	11,331	0.64	1.95	5,694	17,488
1976-1980	5,366	11,732	2.16	4.71	6,407	14,430	1.51	3.29	11,773	26,162
1981	4,039	6,880	2.57	4.38	5,534	9,426	1.66	2.83	9,573	16,306
1982	6,094	9,765	2.59	4.15	3,801	6,091	1.40	2.24	9,895	15,856
1983	1,244	1,912	1.90	2.92	1,052	1,617	0.96	1.48	2,296	3,529
1984	1,477	2,187	2.74	4.06	118	175	1.66	2.46	1,595	2,362
1985	5,045	7,223	2.48	3.55	729	1,044	1.51	2.16	5,774	8,267
1986	5,976	8,339	1.77	2.47	1,978	2,760	1.04	1.45	7,954	11,099
1987	13,467	18,231	2.60	3.52	3,296	4,462	1.72	2.33	16,763	22,692
1988	13,940	18,207	3.19	4.17	7,596	9,921	2.28	2.98	21,536	28,128
1989	7,894	9,893	2.23	2.79	2,131	2,671	1.07	1.34	10,025	12,564
1990	5,627	6,760	2.58	3.10	1,014	1,218	1.60	1.92	6,641	7,978
1991	1,721	1,988	2.47	2.85	1,399	1,616	0.99	1.14	3,120	3,605
1992	2,490	2,800	2.46	2.77	222	250	1.08	1.21	2,712	3,049
1993	1,661	1,820	2.18	2.39	10	11	1.13	1.24	1,671	1,831
1994	690	738	2.40	2.57	-	-	-	-	690	738
1995	3,294	3,437	1.70	1.77	-	-	-	-	3,294	3,437
1996	3,007	3,068	1.56	1.59	-	-	-	-	3,007	3,068
1997 <sup>c/</sup>	2,469	2,469	1.60	1.60	-	-	-	-	2,469	2,469

a/ Does not include pink landings.

b/ Expressed in 1997 dollars.

c/ Preliminary.



TABLE IV-4. Non-Indian troll salmon landed in Washington, estimates of exvessel value and average price (dollars per dressed pound).<sup>a/</sup> (Page 1 of 1)

Year or Average	Chinook				Coho				Total <sup>b/</sup>	
	Nominal Value (thousands of dollars)	Real Value <sup>c/</sup> (thousands of dollars)	Nominal Price Per Pound (dollars)	Real Price Per Pound <sup>c/</sup> (dollars)	Nominal Value (thousands of dollars)	Real Value <sup>c/</sup> (thousands of dollars)	Nominal Price Per Pound (dollars)	Real Price Per Pound <sup>c/</sup> (dollars)	Nominal Value (thousands of dollars)	Real Value <sup>c/</sup> (thousands of dollars)
1971-1975	2,714	8,313	0.89	2.74	3,060	9,395	0.66	2.04	5,775	17,708
1976-1980	5,313	11,851	2.39	5.17	6,086	13,541	1.67	3.62	11,399	25,391
1981	3,279	5,585	2.66	4.53	2,642	4,500	1.52	2.59	5,921	10,086
1982	4,246	6,804	2.57	4.12	2,484	3,980	1.34	2.15	6,730	10,784
1983	1,152	1,771	1.72	2.64	313	481	0.93	1.43	1,465	2,252
1984	255	378	2.78	4.12	155	230	1.48	2.19	410	607
1985	837	1,198	2.57	3.68	764	1,094	1.32	1.89	1,601 <sup>d/</sup>	2,292
1986	808	1,127	2.35	3.28	367	512	1.16	1.62	1,175	1,640
1987	1,606	2,173	2.97	4.02	354	480	1.67	2.26	1,960 <sup>e/</sup>	2,653
1988	2,289	2,990	2.95	3.85	48 <sup>f/</sup>	63	2.45	3.20	2,337	3,052
1989	955	1,197	2.22	2.78	275	345	1.31	1.64	1,230 <sup>g/</sup>	1,541
1990	890	1,069	2.57	3.09	758	911	1.52	1.83	1,648	1,980
1991	783	905	2.54	2.93	343	396	1.13	1.31	1,126 <sup>h/</sup>	1,301
1992	1,200	1,349	2.41	2.71	99	111	1.33	1.50	1,299	1,461
1993	728	798	2.21	2.42	67	73	1.02	1.12	795 <sup>i/</sup>	871
1994	j/	j/	j/	j/	-	-	-	-	j/ <sup>k/</sup>	j/
1995	j/	j/	j/	j/	91	95	0.83	0.87	91 <sup>k/</sup>	95
1996	j/	j/	j/	j/	59	60	0.86	0.88	59	60
1997	125	125	1.55	1.55	-	-	-	-	125 <sup>l/</sup>	125

a/ All values in this table are based on preliminary information available at the start of each year's salmon review.

b/ Does not include pink landings.

c/ Expressed in 1997 dollars.

d/ Pink landings nominal exvessel value was \$308,000. Nominal pink price per pound was \$0.55.

e/ Pink landings nominal exvessel value was \$6,500. Nominal pink price per pound was \$0.62.

f/ There was no legal coho fishery in 1988. This value is for landings of fish caught south of Cape Falcon and seizures of illegal fish.

g/ Pink landings nominal exvessel value was \$91,000. Nominal pink price per pound was \$0.70.

h/ Pink landings nominal exvessel value was \$69,600. Nominal pink price per pound was \$0.47.

i/ Pink landings nominal exvessel value was \$4,700. Nominal pink price per pound was \$0.54.

j/ Chinook were caught off Oregon and landed in Washington. Value information is not provided in order to preserve confidentiality.

k/ Pink landings nominal exvessel value was \$26,000. Nominal pink price per pound was \$0.20.

l/ Pink landings nominal exvessel value was \$3. Nominal pink price per pound was \$0.31.

TABLE IV-5. Pounds of salmon landed by the commercial troll ocean fishery for major California port areas.<sup>a/</sup>  
(Page 1 of 1)

Year or Average	Crescent City	Eureka	Fort Bragg	San Francisco	Monterey	State Total
<b>CHINOOK (thousands of pounds)</b>						
1976-1980	393	1,403	1,449	1,733	889	5,867
1981-1985	350	428	1,128	1,806	742	4,454
1986	151	457	2,147	2,751	1,891	7,397
1987	313	656	3,115	3,874	1,090	9,047
1988	188	557	4,201	7,177	2,307	14,431
1989	103	220	1,359	2,545	1,263	5,490
1990	20	133	671	1,892	1,407	4,122
1991	4	79	467	1,685	1,004	3,238
1992	b/	1	21	996	613	1,632
1993	3	11	220	1,316	987	2,537
1994	b/	6	77	2,189	831	3,103
1995	5	26	130	3,277	3,197	6,633
1996	3	92	278	1,695	2,046	4,113
1997 <sup>c/</sup>	1	16	54	2,644	2,485	5,200
<b>COHO (thousands of pounds)</b>						
1976-1980	360	391	277	109	48	1,184
1981-1985	89	104	89	54	9	345
1986	30	30	103	30	8	202
1987	32	67	140	7	1	246
1988	19	78	174	46	2	320
1989	29	24	137	38	3	231
1990	-	15	125	142	32	314
1991	1	19	55	270	115	459
1992	-	b/	b/	10	1	11
1993	-	-	-	-	-	-
1994	-	-	-	-	-	-
1995	-	-	-	-	-	-
1996	-	-	-	-	-	-
1997	-	-	-	-	-	-

a/ The major port areas listed include the following ports: Crescent City includes only Crescent City; Eureka also includes Trinidad and Humboldt Bay locations; Fort Bragg also includes Shelter Cove, Noyo Harbor, Mendocino, and Pt. Arena; San Francisco also includes Bodega Bay, San Francisco Bay and Half Moon Bay; Monterey also includes Santa Cruz, Moss Landing, Monterey, Morro Bay and Santa Barbara.

b/ Less than 500 pounds.

c/ Preliminary.



TABLE IV-6. Pounds of salmon landed by the commercial troll ocean salmon fishery for major Oregon port areas.<sup>a/</sup>  
(Page 1 of 1)

Year or Average	Astoria	Tillamook	Newport	Coos Bay	Brookings	State Total
<b>CHINOOK (thousands of pounds)</b>						
1976-1980	171	118	530	908	700	2,427
1981-1985	92	45	271	638	386	1,432
1986	61	119	751	1,990	449	3,370
1987	83	419	997	2,997	685	5,182
1988	37	341	1,231	2,198	580	4,387
1989	50	302	777	1,945	449	3,532
1990	28	139	388	1,452	174	2,181
1991	9	110	267	292	18	695
1992	17	108	676	206	7	1,013
1993	5	86	460	182	28	761
1994	b/	29	165	45	47	287
1995	6	96	1,330	453	55	1,941
1996	21	125	1,219	417	142	1,926
1997 <sup>c/</sup>	3	32	1,053	381	73	1,542
<b>COHO (thousands of pounds)</b>						
1976-1980	385	660	1,190	1,661	357	4,252
1981-1985	133	293	451	550	111	1,537
1986	109	418	885	393	101	1,905
1987	57	380	517	894	67	1,916
1988	17	766	1,375	1,087	91	3,336
1989	115	530	615	672	63	1,996
1990	69	272	73	197	24	634
1991	69	431	440	464	7	1,411
1992	6	33	112	55	b/	206
1993	8	1	-	-	-	9
1994	-	-	-	-	-	-
1995	-	-	-	-	-	-
1996	-	-	-	-	-	-
1997	-	-	-	-	-	-

a/ The port areas listed include landings in the following ports: Astoria also includes Gearhart/Seaside and Cannon Beach; Tillamook also includes Garibaldi, Netarts, Pacific City and Nehalem Bay; Newport also includes Depoe Bay, Siletz Bay, Salmon River and Waldport; Coos Bay also includes Florence, Winchester Bay, Charleston and Bandon; Brookings also includes Port Orford and Gold Beach.

b/ Less than 500.

c/ Preliminary.

Additional historic information on landings by vessel size, percentages of the total responsible for the majority of harvest, and harvest by residence of those participating in the fishery of each state is provided in Appendix D.

#### West Coast Treaty Indian Ocean Troll Fishery

Treaty Indian ocean troll fisheries are allocated a share of the total ocean salmon harvest. Some of the Indian harvest is for ceremonial and subsistence purposes; however, there is also a commercial harvest. Commercial Indian fisheries provide food, employment, and generate income in local and state economies.

1/ Based on state fish reports, north-south Pacific. The vessel counts listed in Tables D-4, D-5, and D-6 sum to more than 1,478 vessels. Because of the double counting of vessels participating in more than one state.

TABLE IV-7. Pounds of salmon landed by the non-Indian commercial troll ocean salmon fishery for major Washington port areas. <sup>a/b/</sup> (Page 1 of 1)

Year	Neah Bay	La Push	Westport	Ilwaco	Coastal Community Total	Puget Sound	State Total
<b>CHINOOK (thousands of pounds)</b>							
1976-1980	288	421	919	261	1,889	426	1,543
1981-1985	88	32	370	74	564	124	689
1986	50	21	141	75	286	55	342
1987	42	20	367	65	494	51	545
1988	94	30	250	57	430	348	778
1989	20	2	277	28	327	124	451
1990	149	15	135	17	315	34	349
1991	128	7	127	14	276	32	308
1992	160	46	232	10	447	58	507
1993	122	35	132	2	291	41	332
1994 <sup>c/</sup>	-	-	-	-	-	7	7
1995 <sup>c/</sup>	-	-	3	-	3	12	15
1996 <sup>c/</sup>	-	-	4	1	5	13	19
1997	20	d/	45	0	66	15	80
<b>COHO (thousands of pounds)</b>							
1976-1980	600	786	1,066	678	3,130	496	3,626
1981-1985	133	63	277	142	616	128	744
1986	58	30	118	72	279	38	317
1987	9	15	135	47	206	7	213
1988	1	0	2	8	11	9	20
1989	121	2	19	79	221	24	245
1990	159	46	214	61	480	20	501
1991	87	16	126	45	274	31	304
1992	25	13	21	4	63	12	75
1993	11	7	43	2	63	3	66
1994	-	-	-	-	-	-	-
1995	84	18	7	-	109	2	111
1996	45	1	23	0	68	d/	68
1997	-	-	-	-	-	-	-

a/ All values in this table are based on preliminary information available at the start of each year's review.

b/ The major port areas listed may include smaller ports as follows: Neah Bay includes only Neah Bay; La Push also includes Kalaloch; Westport also includes Aberdeen, Bay City, Copalis Beach, Hoquiam, Moclips, Taholah, Bay Center, Grayland Beach, Raymond, South Bend and Tokeland; Ilwaco also includes Long Beach, Nahcotta, Naselle and all Columbia River Ports; Puget Sound includes all Puget Sound ports east of Neah Bay.

c/ There was no ocean commercial fishery for chinook north of Cape Falcon, however, chinook were caught off Oregon and landed in Washington.

d/ Less than 500.



Average chinook price per pound declined for the seventh year in a row (in inflation-adjusted terms), but by the smallest amount (five percent) since the second year of the declining trend, 1992 (the 1992 prices were a few percent above the 1991 prices if adjustments for inflation are not made). The continued depressed level of the salmon harvest and salmon prices is reflected in the real exvessel values depicted in Figure IV-3.

Coastwide, the non-Indian chinook harvest increased by 15% in terms of number of fish compared to 1996. This increase in catch was offset to some degree by a two percent decrease in average weights and the five percent decrease in price. About 75% of the coastwide chinook harvest (by weight) was taken in California, from the San Francisco area south, as compared to 59% in 1996 (Table IV-5, IV-6 and IV-7). Landings in the San Francisco and Monterey areas increased substantially from 1996 levels while decreases were observed in Crescent City, Eureka, and Fort Bragg. In Oregon, chinook landings were down coastwide (by weight), with the bulk of the landings continuing to come into Newport. In Washington, there are generally some small landings of chinook from other areas of the coast every year. However, 1997 was the first year in which there was a chinook directed non-Indian commercial troll fishery of some significance since 1993. The amounts landed were substantially below the levels of previous chinook fisheries (nearly 80% below the 1993 landings).

### **Ocean Troll Salmon Harvesters**

Coastwide, 1,274 vessels participated in the 1997 salmon troll fishery, down about 14% to from 1996, and about 75% below the average number of vessels participating from 1986-1990.<sup>1/</sup> The active fleet in Oregon decreased by 22 vessels (five percent), the active fleet in Washington decreased by 39 vessels (43%) and the active fleet in California decreased by 153 vessels (16%), all comparisons to 1996. Coastwide, the number of salmon limited entry permits issued decreased by 254 (six percent) to 3,678 permits. From 1995 to 1997, a federally funded permit buyback program purchased 262 Washington troll licenses and delivery permits. There had been 667 Washington non-Indian ocean troll permits issued in 1993, and 323 such permits were issued in 1997. Thirty-six percent of all permits made salmon landings in 1997 (Tables D-4, D-5, and D-6).

Average per vessel exvessel value increased 29% as compared to 1996 (adjusted for inflation), to approximately \$7,700. Per vessel average exvessel values increased in California and Washington, while decreasing in Oregon (Tables D-4, D-5, and D-6). The averages are generally at the higher end of the typical range seen over the last 15 years. However, some caution needs to be exercised in interpreting the average. The averages may increase as much from small producers dropping out at a higher rate relative to larger producers as from an increase in revenue earned by remaining vessels.

In 1997, 445 vessels participated in the area between Cape Falcon and the Oregon-California border as compared to 448 vessels in 1996 (these figures include vessels harvesting off Oregon and landing in another state). The average revenue per vessel in this area was \$5,448 as compared to \$6,453 in 1996. In the areas south of Point Arena 786 vessels operated, as compared to 879 in 1996. The average revenue per vessel in this area was \$8,993 as compared to \$5,767 in 1996 (Table IV-8).

Additional historic information on landings by vessel size, percentages of the fleet responsible for the majority of harvest, and harvest by residence of those participating in the fishery off each state is provided in Appendix D.

### **West Coast Treaty Indian Ocean Troll Fishery**

Treaty Indian ocean troll fisheries are allocated a share of the total ocean salmon harvest. Some of the Indian harvest is for ceremonial and subsistence purposes; however, there is also a commercial harvest. Commercial Indian fisheries provide food to consumers and generate income in local and state economies

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1/ Based on state fish tickets submitted to PacFIN. The vessel counts listed in Tables D-4, D-5, and D-6 sum to more than 1,274 vessels, because of the double counting of vessels participating in more than one state.

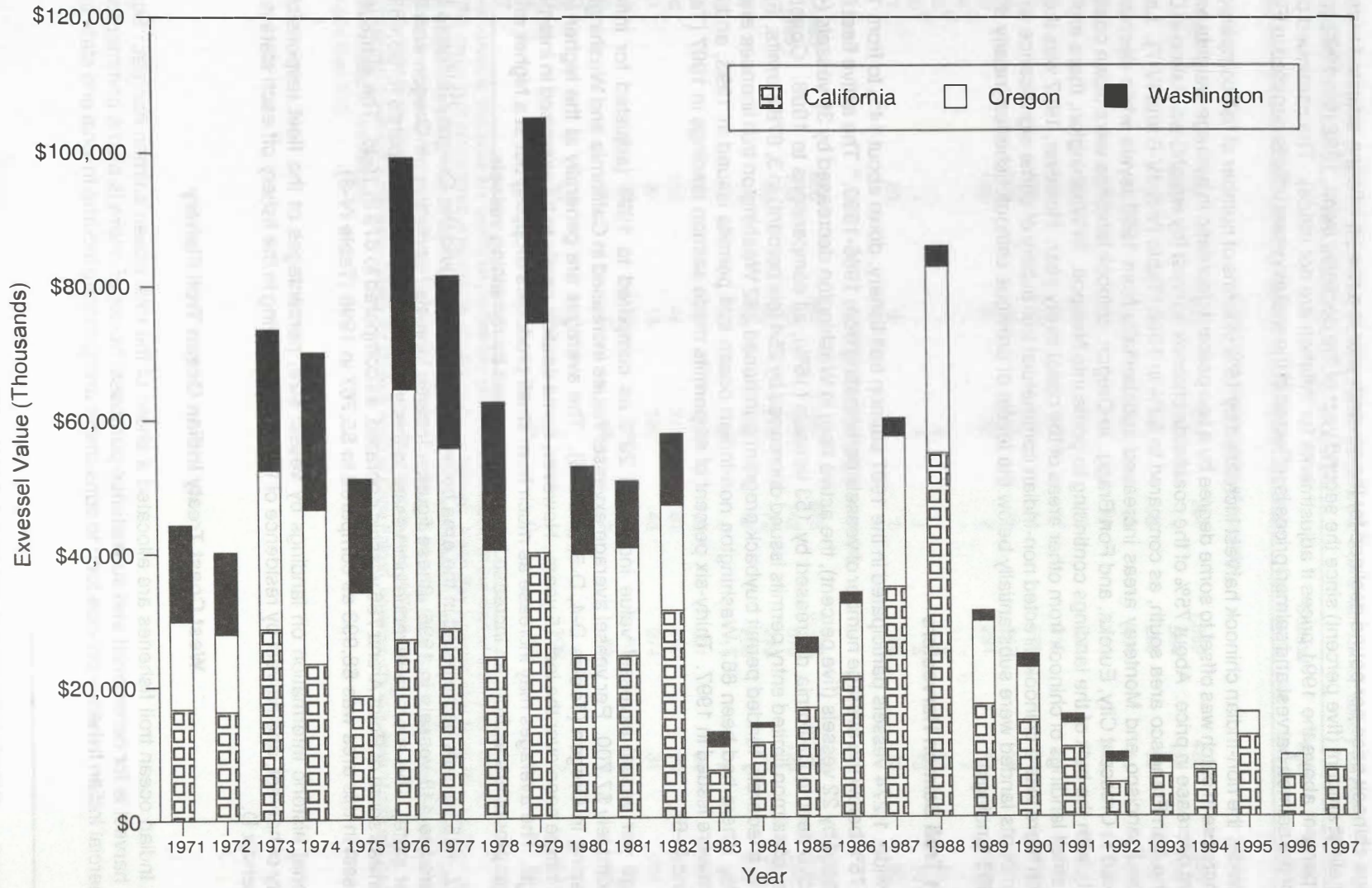
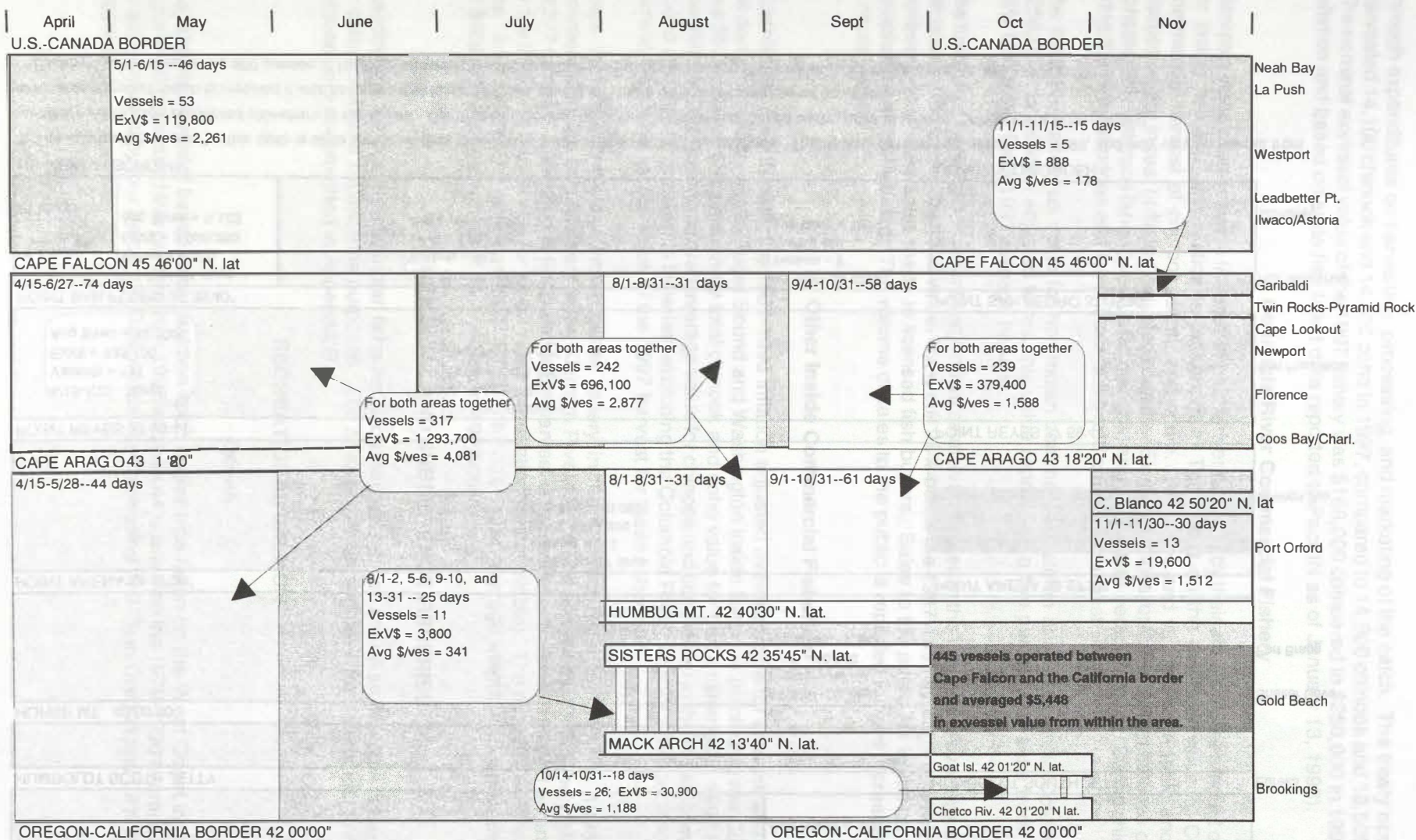


FIGURE IV-3. Exvessel value of troll chinook and coho landings by state of landing (1997 dollars).



TABLE IV-8. Commercial troll fishery numbers of vessels participating (1997), total exvessel revenue (ExV\$), and average exvessels revenue per vessel by season opening. <sup>a/b</sup>



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TABLE IV-8. Commercial troll fishery numbers of vessels participating (1997), total exvessel revenue (ExV\$), and average exvessels revenue per vessel by season opening.<sup>a/ b/</sup>

April	May	June	July	August	Sept	Oct	Nov
OREGON-CALIFORNIA BORDER 42 00'00"					OREGON-CALIFORNIA BORDER 42 00'00"		
					9/1-9/30--30 days Vessels = 27 ExV\$ = 24,900 Avg \$/ves = 921		
HUMBOLDT SOUTH JETTY					HUMBOLDT SOUTH JETTY		
HORSE MT. 40 05'00"							
					9/1-9/30--30 days Vessels = 49 ExV\$ = 60,800 Avg \$/ves = 1,242		
POINT ARENA 38 57'30"				7/16-9/30--77 days Vessels = 215 ExV\$ = 659,300 Avg \$/ves = 3,067		POINT ARENA 38 57'30"	
						786 vessels operated south of Point Arena and averaged \$8,993 in exvessel value from within the area.	
POINT REYES 37 59'44"			7/1-9/30--92 days Vessels = 323 ExV\$ = 1,423,300 Avg \$/ves = 4,406		POINT REYES 37 59'44"		
4/15-4/22--7days Vessels = 111 ExV\$ = 233,100 Avg \$/ves = \$2,100							
POINT SAN PEDRO 37 35'40"				6/23-7/18--75 days Vessels = 452 ExV\$ = 1,832,600 Avg \$/ves = 4,054		POINT SAN PEDRO 37 35'40"	
Pt. Lopez		5/1-5/31-31 days Vessels = 570 ExV\$ = 2,920,200 Avg \$/ves = 5,123				9/1-9/30--30 days Vessels = 8 ExV\$ = 400 Avg \$/ves = 153	
Pt Magu							
US-MEXICO BORDER					US-MEXICO BORDER		

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<sup>a/</sup> The Information source for this table is state fish ticket data maintained in the redefined PacFIN database. The data were retrieved January 13, 1998, and may vary somewhat from summary information presented elsewhere in the review. Catch area recorded on tickets is sometimes based on the point of landing. When there is no opening in an area for which catch is reported it was assumed that landings made during a closure came from the nearest open area.

<sup>b/</sup> Excludes information on 53,900 pounds of landings for which West Coast catch area was unknown. Total revenue for these landings was \$79,500.



through expenditures on harvesting, processing, and marketing of the catch. The treaty ocean troll fishery harvested 14,100 chinook and 14,400 coho in 1997, compared to 14,900 chinook and 18,500 coho in 1996. The nominal exvessel value of the 1997 fishery was \$168,000 compared to \$250,000 in 1996 (adjusted for inflation and based on state fish ticket data reported to PacFIN as of January 13, 1998).

### **Columbia River Commercial Fishery**

Harvests in the ocean salmon fisheries impact inriver fisheries by their effects on the amount of fish available for inside harvest. Information is presented in Table IV-9 on the exvessel value of Columbia River commercial harvest of chinook, coho, and chum. All prices and values in the table and the following discussion are in real (inflation adjusted) dollars. Exvessel prices for inriver gillnet catches of chinook vary considerably with race (spring versus fall chinook) and stock (tules versus brights). Spring chinook generally bring the highest prices and fall chinook tules and chums the lowest.

The total 1997 exvessel value for non-Indian commercial salmon harvested in the Columbia River was \$259,000. In inflation adjusted terms, this value represents a five percent decrease from 1996 and was 98% below the 1987-1993 average harvest.

The total 1997 exvessel value for treaty Indian salmon harvested in the Columbia River was \$322,000. This value was 42% above the 1996 value, but is still 95% below the 1987-1993 average harvest. These values represent only those sales made to licensed fish buyers. Sales to the public for which no fish ticket was completed are not included. The volume of sales to the public is reported to have increased substantially in recent years.

### **Other Inside Commercial Fisheries**

According to PacFIN data, the 1981-1996 inflation adjusted average value for chinook and coho taken in the commercial non-Indian Puget Sound and Washington inside fisheries (excluding the Columbia River) was \$5.7 million. The preliminary total chinook and coho value for these fisheries in 1997 is \$0.5 million. The 1981-1996 inflation adjusted average value for chinook and coho taken in the Indian commercial Puget Sound and Washington inside fisheries (excluding the Columbia River) was \$9.1 million. Information is not currently available on the value of the 1997 harvest for these fisheries.

There was no commercial Indian gillnet fishery in the Klamath River in 1997. In 1996 there was a commercial Indian gillnet fishery in the Klamath River for the first time since 1989. The 1996 harvest was 43,277 chinook. The value at first sale for the harvest is estimated at \$525,000 (based on an extrapolation for the 98.6% of the harvest for which value information was available). The average weight of fish landed was 13.5 pounds. The 1989 harvest of 27,504 chinook had an average weight of 15.4 pounds and was sold for \$852,000 (the equivalent of \$1.1 million in 1997 dollars).

## **CEREMONIAL AND SUBSISTENCE FISHERIES**

In addition to the commercial Indian fisheries discussed above, fish are taken in Indian fisheries each year for ceremonial and subsistence purposes. The amounts of salmon used for ceremonial and subsistence purposes are documented in Appendix B.

## **RECREATIONAL SALMON**

### **Ocean**

The number of vessel based ocean salmon sport angler trips taken on the West Coast in 1997 (292,300 angler trips) decreased five percent from 1996 and was 44% less than the 1979-1996 average. The number of trips increased by four percent in California while decreasing by 31% in Oregon and 29% in Washington (Figure IV-4).

TABLE IV-9. **Exvessel values** (expressed in 1997 dollars) of inriver commercial harvest of Columbia River salmon. <sup>a/</sup> (Page 1 of 1)

Fishery	Species	Average Price <sup>b/</sup> Per Landed Pound (dollars)					Exvessel Value (thousands of dollars)					Pounds (thousands)				
		1987-1993	1994	1995	1996 <sup>c/</sup>	1997 <sup>c/d/</sup>	1987-1993	1994	1995	1996	1997 <sup>d/</sup>	1987-1993	1994	1995	1996	1997 <sup>d/</sup>
<b>OREGON</b>																
Non-Indian <sup>e/</sup> Gillnet	Chinook															
	Spring <sup>c/</sup>	3.90	3.62	4.26	2.20	2.55	615	82	12	24	66	153	23	3	11	26
	Fall	1.51	1.19	0.93	0.50	0.78	3,176	7	7	62	57	1,603	6	8	126	73
	Tules	0.48	0.40	0.25	0.12	0.19	181	7	f/	13	13	267	19	f/	103	70
	Coho	1.53	0.89	0.66	0.63	0.74	1,652	429	125	136	110	957	483	189	215	149
	Chum	0.51	0.28	0.24	0.13	0.25	<u>1</u>	<u>f/</u>	<u>f/</u>	<u>f/</u>	<u>-</u>	<u>3</u>	<u>f/</u>	<u>f/</u>	<u>f/</u>	<u>-</u>
	TOTAL						5,625	525	145	235	247	2,983	530	200	455	318
Treaty Indian All Gears	Chinook															
	Spring	3.42	3.48	4.53	-	-	3	1	f/	-	-	f/	f/	f/	-	-
	Fall	1.48	1.04	0.58	0.62	0.65	1,272	219	97	32	33	707	227	169	53	66
	Tules	0.41	0.17	0.14	0.12	0.16	23	17	25	11	12	66	117	189	96	70
	Coho	1.15	0.53	0.27	0.26	0.25	<u>10</u>	<u>5</u>	<u>f/</u>	<u>f/</u>	<u>f/</u>	<u>8</u>	<u>6</u>	<u>2</u>	<u>1</u>	<u>1</u>
	TOTAL						1,307	242	122	44	45	781	350	359	150	137
<b>WASHINGTON</b>																
Non-Indian Gillnet	Chinook															
	Spring	4.00	3.48	-	5.10	4.87	355	56	-	2	1	85	16	-	f/	f/
	Fall <sup>g/</sup>	1.39	1.12	0.95	0.60	0.91	1,189	1	f/	26	8	654	1	f/	42	9
	Coho	1.56	0.86	0.66	0.68	0.79	700	13	f/	10	2	465	15	f/	14	3
	Chum	0.44	0.27	0.37	0.38	0.30	<u>1</u>	<u>f/</u>	<u>f/</u>	<u>f/</u>	<u>f/</u>	<u>2</u>	<u>f/</u>	<u>f/</u>	<u>f/</u>	<u>f/</u>
	TOTAL						2,245	70	f/	37	12	1,207	32	1	57	12
Treaty Indian All Gears <sup>h/</sup>	Chinook															
	Spring	3.85	-	4.17	4.08	3.84	9	-	f/	-	1	3	-	f/	-	f/
	Fall <sup>i/</sup>	1.24	0.64	0.43	0.32	0.42	1,743	144	104	181	266	1,105	224	243	573	633
	Coho	1.20	0.53	0.31	0.31	0.41	<u>24</u>	<u>7</u>	<u>3</u>	<u>f/</u>	<u>1</u>	<u>18</u>	<u>13</u>	<u>8</u>	<u>f/</u>	<u>2</u>
	TOTAL						1,776	151	106	181	268	1,125	237	251	574	635
Columbia River Total							10,954	1,006	376	498	581	6,096	1,149	811	1,236	1,102

a/ Excluding pinks and sockeye salmon.

b/ Gill net exvessel salmon prices are recorded in round weight and therefore are not strictly comparable to exvessel troll prices.

c/ "Spring" is really the combined totals for the "winter" fishery in the mainstem (January through February): 1,729 lbs., \$8,703, \$5.03 per pound; and the "spring" fishery for Youngs Bay (April through June): 24,290 lbs., \$57,554, \$2.37.

d/ Preliminary.

e/ Mainstem below Bonneville and Youngs Bay.

f/ Less than 500.

g/ Includes fall brights, tules and jacks. Price changes may reflect a change in the mix of brights, tules and jacks rather than annual price changes.

h/ Includes Drano Lake (Little White Salmon River north), Priest Rapids Pool and Klickitat dipnet fisheries.

i/ Includes fall brights, tules and jacks. Price changes may reflect a change in the mix of brights, tules and jacks rather than annual price changes.



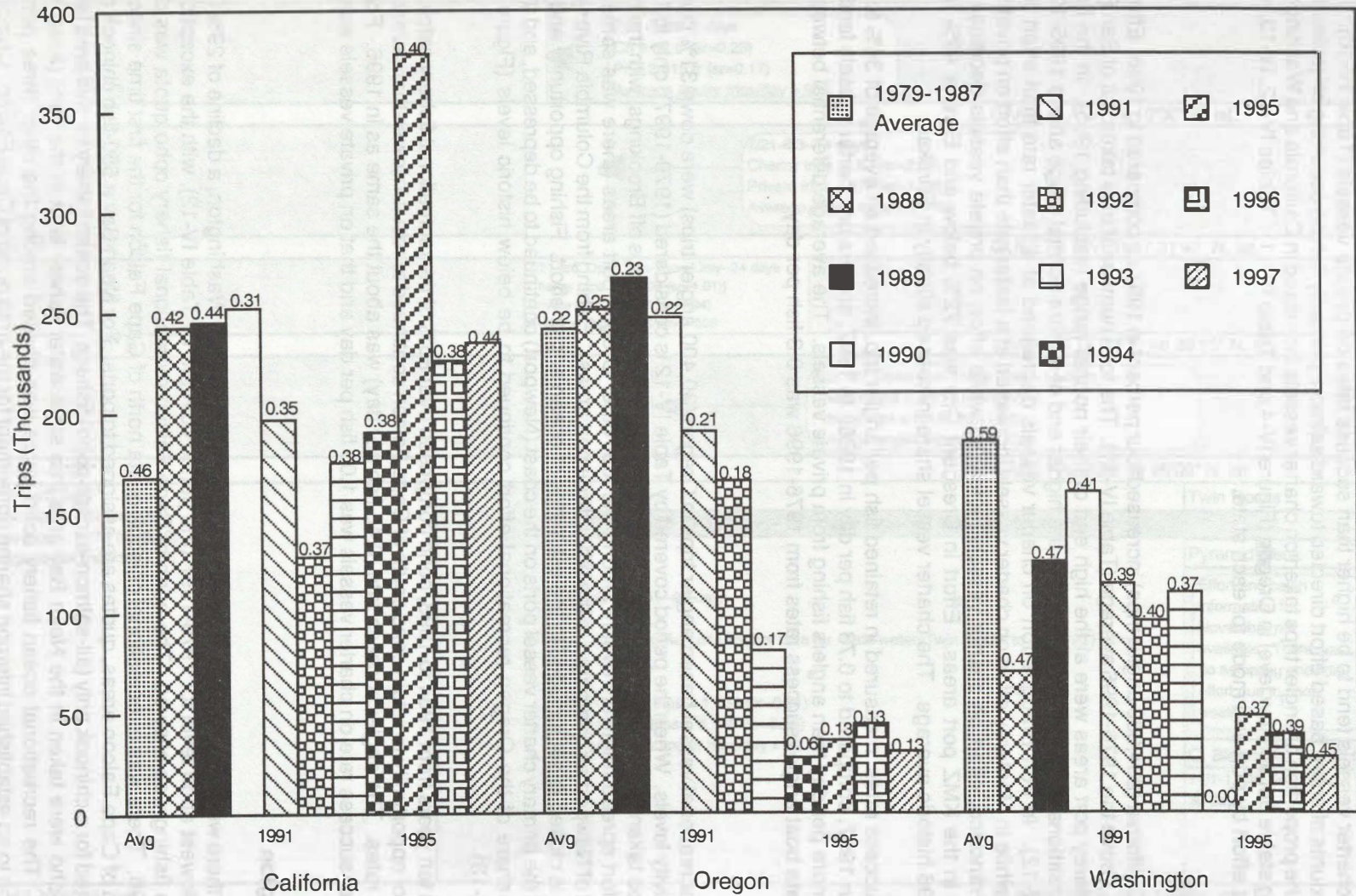


FIGURE IV-4. Total recreational ocean salmon trips by state (with proportion of charter trips shown above each bar).

Recreational salmon fishing takes place primarily in one of two modes: (1) anglers fishing from privately owned pleasure crafts and (2) anglers employing the services of the charter boat fleet. In general, success rates on charter vessels tend to be higher than success rates on private vessels (Table IV-10). There are small amounts of shore based effort directed toward salmon, primarily fishing occurring off jetties and piers. In 1997, the proportion of angler trips taken on charter vessels increased in California and Washington, while remaining stable but at a low level in Oregon (Figure IV-4 and Table IV-11). Tables IV-12, IV-13, and IV-14 break out effort by port and mode for each state.

### **California**

Effort in California (234,300 angler trips) increased four percent in 1997 as compared to 1996. Effort in 1997 was 19% above the 1976-1996 average (Table IV-11). The total number of trips taken out of San Francisco and Monterey port areas were at the high end of their normal range (excluding 1995). In the Fort Bragg area, recreational angler effort declined to the higher end of a more normal range after a 1995-1996 spike (Table IV-12). In Fort Bragg, effort on charter vessels decreased at a faster rate than effort on private vessels, while in Monterey effort on charter vessels increased at a faster rate than effort on private vessels. In San Francisco, effort on charter vessels increased while effort on private vessels decreased. Effort declined in the KMZ port areas. Effort in Crescent City was 72% below and Eureka 49% below the 1976-1996 historic average. The charter vessel share increased slightly in Eureka.

Angler success rates, measured in retained fish per angler trip, increased an average of 34% to 0.98 fish per day in 1997, compared to 0.73 fish per day in 1996. In 1997, anglers on charter vessels landed about 0.4 fish more per day than anglers fishing from private vessels. The average differential between charter and private boat angler success rates from 1976-1996 was 0.3 fish per day.

### **Oregon**

Ocean recreational vessel based angler trips in Oregon (30,400 angler trips) were down 31% compared to 1996 activity levels. When the period covered by Table IV-12 is considered (1979-1997), only in 1994 were fewer trips taken. Over half the total Oregon effort came during openings off Brookings, with the remainder of the effort spread relatively evenly among the four other Oregon port areas (there was somewhat less effort out of Newport as compared to the other three port areas). Fishing from the Columbia River jetty when Buoy 10 is closed is not included in the estimates of ocean angler effort. Fishing opportunity and effort out of one of the primary charter vessel ports on the coast (Newport) continued to be depressed, and the charter industry share of the Oregon recreational effort continued to be below historic levels (Figure IV-4 and Table IV-13).

Over the ten years from 1984 to 1993, coho comprised over 85% of the recreational fishery catch. In 1997, the lack of opportunity to retain coho south of Cape Falcon continued to result in lower-than-average angler success rates. The angler success rate (0.45 fish per day) was about the same as in 1996. For Oregon, the angler success rate on charter vessels was 1.00 fish per day and that on private vessels was 0.37 fish per day.

### **Washington**

In 1997, there were 27,600 ocean angler trips taken on vessels in Washington, a decline of 29% from 1996 and the lowest effort level for 1979-1997 (the period covered by Table IV-12), with the exception of 1994 when no fishing was allowed. The north of Cape Falcon recreational fishery coho quota was down 48% from 1996. There was a recreational chinook quota north of Cape Falcon for the first time since 1993. In the north of Cape Falcon areas, quotas are assigned to ports. For Neah Bay a 550-fish chinook quota was established for a chinook only (all-salmon-except-coho) fishery. The ocean fishery for this area lasted three days. Coho were taken in the Neah Bay area in a state water fishery later in the year (Area 4b add-on fishery). The recreational ocean fishery coho quota was divided among the other three port areas in proportion to an established interport sharing agreement for the area north of Cape Falcon. Chinook harvest guidelines were established for each area. The fishery out of La Push was a seven-day-a-week fishery which lasted two weeks. The Westport and Columbia River area fisheries were Sunday-through-Thursday

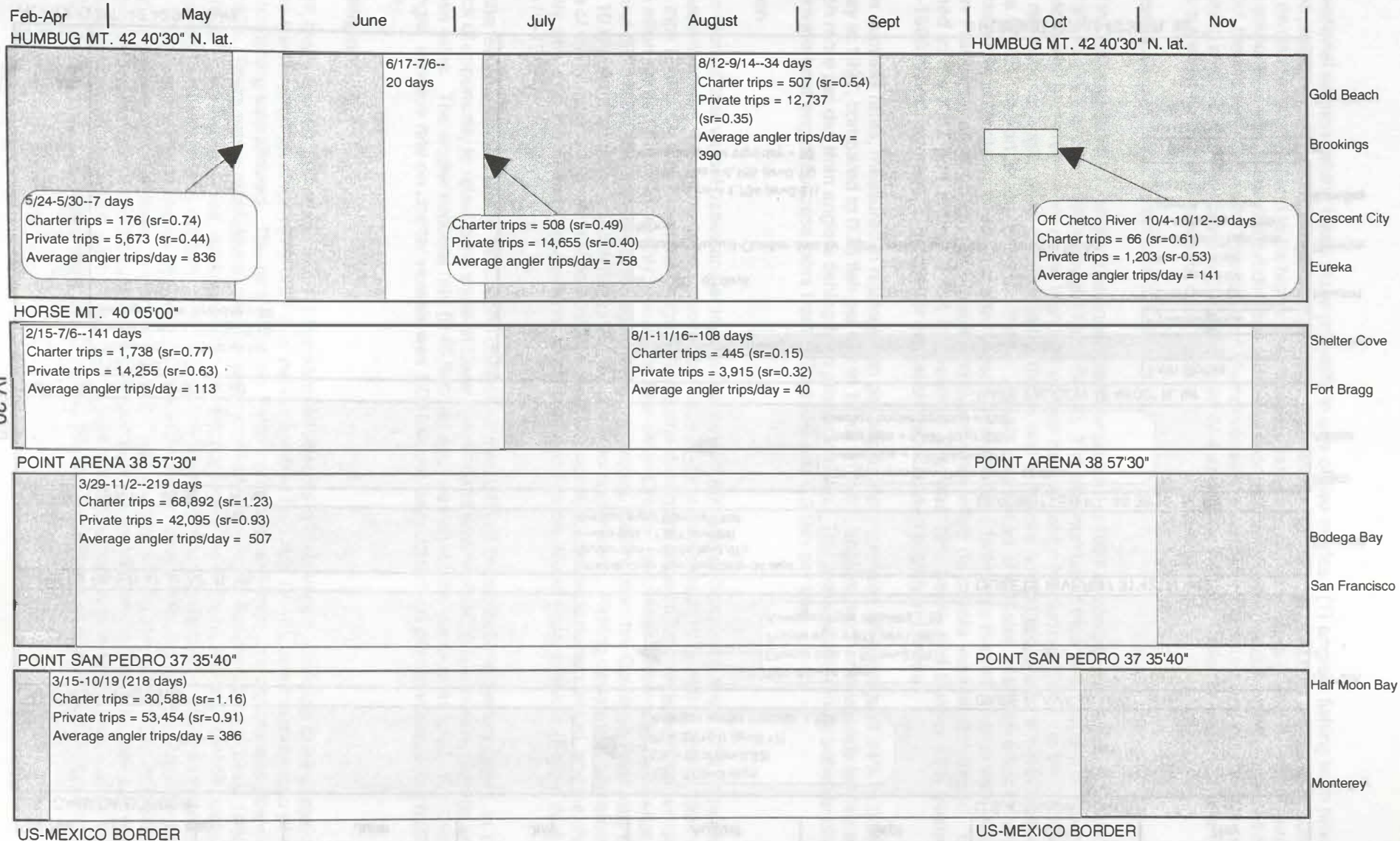


TABLE IV-10. Recreational seasons, angler trips and angler success rates (sr) by fishing mode.

Feb-Apr	May	June	July	August	Sept	Oct	Nov
U.S.-CANADA BORDER			U.S.-CANADA BORDER				
NEAH BAY			NEAH BAY				
CAPE ALAVA 48 10'00'			CAPE ALAVA 48 10'00" N. lat.				
			<p>7/21-7/23--3 days            Ch = 62 tr (sr=0.23)            Pr = 2,815 tr (sr=0.17)            Average angler trips/day = 959</p>				
QUEETS RIVER 47 31'42" N. lat.			QUEETS RIVER 47 31'42" N. lat.				
			<p>7/21-8/3--14 days            Charter trips = 52 (sr=2.00)            Private trips = 873 (sr=1.38)            Average angler trips/day = 66</p>				
LEADBETTER PT. 46 38'10" N. lat.			LEADBETTER PT. 46 38'10" N. lat.				
			<p>7/21-9/4 Open Sun-Thurs Only--34 days            Charter trips = 10,006 (sr=1.01)            Private trips = 7,277 (sr=0.94)            Average angler trips/day = 508</p>				
CAPE FALCON 45 46'00" N. lat.			CAPE FALCON 45 46'00" N. lat.				
			<p>7/21-8/7 Open Sun-Thurs Only --14 days            Charter trips = 3,677 (sr=1.87)            Private trips = 6,437 (sr=1.63)            Average angler trips/day = 722</p>				
HUMBUG MT. 42 40'30" N. lat.			HUMBUG MT. 42 40'30" N. lat.				
<p>4/15-7/6--83 days            Charter trips = 343 (sr=0.56)            Private trips = 1,775 (sr=0.13)            Average angler trips/day = 26</p>			<p>8/1-11/15 (0-3 miles)--107 days (special state restrictions)</p>		<p>Twin Rocks</p>		
			<p>8/1-10/31--92 days</p>		<p>Pyramid Rock</p>		
			<p>Including August-October data for state waters Twin Rocks to Pyramid Rocks fishery</p>		<p>Effort and catch information for November not available. There was no sampling and little effort due to poor weather.</p>		
			<p>Charter trips = 1,734 (sr=0.61)            Private trips = 6,165 (sr=0.15)            Average angler trips/day = 86</p>		<p>C. Blanco 42 50'20" N. lat.</p>		
					<p>11/1-11/30 (0-3 miles)--30 days</p>		
					<p>Port Orford</p>		

IV-19

TABLE IV-10. Recreational seasons, angler trips and angler success rates (sr) by fishing mode.



IV-20



TABLE IV-11. California, Oregon and Washington ocean recreational salmon effort in thousands of angler trips and catch in thousands of fish by boat type. (Page 1 of 2)

Year or Average	Angler Trips		Chinook Catch <sup>a/</sup>		Coho Catch <sup>a/</sup>	
	Charter	Private	Charter	Private	Charter	Private
<b>CALIFORNIA</b>						
1981-1990	82.4	111.4	87.4	50.4	3.4	26.7
1981	61.1	60.8	59.8	24.2	1.1	9.5
1982	79.9	91.4	91.5	47.2	3.9	22.8
1983	56.9	65.8	46.5	17.3	0.5	26.7
1984	61.5	65.5	68.2	19.6	0.8	18.2
1985	85.1	106.8	107.3	63.8	1.4	14.4
1986	86.4	109.2	86.5	55.1	2.2	16.5
1987	105.0	163.3	121.8	70.7	4.3	43.0
1988	101.7	140.7	109.1	62.3	3.5	31.2
1989	108.0	137.0	105.0	81.7	6.2	43.4
1990	78.4	173.7	78.3	61.6	10.2	41.5
1991	69.2	127.4	39.9	40.6	13.5	55.8
1992	47.7	80.2	42.4	31.1	1.0	10.5
1993	66.0	108.9	66.0	44.0	4.2	25.6
1994	72.8	117.1	99.1	84.1	b/	0.5
1995	152.9	225.6	182.0	215.2	b/	0.9
1996	84.6	140.9	72.9	91.2	b/	0.6
1997 <sup>c/</sup>	102.4	131.9	122.3	106.7	b/	0.5
<b>OREGON<sup>d/e/</sup></b>						
1981-1990	51.1	186.2	6.6	27.8	59.3	132.6
1979	73.7	187.7	5.4	13.3	59.8	101.8
1980	79.1	218.9	5.1	11.9	98.3	207.5
1981	65.4	245.8	6.6	22.5	64.5	135.3
1982	43.3	182.7	8.2	30.6	48.5	126.7
1983	41.9	184.1	4.7	20.0	39.7	107.2
1984	24.3	128.7	2.2	14.8	27.3	96.1
1985	53.4	198.2	9.2	46.6	60.2	122.8
1986	43.7	143.3	4.2	18.7	75.0	143.9
1987	60.9	194.2	14.3	45.1	61.9	118.7
1988	62.5	188.2	7.3	31.0	73.5	153.3
1989	60.2	206.1	4.2	27.9	85.8	187.5
1990	55.3	191.2	5.1	21.5	61.6	139.1
1991	40.3	149.7	1.9	12.5	68.9	190.2
1992	30.0	135.4	2.7	9.9	46.2	139.6
1993	13.4	66.9	0.9	5.6	16.2	43.1
1994	1.4	25.5	0.5	5.5	-	b/
1995	4.6	31.2	0.3	6.4	4.0	7.9
1996	5.6	38.3	1.2	10.1	3.0	4.2
1997 <sup>c/</sup>	3.9	26.4	1.5	6.2	2.4	3.6

TABLE IV-11. California, Oregon and Washington ocean recreational salmon effort in thousands of angler trips and catch in thousands of fish by boat type. (Page 2 of 2)

Year or Average	Angler Trips		Chinook Catch <sup>a/</sup>		Coho Catch <sup>a/</sup>	
	Charter	Private	Charter	Private	Charter	Private
<b>WASHINGTON<sup>f/g/</sup></b>						
1981-1990	77.8	64.7	29.3	11.9	95.7	73.3
1979	220.8	89.8	61.1	15.7	227.9	62.4
1980	193.9	86.2	41.1	12.5	288.4	73.1
1981	162.2	74.6	62.8	21.7	182.4	55.5
1982	131.9	86.8	85.8	21.0	124.0	82.5
1983	123.0	90.4	39.1	9.5	122.6	89.2
1984	29.9	46.8	7.7	7.4	38.5	49.6
1985	62.9	49.8	17.4	9.2	99.0	69.0
1986	58.1	51.4	13.3	7.9	98.0	77.7
1987	53.7	48.3	27.7	12.9	59.9	58.6
1988	32.4	37.1	11.2	7.8	46.1	43.7
1989	58.5	65.9	11.2	8.1	95.2	94.5
1990	65.0	94.4	16.6	13.0	90.9	113.6
1991	43.7	69.6	5.0	7.3	80.2	111.6
1992	38.2	56.8	11.8	6.6	48.5	62.6
1993	40.2	68.9	5.8	6.9	52.8	62.3
1994	-	-	-	-	-	-
1995	17.9	30.0	b/	0.4	26.1	37.4
1996	15.3	23.5	b/	0.2	24.5	24.4
1997 <sup>d/</sup>	12.5	15.1	1.7	2.3	12.5	12.8

a/ Catch numbers may include some illegal harvest.

b/ Less than 50 fish.

c/ Preliminary.

d/ Salmon data from surveyed ports only. These generally include Astoria, Garibaldi, Depoe Bay, Newport, Winchester Bay, Coos Bay and Brookings. Since 1981, Pacific City and Florence have also been included. Gold Beach data are included from 1981-1987. Astoria was not included in 1994.

e/ Numbers do not include angling from the Columbia River jetty.

f/ Numbers do not include angling from the Columbia River jetty or from the late-season state waters Area 4B fishery.

g/ Values for 1982-1985 include some inriver Columbia River fishing after closure of the ocean fishery.



TABLE IV-12. Estimates of California recreational ocean salmon angler trips by port area and boat type. (Page 1 of 2)

Year	Crescent City	Eureka	Fort Bragg	San Francisco	Monterey	State Total
<b>CHARTER TRIPS (thousands)</b>						
1976	0.8	2.2	4.1	66.2	7.9	81.2
1977	1.0	1.2	1.7	72.0	4.8	80.7
1978	2.4	1.3	0.9	47.3	1.3	53.2
1979	2.2	0.7	3.3	69.6	3.1	79.0
1980	1.4	0.6	2.0	62.4	2.9	69.3
1981	0.6	0.5	1.3	56.1	2.7	61.1
1982	0.5	0.4	2.4	72.2	4.4	79.9
1983	0.5	1.4	1.6	50.8	2.7	56.9
1984	0.5	0.9	1.4	56.8	1.9	61.5
1985	1.6	3.5	2.3	74.6	3.2	85.1
1986	1.1	2.8	2.8	69.6	10.1	86.4
1987	1.5	3.8	4.6	82.9	12.3	105.0
1988	0.9	2.5	5.6	81.1	11.7	101.7
1989	0.6	5.4	4.5	83.5	14.0	108.0
1990	0.8	3.2	2.7	54.3	17.4	78.4
1991	1.0	2.1	5.4	43.7	17.0	69.2
1992	0.1	0.2	1.5	38.6	7.3	47.7
1993	0.4	1.0	2.0	53.2	9.4	66.0
1994	0.2	0.2	1.3	63.9	7.2	72.8
1995	0.1	0.7	3.8	79.2	68.9	152.9
1996 <sup>a/</sup>	a/	0.6	5.0	57.6	21.4	84.6
1997 <sup>b/</sup>	a/	0.8	2.2	68.9	30.6	102.4
<b>PRIVATE TRIPS (thousands)</b>						
1976	27.9	28.2	13.0	30.5	6.3	106.0
1977	21.8	25.5	14.0	34.2	5.1	100.7
1978	15.0	19.8	8.5	48.7	5.4	97.5
1979	9.6	17.3	6.5	34.7	6.7	74.8
1980	17.8	22.5	4.4	23.7	6.7	75.1
1981	13.4	15.8	6.8	19.0	5.7	60.8
1982	24.6	22.3	8.0	28.7	7.7	91.4
1983	21.2	21.5	6.8	9.5	6.8	65.8
1984	23.3	17.9	4.6	8.2	11.4	65.5
1985	29.5	31.4	12.6	18.7	14.6	106.8
1986	24.5	26.1	10.4	22.1	26.1	109.2
1987	50.6	42.4	9.4	25.5	35.4	163.3
1988	43.0	30.3	12.2	27.0	28.2	140.7
1989	33.0	37.7	13.0	11.5	41.7	137.0
1990	41.9	35.4	11.9	35.4	49.0	173.7
1991	24.5	25.3	17.2	26.5	33.8	127.4
1992	9.0	8.9	9.7	23.4	29.1	80.2
1993	15.0	17.3	17.4	29.6	29.7	108.9
1994	9.4	6.3	18.1	43.7	39.6	117.1
1995	11.8	12.0	25.4	62.2	114.2	225.6
1996 <sup>b/</sup>	11.3	13.6	26.2	46.6	43.2	140.9
1997 <sup>b/</sup>	6.6	11.6	18.2	42.1	53.5	131.9

TABLE IV-12. Estimates of California recreational ocean salmon angler trips by port area and boat type. (Page 2 of 2)

Year	Crescent City	Eureka	Fort Bragg	San Francisco	Monterey	State Total
<b>TOTAL TRIPS (thousands)</b>						
1976	28.7	30.5	17.0	96.8	14.2	187.2
1977	22.8	26.7	15.7	106.2	9.9	181.3
1978	17.4	21.2	9.5	96.1	6.6	150.7
1979	11.7	18.0	9.8	104.3	9.9	153.7
1980	19.2	23.1	6.4	86.1	9.6	144.4
1981	14.1	16.3	8.1	75.1	8.4	122.0
1982	25.1	22.8	10.4	100.9	12.1	171.3
1983	21.7	22.8	8.4	60.3	9.5	122.7
1984	23.8	18.8	6.0	65.0	13.3	127.0
1985	31.0	34.9	15.0	93.3	17.8	191.9
1986	25.6	28.9	13.2	91.7	36.2	195.6
1987	52.1	46.1	14.0	108.4	47.7	268.3
1988	43.9	32.8	17.8	108.1	39.9	242.4
1989	33.6	43.0	17.5	95.0	55.7	244.9
1990	42.7	38.7	14.6	89.7	66.5	252.1
1991	25.6	27.4	22.6	70.2	50.8	196.6
1992	9.1	9.1	11.2	62.0	36.4	127.9
1993	15.4	18.3	19.3	82.8	39.1	174.9
1994	9.7	6.4	19.4	107.6	46.8	189.9
1995	11.9	12.8	29.3	141.5	183.1	378.5
1996	11.3	14.2	31.3	104.2	64.5	225.4
1997 <sup>b/</sup>	6.6	12.4	20.4	111.0	84.0	234.3

a/ Less than 50.

b/ Preliminary.



TABLE IV-13. Estimates of Oregon recreational ocean salmon angler trips by port area and boat type. (Page 1 of 2)

Year	Astoria	Tillamook	Newport	Coos Bay	Brookings	State Total
<b>CHARTER TRIPS (thousands)</b>						
1979	18.5	2.8	26.7	22.7	3.0	73.7
1980	26.3	3.7	26.7	19.6	2.8	79.1
1981	16.0	3.1	25.5	17.6	3.2	65.4
1982	11.8	2.1	14.6	11.4	3.4	43.3
1983	12.9	1.8	11.5	12.1	3.6	41.9
1984	2.7	2.5	11.1	5.9	2.1	24.3
1985	8.3	5.3	23.1	12.5	4.2	53.4
1986	7.7	3.0	20.0	9.6	3.4	43.7
1987	8.0	5.5	28.4	14.4	4.6	60.9
1988	2.4	7.3	34.2	15.6	3.0	62.5
1989	9.1	5.2	28.3	13.1	4.4	60.2
1990	8.5	5.5	26.6	12.2	2.5	55.3
1991	8.1	2.5	19.2	8.4	2.1	40.3
1992	4.6	2.7	14.8	7.4	0.5	30.0
1993	5.8	0.5	4.7	1.8	0.6	13.4
1994	0.0 <sup>a/</sup>	1.2	b/	b/	0.2	1.4
1995	2.5	1.2	0.6	b/	0.3	4.6
1996	1.9	0.8	2.1	0.1	0.6	5.6
1997 <sup>c/</sup>	1.3	0.3	1.8	0.0	0.5	3.9
<b>PRIVATE TRIPS (thousands)</b>						
1979	24.3	16.3	45.4	52.9	48.8	187.7
1980	20.1	29.3	56.6	65.2	47.7	218.9
1981	28.7	34.9	51.8	66.3	64.0	245.8
1982	15.4	22.5	38.8	47.9	58.0	182.7
1983	18.0	23.5	31.0	59.6	52.1	184.1
1984	4.4	21.3	32.8	34.3	35.9	128.7
1985	11.7	33.2	47.4	51.0	54.8	198.2
1986	12.8	15.0	32.2	34.0	49.3	143.3
1987	9.1	23.6	48.6	48.1	64.8	194.2
1988	3.2	26.0	55.5	53.5	50.0	188.2
1989	10.7	26.1	54.4	53.5	61.3	206.1
1990	17.0	28.0	44.8	52.8	48.6	191.2
1991	13.6	18.5	34.0	49.3	34.4	149.7
1992	8.3	23.4	38.3	48.2	17.2	135.4
1993	12.7	5.1	12.4	13.6	23.2	66.9
1994	0.0 <sup>a/</sup>	9.1	0.1	0.4	16.0	25.5
1995	7.2	3.9	0.4	0.7	19.1	31.2
1996	3.7	7.5	0.6	3.8	22.7	38.3
1997 <sup>c/</sup>	2.3	3.4	0.6	3.9	16.1	26.4

TABLE IV-13. Estimates of Oregon recreational ocean salmon angler trips by port area and boat type. (Page 2 of 2)

Year	Astoria	Tillamook	Newport	Coos Bay	Brookings	State Total
<b>TOTAL TRIPS (thousands)</b>						
1979	43.3	31.0	72.4	94.7	60.0	301.3
1980	46.3	47.8	83.9	97.4	56.0	331.4
1981	44.7	38.0	77.3	83.9	67.1	311.0
1982	27.2	24.6	53.5	59.4	61.4	226.0
1983	30.9	25.3	42.6	71.6	55.7	226.0
1984	8.3	25.0	41.5	40.2	38.0	153.1
1985	20.0	38.6	70.6	63.5	59.0	251.6
1986	20.5	17.9	52.2	43.6	52.7	187.0
1987	17.1	29.1	76.9	62.6	69.4	255.1
1988	5.7	33.3	89.6	69.0	53.1	250.7
1989	19.8	31.3	82.8	66.6	65.8	266.3
1990	25.5	33.5	71.4	65.0	51.1	246.6
1991	21.7	21.0	53.3	57.7	36.4	190.1
1992	12.9	26.1	53.1	55.6	17.7	165.3
1993	17.8	5.6	17.1	15.3	23.8	79.6
1994	0.0 <sup>a/</sup>	10.3	0.1	0.4	16.2	26.9
1995	9.6	5.1	0.9	0.7	19.4	35.8
1996	5.6	8.3	2.8	3.9	23.3	44.0
1997 <sup>c/</sup>	3.6	3.7	2.4	3.9	16.6	30.2

a/ The fishery north of Cape Falcon was closed and it is assumed that no trips were taken out of Astoria to the south of Cape Falcon area. No samplers were stationed in Astoria.

b/ Less than 50.

c/ Preliminary.



TABLE IV-14. Estimates of Washington recreational ocean salmon angler trips by port area. (Page 1 of 1)

Year	Neah Bay <sup>a/</sup>	La Push	Westport	Ilwaco <sup>b/</sup>	Coastal Area Total
<b>CHARTER TRIPS (thousands)</b>					
1984 <sup>c/</sup>	0.3	0.0	11.6	18.0	29.9
1985 <sup>c/</sup>	2.0	0.0	42.2	20.7	62.9
1986	2.4	0.0	36.6	19.1	58.1
1987	1.9	0.0	34.1	17.7	53.7
1988	2.0	0.0	23.5	6.9	32.4
1989	1.5	0.0	40.8	16.2	58.5
1990	2.1	0.0	43.4	19.5	65.0
1991	1.4	0.2	28.6	13.5	43.7
1992	0.7	0.2	28.1	9.2	38.2
1993	1.0	0.1	27.4	11.7	40.2
1994	-	-	-	-	-
1995	0.2	0.1	12.7	5.0	17.9
1996	0.2	d/	10.3	4.8	15.3
1997 <sup>e/</sup>	0.1	0.1	10.0	2.4	12.5
<b>PRIVATE TRIPS (thousands)</b>					
1984 <sup>c/</sup>	8.3	0.2	2.3	36.0	46.8
1985 <sup>c/</sup>	15.2	1.5	13.7	19.4	49.8
1986	17.4	1.7	14.8	17.5	51.4
1987	17.9	2.0	9.8	18.6	48.3
1988	14.8	2.8	13.9	5.6	37.1
1989	15.0	1.6	18.7	30.6	65.9
1990	19.5	4.2	25.9	44.8	94.4
1991	14.8	3.3	24.2	27.3	69.6
1992	11.0	2.3	25.6	17.9	56.8
1993	18.4	2.8	23.5	24.2	68.9
1994	-	-	-	-	-
1995	5.3	1.4	9.0	14.2	30.0
1996	9.1	1.3	5.2	7.9	23.5
1997 <sup>e/</sup>	2.8	0.9	7.3	4.1	15.1
<b>TOTAL TRIPS (thousands)</b>					
1984 <sup>c/</sup>	8.6	0.2	13.9	54.0	76.7
1985 <sup>c/</sup>	17.2	1.5	55.9	40.1	114.7
1986	19.8	1.7	51.4	36.6	109.5
1987	19.8	2.0	43.9	36.3	102.0
1988	16.8	2.8	37.4	12.5	69.5
1989	16.5	1.6	59.5	46.8	124.4
1990	21.6	4.2	69.3	64.3	159.4
1991	16.2	3.5	52.8	40.8	113.3
1992	11.7	2.5	53.7	27.1	95.0
1993	19.4	2.9	50.9	35.9	109.1
1994	-	-	-	-	-
1995	5.5	1.5	21.7	19.2	47.9
1996	9.3	1.3	15.5	12.7	38.8
1997 <sup>e/</sup>	2.9	0.9	17.3	6.5	27.6

- a/ Does not include effort from the late-season state-water Area 4B fishery.
- b/ Does not include effort from the Columbia River Jetty.
- c/ Values for 1984 and 1985 include some Columbia River fishing after closure of the ocean fishery.
- d/ Less than 50.
- e/ Preliminary.

fisheries which lasted 34 days in the Westport area (through September 4) and 14 days in the Columbia River area (through August 7). Effort decreased by 69% out of Neah Bay, by 26% out of La Push, and by 49% out of Ilwaco (as compared to 1996). Effort out of Westport increased by 12% as compared to 1996. Astoria, the Oregon port area in the Columbia River management area, experienced a 36% decrease in angler effort.

The proportion of vessel angler trips made from charter vessels increased from 39% in 1996 to 45% in 1997 (Figure IV-4), but the number of charter trips was 83% below the 1979-1996 average. The number of 1997 private vessel trips was 75% below the 1979-1996 average.

The average angler success rates (in terms of retained fish per angler trip) were strong for both charter and private vessels, together averaging 1.06 fish per angler trip as compared to 1.26 fish per trip in 1996 (Table IV-11). Not included in these figures is angler effort which occurs from the ocean side of the Columbia River jetty when the Buoy 10 fishery is closed and angler effort in the state managed Area 4B add-on fishery.

Partial week closures have been used in the recreational fishery north of Cape Falcon in an attempt to encourage increased angler participation in nonsalmon recreational fishing as well as to extend the salmon season. In 1996 and 1997, Neah Bay and La Push were open seven days per week rather than the Sunday through Thursday openings used in the Westport and Columbia River port areas. Table IV-15 provides data on type and target species of angler trips by port. Bottomfish trips are reported for Washington only. In 1997, bottomfish effort increased out of all ports except Westport. Neah Bay and La Push reported the most bottom fishing effort recorded for the period covered by Table IV-15 (1984-1997). Effort out of Westport and the Columbia River ports was within the previous range. The amount of sturgeon effort was down five percent in 1997 compared to 1996, but sturgeon trips represented 46% of the total 1997 recreational effort out of the Columbia River estuary area reported in Table IV-15, as compared to 60% in 1996.

#### **Buoy 10 and Area 4B Add-on Fisheries**

Success rates in the Buoy 10 fishery were up primarily due to chinook and effort increased 209% above 1996 levels to 55,725 trips, (including 4,500 trips made from the jetty by bank anglers when the Buoy 10 fishery was open, Table IV-16).

In 1997, Neah Bay benefitted from 1,900 angler trips taken in Area 4B after the ocean fishery was closed (Table IV-16). This was 24% more than in 1996, but well below historic levels. Salmon angler success rates for this fishery in 1997 average 1.06 salmon per angler trip, 29% less than in 1996.

There are numerous other inside recreational fishing opportunities in Puget Sound and coastal streams and estuaries which are not addressed in this chapter of the review.

### **SALMON FISHERY INCOME IMPACTS AND COMMUNITY DEPENDENCE**

Coastal community impacts are presented in order to address concerns about the effects of regulations on local economies and small businesses. Income impact estimates per commercial pound and per recreational day were generated using the Fishery Economic Assessment Model. Reference information on the model is available from the Council.

#### **Interpretation of State and Coastal Community Income Impacts**

Estimated state and community income impacts of commercial and recreational ocean salmon fisheries and selected state-managed fisheries are shown in Tables IV-17 through IV-21. The impacts presented are estimates of total personal income associated with activity in the commercial and recreational salmon fisheries in counties and states. Income impact estimates are based on the landings in the area, an inventory of the fleet and processors, estimates of fleet and processor expenditures, surveys of the expenditure patterns of recreational fishers, and income coefficients from the U.S. Forest Service IMPLAN



TABLE IV-15. Oregon and Washington recreational salmon, bottomfish, and sturgeon angler trips by ocean port area and boat type for the area north of Cape Falcon. (Page 1 of 2)

Year	Columbia River and Buoy 10					Westport			La Push			Neah Bay and Area 4B Add On		
	Charter	Private	Subtotal	Jetty	Total	Charter	Private	Total	Charter	Private	Total	Charter	Private	Total
<b>SALMON EFFORT (thousands)</b>														
1984	NA	NA	-	NA	54.0	11.6	2.3	13.9	0.0	0.2	0.2	0.3	8.3	8.6
1985	NA	NA	-	NA	90.3	42.2	13.7	55.9	0.0	1.5	1.5	2.0	15.2	17.2
1986	NA	NA	-	NA	144.3	36.6	14.8	51.4	0.0	1.7	1.7	2.4	17.4	19.8
1987	39.5	130.0	169.5	9.0	178.5	34.1	9.8	43.9	0.0	2.0	2.0	1.9	17.8	19.7
1988	34.5	154.4	188.9	13.0	201.9	23.5	13.9	37.4	0.0	2.8	2.8	2.0	14.8	16.8
1989	39.9	161.8	201.7	18.6	220.3	40.8	18.7	59.5	0.0	1.6	1.6	2.8	25.5	28.3
1990	32.7	125.5	158.2	11.6	169.8	43.4	25.9	69.3	0.0	4.2	4.2	3.0	30.8	33.8
1991	37.7	170.1	207.8	28.6	236.4	28.6	24.2	52.8	0.2	3.3	3.5	1.9	23.5	25.4
1992	22.3	116.6	138.9	22.3	161.2	28.1	25.6	53.7	0.2	2.3	2.5	1.1	18.6	19.7
1993	20.2	103.3	123.5	18.5	142.0	27.4	23.5	50.9	0.1	2.8	2.9	1.6	25.7	27.3
1994	0.5	6.3	6.8	2.4	9.2	-	-	-	-	-	-	-	-	-
1995	9.0	43.4	52.4	6.0	58.4	12.7	9.0	21.7	0.1	1.4	1.5	0.3	9.2	9.5
1996	7.3	26.8	34.1	5.2	39.3	10.3	5.2	15.5	c/	1.3	1.3	0.3	10.6	10.9
1997 <sup>a/</sup>	8.4	53	61.3	4.7	66.0	10.0	7.3	17.3	0.1	0.9	0.9	0.2	4.6	4.8
<b>BOTTOMFISH EFFORT (thousands)<sup>b/</sup></b>														
1984	2.1	0.1	2.2	-	-	12.4	0.5	12.9	0.0	0.	0.	1.8	12.3	14.1
1985	1.9	0.2	2.1	-	-	15.3	1.0	16.3	0.0	0.1	0.1	3.0	10.6	13.6
1986	1.7	0.2	1.9	-	-	19.6	0.8	20.4	0.0	0.2	0.2	3.5	11.4	14.9
1987	1.7	0.3	2.0	0.5	2.5	21.1	1.2	22.3	0.0	0.5	0.5	5.6	16.0	21.6
1988	2.1	0.2	2.3	0.8	3.1	24.4	1.1	25.5	0.0	0.7	0.7	5.7	14.8	20.5
1989	1.2	0.6	1.8	1.5	3.3	19.3	1.0	20.3	0.0	0.6	0.6	6.8	16.3	23.1
1990	1.4	0.3	1.7	2.4	4.1	21.8	0.8	22.6	0.0	0.8	0.8	6.4	18.1	24.5
1991	1.3	0.4	1.7	1.8	3.5	23.5	1.1	24.6	0.0	0.9	0.9	5.9	18.2	24.1
1992	1.4	0.5	1.9	2.3	4.1	20.5	2.2	22.7	0.0	1.5	1.5	4.8	19.1	23.9
1993	2.2	0.6	2.8	2.6	5.4	21.5	1.8	23.0	0.1	1.1	1.2	5.1	19.2	24.3
1994	2.7	0.7	3.3	2.7	6.0	26.0	1.7	27.7	0.2	1.9	2.1	4.1	15.0	19.1
1995	1.3	0.9	2.3	2.2	4.4	21.1	1.6	22.7	c/	1.6	1.6	4.1	19.2	23.3
1996 <sup>d/e/</sup>	1.2	0.5	1.7	1.7	3.4	21.4	1.2	22.6	0	1.6	1.6	4.8	21.0	25.8
1997 <sup>a/</sup>	1.2	0.7	2.0	2.5	4.4	19.2	1.4	20.6	0	2.2	2.2	4.9	22.7	27.7

TABLE IV-15. Oregon and Washington recreational salmon, bottomfish, and sturgeon angler trips by ocean port area and boat type for the area north of Cape Falcon. (Page 2 of 2)

Year	Columbia River and Buoy 10					Westport			La Push			Neah Bay and Area 4B Add On		
	Charter	Private	Subtotal	Jetty	Total	Charter	Private	Total	Charter	Private	Total	Charter	Private	Total
<b>STURGEON EFFORT (thousands of trips)<sup>f/</sup></b>														
1984	1.7	28.4	30.1	-	30.1	-	-	-	-	-	-	-	-	-
1985	5.0	32.9	37.9	-	37.9	-	-	-	-	-	-	-	-	-
1986	5.7	37.7	43.4	-	43.4	-	-	-	-	-	-	-	-	-
1987	6.0	45.9	51.9	-	51.9	-	-	-	-	-	-	-	-	-
1988	6.2	34.4	40.6	-	40.6	-	-	-	-	-	-	-	-	-
1989	4.3	24.3	28.6	-	28.6	-	-	-	-	-	-	-	-	-
1990	3.9	30.9	34.8	-	34.8	-	-	-	-	-	-	-	-	-
1991	3.7	28.7	32.4	-	32.4	-	-	-	-	-	-	-	-	-
1992	5.0	42.3	47.3	-	47.3	-	-	-	-	-	-	-	-	-
1993	6.1	53.2	59.3	-	59.3	-	-	-	-	-	-	-	-	-
1994	7.5	43.9	51.4	-	51.4	-	-	-	-	-	-	-	-	-
1995	7.7	59.5	67.2	-	67.2	-	-	-	-	-	-	-	-	-
1996	11.1	52.8	63.9	-	63.9	-	-	-	-	-	-	-	-	-
1997 <sup>a/</sup>	12.2	48.4	60.7	-	60.7	-	-	-	-	-	-	-	-	-

- a/ Preliminary.
- b/ Oregon data is a minimum estimate as the jetty is not sampled and bottomfish sampling of vessels only occurs when the ocean is open for salmon.
- c/ Less than 50.
- d/ No Oregon bottomfish trips are included.
- e/ Includes tuna trips: Ilwaco - 9 charter, 14 private; Westport - 784 charter, 0 private.
- f/ Annual sturgeon angler trips for the lower Columbia River from the western tip of Puget Island to mouth.

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TABLE IV-16. Buoy 10 and Area 4B add-on recreational salmon angler trips and catch by boat type. (Page 1 of 2)

Year	Angler Trips			Chinook Catch			Coho Catch			Pink Catch	
	Charter	Private	Jetty	Charter	Private	Jetty	Charter	Private	Jetty	Charter	Private
<b>OREGON BUOY 10<sup>a/</sup></b>											
1986 <sup>b/</sup>		34,638	4,377		5,220	48		40,625	2,297	0	0
1987	3,829	38,131	3,884	1,557	11,556	41	2,244	13,318	203	0	0
1988	7,318	50,992	3,917	1,255	8,525	38	7,658	35,688	979	0	0
1989 <sup>c/</sup>	3,882	38,445	4,252	303	3,920	21	2,906	18,792	995	0	0
1990 <sup>c/</sup>	917	21,812	4,063	52	1,482	17	343	4,260	581	0	0
1991	3,956	44,370	6,884	321	2,674	26	6,519	54,004	3,003	0	0
1992	2,496	29,610	6,055	246	2,530	33	1,219	10,716	1,842	0	0
1993	684	20,244	6,052	36	1,225	89	264	5,316	1,328	0	0
1994	210	2,732	1,244	-	-	-	34	481	211	0	0
1995	174	8,680	2,538	7	145	0	64	1,366	560	0	0
1996	179	6,122	2,285	59	419	0	66	1,361	532	0	0
1997 <sup>d/</sup>	1,071	16,207	2,744	273	4,032	0	592	5,411	761	0	0
<b>WASHINGTON BUOY 10</b>											
1986 <sup>b/</sup>		56,517	6,658		10,259	73		71,911	5,589	2	11
1987	9,845	63,851	5,054	3,610	25,188	148	5,651	24,607	1,147	0	9
1988	17,839	94,534	8,842	2,847	18,051	54	18,208	78,767	2,117	0	6
1989 <sup>c/</sup>	10,708	82,803	8,367	936	10,661	59	7,790	45,624	2,613	3	30
1990 <sup>c/</sup>	3,764	41,852	4,003	200	3,361	12	1,380	11,193	631	0	0
1991	11,780	84,867	17,064	1,098	7,422	67	20,208	117,882	5,506	0	63
1992	6,147	60,827	10,346	907	6,796	143	4,415	23,489	1,401	0	0
1993	2,035	46,151	608	290	3,648	0	912	13,090	22	0	16
1994	316	3,561	1,126	-	-	-	101	826	96	0	0
1995	516	12,921	396	37	664	0	246	2,716	103	0	0
1996	352	9,096	0	37	894	0	123	2,455	0	0	0
1997 <sup>d/</sup>	3,614	30,334	1,755	1,125	7,701	22	2,143	11,290	160	0	0

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TABLE IV-16. Buoy 10 and Area 4B add-on recreational salmon angler trips and catch by boat type. (Page 2 of 2)

Year	Angler Trips			Chinook Catch			Coho Catch			Pink Catch	
	Charter	Private	Jetty	Charter	Private	Jetty	Charter	Private	Jetty	Charter	Private
	<b>TOTAL BUOY 10</b>										
1986 <sup>b/</sup>		91,155	11,035		15,479	121		112,536	7,886	2	11
1987	13,674	101,982	8,938	5,167	36,744	189	7,895	37,925	1,350	0	9
1988	25,157	145,526	12,759	4,102	26,576	92	25,866	114,455	3,096	0	6
1989 <sup>c/</sup>	14,590	120,483	12,619	1,239	14,581	80	10,696	64,416	3,608	3	30
1990 <sup>c/</sup>	4,681	63,664	8,066	252	4,843	29	1,723	15,453	12,129	0	0
1991	15,838	129,135	23,948	1,419	10,096	93	26,727	171,886	8,509	0	63
1992	8,643	90,437	16,401	1,153	9,326	176	5,634	34,205	3,243	0	0
1993	2,719	66,395	6,660	326	4,873	89	1,176	18,406	1,350	0	16
1994	526	6,293	2,370	-	-	-	135	1,307	307	0	0
1995	690	21,601	2,934	42	809	0	310	4,082	663	0	0
1996	531	15,218	2,285	96	1,313	0	189	3,816	532	0	0
1997 <sup>d/</sup>	4,685	46,541	4,499	1,398	11,733	22	2,735	16,701	921	0	0
	<b>TOTAL AREA 4B ADD-ON<sup>e/</sup></b>										
1989	1,238	10,572	-	67	385	-	2,278	17,603	-	71	423
1990	962	11,283	-	57	359	-	1,974	18,312	-	0	0
1991	553	8,684	-	31	349	-	1,064	14,068	-	86	1,457
1992	406	7,589	-	0	33	-	757	10,954	-	0	0
1993	623	7,257	-	16	202	-	908	7,260	-	143	884
1994	-	-	-	-	-	-	-	-	-	0	0
1995	134	3,877	-	0	26	-	169	4,471	-	61	1,539
1996	36	1,511	-	0	5	0	61	2,266	-	0	0
1997 <sup>d/</sup>	136	1,788	-	0	4	-	65	1,429	-	139	412

a/ Private effort and catch data includes the Clatsop Spit bank fishery.

b/ Prior to 1987, data on charter and private anglers were combined.

c/ Does not include the Chinook/Hammond fishery.

d/ Preliminary.

e/ There was no Area 4B add-on fishery prior to 1989.



TABLE IV-17. Estimates of California coastal community and state personal income impacts<sup>a/</sup> of the troll and recreational ocean salmon fishery for major port areas. (Page 1 of 1)

Year or Average	Crescent City	Eureka	Fort Bragg	San Francisco	Monterey	Coastal Community Total <sup>b/</sup>	State Total
<b>OCEAN TROLL (thousands of dollars)<sup>c/</sup></b>							
1976-1980	5,495	13,882	13,561	17,795	7,732	58,465	75,063
1981-1985	2,696	3,252	7,592	14,337	4,887	32,763	40,793
1986	771	2,146	9,831	16,247	10,424	39,421	49,730
1987	2,289	4,495	18,815	29,413	7,268	62,281	76,645
1988	1,203	3,793	26,102	53,100	14,945	99,143	120,355
1989	623	1,148	6,915	15,646	6,915	31,247	38,374
1990	111	782	4,098	13,202	8,147	26,341	32,073
1991	17	421	2,365	11,074	5,620	19,497	23,594
1992	2	3	100	6,160	3,166	9,432	11,174
1993	7	43	858	6,565	4,330	11,803	14,341
1994	0	25	317	9,931	3,253	13,527	15,997
1995	11	26	276	11,315	10,300	21,927	26,853
1996	9	381	685	4,921	5,743	11,739	14,749
1997 <sup>d/</sup>	3	48	163	8,582	6,347	15,142	18,533
<b>RECREATIONAL (thousands of dollars)</b>							
1976-1980	1,013	1,174	684	10,278	688	13,838	15,522
1981-1985	1,109	1,143	548	9,102	727	12,630	14,216
1986	1,243	1,502	782	10,385	2,227	16,138	18,535
1987	2,487	2,353	921	12,325	2,872	20,958	24,421
1988	2,072	1,661	1,153	12,172	2,488	19,546	22,570
1989	1,583	2,304	1,081	11,618	3,336	19,922	23,190
1990	2,014	1,974	840	9,122	4,023	17,973	21,456
1991	1,241	1,391	1,368	7,230	3,295	14,525	17,329
1992	421	432	608	6,389	2,066	9,917	11,472
1993	733	903	1,014	8,656	2,315	13,622	15,740
1994	454	311	972	10,856	2,529	15,123	17,174
1995	559	632	1,579	13,916	12,326	29,011	34,804
1996	521	686	1,746	10,190	4,170	17,313	20,252
1997 <sup>d/</sup>	304	619	1,072	11,423	5,599	19,018	22,138

a/ Expressed in 1997 dollars. Per pound and per day estimates of income impacts provided from output of the Fishery Economic Assessment Model. These are the income impacts associated with expenditures in the troll or recreational sectors. There is no differentiation between money new to the area and money which would otherwise have been expended in other sectors.

b/ Income impacts on the coastal economy. Totals do not include impacts of one coastal community on another.

c/ Excluding pink salmon.

d/ Preliminary.

TABLE IV-18. Estimates of Oregon coastal community and state personal income impacts of the troll and recreational ocean salmon fishery for major port areas. <sup>a/</sup> (Page 1 of 1)

Year or Average	Astoria	Tillamook	Newport	Coos Bay	Brookings <sup>b/</sup>	Coastal Community Total <sup>c/</sup>	State Total
<b>OCEAN TROLL (thousands of dollars) <sup>d/</sup></b>							
1976-1980	3,438	4,426	10,377	15,968	6,636	40,845	55,384
1981-1985	1,105	1,426	3,336	5,871	2,556	14,293	19,425
1986	598	1,568	5,308	8,692	1,822	17,989	24,368
1987	707	3,534	7,037	19,063	3,800	34,142	46,107
1988	306	5,470	13,620	18,279	3,529	41,205	55,469
1989	544	2,615	4,686	9,746	1,936	19,526	26,408
1990	361	1,481	2,014	7,157	846	11,859	15,998
1991	194	1,383	2,001	2,241	89	5,908	7,980
1992	91	561	2,984	992	27	4,656	6,279
1993	39	331	1,659	663	97	2,788	3,738
1994	1	124	615	175	180	1,094	1,499
1995	21	293	3,725	1,274	150	5,462	7,352
1996	55	350	3,112	1,055	372	4,944	6,712
1997 <sup>e/</sup>	9	96	2,665	1,001	198	3,969	5,370
<b>RECREATIONAL (thousands of dollars)</b>							
1976-1980	2,912	2,221	4,129	5,461	3,599	18,322	23,719
1981-1985	1,656	1,335	3,190	3,253	2,263	11,697	15,188
1986	1,281	864	3,128	2,305	2,136	9,715	12,650
1987	1,156	1,431	4,557	3,339	2,818	13,301	17,345
1988	366	1,690	5,367	3,674	2,127	13,225	17,228
1989	1,330	1,502	4,778	3,436	2,670	13,716	17,875
1990	1,534	1,604	4,239	3,321	2,031	12,730	16,517
1991	1,354	956	3,126	2,816	1,466	9,718	12,572
1992	793	1,167	2,890	2,676	685	8,211	10,595
1993	1,093	246	927	728	918	3,912	5,064
1994	0	468	4	16	615	1,102	1,484
1995	543	263	71	29	739	1,645	2,175
1996	339	368	218	165	899	1,989	2,650
1997 <sup>e/</sup>	222	161	190	159	644	1,377	1,357

a/ Expressed in 1997 dollars. Per pound and per day estimates of income impacts provided by the Fishery Economic Assessment Model. These are the income impacts associated with expenditures in the troll or recreational sectors. There is no differentiation between money new to the area and money which would otherwise have been expended in other sectors.

b/ On average, between 1976-1991 over 50% of the troll fishery community income impacts for the Brookings port area originated from landings in Brookings and Gold Beach. For 1986-1990 an average of about 40% of the impacts for the Brookings port area originated in landings made through Brookings and Gold Beach. In 1992 and 1993, impacts originating through these two ports averaged less than 18% and 11%, respectively, of the total for the Brookings port area. Since 1994, the average has been 61%. Port Orford is the other port included in the Brookings port area.

c/ Income impacts on the coastal economy. Totals do not include impacts of one coastal community on another.

d/ Excludes pink salmon.

e/ Preliminary.



TABLE IV-19. Estimates of **Washington coastal community and state personal income** impacts of the non-Indian troll and recreational ocean salmon fishery for major port areas. <sup>a/</sup> (Page 1 of 1)

Year or Average	Neah Bay	La Push	Westport	Ilwaco <sup>b/</sup>	Coastal Community Total <sup>c/</sup>	Puget Sound	State Total
<b>OCEAN TROLL (thousands of dollars)<sup>e/f/</sup></b>							
1976-1980	4,964	6,781	14,959	4,813	31,517	6,673	46,699
1981-1985	969	392	4,080	875	6,317	1,416	9,089
1986	385	170	1,269	489	2,314	448	3,393
1987	269	171	3,221	479	4,141	389	5,142
1988	526	147	1,627	307	2,607	2,323	5,829
1989	410	13	1,528	289	2,239	629	3,370
1990	1,042	191	1,593	236	3,063	249	4,020
1991	703	63	1,063	140	1,968	230	2,695
1992	646	201	1,235	46	2,127	295	2,928
1993	439	131	712	10	1,292	172	1,783
1994	-	-	-	-	-	26	32
1995	124	27	29	0	180	42	304
1996	63	2	64	2	131	35	209
1997	49	1	138	0	188	39	265
<b>RECREATIONAL (thousands of dollars)</b>							
1976-1980	1,749	1,528	12,253	4,843	20,374	-	27,672
1981-1985	1,771	410	8,474	3,935	14,590	-	19,853
1986	884	65	3,973	2,191	7,113	-	9,639
1987	858	77	3,543	2,114	6,593	-	8,950
1988	748	108	2,726	766	4,347	-	5,811
1989	711	61	4,516	2,415	7,704	-	10,435
1990	937	161	5,043	3,189	9,330	-	12,688
1991	694	145	3,606	2,076	6,521	-	8,847
1992	485	106	3,616	1,390	5,597	-	7,525
1993	797	117	3,468	1,818	6,199	-	8,390
1994	-	-	-	-	-	-	-
1995	222	63	1,532	913	2,730	-	3,696
1996	371	50	1,157	674	2,252	-	3,054
1997 <sup>g/</sup>	117	40	1,215	342	1,714	-	2,278

a/ Expressed in 1997 dollars. Per pound and per recreational day estimates of income impacts provided by the fishery economic assessment model. These are the income impacts associated with expenditures in the troll or recreational sectors. There is no differentiation between money new to the area and money which would otherwise have been expended in other sectors.

b/ Excludes recreational shorebased effort from the north side of the Columbia River jetty.

c/ Income impacts on the coastal economy. Totals do not include impacts of one coastal community on another.

d/ Includes a very small amount of fish landed in other coastal Washington areas.

e/ Excludes pink salmon.

f/ All commercial values in this table are based on preliminary information available at the start of each year's salmon review.

g/ Preliminary.

TABLE IV-20. Local **personal income impacts** of the **commercial salmon gillnet fishery on Oregon and Washington Columbia River communities.**<sup>a/b/</sup> (Page 1 of 1)

	Species	1987-1993	1994	1995	1996	1997 <sup>c/</sup>
<b>OREGON</b>						
Non-Indian Gillnet <sup>g/</sup>	Chinook					
	Spring	1,102	159	23	58	131
	Fall Brights	5,978	12	15 <sup>d/</sup>	163	118
	Tules	313	21		62	56
	Coho	2,947	840	273	300	226
	Chum	2	d/	d/	d/	-
TOTAL	10,342	1,032	311	583	531	
Treaty All Gears	Chinook					
	Spring	4	2	1	-	-
	Fall Brights	2,415	446	239	76	96
	Tules	68	89	122	58	50
	Coho	18	8	1	1	1
	TOTAL	2,505	544	363	135	147
<b>WASHINGTON</b>						
Non-Indian Gillnet	Chinook					
	Spring	636	109	-	3	2
	Fall <sup>e/</sup>	2,379	2	d/	60	16
	Coho	1,268	26	d/	21	5
	Chum	3	d/	d/	d/	d/
	TOTAL	4,286	136	d/	84	23
Treaty All Gears <sup>f/</sup>	Chinook					
	Spring	16	-	d/	-	2
	Fall <sup>d/</sup>	3,412	336	297	615	749
	Coho	45	17	8	d/	2
TOTAL	3,473	353	305	616	754	
Non-Indian		14,627	1,168	311	667	554
Treaty		5,978	897	668	751	901
Columbia River		20,605	2,065	979	1,418	1,455

a/ Excluding pink and sockeye salmon.

b/ Expressed in 1997 dollars.

c/ Preliminary.

d/ Less than 500.

e/ Includes fall brights, tules and jacks.

f/ Includes Drano Lake (Little White Salmon River north), Priest Rapids Pool and Klickitat dipnet fisheries.

g/ Mainstem below Bonneville Dam and Youngs Bay.



TABLE IV-21. Local personal income impacts of the **Buoy 10 recreational fishery in Oregon and Washington** and the **Area 4B add-on fishery in Washington**. (Page 1 of 1)

Year	Total Angler Trips (thousands)	Income Impacts (thousands of dollars) <sup>a/</sup>		
		Oregon	Washington	Total
<b>BUOY 10 (Including bank fishing)<sup>b/</sup></b>				
1987	125	2,053	3,718	5,771
1988	183	2,911	5,880	8,791
1989	148	2,085	4,661	6,746
1990	76	1,122	2,200	3,322
1991	169	2,434	5,226	7,660
1992	115	1,668	3,444	5,113
1993	76	1,116	2,066	3,182
1994	9	179	218	397
1995	25	465	582	1,047
1996	18	353	398	750
1997 <sup>c/</sup>	56	861	1,636	2,497
<b>AREA 4B ADD-ON<sup>d/</sup></b>				
1989	12	-	517	517
1990	12	-	518	518
1991	9	-	383	383
1992	8	-	328	328
1993	8	-	335	335
1994	-	-	-	-
1995	4	-	161	161
1996	2	-	61	61
1997 <sup>c/</sup>	2	-	81	81

a/ Expressed in 1997 dollars.

b/ Because charter and private angler statistics are combined for 1986, no attempt was made to estimate 1986 income impacts.

c/ Preliminary.

d/ There was no Area 4B add-on fishery prior to 1989.

model. Commercial ocean harvest not landed in the coastal areas (e.g., landed in Puget Sound ports) is not included in the estimates of coastal community impacts, but is included in the estimate of state impacts.

The numbers presented here are estimates of annual trends and the possible redirection of money between nonfishing-dependent and fishing-dependent sectors; they are likely an upper bounds on the local community and state income impacts which may have been generated by West Coast ocean salmon fisheries as well as some selected inside fisheries. All income impact estimates in this review are reported in real (inflation adjusted) 1997 dollars.

### **West Coast Ocean Fishery Income Impacts**

The total state level income impact associated with the recreational and troll ocean fisheries for all three states combined was \$49.9 million, up five percent compared to 1996, but still 64% below the 1976-1996 average (adjusted for inflation). State level income impacts related to the commercial troll fishery were up 12% compared to 1996, but were still 73% below the 1976-1996 average; and those impacts related to the recreational fishery were down one percent, but were 46% below the 1976-1996 average (all comparisons are adjusted for inflation). These coastwide values, while low compared to historic averages, do not reveal the greater reductions which have occurred in particular communities.

The estimated 1997 California coastal area personal income generated in relation to salmon trolling (\$15.1 million) was a 29% increase (inflation adjusted) compared to 1996, but was still 60% below the 1976-1996 inflation adjusted average. In inflation-adjusted terms, recreational fishery related coastal area community income impacts increased ten percent from 1996 to \$19.0 million. This was 22% above the 1976-1996 inflation adjusted average (Table IV-17).

The estimated 1997 Oregon coastal area personal income generated in relation to salmon trolling (\$4.0 million) was a 20% decrease (inflation adjusted) compared to 1996, and was 80% below the 1976-1996 inflation adjusted average. In inflation-adjusted terms, recreational fishery-related coastal area community income impacts decreased 31% from 1996 to \$1.4 million. This was 88% below the 1976-1996 inflation adjusted average (Table IV-18).

The estimated 1997 Washington coastal area personal income generated in relation to commercial salmon trolling (\$188,000) was a 44% increase (inflation-adjusted) compared to 1996, but was still 98% below the 1976-1996 inflation adjusted average. These values do not include income associated with the pink salmon harvest. In inflation-adjusted terms, recreational fishery-related coastal area community income impacts decreased 24% from 1996 to \$1.7 million. This was 85% below the 1976-1996 inflation adjusted average (Table IV-17).

### **Selected Inside Fisheries**

#### **Columbia River Commercial Fisheries**

In the past, the non-Indian and treaty Indian Columbia River commercial fisheries generated a substantial amount of community income for the Oregon and Washington communities on the Columbia River. For 1997, income impacts associated with the Columbia River commercial catch are estimated to be \$1.5 million, compared to a 1987-1993 average of \$20.6 million (Table IV-20).

#### **Buoy 10 and Area 4B Add-on**

Estimated local community income impacts associated with the Buoy 10 fishery (\$2.5 million) were 233% above 1996 levels, but were still 42% below the 1987-1996 inflation adjusted average (Table IV-21). Local community income impacts associated with the 1996 Area 4B add-on fishery (\$81,000) were 32% above the 1996 level, but 72% below the 1989-1996 inflation adjusted average (Table IV-21).



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# APPENDIX A

## HISTORICAL RECORD OF OCEAN SALMON FISHERY

### EFFORT AND LANDINGS

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TABLE A-1. Summary of California troll salmon fishing effort in days fished and landings in numbers of fish by catch area.  
(Page 1 of 1)

Year or Avg.	Crescent City	Eureka	Fort Bragg	San Francisco	Monterey	Oregon	Season
<b>DAYS FISHED (thousands)</b>							
1978-1980 <sup>a/</sup>	17.0	18.4	21.9	21.1	16.5	-	95.0
1981-1985	5.9	6.4	13.8	22.1	11.5	-	59.8
1986-1990	0.5	1.6	16.4	25.6	14.4	b/	58.5
1986	1.1	2.6	14.5	19.1	17.4	b/	54.7
1987	0.7	2.0	20.3	24.5	11.0	b/	58.6
1988	0.3	1.5	24.0	35.7	14.2	b/	75.7
1989	0.4	1.2	14.1	26.2	15.5	b/	57.4
1990	0.3	0.7	9.0	22.3	13.9	-	46.2
1991	-	0.6	3.8	18.5	12.3	-	35.3
1992	-	-	-	7.6	12.7	-	20.3
1993	-	-	1.6	12.6	11.7	-	25.9
1994	-	-	0.8	12.4	7.9	-	21.2
1995	-	-	0.9	12.9	12.0	-	25.8
1996	b/	0.4	2.1	8.0	10.6	-	21.1
1997 <sup>c/</sup>	b/	0.1	0.3	9.3	9.0	-	18.7
<b>CHINOOK (thousands)</b>							
1976-1980	44.3	166.3	143.9	174.7	89.5	-	618.6
1981-1985	38.8	48.9	110.8	180.0	84.1	-	462.7
1986-1990	12.9	32.3	252.4	351.1	144.8	1.1	794.7
1986	13.8	36.7	272.4	302.3	200.2	0.2	825.6
1987	29.5	54.7	341.2	355.6	91.2	4.0	876.3
1988	14.9	46.4	424.7	642.7	187.8	0.7	1,317.2
1989	5.1	17.5	144.2	255.8	108.0	0.4	530.9
1990	1.4	6.3	79.6	199.1	137.1	-	423.4
1991	-	4.7	35.5	174.8	79.8	-	294.9
1992	-	-	-	66.5	97.0	-	163.4
1993	-	-	19.9	155.0	104.7	-	279.6
1994	-	-	5.2	219.9	70.5	-	295.6
1995	-	-	8.7	357.5	313.1	-	679.3
1996	0.3	8.5	22.9	167.4	181.5	-	380.6
1997 <sup>c/</sup>	b/	1.4	3.8	254.3	228.0	-	487.5
<b>COHO (thousands)</b>							
1976-1980	72.1	90.0	51.0	20.8	9.4	-	243.4
1981-1985	16.1	18.9	14.6	7.7	1.4	-	58.7
1986-1990	3.8	6.0	26.0	9.4	1.6	b/	46.8
1986	4.8	4.3	20.8	5.1	1.3	-	36.4
1987	5.6	10.8	25.9	1.2	0.1	0.2	43.7
1988	2.8	10.1	30.9	6.7	0.4	-	51.0
1989	5.8	3.4	25.8	6.5	0.5	-	41.9
1990	-	1.2	26.6	27.4	5.7	-	61.0
1991	-	3.0	4.5	53.3	21.4	-	82.3
1992	-	-	-	0.4	2.1	-	2.5
1993	-	-	-	-	-	-	-
1994	-	-	-	-	-	-	-
1995	-	-	-	-	-	-	-
1996	-	-	-	-	-	-	-
1997 <sup>c/</sup>	-	-	-	-	-	-	-

a/ Data not available prior to 1978.

b/ Less than 50.

c/ Preliminary.

TABLE A-2. California troll salmon fishing effort in number of days fished by catch area and month. (Page 1 of 2)

Year or Avg.	Apr.	May	June	July	Aug.	Sept.	Oct.	Season
<b>DAYS FISHED (thousands)</b>								
<b>Crescent City<sup>a/</sup></b>								
1978-1980	b/	2.0	2.8	6.3	5.0	0.8	-	17.0
1981-1985	-	1.1	0.8	1.6	2.0	0.5	-	5.9
1986-1990	-	b/	0.3	0.1	0.2	b/	-	0.5
1986	-	b/	0.2	0.4	0.4	b/	-	1.1
1987	-	b/	0.7	b/	-	b/	-	0.7
1988	-	b/	0.2	-	-	b/	-	0.3
1989	-	b/	0.3	-	0.1	-	-	0.4
1990	-	-	-	-	0.3	-	-	0.3
1991	-	-	-	-	-	-	-	-
1992	-	-	-	-	-	-	-	-
1993	-	-	-	-	-	-	-	-
1994	-	-	-	-	-	-	-	-
1995	-	-	-	-	-	-	-	-
1996	-	-	-	-	b/	b/	-	b/
1997 <sup>c/</sup>	-	-	-	-	-	b/	-	b/
<b>Eureka</b>								
1978-1980	0.2	5.7	4.8	4.1	2.3	1.4	-	18.4
1981-1985	-	1.6	0.9	2.1	1.5	0.3	-	6.4
1986-1990	-	-	0.7	0.1	0.3	0.5	b/	1.6
1986	-	-	0.6	0.5	1.1	0.3	-	2.6
1987	-	-	1.5	-	-	0.5	-	2.0
1988	-	-	0.8	-	-	0.8	-	1.5
1989	-	-	0.6	-	0.1	0.5	0.1	1.2
1990	-	-	-	-	0.4	0.3	b/	0.7
1991	-	-	-	-	-	0.5	0.1	0.6
1992	-	-	-	-	-	-	-	-
1993	-	-	-	-	-	-	-	-
1994	-	-	-	-	-	-	-	-
1995	-	-	-	-	-	-	-	-
1996	-	-	-	-	0.1	0.3	-	0.4
1997 <sup>c/</sup>	-	-	-	-	-	0.1	-	0.1
<b>Fort Bragg</b>								
1978-1980	b/	2.3	3.1	10.0	4.3	2.2	-	21.9
1981-1985	0.1	2.1	2.2	5.5	2.4	1.5	-	13.8
1986-1990	-	2.8	3.9	5.2	3.8	0.8	-	16.4
1986	-	3.4	3.4	4.4	3.1	0.2	-	14.5
1987	-	3.8	4.9	6.8	4.1	0.6	-	20.3
1988	-	4.6	4.9	7.1	5.5	1.8	-	24.0
1989	-	1.1	2.7	4.4	4.9	1.1	-	14.1
1990	-	0.9	3.6	3.0	1.5	0.1	-	9.0
1991	-	-	-	-	3.5	0.3	-	3.8
1992	-	-	-	-	-	-	-	-
1993	-	0.1	-	-	-	1.5	-	1.6
1994	-	-	-	-	-	0.8	-	0.8
1995	-	-	-	-	-	0.9	-	0.9
1996	-	-	-	-	1.3	0.8	-	2.1
1997 <sup>c/</sup>	-	-	-	-	-	0.3	-	0.3



TABLE A-2. California troll salmon fishing effort in number of days fished by catch area and month. (Page 2 of 2)

Year or Avg.	Apr.	May	June	July	Aug.	Sept.	Oct.	Season
<b>DAYS FISHED (thousands)</b>								
<u>San Francisco</u>								
1978-1980	0.2	5.8	3.5	7.1	2.4	2.0	-	21.1
1981-1985	0.2	3.9	3.0	6.8	5.2	3.0	-	22.1
1986-1990	-	6.5	7.1	5.9	4.1	1.9	-	25.6
1986	-	3.5	4.4	5.9	4.0	1.3	-	19.1
1987	-	6.7	6.4	5.1	4.1	2.3	-	24.5
1988	-	8.1	9.7	9.1	5.5	3.3	-	35.7
1989	-	7.9	7.9	4.0	4.4	2.0	-	26.2
1990	-	6.3	7.1	5.7	2.7	0.5	-	22.3
1991	-	5.2	5.4	3.3	3.2	1.4	-	18.5
1992	-	0.2	-	-	3.9	3.5	-	7.6
1993	-	4.0	1.1	3.1	3.5	0.9	-	12.6
1994	-	3.1	3.2	2.8	2.0	1.4	-	12.4
1995	-	3.4	2.4	3.1	1.8	2.2	-	12.9
1996	-	1.0	2.5	2.2	1.3	1.1	-	8.0
1997 <sup>c/</sup>	-	2.7	0.4	2.7	2.2	1.3	-	9.3
<u>Monterey</u>								
1978-1980	0.7	5.3	2.9	4.6	2.2	0.9	-	16.5
1981-1985	0.5	4.2	2.8	2.7	1.0	0.2	-	11.5
1986-1990	-	5.2	4.3	3.4	1.3	0.2	-	14.4
1986	-	7.1	5.4	3.6	1.1	0.3	-	17.4
1987	-	4.4	2.5	3.0	1.1	0.2	-	11.0
1988	-	4.2	4.6	3.7	1.6	0.1	-	14.2
1989	-	5.0	4.3	3.4	2.4	0.3	-	15.5
1990	-	5.5	4.5	3.2	0.6	0.1	-	13.9
1991	-	3.2	5.5	3.1	0.4	0.2	-	12.3
1992	-	5.7	3.3	2.8	0.7	0.1	-	12.7
1993	-	5.2	2.9	2.6	0.9	0.1	-	11.7
1994	-	3.4	1.4	2.6	0.4	0.1	-	7.9
1995	-	5.1	2.8	2.5	1.4	0.2	-	12.0
1996	-	3.7	3.4	3.1	0.3	b/	-	10.6
1997 <sup>c/</sup>	0.5	3.7	1.8	2.9	b/	b/	-	9.0
<u>Total Statewide</u>								
1978-1980	1.1	21.1	17.1	32.1	16.3	7.3	-	95.0
1981-1985	0.8	12.9	9.5	18.7	12.2	5.6	-	59.8
1986-1990	-	14.5	16.2	14.7	9.7	3.3	b/	58.5
1986	-	14.0	14.0	14.8	9.7	2.2	-	54.7
1987	-	14.9	16.0	14.9	9.3	3.6	-	58.6
1988	-	17.0	20.2	20.0	12.5	6.0	-	75.7
1989	-	14.1	15.8	11.8	11.8	3.9	0.1	57.4
1990	-	12.7	15.2	11.9	5.5	0.9	b/	46.2
1991	-	8.4	10.9	6.3	7.2	2.4	0.1	35.3
1992	-	5.9	3.3	2.8	4.6	3.6	-	20.3
1993	-	9.3	3.9	5.7	4.4	2.6	-	25.9
1994	-	6.5	4.6	5.4	2.4	2.3	-	21.2
1995	-	8.5	5.2	5.6	3.3	3.3	-	25.8
1996	-	4.8	5.9	5.3	3.0	2.2	-	21.1
1997 <sup>c/</sup>	0.5	6.4	2.2	5.6	2.2	1.8	-	18.7

a/ Includes minor effort off Oregon for fish landed in California.

b/ Less than 50 days.

c/ Preliminary.

TABLE A-3. California troll chinook and coho salmon landings in numbers of fish by catch area and month. (Page 1 of 3)

Year or Avg.	Apr.	May	June	July	Aug.	Sept.	Oct.	Season	Apr.	May	June	July	Aug.	Sept.	Oct.	Season
<b>CHINOOK (thousands)</b>																
<b>Crescent City<sup>a/</sup></b>																
1976-1980	0.3	14.1	11.0	10.3	6.5	2.0	-	44.3	-	10.0	37.3	20.4	3.5	0.9	-	72.1
1981-1985	-	8.6	5.5	7.1	14.2	3.4	-	38.8	-	2.2	3.1	5.2	5.0	0.5	-	16.1
1986-1990	-	0.4	10.4	1.2	1.5	0.5	-	14.0	-	-	3.5	0.3	b/	b/	-	3.8
1986	-	0.2	4.6	2.8	5.6	0.8	-	14.0	-	-	3.5	1.3	-	-	-	4.8
1987	-	0.8	29.2	3.2	-	0.4	-	33.5	-	-	5.5	0.2	-	0.1	-	5.8
1988	-	0.7	13.8	-	-	1.1	-	15.6	-	-	2.8	-	-	b/	-	2.8
1989	-	0.4	4.4	-	0.6	-	-	5.5	-	-	5.8	-	b/	-	-	5.8
1990	-	-	-	-	1.4	-	-	1.4	-	-	-	-	-	-	-	-
1991	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1992	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1993	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1996 <sup>c/</sup>	-	-	-	-	0.1	0.2	-	0.3	-	-	-	-	-	-	-	-
1997	-	-	-	-	-	b/	-	b/	-	-	-	-	-	-	-	-
<b>COHO (thousands)</b>																
<b>Eureka</b>																
1976-1980	6.5	77.9	28.6	34.6	13.0	5.7	-	166.3	b/	30.9	39.7	13.7	5.1	0.6	-	90.0
1981-1985	-	20.9	6.0	9.1	10.1	2.7	-	48.9	-	1.3	4.1	8.0	5.3	0.3	-	18.9
1986-1990	-	-	20.9	0.9	4.0	6.3	0.2	32.3	-	-	4.8	0.2	0.1	0.9	0.1	6.0
1986	-	-	15.8	4.3	13.8	2.8	-	36.7	-	-	3.2	0.8	0.2	b/	-	4.3
1987	-	-	50.3	-	-	4.5	-	54.7	-	-	9.6	-	-	1.2	-	10.8
1988	-	-	28.8	-	-	17.6	-	46.4	-	-	8.6	-	-	1.5	-	10.1
1989	-	-	9.8	-	2.0	4.7	0.9	17.5	-	-	2.4	-	0.3	0.4	0.2	3.4
1990	-	-	-	-	4.3	1.9	0.1	6.3	-	-	-	-	0.1	1.2	b/	1.2
1991	-	-	-	-	-	4.3	0.4	4.7	-	-	-	-	-	3.0	0.1	3.0
1992	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1993	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1996 <sup>c/</sup>	-	-	-	-	2.5	6.1	-	8.5	-	-	-	-	-	-	-	-
1997	-	-	-	-	-	1.4	-	1.4	-	-	-	-	-	-	-	-



TABLE A-3. California troll chinook and coho salmon landings in numbers of fish by catch area and month. (Page 2 of 3)

Year or Avg.	Apr.	May	June	July	Aug.	Sept.	Oct.	Season	Apr.	May	June	July	Aug.	Sept.	Oct.	Season
<b>CHINOOK (thousands)</b>								<b>COHO (thousands)</b>								
<b>Fort Bragg</b>																
1976-1980	1.3	24.8	20.9	57.0	26.8	13.0	-	143.9	b/	5.2	28.0	14.5	3.1	0.2	-	51.0
1981-1985	1.5	15.5	21.1	49.0	16.9	6.8	-	110.8	-	0.2	2.7	9.9	1.7	0.2	-	14.6
1986-1990	-	46.9	72.4	91.9	36.2	5.1	-	252.4	-	-	9.1	14.0	2.7	0.2	-	26.0
1986	-	57.0	96.5	90.2	28.1	0.6	-	272.4	-	-	6.9	12.4	1.6	b/	-	20.8
1987	-	71.5	89.4	127.6	49.2	3.4	-	341.2	-	-	9.1	16.6	-	0.2	-	25.9
1988	-	91.5	110.1	157.4	52.2	13.5	-	424.7	-	-	9.0	20.1	1.8	0.1	-	30.9
1989	-	7.4	20.5	64.4	46.3	5.6	-	144.2	-	-	3.9	13.6	7.9	0.3	-	25.8
1990	-	6.8	45.5	19.8	5.0	2.4	-	79.6	-	-	16.6	7.3	2.3	0.4	-	26.6
1991	-	-	-	-	34.3	1.3	-	35.5	-	-	-	-	4.5	-	-	4.5
1992	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1993	-	0.4	-	-	-	19.5	-	19.9	-	-	-	-	-	-	-	-
1994	-	-	-	-	-	5.2	-	5.2	-	-	-	-	-	-	-	-
1995	-	-	-	-	-	8.7	-	8.7	-	-	-	-	-	-	-	-
1996	-	-	-	-	14.4	8.5	-	22.9	-	-	-	-	-	-	-	-
1997 <sup>c/</sup>	-	-	-	-	-	3.8	-	3.8	-	-	-	-	-	-	-	-
<b>San Francisco</b>																
1976-1980	16.2	53.7	29.7	53.4	12.1	9.6	-	174.7	b/	5.2	10.5	3.6	1.1	0.3	-	20.8
1981-1985	4.7	44.6	25.2	60.6	35.2	9.6	-	180.0	b/	0.2	2.2	4.7	0.5	0.1	-	7.7
1986-1990	-	131.4	111.9	71.2	26.6	10.1	-	351.1	-	-	5.4	3.3	0.7	0.1	-	9.4
1986	-	72.9	119.6	79.8	27.0	3.1	-	302.3	-	-	1.7	3.2	0.1	0.1	-	5.1
1987	-	157.6	110.1	49.8	28.5	9.5	-	355.6	-	-	0.7	0.5	-	-	-	1.2
1988	-	220.7	173.7	175.4	47.1	25.8	-	642.7	-	-	2.8	3.4	0.5	b/	-	6.7
1989	-	121.3	77.8	25.6	20.9	10.3	-	255.8	-	-	3.6	2.1	0.6	0.1	-	6.5
1990	-	84.3	78.5	25.5	9.2	1.5	-	199.1	-	-	18.0	7.2	2.1	0.1	-	27.4
1991	-	58.3	52.2	30.5	28.3	5.5	-	174.8	-	-	33.1	19.7	0.6	-	-	53.3
1992	-	1.8	-	-	38.2	26.5	-	66.5	-	-	-	-	0.4	-	-	0.4
1993	-	60.8	14.8	35.5	40.3	3.6	-	155.0	-	-	-	-	-	-	-	-
1994	-	54.5	69.5	57.0	26.3	12.6	-	219.9	-	-	-	-	-	-	-	-
1995	-	157.0	78.0	84.3	17.0	21.1	-	357.5	-	-	-	-	-	-	-	-
1996	-	22.0	78.0	43.5	12.0	11.9	-	167.4	-	-	-	-	-	-	-	-
1997 <sup>c/</sup>	-	109.5	18.1	86.7	24.3	15.8	-	254.3	-	-	-	-	-	-	-	-

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TABLE A-3. California troll chinook and coho salmon landings in numbers of fish by catch area and month. (Page 3 of 3)

Year or Avg.	Apr.	May	June	July	Aug.	Sept.	Oct.	Season	Apr.	May	June	July	Aug.	Sept.	Oct.	Season
	<b>CHINOOK (thousands)</b>								<b>COHO (thousands)</b>							
<b>Monterey</b>																
1976-1980	9.9	29.5	19.1	18.1	9.4	3.5	-	89.5	b/	3.5	4.0	1.8	0.1	b/	-	9.4
1981-1985	6.1	35.0	16.9	19.4	5.6	1.1	-	84.1	b/	0.1	0.9	0.3	0.1	b/	-	1.4
1986-1990	-	61.5	42.1	30.0	9.0	2.2	-	144.8	-	-	1.0	0.5	0.1	b/	-	1.6
1986	-	93.5	56.7	38.0	10.1	1.9	-	200.2	-	-	0.6	0.6	0.1	b/	-	1.3
1987	-	35.0	22.6	24.8	6.4	2.5	-	91.2	-	-	0.1	0.1	-	b/	-	0.1
1988	-	77.8	56.4	38.2	12.6	2.8	-	187.8	-	-	0.3	b/	b/	-	-	0.4
1989	-	47.0	25.1	22.5	10.6	2.7	-	108.0	-	-	0.2	0.2	0.1	b/	-	0.5
1990	-	54.1	49.9	26.4	5.4	1.3	-	137.1	-	-	3.9	1.7	0.1	b/	-	5.7
1991	-	21.8	34.9	19.1	3.0	1.0	-	79.8	-	-	17.1	4.3	0.1	-	-	21.4
1992	-	49.7	19.0	21.1	4.5	2.6	-	97.0	-	-	1.5	0.5	b/	-	-	2.1
1993	-	49.9	25.5	20.3	8.1	0.9	-	104.7	-	-	-	-	-	-	-	-
1994	-	24.3	11.6	32.2	1.1	1.2	-	70.5	-	-	-	-	-	-	-	-
1995	-	128.4	64.2	105.4	13.9	1.3	-	313.1	-	-	-	-	-	-	-	-
1996	-	75.1	52.3	51.9	2.2	b/	-	181.5	-	-	-	-	-	-	-	-
1997 <sup>c/</sup>	11.8	79.9	67.3	69.0	0.1	b/	-	228.0	-	-	-	-	-	-	-	-
<b>Total Statewide</b>																
1976-1980	34.2	200.0	109.4	173.4	67.9	33.8	-	618.6	b/	54.9	119.5	54.0	12.9	2.0	-	243.4
1981-1985	12.4	124.6	74.7	145.1	82.1	23.7	-	462.7	b/	4.0	13.0	28.2	12.5	1.1	-	58.7
1986-1990	-	240.1	257.8	195.1	77.3	24.1	0.2	794.7	-	-	23.8	18.3	3.6	1.1	0.1	46.8
1986	-	223.6	293.2	215.1	84.5	9.1	-	825.6	-	-	16.0	18.2	2.1	0.1	-	36.4
1987	-	264.9	301.6	205.4	84.1	20.2	-	876.3	-	-	24.9	17.3	-	1.4	-	43.7
1988	-	390.8	382.8	370.9	111.9	60.8	-	1317.2	-	-	23.4	23.6	2.3	1.6	-	51.0
1989	-	176.2	137.6	112.5	80.5	23.3	0.9	530.9	-	-	16.0	15.9	8.9	0.8	0.2	41.9
1990	-	145.2	174.0	71.7	25.4	7.1	0.1	423.4	-	-	38.6	16.3	4.5	1.7	b/	61.0
1991	-	80.1	87.1	49.7	65.6	12.1	0.4	294.9	-	-	50.1	24.0	5.1	3.0	0.1	82.3
1992	-	51.6	19.0	21.1	42.7	29.0	-	163.4	-	-	1.5	0.5	0.5	-	-	2.5
1993	-	111.1	40.4	55.8	48.4	24.0	-	279.6	-	-	-	-	-	-	-	-
1994	-	78.8	81.1	89.2	27.4	19.1	-	295.6	-	-	-	-	-	-	-	-
1995	-	285.5	142.2	189.6	30.9	31.1	-	679.3	-	-	-	-	-	-	-	-
1996	-	97.1	130.3	95.4	31.2	26.6	-	380.6	-	-	-	-	-	-	-	-
1997 <sup>c/</sup>	11.8	189.3	85.3	155.7	24.4	21.0	-	487.5	-	-	-	-	-	-	-	-

a/ Includes minor catches made off Oregon and landed in California.

b/ Less than 50 fish.

c/ Preliminary.

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TABLE A-4. California ocean recreational salmon fishing effort in angler trips by port and month. (Page 1 of 2)

Year or Avg.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season
<b>ANGLER TRIPS (thousands)</b>											
<b>Crescent City</b>											
1976-1980	-	-	a/	a/	3.7	9.7	5.4	1.2	-	-	20.0
1981-1985	-	-	-	0.6	3.9	11.5	6.6	0.5	-	-	23.1
1986-1990	-	-	-	1.4	11.1	19.3	6.8	1.0	-	-	39.6
1986	-	-	-	1.1	7.3	10.6	6.4	0.2	-	-	25.6
1987	-	-	-	2.0	13.8	22.6	10.7	3.0	-	-	52.1
1988	-	-	-	2.4	13.3	20.7	6.6	0.8	-	-	43.9
1989	-	-	-	1.1	7.4	18.6	6.2	0.3	-	-	33.6
1990	-	-	-	0.6	13.8	23.9	3.8	0.6	-	-	42.7
1991	-	-	-	0.6	8.5	14.0	0.7	1.7	-	-	25.6
1992	-	-	-	-	-	7.2	-	1.8	-	-	9.1
1993	-	-	-	1.0	1.0	6.5	5.8	1.1	-	-	15.4
1994	-	-	-	5.1	2.2	-	1.6	0.9	-	-	9.7
1995	-	-	-	2.8	5.7	-	1.1	2.4	-	-	11.9
1996 <sup>b/</sup>	-	-	-	1.0	5.1	2.4	2.1	0.8	-	-	11.3
1997 <sup>b/</sup>	-	-	-	0.9	1.7	1.5	2.2	0.2	-	-	6.6
<b>Eureka</b>											
1976-1980	-	-	a/	0.3	5.3	12.6	5.3	0.4	a/	-	23.9
1981-1985	-	-	a/	1.2	4.7	11.7	4.9	0.5	a/	-	23.1
1986-1990	-	-	-	1.6	9.5	18.7	7.1	1.0	-	-	37.9
1986	-	-	-	1.1	7.5	12.7	7.2	0.3	-	-	28.9
1987	-	-	-	1.7	9.5	23.2	9.8	1.9	-	-	46.1
1988	-	-	-	1.5	6.8	17.0	6.1	1.5	-	-	32.8
1989	-	-	-	2.4	11.1	21.4	7.8	0.3	-	-	43.0
1990	-	-	-	1.6	12.5	19.1	4.7	0.8	-	-	38.7
1991	-	-	-	0.3	13.2	13.0	0.3	0.6	a/	-	27.4
1992	-	-	-	-	-	5.8	-	3.3	-	-	9.1
1993	-	-	-	1.6	2.2	6.1	6.0	2.3	-	-	18.3
1994	-	-	-	2.6	1.8	-	1.2	0.8	-	-	6.4
1995	-	-	-	1.4	6.2	-	1.5	3.7	-	-	12.8
1996 <sup>b/</sup>	-	-	-	2.4	6.5	1.	2.7	1.6	-	-	14.2
1997 <sup>b/</sup>	-	-	-	2.5	3.4	2.1	4.0	0.4	-	-	12.4
<b>Fort Bragg</b>											
1976-1980	-	-	a/	0.1	1.7	5.6	3.7	0.6	a/	-	11.7
1981-1985	-	-	a/	0.1	2.2	5.0	2.1	0.1	a/	-	9.6
1986-1990	-	a/	0.1	0.7	4.5	7.1	2.5	0.6	a/	-	15.5
1986	-	-	a/	0.2	3.9	6.6	2.6	a/	-	-	13.3
1987	-	-	a/	0.1	0.2	2.9	7.2	2.4	1.1	-	14.0
1988	-	-	-	0.2	1.5	4.6	8.1	2.8	0.8	-	18.0
1989	-	-	-	0.1	1.4	5.7	6.5	2.8	1.0	a/	17.5
1990	-	-	a/	0.2	5.4	7.0	1.8	0.3	-	-	14.6
1991	-	-	a/	0.9	7.0	11.6	3.0	0.1	-	-	22.6
1992	-	a/	0.3	2.2	0.3	6.3	-	1.7	0.4	a/	11.2
1993	a/	0.2	0.4	1.3	2.0	9.4	4.6	1.2	0.1	-	19.3
1994	0.1	0.5	1.2	4.0	8.1	-	4.6	0.9	a/	-	19.4
1995	0.4	0.5	1.6	1.5	13.0	-	9.0	2.6	0.6	-	29.3
1996 <sup>b/</sup>	a/	0.9	1.9	2.9	12.0	3.0	7.0	2.8	0.7	a/-	31.3
1997 <sup>b/</sup>	a/	0.4	1.1	4.0	7.0	3.5	4.1	0.3	a/	a/	20.4

TABLE A-4. California ocean recreational salmon fishing effort in angler trips by port and month. (Page 2 of 2)

Year or Avg.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season
<b>ANGLER TRIPS (thousands)</b>											
<u>San Francisco</u>											
1976-1980	8.1	10.3	7.2	8.6	10.4	15.3	15.2	12.5	7.9	2.4	97.9
1981-1985	4.1	5.8	6.0	6.9	10.8	15.0	14.1	9.3	5.6	1.3	78.9
1986-1990	4.8	9.8	12.3	8.9	12.7	18.7	16.2	9.4	4.8	1.3	98.9
1986	1.9	8.2	9.1	8.6	13.5	21.0	17.9	6.6	4.0	0.9	91.7
1987	4.3	9.6	11.3	10.1	10.2	19.5	22.2	12.3	7.2	1.6	108.4
1988	6.5	10.3	12.4	12.1	16.8	22.0	16.8	7.9	4.1	0.8	109.9
1989	6.0	9.3	14.8	7.7	11.5	15.1	14.1	10.6	4.0	1.9	95.0
1990	5.4	11.6	13.7	6.0	11.2	15.6	10.1	9.6	4.8	1.6	89.7
1991	-	4.1	7.1	6.3	12.0	18.6	13.9	5.2	2.9	0.1	70.2
1992	0.8	2.4	2.5	5.9	8.6	16.1	11.8	9.4	4.3	0.2	62.0
1993	0.5	6.6	6.1	7.7	7.4	27.8	17.6	5.5	3.6	-	82.8
1994	1.2	5.7	7.2	7.0	17.8	33.5	18.9	9.7	6.5	-	107.6
1995	-	9.6	10.5	12.3	17.3	51.0	23.7	12.8	4.3	-	141.5
1996	-	19.0	13.2	9.6	12.7	28.5	13.6	5.3	2.4	-	104.2
1997 <sup>b/</sup>	-	4.7	10.9	16.6	14.0	34.5	21.2	5.5	3.2	0.4	111.0
<u>Monterey</u>											
1976-1980	1.8	2.2	2.0	1.2	0.9	1.1	0.5	0.2	0.1	a/	10.0
1981-1985	1.0	2.1	2.7	2.0	1.3	2.0	0.8	0.2	0.1	0.1	12.2
1986-1990	3.6	7.2	11.7	4.1	6.7	10.7	4.2	0.6	0.3	0.4	49.4
1986	0.2	5.7	9.3	3.9	5.1	7.3	2.8	1.1	0.8	a/	36.2
1987	4.3	9.3	6.2	3.3	4.7	11.4	7.1	1.2	0.2	a/	47.7
1988	4.7	5.4	6.4	5.5	6.9	9.5	2.3	a/	0.1	a/	40.9
1989	3.9	6.6	20.1	5.1	5.7	8.8	5.3	0.3	a/	a/	55.7
1990	4.7	9.0	16.5	2.5	11.1	16.6	3.4	0.5	0.3	1.8	66.5
1991	-	8.2	11.1	3.9	8.9	14.0	2.7	0.5	1.6	-	50.8
1992	1.2	7.3	7.1	3.5	4.7	6.6	3.2	1.2	1.1	0.6	36.4
1993	0.3	8.3	11.1	6.2	2.9	5.0	2.9	1.4	1.0	-	39.1
1994	1.1	8.0	10.4	5.6	6.7	9.0	2.0	1.7	2.3	-	46.8
1995	-	12.8	38.0	41.6	31.9	46.5	11.7	0.5	-	-	183.1
1996	-	15.2	15.3	9.4	7.0	11.9	5.8	-	-	-	64.5
1997 <sup>b/</sup>	-	16.4	17.6	9.1	18.3	18.6	3.7	0.2	a/	-	84.0
<u>Total Statewide</u>											
1976-1980	9.9	12.5	9.2	10.3	22.0	44.3	30.1	14.8	8.0	2.4	163.5
1981-1985	5.1	7.9	8.8	10.7	23.0	45.3	28.5	10.6	5.7	1.4	147.0
1986-1990	8.4	17.0	24.0	16.7	44.4	74.4	36.8	12.6	5.1	1.7	241.3
1986	2.1	13.9	18.4	15.0	37.3	58.2	36.8	8.2	4.8	0.9	195.6
1987	8.6	18.9	17.6	17.2	41.1	84.0	52.3	19.6	7.3	1.7	268.3
1988	11.2	15.7	19.0	23.0	48.3	77.4	34.7	11.0	4.2	0.8	245.4
1989	9.8	15.9	35.0	17.7	41.4	70.4	36.2	12.5	4.0	1.9	244.9
1990	10.2	20.6	30.3	10.8	54.0	82.1	23.9	11.8	5.1	3.4	252.1
1991	-	12.3	18.2	12.0	49.6	71.2	20.7	8.1	4.5	0.1	196.6
1992	2.0	9.7	9.9	11.5	13.6	41.9	15.1	17.5	5.8	0.8	127.9
1993	0.9	15.0	17.6	17.9	15.5	54.9	36.9	11.4	4.7	-	174.9
1994	2.5	14.2	18.7	24.3	36.6	42.5	28.3	13.9	8.8	-	189.9
1995	0.4	22.9	50.2	59.5	74.0	97.5	47.0	22.0	4.9	-	378.5
1996	a/	35.2	30.3	25.2	43.2	46.8	31.1	10.4	3.1	a/	225.4
1997 <sup>b/</sup>	a/	21.5	29.7	33.1	44.4	60.2	35.3	6.5	3.2	0.4	234.3

a/ Less than 50 trips.

b/ Preliminary.



TABLE A-5. California ocean recreational salmon landings in numbers of fish by port of landing and month. (Page 1 of 3)

Year or Avg.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season
<b>CHINOOK (thousands)</b>												<b>COHO (thousands)</b>										
<b>Crescent City</b>																						
1976-1980	-	-	-	a/	0.5	1.8	1.3	0.1	-	-	3.6	-	-	a/	a/	3.1	6.6	2.0	0.2	-	-	11.9
1981-1985	-	-	-	0.5	1.4	3.1	1.9	0.1	-	-	7.0	-	-	-	a/	1.2	4.4	1.7	0.1	-	-	7.4
1986-1990	-	-	-	0.4	4.6	7.7	1.6	0.3	-	-	14.6	-	-	-	0.1	3.6	8.4	1.6	0.1	-	-	13.8
1986	-	-	-	0.3	1.6	2.6	1.3	a/	-	-	5.8	-	-	-	0.3	2.5	3.6	1.8	-	-	-	8.1
1987	-	-	-	0.3	3.7	4.3	2.3	1.5	-	-	12.1	-	-	-	-	0.9	10.7	2.7	0.6	-	-	14.9
1988	-	-	-	1.0	7.4	7.6	1.2	a/	-	-	17.2	-	-	-	a/	0.6	10.3	1.4	a/	-	-	12.2
1989	-	-	-	0.4	3.6	18.0	3.2	0.1	-	-	25.3	-	-	-	a/	4.9	11.7	1.8	0.1	-	-	18.5
1990	-	-	-	0.1	6.5	6.0	0.2	a/	-	-	12.7	-	-	-	a/	9.0	5.9	0.5	a/	-	-	15.5
1991	-	-	-	a/	1.3	1.9	a/	0.1	-	-	3.4	-	-	-	-	8.8	9.2	0.1	0.2	-	-	18.3
1992	-	-	-	-	-	0.8	-	a/	-	-	0.9	-	-	-	-	-	2.6	-	0.2	-	-	2.8
1993	-	-	-	0.1	a/	0.5	0.4	0.2	-	-	1.3	-	-	-	a/	0.1	3.6	2.7	0.3	-	-	6.7
1994	-	-	-	4.5	1.3	-	0.4	0.1	-	-	6.3	-	-	-	a/	-	-	0.1	a/	-	-	0.1
1995	-	-	-	0.7	3.0	-	0.3	1.6	-	-	5.6	-	-	-	a/	a/	-	a/	a/	-	-	0.1
1996	-	-	-	0.3	2.3	0.8	0.3	0.2	-	-	3.8	-	-	-	-	0.1	-	a/	a/	-	-	0.1
1997 <sup>b/</sup>	-	-	-	0.3	0.5	0.8	0.8	a/	-	-	2.5	-	-	-	a/	-	0.1	a/	-	-	-	0.1
<b>Eureka</b>																						
1976-1980	-	-	a/	0.2	1.2	3.7	1.0	0.1	a/	-	6.1	-	-	a/	0.1	4.1	7.1	1.7	0.1	a/	-	13.1
1981-1985	-	-	a/	1.3	2.2	4.9	1.1	0.1	a/	-	9.6	-	-	-	0.2	2.6	5.8	1.7	0.2	-	-	10.4
1986-1990	-	-	-	1.0	4.8	6.7	3.0	0.2	-	-	15.7	-	-	-	0.7	5.5	12.4	2.7	0.3	-	-	21.5
1986	-	-	-	0.5	2.6	3.3	4.1	a/	-	-	10.5	-	-	-	0.1	2.7	4.2	1.6	a/	-	-	8.6
1987	-	-	-	1.1	3.7	6.5	6.5	0.6	-	-	18.4	-	-	-	0.1	3.5	21.3	4.3	0.6	-	-	29.8
1988	-	-	-	0.6	5.2	6.8	0.8	0.3	-	-	13.8	-	-	-	0.7	3.3	12.0	2.0	0.5	-	-	18.3
1989	-	-	-	1.6	7.5	12.2	3.2	0.1	-	-	24.6	-	-	-	1.6	7.5	13.4	3.9	a/	-	-	26.4
1990	-	-	-	0.9	5.1	4.6	0.4	a/	-	-	11.1	-	-	-	0.9	10.6	11.2	1.7	0.2	-	-	24.6
1991	-	-	-	0.1	6.4	2.8	a/	0.3	a/	-	9.5	-	-	-	0.1	12.6	8.7	0.2	0.3	a/	-	21.8
1992	-	-	-	-	-	1.4	-	0.3	-	-	1.7	-	-	-	-	-	2.7	-	0.9	-	-	3.6
1993	-	-	-	0.3	0.2	1.5	1.2	0.4	-	-	3.6	-	-	-	0.6	0.8	3.8	1.8	0.7	-	-	7.6
1994	-	-	-	1.5	1.8	-	0.4	0.1	-	-	3.7	-	-	-	-	a/	-	a/	a/	-	-	a/
1995	-	-	-	0.7	4.0	-	1.3	2.0	-	-	8.1	-	-	-	a/	0.1	-	a/	0.1	-	-	0.2
1996	-	-	-	1.7	3.6	0.2	1.1	0.5	-	-	7.0	-	-	-	-	0.1	a/	a/	a/	-	-	0.2
1997 <sup>b/</sup>	-	-	-	1.5	1.7	1.2	2.0	0.1	-	-	6.5	-	-	-	a/	a/	a/	0.1	a/	-	-	0.1

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CHINOOK (thousands)

COHO (thousands)

Year	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season
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TABLE A-5. California ocean recreational salmon landings in numbers of fish by port of landing and month. (Page 1 of 3)

TABLE A-5. California ocean recreational salmon landings in numbers of fish by port of landing and month. (Page 2 of 3)

Year or	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season
Avg.																						
<b>CHINOOK (thousands)</b>												<b>COHO (thousands)</b>										
<b>Fort Bragg</b>																						
1976-1980	-	-	a/	a/	0.4	1.7	1.2	0.1	a/	-	3.4	-	-	-	0.1	0.6	1.2	0.4	0.1	a/	-	2.4
1981-1985	-	-	a/	a/	0.6	1.6	0.3	a/	a/	-	2.5	-	-	-	-	0.2	0.6	0.1	a/	-	-	0.9
1986-1990	-	a/	0.1	0.4	2.6	3.9	0.7	0.1	a/	-	7.7	-	-	-	a/	0.9	1.9	0.3	0.1	-	-	3.1
1986	-	-	a/	0.2	3.2	6.4	0.8	-	-	-	10.6	-	-	-	a/	0.2	1.1	0.2	a/	-	-	1.6
1987	-	a/	a/	0.3	2.4	5.2	1.1	0.2	-	-	9.2	-	-	-	-	0.7	1.1	0.5	0.2	-	-	2.5
1988	-	-	0.3	1.1	3.5	3.8	0.8	a/	-	-	9.5	-	-	-	0.1	0.2	2.8	0.1	-	-	-	3.2
1989	-	-	0.1	0.2	2.5	2.4	0.6	a/	a/	-	5.8	-	-	-	a/	1.1	2.1	0.4	0.1	-	-	3.7
1990	-	-	a/	0.1	1.6	1.5	0.2	0.1	-	-	3.4	-	-	-	0.1	2.2	2.1	0.1	a/	-	-	4.5
1991	-	-	a/	0.2	1.6	3.6	0.5	a/	-	-	5.9	-	-	-	0.5	7.9	9.6	0.6	a/	-	-	18.6
1992	-	a/	0.1	1.0	0.1	2.4	-	0.7	a/	a/	4.3	-	-	-	0.3	0.2	2.5	-	0.4	a/	-	3.3
1993	a/	a/	0.2	0.3	0.5	2.6	1.9	0.2	a/	-	5.8	-	a/	a/	0.1	0.7	9.4	1.9	0.1	a/	-	12.3
1994	a/	0.2	0.7	3.2	6.9	-	1.9	0.3	a/	-	13.2	-	-	-	a/	-	-	a/	-	a/	-	0.2
1995	0.2	0.3	1.0	1.1	20.5	-	4.8	1.0	0.1	-	29.0	-	-	-	a/	0.3	-	0.1	a/	a/	-	0.5
1996	a/	0.3	1.4	1.9	13.7	1.9	3.2	1.5	0.1	-	24.0	-	-	-	a/	0.2	a/	0.1	a/	-	-	0.3
1997 <sup>b/</sup>	a/	0.1	0.5	1.9	4.3	3.6	1.3	0.1	a/	a/	11.7	-	-	-	a/	a/	a/	a/	-	-	-	0.6
<b>San Francisco</b>																						
1976-1980	5.3	7.8	7.4	5.8	10.9	14.4	8.4	7.3	6.6	1.3	75.2	a/	a/	0.2	1.3	0.9	0.9	0.2	0.1	a/	a/	3.6
1981-1985	5.3	5.8	5.5	7.2	12.3	16.9	16.0	8.5	5.5	1.4	84.5	-	a/	a/	0.1	0.4	0.3	0.1	a/	a/	-	1.1
1986-1990	4.5	11.0	16.9	8.3	12.2	17.2	15.6	7.8	3.9	1.0	98.4	-	a/	a/	0.2	0.3	0.4	0.5	0.1	a/	-	1.5
1986	1.0	12.3	11.4	7.3	13.4	19.7	14.0	4.9	1.7	0.6	86.3	-	a/	-	0.1	0.1	0.1	a/	a/	a/	-	0.4
1987	3.8	7.4	16.8	9.3	9.8	22.4	29.7	12.3	7.1	1.1	119.5	-	-	-	a/	a/	a/	a/	a/	-	-	0.1
1988	5.4	13.7	20.9	15.6	19.0	21.8	9.6	4.8	3.8	0.5	115.1	-	-	-	a/	0.1	0.1	0.1	0.1	a/	-	0.4
1989	7.3	8.2	20.4	4.8	12.3	11.4	11.0	12.2	3.7	2.4	93.7	-	-	-	0.1	0.2	0.4	a/	0.1	a/	-	0.9
1990	5.1	13.3	15.1	4.3	6.6	10.6	13.6	4.9	3.5	0.6	77.6	-	-	-	0.1	0.4	1.0	1.6	2.3	0.4	0.1	5.8
1991	-	3.2	6.1	3.7	6.8	10.0	4.9	1.5	1.0	a/	37.3	-	a/	a/	0.1	4.2	2.8	0.5	0.1	a/	-	7.7
1992	0.1	0.8	0.8	3.9	6.6	13.8	8.9	9.0	3.1	0.1	47.2	a/	a/	a/	0.1	0.1	1.1	0.1	0.1	a/	-	1.6
1993	0.2	4.7	5.3	6.2	6.3	33.1	14.9	4.5	3.5	-	78.7	-	a/	0.1	0.2	0.7	1.8	0.1	a/	a/	-	3.0
1994	0.9	4.1	8.6	7.3	24.7	49.5	20.6	12.7	7.2	-	135.7	-	-	-	a/	a/	0.1	0.1	a/	a/	-	0.2
1995	-	12.7	14.0	13.6	25.9	59.6	15.7	12.2	2.0	-	155.7	-	-	-	a/	a/	0.1	a/	a/	-	-	0.2
1996	-	21.4	14.2	6.1	11.2	22.6	4.8	2.9	1.2	-	84.5	-	-	-	a/	a/	a/	a/	-	-	-	0.1
1997 <sup>b/</sup>	-	3.0	11.0	19.8	15.1	49.0	20.8	2.8	2.0	0.2	123.8	-	-	-	a/	-	0.2	a/	a/	-	-	0.2

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TABLE A-5. California ocean recreational salmon landings in numbers of fish by port of landing and month. (Page 3 of 3)

Year or Avg.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season	
<b>CHINOOK (thousands)</b>												<b>COHO (thousands)</b>											
<b>Monterey</b>																							
1976-1980	0.5	0.7	1.3	0.5	0.5	0.4	0.1	a/	a/	a/	4.1	a/	a/	a/	a/	a/	a/	-	-	-	-	0.1	
1981-1985	0.6	1.4	1.7	0.4	0.3	0.6	0.2	a/	a/	a/	5.5	-	-	a/	a/	a/	a/	-	-	-	-	0.1	
1986-1990	1.1	4.3	9.4	1.3	4.1	7.5	1.7	0.2	0.1	0.2	30.1	-	-	a/	a/	0.1	0.1	a/	a/	-	-	0.3	
1986	0.1	3.8	12.1	1.3	4.0	5.4	1.2	0.4	0.3	a/	28.6	-	-	-	-	a/	a/	a/	-	-	-	-	a/
1987	1.7	6.7	2.4	1.4	3.5	12.7	4.5	0.4	0.1	a/	33.3	-	-	-	-	-	a/	-	a/	-	-	-	a/
1988	1.5	2.4	3.9	1.8	2.9	3.5	0.2	a/	-	a/	16.2	-	-	-	a/	0.2	-	-	-	-	-	-	0.2
1989	0.6	4.5	22.1	1.5	2.0	4.7	1.8	a/	a/	a/	37.2	-	-	-	-	0.2	a/	a/	-	-	-	-	0.2
1990	1.6	4.3	6.6	0.7	8.4	11.3	0.8	a/	0.2	1.1	35.1	-	-	0.1	0.1	0.3	0.7	0.1	-	-	-	-	1.2
1991	-	4.8	6.9	0.9	3.7	6.9	0.4	0.1	1.2	-	24.8	-	-	-	a/	1.0	1.7	0.2	-	a/	-	-	2.9
1992	0.4	2.6	4.5	1.4	2.8	5.9	1.2	0.2	0.2	0.4	19.5	-	-	-	-	0.2	a/	-	-	-	-	-	0.2
1993	0.3	5.1	9.5	2.0	0.5	2.7	0.4	a/	0.1	-	20.6	-	-	-	a/	a/	0.1	a/	-	-	-	-	0.2
1994	0.3	3.0	6.3	1.9	4.1	3.8	1.4	0.8	2.5	-	24.2	-	-	-	-	a/	a/	-	-	-	-	-	a/
1995	-	14.3	42.9	31.1	27.0	74.1	9.3	0.1	-	-	198.9	-	-	a/	-	a/	a/	a/	-	-	-	-	a/
1996	-	10.3	16.1	5.2	2.3	7.8	3.2	-	-	-	44.8	-	-	-	-	-	-	-	-	-	-	-	-
1997 <sup>b/</sup>	-	16.9	15.4	4.2	26.4	20.0	1.5	0.1	a/	-	84.4	-	-	-	-	a/	a/	-	-	-	-	-	a/
<b>Total Statewide</b>																							
1976-1980	5.8	8.5	8.7	6.4	13.5	22.0	11.9	7.6	6.7	1.3	92.4	a/	a/	0.2	1.5	8.8	15.8	4.4	0.4	a/	a/	-	31.2
1981-1985	5.9	7.3	7.2	9.4	17.0	27.0	19.6	8.7	5.6	1.4	109.1	-	a/	a/	0.3	4.5	11.1	3.7	0.3	a/	-	-	19.9
1986-1990	5.6	15.3	26.4	11.3	28.3	42.9	22.6	8.6	4.1	1.3	166.5	-	a/	0.1	0.9	10.4	23.2	5.1	0.6	a/	-	-	40.3
1986	1.2	16.1	23.5	9.5	24.7	37.4	21.4	5.3	2.0	0.6	141.6	-	a/	-	0.5	5.5	9.1	3.6	a/	a/	-	-	18.7
1987	5.5	14.1	19.2	12.4	23.1	51.0	44.1	14.9	7.1	1.1	192.5	-	-	-	0.1	5.1	33.1	7.5	1.5	-	-	-	47.3
1988	6.8	16.1	25.0	20.1	38.0	43.5	12.7	5.3	3.8	0.5	171.8	-	-	a/	0.9	4.3	25.1	3.5	0.5	-	-	-	34.4
1989	8.0	12.7	42.6	8.6	27.8	48.7	19.7	12.4	3.7	2.4	186.6	-	-	0.1	1.8	14.1	27.2	6.2	0.2	-	-	-	49.6
1990	6.7	17.6	21.6	6.1	28.1	34.0	15.2	5.0	3.8	1.7	139.8	-	-	0.1	1.4	23.1	21.6	4.7	0.7	0.1	-	-	51.6
1991	-	8.0	13.0	4.8	19.9	25.1	5.7	2.0	2.2	a/	80.8	-	a/	a/	0.7	34.5	31.9	1.6	0.5	a/	-	-	69.3
1992	0.5	3.4	5.4	6.3	9.5	24.3	10.1	10.3	3.3	0.5	73.6	a/	a/	a/	0.4	0.4	9.0	0.1	1.5	a/	-	-	11.5
1993	0.4	9.9	15.0	8.9	7.6	40.4	18.8	5.4	3.6	-	110.0	-	a/	0.1	0.9	2.4	18.8	6.6	1.1	a/	-	-	29.8
1994	1.3	7.3	15.7	18.3	38.8	53.3	24.7	14.1	9.7	-	183.2	-	-	a/	a/	0.2	0.1	0.1	a/	a/	-	-	0.5
1995	0.2	27.3	57.9	47.2	80.3	133.7	31.4	17.0	2.1	-	397.2	-	-	a/	a/	0.5	0.1	0.1	0.1	a/	-	-	0.9
1996	a/	32.0	31.7	15.2	33.0	33.3	12.6	5.0	1.3	-	164.2	-	-	a/	a/	0.3	0.1	0.2	0.1	-	-	-	0.6
1997 <sup>b/</sup>	a/	20.1	26.9	27.6	48.0	74.5	26.4	3.1	2.0	0.1	228.9	-	-	-	a/	0.1	0.3	0.1	a/	-	-	-	0.5

a/ Less than 50 fish.

b/ Preliminary.

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TABLE A-6. Summary of Oregon commercial troll salmon fishing effort in days fished and landings in numbers of fish by catch area. (Page 1 of 2)

Year or Average	Columbia River <sup>a/</sup>	Tillamook	Newport	Coos Bay	Brookings	Oregon Subtotal	Alaska	Washington	California	Total
<b>DAYS FISHED (thousands)</b>										
1976-1980 <sup>b/</sup>	2.9	7.3	16.0	21.5	10.3	58.0	0.1	0.7	0.1	58.7
1981-1985	1.1	3.4	6.0	10.0	5.0	25.5	c/	0.3	0.2	26.0
1986-1990	0.7	6.9	8.7	20.3	1.7	38.2	c/	0.1	c/	38.3
1986	1.2	3.7	8.6	15.8	3.2	32.5	0.0	c/	c/	32.5
1987	0.3	7.3	8.7	21.0	2.0	39.3	0.0	0.1	c/	39.5
1988	0.2	10.5	12.5	26.3	1.4	50.8	c/	0.1	0.1	51.1
1989	0.9	7.8	9.3	22.9	1.2	42.3	0.0	c/	c/	42.3
1990	0.7	5.1	4.3	15.6	0.4	26.2	0.0	0.1	c/	26.2
1991	0.7	3.5	5.1	5.6	c/	14.9	0.0	c/	c/	14.9
1992	0.3	2.6	5.8	0.4	-	9.2	0.0	0.1	-	9.2
1993	0.2	1.8	5.9	1.6	-	9.5	0.0	c/	c/	9.5
1994	-	0.5	2.1	0.8	0.3	3.8	0.0	-	c/	3.8
1995	-	1.3	4.7	1.6	0.3	7.9	0.0	0.0	c/	7.9
1996	-	1.4	4.8	1.8	0.5	8.4	0.0	0.0	0.1	8.5
1997 <sup>d/</sup>	c/	0.7	5.2	1.6	0.4	7.8	0.0	0.0	c/	7.8
<b>CHINOOK LANDINGS (thousands)</b>										
1976-1980 <sup>b/</sup>	15.3	11.2	46.6	85.6	73.9	232.6	0.3	2.8	0.9	236.6
1981-1985	5.6	5.9	27.9	63.5	42.6	145.5	0.4	3.0	2.2	151.1
1986-1990	3.5	26.2	82.9	253.4	28.8	394.9	0.1	1.2	1.4	397.6
1986	6.1	14.1	88.0	240.0	53.7	401.9	0.0	0.4	0.4	402.7
1987	4.6	41.4	87.6	350.4	39.8	523.8	0.0	3.7	1.8	529.3
1988	1.6	32.8	129.0	268.5	31.6	463.5	0.5	1.4	4.6	470.0
1989	2.9	30.4	70.7	232.5	16.8	353.2	-	0.2	0.1	353.5
1990	2.3	12.5	39.3	175.8	2.2	232.1	0.0	0.3	c/	232.4
1991	0.9	9.5	33.5	30.5	0.2	74.6	0.0	c/	0.1	74.8
1992	1.5	7.3	94.7	6.2	-	109.7	0.0	0.8	-	110.5
1993	0.4	6.3	64.2	10.5	-	81.5	0.0	0.0	c/	81.5
1994	-	1.7	18.1	4.0	1.5	25.2	0.0	-	0.1	25.3
1995	-	9.7	174.4	26.6	3.3	214.0	0.0	0.0	0.8	214.8
1996	-	13.1	127.8	25.6	8.6	175.2	0.0	0.0	2.0	177.1
1997 <sup>d/</sup>	c/	2.4	118.7	24.8	3.6	149.6	0.0	0.0	0.1	149.7



TABLE A-6. Summary of Oregon commercial troll salmon fishing effort in days fished and landings in numbers of fish by catch area. (Page 2 of 2)

Year or Average	Columbia River <sup>a/</sup>	Tillamook	Newport	Coos Bay	Brookings	Oregon Subtotal	Alaska	Washington	California	Total
<b>COHO LANDINGS (thousands)</b>										
1976-1980 <sup>b/</sup>	75.7	131.6	216.8	301.4	66.9	792.3	1.8	9.3	0.3	803.7
1981-1985	21.3	67.5	87.8	114.3	19.8	310.6	0.0	9.6	0.8	321.0
1986-1990	17.1	106.6	135.9	132.5	5.1	397.2	c/	1.7	0.2	399.1
1986	46.1	96.7	192.3	86.2	19.1	440.4	0.0	-	-	440.4
1987	7.4	74.7	83.0	177.0	4.1	346.2	0.0	7.5	0.3	354.0
1988	-	172.3	252.5	196.4	1.3	622.4	c/	-	0.8	623.2
1989	21.1	136.3	137.8	159.5	1.0	455.7	0.0	-	c/	455.7
1990	10.9	53.3	13.8	43.4	-	121.4	0.0	0.9	c/	122.3
1991	26.7	90.2	88.7	101.0	-	306.6	0.0	0.3	0.1	306.9
1992	1.4	7.9	35.0	5.3	-	49.6	0.0	0.1	-	49.8
1993	1.6	-	c/	c/	-	1.7	0.0	c/	-	1.7
1994	-	-	-	-	-	-	0.0	-	-	-
1995	-	-	-	-	-	-	0.0	0.0	-	-
1996	-	-	-	c/	-	-	0.0	0.0	-	-
1997 <sup>d/</sup>	-	-	-	-	-	-	0.0	-	-	-

a/ Oregon ports only.

b/ Reported by port of landing 1976-1978 and by area of catch 1979-1980.

c/ Less than 50.

d/ Preliminary.

TABLE A-7. Oregon commercial troll salmon effort in days fished by area and month (beginning in 1979, monthly totals are the sum of statistical weeks with closest fit to the calendar month). (Page 1 of 3)

Year or Average	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season
<b>DAYS FISHED (thousands)</b>									
<u>Columbia River</u>									
1976-1980	-	0.2	0.3	1.3	0.8	0.2	0.1	b/	2.9
1981-1985	-	0.4	-	0.3	0.3	b/	b/	-	1.1
1986-1990	-	0.1	b/	b/	0.3	0.1	b/	-	0.7
1986	-	0.3	-	-	0.8	-	-	-	1.2
1987	-	0.1	-	0.2	-	-	-	-	0.3
1988	-	0.1	0.1	-	-	-	-	-	0.2
1989	-	0.1	b/	-	0.6	0.2	-	-	0.9
1990	-	0.1	b/	-	0.2	0.4	b/	-	0.7
1991	-	0.1	b/	-	0.4	0.2	-	-	0.7
1992	-	0.1	0.1	b/	b/	-	-	-	0.3
1993	-	b/	b/	0.1	0.1	0.1	-	-	0.2
1994	-	-	-	-	-	-	-	-	-
1995	-	-	-	-	-	-	-	-	-
1996	-	-	-	-	-	-	-	-	-
1997 <sup>c/</sup>	-	b/	b/	-	-	-	-	-	b/
<u>Tillamook Area</u>									
1976-1980	-	b/	1.0	3.6	2.4	0.2	0.1	-	7.3
1981-1985	-	0.1	b/	2.0	1.0	0.1	0.1	b/	3.4
1986-1990	-	0.2	0.3	3.0	1.7	1.0	0.7	b/	6.9
1986	-	b/	b/	2.7	0.3	0.5	0.1	b/	3.7
1987	-	0.1	0.3	2.6	2.1	1.2	0.9	-	7.3
1988	-	0.2	0.6	4.5	2.9	1.2	1.2	-	10.5
1989	-	0.5	0.7	3.2	1.5	1.3	0.6	-	7.8
1990	-	0.1	0.1	2.2	1.7	0.6	0.5	-	5.1
1991	-	0.1	0.1	1.7	0.4	0.5	0.7	-	3.5
1992	-	0.1	-	0.2	0.8	0.7	0.7	-	2.6
1993	-	0.1	0.1	0.2	0.2	0.8	0.5	-	1.8
1994	-	b/	0.1	-	-	-	0.4	b/	0.5
1995	-	0.1	0.1	-	0.5	0.3	0.2	-	1.3
1996	-	0.1	0.3	-	0.2	0.5	0.3	-	1.4
1997 <sup>c/</sup>	b/	0.1	0.1	-	0.1	0.2	0.2	b/	0.7
<u>Newport Area</u>									
1976-1980	-	0.4	1.8	6.9	5.4	1.1	0.4	-	16.0
1981-1985	-	0.6	0.3	3.0	1.7	0.2	0.2	b/	6.0
1986-1990	-	0.8	1.2	3.8	1.6	0.6	0.6	b/	8.7
1986	-	0.9	0.8	5.5	0.4	0.3	0.7	-	8.6
1987	-	1.0	0.9	3.1	1.6	1.2	0.8	-	8.7
1988	-	0.9	1.1	4.8	4.0	0.7	1.0	-	12.5
1989	-	0.9	1.8	4.1	1.4	0.6	0.4	0.1	9.3
1988	-	0.5	1.4	1.8	0.3	0.2	0.1	-	4.3
1991	-	0.6	2.0	0.9	0.6	0.5	0.4	-	5.1
1992	-	1.4	-	1.1	1.7	0.7	0.9	-	5.8
1993	-	1.4	1.1	1.5	0.8	0.7	0.5	-	5.9
1994	-	0.8	0.8	-	-	0.2	0.3	-	2.1
1995	-	0.6	1.0	-	1.6	0.8	0.7	-	4.7
1996	-	1.0	1.1	-	1.3	0.8	0.5	-	4.8
1997 <sup>c/</sup>	0.2	1.4	1.3	-	1.3	0.7	0.2	-	5.2



TABLE A-7. Oregon commercial troll salmon effort in days fished by area and month (beginning in 1979, monthly totals are the sum of statistical weeks with closest fit to the calendar month). (Page 2 of 3)

Year or Average	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season
<b>DAYS FISHED (thousands)</b>									
<u>Coos Bay Area</u>									
1976-1980	-	0.6	2.7	10.3	6.0	1.6	0.4	b/	21.5
1981-1985	-	0.7	0.7	5.2	2.6	0.6	0.2	b/	10.0
1986-1990	-	2.7	3.0	7.3	4.7	1.5	1.0	0.1	20.3
1986	-	2.1	2.4	5.6	4.2	1.2	0.3	-	15.8
1987	-	1.7	1.7	10.3	3.5	3.1	0.7	-	21.0
1988	-	3.2	4.4	7.7	7.1	1.6	2.3	-	26.3
1989	-	4.5	4.2	6.4	4.9	1.1	1.2	0.7	22.9
1990	-	2.2	2.2	6.4	3.6	0.7	0.4	b/	15.6
1991	-	b/	1.8	1.5	1.0	0.8	0.5	-	5.6
1992	-	0.1	-	0.1	0.2	b/	0.1	-	0.4
1993	-	0.6	0.2	b/	b/	0.4	0.3	0.1	1.6
1994	-	0.1	0.3	-	-	0.1	0.3	0.1	0.8
1995	-	0.2	0.5	-	0.5	0.2	0.2	0.1	1.6
1996	-	0.3	0.5	-	0.3	0.4	0.3	0.1	1.8
1997 <sup>c/</sup>	0.1	0.5	0.4	-	0.2	0.1	0.2	0.1	1.6
<u>Brookings Area</u>									
1976-1980	-	0.2	0.7	3.5	2.6	1.5	1.1	0.7	10.3
1981-1985	-	0.3	0.2	1.4	1.7	0.4	0.7	0.3	5.0
1986-1990	-	0.3	0.5	0.1	0.4	0.1	0.1	0.1	1.7
1986	-	0.5	0.7	0.6	1.1	-	0.2	0.1	3.2
1987	-	0.5	0.9	-	-	-	0.3	0.3	2.0
1988	-	0.3	0.6	-	-	0.1	0.1	0.3	1.4
1989	-	0.2	0.3	-	0.4	0.3	-	-	1.2
1990	-	b/	-	-	0.4	b/	-	-	0.4
1991	-	-	-	-	-	b/	-	-	b/
1992	-	-	-	-	-	-	-	-	-
1993	-	-	-	-	-	-	-	-	-
1994	-	b/	-	-	0.1	-	0.2	-	0.3
1995	-	b/	-	b/	-	-	0.2	-	0.3
1996	-	0.1	b/	-	0.2	-	0.2	-	0.5
1997 <sup>c/</sup>	b/	0.1	-	-	b/	-	0.2	-	0.4
<u>South of Cape Falcon</u>									
1976-1980	-	1.2	6.2	24.3	16.3	4.4	2.0	0.7	55.1
1981-1985	-	1.7	1.2	11.6	7.1	1.4	1.2	0.3	24.4
1986-1990	-	4.1	5.1	14.3	8.3	3.2	2.4	0.3	37.5
1986	-	3.6	4.0	14.3	6.0	2.0	1.3	0.1	31.3
1987	-	3.3	3.9	16.1	7.3	5.5	2.7	0.3	39.0
1988	-	4.5	6.6	16.9	14.1	3.6	4.6	0.3	50.6
1989	-	6.2	7.1	13.6	8.2	3.3	2.1	0.8	41.3
1990	-	2.8	3.7	10.4	6.0	1.5	1.0	b/	25.4
1991	-	0.7	3.9	4.1	2.0	1.9	1.6	-	14.2
1992	-	1.6	-	1.5	2.7	1.5	1.7	-	8.9
1993	-	2.1	1.3	1.7	1.0	1.9	1.2	0.1	9.3
1994	-	1.0	1.2	-	0.1	0.3	1.2	0.1	3.8
1995	-	1.0	1.6	b/	2.6	1.3	1.3	0.1	7.9
1996	-	1.5	2.0	-	2.0	1.6	1.2	0.1	8.4
1997 <sup>c/</sup>	0.4	2.1	1.9	-	1.7	1.0	0.7	0.1	7.8

TABLE A-7. Oregon commercial troll salmon effort in days fished by area and month (beginning in 1979, monthly totals are the sum of statistical weeks with closest fit to the calendar month).<sup>a/</sup> (Page 3 of 3)

Year or Average	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season
<b>DAYS FISHED (thousands)</b>									
<b>Total All Areas</b>									
1976-1980	-	1.4	6.5	25.6	17.2	4.6	2.1	0.7	58.0
1981-1985	-	2.1	1.2	11.9	7.4	1.4	1.2	0.3	25.5
1986-1990	-	4.2	5.1	14.3	8.6	3.3	2.4	0.3	38.2
1986	-	3.9	4.0	14.3	6.8	2.0	1.3	0.1	32.5
1987	-	3.5	3.9	16.2	7.3	5.5	2.7	0.3	39.3
1988	-	4.6	6.7	16.9	14.1	3.6	4.6	0.3	50.8
1989	-	6.2	7.1	13.6	8.8	3.5	2.1	0.8	42.3
1990	-	2.8	3.7	10.4	6.2	1.9	1.1	b/	26.2
1991	-	0.8	4.0	4.1	2.4	2.0	1.6	-	14.9
1992	-	1.6	0.1	1.5	2.7	1.5	1.7	-	9.2
1993	-	2.1	1.3	1.8	1.0	2.0	1.2	0.1	9.5
1994	-	1.0	1.2	-	0.1	0.3	1.2	0.1	3.8
1995	-	1.0	1.6	b/	2.6	1.3	1.3	0.1	7.9
1996	-	1.5	2.0	-	2.0	1.6	1.2	0.1	8.4
1997 <sup>c/</sup>	0.4	2.1	1.9	-	1.7	1.0	0.7	0.1	7.8

a/ Summary of ODFW fish receiving ticket information. Excludes effort occurring off Alaska, Washington and California. Days fished data are reported by port of landing prior to 1979 and by area of catch after 1978. Catch and landing areas include the following port areas: Columbia River includes Oregon ports from Astoria through Cannon Beach; Tillamook area includes Nehalem through Pacific City; Newport area includes Depoe Bay through Waldport; Coos Bay area prior to 1968 includes Florence through Bandon and after 1987 includes Florence through Port Orford; Brookings area prior to 1968 includes Port Orford through Brookings and after 1987 includes Gold Beach through Brookings.

b/ Less than 50 days.

c/ Preliminary.



TABLE A-8. Oregon commercial troll chinook and coho salmon landings in numbers of fish by catch area and month (beginning in 1979, monthly totals are the sum of statistical weeks with closest fit to the calendar month).<sup>a/</sup> (Page 1 of 4)

Year or Average	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season	June	July	Aug.	Sept.	Oct.	Season
<b>CHINOOK (thousands)</b>															
<b>COHO (thousands)</b>															
<u>Columbia River</u>															
1976-1980	-	5.0	4.6	3.1	1.5	0.5	0.6	-	15.3	22.9	34.5	12.9	4.7	0.6	75.7
1981-1985	-	4.7	-	0.5	0.3	b/	b/	-	5.6	-	11.3	9.5	0.5	-	21.3
1986-1990	-	1.8	0.2	0.4	0.5	0.5	b/	-	3.5	-	1.5	11.3	4.3	0.1	17.1
1986	-	4.5	-	-	1.6	-	-	-	6.1	-	-	46.1	-	-	46.1
1987	-	2.3	-	2.2	-	-	-	-	4.6	-	7.4	-	-	-	7.4
1988	-	1.0	0.6	-	-	-	-	-	1.6	-	-	-	-	-	-
1989	-	0.7	0.4	-	0.7	1.1	-	-	2.9	-	-	6.8	14.4	-	21.1
1990	-	0.5	0.1	-	0.4	1.2	0.1	-	2.3	-	-	3.5	7.0	0.3	10.9
1991	-	0.3	b/	-	0.5	0.1	-	-	0.9	-	-	21.6	5.2	-	26.7
1992	-	0.4	0.9	0.1	0.1	-	-	-	1.5	-	0.7	0.8	-	-	1.4
1993	-	0.3	b/	b/	b/	0.1	-	-	0.4	-	0.2	1.2	0.2	-	1.6
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1996	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1997 <sup>c/</sup>	-	b/	b/	-	-	-	-	-	b/	-	-	-	-	-	-
<u>Tillamook Area</u>															
1976-1980	-	0.5	3.3	4.1	2.7	0.5	0.2	-	11.2	30.0	67.5	31.7	2.3	0.1	131.6
1981-1985	-	1.5	0.3	2.4	1.2	0.3	0.2	-	5.9	-	55.1	12.1	0.3	-	67.5
1986-1990	-	1.7	3.1	8.3	5.9	4.7	2.5	b/	26.2	-	83.4	22.1	1.1	-	106.6
1986	-	0.2	0.1	2.8	3.1	6.5	1.5	b/	14.1	-	96.7	-	-	-	96.7
1987	-	1.8	1.6	16.1	11.7	6.9	3.3	-	41.4	-	49.6	19.8	5.4	-	74.7
1988	-	0.9	5.7	9.5	8.8	4.2	3.6	-	32.8	-	124.2	48.1	-	-	172.3
1989	-	5.4	7.8	6.8	3.6	4.2	2.6	-	30.4	-	117.1	19.2	-	-	136.3
1990	-	0.4	0.6	6.2	2.3	1.8	1.2	-	12.5	-	29.6	23.7	-	-	53.3
1991	-	0.2	0.2	3.1	1.9	2.1	2.0	-	9.5	-	90.2	-	-	-	90.2
1992	-	0.4	-	0.4	2.2	1.9	2.4	-	7.3	-	0.8	7.1	-	b/	7.9
1993	-	0.5	0.2	0.8	0.6	2.6	1.6	-	6.3	-	-	-	-	-	-
1994	-	0.1	0.3	-	-	-	1.3	b/	1.7	-	-	-	-	-	-
1995	-	0.4	0.8	-	6.6	1.1	0.7	-	9.7	-	-	-	-	-	-
1996	-	0.7	8.6	-	1.1	2.1	0.7	-	13.1	-	-	-	-	-	-
1997 <sup>c/</sup>	b/	0.2	0.6	-	0.3	0.7	0.4	b/	2.4	-	-	-	-	-	-

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TABLE A-8. Oregon commercial troll chinook and coho salmon landings in numbers of fish by catch area and month (beginning in 1979, monthly totals are the sum of statistical weeks with closest fit to the calendar month).<sup>a/</sup> (Page 2 of 4)

Year or Average	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season	June	July	Aug.	Sept.	Oct.	Season
	<b>CHINOOK (thousands)</b>									<b>COHO (thousands)</b>					
<b>Newport Area</b>															
1976-1980	-	3.6	6.5	12.5	16.4	4.8	2.8	b/	46.6	36.4	110.3	63.5	5.8	0.8	216.8
1981-1985	-	6.3	2.3	11.7	5.1	1.0	1.5	-	27.9	-	60.3	26.7	0.8	-	87.8
1986-1990	-	8.8	14.1	27.8	14.4	6.9	10.9	-	82.9	b/	108.3	26.5	1.0	-	135.9
1986	-	10.2	11.9	30.9	5.5	6.9	22.5	-	88.0	-	192.3	-	-	-	192.3
1987	-	10.5	7.5	24.1	23.7	13.7	8.1	-	87.6	-	59.3	18.5	5.2	-	83.0
1988	-	8.4	15.2	46.7	32.3	8.9	17.5	-	129.0	-	146.3	106.2	-	-	252.5
1989	-	12.4	19.1	20.6	8.3	4.5	5.7	-	70.7	-	129.8	8.0	-	-	137.8
1990	-	2.5	16.5	16.6	2.3	0.6	0.8	-	39.3	0.1	13.7	-	-	-	13.8
1991	-	2.9	7.4	3.4	5.8	7.0	7.0	-	33.5	58.3	30.4	-	-	-	88.7
1992	-	19.6	-	28.5	21.9	8.5	16.2	-	94.7	-	19.0	15.9	-	-	35.0
1993	-	17.1	13.7	11.9	9.4	8.6	3.5	-	64.2	-	-	b/	-	-	b/
1994	-	7.2	7.0	-	-	1.0	2.8	-	18.1	-	-	-	-	-	-
1995	-	8.6	28.0	-	79.4	33.3	25.1	-	174.4	-	-	-	-	-	-
1996	-	22.7	20.6	-	53.6	19.4	11.5	-	127.8	-	-	-	-	-	-
1997 <sup>c/</sup>	2.4	24.0	26.9	-	38.7	24.0	2.8	-	118.7	-	-	-	-	-	-
<b>Coos Bay Area</b>															
1976-1980	-	3.1	11.9	30.2	28.9	7.5	3.9	b/	85.6	69.9	176.0	52.1	3.2	0.2	301.4
1981-1985	-	5.5	4.3	29.9	17.2	5.4	1.1	b/	63.5	-	101.9	12.4	b/	-	114.3
1986-1990	-	30.5	28.2	103.6	64.0	17.4	9.2	0.7	253.4	b/	103.6	26.8	2.0	-	132.5
1986	-	18.2	21.3	94.9	83.3	20.6	1.7	-	240.0	-	86.2	-	-	-	86.2
1987	-	17.8	11.4	228.6	47.4	40.4	4.8	-	350.4	b/	146.3	20.5	10.2	-	177.0
1988	-	39.4	47.3	54.2	87.6	14.0	26.0	-	268.5	-	117.1	79.3	-	-	196.4
1989	-	64.8	45.2	42.8	57.7	7.2	11.3	3.4	232.5	-	125.2	34.3	-	-	159.5
1990	-	12.1	15.5	97.3	44.1	4.7	2.1	b/	175.8	b/	43.4	-	-	-	43.4
1991	-	0.1	5.1	9.0	3.9	8.9	3.5	-	30.5	32.8	68.2	c/	-	-	101.0
1992	-	0.6	-	2.6	2.0	0.3	0.6	-	6.2	-	3.2	2.1	-	-	5.3
1993	-	2.7	0.9	0.2	0.4	4.4	1.3	0.7	10.5	-	-	-	-	b/	b/
1994	-	0.4	1.6	-	-	0.2	1.5	0.4	4.0	-	-	-	-	-	-
1995	-	1.6	7.0	-	11.9	4.1	1.6	0.3	26.6	-	-	-	-	-	-
1996	-	2.2	10.1	-	6.1	4.5	1.9	0.8	25.6	b/	-	-	-	-	b/
1997 <sup>c/</sup>	2.0	6.7	7.9	-	5.5	1.1	1.2	0.5	24.8	-	-	-	-	-	-

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TABLE A-8. Oregon commercial troll chinook and coho salmon landings in numbers of fish by catch area and month (beginning in 1979, monthly totals are the sum of statistical weeks with closest fit to the calendar month).<sup>a)</sup> (Page 3 of 4)

Year or Average	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season	June	July	Aug.	Sept.	Oct.	Season
<b>CHINOOK (thousands)</b>										<b>COHO (thousands)</b>					
<b>Brookings Area</b>															
1976-1980	-	1.8	4.2	21.3	27.1	10.5	6.6	2.4	73.9	10.6	43.1	11.7	1.6	0.1	66.9
1981-1985	-	1.7	1.9	10.4	20.1	3.9	3.5	1.1	42.6	-	12.7	7.1	-	-	19.8
1986-1990	-	5.1	13.4	1.9	5.2	1.7	0.6	0.9	28.8	3.7	1.4	-	-	-	5.1
1986	-	3.7	16.7	9.6	22.1	-	1.0	0.6	53.7	12.0	7.1	-	-	-	19.1
1987	-	8.8	28.0	-	-	-	1.1	1.9	39.8	4.1	-	-	-	-	4.1
1988	-	8.2	20.7	-	-	0.1	0.8	1.9	31.6	1.3	-	-	-	-	1.3
1989	-	4.6	1.9	-	1.9	8.4	-	-	16.8	1.0	-	-	-	-	1.0
1990	-	0.1	-	-	2.1	0.1	-	-	2.2	-	-	-	-	-	-
1991	-	-	-	-	-	0.2	-	-	0.2	-	-	-	-	-	-
1992	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1993	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1994	-	0.2	-	-	0.2	-	1.0	-	1.5	-	-	-	-	-	-
1995	-	0.3	-	1.7	-	-	1.3	-	3.3	-	-	-	-	-	-
1996	-	2.9	2.2	-	2.7	-	0.8	-	8.6	-	-	-	-	-	-
1997 <sup>c)</sup>	0.1	2.3	-	-	0.3	-	0.9	-	3.6	-	-	-	-	-	-
<b>South of Cape Falcon</b>															
1976-1980	-	9.1	25.9	68.1	75.0	23.3	13.5	2.5	217.3	146.8	396.9	159.0	12.9	1.1	716.7
1981-1985	-	15.1	8.7	54.3	43.6	10.7	6.4	1.1	139.9	-	229.9	58.3	1.2	-	289.3
1986-1990	-	46.1	58.8	141.5	89.6	30.7	23.1	1.6	391.4	3.7	296.8	75.5	4.2	-	380.1
1986	-	32.4	50.0	138.1	114.0	34.0	26.7	0.6	395.8	12.0	382.3	-	-	-	394.3
1987	-	38.9	48.6	268.9	82.7	61.0	17.2	1.9	519.2	4.1	255.1	58.8	20.8	-	338.8
1988	-	56.9	88.8	110.4	128.8	27.2	47.9	1.9	461.8	1.3	387.5	233.6	-	-	622.4
1989	-	87.2	74.1	70.2	71.5	24.2	19.7	3.4	350.3	1.0	372.2	61.4	-	-	434.6
1990	-	15.1	32.6	120.1	50.8	7.1	4.2	b/	229.9	0.1	86.6	23.7	-	-	110.5
1991	-	3.3	12.6	15.5	11.6	18.2	12.4	-	73.7	91.2	188.7	b/	-	-	279.9
1992	-	20.6	-	31.5	26.1	10.7	19.3	-	108.2	-	23.1	25.1	-	b/	48.2
1993	-	20.3	14.7	12.9	10.4	15.6	6.4	0.7	81.1	-	-	b/	-	b/	b/
1994	-	7.9	8.9	-	0.2	1.2	6.6	0.4	25.2	-	-	-	-	-	-
1995	-	10.9	35.8	1.7	97.9	38.5	28.8	0.3	214.0	-	-	-	-	-	-
1996	-	28.5	41.5	-	63.5	26.0	14.9	0.8	175.2	b/	-	-	-	-	b/
1997 <sup>c)</sup>	4.5	33.3	35.4	-	44.7	25.8	5.4	0.5	149.5	-	-	-	-	-	-

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TABLE A-8. Oregon commercial troll chinook and coho salmon landings in numbers of fish by catch area and month (beginning in 1979, monthly totals are the sum of statistical weeks with closest fit to the calendar month).<sup>a/</sup> (Page 4 of 4)

Year or Average	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season	June	July	Aug.	Sept.	Oct.	Season
	<b>CHINOOK (thousands)</b>									<b>COHO (thousands)</b>					
<b>Total All Areas</b>															
1976-1980	-	14.1	30.5	71.2	76.5	23.8	14.0	2.5	232.6	169.7	431.4	171.9	17.6	1.8	792.3
1981-1985	-	19.8	8.7	54.8	43.9	10.7	6.4	1.1	145.5	-	241.2	67.8	1.7	-	310.6
1986-1990	-	47.9	59.0	142.0	90.1	31.2	23.1	1.6	394.9	3.7	298.2	86.8	8.4	0.1	397.2
1986	-	36.9	50.0	138.1	115.6	34.0	26.7	0.6	401.9	12.0	382.3	46.1	-	-	440.4
1987	-	41.2	48.6	271.1	82.7	61.0	17.2	1.9	523.8	4.1	262.5	58.8	20.8	-	346.2
1988	-	57.9	89.5	110.4	128.8	27.2	47.9	1.9	463.5	1.3	387.5	233.6	-	-	622.4
1989	-	87.9	74.5	70.2	72.2	25.4	19.7	3.4	353.2	1.0	372.2	68.2	14.4	-	455.7
1990	-	15.6	32.7	120.1	51.3	8.3	4.2	b/	232.1	0.1	86.6	27.3	7.0	0.3	121.4
1991	-	3.6	12.6	15.5	12.1	18.3	12.4	-	74.6	91.2	188.7	21.6	5.2	-	306.6
1992	-	21.0	0.9	31.6	26.2	10.7	19.3	-	109.7	-	23.7	25.9	-	b/	49.6
1993	-	20.6	14.7	13.0	10.5	15.6	6.4	0.7	81.5	-	0.2	1.2	0.2	b/	1.7
1994	-	7.9	8.9	-	0.2	1.2	6.6	0.4	25.2	-	-	-	-	-	-
1995	-	10.9	35.8	1.7	97.9	38.5	28.8	0.3	214.0	-	-	-	-	-	-
1996	-	28.5	41.5	-	63.5	26.0	14.9	0.8	175.2	b/	-	-	-	-	b/
1997 <sup>c/</sup>	4.5	33.4	35.4	-	44.7	25.8	5.4	0.5	149.6	-	-	-	-	-	-

a/ Excludes harvests off Alaska, Washington, and California that were landed in Oregon. Landings are reported by port of landing prior to 1979 and by area of catch after 1978. Catch and landing areas include the following port areas: Columbia River includes Oregon ports from Astoria through Cannon Beach; Tillamook area includes Nehalem through Pacific City; Newport area includes Depoe Bay through Waldport; Coos Bay area prior to 1988 includes Florence through Bandon and after 1987 includes Florence through Port Orford; Brookings area prior to 1988 includes Port Orford through Brookings and after 1987 includes Gold Beach through Brookings.

b/ Less than 50 fish.

c/ Preliminary.

TABLE A-9. Oregon ocean recreational effort in salmon angler trips by catch area and month. <sup>a/</sup> (Page 1 of 3)

Year or Average	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season
<b>ANGLER TRIPS (thousands)</b>									
<b>Columbia River</b>									
1976-1980	-	0.9	8.6	17.4	25.3	8.3	0.2	b/	60.7
1981-1985	-	0.2	2.6	11.8	9.9	1.7	-	-	26.2
1986-1990	-	b/	0.9	8.9	7.6	0.3	-	-	17.7
1986	-	-	0.7	12.1	7.7	-	-	-	20.5
1987	-	-	0.6	8.5	8.0	-	-	-	17.1
1988	-	-	-	5.7	-	-	-	-	5.7
1989	-	0.1	1.2	9.2	9.2	-	-	-	19.8
1990	-	-	1.9	8.9	13.2	1.4	-	-	25.5
1991	-	-	1.5	9.0	9.4	1.8	-	-	21.7
1992	-	-	-	9.8	1.8	1.3	-	-	12.9
1993	-	-	-	5.7	7.9	4.3	-	-	17.8
1994	-	-	-	-	-	-	-	-	-
1995	-	-	-	2.3	7.7	1.0	-	-	10.9
1996	-	-	-	1.0	3.8	0.9	-	-	5.6
1997 <sup>c/</sup>	-	-	-	2.8	0.8	-	-	-	3.6
<b>Tillamook Area</b>									
1976-1980	-	1.0	5.5	14.8	18.5	3.8	0.2	b/	43.8
1981-1985	-	0.3	1.2	14.2	11.6	2.7	0.3	-	30.3
1986-1990	-	0.1	2.0	12.1	10.7	4.1	d/	d/	29.0
1986	-	b/	1.9	13.0	3.1	-	d/	-	17.9
1987	-	-	1.8	12.4	10.9	3.8	d/	-	29.1
1988	-	0.3	2.1	9.6	13.8	7.4	d/	-	33.3
1989	-	0.3	3.0	15.4	9.5	3.1	d/	-	31.3
1990	-	0.1	1.2	9.9	16.3	6.0	d/	-	33.5
1991	-	0.4	4.0	16.6	-	-	d/	-	21.0
1992	-	1.2	3.4	11.7	7.1	2.8	d/	-	26.1
1993	-	0.8	0.2	3.1	1.5	-	d/	-	5.6
1994	-	0.6	0.9	-	-	-	8.7	b/	10.3
1995	-	0.6	0.1	-	-	1.3	1.0	0.8	3.8
1996	-	0.7	0.1	b/	0.5	3.7	3.3	-	8.3
1997 <sup>c/</sup>	-	b/	0.1	0.1	0.3	1.4	1.8	-	3.6
<b>Newport Area</b>									
1976-1980	-	2.7	14.8	37.8	34.8	6.8	0.7	b/	97.7
1981-1985	-	0.5	3.8	29.0	20.8	3.0	-	-	57.1
1986-1990	-	0.8	7.8	37.4	23.3	5.3	-	-	74.6
1986	-	1.4	3.9	38.9	8.0	-	-	-	52.2
1987	-	-	5.2	40.0	23.2	8.6	-	-	76.9
1988	-	1.0	7.1	37.9	34.2	9.4	-	-	89.6
1989	-	0.9	17.2	37.5	22.8	4.3	-	-	82.8
1990	-	0.7	5.5	32.8	28.3	4.1	-	-	71.4
1991	-	0.8	11.8	40.6	-	-	-	-	53.3
1992	-	1.1	7.1	27.9	14.6	2.4	-	-	53.0
1993	-	0.2	0.2	11.6	5.1	-	-	-	17.1
1994	-	0.1	b/	-	-	-	-	-	0.1
1995	-	0.1	0.3	-	-	0.4	0.1	-	0.9
1996	-	0.3	0.2	b/	1.8	0.5	-	-	2.8
1997 <sup>c/</sup>	-	b/	0.1	0.2	0.1	0.3	-	-	2.4



TABLE A-9. Oregon ocean recreational effort in salmon angler trips by catch area and month.<sup>a/</sup> (Page 2 of 3)

Year or Average	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season
<b>ANGLER TRIPS (thousands)</b>									
<b>Coos Bay Area</b>									
1976-1980	-	5.3	24.1	44.6	29.7	7.0	0.4	b/	111.1
1981-1985	-	1.3	8.0	34.9	16.7	2.8	d/	d/	63.7
1986-1990	-	0.7	8.7	33.1	15.3	3.5	d/	d/	61.4
1986	-	0.8	4.9	33.6	4.3	-	d/	d/	43.6
1987	-	-	3.9	40.6	12.8	5.2	d/	d/	62.5
1988	-	1.4	9.8	33.1	21.0	3.7	d/	d/	69.0
1989	-	0.8	16.2	33.9	13.6	2.1	d/	d/	66.6
1990	-	0.6	8.8	24.3	24.9	6.4	-	-	65.0
1991	-	1.0	17.3	39.4	-	-	-	-	57.7
1992	-	1.4	9.4	28.6	12.8	3.3	d/	-	55.6
1993	-	0.3	0.9	10.1	4.1	-	-	-	15.3
1994	-	0.2	0.2	-	-	-	d/	d/	0.4
1995	-	0.1	0.5	-	-	0.1	d/	d/	0.7
1996	-	0.2	0.6	0.6	1.9	0.7	d/	d/	3.9
1997 <sup>c/</sup>	b/	0.3	0.5	0.8	2.0	0.4	d/	d/	3.9
<b>Brookings Area</b>									
1976-1980	-	1.3	11.8	27.8	20.2	6.8	5.6	0.9	74.4
1981-1985	-	1.7	6.3	25.9	15.4	3.4	3.4	0.1	56.2
1986-1990	-	2.2	13.0	24.7	13.1	3.2	2.2	-	58.4
1986	-	3.6	10.4	20.1	13.0	0.6	5.0	-	52.7
1987	-	2.3	10.0	29.0	15.2	7.1	5.9	-	69.4
1988	-	0.8	14.2	25.2	11.3	1.6	-	-	53.1
1989	-	3.1	15.7	26.6	14.6	5.8	-	-	65.8
1990	-	1.4	14.5	22.8	11.5	0.8	-	-	51.1
1991	-	1.1	11.6	17.8	1.9	4.0	-	-	36.4
1992	-	-	-	8.9	-	4.9	3.9	-	17.7
1993	-	1.7	4.7	6.5	8.1	2.8	-	-	23.8
1994	-	6.3	1.3	-	1.4	2.9	4.2	-	16.2
1995	-	2.3	6.2	-	2.0	5.5	3.4	0.0	19.4
1996	-	1.7	5.9	2.2	6.0	3.2	4.3	-	23.3
1997 <sup>c/</sup>	-	2.5	3.5	2.9	5.5	1.0	1.3	-	16.6
<b>South of Cape Falcon</b>									
1976-1980	-	10.3	56.2	125.1	103.2	24.3	7.0	1.0	327.0
1981-1985	-	3.8	19.4	104.0	64.4	11.9	3.7	0.1	207.3
1986-1990	-	3.9	31.5	107.3	62.5	16.0	2.2	d/	223.4
1986	-	5.7	21.2	105.6	28.3	0.6	5.0	d/	166.4
1987	-	2.3	20.9	122.0	62.1	24.7	5.9	d/	237.9
1988	-	3.5	33.2	105.8	80.4	22.1	d/	d/	245.0
1989	-	5.1	52.2	113.3	60.4	15.4	d/	d/	246.4
1990	-	2.8	30.0	89.8	81.1	17.4	d/	-	221.0
1991	-	3.4	44.7	114.4	1.9	4.0	d/	-	168.4
1992	-	3.7	19.9	77.1	34.4	13.4	3.9	-	152.4
1993	-	3.0	6.0	31.3	18.7	2.8	d/	d/	61.8
1994	-	7.2	2.4	-	1.4	2.9	13.0	b/	26.9
1995	-	3.2	7.1	-	2.0	7.4	4.6	0.8	24.9
1996	-	3.0	6.8	2.8	10.2	8.0	7.5	-	38.3
1997 <sup>c/</sup>	b/	2.9	4.2	3.8	9.5	3.1	3.1	d/	26.6

TABLE A-9. Oregon ocean recreational effort in salmon angler trips by catch area and month.<sup>a/</sup> (Page 3 of 3)

Year or Average	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season
<b>ANGLER TRIPS (thousands)</b>									
<u>Total All Areas</u>									
1976-1980	-	11.2	64.8	142.5	128.5	32.7	7.2	1.0	387.7
1981-1985	-	4.0	22.0	115.8	74.3	13.6	3.7	0.1	233.5
1986-1990	-	3.9	32.4	116.2	70.1	16.3	2.2	d/	241.1
1986	-	5.7	21.9	117.7	36.0	0.6	5.0	d/	187.0
1987	-	2.3	21.5	130.5	70.2	24.7	5.9	d/	255.1
1988	-	3.5	33.2	111.5	80.4	22.1	d/	d/	250.7
1989	-	5.3	53.4	122.6	69.6	15.4	d/	-	266.3
1990	-	2.8	32.0	98.7	94.3	18.8	d/	-	246.6
1991	-	3.4	46.2	123.4	11.3	5.8	d/	-	190.1
1992	-	3.7	19.9	86.9	36.3	14.7	3.9	-	165.3
1993	-	3.0	6.0	37.0	26.5	7.1	d/	d/	79.6
1994	-	7.2	2.4	-	1.4	2.9	13.0	b/	26.9
1995	-	3.2	7.1	2.3	9.6	8.4	4.6	0.8	35.8
1996	-	3.0	6.8	3.8	13.9	8.9	7.5	-	44.0
1997 <sup>c/</sup>	b/	2.9	4.2	6.7	10.3	3.1	3.1	d/	30.2

a/ Monthly totals are the sum of statistical weeks with closest fit to the calendar month. The 1976-1980 effort is from combined salmon/steelhead punch card and sampled port data. Since 1981, data from sampled ports only. Effort since 1979 consists of salmon angler trips only. Data prior to 1979 include combined bottomfish and salmon trips. Columbia River area includes Astoria, Warrenton and Hammond; Tillamook area includes Garibaldi and Pacific City; Newport area includes Depoe Bay and Newport; Coos Bay area includes Florence, Winchester Bay and Coos Bay; Brookings area includes Gold Beach and Brookings.

b/ Less than 50 angler trips.

c/ Preliminary.

d/ Estimates not available in late-season, state water fisheries off Tillamook Bay and Elk River.

TABLE A-10. Oregon ocean recreational salmon landings in numbers of fish by catch area and month.<sup>a/</sup> (Page 1 of 4)

Year or Average	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season	May	June	July	Aug.	Sept.	Season
	CHINOOK (thousands)									COHO (thousands)					
<b>Columbia River</b>															
1976-1980 <sup>b/</sup>	-	0.3	3.2	4.1	8.0	1.5	0.1	c/	17.1	0.9	12.9	20.7	21.7	7.1	63.5
1981-1985	-	c/	0.7	2.4	1.9	0.3	-	-	5.4	0.3	3.6	16.5	11.2	2.2	33.8
1986-1990	-	c/	0.1	1.0	1.2	c/	-	-	2.3	-	2.2	16.0	10.6	0.3	29.0
1986	-	-	0.1	1.3	0.7	-	-	-	2.1	-	1.7	23.3	14.1	-	39.1
1987	-	-	0.2	2.0	1.9	-	-	-	4.1	-	0.9	12.5	12.3	-	25.6
1988	-	-	-	0.5	-	-	-	-	0.5	-	-	9.8	-	-	9.8
1989	-	c/	0.2	0.2	1.1	-	-	-	1.5	-	4.9	19.6	9.8	-	34.3
1990	-	-	0.1	0.9	2.2	0.1	-	-	3.3	-	3.5	14.7	16.6	1.3	36.1
1991	-	-	0.1	0.3	0.6	c/	-	-	1.0	-	2.4	16.4	17.2	3.4	39.4
1992	-	-	-	0.3	0.2	c/	-	-	0.5	-	-	17.9	3.0	1.4	22.3
1993	-	-	-	0.2	0.4	0.2	-	-	0.8	-	-	7.1	10.3	3.8	21.2
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	-	-	-	f/	0.1	f/	-	-	0.1	-	-	2.0	9.0	0.8	11.8
1996 <sup>d/</sup>	-	-	-	f/	f/	f/	-	-	f/	-	-	1.4	4.7	0.9	7.0
1997 <sup>d/</sup>	-	-	-	0.1	0.1	-	-	-	0.2	-	-	4.5	1.4	-	5.8
<b>Tillamook Area</b>															
1976-1980 <sup>b/</sup>	-	0.1	0.2	0.4	0.7	0.1	c/	c/	1.4	0.3	3.2	6.3	11.4	1.0	22.3
1981-1985	-	c/	c/	0.8	0.6	0.1	c/	-	1.5	0.1	0.5	10.3	8.7	0.6	20.2
1986-1990	-	c/	0.1	0.4	0.8	0.4	e/	e/	1.8	c/	2.0	12.5	8.7	1.5	24.8
1986	-	-	c/	0.2	0.2	-	e/	-	0.5	-	3.4	15.8	5.1	-	24.3
1987	-	-	0.1	0.8	2.0	0.6	e/	-	3.5	-	0.6	10.2	4.9	0.7	16.4
1988	-	c/	0.1	0.3	1.3	1.0	e/	-	2.7	0.1	1.8	8.2	14.2	5.7	29.9
1989	-	c/	0.1	0.3	0.3	0.2	e/	-	0.9	c/	3.4	19.7	7.0	0.1	30.3
1990	-	-	c/	0.5	0.4	0.3	e/	-	1.2	-	0.9	8.8	12.4	0.8	22.9
1991	-	c/	0.3	0.4	-	-	e/	-	0.7	c/	2.5	23.1	-	-	25.7
1992	-	0.1	0.3	0.6	0.3	0.2	e/	-	1.5	0.1	1.8	11.3	6.1	1.4	20.8
1993	-	0.1	c/	0.2	c/	-	e/	-	0.3	c/	c/	0.9	1.4	-	2.3
1994	-	0.1	0.1	-	-	-	2.2	-	2.4	-	-	-	-	-	f/
1995	-	0.1	c/	-	-	0.1	0.3	0.1	0.5	-	-	-	-	f/	f/
1996 <sup>d/</sup>	-	0.1	c/	c/	0.1	0.7	0.7	-	1.6	-	-	-	f/	f/	f/
1997 <sup>d/</sup>	-	c/	c/	c/	c/	0.2	0.3	e/	0.5	-	-	f/	-	f/	f/

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TABLE A-10. Oregon ocean recreational salmon landings in numbers of fish by catch area and month.<sup>a/</sup> (Page 2 of 4)

Year or Average	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season	May	June	July	Aug.	Sept.	Season	
<b>CHINOOK (thousands)</b>										<b>COHO (thousands)</b>						
<b>Newport Area</b>																
1976-1980 <sup>b/</sup>	-	0.1	0.5	0.8	0.8	0.2	c/	c/	2.5	1.3	12.7	25.3	22.8	1.8	64.0	
1981-1985	-	c/	0.2	1.5	0.9	0.1	-	-	2.7	0.1	2.1	22.8	19.2	1.8	46.0	
1986-1990	-	0.1	0.6	1.6	1.0	0.4	-	-	3.7	0.5	8.3	45.7	24.3	3.8	82.6	
1986	-	0.1	0.1	1.9	0.1	-	-	-	2.3	1.5	7.6	57.4	13.9	-	80.4	
1987	-	-	0.2	2.4	2.1	1.7	-	-	6.4	-	1.3	43.1	14.5	6.3	65.3	
1988	-	0.1	1.6	1.8	1.6	0.2	-	-	5.3	c/	2.8	42.5	44.5	11.0	100.9	
1989	-	0.1	0.7	0.5	0.4	c/	-	-	1.8	0.8	24.2	47.4	29.6	0.6	102.5	
1990	-	c/	0.3	1.4	0.8	0.2	-	-	2.7	0.2	5.8	37.9	19.0	1.2	64.1	
1991	-	0.1	0.4	0.4	-	-	-	-	0.9	0.1	15.2	65.8	-	-	81.1	
1992	-	0.1	0.3	2.8	0.9	0.1	-	-	4.1	c/	9.7	34.7	16.9	2.2	63.5	
1993	-	c/	0.0	0.3	0.1	-	-	-	0.4	c/	c/	9.4	7.0	-	16.4	
1994	-	c/	0.0	-	-	-	-	-	c/	-	-	-	-	-	-	
1995	-	c/	c/	-	-	c/	c/	-	0.1	-	-	-	-	f/	f/	
1996 <sup>d/</sup>	-	c/	c/	c/	0.4	0.1	-	-	0.6	-	-	-	f/	f/	f/	
1997 <sup>d/</sup>	0.0	c/	0.1	0.2	0.9	0.1	-	-	1.3	-	-	-	f/	-	f/	
<b>Coos Bay Area</b>																
1976-1980 <sup>b/</sup>	-	0.5	2.1	2.9	3.6	1.2	0.1	c/	10.3	7.5	31.0	44.6	20.7	2.8	106.9	
1981-1985	-	c/	0.6	4.1	2.0	0.4	-	-	7.1	1.3	8.2	29.5	13.0	1.4	53.3	
1986-1990	-	0.1	1.2	5.0	2.2	0.8	e/	e/	9.3	0.4	9.8	39.9	13.0	1.7	64.8	
1986	-	c/	1.0	4.5	0.5	-	e/	e/	6.1	1.1	8.0	48.0	6.1	-	63.2	
1987	-	-	0.9	10.7	4.6	2.8	e/	e/	19.0	-	1.0	44.6	6.4	2.1	54.1	
1988	-	0.2	1.7	2.8	3.1	0.2	e/	e/	8.1	c/	5.2	45.0	17.7	3.3	71.3	
1989	-	0.1	1.8	4.3	0.6	c/	e/	e/	6.7	0.7	22.3	38.5	11.6	c/	73.1	
1990	-	c/	0.6	2.8	2.3	0.8	-	-	6.6	c/	12.4	23.5	23.2	3.1	62.2	
1991	-	c/	2.1	2.9	-	-	-	-	5.1	0.8	23.4	66.5	-	-	90.8	
1992	-	0.1	2.0	1.0	0.3	0.4	e/	-	3.8	0.5	13.1	43.9	15.8	2.7	76.0	
1993	-	0.1	c/	0.6	0.4	-	e/	e/	1.1	0.1	0.1	7.6	4.4	-	12.2	
1994	-	c/	c/	-	-	-	e/	e/	c/	-	-	-	-	-	-	
1995	-	c/	0.2	-	-	c/	c/	-	0.2	-	-	-	-	-	-	
1996 <sup>d/</sup>	-	c/	0.1	0.3	0.3	0.1	-	e/	0.8	-	-	-	f/	f/	f/	
1997 <sup>d/</sup>	c/	c/	0.1	0.1	0.4	0.1	-	e/	0.7	-	-	f/	f/	-	f/	

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TABLE A-10. Oregon ocean recreational salmon landings in numbers of fish by catch area and month.<sup>a/</sup> (Page 3 of 4)

Year or Average	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season	May	June	July	Aug.	Sept.	Season
<b>CHINOOK (thousands)</b>										<b>COHO (thousands)</b>					
<b>Brookings Area</b>															
1976-1980 <sup>g/</sup>	-	0.1	1.0	2.8	3.4	0.6	0.7	0.1	8.6	0.4	10.6	15.4	5.3	0.5	32.5
1981-1985	-	0.7	1.3	9.2	4.2	0.6	0.5	c/	16.4	0.2	1.9	7.5	2.4	0.1	12.1
1986-1990	-	0.4	5.5	7.2	4.0	1.4	0.3	-	18.8	0.4	3.4	11.4	3.3	0.5	18.9
1986	-	1.1	2.8	3.5	3.9	c/	0.6	-	12.0	1.5	2.6	5.7	2.1	-	12.0
1987	-	0.1	3.8	9.8	5.6	5.9	1.1	-	26.4	c/	0.5	14.0	3.1	1.4	19.0
1988	-	0.1	12.4	6.5	2.6	0.1	-	-	21.7	c/	1.0	12.1	1.8	0.1	15.0
1989	-	0.4	3.6	9.4	6.8	1.0	-	-	21.2	0.2	4.2	20.3	7.5	0.8	33.0
1990	-	0.4	4.6	6.5	1.2	c/	-	-	12.7	0.1	8.4	5.0	1.8	c/	15.3
1991	-	c/	4.1	2.3	0.1	0.3	-	-	6.8	-	10.2	10.6	0.5	0.9	22.2
1992	-	-	-	1.5	-	0.4	0.7	-	2.7	-	-	2.9	-	0.4	3.3
1993	-	1.1	0.2	0.6	1.3	0.5	-	-	3.8	0.1	0.1	1.9	3.4	0.5	6.0
1994	-	1.9	0.1	-	0.3	0.3	1.1	-	3.6	-	-	-	f/	f/	f/
1995	-	0.2	1.6	-	0.5	2.6	0.8	-	5.7	-	f/	-	f/	0.1	0.1
1996 <sup>d/</sup>	-	0.5	2.7	0.3	2.8	0.6	1.3	-	8.2	-	f/	f/	f/	f/	0.1
1997 <sup>d/</sup>	-	0.8	0.8	1.0	1.6	0.1	0.7	-	5.1	f/	f/	f/	f/	f/	0.1
<b>South of Cape Falcon</b>															
1976-1980 <sup>h/</sup>	-	0.8	3.8	6.9	8.4	2.0	0.8	0.1	22.8	9.5	57.5	91.6	60.1	6.1	225.7
1981-1985	-	0.7	2.1	15.5	7.7	1.2	0.5	c/	27.7	1.6	12.7	70.2	43.3	3.9	131.6
1986-1990	-	0.5	7.3	14.2	8.1	3.0	0.3	e/	33.6	1.2	23.5	109.5	49.3	7.5	191.1
1986	-	1.2	4.0	10.2	4.7	c/	0.6	e/	20.8	4.1	21.6	126.8	27.3	-	179.8
1987	-	0.1	5.1	23.8	14.3	11.0	1.1	e/	55.4	c/	3.4	111.9	29.0	10.5	154.9
1988	-	0.4	15.8	11.5	8.6	1.6	e/	e/	37.8	0.1	10.9	107.8	78.1	20.1	217.0
1989	-	0.6	6.2	14.5	8.0	1.2	e/	e/	30.6	1.6	54.2	125.9	55.7	1.5	239.0
1990	-	0.4	5.6	11.2	4.7	1.3	e/	-	23.2	0.3	27.5	75.1	56.4	5.2	164.5
1991	-	0.2	6.9	6.0	0.1	0.3	e/	-	13.4	0.9	51.4	166.0	0.5	0.9	219.7
1992	-	0.2	2.5	5.9	1.5	1.2	0.7	-	12.1	0.6	24.7	92.7	38.7	6.8	163.6
1993	-	1.3	0.2	1.7	1.9	0.5	e/	e/	5.6	0.2	0.2	19.9	16.2	0.5	36.9
1994	-	1.9	0.3	-	0.3	0.3	3.3	e/	6.0	-	-	-	f/	f/	f/
1995	-	0.3	1.8	-	0.5	2.8	1.1	0.1	6.6	-	f/	-	f/	0.1	0.1
1996 <sup>d/</sup>	-	0.7	2.9	0.6	3.5	1.4	2.0	e/	11.2	-	f/	f/	0.1	f/	0.2
1997 <sup>d/</sup>	c/	0.9	0.9	1.5	2.8	0.5	1.0	e/	7.5	f/	f/	f/	0.1	f/	0.2

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TABLE A-10. Oregon ocean recreational salmon landings in numbers of fish by catch area and month.<sup>a/</sup> (Page 4 of 4)

Year or Average	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season	May	June	July	Aug.	Sept.	Season
	CHINOOK (thousands)									COHO (thousands)					
<u>Total All Areas</u>															
1976-1980 <sup>f/</sup>	-	1.1	7.0	11.0	16.4	3.5	0.9	0.1	40.0	10.4	70.4	112.3	81.8	13.2	289.2
1981-1985	-	0.7	2.8	17.9	9.6	1.5	0.5	c/	33.1	1.9	16.2	86.6	54.5	6.1	165.4
1986-1990	-	0.5	7.4	15.2	9.2	3.1	0.3	e/	35.8	1.2	25.7	125.5	59.8	7.7	220.0
1986	-	1.2	4.1	11.5	5.4	c/	0.6	e/	22.8	4.1	23.3	150.1	41.3	-	218.9
1987	-	0.1	5.3	25.8	16.1	11.0	1.1	e/	59.4	c/	4.3	124.4	41.2	10.5	180.5
1988	-	0.4	15.8	12.0	8.6	1.6	e/	e/	38.3	0.1	10.9	117.7	78.1	20.1	226.9
1989	-	0.6	6.4	14.7	9.1	1.2	e/	e/	32.0	1.6	59.1	145.5	65.5	1.5	273.3
1990	-	0.4	5.7	12.2	6.9	1.4	e/	-	26.5	0.3	31.0	89.8	73.0	6.5	200.6
1991	-	0.2	7.0	6.3	0.6	0.3	e/	-	14.4	0.9	53.8	182.4	17.7	4.3	259.1
1992	-	0.2	2.5	6.2	1.7	1.2	0.7	-	12.6	0.6	24.7	110.6	41.7	8.2	185.8
1993	-	1.3	0.2	1.9	2.3	0.7	e/	e/	6.4	0.2	0.2	27.0	26.5	4.3	58.1
1994	-	1.9	0.3	-	0.3	0.3	3.3	e/	6.0	-	-	-	f/	f/	f/
1995	-	0.3	1.8	f/	0.6	2.8	1.1	0.1	6.7	-	f/	2.0	9.0	0.9	11.9
1996	-	0.7	2.9	0.6	3.5	1.5	2.0	-	11.2	-	f/	1.5	4.7	1.0	7.2
1997 <sup>d/</sup>	c/	0.9	0.9	1.4	3.0	0.5	1.0	e/	7.7	f/	f/	4.5	1.4	f/	6.0

a/ Monthly totals are the sum of statistical weeks with closest fit to the calendar month. The 1976-1980 catch is from combined salmon/steelhead punch card and sampled port data. Since 1981, data from sampled ports only. Columbia River area includes Astoria, Warrenton and Hammond; Tillamook area includes Garibaldi and Pacific City; Newport area includes Depoe Bay and Newport; Coos Bay area includes Florence, Winchester Bay and Coos Bay; Brookings area includes Gold Beach and Brookings.

b/ The 1976-1980 average includes less than 300 coho during Oct. and Nov.

c/ Less than 50 fish.

d/ Preliminary.

e/ Estimates not available in late-season, state-water fisheries off Tillamook Bay and Elk River.

f/ Illegal catch, less than 50 fish.

g/ The 1976-1980 average includes less than 600 coho during Oct. and Nov.

h/ The 1976-1980 average includes less than 900 coho during Oct. and Nov.

i/ The 1976-1980 average includes less than 1,100 coho during Oct. and Nov.



TABLE A-11. Summary of Washington non-Indian troll salmon fishing effort in days fished and landings in numbers of fish by catch area. (Page 1 of 2)

Year or Average	Columbia River	Grays Harbor	Quillayute	Cape Flattery <sup>a/</sup>	Washington Subtotal	Oregon	California	Alaska	Total
<b>DAYS FISHED (thousands)</b>									
1976-1980	9.0	15.0	9.4	9.7	43.2	1.0	b/	1.0	44.9
1981-1985	2.0	5.2	1.6	3.1	11.8	0.2	b/	b/	12.1
1986-1990	0.9	2.6	0.3	0.9	4.7	0.1	0.0	b/	4.8
1986	1.4	1.6	0.3	0.9	4.3	0.1	0.0	b/	4.3
1987	0.5	2.2	0.1	0.3	3.1	0.2	0.0	0.0	3.3
1988	0.3	3.7	0.7	1.1	5.8	0.1	0.0	b/	5.9
1989	0.9	3.2	0.0	0.9	5.0	0.1	0.0	0.0	5.1
1990	1.2	2.3	0.3	1.6	5.4	b/	0.0	0.0	5.4
1991	0.6	1.8	0.2	2.3	4.9	b/	0.0	b/	5.0
1992	0.3	2.6	0.5	1.5	4.8	b/	0.0	b/	4.9
1993	0.1	1.9	0.2	1.5	3.7	b/	0.0	0.0	3.7
1994	-	-	-	-	-	b/	0.0	0.0	b/
1995	-	-	0.1	0.4	0.5	b/	-	-	0.5
1996 <sup>c/</sup>	-	0.1	b/	0.3	0.4	0.1	-	-	0.5
1997 <sup>c/</sup>	-	0.1	0.1	0.2	0.5	b/	-	-	0.5
<b>CHINOOK (thousands)</b>									
1976-1980	23.5	81.1	45.0	33.9	183.5	4.9	0.6	12.7	201.7
1981-1985	9.2	35.0	7.1	10.1	61.3	0.9	0.2	0.2	62.6
1986-1990	5.1	27.3	4.3	9.6	46.2	1.4	0.0	b/	47.7
1986	11.6	13.6	3.0	4.7	32.8	0.8	0.0	b/	33.7
1987	5.3	42.2	2.4	4.8	54.7	2.4	0.0	0.0	57.1
1988	3.3	32.8	14.2	21.9 <sup>d/</sup>	72.2	1.4	0.0	0.0	73.6
1989	3.2	36.8	0.0	0.3	40.2	2.1	0.0	0.0	42.3
1990	2.1	11.1	1.7	16.3	31.1	0.4	0.0	0.0	31.5
1991	1.4	11.3	0.9	15.2	28.8	0.3	0.0	0.0	29.2
1992	2.7	18.3	5.5	17.1	43.6	0.1	0.0	0.0	43.7
1993	0.1	12.2	1.8	16.0	30.1	0.3	0.0	0.0	30.3
1994	-	-	-	-	-	0.8	0.0	0.0	0.8
1995	-	-	-	b/	b/	1.8	-	-	1.8
1996 <sup>c/</sup>	-	-	-	-	-	1.5	-	-	1.5
1997 <sup>c/</sup>	-	0.3	2.3	3.8	6.4	1.4	-	-	7.8
<b>COHO (thousands)</b>									
1976-1980	136.9	207.5	203.3	155.8	703.5	21.5	1.6	15.2	741.8
1981-1985	32.1	50.9	27.2	42.3	152.5	8.3	b/	0.9	161.7
1986-1990	19.0	12.5	3.3	19.6	54.4	1.5	0.0	0.1	56.0
1986	45.6	2.6	7.8	19.0	75.0	0.3	0.0	0.5	75.9
1987	10.8	35.0	0.4	1.2	47.4	1.4	0.0	0.0	48.8
1988	-	b/	-	2.2 <sup>e/</sup>	2.2	2.1	0.0	b/	4.4
1989	16.0	b/	0.0	41.1	57.1	3.5	0.0	0.0	60.6
1990	22.6	24.9	8.4	34.3 <sup>f/</sup>	90.1	0.1	0.0	0.0	90.3
1991	16.2	12.4	1.4	24.1 <sup>f/</sup>	54.2	2.9	0.0	2.2	59.2
1992	1.1	5.2	3.8	7.7	17.7	0.1	0.0	0.3	18.0
1993	0.5	8.5	1.7	3.2	13.9	b/	0.0	0.0	13.9
1994	-	-	-	-	-	-	-	0.0	0.0
1995	-	-	4.6	20.8	25.4	-	-	-	25.4
1996 <sup>c/</sup>	-	4.0	0.4	13.1	17.5	-	-	-	17.5
1997 <sup>c/</sup>	-	-	-	-	-	-	-	-	-

TABLE A-11. Summary of Washington non-Indian troll salmon fishing effort in days fished and landings in numbers of fish by catch area. (Page 2 of 2)

Year or Average	Columbia River	Grays Harbor	Quillayute	Cape Flattery <sup>a/</sup>	Washington Subtotal	Oregon	California	Alaska	Total
<b>PINK (thousands)</b>									
1976-1980 <sup>g/</sup>	3.6	27.2	143.3	238.8	412.9	1.8	0.0	2.4	417.1
1981-1985 <sup>g/</sup>	1.3	7.6	22.9	107.6	139.4	0.3	b/	0.3	140.0
1986-1990 <sup>g/</sup>	b/	0.4	0.4	18.9	19.7	b/	0.0	0.0	19.7
1987	0.1	0.4	0.7	1.5	2.7	1.0	0.0	0.0	2.7
1989	b/	0.4	0.0	36.3	36.7	b/	0.0	0.0	36.7
1991	0.1	b/	2.6	40.9	43.6	b/	0.0	0.0	43.6
1993	-	b/	b/	2.8	2.9	-	-	-	2.9
1995	-	-	2.7	28.2	28.2	30.9	-	-	30.9
1997 <sup>c/</sup>	-	b/	-	b/	b/	-	-	-	b/

a/ Cape Flattery data include effort and landings from Cape Flattery Subarea 4B.

b/ Less than 50.

c/ Preliminary.

d/ Includes 300 chinook landed in illegal fishing.

e/ Includes 2,200 coho landed in illegal fishing.

f/ Includes 100 coho landed in illegal fishing.

g/ Odd-year average.

TABLE A-12. Washington non-Indian troll salmon fishing effort in days fished by area and month. <sup>a/</sup> (Page 1 of 2)

Year or Average	May	June	July	Aug.	Sept. <sup>b/</sup>	Total
<b>DAYS FISHED (thousands)</b>						
<u>Cape Flattery <sup>c/</sup></u>						
1976-1980	0.7	0.4	3.1	4.2	1.4	9.7
1981-1985	0.4	d/	1.3	1.3	d/	3.1
1986-1990	0.4	0.1	0.1	0.4	d/	0.9
1986	0.2	d/	0.3	0.3	-	0.9
1987	0.3	-	d/	d/	-	0.3
1988	0.6	0.5	d/	d/	-	1.1
1989	-	-	-	0.9	d/	0.9
1990	0.8	0.1	d/	0.7	-	1.6
1991	0.8	0.3	d/	1.0	0.2	2.3
1992	0.6	0.5	0.3	0.2	-	1.5
1993	0.6	0.4	0.3	0.1	d/	1.5
1994	-	-	-	-	-	-
1995	-	-	-	0.3	0.1	0.4
1996 <sup>e/</sup>	-	-	0.1	0.1	-	0.3
1997 <sup>e/</sup>	0.2	0.1	-	-	-	0.2
<u>Quillayute</u>						
1976-1980	0.6	0.5	3.8	3.6	0.9	9.4
1981-1985	0.2	d/	1.0	0.4	d/	1.6
1986-1990	0.1	0.1	d/	0.1	d/	0.3
1986	0.1	d/	0.1	0.1	-	0.3
1987	0.1	-	d/	-	-	0.1
1988	0.4	0.3	-	-	-	0.7
1989	-	-	-	-	-	-
1990	0.1	d/	-	0.2	d/	0.3
1991	0.1	d/	-	0.1	d/	0.2
1992	0.1	0.2	0.1	0.1	-	0.5
1993	d/	d/	0.1	d/	-	0.2
1994	-	-	-	-	-	-
1995	-	-	-	0.1	d/	0.1
1996 <sup>e/</sup>	-	-	d/	d/	-	d/
1997 <sup>e/</sup>	0.1	0.1	-	-	-	0.1
<u>Grays Harbor</u>						
1976-1980	2.3	1.3	5.0	4.2	2.2	15.0
1981-1985	2.1	0.2	2.2	0.7	d/	5.2
1986-1990	1.7	0.5	0.2	0.2	d/	2.6
1986	1.5	d/	d/	0.1	-	1.6
1987	1.4	-	0.9	-	-	2.2
1988	2.4	1.3	-	-	-	3.7
1989	2.2	1.1	-	d/	-	3.2
1990	1.1	0.1	d/	1.1	-	2.3
1991	0.8	0.6	-	0.2	0.2	1.8
1992	1.2	0.6	0.4	0.3	-	2.6
1993	0.6	0.5	0.3	0.2	0.4	1.9
1994	-	-	-	-	-	-
1995	-	-	-	-	-	-
1996 <sup>e/</sup>	-	-	0.1	0.1	-	0.1
1997 <sup>e/</sup>	0.1	d/	-	-	-	0.1



TABLE A-12. **Washington non-Indian troll salmon fishing effort** in days fished by area and month. <sup>a/</sup> (Page 2 of 2)

Year or Average	May	June	July	Aug.	Sept. <sup>b/</sup>	Total
<b>DAYS FISHED (thousands)</b>						
<u>Columbia River</u>						
1976-1980	0.7	0.5	3.2	2.9	1.7	9.0
1981-1985	0.6	0.1	0.7	0.6	0.1	2.0
1986-1990	0.2	d/	0.1	0.3	0.2	0.9
1986	0.5	-	0.3	0.6	-	1.4
1987	0.2	-	0.3	-	-	0.5
1988	0.2	0.1	-	-	-	0.3
1989	0.1	d/	-	0.3	0.5	0.9
1990	d/	d/	-	0.5	0.7	1.2
1991	0.1	d/	-	0.4	0.1	0.6
1992	0.1	d/	0.1	d/	-	0.3
1993	d/	d/	d/	d/	d/	0.1
1994	-	-	-	-	-	-
1995	-	-	-	-	-	-
1996 <sup>e/</sup>	-	-	-	-	-	-
1997 <sup>e/</sup>	-	-	-	-	-	-
<u>Total All Areas</u>						
1976-1980	4.2	2.8	15.1	14.9	6.2	43.2
1981-1985	3.3	0.3	5.2	2.9	0.1	11.8
1986-1990	2.5	0.7	0.4	0.9	0.2	4.7
1986	2.4	d/	0.8	1.1	-	4.3
1987	2.0	-	1.2	d/	-	3.1
1988	3.6	2.2	d/	d/	-	5.8
1989	2.2	1.1	-	1.2	0.5	5.0
1990	2.1	0.2	d/	2.4	0.7	5.4
1991	1.7	1.0	d/	1.6	0.5	4.9
1992	2.0	1.2	0.9	0.6	-	4.8
1993	1.2	0.9	0.7	0.4	0.4	3.7
1994	-	-	-	-	-	-
1995	-	-	-	0.4	0.1	0.5
1996 <sup>e/</sup>	-	-	0.2	0.2	-	0.4
1997 <sup>e/</sup>	0.3	0.2	-	-	-	0.5

- a/ Summary of WDFW fish receiving ticket information by statistical month, excluding Washington landings from Oregon, California and Alaska.
- b/ Data for Sept. include any effort after Sept.
- c/ Cape Flattery area includes effort and catches from Strait of Juan de Fuca Area 4B.
- d/ Less than 50 days.
- e/ Preliminary.

TABLE A-13. Washington non-Indian troll chinook, coho, and pink salmon landings in numbers of fish by catch area and month. <sup>a/</sup> (Page 1 of 3)

Year or Average	May	June	July	Aug.	Sept. <sup>b/</sup>	Total	May	June	July	Aug.	Sept. <sup>b/</sup>	Total	May	June	July	Aug.	Sept. <sup>b/</sup>	Total	
	<b>CHINOOK (thousands)</b>						<b>COHO (thousands)</b>						<b>PINKS (thousands in odd years)</b>						
<u>Cape Flattery <sup>c/</sup></u>																			
1976-1980	6.8	3.8	12.4	8.8	2.1	33.9	-	3.9	67.0	58.6	26.4	155.8	d/	0.2	42.0	192.2	4.3	238.8	
1981-1985	3.3	0.3	5.0	1.4	d/	10.1	-	-	26.4	15.9	d/	42.3	0.1	d/	12.1	95.1	0.3	107.6	
1986-1990	6.5	2.5	0.1	0.5	d/	9.6	-	-	1.5	18.1	d/	19.6	0.0	0.0	0.4	18.5	0.0	18.9	
1986	3.5	0.1	0.3	0.9	-	4.7	-	-	6.1	12.9	-	19.0	-	-	-	-	-	-	
1987	4.7	-	0.1	d/	-	4.8	-	-	0.8	0.3	-	1.2	0.0	-	0.8	0.7	-	1.5	
1988 <sup>e/</sup>	10.0	11.6	0.1	0.2	-	21.9	-	-	0.4	1.8	-	2.2	-	-	-	-	-	-	
1989	-	-	-	0.3	d/	0.3	-	-	-	41.1	d/	41.1	-	-	-	36.3	0.0	36.3	
1990 <sup>f/</sup>	14.4	0.9	-	1.0	-	16.3	-	-	d/	34.3	-	34.3	-	-	-	-	-	-	
1991	8.8	5.5	d/	0.6	0.4	15.2	-	-	0.1	18.6	5.4	24.1	d/	d/	d/	40.6	0.3	40.9	
1992	9.1	6.2	1.0	0.8	-	17.1	-	-	4.6	3.1	-	7.7	-	-	-	-	-	-	
1993	8.6	5.4	1.8	0.3	-	16.0	-	-	2.2	1.0	-	3.2	d/	d/	0.1	2.7	d/	2.8	
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1995	-	-	-	d/	-	d/	-	-	-	15.6	5.2	20.8	-	-	-	27.4	0.8	28.2	
1996 <sup>g/</sup>	-	-	-	-	-	-	-	-	5.5	7.5	-	13.1	-	-	-	-	-	-	
1997 <sup>g/</sup>	3.2	0.5	-	-	-	3.8	-	-	-	-	-	-	d/	d/	-	-	-	d/	
<u>Quillayute</u>																			
1976-1980	6.5	5.8	19.7	11.0	2.0	45.0	d/	9.4	112.6	63.4	18.0	203.3	0.3	0.4	39.3	103.0	0.3	143.3	
1981-1985	1.9	0.2	4.0	1.1	-	7.1	-	-	23.7	3.5	-	27.2	d/	0.0	7.2	15.7	d/	22.9	
1986-1990	2.6	1.3	0.1	0.3	d/	4.3	-	-	0.5	2.8	d/	3.3	0.0	0.0	0.4	0.0	0.0	0.4	
1986	1.9	0.1	0.3	0.7	-	3.0	-	-	2.1	5.7	-	7.8	-	-	-	-	-	-	
1987	2.3	-	d/	-	-	2.4	-	-	0.4	-	-	0.4	0.0	-	0.7	-	-	0.7	
1988	7.8	6.5	-	-	-	14.2	-	-	-	-	-	-	-	-	-	-	-	-	
1989	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1990	0.9	0.2	-	0.6	d/	1.7	-	-	-	8.4	d/	8.4	-	-	-	-	-	-	
1991	0.4	0.4	-	0.1	d/	0.9	-	-	-	1.2	0.3	1.4	0.0	0.0	-	2.6	d/	2.6	
1992	1.5	2.0	1.1	0.8	-	5.5	-	-	2.2	1.6	-	3.8	-	-	-	-	-	-	
1993	0.8	0.6	0.3	0.1	-	1.8	-	-	1.3	0.4	-	1.7	0.0	0.0	d/	d/	-	d/	
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1995	-	-	-	-	-	-	-	-	-	2.8	1.8	4.6	-	-	-	2.6	0.1	2.7	
1996 <sup>g/</sup>	-	-	-	-	-	-	-	-	0.2	0.2	-	0.4	-	-	-	-	-	-	
1997 <sup>g/</sup>	1.0	1.3	-	-	-	2.3	-	-	-	-	-	-	d/	d/	-	-	-	d/	

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TABLE A-13. Washington non-Indian troll chinook, coho, and pink salmon landings in numbers of fish by catch area and month. <sup>a/</sup> (Page 2 of 3)

Year or Average	May	June	July	Aug.	Sept. <sup>b/</sup>	Total	May	June	July	Aug.	Sept. <sup>b/</sup>	Total	May	June	July	Aug.	Sept. <sup>b/</sup>	Total
<b>CHINOOK (thousands)</b>						<b>COHO (thousands)</b>						<b>PINKS (thousands in odd years)</b>						
<u>Grays Harbor</u>																		
1976-1980	28.5	15.1	18.9	13.3	5.3	81.1	d/	14.0	123.2	52.6	17.6	207.5	0.2	0.1	13.3	13.5	0.1	27.2
1981-1985	20.0	2.3	10.5	2.2	d/	35.0	-	-	44.3	6.6	d/	50.9	0.1	d/	5.0	2.5	-	7.6
1986-1990	18.0	5.2	3.5	0.6	d/	27.3	d/	-	7.1	5.4	-	12.5	0.1	0.1	0.2	d/	0.0	0.4
1986	13.2	d/	d/	0.4	-	13.6	-	-	0.4	2.1	-	2.6	-	-	-	-	-	-
1987	24.5	-	17.6	-	-	42.2	-	-	35.0	-	-	35.0	0.0	-	0.4	-	-	0.4
1988	22.2	10.6	-	-	d/	32.8	d/	-	-	-	-	d/	-	-	-	-	-	-
1989	22.2	14.6	-	-	-	36.8	-	-	-	d/	-	d/	0.2	0.2	-	d/	-	0.4
1990	7.7	0.8	d/	2.6	-	11.1	-	-	-	24.9	-	24.9	-	-	-	-	-	-
1991	4.4	6.5	-	0.2	0.2	11.3	-	-	-	5.5	6.9	12.4	d/	d/	-	-	d/	d/
1992	9.0	4.4	3.1	1.8	-	18.3	-	-	2.7	2.4	-	5.2	-	-	-	-	-	-
1993	5.0	4.6	0.5	0.6	1.5	12.2	-	-	1.2	2.1	5.2	8.5	d/	0.0	d/	d/	0.0	d/
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1996 <sup>g/</sup>	-	-	-	-	-	-	-	-	1.4	2.6	-	4.0	-	-	-	-	-	-
1997 <sup>g/</sup>	0.2	0.1	-	-	-	0.3	-	-	-	-	-	-	-	d/	-	-	-	d/
<u>Columbia River</u>																		
1976-1980	8.0	5.1	3.9	3.3	3.2	23.5	d/	19.0	71.7	29.0	17.2	136.9	d/	d/	1.8	1.3	0.4	3.6
1981-1985	6.5	0.8	1.4	0.5	0.1	9.2	-	-	17.9	11.2	3.0	32.1	d/	0.0	0.6	0.6	d/	1.3
1986-1990	3.0	0.5	0.3	0.8	0.4	5.1	-	-	4.6	9.2	5.2	19.0	0.0	0.0	d/	d/	d/	d/
1986	8.1	-	0.3	3.1	-	11.6	-	-	12.2	33.4	-	45.6	-	-	-	-	-	-
1987	4.0	-	1.3	-	-	5.3	-	-	10.8	-	-	10.8	0.0	-	0.1	-	-	0.1
1988	1.7	1.6	-	-	-	3.3	-	-	-	-	-	-	-	-	-	-	-	-
1989	1.0	0.9	-	0.5	0.7	3.2	-	-	-	5.4	10.6	16.0	0.0	0.0	-	d/	d/	d/
1990	0.1	0.2	-	0.6	1.2	2.1	-	-	-	7.2	15.4	22.6	-	-	-	-	-	-
1991	0.8	0.1	-	0.4	d/	1.4	-	-	-	14.6	1.7	16.2	0.0	0.0	-	0.1	-	0.1
1992	2.6	d/	0.1	d/	-	2.7	-	-	0.8	0.3	-	1.1	-	-	-	-	-	-
1993	d/	d/	d/	d/	d/	0.1	-	-	0.2	0.2	0.2	0.5	0.0	0.0	0.0	0.0	0.0	d/
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1996 <sup>g/</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1997 <sup>g/</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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TABLE A-13. Washington non-Indian troll chinook, coho, and pink salmon landings in numbers of fish by catch area and month.<sup>a/</sup> (Page 3 of 3)

Year or Average	May	June	July	Aug.	Sept. <sup>b/</sup>	Total	May	June	July	Aug.	Sept. <sup>b/</sup>	Total	May	June	July	Aug.	Sept. <sup>b/</sup>	Total
<b>CHINOOK (thousands)</b>						<b>COHO (thousands)</b>						<b>PINKS (thousands in odd years)</b>						
<u>Total All Areas</u>																		
1976-1980	49.8	29.8	55.0	36.4	12.6	183.5	d/	46.2	374.5	203.6	79.2	703.5	0.6	0.7	96.4	310.0	5.2	412.9
1981-1985	31.7	3.5	20.9	5.2	0.1	61.3	-	-	112.2	37.2	3.1	152.5	0.2	d/	24.9	114.0	0.3	139.4
1986-1990	30.1	9.6	4.0	2.2	0.4	46.2	d/	-	13.6	35.5	5.2	54.4	0.1	0.1	1.0	18.5	d/	19.7
1986	26.7	0.2	0.9	5.1	-	32.8	-	-	20.8	54.2	-	75.0	-	-	-	-	-	-
1987	35.6	-	19.1	d/	-	54.7	-	-	47.0	0.3	-	47.4	0.0	-	2.0	0.7	-	2.7
1988	41.7	30.3	0.1	0.2	d/	72.2	d/	-	0.4	1.8	-	2.2	-	-	-	-	-	-
1989	23.3	15.5	-	0.8	0.7	40.2	-	-	-	46.5	10.7	57.1	0.2	0.2	-	36.3	d/	36.7
1990	23.1	2.0	d/	4.8	1.2	31.1	-	-	d/	74.7	15.4	90.1	-	-	-	-	-	-
1991	14.5	12.4	d/	1.3	0.6	28.8	-	-	0.1	39.9	14.1	54.2	d/	d/	d/	43.3	0.3	43.6
1992	22.2	12.6	5.3	3.5	-	43.6	-	-	10.3	7.4	-	17.7	-	-	-	-	-	-
1993	14.4	10.6	2.6	1.0	1.5	30.1	-	-	4.9	3.6	5.4	13.9	d/	d/	0.1	2.7	d/	2.9
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	-	-	-	d/	-	d/	-	-	-	18.4	7.1	25.4	-	-	-	30.1	0.9	30.9
1996 <sup>g/</sup>	-	-	-	-	-	-	-	-	7.1	10.4	-	17.5	-	-	-	-	-	-
1997 <sup>g/</sup>	4.5	1.9	-	-	-	6.4	-	-	-	-	-	-	d/	d/	-	-	-	d/

a/ Summary of WDFW fish receiving ticket information by statistical month excluding Washington landings from Oregon, California and Alaska.

b/ Data for Sept. include any catch after Sept.

c/ Cape Flattery area includes effort and catches from Strait of Juan de Fuca Area 4B.

d/ Less than 50 fish.

e/ Includes 2,200 coho and 300 chinook landed illegally.

f/ Includes 100 coho landed illegally.

g/ Preliminary.

TABLE A-14. Treaty Indian troll salmon fishing effort in deliveries by catch area and statistical month. (Page 1 of 2)

Year or Average	Jan. Thru Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. Thru Dec.	Total May Thru Sept.	Year Total
<b>DELIVERIES</b>										
<b>Area 4B</b>										
1979-1980	686	64	94	61	97	37	7	103	353	1,149
1981-1985	1,081	183	85	93	107	33	33	117	500	1,731
1986-1990	593	311	231	157	248	39	2	145	987	1,727
1986	429	146	118	92	48	2	0	65	406	900
1987	715	126	0	100	123	0	6	146	349	1,216
1988	734	590	337	67	169	4	0	144	1,167	2,045
1989	533	328	177	391	258	125	0	279	1,279	2,091
1990	556	367	522	137	644	65	2	92	1,735	2,385
1991	513	117	85	66	332	0	151	91	600	1,355
1992	390	61	231	40	155	0	1	208	487	1,086
1993	575	78	178	133	105	23	0	61	517	1,153
1994	119	41	52	0	0	0	0	8	93	220
1995	81	16	0	0	140	0	0	66	156	303
1996	204	36	83	2	39	16	0	7	176	387
1997 <sup>a/</sup>	29	39	39	0	49	6	0	3	133	165
<b>Cape Flattery</b>										
1976-1980	3	26	98	123	99	22	2	2	369	376
1981-1985	0	17	191	374	609	392	5	0	1,584	1,589
1986-1990	1	102	186	567	527	149	0	0	1,494	1,532
1986	0	52	169	533	129	0	0	0	883	883
1987	0	195	0	721	848	0	0	0	1,764	1,764
1988	3	31	206	548	847	178	0	0	1,810	1,813
1989	0	107	254	662	434	324	0	0	1,781	1,781
1990	0	124	116	369	379	243	0	1	1,231	1,232
1991	0	186	265	610	359	0	0	0	1,420	1,420
1992	0	203	155	274	144	0	0	7	776	783
1993	0	269	213	439	497	457	0	0	1,875	1,875
1994	0	13	85	1	0	0	0	0	99	99
1995	0	21	0	1	406	0	0	0	428	428
1996	1	28	19	0	86	167	0	0	300	301
1997 <sup>a/</sup>	0	11	90	0	75	30	0	0	206	206
<b>Quillayute</b>										
1976-1980	0	14	39	53	42	9	0	0	157	157
1981-1985	0	11	34	100	95	29	0	0	268	268
1986-1990	0	27	64	145	185	42	0	0	450	450
1986	0	12	164	177	52	0	0	0	405	405
1987	0	12	0	92	273	0	0	0	377	377
1988	0	63	50	89	152	15	0	0	369	369
1989	0	18	21	162	129	103	0	0	433	433
1990	0	30	20	207	321	90	0	0	668	668
1991	0	15	15	90	309	0	0	0	429	429
1992	0	0	3	109	119	0	0	0	231	231
1993	0	1	2	58	137	40	0	0	238	238
1994	0	4	16	1	0	0	0	0	21	21
1995	0	0	0	0	14	0	0	0	14	14
1996	0	0	0	0	6	12	0	0	18	18
1997 <sup>a/</sup>	0	0	0	0	0	0	0	0	0	0

TABLE A-14. Treaty Indian troll salmon fishing effort in deliveries by catch area and statistical month. (Page 2 of 2)

Year or Average	Jan. Thru Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. Thru Dec.	Total May Thru Sept.	Year Total
<b>DELIVERIES</b>										
<b>Grays Harbor</b>										
1976-1980	0	1	1	10	11	0	0	0	22	22
1981-1985	0	10	15	37	37	3	0	0	101	101
1986-1990	0	15	48	135	142	32	0	0	344	344
1986	0	9	124	71	0	0	0	0	204	204
1987	0	18	0	84	136	0	0	0	238	238
1988	0	17	31	196	324	74	0	0	642	642
1989	0	24	55	229	67	77	0	0	452	452
1990	0	9	28	95	42	10	0	0	184	184
1991	0	4	22	68	46	0	0	0	140	140
1992	0	3	3	19	4	0	0	0	29	29
1993	0	0	1	74	157	65	0	0	297	297
1994	0	0	12	0	0	0	0	0	12	12
1995	0	0	0	0	104	0	0	0	104	104
1996	0	0	1	0	36	21	0	0	58	58
1997 <sup>a/</sup>	0	0	1	0	18	3	0	0	22	22
<b>Total Treaty Troll</b>										
1976-1980	689	105	232	248	249	68	9	105	901	1,705
1981-1985	1,082	220	325	603	847	456	38	117	2,452	3,689
1986-1990	594	456	478	1,004	1,075	262	2	145	3,275	4,016
1986	429	219	575	873	229	2	0	65	1,898	2,392
1987	715	351	0	997	1,380	0	6	146	2,728	3,595
1988	737	701	624	900	1,492	271	0	144	3,988	4,869
1989	533	477	507	1,444	888	629	0	279	3,945	4,757
1990	556	530	686	808	1,386	408	2	93	3,818	4,469
1991	513	322	387	834	1,046	0	151	91	2,589	3,344
1992	390	267	392	442	422	0	1	215	1,523	2,129
1993	575	348	394	704	896	585	0	61	2,927	3,563
1994	119	58	165	2	0	0	0	8	225	352
1995	81	37	0	1	664	0	0	66	702	849
1996	205	64	103	2	167	216	0	7	552	764
1997 <sup>a/</sup>	29	50	130	0	142	39	0	3	361	393

a/ Preliminary.



TABLE A-15. Treaty Indian troll chinook and coho salmon landings in numbers of fish by catch area and statistical month. (Page 1 of 3)

Year or Average	CHINOOK							COHO					CHINOOK							COHO										
	Jan. Thru Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. Thru Dec.	Total May Thru Sept.	Year Total	Jan. thru Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. Thru Dec.	Total May Thru Sept.	Year Total										
<b>CHINOOK</b>																					<b>COHO</b>									
<b>Area 4B</b>																														
1976-1980	8,512	360	640	98	103	26	10	776	1,228	10,525	406	22	499	191	249	148	5	61	1,109	1,582										
1981-1985	13,109	1,066	248	94	49	57	151	788	1,514	15,562	42	245	184	825	1,014	222	22	6	2,489	2,560										
1986-1990	6,009	2,540	1,746	284	323	63	12	2,677	4,956	13,654	9	0	65	2,150	7,765	813	7	13	10,793	10,821										
1986	3,299	1,243	539	86	79	0	0	615	1,947	5,861	6	0	221	2,090	4,704	13	0	8	7,028	7,042										
1987	8,410	1,044	0	87	218	0	52	1,530	1,349	11,341	31	1	0	2,136	2,970	0	33	0	5,107	5,171										
1988	6,958	5,080	1,903	189	68	2	0	1,265	7,242	15,465	3	0	101	151	4,379	21	0	15	4,652	4,670										
1989	4,395	2,409	1,602	580	173	109	0	8,741	4,873	18,009	1	0	0	4,559	3,941	3,085	0	32	11,585	11,618										
1990	6,982	2,924	4,685	479	1,075	206	8	1,234	9,369	17,593	2	0	1	1,814	22,833	944	1	8	25,592	25,603										
1991	5,203	740	418	97	327	0	147	716	1,582	7,648	8	0	0	987	6,685	0	498	15	7,672	8,193										
1992	4,131	664	2,217	37	800	0	0	3,107	3,718	10,956	0	0	0	955	9,265	0	15	18	10,220	10,253										
1993	6,498	545	1,250	171	41	12	0	562	2,019	9,079	1	0	0	842	1,161	153	0	0	2,156	2,157										
1994	1,116	248	484	0	0	0	0	99	732	1,947	0	0	0	0	0	0	0	0	0	0										
1995	1,014	158	0	0	242	0	0	834	400	2,248	0	0	0	0	3,087	0	0	0	3,087	3,087										
1996	2,555	437	1,440	120	75	106	0	81	2,178	4,814	0	0	0	0	936	189	0	0	1,125	1,125										
1997 <sup>a/</sup>	436	644	414	0	235	26	0	16	1,319	1,771	0	0	0	0	3,364	275	0	0	3,639	3,639										
<b>Cape Flattery</b>																														
1976-1980	4	35	1,159	1,283	208	41	6	9	2,726	2,744	1	57	3,522	1,483	482	255	6	2	5,800	5,809										
1981-1985	0	520	1,191	2,405	673	772	54	11	5,561	5,626	0	8	4,647	9,017	16,514	13,404	18	0	43,590	43,608										
1986-1990	6	2,601	2,896	3,114	2,651	685	0	0	11,367	11,953	0	3	106	16,829	16,838	7,241	0	0	41,018	41,018										
1986	0	1,829	1,239	1,890	250	0	0	0	5,208	5,208	0	0	517	28,025	5,089	0	0	0	33,631	33,631										
1987	0	3,869	0	1,443	4,163	0	0	0	9,475	9,475	0	15	0	30,832	21,559	0	0	0	52,406	52,406										
1988	32	352	3,774	3,560	4,619	952	0	0	13,257	13,289	0	0	13	3,352	23,668	6,513	0	0	33,546	33,546										
1989	0	3,181	4,647	3,841	3,080	529	0	0	15,278	15,278	0	1	0	11,869	13,245	17,247	0	0	42,362	42,362										
1990	0	3,773	1,923	4,837	1,143	1,943	0	1	13,619	13,620	0	0	0	10,069	20,627	12,447	0	0	43,143	43,143										
1991	0	3,452	4,795	5,495	2,361	0	0	0	16,103	16,103	0	0	0	29,190	14,255	0	0	0	43,445	43,445										
1992	0	8,106	3,284	3,616	2,298	0	0	80	17,304	17,384	0	2	3	30,710	16,695	0	0	5	47,410	47,415										
1993	0	7,014	4,106	5,024	1,988	2,447	0	0	20,579	20,579	0	1	0	3,476	13,285	24,380	0	0	41,142	41,142										
1994	0	104	1,841	1	0	0	0	0	1,946	1,946	0	0	0	0	0	0	0	0	0	0										
1995	0	540	0	23	6,926	0	0	0	7,489	7,489	0	0	0	0	24,812	0	0	0	24,812	24,812										
1996	6	997	534	0	4,732	3,421	0	0	9,684	9,690	0	0	0	0	2,937	12,054	0	0	14,991	14,991										
1997 <sup>a/</sup>	0	175	7,072	0	3,449	835	0	0	11,531	11,531	0	0	0	0	6,056	2,901	0	0	8,957	8,957										

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TABLE A-15. Treaty Indian troll chinook and coho salmon landings in numbers of fish by catch area and statistical month. (Page 2 of 3)

Year or Average	Jan. Thru	CHINOOK							Total	Year	Jan. thru	COHO							Total	Year
	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. Thru Dec.	May Thru Sept.	Total	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. Thru Dec.	May Thru Sept.	Total
<b>CHINOOK</b>																				
<b>Quillayute</b>																				
1976-1980	0	118	243	483	141	27	203	11	1,011	1,225	0	641	3,216	1,184	473	34	1,063	20	5,548	6,631
1981-1985	0	243	321	826	500	212	0	0	2,103	2,103	0	30	2,251	5,294	6,387	2,855	0	0	16,818	16,818
1986-1990	0	1,049	944	2,044	754	259	0	0	5,050	5,050	0	0	2,694	8,430	7,021	2,250	0	0	20,395	20,395
1986	0	613	1,700	1,450	87	0	0	0	3,850	3,850	0	0	13,472	17,409	1,913	0	0	0	32,794	32,794
1987	0	1,240	0	353	1,679	0	0	0	3,272	3,272	0	0	0	8,566	13,729	0	0	0	22,295	22,295
1988	0	1,868	2,136	1,150	427	73	0	0	5,654	5,654	0	0	0	4,536	6,744	2,041	0	0	13,321	13,321
1989	0	824	649	2,502	1,089	724	0	0	5,788	5,788	0	0	0	4,439	3,020	6,455	0	0	13,914	13,914
1990	0	700	234	4,767	488	499	0	0	6,688	6,688	0	0	0	7,200	9,698	2,755	0	0	19,653	19,653
1991	0	189	212	534	1,659	0	0	0	2,594	2,594	0	0	0	4,936	15,520	0	0	0	20,456	20,456
1992	0	0	27	1,041	925	0	0	0	1,993	1,993	0	0	0	8,454	9,371	0	0	0	17,825	17,825
1993	0	19	5	473	404	112	0	0	1,013	1,013	0	0	0	926	5,487	1,005	0	0	7,418	7,418
1994	0	97	1,143	4	0	0	0	0	1,244	1,244	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	18	0	0	0	18	18	0	0	0	0	237	0	0	0	237	237
1996	0	0	0	0	6	44	0	0	50	50	0	0	0	0	105	601	0	0	706	706
1997 <sup>a/</sup>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Grays Harbor</b>																				
1976-1980	0	30	25	6	10	0	0	0	71	71	0	0	0	35	58	0	0	0	93	93
1980-1985	0	280	123	308	103	6	0	0	820	820	0	0	353	1,252	557	199	0	0	2,361	2,361
1986-1990	0	715	945	1,309	812	241	0	0	3,832	3,882	0	0	1,391	4,899	4,221	747	0	0	11,258	11,258
1986	0	614	24	390	148	0	0	0	1,176	1,176	0	0	6,956	4,098	0	0	0	0	11,054	11,054
1987	0	2,288	0	298	1,206	0	0	0	3,792	3,792	0	0	0	4,085	5,699	0	0	0	9,784	9,784
1988	0	275	1,943	1,480	1,711	941	0	0	6,350	6,350	0	0	0	3,774	11,445	1,592	0	0	16,811	16,811
1989	0	297	747	3,188	955	220	0	0	5,407	5,407	0	0	0	10,941	3,293	1,803	0	0	16,037	16,037
1990	0	102	1,064	1,187	42	42	0	0	2,437	2,437	0	0	0	1,597	667	339	0	0	2,603	2,603
1991	0	58	565	749	150	0	0	0	1,522	1,522	0	0	0	3,830	1,551	0	0	0	5,381	5,381
1992	0	11	10	30	4	0	0	0	55	55	0	0	0	96	38	0	0	0	134	134
1993	0	0	6	159	1,285	372	0	0	1,822	1,822	0	0	0	1,763	5,526	1,141	0	0	8,430	8,430
1994	0	0	541	0	0	0	0	0	541	541	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	1,580	0	0	0	1,580	1,580	0	0	0	0	2,634	0	0	0	2,634	2,634
1996	0	39	0	304	52	0	0	0	395	395	0	0	0	0	663	1,041	0	0	1,704	1,704
1997 <sup>a/</sup>	0	17	0	596	177	0	0	0	790	790	0	0	0	0	1,208	561	0	0	1,769	1,769

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TABLE A-15. Treaty Indian troll chinook and coho salmon landings in numbers of fish by catch area and statistical month. (Page 3 of 3)

Year or Average	Jan. Thru Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. Thru Dec.	Total May Thru Sept.	Year Total	Jan. thru Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. Thru Dec.	Total May Thru Sept.	Year Total
<b>CHINOOK</b>											<b>COHO</b>									
<b>Total Treaty Troll</b>																				
1976-1980	8,515	543	2,067	1,870	462	94	219	796	5,036	14,566	407	720	7,237	2,893	1,261	438	1,075	83	12,550	14,115
1981-1985	13,109	2,109	1,883	3,633	1,326	1,046	205	799	9,998	24,110	42	283	7,435	16,388	24,473	16,680	41	6	65,259	65,347
1986-1990	6,015	6,905	5,762	6,751	4,540	1,248	12	2,677	25,206	33,911	9	3	4,256	32,308	35,845	11,051	7	13	83,464	83,492
1986	3,299	4,299	3,502	3,816	564	0	0	615	12,181	16,095	6	0	21,166	51,622	11,706	13	0	8	84,507	84,521
1987	8,410	8,441	0	2,181	7,266	0	52	1,530	17,888	27,880	31	16	0	45,619	43,957	0	33	0	89,592	89,656
1988	6,990	7,575	9,756	6,379	6,825	1,968	0	1,265	32,503	40,758	3	0	114	11,813	46,236	10,167	0	15	68,330	68,348
1989	4,395	6,711	7,645	10,111	5,297	1,582	0	8,741	31,346	44,482	1	1	0	31,808	23,499	28,590	0	32	83,898	83,931
1990	6,982	7,499	7,906	11,270	2,748	2,690	8	1,235	32,113	40,338	2	0	1	20,680	53,825	16,485	1	8	90,991	91,002
1991	5,203	4,439	5,990	6,875	4,497	0	147	716	21,801	27,867	8	0	0	38,943	38,011	0	498	15	76,954	77,475
1992	4,131	8,781	5,538	4,724	4,027	0	0	3,187	23,070	30,388	0	2	3	40,215	35,369	0	15	23	75,589	75,627
1993	6,498	7,578	5,367	5,827	3,718	2,943	0	562	25,433	32,493	1	1	0	7,007	25,459	26,679	0	0	59,146	59,147
1994	1,116	449	4,009	5	0	0	0	99	4,463	5,678	-	-	-	-	-	-	-	-	-	-
1995	1,014	698	0	23	8,766	0	0	834	9,487	11,335	0	0	0	0	30,770	0	0	0	30,770	30,770
1996	2,561	1,473	1,974	424	4,865	3,571	0	81	12,307	14,949	0	0	0	0	4,641	13,885	0	0	18,526	18,526
1997 <sup>a/</sup>	436	836	7,486	596	3,861	861	0	16	13,640	14,092	0	0	0	0	10,628	3,737	0	0	14,365	14,365

a/ Preliminary.



TABLE A-16. Treaty Indian troll pink salmon landings (odd-years only) in numbers of salmon by catch area and statistical month. (Page 1 of 1)

Year or Average	Jan. Through Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. Through Dec.	Total May Through Sept.	Year Total
<b>PINKS</b>										
<u>Area 4B</u>										
1976-1980	1	2	267	158	649	15	0	0	1,091	1,091
1981-1985	0	23	2	108	698	7	0	0	838	838
1986-1990	0	0	0	1,395	643	142	0	0	2,179	2,179
1989	0	0	0	2,542	664	283	0	0	3,489	3,489
1991	0	0	0	0	74	1,260	0	0	1,334	1,334
1993	0	0	0	55	126	5	0	0	186	186
1995	0	0	0	0	2,317	0	0	0	2,317	2,317
1997 <sup>a/</sup>	0	0	0	0	667	25	0	0	692	692
<u>Cape Flattery</u>										
1976-1980	0	42	91	632	1,339	5	0	0	2,108	2,108
1981-1985	0	0	94	1,340	6,681	302	0	0	8,417	8,417
1986-1990	0	2	4	6,553	2,891	377	0	0	9,827	9,827
1989	0	0	8	4,417	1,869	754	0	0	7,048	7,048
1991	0	0	2	999	1,643	0	0	0	2,644	2,644
1993	0	0	0	158	1,808	763	0	0	2,729	2,729
1995	0	0	0	0	8,407	0	0	0	8,407	8,407
1997 <sup>a/</sup>	0	0	0	0	1,010	10	0	0	1,020	1,020
<u>Quillayute</u>										
1976-1980	0	5	1,192	259	1,032	0	0	0	2,488	2,488
1981-1985	0	7	100	653	384	12	0	0	1,156	1,156
1986-1990	0	3	6	625	667	65	0	0	1,365	1,365
1989	0	6	12	225	107	129	0	0	479	479
1991	0	0	0	75	449	0	0	0	524	524
1993	0	0	0	120	351	31	0	0	502	502
1995	0	0	0	0	32	0	0	0	32	32
1997 <sup>a/</sup>	0	0	0	0	0	0	0	0	0	0
<u>Grays Harbor</u>										
1976-1980	0	0	0	0	0	0	0	0	0	0
1981-1985	0	1	18	106	6	0	0	0	132	132
1986-1990	0	0	0	419	44	16	0	0	471	471
1989	0	0	0	22	27	16	0	0	65	65
1991	0	0	0	0	4	0	0	0	4	4
1993	0	0	0	20	13	0	0	0	33	33
1995	0	0	0	0	2	0	0	0	2	2
1997 <sup>a/</sup>	0	0	0	0	0	0	0	0	0	0
<u>Total Treaty Troll</u>										
1976-1980	1	49	1,550	1,049	3,019	20	0	0	5,686	5,686
1981-1985	0	32	214	2,207	7,770	320	0	0	10,543	10,543
1986-1990	0	5	10	8,991	4,244	591	0	0	13,841	13,841
1989	0	6	20	7,206	2,667	1,182	0	0	11,081	11,081
1991	0	0	2	1,074	2,170	1,260	0	0	4,506	4,506
1993	0	0	0	353	2,298	799	0	0	3,450	3,450
1995	0	0	0	0	10,758	0	0	0	10,758	10,758
1997 <sup>a/</sup>	0	0	0	0	1,677	35	0	0	1,712	1,712

a/ Preliminary.

TABLE A-17. Washington ocean recreational salmon fishing effort in angler trips by port and month.<sup>a/</sup>  
(Page 1 of 2)

Year or Average	Apr.	May	June	July	Aug.	Sept.	Oct.	Total
<b>ANGLER TRIPS (thousands)</b>								
<b>Neah Bay<sup>b/</sup></b>								
1976-1980	0.6	1.1	4.1	13.0	17.9	7.0	0.5	44.2
1981-1985	0.1	0.4	1.1	9.0	13.4	3.4	0.1	27.5
1986-1990	-	0.2	1.4	14.0	7.3	1.3	-	24.2
1986	-	-	0.4	10.8	7.3	-	-	18.6
1987	-	-	0.6	12.2	6.4	-	-	19.2
1988	-	c/	-	13.5	1.9	0.5	-	15.9
1989	-	0.9	0.9	14.7	6.5	5.4	-	28.3
1990	-	-	c/	18.6	14.5	0.7	-	33.8
1991	-	-	c/	16.2	9.2	c/	-	25.4
1992	0.3	1.0	-	10.4	7.9	0.1	-	19.7
1993	c/	1.1	0.1	11.1	11.2	3.8	-	27.3
1994	-	-	-	-	-	-	-	-
1995	-	-	-	-	9.3	0.1	-	9.4
1996 <sup>d/</sup>	-	-	-	-	9.3	1.5	-	10.9
1997 <sup>d/</sup>	-	-	-	3.0	1.8	-	-	4.8
<b>La Push</b>								
1976-1980	c/	0.3	1.3	7.9	11.7	3.1	0.3	24.7
1981-1985	-	0.0	c/	1.1	2.1	0.1	-	3.3
1986-1990	-	c/	c/	1.8	0.6	0.1	-	2.5
1986	-	-	0.1	0.9	0.8	-	-	1.7
1987	-	-	0.1	1.2	0.8	-	-	2.0
1988	-	-	-	2.4	0.3	0.1	-	2.8
1989	-	0.1	0.1	1.5	0.0	-	-	1.6
1990	-	-	-	2.8	1.1	0.2	-	4.2
1991	-	-	-	3.5	c/	-	-	3.5
1992	-	-	-	1.7	0.5	0.3	c/	2.5
1993	-	-	-	1.6	0.8	0.5	-	2.9
1994	-	-	-	-	-	-	-	-
1995	-	-	-	-	0.9	0.5	-	1.5
1996 <sup>d/</sup>	-	-	-	-	0.8	0.5	-	1.3
1997 <sup>d/</sup>	-	-	-	0.9	-	-	-	0.9
<b>Westport</b>								
1976-1980	2.3	11.9	37.4	66.5	66.3	23.1	2.8	210.3
1981-1985	-	2.6	16.4	34.2	23.5	2.1	c/	78.8
1986-1990	-	0.3	2.9	30.3	15.5	3.5	-	52.6
1986	-	-	2.0	30.1	19.3	0.9	0.1	52.4
1987	-	-	2.1	29.7	11.4	0.8	-	43.9
1988	-	-	-	35.4	1.9	-	-	37.3
1989	-	1.5	3.4	29.2	23.1	2.7	-	59.9
1990	-	-	7.2	26.8	22.0	13.3	-	69.3
1991	-	-	5.0	35.0	8.9	3.9	-	52.7
1992	-	-	-	22.9	20.7	9.4	0.7	53.7
1993	-	-	-	17.8	19.4	13.7	-	50.9
1994	-	-	-	-	-	-	-	-
1995	-	-	-	4.9	11.6	5.3	-	21.7
1996 <sup>d/</sup>	-	-	-	4.5	9.6	1.4	-	15.5
1997 <sup>d/</sup>	-	-	-	8.0	8.1	1.2	-	17.3

TABLE A-17. Washington ocean recreational salmon fishing effort in angler trips by port and month.<sup>a/</sup>  
(Page 2 of 2)

Year or Average	Apr.	May	June	July	Aug.	Sept.	Oct.	Total
<b>ANGLER TRIPS (thousands)</b>								
<i>Ilwaco</i> <sup>e/</sup>								
1976-1980	0.4	4.6	20.8	42.0	62.4	18.7	1.7	150.6
1981-1985	-	0.7	6.1	23.2	20.3	3.3	0.1	53.8
1986-1990	-	0.1	1.3	19.7	19.4	0.7	-	41.2
1986	-	-	1.1	19.6	15.9	-	-	36.6
1987	-	-	1.0	17.6	17.7	-	-	36.3
1988	-	-	-	12.2	0.6	c/	-	12.8
1989	-	0.3	0.6	22.3	29.2	-	-	52.4
1990	-	-	3.9	27.0	33.5	3.5	-	67.8
1991	-	-	3.3	26.1	11.3	4.8	-	45.5
1992	-	-	0.0	25.6	4.5	2.9	-	33.0
1993	-	-	-	12.9	19.7	15.1	-	47.7
1994	-	-	-	-	-	-	-	-
1995	-	-	-	3.8	11.6	6.9	-	22.3
1996 <sup>d/</sup>	-	-	-	3.3	8.7	3.6	-	15.6
1997 <sup>d/</sup>	-	-	-	4.6	2.1	-	-	6.7
<b>Total All Areas</b>								
1976-1980	3.3	18.0	63.6	129.4	158.3	51.9	5.3	429.8
1981-1985	0.1	3.8	23.6	67.5	59.3	8.8	0.3	163.3
1986-1990	-	0.5	5.7	65.7	42.8	5.6	-	120.4
1986	-	-	3.6	61.4	43.2	0.9	0.1	109.3
1987	-	-	3.7	60.7	36.3	0.8	-	101.5
1988	-	c/	-	63.5	4.8	0.7	-	68.9
1989	-	2.7	5.0	67.7	58.8	8.1	-	142.2
1990	-	-	11.1	75.2	71.1	17.7	-	175.2
1991	-	-	8.3	80.8	29.4	8.7	-	127.2
1992	0.3	1.0	0.0	60.5	33.7	12.6	0.7	108.9
1993	c/	1.1	0.1	43.4	51.1	33.1	-	128.8
1994	-	-	-	-	-	-	-	-
1995	-	-	-	8.7	33.3	12.8	-	54.8
1996 <sup>d/</sup>	-	-	-	7.7	28.5	7.0	-	43.3
1997 <sup>d/</sup>	-	-	-	16.4	12.1	1.2	-	29.7

a/ Summary of effort is by statistical month.

b/ Includes effort from the Washington state waters Area 4B fishery which began in 1989.

c/ Less than 50 trips.

d/ Preliminary.

e/ Ilwaco statistics do not include effort reported as occurring inside the Columbia River mouth.



TABLE A-18. Washington ocean recreational chinook and coho salmon landings in numbers of fish by port and month.<sup>a/</sup> (Page 1 of 3)

Year or Average	Apr.	May	June	July	Aug.	Sept.	Oct.	Total	Apr.	May	June	July	Aug.	Sept.	Oct.	Total
<b>CHINOOK (thousands)</b>								<b>COHO (thousands)</b>								
<b>Neah Bay</b>																
1976-1980	0.4	0.3	1.2	2.4	1.4	0.5	0.1	6.3	0.2	0.5	3.4	11.4	20.7	7.8	0.3	44.2
1981-1985	0.1	0.1	0.2	1.2	0.5	0.1	b/	2.2	b/	0.2	0.9	8.4	16.5	3.4	0.1	29.4
1986-1990	-	b/	0.1	2.5	0.3	b/	-	3.0	-	0.0	0.2	15.9	11.6	2.1	-	29.7
1986	-	b/	0.1	2.6	0.5	-	-	3.3	-	-	0.6	10.5	10.7	-	-	21.8
1987 <sup>c/</sup>	-	-	0.1	2.4	0.1	-	-	2.6	-	-	0.2	15.0	10.1	-	-	25.4
1988	-	b/	-	3.5	0.2	b/	-	3.8	-	-	-	12.8	2.6	0.4	-	15.8
1989 <sup>d/</sup>	-	0.1	0.2	1.8	0.3	0.1	-	2.5	-	-	0.1	20.2	11.0	8.9	-	40.1
1990 <sup>d/</sup>	-	-	0.0	2.0	0.6	0.1	-	2.7	-	-	b/	20.9	23.7	1.1	-	45.6
1991 <sup>d/</sup>	-	-	b/	2.4	0.4	0.0	-	2.7	-	-	-	23.3	15.1	b/	-	38.5
1992 <sup>d/</sup>	b/	0.1	-	1.0	b/	0.0	-	1.1	-	b/	-	12.9	11.6	0.1	-	24.7
1993 <sup>d/</sup>	b/	0.2	b/	1.0	0.4	0.1	-	1.7	-	b/	b/	10.7	12.6	3.9	-	27.2
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	-	-	-	-	0.1	-	-	0.1	-	-	-	-	12.8	b/	-	12.8
1996 <sup>e/</sup>	-	-	-	-	0.1	b/	-	0.1	-	-	-	-	6.6	2.3	-	9.0
1997 <sup>e/</sup>	-	-	-	0.5	b/	-	-	0.5	-	-	-	-	1.5	-	-	1.5
<b>La Push</b>																
1976-1980	0.0	b/	0.2	0.9	1.3	0.3	0.1	2.8	b/	0.3	1.7	8.6	15.2	3.1	b/	28.9
1981-1985	-	0.0	b/	0.1	0.2	b/	-	0.3	-	0.0	b/	0.9	2.8	0.1	-	3.8
1986-1990	-	b/	b/	0.3	0.1	b/	-	0.4	-	0.0	b/	2.1	0.8	b/	-	3.0
1986	-	-	b/	0.1	0.2	-	-	0.3	-	-	0.1	1.1	1.0	-	-	2.2
1987 <sup>c/</sup>	-	-	b/	0.2	b/	-	-	0.2	-	-	b/	1.5	1.2	-	-	2.7
1988	-	-	-	0.5	b/	b/	-	0.6	-	-	-	2.2	0.5	0.1	-	2.8
1989	-	b/	b/	0.2	0.0	-	-	0.2	-	0.0	b/	2.2	0.0	-	-	2.2
1990	-	-	-	0.5	0.1	b/	-	0.6	-	-	-	3.6	1.4	0.2	-	5.2
1991	-	-	-	0.4	0.0	-	-	0.4	-	-	-	5.1	b/	-	-	5.2
1992	-	-	-	0.1	b/	b/	b/	0.2	-	-	-	1.2	0.4	0.2	b/	1.8
1993	-	-	-	0.1	b/	0.1	-	0.2	-	-	-	2.0	0.7	0.4	-	3.2
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	-	-	-	-	b/	b/	-	b/	-	-	-	-	1.2	0.7	-	1.9
1996 <sup>e/</sup>	-	-	-	-	b/	b/	-	b/	-	-	-	-	0.8	0.8	-	1.6
1997 <sup>e/</sup>	-	-	-	0.1	-	-	-	0.1	-	-	-	1.1	-	-	-	1.1

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TABLE A-18. Washington ocean recreational chinook and coho salmon landings in numbers of fish by port and month.<sup>a/</sup> (Page 2 of 3)

Year or Average	Apr.	May	June	July	Aug.	Sept.	Oct.	Total	Apr.	May	June	July	Aug.	Sept.	Oct.	Total
	CHINOOK (thousands)								COHO (thousands)							
<u>Westport</u>																
1976-1980	1.4	5.5	20.8	18.0	15.8	5.7	0.7	67.9	0.2	12.2	43.8	89.4	63.1	21.9	1.8	232.5
1981-1985	-	1.4	13.4	17.4	7.5	0.3	b/	40.1	-	0.5	9.4	27.7	23.0	2.7	b/	63.3
1986-1990	-	0.1	1.2	10.3	4.8	0.9	-	17.4	-	b/	1.8	40.1	22.5	5.0	b/	69.5
1986	-	-	0.5	7.9	6.9	-	-	15.3	-	-	3.1	49.7	29.3	0.9	0.1	83.1
1987	-	-	3.0	20.5	6.2	b/	-	29.7	-	-	0.4	27.6	13.5	b/	-	41.5
1988	-	-	-	12.5	0.9	-	-	13.4	-	-	-	45.9	2.6	-	-	48.5
1989	-	0.7	1.4	4.0	4.4	1.2	-	11.7	-	b/	b/	46.2	38.2	3.9	-	88.3
1990	-	-	1.3	6.8	5.4	3.4	-	16.8	-	-	5.4	31.3	29.4	20.0	-	86.1
1991	-	-	1.9	3.8	1.3	0.2	-	7.2	-	-	6.8	60.6	14.5	7.0	-	88.9
1992	-	-	-	7.1	6.0	2.4	0.2	15.7	-	-	-	16.8	25.8	7.2	0.3	50.1
1993	-	-	-	1.4	3.8	3.4	-	8.5	-	-	-	16.1	21.3	12.1	-	49.4
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995 <sup>e/</sup>	-	-	-	b/	b/	b/	-	0.1	-	-	-	3.2	17.6	8.0	-	28.9
1996 <sup>e/</sup>	-	-	-	b/	b/	-	-	b/	-	-	-	6.0	14.9	2.2	-	23.1
1997 <sup>e/</sup>	-	-	-	1.2	1.6	0.3	-	3.1	-	-	-	6.0	6.7	0.4	-	13.2
<u>Ilwaco<sup>f/</sup></u>																
1976-1980	0.2	2.5	9.1	7.5	15.8	2.3	0.1	37.5	0.2	5.6	40.4	69.2	65.2	23.9	1.8	206.3
1981-1985	-	0.1	2.7	4.5	4.3	0.4	b/	12.0	-	1.1	8.2	36.4	25.3	4.8	0.2	75.9
1986-1990	-	b/	0.2	1.8	3.3	b/	-	5.3	-	-	2.1	32.9	27.0	0.8	-	62.8
1986	-	-	0.1	1.0	1.2	-	-	2.2	-	-	2.2	36.7	28.8	-	-	67.7
1987	-	-	0.2	2.8	4.9	-	-	8.0	-	-	1.6	26.3	26.3	-	-	54.3
1988	-	-	-	1.1	0.1	b/	-	1.2	-	-	-	20.8	0.9	0.1	-	21.8
1989	-	0.1	0.5	0.7	4.1	-	-	5.4	-	-	b/	39.9	42.4	-	-	82.3
1990	-	-	0.2	3.3	6.2	0.1	-	9.9	-	-	6.7	40.5	36.5	4.2	-	87.9
1991	-	-	0.2	1.2	0.9	0.1	-	2.3	-	-	5.5	45.8	16.4	7.5	-	75.2
1992	-	-	0.0	0.9	0.5	0.1	-	1.5	-	-	0.0	37.4	6.5	3.0	-	46.9
1993	-	-	-	0.7	1.4	0.5	-	2.6	-	-	-	15.2	21.1	9.9	-	46.2
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995 <sup>e/</sup>	-	-	-	b/	0.2	b/	-	0.3	-	-	-	4.0	13.9	6.8	-	24.6
1996 <sup>e/</sup>	-	-	-	b/	b/	b/	-	0.1	-	-	-	4.7	10.3	2.8	-	17.8
1997 <sup>e/</sup>	-	-	-	0.2	0.2	-	-	0.3	-	-	-	7.3	3.7	-	-	11.1

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TABLE A-18. Washington ocean recreational chinook and coho salmon landings in numbers of fish by port and month.<sup>a/</sup> (Page 3 of 3)

Year or Average	Apr.	May	June	July	Aug.	Sept.	Oct.	Total	Apr.	May	June	July	Aug.	Sept.	Oct.	Total
	CHINOOK (thousands)								COHO (thousands)							
<b>Total All Areas</b>																
1976-1980	1.9	8.3	31.3	28.9	34.4	8.8	1.0	114.6	0.6	18.6	89.2	178.6	164.2	56.7	3.9	511.8
1981-1985	0.1	1.7	16.4	23.3	12.4	0.8	b/	54.7	b/	1.8	18.6	73.3	67.5	11.0	0.3	172.4
1986-1990	-	0.2	1.5	14.9	8.5	1.0	-	26.1	-	b/	4.1	91.0	62.0	7.9	b/	165.1
1986	-	b/	0.7	11.6	8.8	-	-	21.1	-	-	5.9	98.0	69.8	0.9	0.1	174.8
1987	-	-	3.3	26.0	11.2	b/	-	40.5	-	-	2.2	70.4	51.2	b/	b/	123.9
1988	-	b/	-	17.7	1.2	b/	-	18.9	-	-	-	81.8	6.6	0.6	-	88.9
1989	-	0.9	2.1	6.7	8.8	1.4	-	19.9	-	b/	0.1	108.4	91.6	12.7	-	212.9
1990	-	-	1.5	12.6	12.4	3.6	-	3	-	-	12.2	96.3	91.0	25.4	-	224.8
1991	-	-	2.1	7.7	2.6	0.3	-	12.7	-	-	12.2	134.9	46.1	14.5	-	207.7
1992	b/	0.1	0.0	9.0	6.5	2.5	0.2	18.4	-	b/	0.0	68.3	44.4	10.5	0.3	123.6
1993	b/	0.2	b/	3.2	5.6	4.1	-	13.0	-	b/	b/	44.0	55.7	26.3	-	126.0
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	-	-	-	0.1	0.4	0.1	-	0.5	-	-	-	7.2	45.5	15.5	-	68.3
1996 <sup>e/</sup>	-	-	-	b/	0.1	0.1	-	0.2	-	-	-	10.6	32.6	8.2	-	51.4
1997 <sup>e/</sup>	-	-	-	1.9	1.8	0.3	-	4.0	-	-	-	14.4	12.0	0.4	-	26.8

- a/ Summary of catch data is by statistical month. Catches do not include estimated mortality that is induced through species restriction or size limit regulation (see Appendix C, Table C-6).
- b/ Less than 50 fish.
- c/ Neah Bay and La Push statistics do not include estimates of 707 chinook killed during chinook nonretention fishery (July 19-Aug. 20).
- d/ Includes catch from the Washington state-waters Area 4B fishery.
- e/ Preliminary.
- f/ Ilwaco statistics do not include catch reported as occurring inside the Columbia River mouth.



TABLE A-19. **Washington ocean recreational pink salmon landings** (odd years only) in numbers of fish by port and month. <sup>a/</sup> (Page 1 of 1)

Year or Average	Apr.	May	June	July	Aug.	Sept.	Oct.	Total
<b>PINKS (thousands)</b>								
<u>Neah Bay</u> <sup>b/</sup>								
1976-1980	c/	c/	0.2	2.0	8.6	0.4	c/	11.1
1981-1985	-	c/	c/	0.8	3.4	0.2	c/	4.4
1986-1990	-	0.0	c/	1.1	0.5	0.1	-	1.7
1989	-	0.0	0.0	1.4	0.3	0.2	-	1.9
1991	-	-	-	0.5	1.5	-	-	2.0
1993	-	-	-	0.6	1.3	0.4	-	2.2
1995	-	-	-	-	2.6	c/	-	2.6
1997 <sup>d/</sup>	-	-	-	0.1	0.5	-	-	0.6
<u>La Push</u>								
1976-1980	-	c/	c/	0.4	1.9	c/	-	2.4
1981-1985	-	-	-	c/	0.2	c/	-	0.2
1986-1990	-	0.0	0.0	c/	c/	0.0	-	c/
1989	-	0.0	0.0	0.0	-	-	-	0.0
1991	-	-	-	c/	-	-	-	c/
1993	-	-	-	c/	c/	c/	-	0.1
1995	-	-	-	-	0.1	c/	-	0.1
1997 <sup>d/</sup>	-	-	-	0.2	-	-	-	0.2
<u>Westport</u>								
1976-1980	-	0.2	1.1	6.3	1.5	0.1	-	9.2
1981-1985	-	c/	0.1	0.5	0.5	c/	c/	1.1
1986-1990	-	0.0	0.0	0.1	c/	0.0	-	0.2
1989	-	0.0	0.0	c/	c/	-	-	0.1
1991	-	-	0.0	c/	c/	c/	-	0.1
1993	-	-	-	c/	c/	c/	-	0.1
1995	-	-	-	c/	0.1	c/	-	0.1
1997 <sup>d/</sup>	-	-	-	0.5	0.1	C/	-	0.6
<u>Ilwaco</u> <sup>e/</sup>								
1976-1980	-	0.2	0.1	0.5	0.3	c/	-	1.1
1981-1985	-	c/	c/	c/	0.2	-	-	0.2
1986-1990	-	0.0	0.0	0.1	c/	0.0	-	0.1
1989	-	-	0.0	c/	c/	-	-	c/
1991	-	-	0.0	c/	c/	0.0	-	0.1
1993	-	-	-	c/	c/	c/	-	c/
1995	-	-	-	c/	c/	c/	-	c/
1997 <sup>d/</sup>	-	-	-	-	-	-	-	-
<u>Total All Areas</u>								
1976-1980	c/	0.4	1.4	9.2	12.4	0.4	c/	23.8
1981-1985	-	c/	0.1	1.3	4.3	0.2	c/	5.9
1986-1990	-	0.0	c/	1.2	0.6	0.1	-	1.9
1989	-	0.0	0.0	1.5	0.4	0.2	-	2.0
1991	-	-	0.0	0.6	1.6	c/	-	2.2
1993	-	-	-	0.7	1.3	0.4	-	2.4
1995	-	-	-	c/	2.7	0.1	-	2.8
1997 <sup>d/</sup>	-	-	-	0.8	0.6	c/	-	1.4

a/ Summary of catch data is by statistical month. Catches do not include estimated mortality that is induced through species restriction or size limit regulation (see Appendix C, Table C-6). Averages are odd years only.

b/ Includes catch in the Washington state-waters Area 4B fishery.

c/ Less than 50 fish.

d/ Preliminary.

e/ Ilwaco statistics do not include catch reported as occurring inside the Columbia River mouth.

TABLE A-20. Cape Falcon to U.S.-Mexico border commercial troll salmon fishing effort in days fished by area and month. (Page 1 of 2)

Year or Average	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season
<b>DAYS FISHED (thousands)</b>									
<u>Cape Falcon to Humbug Mt.</u>									
1978-1980	-	0.9	3.5	14.9	11.5	2.1	1.6	b/	34.4
1981-1985	-	1.4	1.0	10.3	5.4	1.0	0.7	b/	19.9
1986-1990	-	3.8	4.6	14.2	8.0	3.1	2.3	0.2	36.1
1986	-	3.0	3.3	13.8	4.9	2.0	1.2	b/	28.2
1987	-	2.8	3.0	16.1	7.3	5.5	2.5	-	37.3
1988	-	4.2	6.0	17.0	14.1	3.6	4.6	-	49.5
1989	-	6.0	6.8	13.7	7.8	3.0	2.3	0.8	40.3
1990	-	2.7	3.7	10.4	5.6	1.5	1.1	b/	25.1
1991	-	0.7	4.0	4.2	2.0	1.9	1.7	-	14.4
1992	-	1.6	-	1.5	2.7	1.5	1.7	-	8.9
1993	-	2.1	1.3	1.7	1.0	1.9	1.2	0.1	9.3
1994	-	0.9	1.2	-	-	0.3	1.0	0.1	3.5
1995	-	0.9	1.6	-	2.7	1.3	1.1	0.1	7.7
1996 <sup>c/</sup>	-	1.4	2.0	-	1.8	1.6	1.1	0.1	8.0
1997 <sup>c/</sup>	0.4	2.0	1.9	-	1.7	1.0	0.6	0.1	7.5
<u>Humbug Mt. to Horse Mt. (KMZ)</u>									
1978-1980	0.2	8.0	8.2	12.7	10.0	3.4	1.3	0.7	44.6
1981-1985	-	3.0	1.8	5.0	5.3	1.3	0.7	0.3	17.4
1986-1990	-	0.3	1.5	0.3	0.8	0.6	0.1	0.1	3.8
1986	-	0.5	1.6	1.7	2.6	0.3	0.2	0.1	6.9
1987	-	0.5	3.2	0.9	-	0.5	0.3	0.3	4.8
1988	-	0.3	1.7	0.7	-	0.8	0.1	0.3	3.3
1989	-	0.2	1.2	-	0.6	0.7	0.1	-	2.9
1990	-	b/	-	-	1.1	0.3	b/	-	1.4
1991	-	-	-	-	b/	0.6	0.1	-	0.7
1992	-	-	-	-	-	-	-	-	-
1993	-	-	-	-	-	-	-	-	-
1994	-	b/	-	-	0.1	-	0.2	-	0.3
1995	-	b/	-	b/	-	-	0.2	-	0.3
1996 <sup>c/</sup>	-	0.1	b/	-	0.5	0.7	0.2	-	1.4
1997 <sup>c/</sup>	b/	0.1	-	-	b/	0.1	0.2	-	0.4
<u>Horse Mt. to U.S.-Mexico Border</u>									
1978-1980	0.9	13.4	9.5	21.7	9.0	5.1	-	-	59.6
1981-1985	0.8	10.2	7.9	15.1	8.7	4.8	b/	-	47.6
1986-1990	-	14.5	15.3	14.5	9.3	2.8	-	-	56.4
1986	-	14.0	13.2	13.9	8.2	1.8	-	-	51.0
1987	-	14.9	13.8	14.9	9.3	3.1	-	-	55.9
1988	-	17.0	19.2	20.0	12.6	5.2	-	-	74.0
1989	-	14.1	14.9	11.8	11.6	3.4	-	-	55.7
1990	-	12.7	15.2	11.9	4.8	0.7	-	-	45.2
1991	-	8.4	10.9	6.3	7.2	1.9	-	-	34.6
1992	-	5.9	3.3	2.8	4.6	3.6	-	-	20.3
1993	-	9.3	3.9	5.7	4.4	2.6	-	-	25.9
1994	-	6.5	4.6	5.4	2.4	2.3	-	-	21.2
1995	-	8.5	5.2	5.6	3.3	3.3	-	-	25.8
1996 <sup>c/</sup>	-	4.8	5.9	5.3	2.9	1.9	-	-	20.8
1997 <sup>c/</sup>	0.5	6.4	2.2	5.6	2.2	1.7	-	-	18.6

TABLE A-20. Cape Falcon to U.S.-Mexico border commercial troll salmon fishing effort in days fished by area and month. <sup>a/</sup> (Page 2 of 2)

Year or Average	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season
<b>DAYS FISHED (thousands)</b>									
<b>Total South of Cape Falcon</b>									
1978-1980	1.1	22.3	21.2	49.4	30.4	10.6	2.9	0.7	138.6
1981-1985	0.8	14.6	10.8	30.5	19.3	7.0	1.4	0.3	84.9
1986-1990	-	18.6	21.3	29.0	18.1	6.5	2.5	0.3	96.3
1986	-	17.6	18.0	29.3	15.7	4.2	1.4	0.1	86.1
1987	-	18.2	19.9	31.9	16.6	9.1	2.8	0.3	98.0
1988	-	21.5	26.9	37.6	26.7	9.7	4.8	0.3	126.8
1989	-	20.3	22.9	25.4	20.0	7.2	2.4	0.8	98.9
1990	-	15.4	18.9	22.3	11.5	2.4	1.1	b/	71.7
1991	-	9.1	14.8	10.5	9.2	4.3	1.8	-	49.7
1992	-	7.5	3.3	4.3	7.3	5.1	1.7	-	29.2
1993	-	11.3	5.2	7.4	5.4	4.5	1.2	0.1	35.2
1994	-	7.5	5.8	5.4	2.4	2.5	1.2	0.1	24.9
1995	-	9.4	6.9	5.6	5.9	4.6	1.3	0.1	33.8
1996	-	6.3	7.9	5.3	5.2	4.2	1.3	0.1	30.3
1997 <sup>c/</sup>	0.9	8.5	4.1	5.6	3.9	2.8	0.8	0.1	26.7

a/ The current KMZ boundaries are Humbug Mt. to Horse Mt. These have changed slightly since the early 1980s. Monthly totals for Oregon data are the sum of statistical weeks with closest fit to the calendar month.

b/ Less than 50 days.

c/ Preliminary.



TABLE A-21. Cape Falcon to U.S.-Mexico border commercial troll chinook and coho salmon landings in numbers of fish by catch area and month. <sup>a/</sup> (Page 1 of 2)

Year or Avg.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season
<b>CHINOOK (thousands)</b>										<b>COHO (thousands)</b>								
<u>Cape Falcon to Humbug Mt.</u>																		
1976-1980	-	7.9	18.4	45.9	36.6	12.3	8.5	0.1	129.7	-	-	78.2	289.2	101.8	5.9	0.1	-	475.2
1981-1985	-	13.5	7.0	44.4	23.6	6.9	2.9	b/	98.4	-	b/	-	224.2	52.0	1.4	-	-	277.6
1986-1990	-	41.1	45.7	140.7	84.6	29.3	22.5	0.7	364.7	-	-	b/	296.6	75.7	4.2	-	b/	376.6
1986	-	28.7	33.3	128.7	91.9	34.6	25.7	b/	342.9	-	-	-	375.4	-	0.1	-	-	375.5
1987	-	30.1	20.6	273.0	83.6	61.6	16.1	-	485.0	-	-	b/	256.0	59.3	21.0	-	-	336.3
1988	-	48.7	68.7	110.6	129.1	27.4	47.1	-	431.6	-	-	-	389.3	234.0	-	-	-	623.3
1989	-	83.1	73.2	70.8	69.6	15.9	19.7	3.4	335.7	-	-	-	375.6	61.5	-	-	-	437.1
1990	-	15.0	32.7	120.4	48.8	7.0	4.2	b/	228.1	-	-	0.1	86.7	23.8	-	-	b/	110.6
1991	-	3.3	12.6	15.8	11.7	18.0	12.4	-	73.8	-	-	91.4	191.4	b/	-	-	-	282.7
1992	-	20.6	-	31.5	26.1	10.7	19.3	-	108.3	-	-	-	23.1	25.2	-	b/	-	48.3
1993	-	20.3	14.7	13.2	10.4	15.6	6.4	0.7	81.3	-	-	-	b/	b/	-	b/	-	b/
1994	-	7.7	9.7	-	-	1.2	5.5	0.4	24.5	-	-	-	-	-	-	-	-	-
1995	-	10.6	35.9	-	98.2	38.6	28.9	0.3	212.5	-	-	-	-	-	-	-	-	-
1996 <sup>c/</sup>	-	25.6	40.5	-	60.8	26.0	14.1	0.8	167.8	-	-	b/	-	-	-	-	-	b/
1997 <sup>c/</sup>	4.4	31.0	36.2	-	44.4	25.8	5.0	0.5	147.3	-	-	-	-	-	-	-	-	-
<u>Humbug Mt. to Horse Mt. (KMZ)</u>																		
1976-1980	3.1	22.5	19.3	32.9	35.1	9.6	7.9	2.0	134.2	b/	21.2	82.2	81.2	20.4	4.1	0.1	b/	209.3
1981-1985	-	31.2	13.4	26.6	44.5	10.1	3.5	1.1	130.4	-	3.5	7.2	25.9	17.4	0.8	-	-	54.8
1986-1990	-	5.5	45.4	3.3	10.9	8.5	0.8	0.9	75.3	-	-	12.1	1.8	0.1	0.9	0.1	-	15.0
1986	-	3.9	37.1	16.7	41.9	3.6	1.0	0.6	104.8	-	-	18.8	9.2	0.2	b/	-	-	28.3
1987	-	9.6	108.8	-	-	4.8	1.1	1.9	126.2	-	-	19.4	-	-	1.3	-	-	20.7
1988	-	8.9	65.2	-	-	18.9	0.8	1.9	95.6	-	-	12.9	-	-	1.5	-	-	14.4
1989	-	5.0	16.2	-	4.6	13.1	0.9	-	39.8	-	-	9.3	-	0.3	0.4	0.2	-	10.2
1990	-	0.1	-	-	7.8	2.0	0.1	-	9.9	-	-	-	-	0.1	1.2	b/	-	1.2
1991	-	-	-	-	b/	4.6	0.4	-	5.0	-	-	-	-	-	3.0	0.1	-	3.1
1992	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1993	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1994	-	0.2	-	-	0.2	-	1.0	-	1.5	-	-	-	-	-	-	-	-	-
1995	-	0.3	-	1.7	-	-	1.3	-	3.3	-	-	-	-	-	-	-	-	-
1996 <sup>c/</sup>	-	2.9	2.2	-	5.3	6.2	0.8	-	17.4	-	-	-	-	-	-	-	-	-
1997 <sup>c/</sup>	0.1	2.3	-	-	0.3	1.4	0.9	-	5.0	-	-	-	-	-	-	-	-	-

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TABLE A-21. Cape Falcon to U.S.-Mexico border commercial troll chinook and coho salmon landings in numbers of fish by catch area and month. <sup>a/</sup> (Page 2 of 2)

Year or Avg.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season
<b>CHINOOK (thousands)</b>										<b>COHO (thousands)</b>								
<u>Horse Mt. to U.S.-Mexico Border</u>																		
1976-1980	7.6	118.0	68.1	157.3	49.1	28.6	-	-	428.7	b/	2.0	15.4	17.1	3.6	0.5	-	38.4	38.6
1981-1985	12.4	95.4	63.4	129.3	58.5	18.0	b/	-	377.1	b/	0.5	5.8	15.3	2.5	0.3	-	23.7	24.3
1986-1990	-	239.7	226.5	193.5	71.9	17.4	-	-	749.0	-	-	15.5	17.9	3.5	0.3	-	-	37.1
1986	-	223.4	272.8	208.0	65.1	5.5	-	-	774.9	-	-	9.2	16.1	1.8	0.1	-	-	27.2
1987	-	264.1	222.2	202.7	84.1	15.4	-	-	788.5	-	-	9.9	17.2	-	0.2	-	-	27.2
1988	-	390.1	340.2	372.5	113.0	42.1	-	-	1257.8	-	-	12.1	23.9	2.5	0.1	-	-	38.5
1989	-	175.8	123.3	112.5	77.9	18.6	-	-	508.0	-	-	7.8	15.9	8.6	0.5	-	-	32.8
1990	-	145.2	174.0	71.8	19.6	5.2	-	-	415.8	-	-	38.6	16.3	4.4	0.5	-	-	59.8
1991	-	80.1	87.1	49.7	65.6	7.8	-	-	290.2	-	-	50.1	24.0	5.1	-	-	-	79.2
1992	-	51.6	19.0	21.1	42.7	29.0	-	-	163.4	-	-	1.5	0.5	0.5	-	-	-	2.5
1993	-	111.1	40.4	55.8	48.4	24.0	-	-	279.6	-	-	-	-	-	-	-	-	-
1994	-	78.8	81.1	89.3	27.4	19.1	-	-	295.7	-	-	-	-	-	-	-	-	-
1995	-	285.5	143.0	189.7	30.9	31.1	-	-	680.1	-	-	-	-	-	-	-	-	-
1996	-	97.1	130.3	95.4	28.6	20.4	-	-	371.8	-	-	-	-	-	-	-	-	-
1997 <sup>c/</sup>	11.8	189.3	85.3	155.7	24.4	19.6	-	-	486.1	-	-	-	-	-	-	-	-	-
<u>Total South of Cape Falcon</u>																		
1976-1980	10.7	148.4	105.7	236.1	120.8	50.5	16.4	2.1	692.6	b/	23.2	175.8	387.5	125.9	10.5	0.2	38.4	723.1
1981-1985	12.4	140.1	83.9	200.3	126.5	35.0	6.4	1.1	605.8	b/	4.0	13.0	265.4	71.9	2.4	-	23.7	356.8
1986-1990	-	286.4	317.6	337.5	167.4	55.1	23.3	1.6	1188.9	-	-	27.6	316.3	79.3	5.4	0.1	b/	428.6
1986	-	256.0	343.2	353.4	199.0	43.7	26.7	0.6	1222.6	-	-	28.0	400.7	2.1	0.3	-	-	431.0
1987	-	303.8	351.5	475.7	167.8	81.9	17.2	1.9	1399.7	-	-	29.3	273.2	59.3	22.4	-	-	384.2
1988	-	447.7	474.1	483.1	242.1	88.4	47.9	1.9	1785.0	-	-	25.0	413.1	236.5	1.6	-	-	676.3
1989	-	263.9	212.7	183.3	152.0	47.6	20.6	3.4	883.5	-	-	17.0	391.5	70.4	0.8	0.2	-	480.0
1990	-	160.3	206.6	192.2	76.3	14.2	4.2	b/	653.8	-	-	38.7	103.0	28.2	1.7	b/	b/	171.7
1991	-	83.3	99.7	65.4	77.2	30.5	12.8	-	369.0	-	-	141.5	215.3	5.2	3.0	0.1	-	365.1
1992	-	72.2	19.0	52.6	68.8	39.8	19.3	-	271.7	-	-	1.5	23.6	25.6	-	b/	-	50.7
1993	-	131.4	55.1	69.0	58.8	39.6	6.4	0.7	360.9	-	-	-	b/	b/	-	b/	-	b/
1994	-	86.7	90.8	89.3	27.6	20.3	6.6	0.4	321.7	-	-	-	-	-	-	-	-	-
1995	-	296.4	178.8	191.4	129.1	69.7	30.3	0.3	895.9	-	-	-	-	-	-	-	-	-
1996	-	125.6	173.0	95.4	94.7	52.6	14.9	0.8	557.0	-	-	b/	-	-	-	-	-	b/
1997 <sup>c/</sup>	16.3	222.6	121.5	155.7	69.1	46.8	5.9	0.5	638.4	-	-	-	-	-	-	-	-	-

a/ The current KMZ boundaries are Humbug Mt. to Horse Mt. These have changed slightly since the early 1980s. Monthly totals for Oregon data are the sum of statistical weeks with closest fit to the calendar month.

b/ Less than 50.

c/ Preliminary.

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TABLE A-22. Cape Falcon to U.S.-Mexico border ocean recreational fishing effort in salmon angler trips by area and month. (Page 1 of 2)

Year or Average	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season
<b>ANGLER TRIPS (thousands)</b>											
<u>Cape Falcon to Humbug Mt.</u>											
1976-1980	-	-	-	9.0	44.4	97.2	83.0	17.6	1.4	0.1	252.6
1981-1985	-	-	-	2.1	13.1	78.0	49.0	8.5	0.3	-	151.1
1986-1990	-	-	-	1.7	18.5	82.6	49.3	12.8	-	-	164.9
1986	-	-	-	2.2	10.7	85.4	15.3	-	-	-	113.7
1987	-	-	-	-	10.9	93.0	47.0	17.6	-	-	168.5
1988	-	-	-	2.7	19.0	80.6	69.0	20.5	-	-	191.9
1989	-	-	-	2.0	36.5	86.8	45.8	9.6	-	-	180.7
1990	-	-	-	1.4	15.5	67.0	69.5	16.5	-	-	169.9
1991	-	-	-	2.3	33.1	96.6	-	-	-	-	132.0
1992	-	-	-	3.7	19.9	68.2	34.4	8.5	-	-	134.7
1993	-	-	-	1.4	1.3	24.7	10.6	-	-	-	38.0
1994	-	-	-	0.9	1.1	-	-	-	8.7	b/	10.7
1995	-	-	-	0.8	0.8	-	-	1.9	1.1	0.8	5.5
1996	-	-	-	1.3	0.9	0.6	4.1	4.8	3.3	-	15.0
1997 <sup>c/</sup>	-	-	b/	0.5	0.8	0.9	4.0	2.1	1.8	-	10.0
<u>Humbug Mt. to Horse Mt. (KMZ)</u>											
1976-1980	-	-	b/	1.6	20.8	50.1	30.9	8.3	5.6	0.9	118.2
1981-1985	-	-	b/	3.5	14.9	49.2	26.9	4.4	3.4	0.1	102.4
1986-1990	-	-	-	5.3	33.5	62.7	27.0	5.1	2.2	-	135.9
1986	-	-	-	5.8	25.2	33.8	26.6	1.1	5.0	-	107.2
1987	-	-	-	6.0	33.3	55.8	35.7	11.9	5.9	-	167.6
1988	-	-	-	4.7	34.2	51.9	24.0	3.9	-	-	129.7
1989	-	-	-	6.5	34.2	66.6	28.6	6.4	-	-	142.4
1990	-	-	-	3.5	40.8	65.8	20.1	2.3	-	-	132.5
1991	-	-	-	2.1	33.3	44.9	2.9	6.3	b/	-	89.5
1992	-	-	-	-	-	21.9	-	10.1	3.9	-	35.8
1993	-	-	-	4.3	7.9	19.2	19.9	6.1	-	-	57.5
1994	-	-	-	14.0	5.3	-	4.2	4.6	4.2	-	32.3
1995	-	-	-	6.5	18.0	-	4.6	11.6	3.4	-	44.1
1996	-	-	-	5.1	17.5	5.6	10.8	5.6	4.3	-	48.8
1997 <sup>c/</sup>	-	-	-	5.9	8.6	6.5	11.7	1.6	1.3	-	35.6
<u>Horse Mt. to U.S.-Mexico Border</u>											
1976-1980	9.9	12.5	9.2	9.9	13.0	22.1	19.4	13.2	8.0	2.4	119.6
1981-1985	5.1	7.9	8.8	8.9	14.3	22.0	16.9	9.6	5.6	1.4	100.7
1986-1990	8.4	17.0	24.0	13.7	23.8	36.4	22.9	10.7	5.1	1.7	163.8
1986	2.1	13.9	18.4	12.8	22.5	34.9	23.2	7.7	4.8	0.9	141.1
1987	8.6	18.9	17.6	13.6	17.8	38.1	31.7	14.7	7.3	1.7	170.1
1988	11.2	15.7	19.0	19.1	28.3	39.6	22.0	8.7	4.2	0.8	168.7
1989	9.8	15.9	35.0	14.2	22.9	30.4	22.2	11.9	4.0	1.9	168.3
1990	10.2	20.6	30.3	8.6	27.7	39.2	15.3	10.4	5.1	3.4	170.8
1991	-	12.3	18.2	11.0	27.9	44.2	19.7	5.8	4.4	0.1	143.6
1992	2.0	9.7	9.9	11.5	13.6	28.9	15.1	12.3	5.8	0.8	109.7
1993	0.9	15.0	17.6	15.2	12.3	42.3	25.1	8.1	4.7	-	141.2
1994	2.5	14.2	18.7	16.6	32.6	42.5	25.5	12.3	8.8	-	173.7
1995	0.4	22.9	50.2	55.3	62.2	97.5	44.4	15.9	4.9	-	353.8
1996	b/	35.1	30.4	21.9	31.7	43.4	26.4	8.1	3.1	-	200.1
1997 <sup>c/</sup>	b/	21.5	29.6	29.7	39.3	56.6	29.0	6.0	3.2	0.4	215.3



TABLE A-22. Cape Falcon to U.S.-Mexico border ocean recreational fishing effort in salmon angler trips by area and month. (Page 2 of 2)

Year or Average	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season
<b>ANGLER TRIPS (thousands)</b>											
<b>Total South of Cape Falcon</b>											
1976-1980	9.9	12.5	9.2	20.6	78.2	169.3	133.3	39.2	14.9	3.4	490.5
1981-1985	5.1	7.9	8.8	14.5	42.4	149.3	92.9	22.5	9.4	1.6	354.3
1986-1990	8.4	17.0	24.0	20.6	75.9	181.7	99.2	28.7	7.3	1.7	464.6
1986	2.1	13.9	18.4	20.7	58.5	154.1	65.2	8.8	9.8	0.9	362.0
1987	8.6	18.9	17.6	19.6	62.0	186.9	114.4	44.3	13.3	1.7	506.2
1988	11.2	15.7	19.0	26.5	81.5	172.2	115.1	33.2	4.2	0.8	490.4
1989	9.8	15.9	35.0	22.8	93.6	183.8	96.6	27.9	4.0	1.9	491.4
1990	10.2	20.6	30.3	13.5	84.0	171.9	105.0	29.2	5.1	3.4	473.2
1991	-	12.3	18.2	15.4	94.3	185.6	22.6	12.1	4.5	0.1	365.0
1992	2.0	9.7	9.9	15.2	33.6	119.0	49.5	30.9	9.6	0.8	280.3
1993	0.9	15.0	17.6	20.9	21.5	86.2	55.6	14.2	4.7	-	236.7
1994	2.5	14.2	18.7	31.5	39.0	42.5	29.7	16.8	21.8	b/	216.8
1995	0.4	22.9	50.2	62.7	81.1	97.5	49.0	29.4	9.5	0.8	403.4
1996	b/	35.1	30.4	28.3	50.1	49.6	41.3	18.5	10.7	0.0	263.8
1997 <sup>c/</sup>	b/	21.5	29.6	36.1	48.7	64.0	44.7	9.7	6.3	0.4	261.0

a/ The current KMZ boundaries are Humbug Mt. to Horse Mt. These have changed slightly since the early 1980s. Monthly totals for Oregon data are the sum of statistical weeks with closest fit to the calendar month.

b/ Less than 50 trips.

c/ Preliminary.

TABLE A-23. Cape Falcon to U.S.-Mexico border ocean recreational salmon landings in numbers of fish by catch area and month.<sup>a/</sup> (Page 1 of 2)

Year or Average	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season
<b>CHINOOK (thousands)</b>												<b>COHO (thousands)</b>										
<b>Cape Falcon to Humbug Mt.</b>																						
1976-1980	-	-	-	0.7	2.8	4.1	5.1	1.5	0.1	b/	14.2	-	-	-	9.1	46.9	76.2	54.9	5.6	0.4	b/	193.1
1981-1985	-	-	-	b/	0.8	6.3	3.5	0.6	b/	-	11.3	-	-	-	1.4	10.8	62.6	40.9	3.8	-	-	119.5
1986-1990	-	-	-	0.1	1.9	7.1	4.0	1.6	-	-	14.8	-	-	-	0.9	20.2	98.1	46.0	7.0	-	-	172.2
1986	-	-	-	0.1	1.2	6.6	0.8	-	-	-	8.8	-	-	-	2.7	19.0	121.	25.2	-	-	-	167.9
1987	-	-	-	-	1.2	13.9	8.7	5.1	-	-	29.0	-	-	-	-	2.9	98.0	25.8	9.1	-	-	135.8
1988	-	-	-	0.3	3.4	5.0	6.0	1.5	-	-	16.1	-	-	-	0.1	9.9	95.7	76.3	20.0	-	-	202.0
1989	-	-	-	0.2	2.6	5.1	1.3	0.2	-	-	9.4	-	-	-	1.5	50.0	105.	48.2	0.7	-	-	205.9
1990	-	-	-	b/	1.0	4.7	3.5	1.3	-	-	10.5	-	-	-	0.2	19.2	70.1	54.6	5.2	-	-	149.2
1991	-	-	-	0.2	2.8	3.7	-	-	-	-	6.6	-	-	-	0.9	41.2	155.	-	-	-	-	197.5
1992	-	-	-	0.2	2.5	4.4	1.5	0.7	-	-	9.4	-	-	-	0.6	24.7	89.9	38.7	6.4	-	-	160.3
1993	-	-	-	0.2	b/	1.1	0.6	-	-	-	1.8	-	-	-	0.1	0.1	18.0	12.7	-	-	-	30.9
1994	-	-	-	0.1	0.1	-	-	-	2.2	-	2.4	-	-	-	-	-	-	-	-	b/	-	b/
1995	-	-	-	0.1	0.2	-	-	0.2	0.3	0.1	0.9	-	-	-	-	-	-	-	b/	-	-	b/
1996	-	-	-	0.2	0.2	0.3	0.7	0.9	0.7	-	3.0	-	-	-	-	-	b/	b/	b/	-	-	0.1
1997 <sup>c/</sup>	-	-	0	0.1	0.2	0.5	1.2	0.4	0.3	-	2.4	-	-	-	-	b/	b/	b/	-	-	-	b/
<b>Humbug Mt. to Horse Mt. (KMZ)</b>																						
1976-1980	-	-	b/	0.3	2.7	8.2	5.6	0.7	0.7	0.1	18.3	-	-	b/	0.5	17.8	29.1	9.0	0.7	0.4	0.1	57.5
1981-1985	-	-	b/	2.5	4.9	17.2	7.2	0.7	0.5	b/	33.0	-	-	-	0.4	5.7	17.7	5.7	0.4	b/	-	29.8
1986-1990	-	-	-	1.8	14.8	21.5	8.6	2.0	0.3	-	49.1	-	-	-	1.1	12.4	32.3	7.6	0.9	b/	-	54.3
1986	-	-	-	1.8	6.9	9.4	9.3	0.1	0.6	-	28.2	-	-	-	1.9	7.8	13.5	5.5	b/	b/	-	28.7
1987	-	-	-	1.5	11.3	20.6	14.4	8.0	1.1	-	56.9	-	-	-	0.1	4.9	45.9	10.2	2.6	b/	-	63.7
1988	-	-	-	1.7	25.0	20.9	4.7	0.5	-	-	52.7	-	-	-	0.7	4.9	34.3	5.2	0.6	-	-	45.6
1989	-	-	-	2.5	14.7	39.6	13.2	1.2	-	-	71.1	-	-	-	1.8	16.6	45.3	13.2	0.9	-	-	77.9
1990	-	-	-	1.4	16.2	17.1	1.7	0.1	-	-	36.6	-	-	-	1.0	27.9	22.2	4.0	0.3	-	-	55.3
1991	-	-	-	0.1	11.8	7.1	0.1	0.6	b/	-	19.7	-	-	-	0.1	31.6	28.5	0.8	1.4	b/	-	62.3
1992	-	-	-	-	-	3.8	-	0.8	0.7	-	5.3	-	-	-	-	-	8.2	-	1.5	b/	-	9.7
1993	-	-	-	1.5	0.5	2.6	2.9	1.1	-	-	8.7	-	-	-	0.7	0.9	9.4	8.0	1.4	-	-	20.4
1994	-	-	-	7.8	3.2	-	1.1	0.5	1.1	-	13.7	-	-	-	b/	b/	-	0.1	b/	-	-	0.1
1995	-	-	-	1.6	8.6	-	2.1	6.2	0.8	-	19.4	-	-	-	b/	0.2	-	b/	0.2	b/	-	0.4
1996	-	-	-	2.6	8.6	1.3	4.2	1.2	1.3	-	19.1	-	-	-	0.2	b/	0.1	0.1	b/	-	-	0.4
1997 <sup>c/</sup>	-	-	-	2.6	3.0	3.0	4.4	0.2	0.7	-	13.9	-	-	-	b/	0.1	0.1	0.1	b/	b/	-	0.3

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TABLE A-23. Cape Falcon to U.S.-Mexico border ocean recreational salmon landings in numbers of fish by catch area and month.<sup>a/</sup> (Page 2 of 2)

Year or Average	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Season
<b>CHINOOK (thousands)</b>												<b>COHO (thousands)</b>										
<b>Horse Mt. to U.S.-Mexico Border</b>																						
1976-1980	5.8	8.5	8.7	6.2	11.8	16.6	9.7	7.4	6.7	1.3	82.8	b/	b/	0.2	1.4	1.6	2.2	0.6	0.1	b/	b/	6.2
1981-1985	5.9	7.3	7.2	7.7	13.3	19.0	16.6	8.5	5.5	1.4	92.5	-	b/	b/	0.1	0.7	0.9	0.3	b/	b/	-	2.1
1986-1990	5.6	15.3	26.4	10.0	19.0	28.6	18.0	8.0	4.1	1.3	136.2	-	b/	0.1	0.2	1.3	2.4	0.8	0.2	b/	-	4.9
1986	1.2	16.1	23.5	8.8	20.6	31.5	16.0	5.2	2.0	0.6	125.4	-	b/	-	0.1	0.3	1.3	0.3	b/	b/	-	2.0
1987	5.5	14.1	19.2	11.0	15.7	40.3	35.3	12.9	7.1	1.1	162.0	-	-	-	b/	0.7	1.1	0.5	0.3	-	-	2.6
1988	6.8	16.1	25.0	18.5	25.3	29.1	10.6	4.9	3.8	0.5	140.8	-	-	b/	0.2	0.5	2.9	0.2	b/	-	-	3.8
1989	8.0	12.7	42.6	6.5	16.7	18.5	13.3	12.2	3.7	2.4	136.7	-	-	0.1	0.2	1.7	2.2	0.5	0.1	-	-	4.8
1990	6.7	17.6	21.6	5.0	16.5	23.4	14.7	5.0	3.8	1.7	116.0	-	-	0.1	0.6	3.5	4.4	2.5	0.4	0.1	-	11.6
1991	-	8.0	13.0	4.8	12.2	20.4	5.7	1.6	2.2	b/	68.0	-	b/	b/	0.6	13.1	14.0	1.3	0.1	b/	-	29.2
1992	0.5	3.4	5.4	6.3	9.5	22.1	10.1	9.9	3.3	0.5	71.0	b/	b/	b/	0.4	0.4	3.6	0.1	0.5	b/	-	5.1
1993	0.4	9.9	15.0	8.5	7.3	38.4	17.2	4.8	3.6	-	105.1	-	b/	0.1	0.3	1.5	11.4	2.0	0.1	b/	-	15.4
1994	1.3	7.3	15.7	12.3	35.7	53.3	23.9	13.9	9.7	-	173.1	-	-	b/	b/	0.2	0.1	b/	b/	b/	-	0.4
1995	0.2	27.3	57.9	45.8	73.4	133.7	29.8	13.4	2.1	-	383.6	-	-	b/	b/	0.3	0.1	0.1	b/	b/	-	0.7
1996 <sup>c/</sup>	b/	32.0	31.7	13.2	27.2	32.3	11.2	4.4	1.3	-	153.3	-	-	b/	b/	0.2	b/	0.1	b/	-	-	0.4
1997 <sup>c/</sup>	b/	20.0	26.9	25.9	45.8	72.6	23.6	3.0	2.0	0.2	220.0	-	-	b/	b/	-	0.1	0.1	b/	-	-	0.1
<b>Total South of Cape Falcon</b>																						
1976-1980	5.8	8.5	8.7	7.2	17.3	28.9	20.4	9.6	7.5	1.4	115.3	b/	b/	0.2	11.0	66.3	107.	64.5	6.5	0.7	0.1	256.8
1981-1985	5.9	7.3	7.2	10.2	19.0	42.5	27.3	9.9	6.1	1.4	136.8	-	b/	b/	1.9	17.2	81.2	47.0	4.2	b/	-	151.5
1986-1990	5.6	15.3	26.4	11.9	35.7	57.2	30.7	11.6	4.4	1.3	200.0	-	b/	0.1	2.2	33.9	132.	54.4	8.0	b/	-	231.4
1986	1.2	16.1	23.5	10.7	28.7	47.6	26.1	5.3	2.6	0.6	162.4	-	b/	-	4.6	27.1	135.	30.9	b/	b/	-	198.6
1987	5.5	14.1	19.2	12.5	28.2	74.8	58.3	26.0	8.3	1.1	247.9	-	-	-	0.1	8.5	145.	36.5	12.0	b/	-	202.1
1988	6.8	16.1	25.0	20.5	53.7	55.0	21.3	6.8	3.8	0.5	209.7	-	-	b/	1.0	15.2	133.	81.7	20.6	-	-	251.4
1989	8.0	12.7	42.6	9.1	34.1	63.2	27.8	13.6	3.7	2.4	217.2	-	-	0.1	3.5	68.3	153.	61.9	1.7	-	-	288.6
1990	6.7	17.6	21.6	6.5	33.7	45.3	19.9	6.3	3.8	1.7	163.1	-	-	0.1	1.7	50.6	96.7	61.1	5.9	0.1	-	216.2
1991	-	8.0	13.0	5.0	26.8	31.1	5.8	2.3	2.2	b/	94.3	-	b/	b/	1.5	85.9	197.	2.1	1.4	b/	-	289.0
1992	0.5	3.4	5.4	6.6	12.0	30.2	11.6	11.5	4.0	0.5	85.6	b/	b/	b/	1.0	25.1	101.	38.9	8.3	0.1	-	175.1
1993	0.4	9.9	15.0	10.2	7.8	42.1	20.7	5.9	3.6	-	115.6	-	b/	0.1	1.0	2.5	38.7	22.8	1.6	b/	-	66.7
1994	1.3	7.3	15.7	20.2	39.1	53.3	25.0	14.4	13.0	-	189.2	-	-	b/	b/	0.2	0.1	0.1	b/	b/	-	0.6
1995	0.2	27.3	57.9	47.5	82.2	133.7	31.9	19.8	3.3	0.1	403.8	-	-	b/	b/	0.5	0.1	0.1	0.2	b/	-	1.1
1996 <sup>c/</sup>	b/	32.0	31.7	16.0	36.0	33.9	16.0	6.5	3.4	-	175.3	-	-	b/	b/	0.4	0.1	0.2	0.1	b/	-	0.8
1997 <sup>c/</sup>	b/	20.0	26.9	28.6	49.0	76.1	29.2	3.6	3.0	0.2	236.6	-	-	b/	b/	0.1	0.1	0.2	b/	-	-	0.4

a/ The current KMZ boundaries are Humbug Mt. to Horse Mt. These have changed slightly since the early 1980s. Monthly totals for the Oregon data are the sum of statistical weeks with closest fit to the calendar month.

b/ Less than 50 fish.

c/ Preliminary.



TABLE A-24. U.S.-Canada border to Cape Falcon commercial troll salmon fishing effort in days fished by area and month. <sup>a/</sup> (Page 1 of 3)

Year or Average	May	June	July	Aug.	Sept.	Oct.	Season
<b>DAYS FISHED (thousands)</b>							
<b>North of Leadbetter Pt. - Non-Indian</b>							
1976-1980	3.6	2.3	11.9	12.4	4.5	-	34.8
1981-1985	2.8	0.3	4.7	2.4	b/	b/	10.2
1986-1990	2.3	0.7	0.3	0.7	b/	-	3.9
1986	1.9	b/	0.4	0.5	-	-	2.9
1987	1.9	-	0.9	b/	-	-	2.8
1988	3.5	2.1	b/	b/	b/	-	5.6
1989	2.2	1.1	-	0.9	b/	-	4.1
1990	2.1	0.2	b/	1.9	b/	-	4.3
1991	1.6	1.0	b/	1.2	0.5	-	4.2
1992	1.9	1.3	0.9	0.6	b/	-	4.6
1993	1.2	0.9	0.7	0.4	0.4	-	3.6
1994	-	-	-	-	-	-	-
1995	-	-	-	0.4	0.1	-	0.5
1996	-	-	0.2	0.2	-	-	0.4
1997 <sup>c/</sup>	0.3	0.2	-	-	-	-	0.5
<b>North of Leadbetter Pt. - Treaty Indian<sup>d/</sup></b>							
1976-1980	b/	0.1	0.1	0.1	b/	b/	0.3
1981-1985	0.2	0.2	0.4	0.4	0.3	b/	1.4
1986-1990	0.4	0.4	0.6	0.6	0.1	b/	2.1
1986	0.2	0.3	0.5	0.1	b/	b/	1.1
1987	0.3	-	0.4	0.5	-	b/	1.3
1988	0.6	0.5	0.7	0.9	0.2	-	3.0
1989	0.4	0.5	0.6	0.3	0.4	-	2.2
1990	0.5	0.7	0.5	1.0	0.2	-	2.9
1991	0.3	0.4	0.4	0.4	-	0.1	1.5
1992	0.3	0.4	0.3	0.1	-	-	1.1
1993	0.3	0.4	0.4	0.4	0.3	b/	1.8
1994	0.1	0.2	-	-	-	-	0.2
1995	b/	-	-	0.3	-	-	0.3
1996	0.1	0.1	-	0.1	0.1	-	0.4
1997 <sup>c/</sup>	0.1	0.1	-	0.1	b/	-	0.4
<b>North of Leadbetter Pt. - Total<sup>d/</sup></b>							
1976-1980	3.7	2.4	12.0	12.4	4.6	b/	35.1
1981-1985	3.0	0.4	5.1	2.8	0.3	b/	11.5
1986-1990	2.7	1.1	0.8	1.2	0.2	b/	6.0
1986	2.1	0.3	1.0	0.6	b/	b/	4.0
1987	2.2	-	1.4	0.5	-	b/	4.1
1988	4.1	2.6	0.7	0.9	0.2	-	8.5
1989	2.6	1.6	0.6	1.2	0.4	-	6.3
1990	2.6	0.9	0.5	2.9	0.2	-	7.2
1991	1.9	1.4	0.4	1.6	0.5	0.1	5.7
1992	2.2	1.7	1.1	0.7	-	b/	5.7
1993	1.5	1.3	1.1	0.8	0.7	b/	5.5
1994	0.1	0.2	-	-	-	-	0.2
1995	b/	-	-	0.7	0.1	-	0.8
1996	0.1	0.1	0.2	0.3	0.1	-	0.8
1997 <sup>c/</sup>	0.3	0.3	-	0.1	a/	-	0.8

TABLE A-24. U.S.-Canada border to Cape Falcon commercial troll salmon fishing effort in days fished by area and month. (Page 2 of 3)

Year or Average	May	June	July	Aug.	Sept.	Oct.	Season
<b>DAYS FISHED (thousands)</b>							
<b>South of Leadbetter Point - Non-Indian</b>							
1976-1980	0.9	0.8	4.5	3.7	1.9	0.1	11.9
1981-1985	1.0	0.1	1.0	0.9	0.2	-	3.1
1986-1990	0.3	0.1	0.2	0.6	0.4	b/	1.5
1986	0.8	-	0.3	1.5	-	-	2.6
1987	0.3	-	0.5	-	-	-	0.8
1988	0.3	0.2	-	-	-	-	0.5
1989	0.2	0.1	-	0.9	0.7	-	1.8
1990	0.1	b/	-	0.7	1.1	b/	1.9
1991	0.2	b/	-	0.8	0.2	-	1.3
1992	0.2	0.1	0.1	0.1	-	-	0.5
1993	b/	b/	0.1	0.1	0.1	-	0.3
1994	-	-	-	-	-	-	-
1995	-	-	-	-	-	-	-
1996	-	-	-	-	-	-	-
1997 <sup>c/</sup>	0.1	a/	-	-	-	-	0.1
<b>North of Cape Falcon - Non-Indian</b>							
1976-1980	4.5	3.2	16.4	16.1	6.5	0.1	46.7
1981-1985	3.8	0.3	5.7	3.3	0.2	b/	13.2
1986-1990	2.7	0.7	0.4	1.3	0.4	b/	5.5
1986	2.7	b/	0.8	1.9	-	-	5.4
1987	2.2	-	1.4	b/	-	-	3.6
1988	3.8	2.2	b/	b/	b/	-	6.1
1989	2.3	1.1	-	1.8	0.7	-	6.0
1990	2.2	0.2	b/	2.7	1.1	b/	6.2
1991	1.8	1.0	b/	2.0	0.7	-	5.5
1992	2.1	1.4	1.0	0.7	b/	-	5.2
1993	1.3	0.9	0.8	0.4	0.5	-	3.9
1994	-	-	-	-	-	-	-
1995	-	-	-	0.4	0.1	-	0.5
1996	-	-	0.2	0.2	-	-	0.4
1997 <sup>c/</sup>	0.4	0.2	-	-	-	-	0.6
<b>North of Cape Falcon - Treaty Indian<sup>d/</sup></b>							
1976-1980	b/	0.1	0.1	0.1	b/	b/	0.3
1981-1985	0.2	0.2	0.4	0.4	0.3	b/	1.4
1986-1990	0.4	0.4	0.6	0.6	0.1	b/	2.1
1986	0.2	0.3	0.5	0.1	b/	b/	1.1
1987	0.3	-	0.4	0.5	-	b/	1.3
1988	0.6	0.5	0.7	0.9	0.2	-	3.0
1989	0.4	0.5	0.6	0.3	0.4	-	2.2
1990	0.5	0.7	0.5	1.0	0.2	-	2.9
1991	0.3	0.4	0.4	0.4	-	0.1	1.5
1992	0.3	0.4	0.3	0.1	-	-	1.1
1993	0.3	0.4	0.4	0.4	0.3	b/	1.8
1994	0.1	0.2	-	-	-	-	0.2
1995	b/	-	-	0.3	-	-	0.3
1996	0.1	0.1	-	0.1	0.1	-	0.4
1997 <sup>c/</sup>	0.1	0.1	-	0.1	a/	-	0.4

TABLE A-24. U.S.-Canada border to Cape Falcon commercial troll salmon fishing effort in days fished by area and month. (Page 3 of 3)

Year or Average	May	June	July	Aug.	Sept.	Oct.	Season
<b>DAYS FISHED (thousands)</b>							
<b>North of Cape Falcon - Total<sup>d/</sup></b>							
1976-1980	4.6	3.2	16.5	16.2	6.5	0.1	47.0
1981-1985	3.9	0.5	6.0	3.7	0.4	b/	14.6
1986-1990	3.1	1.1	1.0	1.8	0.5	b/	7.5
1986	2.9	0.3	1.3	2.1	b/	-	6.5
1987	2.5	-	1.8	0.5	-	-	4.8
1988	4.4	2.8	0.7	0.9	0.2	-	9.0
1989	2.7	1.7	0.6	2.1	1.1	-	8.2
1990	2.7	0.9	0.5	3.6	1.3	b/	9.1
1991	2.1	1.4	0.4	2.4	0.7	-	7.0
1992	2.4	1.9	1.3	0.8	b/	-	6.3
1993	1.6	1.3	1.2	0.8	0.8	b/	5.8
1994	0.1	0.2	-	-	-	-	0.2
1995	b/	-	-	0.7	0.1	-	0.8
1996	0.1	0.1	0.2	0.3	0.1	-	0.8
1997 <sup>c/</sup>	0.4	0.3	-	0.1	a/	-	0.9

a/ Monthly totals for Oregon data are the sum of statistical weeks with closest fit to the calendar month. Washington data are summarized by statistical month.

b/ Less than 50 days.

c/ Preliminary.

d/ Season totals do not include October treaty troll effort.



TABLE A-25. U.S.-Canada border to Cape Falcon commercial troll chinook and coho landings in numbers of fish by catch area and month. <sup>a/</sup> (Page 1 of 4)

Year or Average	May	June	July	Aug.	Sept.	Oct.	Season	May	June	July	Aug.	Sept.	Oct.	Season
							<b>CHINOOK (thousands)</b>							
							<b>COHO (thousands)</b>							
<b>North of Leadbetter Pt. - Non-Indian</b>														
1976-1980	43.5	24.8	51.3	33.7	9.5	-	162.7	b/	27.2	308.8	177.8	62.1	-	575.9
1981-1985	26.6	2.9	20.8	4.7	b/	b/	55.1	-	-	103.8	26.2	b/	-	130.0
1986-1990	27.8	9.1	4.0	1.3	b/	-	42.3	b/	-	10.5	26.5	b/	-	37.0
1986	18.9	0.2	0.6	2.0	-	-	21.6	-	-	8.6	20.8	-	-	29.4
1987	33.7	-	19.3	b/	-	-	53.1	-	-	43.7	0.3	-	-	44.0
1988 <sup>c/</sup>	40.9	29.1	0.1	0.2	b/	-	70.3	b/	-	0.4	1.8	-	-	2.2
1989	22.4	14.6	-	0.3	b/	-	37.2	-	-	-	41.1	b/	-	41.1
1990	23.3	1.8	b/	4.2	b/	-	29.3	-	-	b/	68.4	b/	-	68.4
1991 <sup>d/</sup>	13.6	12.4	b/	0.8	0.6	-	27.5	-	-	0.1	25.4	12.7	-	38.2
1992	19.7	13.3	5.2	3.5	-	-	41.7	-	-	9.5	7.2	-	-	16.7
1993	14.4	10.6	2.6	0.9	1.5	-	30.0	-	-	4.8	3.5	5.2	-	13.4
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1996	-	-	-	-	-	-	-	-	-	7.1	10.4	-	-	17.5
1997 <sup>e/</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>North of Leadbetter Pt. - Treaty Indian<sup>f/</sup></b>														
1976-1980	0.1	0.3	0.8	0.1	b/	b/	1.3	0.7	5.8	1.9	0.4	0.2	b/	9.0
1981-1985	2.1	1.6	4.0	1.2	1.0	0.2	10.0	0.3	5.5	19.3	22.0	18.1	0.1	65.2
1986-1990	6.3	5.4	7.6	4.4	1.3	b/	25.0	b/	3.8	34.0	34.0	12.2	b/	84.1
1986	3.8	3.5	4.8	0.3	-	b/	12.3	b/	18.8	57.4	8.3	b/	b/	84.5
1987	8.5	-	2.5	7.0	-	0.1	18.0	b/	-	49.4	40.2	-	b/	89.6
1988	7.1	7.8	8.8	6.8	1.9	-	32.5	-	0.1	11.8	46.2	10.2	-	68.3
1989	5.4	8.4	10.4	4.9	2.1	-	31.3	-	-	30.7	18.5	34.7	-	83.9
1990	6.7	7.4	11.3	2.8	2.7	-	30.8	-	b/	20.8	57.0	16.2	b/	94.1
1991	3.5	5.7	8.0	3.3	-	0.1	20.6	-	-	47.4	31.4	-	0.5	78.9
1992	8.6	5.1	6.1	2.8	-	-	22.5	b/	-	48.0	26.4	-	-	74.3
1993	7.0	5.0	6.1	3.7	3.2	0.1	25.0	-	-	6.9	24.8	29.5	1.1	61.3
1994	0.4	4.0	-	-	-	-	4.4	-	-	-	-	-	-	-
1995	0.7	-	-	9.0	-	-	9.7	-	-	-	31.3	-	-	31.3
1996	1.4	2.0	0.1	5.1	3.6	-	12.3	-	-	-	4.6	13.7	-	18.3
1997 <sup>e/</sup>	0.8	7.5	-	4.3	1.0	-	13.6	-	-	-	10.6	3.7	-	14.4

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TABLE A-25. U.S.-Canada border to Cape Falcon commercial troll chinook and coho landings in numbers of fish by catch area and month.<sup>a/</sup> (Page 2 of 4)

Year or Average	May	June	July	Aug.	Sept.	Oct.	Season	May	June	July	Aug.	Sept.	Oct.	Season
							<b>CHINOOK (thousands)</b>							
							<b>COHO (thousands)</b>							
<b>North of Leadbetter Pt. - Total<sup>f/</sup></b>														
1976-1980	43.6	25.1	52.1	33.8	9.5	-	164.1	0.7	33.0	310.6	178.2	62.3	-	584.8
1981-1985	28.7	4.6	24.8	5.9	1.0	b/	65.1	0.3	5.5	123.1	48.1	18.1	-	195.2
1986-1990	34.1	14.6	11.6	5.7	1.4	-	67.3	b/	3.8	44.6	60.5	12.2	-	121.1
1986	22.7	3.6	5.4	2.3	-	-	33.9	b/	18.8	66.1	29.1	b/	-	113.9
1987	42.3	-	21.8	7.0	-	-	71.1	b/	-	93.0	40.5	-	-	133.6
1988	48.0	37.0	8.9	7.0	1.9	-	102.8	b/	0.1	12.2	48.1	10.2	-	70.6
1989	27.8	23.0	10.4	5.2	2.1	-	68.6	-	-	30.7	59.5	34.7	-	125.0
1990	29.9	9.2	11.3	7.0	2.7	-	60.1	-	b/	20.9	125.5	16.2	-	162.5
1991	17.2	18.1	8.0	4.2	0.6	-	48.1	-	-	47.5	56.8	12.7	-	117.1
1992	28.3	18.4	11.3	6.3	-	-	64.2	b/	-	57.4	33.6	-	-	91.1
1993	21.3	15.6	8.7	4.7	4.6	-	55.0	-	-	11.7	28.3	34.7	-	74.7
1994	0.4	4.0	-	-	-	-	4.4	-	-	-	-	-	-	-
1995	0.7	-	-	9.0	-	-	9.7	-	-	-	49.6	7.1	-	56.7
1996 <sup>e/</sup>	1.4	2.0	0.1	5.1	3.6	-	12.3	-	-	7.1	15.0	13.7	-	35.8
1997 <sup>e/</sup>	5.3	9.4	-	4.3	1.0	-	20.1	-	-	-	10.6	3.7	-	14.4
<b>South of Leadbetter Pt. - Non-Indian</b>														
1976-1980	13.0	9.7	7.1	4.8	3.7	0.6	38.9	b/	41.9	106.2	41.9	21.9	0.6	212.6
1981-1985	11.2	0.8	1.9	0.8	0.1	b/	14.7	-	-	29.2	20.7	3.6	-	53.4
1986-1990	4.8	0.8	0.8	1.4	0.8	b/	8.6	-	-	6.1	20.5	9.5	0.1	36.1
1986	12.6	-	0.3	4.7	-	-	17.7	-	-	12.2	79.5	-	-	91.7
1987	6.3	-	3.5	-	-	-	9.9	-	-	18.2	-	-	-	18.2
1988	2.6	2.3	-	-	-	-	4.9	-	-	-	-	-	-	-
1989	1.7	1.3	-	1.2	1.8	-	6.0	-	-	-	12.1	25.0	-	37.2
1990	0.6	0.2	-	1.1	2.3	0.1	4.3	-	-	-	10.7	22.4	0.3	33.5
1991	1.2	0.1	-	0.9	0.1	-	2.3	-	-	-	36.2	6.8	-	43.0
1992	3.0	1.0	0.2	0.1	-	-	4.2	-	-	1.4	1.1	-	-	2.5
1993	0.3	b/	0.1	b/	0.1	-	0.5	-	-	0.4	1.4	0.4	-	2.2
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1996 <sup>e/</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1997 <sup>e/</sup>	b/	b/	-	-	-	-	b/	-	-	-	-	-	-	-

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TABLE A-25. U.S.-Canada border to Cape Falcon commercial troll chinook and coho landings in numbers of fish by catch area and month. <sup>a/</sup> (Page 3 of 4)

Year or Average	May	June	July	Aug.	Sept.	Oct.	Season	May	June	July	Aug.	Sept.	Oct.	Season
<b>CHINOOK (thousands)</b>							<b>COHO (thousands)</b>							
<b>North of Cape Falcon - Non-Indian</b>														
1976-1980	56.5	34.5	58.3	38.5	13.1	0.6	201.6	b/	69.1	415.0	219.7	84.0	0.6	788.5
1981-1985	37.8	3.7	22.7	5.5	0.1	b/	69.8	-	-	133.0	46.8	3.6	-	183.4
1986-1990	32.6	9.9	4.8	2.7	0.8	b/	50.9	b/	-	16.6	47.0	9.5	0.1	73.1
1986	31.6	0.2	0.9	6.7	-	-	39.3	-	-	20.8	100.3	-	-	121.1
1987 <sup>c/</sup>	40.1	-	22.9	b/	-	-	63.0	-	-	61.9	0.3	-	-	62.2
1988 <sup>c/</sup>	43.5	31.4	0.1	0.2	b/	-	75.2	b/	-	0.4	1.8	-	-	2.2
1989	24.1	15.9	-	1.5	1.9	-	43.3	-	-	-	53.2	25.0	-	78.3
1990	23.9	2.1	b/	5.3	2.4	0.1	33.6	-	-	b/	79.1	22.5	0.3	101.9
1991 <sup>d/</sup>	14.8	12.5	b/	1.7	0.7	-	29.8	-	-	0.1	61.5	19.5	-	81.2
1992	22.6	14.3	5.5	3.6	-	-	45.9	-	-	10.9	8.3	-	-	19.2
1993	14.6	10.6	2.7	1.0	1.6	-	30.5	-	-	5.1	4.8	5.6	-	15.6
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	-	-	-	b/	-	-	b/	-	-	-	18.4	7.1	-	25.4
1996	-	-	-	-	-	-	-	-	-	7.1	10.4	-	-	17.5
1997 <sup>e/</sup>	4.5	1.9	-	-	-	-	6.4	-	-	-	-	-	-	-
<b>North of Cape Falcon - Treaty Indian<sup>f/</sup></b>														
1976-1980	0.1	0.3	0.8	0.1	b/	b/	1.3	0.7	5.8	1.9	0.4	0.2	b/	9.0
1981-1985	2.1	1.6	4.0	1.2	1.0	0.2	10.0	0.3	5.5	19.3	22.0	18.1	0.1	65.2
1986-1990	6.3	5.4	7.6	4.4	1.3	b/	25.0	b/	3.8	34.0	34.0	12.2	b/	84.1
1986	3.8	3.5	4.8	0.3	-	b/	12.3	b/	18.8	57.4	8.3	b/	b/	84.5
1987	8.5	-	2.5	7.0	-	0.1	18.0	b/	-	49.4	40.2	-	b/	89.6
1988	7.1	7.8	8.8	6.8	1.9	-	32.5	-	0.1	11.8	46.2	10.2	-	68.3
1989	5.4	8.4	10.4	4.9	2.1	-	31.3	-	-	30.7	18.5	34.7	-	83.9
1990	6.7	7.4	11.3	2.8	2.7	-	30.8	-	b/	20.8	57.0	16.2	b/	94.1
1991	3.5	5.7	8.0	3.3	-	0.1	20.6	-	-	47.4	31.4	-	0.5	78.9
1992	8.6	5.1	6.1	2.8	-	-	22.5	b/	-	48.0	26.4	-	-	74.3
1993	7.0	5.0	6.1	3.7	3.2	0.1	25.0	-	-	6.9	24.8	29.5	1.1	61.3
1994	0.4	4.0	-	-	-	-	4.4	-	-	-	-	-	-	-
1995	0.7	-	-	9.0	-	-	9.7	-	-	-	31.3	-	-	31.3
1996	1.4	2.0	0.1	5.1	3.6	-	12.3	-	-	-	4.6	13.7	-	18.3
1997 <sup>e/</sup>	0.8	7.5	-	4.3	1.0	-	13.6	-	-	-	10.6	3.7	-	14.4

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TABLE A-25 - U.S.-Canada border to Cape Falcon commercial troll chinook and coho landings in numbers of fish by catch area and month<sup>a/</sup> (Page 4 of 4)

Year or Average	May	June	July	Aug.	Sept.	Oct.	Season	May	June	July	Aug.	Sept.	Oct.	Season
<b>CHINOOK (thousands)</b>							<b>COHO (thousands)</b>							
North of Cape Falcon - Total Treaty Indian and Non-Indian <sup>b/</sup>														
1976-1980	56.6	34.8	59.1	38.6	13.1	0.6	202.9	0.7	74.9	416.9	220.1	84.2	0.6	797.4
1981-1985	39.9	5.3	26.7	6.7	1.1	b/	79.8	0.3	5.5	152.3	68.8	21.7	-	248.6
1986-1990	38.9	15.3	12.3	7.1	2.2	b/	75.9	b/	3.8	50.7	81.0	21.7	0.1	157.2
1986	35.3	3.6	5.7	7.0	-	-	51.6	b/	18.8	78.2	108.6	b/	-	205.6
1987	48.6	-	25.4	7.0	-	-	80.9	b/	-	111.3	40.5	-	-	151.8
1988	50.6	39.2	8.9	7.0	1.9	-	107.7	b/	0.1	12.2	48.1	10.2	-	70.6
1989	29.5	24.3	10.4	6.4	4.0	-	74.6	-	-	30.7	71.7	59.8	-	162.2
1990	30.5	9.4	11.3	8.1	5.0	0.1	64.4	-	b/	20.9	136.2	38.7	0.3	196.0
1991	18.4	18.2	8.0	5.1	0.7	-	50.4	-	-	47.5	93.0	19.5	-	160.1
1992	31.2	19.3	11.5	6.4	-	-	68.4	b/	-	58.9	34.7	-	-	93.6
1993	21.6	15.6	8.8	4.7	4.7	-	55.4	-	-	12.1	29.6	35.2	-	76.9
1994	0.4	4.0	-	-	-	-	4.4	-	-	-	-	-	-	-
1995	0.7	-	-	9.0	-	-	9.7	-	-	-	49.6	7.1	-	56.7
1996	1.4	2.0	0.1	5.1	3.6	-	12.3	-	-	7.1	15.0	13.7	-	35.8
1997 <sup>e/</sup>	5.4	9.4	-	4.3	1.0	-	20.1	-	-	-	10.6	3.7	-	14.4

a/ Monthly totals for Oregon data are the sum of statistical weeks with closest fit to the calendar month. Washington data is summarized by statistical month.

b/ Less than 50 fish.

c/ Includes 300 chinook and 2,200 coho landed illegally.

d/ Includes 100 coho landed illegally.

e/ Preliminary.

f/ Season totals do not include Oct. treaty troll catches.

TABLE A-26. U.S.-Canada border to Cape Falcon commercial troll pink salmon landings in numbers of fish by catch area and month (odd-year averages).<sup>a/</sup> (Page 1 of 2)

Year or Average	May	June	July	Aug.	Sept.	Oct.	Season
<b>PINKS (thousands)</b>							
<u>North of Leadbetter Pt. - Non-Indian</u>							
1976-1980	0.6	0.7	94.6	308.7	4.7	-	409.3
1981-1985	0.2	b/	24.2	113.3	0.3	-	138.1
1986-1990	0.1	0.1	0.9	18.5	-	-	19.7
1989	0.2	0.2	-	36.3	-	-	36.7
1991	a/	a/	a/	43.2	0.3	-	43.5
1993	a/	a/	0.1	2.7	a/	-	2.9
1995	-	-	-	30.1	0.9	-	30.9
1997 <sup>c/</sup>	a/	a/	-	-	-	-	a/
<u>North of Leadbetter Pt. - Treaty Indian<sup>d/</sup></u>							
1976-1980	a/	0.8	0.6	1.8	a/	2.4	3.2
1981-1985	a/	0.2	2.3	7.5	0.5	9.6	10.6
1986-1990	a/	a/	9.2	3.9	0.8	11.2	13.9
1989	a/	a/	7.1	2.4	1.7	7.5	11.1
1991	-	a/	1.9	2.8	-	-	4.6
1993	-	a/	0.3	2.1	0.8	-	3.2
1995	-	-	-	11.1	-	-	11.1
1997 <sup>c/</sup>	-	-	-	1.7	a/	-	1.7
<u>North of Leadbetter Pt. - Total<sup>d/</sup></u>							
1976-1980	0.6	1.5	95.3	312.7	4.8	-	414.8
1981-1985	0.3	1.0	26.6	120.8	0.8	-	149.6
1986-1990	0.1	0.1	10.1	22.4	0.8	-	33.6
1989	0.2	0.2	7.1	38.7	1.7	-	47.8
1991	a/	a/	1.9	46.0	0.3	-	48.2
1993	a/	a/	0.4	4.8	0.8	-	6.1
1995	-	-	-	41.1	0.9	-	42.0
1997 <sup>c/</sup>	a/	a/	-	1.7	a/	-	1.7
<u>South of Leadbetter Pt. - Non-Indian</u>							
1976-1980	a/	a/	3.0	4.1	1.1	-	8.2
1981-1985	a/	a/	0.8	2.3	a/	-	3.2
1986-1990	-	-	0.1	a/	a/	-	0.1
1989	-	-	-	a/	a/	-	a/
1991	-	-	-	0.2	-	-	0.2
1993	-	-	-	-	-	-	-
1995	-	-	-	-	-	-	-
1997 <sup>c/</sup>	-	-	-	-	-	-	-
<u>North of Cape Falcon - Non-Indian</u>							
1976-1980	0.6	0.8	97.7	315.0	5.8	-	419.8
1981-1985	0.2	0.8	25.1	115.7	0.3	-	142.2
1986-1990	0.1	0.1	1.1	18.5	a/	-	19.8
1989	0.2	0.2	-	36.3	a/	-	36.7
1991	a/	a/	a/	43.4	0.3	-	43.7
1993	a/	a/	0.1	2.7	a/	-	2.9
1995	-	-	-	30.1	0.9	-	30.9
1997 <sup>c/</sup>	a/	a/	-	-	-	-	a/

TABLE A-26. U.S.-Canada border to Cape Falcon commercial troll pink salmon landings in numbers of fish by catch area and month (odd-year averages).<sup>a/</sup> (Page 2 of 2)

Year or Average	May	June	July	Aug.	Sept.	Oct.	Season
<b>PINKS (thousands)</b>							
<b>North of Cape Falcon - Treaty Indian<sup>d/</sup></b>							
1976-1980	a/	0.8	0.6	1.8	a/	2.4	3.2
1981-1985	a/	0.2	2.3	7.5	0.5	9.6	10.6
1986-1990	a/	a/	9.2	3.9	0.8	11.2	13.9
1989	a/	a/	7.1	2.4	1.7	7.5	11.1
1991	-	a/	1.9	2.8	-	-	4.6
1993	-	a/	0.3	2.1	0.8	-	3.2
1995	-	-	-	11.1	-	-	11.1
1997 <sup>c/</sup>	-	-	-	1.7	a/	-	1.7
<b>North of Cape Falcon - Total<sup>d/</sup></b>							
1976-1980	0.6	1.6	98.3	316.7	5.8	-	423.0
1981-1985	0.3	1.0	27.5	123.1	0.8	-	152.7
1986-1990	0.1	0.1	10.2	22.4	0.8	-	33.7
1989	0.2	0.2	7.1	38.7	1.7	-	47.8
1991	a/	a/	1.9	46.2	0.3	-	48.3
1993	a/	a/	0.4	4.8	0.8	-	6.1
1995	-	-	-	41.1	0.9	-	42.0
1997 <sup>c/</sup>	a/	a/	-	1.7	a/	-	1.7

- a/ Monthly totals for Oregon data are the sum of statistical weeks with closest fit to the calendar month. Washington data are summarized by statistical month.
- b/ Less than 50 fish.
- c/ Preliminary.
- d/ Season totals do not include Oct. treaty troll catches.



TABLE A-27. U.S.-Canada border to Cape Falcon ocean recreational fishing effort in salmon angler trips by area and month. <sup>a/</sup> (Page 1 of 1)

Year or Average	Apr.	May	June	July	Aug.	Sept.	Oct.	Season
<b>ANGLER TRIPS (thousands)</b>								
<b>North of Leadbetter Pt. <sup>b/</sup></b>								
1976-1980	2.9	13.4	42.8	87.4	95.9	33.2	3.6	279.2
1981-1985	0.1	3.1	17.5	44.3	38.9	5.6	0.1	109.6
1986-1990	-	0.5	3.4	46.0	19.6	3.8	c/	73.3
1986	-	-	2.5	41.8	27.3	0.9	0.1	72.6
1987	-	-	2.7	43.1	18.6	0.8	c/	65.2
1988	-	c/	-	51.3	4.2	0.6	c/	56.1
1989	-	2.4	4.4	45.5	22.8	2.7	-	77.7
1990	-	-	7.2	48.2	25.2	14.2	-	94.9
1991	-	-	5.0	54.7	8.9	3.9	-	72.5
1992	0.3	1.0	-	34.9	21.2	9.7	0.7	67.9
1993	c/	1.1	0.1	30.5	27.3	14.2	-	73.2
1994	-	-	-	-	-	-	-	-
1995	-	-	-	4.9	18.0	5.8	-	28.6
1996	-	-	-	4.5	19.8	1.9	-	26.1
1997 <sup>d/</sup>	-	-	-	11.8	8.1	1.2	-	21.1
<b>South of Leadbetter Pt.</b>								
1976-1980	0.4	5.5	29.4	59.4	87.7	27.0	1.9	211.3
1981-1985	-	0.9	8.7	35.1	30.2	4.9	0.1	80.0
1986-1990	-	0.1	2.2	28.6	27.3	0.7	-	58.9
1986	-	-	1.8	31.8	23.6	-	-	57.2
1987	-	-	1.6	26.1	25.8	-	-	53.4
1988	-	-	-	17.9	0.6	c/	-	18.5
1989	-	0.4	1.8	31.5	38.5	-	-	72.2
1990	-	-	5.8	35.9	48.1	3.5	-	93.4
1991	-	-	4.8	35.0	20.7	6.6	-	67.1
1992	-	-	-	35.4	6.3	4.2	-	45.9
1993	-	-	-	18.6	27.5	19.3	-	65.5
1994	-	-	-	-	-	-	-	-
1995	-	-	-	6.1	19.2	7.9	-	33.2
1996	-	-	-	5.1	11.6	4.5	-	21.2
1997 <sup>d/</sup>	-	-	-	7.3	3.0	-	-	10.3
<b>North of Cape Falcon <sup>c/</sup></b>								
1976-1980	3.3	18.9	72.2	146.9	183.6	60.2	5.5	490.6
1981-1985	0.1	4.0	26.2	79.4	69.1	10.5	0.3	189.6
1986-1990	-	0.6	5.6	74.6	46.9	4.6	c/	132.2
1986	-	-	4.3	73.6	50.9	0.9	0.1	129.8
1987	-	-	4.3	69.2	44.4	0.8	c/	118.6
1988	-	c/	-	69.1	4.8	0.7	c/	74.6
1989	-	2.8	6.2	77.0	61.3	2.7	-	149.9
1990	-	-	13.0	84.2	73.3	17.7	-	188.2
1991	-	-	9.8	89.8	29.6	10.4	-	139.6
1992	0.3	1.0	-	70.3	27.6	13.8	0.7	113.8
1993	c/	1.1	0.1	49.1	54.9	33.6	-	138.7
1994	-	-	-	-	-	-	-	-
1995	-	-	-	11.0	37.2	13.7	-	61.9
1996	-	-	-	9.6	31.4	6.4	-	47.4
1997 <sup>d/</sup>	-	-	-	19.1	11.1	1.2	-	31.4

a/ Monthly totals for Oregon data are the sum of statistical weeks with closest fit to the calendar month.

Washington data are summarized by statistical month.

b/ Does not include the late-season Washington state-waters Area 4B fishery.

c/ Less than 50 days.

d/ Preliminary.

TABLE A-28. U.S.-Canada border to Cape Falcon ocean recreational chinook and coho salmon landings in numbers of fish by area and month.<sup>a/</sup> (Page 1 of 2)

Year or Avg.	Apr.	May	June	July	Aug.	Sept.	Oct.	Season	Apr.	May	June	July	Aug.	Sept.	Oct.	Season
<b>CHINOOK (thousands)</b>																
<b>COHO (thousands)</b>																
<b>North of Leadbetter Pt.<sup>b/</sup></b>																
1976-1980	1.8	5.8	22.1	21.4	18.6	6.5	0.9	77.1	0.4	13.0	48.8	109.4	99.0	32.8	2.1	305.5
1981-1985	0.1	1.5	13.7	18.8	8.1	0.4	c/	42.6	c/	0.7	10.3	36.9	42.2	6.2	0.1	96.5
1986-1990	-	0.2	1.3	13.1	5.0	0.9	-	20.6	-	c/	2.0	58.1	28.8	5.3	c/	94.2
1986	-	-	0.6	10.6	7.6	-	-	18.9	-	-	3.7	61.3	41.0	0.9	0.1	107.1
1987	-	-	3.1	23.1	6.3	c/	-	32.5	-	-	0.6	44.1	24.9	c/	c/	69.6
1988	-	c/	-	16.6	1.2	c/	-	17.8	-	-	-	61.0	5.7	0.5	-	67.1
1989	-	0.8	1.6	5.9	4.4	1.2	-	14.0	-	c/	0.1	68.5	38.2	3.9	-	110.7
1990	-	-	1.3	9.2	5.7	3.4	-	19.7	-	-	5.4	55.8	34.2	21.3	-	116.7
1991	-	-	1.9	6.6	1.3	0.2	-	9.9	-	-	6.8	89.1	14.5	7.0	-	117.4
1992	c/	0.1	-	8.2	6.0	2.4	0.2	16.9	-	c/	-	30.9	26.3	7.5	0.3	65.0
1993	c/	0.2	c/	2.5	4.1	3.4	-	10.2	-	c/	c/	28.8	30.3	12.5	-	71.6
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	-	-	-	c/	0.2	c/	-	0.2	-	-	-	3.2	27.1	8.7	-	39.0
1996	-	-	-	c/	0.1	c/	-	0.1	-	-	-	6.0	22.3	3.0	-	31.3
1997 <sup>d/</sup>	-	-	-	1.7	1.6	0.3	-	3.6	-	-	-	7.0	6.7	0.4	-	14.2
<b>South of Leadbetter Pt.</b>																
1976-1980	0.2	2.8	12.4	11.6	23.8	3.8	0.2	54.6	0.2	6.5	53.3	89.9	86.9	31.0	2.0	269.8
1981-1985	-	0.1	3.5	7.0	6.2	0.6	c/	17.4	-	1.4	11.8	52.8	36.5	7.0	0.2	109.7
1986-1990	-	c/	0.3	2.8	4.5	c/	-	7.6	-	-	4.3	48.9	37.8	0.8	-	91.8
1986	-	-	0.1	2.2	1.9	-	-	4.3	-	-	3.8	60.0	42.9	-	-	106.8
1987	-	-	0.4	4.9	6.8	-	-	12.0	-	-	2.5	38.8	38.6	-	-	80.0
1988	-	-	-	1.6	0.1	c/	-	1.6	-	-	-	30.7	0.9	0.1	-	31.6
1989	-	0.1	0.6	0.9	5.2	-	-	6.9	-	-	4.9	59.5	52.2	0.0	-	116.6
1990	-	-	0.3	4.3	8.5	0.1	-	13.2	-	-	10.3	55.2	54.4	4.2	-	124.0
1991	-	-	0.3	1.5	1.5	0.1	-	3.3	-	-	7.9	62.2	33.6	10.9	-	114.6
1992	-	-	-	1.2	0.6	0.2	-	2.0	-	-	-	55.3	9.5	4.4	-	69.2
1993	-	-	-	1.0	1.8	0.7	-	3.5	-	-	-	22.3	31.4	13.6	-	67.3
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	-	-	-	0.1	0.3	c/	-	0.4	-	-	-	6.0	22.9	7.6	-	36.4
1996	-	-	-	c/	0.1	c/	-	0.1	-	-	-	7.2	13.9	3.8	-	24.8
1997 <sup>d/</sup>	-	-	-	0.3	0.2	-	-	0.5	-	-	-	11.8	5.1	-	-	16.9

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TABLE A-28. U.S.-Canada border to Cape Falcon ocean recreational chinook and coho salmon landings in numbers of fish by area and month.<sup>a/</sup> (Page 2 of 2)

Year or Avg.	Apr.	May	June	July	Aug.	Sept.	Oct.	Season	Apr.	May	June	July	Aug.	Sept.	Oct.	Season
	<b>CHINOOK (thousands)</b>								<b>COHO (thousands)</b>							
<b>North of Cape Falcon</b>																
1976-1980	1.9	8.7	34.5	33.0	42.3	10.3	1.1	131.8	0.6	19.5	102.2	199.3	185.9	63.8	4.1	575.4
1981-1985	0.1	1.7	17.2	25.7	14.3	1.1	c/	60.0	c/	2.1	22.1	89.7	78.7	13.2	0.3	206.2
1986-1990	-	0.2	1.6	15.9	9.5	1.0	-	28.2	-	c/	6.3	107.0	66.6	6.2	c/	186.0
1986	-	-	0.8	12.9	9.5	-	-	23.2	-	-	7.6	121.3	83.9	0.9	0.1	213.8
1987	-	-	3.5	28.0	13.1	c/	-	44.6	-	-	3.1	82.9	63.5	c/	c/	149.6
1988	-	c/	-	18.2	1.2	c/	-	19.4	-	-	-	91.6	6.6	0.6	-	98.8
1989	-	0.9	2.2	6.9	9.6	1.2	-	20.9	-	c/	5.0	128.0	90.4	3.9	-	227.3
1990	-	-	1.6	13.5	14.2	3.6	-	32.9	-	-	15.7	111.0	88.6	25.4	-	240.7
1991	-	-	2.2	8.1	2.8	0.3	-	13.3	-	-	14.7	151.3	48.2	17.9	-	232.0
1992	c/	0.1	-	9.3	6.6	2.6	0.2	18.9	-	c/	-	86.2	35.8	11.8	0.3	134.1
1993	c/	0.2	c/	3.4	5.9	4.1	-	13.6	-	c/	c/	51.1	61.7	26.2	-	139.0
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	-	-	-	0.1	0.4	0.1	-	0.6	-	-	-	9.2	50.0	16.3	-	75.4
1996	-	-	-	c/	0.1	c/	-	0.2	-	-	-	13.1	36.2	6.8	-	56.1
1997 <sup>d/</sup>	-	-	-	2.0	1.8	0.3	-	4.1	-	-	-	18.8	11.8	0.4	-	31.1

a/ Monthly totals for Oregon data are the sum of statistical weeks with closest fit to the calendar month. Washington data are summarized by statistical month.

b/ Does not include the late-season Washington state-waters Area 4B fishery.

c/ Less than 50 fish.

d/ Preliminary.



TABLE A-29. U.S.-Canada border to Cape Falcon ocean recreational pink salmon landings in numbers of fish by area and month (odd year averages).<sup>a/</sup> (Page 1 of 1)

Year or Average	Apr.	May	June	July	Aug.	Sept.	Oct.	Season
<b>PINKS (thousands)</b>								
<u>North of Leadbetter Pt.</u> <sup>b/</sup>								
1976-1980	c/	0.2	1.3	8.8	12.0	0.4	c/	22.7
1981-1985	-	c/	0.1	1.3	4.2	0.2	c/	5.7
1986-1990	-	-	c/	1.2	0.4	-	-	1.6
1989	-	-	-	1.5	c/	-	-	1.5
1991	-	-	-	0.6	c/	c/	-	0.6
1993	-	-	-	0.7	0.7	c/	-	1.4
1995	-	-	-	c/	1.1	c/	-	1.2
1997 <sup>d/</sup>	-	-	-	0.7	0.1	c/	-	0.9
<u>South of Leadbetter Pt.</u>								
1976-1980	-	0.2	0.1	0.5	0.3	c/	-	1.1
1981-1985	-	c/	c/	0.1	0.2	-	-	0.2
1986-1990	-	-	-	0.1	c/	c/	-	0.1
1989	-	-	-	c/	c/	c/	-	c/
1991	-	-	-	0.1	c/	c/	-	0.1
1993	-	-	-	c/	c/	-	-	c/
1995	-	-	-	c/	c/	c/	-	c/
1997 <sup>d/</sup>	-	-	-	-	-	-	-	-
<u>North of Cape Falcon</u>								
1976-1980	c/	0.4	1.4	9.3	12.4	0.4	c/	23.8
1981-1985	-	c/	0.1	1.3	4.4	0.2	c/	6.0
1986-1990	-	-	c/	1.2	0.4	c/	-	1.7
1989	-	-	-	1.5	0.1	c/	-	1.6
1991	-	-	-	0.6	0.1	c/	-	0.7
1993	-	-	-	0.7	0.7	c/	-	1.4
1995	-	-	-	0.1	1.2	c/	-	1.2
1997 <sup>d/</sup>	-	-	-	0.7	0.1	c/	-	0.9

a/ Monthly totals for Oregon data are the sum of statistical weeks with closest fit to the calendar month. Washington data are summarized by statistical month.

b/ Does not include the late-season Washington state-waters Area 4B fishery.

c/ Less than 50 fish.

d/ Preliminary.



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# APPENDIX B

## HISTORICAL RECORD OF ESCAPEMENTS TO INLAND FISHERIES AND SPAWNING AREAS

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TABLE B-1. California Central Valley natural fall chinook salmon spawning escapements in thousands of fish. <sup>a/</sup> (Page 1 of 1)

Year	Upper Sacramento River		Feather River		Yuba River		American River		Lower Sacramento Totals		Sacramento River Totals		San Joaquin River Totals		Central Valley Totals	
	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks
1970	64.0	21.0	45.0	13.0	12.0	2.0	26.0	3.0	83.0	18.0	147.0	39.0	30.0	8.0	177.0	47.0
1971	62.6	24.4	34.0	10.0	5.3	0.4	36.0	6.0	75.3	16.4	137.9	40.8	40.0	4.0	177.9	44.8
1972	35.0	20.0	27.0	16.0	4.0	5.0	13.0	4.0	44.0	25.0	79.0	45.0	12.0	2.0	91.0	47.0
1973	48.0	19.0	52.0	13.0	22.0	2.0	77.0	5.0	151.0	20.0	199.0	39.0	6.5	0.7	205.5	39.7
1974	66.0	16.0	54.0	7.0	16.0	1.0	52.0	2.0	122.0	10.0	188.0	26.0	3.7	0.7	191.7	26.7
1975	71.0	25.0	35.0	3.0	5.0	1.0	29.0	3.0	69.0	7.0	140.0	32.0	5.8	0.9	145.8	32.9
1976	79.0	14.0	50.0	6.0	3.3	0.5	22.0	1.0	75.3	7.5	154.3	21.5	3.5	0.5	157.8	22.0
1977	46.8	28.4	36.0	2.0	7.0	2.0	40.0	2.0	83.0	6.0	129.8	34.4	0.6	0.1	130.4	34.5
1978	76.0	10.0	29.0	4.0	6.0	1.0	12.0	1.0	47.0	6.0	123.0	16.0	2.3	0.3	125.3	16.3
1979	77.0	44.0	25.0	3.0	10.0	2.0	36.0	1.0	71.0	6.0	148.0	50.0	4.0	0.5	152.0	50.5
1980	53.0	5.0	30.0	2.0	10.0	2.0	32.0	2.0	72.0	6.0	125.0	11.0	5.0	1.0	130.0	12.0
1981	51.0	35.0	41.0	4.0	12.0	2.0	38.0	5.0	91.0	11.0	142.0	46.0	15.9	8.9	157.9	54.9
1982	37.0	17.0	41.0	7.0	23.5	15.9	29.0	4.0	93.5	26.9	130.5	43.9	14.0	3.0	144.5	46.9
1983	40.6	24.7	19.1	4.5	11.4	2.4	19.0	7.4	49.5	14.3	90.1	39.0	11.1	32.2	101.2	71.2
1984	48.7	27.5	36.2	6.5	7.1	2.6	25.2	2.2	68.5	11.3	117.2	38.8	40.8	16.1	158.0	54.9
1985	107.7	25.3	46.5	3.7	10.1	2.9	44.7	11.4	101.3	18.0	209.0	43.3	72.6	3.5	281.6	46.8
1986	109.5	12.5	41.0	6.4	17.0	2.4	44.9	4.4	102.9	13.2	212.4	25.7	23.2	2.8	235.6	28.5
1987	73.4	41.4	43.6	11.6	15.2	3.5	18.2	3.0	77.0	18.1	150.4	59.5	15.8	9.1	166.2	68.6
1988	125.2	20.0	51.0	3.0	6.7	1.8	14.1	1.8	71.8	6.6	197.0	26.6	20.7	1.2	217.7	27.8
1989	65.9	16.8	31.5	3.5	8.3	1.6	14.7	2.4	54.5	7.5	120.4	24.3	3.2	0.1	123.6	24.4
1990	50.8	6.2	25.0	3.0	3.5	0.5	5.6	1.1	34.1	4.6	84.9	10.8	0.9	0.1	85.8	10.9
1991	33.6	4.7	25.2	2.5	11.4	2.7	16.5	1.7	53.1	6.9	86.7	11.6	0.6	0.2	87.3	11.8
1992	33.0	7.3	19.8	4.3	4.5	1.4	4.9	2.1	29.2	7.8	62.2	15.1	1.1	0.9	63.3	16.0
1993	54.4	6.9	24.3	3.1	5.5	0.8	19.1	3.4	48.9	7.3	103.3	14.2	2.3	0.9	105.6	15.1
1994	50.4	14.5	29.6	6.7	7.0	3.9	25.5	2.2	62.1	12.8	112.5	27.3	5.3	1.6	117.8	28.9
1995 <sup>b/</sup>	92.8	6.6	56.2	3.4	12.2	1.1	65.0	3.0	133.4	7.5	226.2	14.1	1.5	1.1	227.7	15.2
1996 <sup>b/</sup>	83.8 <sup>c/</sup>	10.4 <sup>c/</sup>	46.3	10.2	18.4	4.6	63.0	4.0	127.7	18.8	211.5	29.2	8.4	7.7	219.9	36.9
1997 <sup>b/</sup>	154.8	20.3	38.2	17.2	19.0	6.8	47.3	4.7	104.5	28.7	259.3	49.0	19.8	0.9	279.1	49.9

a/ Upper Sacramento River jack estimates based on Red Bluff Diversion Dam samples. All other estimates generally are based on carcass surveys. Upper river estimates also include Tehama Colusa Spawning Channel. Adult and jack numbers generally are based on a 24-inch fork length cut-off (unpublished CDFG data).

b/ Preliminary.

c/ Total includes Butte Creek, for which a fall spawner survey was conducted in 1996.

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TABLE B-2. California Central Valley hatchery fall chinook salmon spawning escapements in thousands of fish. <sup>a/</sup> (Page 1 of 1)

Year	Coleman <sup>b/</sup>		Feather River		Nimbus		Sacramento Hatchery Totals		Mokelumne River		Merced River		San Joaquin Hatchery Totals		Central Valley Hatchery Totals	
	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks
1970	3.0	0.5	2.4	0.9	7.8	0.8	13.2	2.2	0.3	0.2	0.0	0.0	0.3	0.2	13.5	2.4
1971	1.5	0.5	2.3	1.2	7.9	1.3	11.7	3.0	0.8	0.1	0.2	0.0	1.0	0.1	12.7	3.1
1972	1.6	1.2	1.4	2.2	5.4	1.7	8.4	5.1	0.1	0.3	0.1	0.0	0.2	0.3	8.6	5.4
1973	3.0	0.8	7.2	1.3	10.8	1.7	21.0	3.8	0.3	0.1	0.3	0.1	0.6	0.2	21.6	4.0
1974	1.3	0.3	4.3	1.1	7.3	0.7	12.9	2.1	0.1	0.1	0.9	0.1	1.0	0.2	13.9	2.3
1975	1.8	0.6	4.2	1.1	6.6	0.8	12.6	2.5	0.2	0.2	0.6	0.0	0.8	0.2	13.4	2.7
1976	1.8	0.5	4.3	0.9	4.3	0.9	10.4	2.3	0.0	0.0	0.6	0.0	0.6	0.0	11.0	2.3
1977	4.7	0.5	6.8	2.0	6.4	0.5	17.9	3.0	0.0	0.0	0.4	0.0	0.4	0.0	18.3	3.0
1978	1.1	0.8	3.9	0.9	6.1	2.1	11.1	3.8	0.5	0.0	0.0	0.0	0.5	0.0	11.6	3.8
1979	4.7	3.9	3.6	0.6	7.0	3.2	15.3	7.7	0.5	0.1	0.1	0.1	0.6	0.2	15.9	7.9
1980	8.8	0.7	3.0	0.7	13.5	2.0	25.3	3.4	0.4	0.2	0.2	0.0	0.6	0.2	25.9	3.6
1981	5.7	7.5	7.3	1.0	17.8	2.8	30.8	11.3	0.0	0.0	0.6	0.3	0.6	0.3	31.4	11.6
1982	16.2	3.3	6.4	1.2	8.1	2.8	30.7	7.3	1.8	0.9	0.2	0.0	2.0	0.9	32.7	8.2
1983	5.4	3.4	6.1	1.6	6.4	2.5	17.9	7.5	1.7	2.9	0.2	1.6	1.9	4.5	19.8	12.0
1984	18.7	2.9	8.9	0.4	10.2	2.0	37.8	5.3	0.0	0.0	1.7	0.2	1.7	0.2	39.5	5.5
1985	13.1	3.2	5.6	0.2	7.3	1.8	26.0	5.2	0.2	0.0	1.1	0.1	1.3	0.1	27.3	5.3
1986	11.3	1.2	5.7	2.8	5.6	0.1	22.6	4.1	0.3	0.2	0.5	0.2	0.8	0.4	23.4	4.5
1987	11.3	7.1	6.5	3.6	3.4	2.9	21.2	13.6	0.1	0.5	0.5	0.4	0.6	0.9	21.8	14.5
1988	12.5	1.1	6.2	0.3	8.0	0.7	26.7	2.1	0.1	0.0	0.4	0.0	0.5	0.0	27.2	2.1
1989	10.2	1.8	6.5	1.1	9.2	0.5	25.9	3.4	0.0	0.0	0.1	0.0	0.1	0.0	26.0	3.4
1990	13.5	1.2	4.3	1.9	4.6	0.3	22.4	3.4	0.0	0.0	0.1	0.0	0.1	0.0	22.5	3.4
1991	10.0	0.7	7.9	1.4	6.8	0.4	24.7	2.5	0.0	0.0	0.3	0.1	0.3	0.1	25.0	2.6
1992	6.2	1.0	10.3	6.1	5.1	1.3	21.6	8.4	0.3	0.4	0.1	0.3	0.4	0.7	22.0	9.1
1993	7.1	0.6	9.8	1.6	7.3	3.3	24.2	5.5	1.5	0.6	0.2	0.2	1.7	0.8	25.9	6.3
1994 <sup>c/</sup>	11.5	7.4	10.1	5.0	7.6	3.3	29.2	15.7	1.2	0.8	0.6	0.3	1.8	1.1	31.0	16.8
1995 <sup>c/</sup>	24.8	1.9	11.6	0.6	5.2	1.3	41.6	3.8	2.4	0.9	0.3	0.3	2.7	1.2	44.3	5.0
1996 <sup>c/</sup>	18.8	2.4	6.5	1.6	7.6	0.5	32.9	4.4	1.8	2.1	0.7	0.4	2.5	2.5	35.4	6.9
1997 <sup>c/</sup>	45.4	6.1	13.4	1.7	5.8	0.3	64.6	8.1	6.3	0.2	0.8	0.1	7.1	0.3	71.7	8.4
GOALS	9.0	7.5	5.0	-	6.0	-	20.0	-	5.0	-	1.0	-	6.0	-	26.0	-

a/ Counts of less than 50 fish are shown as 0.

b/ Fall spawning fish. Some spring run are included.

c/ Preliminary.



TABLE B-3. Sacramento River late-fall, winter and spring chinook salmon spawning escapement estimates in thousands of fish. (Page 1 of 1)

Year or Average	Upper Sacramento River <sup>a/</sup>										Spring Totals		Grand Totals	
	Late Fall <sup>b/</sup>		Winter		Spring		Feather River Spring <sup>c/</sup>		Adults	Jacks	Adults	Jacks	Adults	Jacks
	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks
1971-1975	17.7	1.5	22.5	8.1	5.1	1.7	0.4	0.0	5.5	1.7	45.7	11.3		
1976-1980	10.4	0.8	13.0	2.4	8.5	2.7	0.4	0.0	9.0	2.7	32.4	5.8		
1981-1985	7.6	2.0	5.1	1.0	10.4	4.4	1.4	0.2	11.8	4.6	24.5	7.5		
1986-1990	10.3	1.5	1.3	0.2	7.3	2.2	3.0	0.3	10.3	2.5	21.9	4.3		
1981	6.3	0.7	18.3	1.7	12.9	8.1	0.8	0.2	13.7	8.3	38.3	10.7		
1982	4.1	0.8	0.9	0.3	21.0	4.4	1.8	0.2	22.8	4.6	27.8	5.7		
1983	12.9	2.3	1.1	0.7	5.3	1.0	1.6	0.1	6.9	1.1	20.9	4.1		
1984	6.5	3.9	0.8	1.8	3.7	4.1	1.3	0.3	5.0	4.4	12.3	10.1		
1985	8.0	2.2	4.6	0.4	8.9	4.4	1.6	0.0	10.5	4.4	23.1	7.0		
1986	6.6	0.4	1.9	0.4	14.5	1.3	1.2	0.2	15.7	1.5	24.2	2.3		
1987	12.6	3.1	2.0	0.3	6.8	4.4	0.9	0.3	7.7	4.7	22.3	8.1		
1988	15.7	0.9	1.8	0.3	5.6	3.6	7.2	0.3	12.8	3.9	30.3	5.1		
1989	10.1	1.3	0.4	0.1	4.9	0.8	4.4	0.7	9.3	1.5	19.8	2.9		
1990	6.6	1.8	0.5	0.0	4.6	0.9	1.4	0.2	6.0	1.1	13.1	2.9		
1991	7.4	1.2	0.1	0.1	1.3	0.2	3.3	0.2	4.6	0.4	12.1	1.7		
1992	9.4	1.0	1.1	0.1	1.0	0.2	1.3	0.2	2.3	0.4	12.8	1.5		
1993	5.0	1.0	0.3	0.1	1.0	0.4	3.9	3.9	4.9	4.3	10.2	5.4		
1994	5.0	1.0	0.2	0.0	2.1	0.4	2.8	0.9	4.9	1.3	10.1	2.3		
1995	d/	d/	1.3	0.1	8.6	0.9	5.0	0.4	13.6	1.3	19.9	2.4		
1996	d/	d/	0.6	0.3	2.2	0.4	5.3	0.7	7.5	1.1	8.1	1.5		
1997 <sup>e/</sup>	d/	d/	0.5	0.4	1.4	0.2	3.0	0.7	4.3	0.9	4.8	1.2		

a/ Estimated number of jacks and adults based on sampling at Red Bluff Diversion Dam (unpublished CDFG data). Beginning in 1987, late-fall and winter estimates have been based on historical run patterns and partial counts at Red Bluff Diversion Dam due to the raising of the dam gates during the last part of late-fall run and first part of the winter run.

b/ Variable numbers of late-fall fish were trapped at Keswick Dam and spawned at Coleman Hatchery.

c/ Primarily fish spawned at Feather River Hatchery.

d/ No data are available as gates at Red Bluff Diversion Dam were raised during time period coinciding with late fall run.

e/ Preliminary.

TABLE B-4. Summary of Klamath River fall chinook salmon estimates in thousands of adults and jacks. (Page 1 of 2)

Year	Category	Total Inriver Run	Inriver Harvest			Nonlanded Fishery Mortality	Spawning Escapement								
			Indian	Sport	Total		Klamath River			Trinity River			Total		
							Hatchery	Natural	Total	Hatchery	Natural	Total	Hatchery	Natural	Total
1978	Adults	92.8	18.2	1.7	19.9	1.5	6.9	27.4	34.4	6.0	31.1	37.1	13.0	58.5	71.5
	Jacks	22.7	1.8	2.1	3.9	0.2	0.9	11.7	12.7	1.3	4.7	6.0	2.2	16.4	18.7
1979	Adults	51.2	13.7	2.1	15.8	1.1	2.3	22.6	24.9	1.3	8.0	9.4	3.6	30.6	34.3
	Jacks	11.7	1.4	2.2	3.5	0.2	0.3	2.8	3.1	1.0	3.9	4.9	1.2	6.8	8.0
1980	Adults	45.6	12.0	4.5	16.5	1.1	2.4	13.8	16.2	4.1	7.7	11.8	6.5	21.5	28.0
	Jacks	36.8	1.0	5.9	6.9	0.2	0.5	10.1	10.6	2.3	16.8	19.1	2.7	27.0	29.7
1981	Adults	80.1	33.0	6.0	39.0	2.8	2.1	18.5	20.6	2.4	15.3	17.7	4.4	33.9	38.3
	Jacks	28.1	2.5	7.3	9.7	0.3	0.5	10.6	11.1	1.0	5.9	6.9	1.5	16.5	18.1
1982	Adults	66.5	14.5	8.3	22.8	1.3	8.4	22.7	31.0	2.1	9.3	11.3	10.4	32.0	42.4
	Jacks	39.4	1.8	12.5	14.3	0.4	1.8	10.5	12.3	4.2	8.1	12.4	6.1	18.6	24.7
1983	Adults	57.5	7.9	4.2	12.1	0.7	8.4	13.5	21.9	5.5	17.3	22.8	13.9	30.8	44.6
	Jacks	3.8	0.2	0.4	0.5	0.0	0.5	1.7	2.2	0.3	0.9	1.1	0.8	2.5	3.3
1984	Adults	47.1	18.7	3.3	22.0	1.6	5.3	10.4	15.7	2.2	5.7	7.8	7.5	16.1	23.6
	Jacks	8.3	0.5	1.0	1.4	0.1	0.8	1.9	2.6	0.8	3.4	4.2	1.5	5.3	6.8
1985	Adults	64.4	11.6	3.6	15.1	1.0	20.0	16.5	36.4	2.6	9.2	11.8	22.5	25.7	48.2
	Jacks	69.4	1.6	11.2	12.8	0.3	2.2	6.5	8.7	18.2	29.5	47.6	20.3	36.0	56.3
1986	Adults	194.8	25.1	21.0	46.2	2.4	17.1	20.8	37.9	15.8	92.5	108.3	32.9	113.4	146.3
	Jacks	44.5	0.9	9.4	10.3	0.3	1.5	8.5	9.9	3.6	20.5	24.1	5.1	28.9	34.0
1987	Adults	208.8	53.1	20.2	73.3	4.7	15.2	29.8	45.0	13.9	71.9	85.9	29.1	101.7	130.8
	Jacks	19.0	0.4	5.4	5.9	0.1	1.8	2.8	4.6	2.5	5.9	8.4	4.3	8.8	13.1
1988	Adults	191.3	51.7	22.2	73.9	4.6	16.1	34.8	50.9	17.4	44.6	62.0	33.5	79.4	112.8
	Jacks	24.0	0.6	5.4	6.0	0.2	0.6	1.9	2.5	4.8	10.6	15.4	5.4	12.5	17.9
1989	Adults	124.0	45.6	8.8	54.3	3.8	10.9	14.4	25.3	11.1	29.4	40.6	22.0	43.9	65.9
	Jacks	9.1	0.2	2.3	2.5	0.1	0.8	3.0	3.8	0.2	2.5	2.8	1.1	5.5	6.6
1990	Adults	35.8	7.9	3.6	11.5	0.7	6.7	7.9	14.6	1.3	7.7	9.0	8.1	15.6	23.6
	Jacks	4.4	0.2	2.1	2.3	0.1	0.3	1.1	1.4	0.4	0.2	0.6	0.7	1.4	2.0
1991	Adults	32.6	10.2	3.4	13.6	0.9	4.0	6.8	10.8	2.5	4.9	7.3	6.5	11.6	18.1
	Jacks	1.8	0.1	0.7	0.7	0.0	0.1	0.3	0.4	0.2	0.4	0.6	0.3	0.7	1.0
1992	Adults	26.7	5.8	1.0	6.8	0.5	3.6	4.9	8.5	3.8	7.1	10.9	7.4	12.0	19.4
	Jacks	13.7	0.4	4.1	4.5	0.1	3.7	2.6	6.3	0.2	2.6	2.8	3.9	5.1	9.1
1993	Adults	57.1	9.6	3.2	12.8	0.8	20.8	16.0	36.8	0.8	5.9	6.7	21.6	21.9	43.5
	Jacks	7.6	0.2	1.9	2.1	0.1	0.9	1.4	2.2	0.7	2.5	3.2	1.6	3.8	5.4
1994	Adults	61.6	11.7	1.8	13.5	1.0	11.5	21.4	32.9	3.3	10.9	14.2	14.7	32.3	47.1
	Jacks	14.4	0.3	2.6	2.8	0.1	0.8	3.7	4.5	4.4	2.5	6.9	5.2	6.2	11.4

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TABLE B-4. Summary of Klamath River fall chinook salmon estimates in thousands of adults and jacks. (Page 2 of 2)

Year	Category	Total Inriver Run	Inriver Harvest			Nonlanded Fishery Mortality	Spawning Escapement								
			Indian	Sport	Total		Klamath River			Trinity River			Total		
							Hatchery	Natural	Total	Hatchery	Natural	Total	Hatchery	Natural	Total
1995	Adults	213.7	15.6	6.1	21.7	1.4	13.7	67.9	87.7	15.2	77.9	97.6	28.9	161.7	190.7
	Jacks	22.8	0.6	4.4	5.0	0.1	0.3	8.5	8.8	0.1	9.3	13.1	0.3	17.7	17.7
1996	Adults	175.4	56.5	12.8	69.2	4.8	13.6	38.7	52.3	6.4	42.6	49.1	20.0	81.0	101.0
	Jacks	9.5	0.2	2.3	2.5	0.1	0.5	1.7	2.2	0.2	4.5	4.7	0.8	8.1	8.9
1997 <sup>a/</sup>	Adults	81.7	11.7	4.4	16.1	1.0	13.3	34.2	47.5	5.4	11.8	17.1	18.7	45.9	64.6
	Jacks	9.6	0.1	4.0	4.1	0.1	0.5	1.3	1.8	0.8	2.9	3.7	1.3	4.2	5.5

a/ Preliminary.



TABLE B-5. Estimates of Yurok and Hoopa Valley reservation Indian gillnet harvest.<sup>a/</sup> (Page 1 of 2)

Year	Area	Chinook Salmon (numbers of fish)					
		Spring Run			Fall Run		
		Jack	Adult	Total	Jack	Adult	Total
1977	Total	b/	b/	b/	2,700	27,300	30,000
1978	Total	b/	b/	b/	1,800	18,200	20,000
1979	Total	b/	b/	b/	1,350	13,650	15,000
1980	Total	20	980	1,000	987	12,013	13,000
1981	Estuary	21	1,320	1,341	912	23,097	24,009
	Resighinni	0	16	16	338	4,293	4,631
	Upper Klamath	19	381	400	766	4,112	4,878
	Trinity River	<u>17</u>	<u>1,090</u>	<u>1,107</u>	<u>449</u>	<u>1,531</u>	<u>1,980</u>
	Total	<u>57</u>	<u>2,807</u>	<u>2,864</u>	<u>2,465</u>	<u>33,033</u>	<u>35,498</u>
1982	Estuary	3	172	175	290	4,547	4,837
	Resighinni	11	789	800	368	3,551	3,919
	Upper Klamath	21	1,479	1,500	827	4,873	5,700
	Trinity River	<u>10</u>	<u>715</u>	<u>725</u>	<u>314</u>	<u>1,511</u>	<u>1,825</u>
	Total	<u>45</u>	<u>3,155</u>	<u>3,200</u>	<u>1,799</u>	<u>14,482</u>	<u>16,281</u>
1983	Estuary	1	59	60	12	800	812
	Middle Klamath	3	322	325	32	2,626	2,658
	Upper Klamath	1	129	130	89	3,074	3,163
	Trinity River	<u>5</u>	<u>75</u>	<u>80</u>	<u>30</u>	<u>1,390</u>	<u>1,420</u>
	Total	<u>10</u>	<u>585</u>	<u>595</u>	<u>163</u>	<u>7,890</u>	<u>8,053</u>
1984	Estuary	2	53	55	132	11,878	12,010
	Middle Klamath	8	147	155	81	2,807	2,888
	Upper Klamath	2	47	49	102	2,815	2,917
	Trinity River	<u>0</u>	<u>380</u>	<u>380</u>	<u>140</u>	<u>1,170</u>	<u>1,310</u>
	Total	<u>12</u>	<u>627</u>	<u>639</u>	<u>455</u>	<u>18,670</u>	<u>19,125</u>
1985 <sup>c/</sup>	Estuary	29	580	609	132	5,700	5,832
	Middle Klamath	6	184	190	283	1,731	2,014
	Upper Klamath	10	310	320	193	2,194	2,387
	Trinity River	<u>115</u>	<u>1,000</u>	<u>1,115</u>	<u>947</u>	<u>1,941</u>	<u>2,888</u>
	Total	<u>160</u>	<u>2,074</u>	<u>2,234</u>	<u>1,555</u>	<u>11,566</u>	<u>13,121</u>
1986 <sup>c/</sup>	Estuary	1	40	41	191	15,286	15,477
	Middle Klamath	3	164	167	176	2,501	2,677
	Upper Klamath	10	488	498	201	1,532	1,733
	Trinity River	<u>81</u>	<u>2,022</u>	<u>2,103</u>	<u>586</u>	<u>4,808</u>	<u>5,394</u>
	Total	<u>95</u>	<u>2,714</u>	<u>2,809</u>	<u>1,154</u>	<u>24,127</u>	<u>25,281</u>
1987	Commercial Estuary	0	0	0	0	29,040	29,040
	Subsistence: Estuary	23	786	809	36	10,938	10,974
	Middle Klamath	5	171	176	30	5,079	5,109
	Upper Klamath	20	689	709	87	3,057	3,144
	Trinity River	<u>122</u>	<u>4,146</u>	<u>4,268</u>	<u>262</u>	<u>4,982</u>	<u>5,244</u>
	Total	<u>176</u>	<u>5,792</u>	<u>5,962</u>	<u>415</u>	<u>53,096</u>	<u>53,511</u>
1988	Commercial Estuary	0	0	0	0	25,782	25,782
	Subsistence: Estuary	8	1,669	1,677	138	11,132	11,270
	Middle Klamath	0	710	710	36	6,252	6,288
	Upper Klamath	0	539	539	137	3,415	3,552
	Trinity River	<u>84</u>	<u>2,727</u>	<u>2,811</u>	<u>267</u>	<u>5,070</u>	<u>5,337</u>
	Total	<u>92</u>	<u>5,645</u>	<u>5,737</u>	<u>578</u>	<u>51,651</u>	<u>52,229</u>
1989	Commercial Estuary	0	206	206	0	27,504	27,504
	Subsistence: Estuary	0	644	644	0	9,626	9,626
	Middle Klamath	0	2,008	2,008	65	3,108	3,173
	Upper Klamath	0	1,887	1,887	55	1,853	1,908
	Trinity River	<u>20</u>	<u>1,978</u>	<u>1,998</u>	<u>71</u>	<u>3,474</u>	<u>3,545</u>
	Total	<u>20</u>	<u>6,723</u>	<u>6,743</u>	<u>191</u>	<u>45,565</u>	<u>45,756</u>

TABLE B-5. Estimates of Yurok and Hoopa Valley reservation Indian gillnet harvest. <sup>a/</sup> (Page 2 of 2)

Year	Area	Chinook Salmon (numbers of fish)					
		Spring Run			Fall Run		
		Jack	Adult	Total	Jack	Adult	Total
1990	Commercial Estuary	-	-	-	-	-	-
	Subsistence: Estuary	0	388	388	13	3,536	3,549
	Middle Klamath	0	521	521	36	1,116	1,152
	Upper Klamath	0	504	504	102	2,331	2,433
	Trinity River	<u>24</u>	<u>865</u>	<u>889</u>	<u>36</u>	<u>811</u>	<u>847</u>
	Total	24	2,278	2,302	187	7,794	7,981
1991	Commercial Estuary	-	-	-	-	-	-
	Subsistence: Estuary	0	70	70	7	3,902	3,909
	Middle Klamath	0	46	46	9	1,765	1,774
	Upper Klamath	3	167	170	16	3,251	3,267
	Trinity River	<u>0</u>	<u>263</u>	<u>263</u>	<u>30</u>	<u>1,310</u>	<u>1,340</u>
	Total	3	546	549	62	10,228	10,290
1992	Commercial Estuary	-	-	-	-	-	-
	Subsistence: Estuary	0	15	15	124	1,152	1,276
	Middle Klamath	0	97	97	52	1,107	1,159
	Upper Klamath	0	284	284	148	2,580	2,728
	Trinity River	<u>0</u>	<u>346</u>	<u>346</u>	<u>42</u>	<u>946</u>	<u>988</u>
	Total	0	742	742	366	5,785	6,151
1993	Commercial Estuary	-	-	-	-	-	-
	Subsistence: Estuary	0	19	19	62	3,017	3,079
	Middle Klamath	0	320	320	33	1,632	1,665
	Upper Klamath	0	211	211	47	3,495	3,542
	Trinity River	<u>0</u>	<u>228</u>	<u>228</u>	<u>33</u>	<u>1,492</u>	<u>1,525</u>
	Total	0	778	778	175	9,636	9,811
1994	Commercial Estuary	-	-	-	-	-	-
	Subsistence: Estuary	9	152	161	80	4,341	4,421
	Middle Klamath	14	110	124	4	1,448	1,452
	Upper Klamath	3	239	242	71	3,658	3,729
	Trinity River	<u>0</u>	<u>255</u>	<u>255</u>	<u>94</u>	<u>2,266</u>	<u>2,360</u>
	Total	26	756	782	249	11,713	11,962
1995	Commercial Estuary	-	-	-	-	-	-
	Subsistence: Estuary	0	656	656	117	5,200	5,317
	Middle Klamath	0	1,312	1,312	44	2,415	2,459
	Upper Klamath	0	624	624	47	4,610	4,657
	Trinity River	<u>93</u>	<u>1,175</u>	<u>1,268</u>	<u>268</u>	<u>3,383</u>	<u>3,651</u>
	Total	93	3,767	3,860	476	15,608	16,084
1996	Commercial Estuary	16	3,113	3,129	127	40,020	40,147
	Subsistence: Estuary	1	1,851	1,852	36	9,093	9,129
	Middle Klamath	9	673	682	7	1,570	1,577
	Upper Klamath	3	268	271	12	3,023	3,035
	Trinity River	<u>6</u>	<u>1,182</u>	<u>1,188</u>	<u>8</u>	<u>2,770</u>	<u>2,778</u>
	Total	35	7,087	7,122	190	56,476	56,666
1997	Commercial Estuary	-	-	-	-	-	-
	Subsistence: Estuary	8	2,770	2,778	36	5,391	5,427
	Middle Klamath	3	1,055	1,058	9	1,416	1,425
	Upper Klamath	4	1,411	1,415	6	3,701	3,701
	Trinity River	<u>1</u>	<u>1,250</u>	<u>1,251</u>	<u>2</u>	<u>1,237</u>	<u>1,239</u>
	Total	16	6,486	6,502	53	11,745	11,798

a/ USFWS estimates for 1977-1982 and for Klamath River portion in 1983-1993. The Fisheries Department of the Hoopa Valley Business Council has monitored the Trinity River fishery since 1982. The Yurok Tribe Fisheries Program monitored the Klamath River portion in 1994 and 1995.

b/ No estimate.

c/ Does not include fall chinook harvested under special ceremonial permit.

TABLE B-6. Shasta River fall chinook salmon weir counts or spawning escapement estimates.<sup>a/</sup> (Page 1 of 1)

Year	Adults	Jacks	Total	Year	Adults	Jacks	Total
1930	7,280	12,082	19,362	1964	30,715	3,648	34,363
1931	61,811	20,037	81,848	1965	7,136	775	7,911
1932 <sup>b/</sup>	30,534	5,058	35,592	1966	5,573	451	6,024
1933 <sup>b/</sup>	4,700	6,886	11,586	1967	10,478	1,836	12,314
1934	26,614	21,807	48,421	1968	13,039	1,003	14,042
1935	63,711	9,660	73,371	1969	10,576	3,049	13,625
1936	33,264	14,669	47,933	1970	12,693	712	13,405
1937	32,027	1,229	33,256	1971	4,970	1,649	6,619
1938	6,497	1,118	7,615	1972	2,802	839	3,641
1939	8,313	19,670	27,983	1973	4,516	4,902	9,418
1940	50,725	4,431	55,156	1974	7,376	2,729	10,105
1941	7,372	5,860	13,232	1975 <sup>c/</sup>	11,821	4,211	16,032
1942	9,342	1,834	11,176	1976 <sup>c/</sup>	4,154	1,919	6,073
1943	8,048	1,974	10,022	1977	5,478	1,969	7,447
1944	8,604	2,686	11,290	1978	12,024	6,707	18,731
1945	14,905	3,291	18,196	1979	7,111	1,040	8,151
1946	6,949	641	7,590	1980	3,762 <sup>d/</sup>	4,334	8,096
1947	298	43	341	1981	7,890 <sup>d/</sup>	4,330	12,220
1948	31	6	37	1982	6,533	1,922	8,455
1949	171	21	192	1983	3,119	753	3,872
1950	-- Incomplete Count --			1984	2,362	480	2,842
1951	1,565	459	2,024	1985	2,897	2,227	5,124
1952	1,488	178	1,666	1986	3,274	683	3,957
1953	1,444	161	1,605	1987	4,299	398	4,697
1954	1,768	857	2,625	1988 <sup>e/</sup>	2,586	256	2,842
1955	1,620	197	1,817	1989	1,440	137	1,577
1956	-- No Count --			1990	415	118	533
1957	1,781	453	2,234	1991	716	10	726
1958	4,694	1,379	6,073	1992	520	66	586
1959	8,619	1,256	9,875	1993	1,341	85	1,426
1960	9,489	1,209	10,698	1994	3,363	1,840	5,203
1961	5,250	3,514	8,764	1995	12,816	695	13,511
1962	9,907	4,991	14,898	1996	1,404	46	1,450
1963	22,825	9,012	31,837	1997 <sup>f/</sup>	1,677	334	2,011

- a/ From 1930-1937, 1957-1987 and 1991-1995, the counts were made near the river mouth. From 1938-1955, they were made 6.5 miles upstream from the mouth; considerable spawning occurred downstream from the racks in these years. From 1988-1990, escapements were estimated from mark-recapture data (spawning surveys).
- b/ Commercial fishing in lower Klamath River closed by the state after this season.
- c/ Gillnetting resumed in lower 20 miles of Klamath River by Hoopa Valley Indian Reservation fishers.
- d/ Includes 276 females taken to Iron Gate Hatchery.
- e/ Low water conditions appeared to hinder entry into the river this year.
- f/ Preliminary.



TABLE B-7. Summary of California north coast salmon spawning stock surveys. (Page 1 of 1)

Year	Canon Creek, Mad River <sup>a/b/</sup>			Sprawl Creek, Eel River <sup>a/c/</sup>			Tomki Cregk, Eel River
	Number of Surveys	Chinook	Coho	Number of Surveys	Chinook	Coho	Chinook
1963-1964	12	70	55	-	-	-	-
1964-1965	NA	45	0	-	-	-	1,747
1965-1966	-	-	-	-	-	-	-
1966-1967	NA	334	3	3	1,189	6	-
1967-1968	-	-	-	-	-	-	-
1968-1969	-	-	-	-	-	-	-
1969-1970	-	-	-	-	-	-	-
1970-1971	NA	230	0	-	-	-	-
1971-1972	-	-	-	-	-	-	-
1972-1973	-	-	-	-	-	-	-
1973-1974	-	-	-	-	-	-	-
1974-1975	-	-	-	1	247	0	-
1975-1976	-	-	-	1	339	2	367
1976-1977	-	-	-	-	-	-	-
1977-1978	-	-	-	-	-	-	-
1978-1979	-	-	-	2	534	23	-
1979-1980	-	-	-	2	572	0	2,410
1980-1981	-	-	-	1	164	4	317
1981-1982	3	23	0	2	121	0	565
1982-1983	3	68	0	6	169	1	1,741
1983-1984	2	137	0	2	82	0	-
1984-1985 <sup>e/</sup>	1	16	0	6	67	13	1,292
1985-1986 <sup>e/</sup>	10	514	14	6	320	0	3,558
1986-1987 <sup>e/</sup>	4	90	3	5	307	13	2,173
1987-1988	4	117	29	3	2,187	4	3,666
1988-1989	2	69	7	3	339	12	556
1989-1990 <sup>e/</sup>	4	9	7	5	89	14	0
1990-1991	1	1	3	2	0	0	0
1991-1992	2	8	0	2	135	0	3
1992-1993	2	55	1	2	63	1	15
1993-1994	4	20	0	4	198	53	5
1994-1995	2	32	2	7	128	4	22
1995-1996	4	87	3	3	272	9	69
1996-1997	1	60	0	3	153	7	90
1997-1998 <sup>f/</sup>	2	53	1	4	206	12	44

a/ Numbers reflect peak daily counts of live fish and carcasses with adults and jacks combined. Counts in years of poor visibility are not shown.

b/ Survey area was from mouth to falls (2 miles).

c/ Survey area was the main stem and West Fork (4.5 miles).

d/ Total run size estimate including jacks and adults.

e/ Low flows this season appeared to increase main stem spawning and decrease tributary spawning.

f/ Preliminary.

TABLE B-8. Peak spawning counts in index areas for selected south/local migrating Oregon coastal fall chinook stocks. (Page 1 of 1)

Year	Pistol River Deep Creek (0.4 mile)		Chetco River Big Emily Creek (1.0 mile)		Winchuck River Bear Creek (0.8 mile)		Index (fish per mile)	
	Adults	Jack	Adults	Jacks	Adults	Jacks	Adults	Jacks
1960	1	0	-	-	-	-	-	-
1961	4	1	-	-	-	-	-	-
1962	9	2	-	-	-	-	-	-
1963	7	0	-	-	-	-	-	-
1964	12	0	-	-	30	2	-	-
1965	0	-	-	-	14	0	-	-
1966	82	6	-	-	27	3	-	-
1967	2	1	-	-	31	0	-	-
1968	8	1	-	-	57	2	-	-
1969	-	-	-	-	29	2	-	-
1970	-	-	-	-	-	-	-	-
1971	7	0	303	28	15	0	148	13
1972	7	0	344	11	-	-	251	8
1973	6	2	98	8	46	6	68	7
1974	2	0	100	0	13	0	52	0
1975	2	0	-	-	-	-	-	-
1976	-	-	41	22	0	2	23	13
1977	3	2	-	-	29	1	27	3
1978	-	-	245	36	33	0	154	20
1979	-	-	104	30	17	3	67	18
1980	0	0	107	39	13	0	55	18
1981	14	1	75	21	10	0	45	10
1982	25	1	84	12	13	1	55	6
1983	31	3	38	4	12	1	37	4
1984	11	2	23	4	15	1	22	3
1985	37	2	91	8	13	4	64	6
1986	0 <sup>a/</sup>	0 <sup>a/</sup>	73	20	12	3	39	10
1987	11	2	23	6	18	2	24	5
1988	27	3	112	25	15	1	70	13
1989	6	2	54	7	4	1	29	5
1990	1	0	26	2	2	1	13	1
1991	3	2	75	5	10	1	40	4
1992	9	0	44	13	16	1	31	6
1993	10	7	69	19	7	2	39	13
1994	29	31	71	8	30	4	59	20
1995	8	4	111	7	18	1	61	5
1996	81	9	79	7	27	5	85	10
1997 <sup>b/</sup>	12	1	60	5	14	1	39	3

a/ Pistol River was subject to several "slope failures" in 1986 resulting in severe short-term alterations in gravel bars and spawning index areas. Considerable debris and siltation severely limited chinook surveys resulting in "0" counts in Deep Creek index areas through Dec.

b/ Preliminary.

TABLE B-9. Counts of **natural and hatchery spring chinook salmon** at Gold Ray Dam on the **Rogue River** and at Winchester Dam on the north **Umpqua River** in thousands of fish. (Page 1 of 1)

Year	Gold Ray Dam, Rogue River <sup>a/</sup>				Winchester Dam, Umpqua River <sup>a/</sup>			
	Natural	Hatchery	Total	Jacks <sup>b/</sup>	Natural	Hatchery	Total	Jacks <sup>b/</sup>
1942	41.8	-	41.8	6.2	-	-	-	-
1943	36.1	-	36.1	4.5	-	-	-	-
1944	30.6	-	30.6	3.7	-	-	-	-
1945	32.0	-	32.0	5.3	-	-	-	-
1946	28.4	-	28.4	4.6	2.5	-	2.5	0.5
1947	33.6	-	33.6	3.1	3.8	-	3.8	0.8
1948	27.0	-	27.0	2.9	2.5	-	2.5	0.2
1949	18.8	-	18.8	1.8	2.6	-	2.6	0.5
1950	15.5	-	15.5	2.7	2.3	-	2.3	0.3
1951	19.4	-	19.4	4.9	3.6	-	3.6	0.7
1952	15.9	-	15.9	3.8	5.2	0.1	5.3	0.6
1953	31.5	-	31.5	4.2	3.9	0.9	4.8	0.5
1954	24.7	-	24.7	5.2	1.5	1.7	3.2	1.6
1955	15.7	-	15.7	2.8	6.6	1.0	7.6	1.4
1956	28.1	-	28.1	3.9	8.0	1.3	9.3	1.4
1957	17.7	-	17.7	3.0	4.0	1.2	5.2	0.9
1958	15.0	-	15.0	1.9	3.6	0.8	4.4	0.5
1959	14.0	-	14.0	2.6	3.1	0.7	3.8	0.3
1960	24.4	-	24.4	5.5	3.4	0.7	4.1	0.5
1961	31.8	-	31.8	5.4	4.4	0.9	5.3	0.5
1962	31.4	-	31.4	5.3	3.3	0.9	4.2	0.6
1963	40.6	-	40.6	6.9	8.7	2.3	11.0	1.8
1964	37.3	-	37.3	6.2	6.6	2.2	8.8	3.0
1965	47.6	-	47.6	8.1	9.0	2.7	11.7	3.1
1966	31.4	-	31.4	3.5	6.7	0.6	7.3	1.3
1967	14.7	-	14.7	2.4	6.5	2.6	9.1	4.9
1968	19.5	-	19.5	7.5	6.2	3.1	9.3	4.3
1969	59.0	-	59.0	6.7	10.7	9.4	20.1	3.0
1970	45.1	-	45.1	7.4	6.1	6.9	13.0	2.4
1971	28.3	1.1	29.5	6.1	6.0	3.9	9.9	2.6
1972	30.0	0.8	30.8	5.7	7.9	8.5	16.4	7.4
1973	34.7	0.6	35.3	5.0	11.4	8.2	19.7	3.2
1974	16.5	0.5	17.0	3.5	5.8	5.1	10.9	2.2
1975	20.4	1.0	21.5	4.6	5.4	5.2	10.6	3.6
1976	20.4	1.2	21.6	6.9	5.5	5.2	10.7	4.3
1977	14.9	1.5	16.4	3.0	6.8	5.5	12.3	3.5
1978	40.2	7.0	47.2	11.3	5.4	2.8	8.2	2.8
1979	29.3	8.9	38.2	5.8	5.5	4.0	9.5	3.2
1980	24.2	12.7	36.9	8.0	5.7	1.9	7.6	2.1
1981	12.8	4.4	17.2	3.0	4.6	4.1	8.7	2.0
1982	23.2	6.7	29.9	10.1	6.5	2.0	8.5	3.3
1983	9.8	2.7	12.5	4.7	3.0	2.9	5.9	1.8
1984	8.4	4.3	12.7	3.8	4.5	2.4	6.9	1.9
1985	27.8	12.7	40.5	15.0	7.5	6.1	13.5	3.6
1986	40.4	49.1	89.5	30.1	8.3	5.3	13.6	4.4
1987	37.4	44.1	81.6	16.2	8.3	7.2	15.6	3.4
1988	38.8	43.8	82.6	18.4	7.8	3.8	11.6	1.6
1989	7.9	52.4	60.3	6.6	7.6	2.2	9.8	1.7
1990	18.0	6.5	24.6	3.1	5.5	2.0	7.6	1.3
1991	9.3	3.0	12.4	2.4	2.4	1.8	4.2	0.6
1992	2.2	3.6	5.8	1.3	2.5	2.5	5.0	0.9
1993	12.6	13.5	26.1	6.8	3.8	2.1	5.9	1.2
1994	3.6	10.5	14.1	2.6	2.8	2.5	5.3	1.1
1995	20.7	61.2	82.0	6.2	6.2	3.6	9.8	1.9
1996	10.3	26.3	36.6	3.4	4.3	2.2	6.5	1.0
1997 <sup>c/</sup>	9.6	32.2	41.8	2.8	3.3	2.5	5.8	1.6

a/ Jacks included in natural, hatchery and total counts.

b/ Jacks include all chinook less than 20 inches prior to 1978 and all chinook less than 24 inches beginning in 1978.

c/ Preliminary.



TABLE B-10. Rogue River fall chinook carcass counts. (Page 1 of 1)

Year	Carcass Counts		
	Adults	Jacks	Combined
1977	1,102	1,941	3,043
1978	9,174	1,019	10,193
1979	7,954	187	8,141
1980	2,222	411	2,633
1981	4,404	987	5,391
1982	2,813	708	3,521
1983	1,602	158	1,760
1984	1,997	242	2,239
1985	5,486	2,500	7,986
1986	16,886	3,169	20,055
1987	29,144	2,847	31,991
1988	20,716	886	21,602
1989	7,408	481	7,889
1990	1,868	46	1,914
1991	2,799	157	2,956
1992	2,345	460	2,805
1993	5,447	257	5,704
1994	7,366	529	7,895
1995	3,921	173	4,094
1996	1,702	84	1,786
1997 <sup>a/</sup>	1,622	68	1,690

a/ Preliminary.

TABLE B-11. Peak counts for far north migrating Oregon coastal chinook stocks on selected fall chinook spawning index stream surveys. (Page 1 of 2)

Year	River Tributaries																			
	Nehalem Humbug (1.0 mile)		Tillamook (1.8 mile)		Nestucca Niagara (0.4 mile)		Siletz Sunshine (1.2 mile)		Yaquina Grant (1.7 mile)		Alesia Buck (1.0 mile)		Siuslaw Lake (0.8 mile)		Coos W.F. Millicoma (0.5 mile)		Coquille Salmon (0.8 mile)		Index Fish Per Mile	
	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks
1961	96	8	130	36	65	4	52	11	51	1	38	8	26	22	3	3	10	14	51	12
1962	69	9	95	22	39	8	131	29	32	15	8	5	12	4	2	0	1	0	42	10
1963	96	37	128	22	88	2	63	8	67	13	39	12	27	2	0	2	3	0	56	11
1964	112	14	134	29	45	8	18	7	22	3	22	7	212	35	1	0	9	2	63	11
1965	100	43	93	18	123	2	32	8	44	34	31	14	28	11	2	0	91	49	59	19
1966	95	8	85	25	73	7	36	6	67	15	42	20	111	11	5	1	55	19	62	12
1967	64	2	117	41	55	6	39	3	35	13	12	14	110	31	7	0	17	0	50	12
1968	44	2	81	29	41	2	19	4	32	9	18	12	52	32	0	0	16	4	33	10
1969	29	2	41	13	28	8	7	3	68	20	13	2	140	52	6	2	7	0	37	11
1970	54	3	139	29	39	8	51	9	105	10	43	34	256	76	12	0	36	23	80	21
1971	84	10	35	4	35	1	40	5	78	17	38	8	49	10	21	22	17	5	43	9
1972	71	46	54	12	82	10	27	14	36	12	3	2	88	56	8	12	8	4	41	18
1973	139	28	84	1	61	4	47	0	48	4	20	4	-	-	21	1	18	0	52	5
1974	141	16	45	4	42	0	47	2	93	0	13	0	131	68	16	28	13	7	59	14
1975	72	28	-	-	-	-	-	-	-	-	9	1	106	60	22	4	18	9	55	25
1976	135	39	35	5	0	0	18	12	10	6	1	0	188	74	28	24	0 <sup>a/</sup>	0 <sup>a/</sup>	49	19
1977	158	12	56	2	14	2	45	2	160	20	13	2	181	60	19	8	7	7	71	13
1978	166	6	62	8	31	3	28	0	175	6	12	0	115	24	42	18	40	3	73	7
1979	168	2	45	2	50	3	98	7	144	78	40	10	128	12	35	24	33	8	81	16
1980	90	3	106	14	64	1	44	2	145	4	46	2	218	16	30	65	74	31	89	16
1981	148	1	94	6	41	1	68	2	185	13	32	3	140	43	4	4	43	8	82	9
1982	70	13	107	15	89	12	40	1	160	18	54	9	206	34	80	2	95	13	90	13
1983	61	4	45	1	60	1	29	3	86	11	25	0	28	0	9	0	43	4	42	3
1984	280	31	101	9	84	6	47	3	195	17	55	2	103	7	0	1	38	6	98	9
1985	257	40	128	14	117	9	90	3	263	59	70	15	268	70	11	2	6	4	132	23
1986	108	8	153	11	161	6	46	5	172	33	54	9	255	68	5	2	46	9	109	16
1987	219	6	255	6	127	1	14	0	173	19	51	1	207	25	19	11	46	4	121	8
1988	155	4	121	8	143	1	97	1	547	35	251	11	538	52	22	6	92	10	214	14
1989	150	2	118	4	104	4	61	3	168	12	72	5	555	34	5	3	27	7	137	8
1990	50	1	122	10	55	2	50	1	139	25	71	6	578	43	12	3	32	1	121	10
1991	43	0	135	10	91	3	58	6	187	17	36	2	701	27	4	1	123	12	150	8
1992	90	4	200	15	76	7	73	1	137	6	66	9	521	32	10	5	92	6	138	9
1993	50	0	46	1	24	1	17	0	136	7	15	1	106	7	113	10	73	2	63	3

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TABLE B-11. Peak counts for far north migrating Oregon coastal chinook stocks on selected fall chinook spawning index stream surveys. (Page 2 of 2)

Year	River Tributaries																					
	Nehalem Humbug (1.0 mile)		Tillamook (1.8 mile)		Nestucca Niagara (0.4 mile)		Siletz Sunshine (1.2 mile)		Yaquina Grant (1.7 mile)		Alesia Buck (1.0 mile)		Siuslaw Lake (0.8 mile)		Coos W.F. Millicoma (0.5 mile)		Coquille Salmon (0.8 mile)		Index Fish Per Mile			
	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks	Adults	Jacks
1994	83	5	36	1	201	2	113	2	b/	b/	46	4	300	19	73	14	86	6	125	7		
1995	57	3	41	4	124	1	41	0	b/	b/	59	4	346	5	43	6	46	1	101	3		
1996	86	2	60	0	40	0	122	0	b/	b/	62	2	614	29	92	3	29	3	147	5		
1997 <sup>c/</sup>	162	1	47	1	24	1	60	0	b/	b/	49	2	325	9	12	0	108	3	86	2		

a/ Flows too low to allow spawning.

b/ Survey discontinued; landowner would not allow access.

c/ Preliminary.

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TABLE B-12. Estimates of minimum inriver run size, catch, and escapement in thousands of Columbia River adult spring chinook destined for areas below Bonneville Dam. (Page 1 of 1)

Year or Average	Minimum Inriver Run Size	Tributary Runs										
		Willamette						Sandy	Cowlitz <sup>c/</sup>	Lewis <sup>c/</sup>	Kalama	Hatchery Escapement <sup>d/</sup>
		Lower River Catch <sup>a/</sup>		Run Size	Sport Catch	Will. Falls Escapement <sup>b/</sup>	Commercial					
1971-1975	83.9	13.8	3.7					53.4	17.0	34.3	NA	11.9
1976	80.8	4.7	3.2	38.9	15.8	21.0	NA	26.6	3.1	4.3	29.9	
1977	92.1	6.8	3.1	56.1	14.6	38.5	0.6	20.9	3.3	1.3	30.2	
1978	106.7	13.5	5.0	69.0	20.6	45.7	0.7	13.8	3.7	1.0	25.2	
1979	68.7	5.5	1.7	42.9	13.9	25.5	0.8	13.4	2.5	1.9	19.2	
1980	73.0	0.4	0.8	41.5	10.0	26.4	1.8	23.7	2.3	2.5	28.4	
1981	93.9	6.8	3.5	46.6	12.5	28.6	2.8	27.9	3.0	3.3	33.8	
1982	110.3	4.6	2.2	70.5	20.6	45.1	1.4	19.3	3.9	8.4	31.1	
1983	93.6	7.0	2.4	52.3	17.8	28.7	1.8	21.4	3.7	4.9	27.0	
1984	115.7	9.1	1.8	72.9	23.4	42.4	2.3	21.3	6.4	1.8	33.1	
1985	83.3	11.5	1.1	55.0	17.6	33.1	1.4	9.9	4.1	0.3	19.2	
1986	90.5	8.6	4.4	59.5	18.1	37.3	1.3	7.3	8.3	1.1	19.9	
1987	132.5	10.6	2.4	80.2	21.6	52.8	2.4	18.0	16.5	2.4	33.1	
1988	146.0	13.2	3.2	101.9	27.0	68.7	2.9	12.3	10.6	1.9	34.9	
1989	136.9	12.4	2.5	97.7	26.4	65.9	2.0	8.3	12.0	2.0	35.5	
1990	151.4	16.2	9.1	103.7	27.3	69.1	3.5	7.6	9.3	2.0	38.9	
1991	130.2	11.7	4.1	90.9	34.0	48.7	3.7	8.9	8.3	2.6	30.2	
1992	101.4	5.2	4.1	65.2	15.9	39.7	9.2	10.4	5.6	2.4	29.7	
1993	89.9	2.1	1.5	60.8	22.9	29.7	6.4	9.5	6.6	2.9	26.9	
1994	63.0	1.6	1.6	46.4	12.9	25.5	3.5	3.1	3.0	1.3	16.7	
1995 <sup>e/</sup>	49.7	0.2	0.0	40.8	16.0	19.3	2.5	2.2	3.7	0.7	14.7	
1996 <sup>e/</sup>	39.2	0.9	0.0	33.2	7.9	20.4	4.1	1.9	1.6	0.5	15.6	
1997 <sup>e/</sup>	45.5	1.9	0.0	34.3	3.6	26.2	5.2	1.7	1.9	0.5	16.8	

- a/ Includes some upriver origin spring chinook through 1980. Beginning in 1981, the lower river catch of lower river spring chinook is based on mark recoveries rather than timing of the catch as in previous years. Since 1986, GSI and VSI techniques have been used for stock composition analysis. Includes Youngs Bay fisheries.
- b/ Prior to 1988, the escapement goal at Willamette Falls was 30,000 to 35,000. Beginning in 1988, the goal is dependent on run size under the Willamette Basin Fish Management Plan. Under this plan, the escapement target is 30,000 adults above Willamette Falls at Willamette River run sizes (run entering the Columbia River) of 70,000 or less and increases linearly (500 per each 1,000 of increased run size) to 45,000 at Willamette River run sizes of 100,000 or greater.
- c/ Includes hatchery escapement, tributary recreational catch, and natural spawning escapement for 1975 to present. The years 1971-1973 are based on using the 1975-1976 Cowlitz River recreational fishery adult harvest rates.
- d/ Includes hatcheries operated by all agencies. Values are included in the totals for the tributary runs.
- e/ Preliminary.

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TABLE B-13. Estimates of inriver run size, catch, and escapement in thousands of Columbia River adult spring chinook destined for areas above Bonneville Dam. (Page 1 of 1)

Year or Average	Inriver Run Size	Lower River Catch <sup>a/</sup>		Mainstem				Snake River <sup>c/</sup> Escapement		Upper Columbia River Escapement <sup>d/</sup>	Hatchery Escapement <sup>e/</sup>
		Commercial	Sport	Bonneville Dam Count	Commercial Treaty Catch	Treaty Ceremonial/ Subsistence	Zone 6 Escapement <sup>b/</sup>	Total	Wild		
1971-1975	167.5	31.4	16.0	120.1	21.3	NA	98.8	28.9	NA	8.2	13.4
1976	63.9	0.0	0.0	63.9	0.4	NA	63.5	15.9	NA	11.5	14.8
1977	138.4	8.6	14.2	115.6	17.0	1.8	96.8	36.2	NA	20.6	20.1
1978	127.0	0.0	0.0	127.0	2.6	4.9	119.5	40.7	NA	21.2	14.4
1979	48.7	0.1	0.0	48.6 <sup>f/</sup>	0.5	1.6	46.5	6.8	2.6	7.4	9.3
1980	<53.2	0.1	0.0	<53.1 <sup>f/</sup>	<0.1	1.8	<51.2	5.5	3.5	8.5	11.2
1981	<63.8	0.7	0.2	<62.8 <sup>f/</sup>	1.6	1.8	<59.4	13.1	7.9	14.5	15.2
1982	71.3	0.7	0.6	70.0	3.3	2.0	64.7	12.4	7.1	8.7	15.7
1983	57.8	2.4	0.5	54.9	<0.1	2.5	52.4	9.5	6.2	10.4	16.4
1984	48.7	1.5	0.3	46.9	0.1	3.4	43.4	6.5	3.2	12.1	13.7
1985	86.5	3.0	0.4	83.2	0.1	3.0	80.1	25.2	5.2	24.1	30.6
1986	120.6	1.3	1.3	118.1	0.4	7.1	110.6	31.7	6.9	21.3	37.2
1987	100.2	1.2	0.4	98.6	0.3	6.4	91.9	28.8	7.9	18.5	33.8
1988	97.2	5.3	1.4	90.5	0.2	6.8	83.5	29.5	8.6	13.1	28.1
1989	83.4	1.6	0.5	81.3	0.1	6.6	74.5	13.0	3.0	11.7	23.3
1990	99.5	2.2	3.1	94.2	<0.1	6.9	87.2	17.3	3.2	12.2	34.9
1991	59.9	1.0	1.5	57.3	<0.1	3.9	53.5	6.6	2.2	7.7	17.5
1992	90.0	0.4	1.2	88.4	<0.1	5.7	82.7	21.4	11.3	19.6	30.9
1993	111.8	0.5	0.4	110.8	0.0	7.3	103.6	21.0	6.0	29.3	36.4
1994	21.1	0.5	0.4	20.2	<0.1	1.1	19.0	3.1	1.4	3.1	7.2
1995	10.2	<0.1	0.0	10.2	<0.1	0.6	9.6	1.1	0.7	1.1	4.9
1996	51.5	<0.1	0.0	51.5	0.0	2.8	48.7	4.2	1.4	2.4	17.8
1997 <sup>g/</sup>	114.1	<0.1	<0.1	114.1	<0.1	8.3	105.8	33.9	1.4	6.8	29.6
GOAL							115.0	35.0	25.0		

- a/ Includes some lower river origin spring chinook through 1980. Beginning in 1981, the lower river catch of upriver spring chinook is based on mark recoveries rather than timing of the catch as in previous years. Since 1986, GSI techniques have been used for stock composition analysis. Commercial catch includes estimated miscellaneous fishery related impacts from test fisheries, commercial shad fisheries, and terminal area commercial gillnet fisheries beginning in 1979.
- b/ Bonneville Dam count minus Zone 6 mainstem commercial and ceremonial/subsistence treaty Indian harvest.
- c/ Count at uppermost Snake River Dam (Little Goose in 1971-1974 and Lower Granite after 1974).
- d/ Priest Rapids Dam count.
- e/ Includes hatcheries operated by all agencies.
- f/ Maximum figure not adjusted for fallback at the dam.
- g/ Preliminary.

TABLE B-14. Estimates of inriver run size, catch, and escapement in thousands of **Columbia River adult summer chinook** destined for areas above Bonneville Dam. (Page 1 of 1)

Year or Average	Inriver Run Size	Lower River Catch		Bonneville Dam Count	Mainstem			Snake River <sup>c/</sup> Escapement		Upper Columbia River Escapement <sup>d/</sup>
		Commercial <sup>a/</sup>	Sport		Commercial Treaty Catch	Treaty Ceremonial/ Subsistence	Zone 6 Escapement <sup>b/</sup>	Total	Wild	
1971-1975	47.8	1.1	1.4	45.4	2.1	NA	43.3	13.2	13.2	14.6
1976	26.7	0.0	0.0	26.7	<0.1	NA	26.7	7.0	7.0	17.2
1977	34.3	0.2	0.0	34.1	<0.1	0.8	33.3	7.7	7.7	16.3
1978	38.7	0.2	0.0	38.5	0.1	0.8	37.6	11.6	11.6	19.2
1979	28.0	0.3	0.0	27.7	<0.1	1.0	26.8	2.7	2.7	20.3
1980	27.0	<0.1	0.0	27.0	0.1	1.1	25.8	2.7	2.7	16.0
1981	22.4	<0.1	0.0	22.4	<0.1	1.3	21.0	3.3	3.3	11.6
1982	20.4	0.2	0.0	20.1	<0.1	1.3	18.8	4.2	3.5	8.8
1983	18.2	0.2	0.0	18.0	0.0	0.3	17.7	3.9	3.2	8.5
1984	22.5	<0.1	0.0	22.4	0.1	0.3	22.0	5.4	4.2	16.2
1985	24.3	0.1	0.0	24.2	1.3	0.1	22.8	5.1	3.2	15.9
1986	26.4	0.2	<0.1	26.2	0.7	0.4	25.1	6.2	3.9	16.2
1987	33.3	0.3	<0.1	33.0	1.4	0.3	31.3	5.9	2.4	14.1
1988	31.5	0.2	<0.1	31.3	1.5	<0.1	29.8	6.1	2.3	13.4
1989	28.8	<0.1	<0.1	28.8	0.0	0.1	28.7	3.2	2.4	19.7
1990	25.0	<0.1	<0.1	25.0	0.0	0.1	24.9	5.1	3.4	15.6
1991	18.9	<0.1	<0.1	18.9	0.0	0.2	18.7	3.8	2.8	14.8
1992	15.1	0.1	<0.1	15.1	0.0	0.1	15.0	3.0	1.1	8.5
1993	22.2	0.2	<0.1	22.0	0.0	0.4	21.7	7.9	4.0	16.4
1994	17.7	<0.1	<0.1	17.6	0.0	0.2	17.4	0.8	0.3	14.9
1995	15.0	<0.1	<0.1	15.0	0.0	0.4	14.6	0.7	0.4	12.2
1996	16.1	<0.1	<0.1	16.0	0.0	0.5	15.5	2.6	2.1	10.9
1997 <sup>e/</sup>	28.0	<0.1	<0.1	27.9	0.0	0.3	27.6	10.7	6.5	13.1
GOAL							80.0-90.0			

a/ Includes estimated miscellaneous fishery related impacts from test fisheries, commercial shad fisheries, and terminal area commercial gillnet fisheries beginning in 1979.

b/ Bonneville Dam count minus Zone 6 mainstem commercial and ceremonial/subsistence treaty Indian harvest.

c/ Count at uppermost Snake River Dam (Little Goose in 1971-1974 and Lower Granite after 1974).

d/ Priest Rapids Dam count.

e/ Preliminary.



TABLE B-15. Estimates of inriver run size, catch, and escapement in thousands of **Columbia River adult SCH stock fall chinook.**<sup>a/</sup> (Page 1 of 1)

Year or Average	Inriver Run Size	Bonneville Dam Count	Harvest				Escapement	
			Treaty Commercial and Subsistence	Non-Indian		Natural	Hatchery <sup>b/</sup>	
				Commercial	Sport			
1971-1975	105.7	67.6	29.0	37.9	0.3	2.9	17.0	
1976	182.2	142.1	65.6	40.0	0.2	3.1	24.6	
1977	107.7	66.1	19.4	41.5	0.1	1.3	21.5	
1978	99.7	76.2	25.5	23.4	0.2	2.4	18.0	
1979	95.2	72.8	28.8	22.3	0.1	1.9	18.8	
1980	97.8	57.8	23.4	31.8	0.1	2.6	27.0	
1981	86.3	75.6	33.1	3.4	0.0	1.5	25.1	
1982	120.7	80.7	48.9	35.7	0.3	2.5	29.4	
1983	28.9	24.6	7.9	3.6	0.1	1.0	10.1	
1984	47.5	38.1	19.2	5.9	2.3	0.7	9.6	
1985	33.2	29.9	14.1	0.1	0.2	0.5	5.6	
1986	16.6	8.7	5.7	4.1	0.4	0.9	4.1	
1987	9.1	4.5	1.7	1.6	1.2	1.3	2.7	
1988	12.0	6.0	2.9	3.2	0.3	1.6	3.7	
1989	26.8	18.3	12.7	4.6	1.8	2.7	4.3	
1990	18.9	13.5	7.4	1.1	0.4	1.0	8.2	
1991	52.4	41.6	21.0	4.3	3.3	1.3	12.4	
1992	29.5	24.7	9.7	1.0	1.5	1.3	8.8	
1993	16.8	13.4	5.1	0.9	1.0	1.4	7.9	
1994	18.5	15.8	5.0	0.0	0.2	1.9	10.3	
1995	33.8	32.3	16.0	0.0	0.4	1.4	9.1	
1996	33.1	30.3	21.1	1.7	0.9	1.3	7.7	
1997 <sup>c/</sup>	25.2	23.3	11.1	0.0	2.2	3.1	8.7	
<b>GOAL</b>							7.0 <sup>d/</sup>	

a/ Based on Columbia River fall chinook data base, WDFW, unpublished.

b/ Does not include strays to hatcheries below Bonneville Dam. Includes fall chinook tules trapped at Bonneville Dam, 1986-1994.

c/ Preliminary.

d/ Escapement goal was changed from 8,200 to 7,000 fish in 1994.

TABLE B-16. Estimates of inriver run size, catch, and escapement in thousands of Columbia River adult LRH stock fall chinook. (Page 1 of 1)

Year or Average	Harvest					Escapement	
	Inriver Run Size	Treaty Commercial	Non-Indian		Natural	Hatchery <sup>c/</sup>	
			Commercial	Sport <sup>b/</sup>			
1971-1975	175.9	0.0	78.1	5.4	49.2	43.2	
1976	171.0	0.0	63.3	5.3	50.8	51.6	
1977	165.1	0.0	74.5	3.9	44.5	42.2	
1978	166.5	0.0	58.3	5.8	43.2	59.2	
1979	118.7	0.0	43.9	4.0	25.3	45.5	
1980	105.6	0.1	57.0	2.9	20.9	24.6	
1981	94.9	1.0	21.5	2.9	26.5	42.5	
1982	139.5	1.0	47.3	3.9	44.0	42.6	
1983	88.1	0.8	14.9	1.5	33.7	36.5	
1984	102.4	1.4	26.7	8.8	32.0	27.4	
1985	111.0	0.1	17.6	5.3	52.4	35.2	
1986	154.8	0.7	75.3	10.8	26.5	41.3	
1987	344.1	0.6	179.8	32.6	49.6	80.5	
1988	309.9	1.8	178.4	22.0	53.0	53.8	
1989	130.9	0.0	31.0	15.3	45.1	39.3	
1990	60.0	0.2	4.4	6.4	19.4	29.2	
1991	62.7	0.4	7.0	8.3	19.0	27.7	
1992	62.6	0.2	2.7	8.6	24.2	26.5	
1993	52.3	0.2	4.0	6.0	19.6	22.0	
1994	53.6	0.0	0.0	0.2	22.6	30.6	
1995	46.3	0.4	0.0	1.8	13.8	30.3	
1996	75.5	0.4	3.9	4.6	23.9	42.7	
1997 <sup>d/</sup>	56.7	0.0	2.7	7.9	19.5	26.7	

a/ Based on Columbia River fall chinook database, WDFW, unpublished.

b/ Includes tributary catches.

c/ Does not include strays to hatcheries above Bonneville Dam or fish trapped at Bonneville Dam.

d/ Preliminary.

TABLE B-17. <sup>a/</sup> Estimates of inriver run size, catch, and escapement in thousands of **Columbia River adult LRW stock fall chinook.** (Page 1 of 1)

Year or Average	Inriver Run Size	Harvest			Escapement	
		Treaty	Non-Indian		Natural	Hatchery
		Commercial	Commercial	Sport <sup>b/</sup>		
1971-1975	59.7	0.0	27.9	2.1	29.4	0.1
1976	14.9	0.0	6.1	0.6	8.2	0.0
1977	29.8	0.0	14.4	1.1	14.2	0.1
1978	18.5	0.0	7.1	1.1	10.1	0.2
1979	32.8	0.0	12.6	2.0	17.9	0.3
1980	38.8	0.1	18.4	1.3	18.2	0.6
1981	25.0	0.0	1.4	1.1	21.5	0.9
1982	13.0	0.0	1.2	1.0	10.4	0.3
1983	16.8	0.0	0.6	1.5	14.1	0.6
1984	13.3	0.0	2.9	1.7	8.5	0.2
1985	13.3	0.0	3.6	1.3	7.9	0.4
1986	24.5	0.0	10.1	2.0	12.2	0.0
1987	37.9	0.2	16.4	3.6	17.5	0.2
1988	41.7	0.1	19.3	3.4	18.7	0.2
1989	38.6	0.0	6.7	4.9	26.7	0.3
1990	20.3	0.0	0.9	2.4	16.8	0.2
1991	19.9	0.0	6.4	2.1	11.2	0.0
1992	12.5	0.0	2.3	2.3	7.9	0.0
1993	13.4	0.0	1.6	2.8	8.9	0.1
1994	12.2	0.0	0.3	0.9	10.9	0.0
1995	16.0	0.0	0.0	4.0	11.8	0.1
1996	14.6	0.0	0.3	0.2	13.9	0.1
1997 <sup>c/</sup>	13.8	0.0	0.2	1.6	12.0	0.0
<b>GOAL</b>					<b>5.7</b>	

a/ Based on Columbia River fall chinook data base, WDFW, unpublished.

b/ Includes tributary catches.

c/ Preliminary.



TABLE B-18. Estimates of inriver run size, catch, and escapement in thousands of Columbia River adult URB stock fall chinook destined for areas above McNary Dam and the Deschutes River. (Page 1 of 1)

Year or Average	Harvest						Escapement				
	Inriver Run Size	Bonneville Dam Count	Treaty		Non-Indian		Natural Hatchery	McNary Dam Count	Ice Harbor Dam Count	Total Lower Granite Count	Wild Snake River Lower Granite Count
			Commercial and Subsistence	Commercial	Sport <sup>b/</sup>	Commercial					
1971-1975	110.5	80.4	35.1	29.3	3.1	36.8	2.6	39.5	5.6	-	-
1976	115.1	86.6	55.9	28.0	2.1	27.7	1.1	28.8	1.1	0.470	0.470
1977	95.1	65.9	29.0	28.8	0.7	37.0	2.0	37.6	1.2	0.600	0.600
1978	85.3	68.7	32.6	16.3	0.7	25.2	2.1	27.3	1.1	0.640	0.640
1979	89.2	71.2	32.5	17.7	0.5	28.7	2.5	31.2	1.2	0.500	0.500
1980	76.8	69.4	10.8	5.1	0.9	28.8	2.2	29.9	1.2	0.450	0.450
1981	66.6	62.8	14.2	2.4	0.7	23.9	3.0	21.1	0.8	0.340	0.340
1982	79.0	71.8	7.0	4.5	0.2	34.1	3.7	31.1	1.6	0.720	0.720
1983	86.1	78.0	18.1	4.3	0.7	48.3	5.9	48.7	1.8	0.540	0.428
1984	131.4	101.4	35.1	23.7	4.4	47.3	13.9	61.0	1.7	0.640	0.324
1985	196.4	156.6	59.1	34.5	9.1	76.7	14.0	93.3	2.0	0.691	0.438
1986	281.5	214.1	95.8	58.9	11.0	95.8	17.2	113.3	3.1	0.784	0.449
1987	420.7	304.0	125.0	104.3	18.1	126.4	24.8	154.1	6.8	0.951	0.253
1988	339.9	249.7	127.7	79.9	16.6	98.9	11.5	114.7	3.8	0.627	0.368
1989	261.1	211.9	101.0	42.8	12.8	82.8	7.9	96.5	4.6	0.706	0.295
1990	153.4	132.0	60.8	20.8	4.9	48.8	4.8	57.6	3.5	0.385	0.078
1991	102.7	87.3	26.0	13.7	5.9	38.9	3.6	46.6	4.5	0.630	0.318
1992	81.0	74.0	13.9	5.6	4.0	38.8	9.1	51.2	4.6	0.855	0.549
1993	102.9	95.5	20.3	5.3	5.3	49.8	9.9	54.9	2.8	1.170	0.742
1994	132.9	132.8	24.1	0.0	4.8	68.5	14.2	85.9	2.1	0.791	0.406
1995	106.5	105.6	18.7	0.0	5.4	58.5	10.2	68.2	2.8	1.067	0.350
1996	143.2	135.5	29.8	3.7	8.9	59.6	15.9	73.9	3.8	1.308	0.639
1997 <sup>d/</sup>	167.9	157.3	46.4	2.1	8.9	101.7	11.8	66.8	2.8	1.456	0.700
GOAL								40.0 <sup>e/</sup>			

a/ Based on Columbia River fall chinook data base, WDFW, unpublished data. Does not include hatchery URB chinook which were reared and released below McNary Dam.

b/ Includes tributary and main stem catches.

c/ Adjusted for stray hatchery fish.

d/ Preliminary.

e/ FMP goal. In 1990-1993, the CRFMP parties managed for an escapement of 45,000 at McNary Dam to account for increased hatchery brood stock needs and concern for the Snake River wild fall chinook stock in 1991-1993. In 1994 and 1995, inriver fisheries were based on allowable adult wild Snake River fall chinook impacts rather than a McNary Dam escapement goal.

TABLE B-19. Estimates of inriver run size, catch, and escapement in thousands of Columbia River adult MCB stock fall chinook destined for areas below McNary Dam, not including the Deschutes River. <sup>a/</sup> (Page 1 of 1)

Year	Inriver Run Size	Bonneville Dam Count	Harvest				
			Treaty Commercial and Subsistence	Non-Indian		Escapement	
				Commercial	Sport <sup>b/</sup>	Natural	Hatchery
1982	8.8	4.8	2.0	0.7	0.0	0.0	2.9
1983	14.4	8.1	2.7	1.1	0.1	0.0	4.9
1984	11.8	5.1	1.6	3.2	0.2	0.0	3.2
1985	6.1	1.7	1.2	1.7	0.1	0.0	2.8
1986	17.4	8.4	5.9	6.5	0.4	0.3	2.3
1987	57.0	26.1	16.0	24.4	1.4	4.7	6.5
1988	78.0	30.9	21.9	37.9	2.8	5.9	8.5
1989	93.3	32.0	21.9	46.2	3.7	5.0	14.1
1990	59.1	26.5	15.4	17.7	3.1	4.8	14.6
1991	35.9	18.3	6.0	9.1	1.1	4.0	10.3
1992	31.1	16.8	5.1	5.5	1.8	5.8	9.6
1993	27.4	16.7	6.8	4.8	1.4	3.1	7.9
1994	33.7	21.5	4.4	1.2	0.9	10.5	11.4
1995	34.1	23.5	6.2	0.1	2.8	5.6	14.0
1996	59.7	38.1	11.9	5.3	3.4	14.0	15.9
1997 <sup>c/</sup>	57.0	34.1	13.5	2.0	7.5	16.9	15.1

a/ Based on Columbia River fall chinook data base, WDFW, unpublished data. Does not include URB chinook destined for areas above McNary Dam or the Deschutes River.

b/ Includes tributary and main stem catches.

c/ Preliminary.

TABLE B-20. Estimates of minimum inriver run size, catch, and escapement in thousands of adult coho entering the Columbia River.<sup>a/</sup> (Page 1 of 1)

Year or Average	Minimum Inriver Run Size	Below Bonneville Dam					Above Bonneville Dam			
		Lower River Catch <sup>b/</sup>			Lower River Escapement		Bonneville Dam Counts <sup>c/</sup>	Mainstem Commercial Treaty Catch	Zone 6 Escapement <sup>f/</sup>	Hatchery Escapement
		Commercial	Buoy 10	Mainstem	Hatchery <sup>d/</sup>	Tributary Dam Counts <sup>e/</sup>				
1971-1975	373.4	199.4	-	11.8	117.1	9.5	35.6	9.1	26.6	11.6
1976	337.0	168.4	-	11.1	117.3	3.5	36.7	4.0	32.7	14.4
1977	93.8	39.0	-	6.2	37.1	2.2	9.3	1.0	8.3	2.0
1978	307.1	132.7	-	9.7	131.4	2.9	30.3	3.7	26.6	7.8
1979	275.1	127.6	-	12.3	101.2	4.4	29.6	3.9	25.7	7.5
1980	301.6	150.1	-	11.2	122.2	5.1	13.0	0.3	12.7	3.4
1981	170.3	59.8	-	7.7	77.9	2.8	21.9	1.8	20.1	9.2
1982	453.1	201.7	18.9	17.6	154.1	5.0	55.8	4.3	51.5	32.4
1983	100.5	7.1	3.6	5.2	73.6	2.5	13.6	0.2	13.4	2.2
1984	414.2	201.5	74.4	15.6	101.6	4.2	25.5	1.6	23.9	7.1
1985	366.2	190.0	25.4	10.5	94.2	7.5	38.6	5.2	33.4	11.5
1986	1,527.8	981.0	120.4	24.9	284.1	8.9	129.0	16.8	112.2	29.4
1987	307.6	165.2	47.2	6.9	66.1	4.2	20.3	2.3	18.0	8.6
1988	664.8	361.4	143.4	12.3	113.6	6.9	30.0	5.1	24.8	4.9
1989	701.6	387.3	78.7	18.5	183.3	6.4	32.3	2.5	29.8	11.4
1990	196.1	66.2	18.4	10.1	87.8	2.0	11.6	1.0	10.6	3.0
1991	934.3	407.5	207.5	31.6	223.3	5.5	58.9	6.7	53.7	18.0
1992	210.9	54.1	43.1	9.0	85.1	5.2	14.4	1.0	14.4	5.2
1993	113.9	35.6	20.9	6.9	39.1	0.8	10.6	0.9	9.3	1.7
1994	168.9	60.7	1.8	5.7	77.7	4.1	20.3	1.0	19.3	3.9
1995	74.0	21.4	5.0	2.9	31.5	2.9	10.4	0.3	10.1	1.5
1996	111.3	26.0	4.5	4.1	60.1	0.6	15.7	0.1	15.6	1.4
1997 <sup>g/</sup>	140.5	20.9	20.4	3.8	68.7	2.8	23.9	0.6	23.3	4.4

a/ These numbers match OPI data bases. Adjustments were made to the escapement figures and catches.

b/ Includes some upriver origin coho. Mainstem recreational catches listed in this table include tributary catches and catches in the Chinook/Hammond area of 3,200 in 1989 and 1,200 in 1991.

c/ Includes additional small adults counted as jacks for 1983-1984 and 1986-1989.

d/ Includes hatcheries operated by all agencies.

e/ Willamette Falls, Clackamas River (North Fork Dam) and Sandy River (Marmot Dam).

f/ Bonneville Dam count minus Zone 6 main stem commercial treaty Indian harvest.

g/ Preliminary.



TABLE B-21. Estimated catch and effort in the Buoy 10 fishery.<sup>a/</sup> (Page 1 of 1)

Year	Angler Trips	Catch		Catch Per Trip
		Chinook	Coho	
1982	17,336	723	18,857	1.13
1983	7,128	604	3,574	0.59
1984	67,365	12,177	74,370	1.28
1985	32,156	2,655	25,387	0.87
1986	102,190	15,600	120,422	1.33
1987	124,594	42,100	47,170	0.72
1988	186,051	30,770	143,417	0.94
1989 <sup>b/</sup>	160,692	16,884	85,110	0.63
1990 <sup>c/</sup>	79,636	5,179	18,429	0.30
1991 <sup>d/</sup>	171,680	11,647	208,638	1.28
1992	115,481	10,655	43,082	0.47
1993	75,774	5,288	20,932	0.35
1994 <sup>e/</sup>	9,253	0	1,795	0.19
1995 <sup>f/</sup>	25,186	853	5,026	0.23
1996 <sup>g/</sup>	18,034	1,409	4,537	0.33
1997	55,725	13,153	20,357	0.60

- a/ Prior to 1982, Buoy 10 area catches were not estimated separately and are included in the Columbia River marine area (Cape Falcon to Leadbetter Pt.) recreational catches. Estimates include bank anglers fishing from Clatsop Spit in Oregon and from the north jetty in Washington. Effort and catch for the North Jetty fishery applied to the ocean quota for the Columbia River area until the ocean fishery closed.
- b/ Includes catch and effort data for the Chinook/Hammond fishery occurring during weeks 32 and 33. A total of 7,922 angler trips produced catches of 492 chinook and 3,195 coho and a catch rate of 0.47 fish per trip. Catches in this fishery were counted against the Buoy 10 quota.
- c/ Includes catch and effort data for the Chinook/Hammond fishery occurring during weeks 31 and 32. A total of 3,225 angler trips produced catches of 54 chinook and 28 coho and a catch rate of 0.03 fish per trip.
- d/ Includes catch and effort data for the Chinook/Hammond fishery occurring during weeks 31 and 32. A total of 2,759 angler trips produced catches of 39 chinook and 1,151 coho and a catch rate of 0.43 fish per trip.
- e/ Buoy 10 fishery did not open until September 17 and the fishery was closed to the retention of chinook through October 7.
- f/ Buoy 10 fishery was closed to the retention of chinook through September 4. Over 246 chinook were caught illegally.
- g/ Buoy 10 fishery was closed to the retention of chinook through August 29.

TABLE B-22. Willapa Bay fall chinook terminal run size, catch, and spawning escapement in numbers of fish. (Page 1 of 1)

Year or Average	Non-local Stocks Gillnet Catch <sup>a/</sup>	Terminal Catch		Spawning Escapement		Terminal Run Size <sup>b/</sup>
		Gillnet	Sport <sup>c/</sup>	Natural <sup>d/</sup>	Hatchery	
<b>CHINOOK (thousands)</b>						
1976-1980	8.1	14.7	0.4	3.2	5.6	23.9
1981-1985	0.9	7.4	0.6	3.4	6.1	17.5
1986-1990	2.4	18.2	1.6	13.2	14.6	47.6
1981	3.2	13.7	0.3	2.8	4.2	21.0
1982	0.7	8.8	0.6	2.7	4.6	16.7
1983	0.1	2.3	0.9	3.1	6.2	12.5
1984	0.4	3.7	0.2	5.4	9.5	18.7
1985	0.2	8.6	0.9	3.2	6.1	18.8
1986	0.5	7.1	1.0	3.0	7.7	18.8
1987	0.5	7.6	1.2	5.9	21.7	36.4
1988	5.6	33.0	2.6	18.0	17.4	71.0
1989	3.6	24.6	2.0	26.4	17.6	70.4
1990	1.9	18.9	1.1	12.5	8.7	41.2
1991	1.7	25.6	1.9	7.5	11.5	46.2
1992	1.2	36.7	2.2	13.1	12.2	64.1
1993	0.6	31.2	4.8	6.3	12.5	54.9
1994	0.0	21.9	2.8	4.8	11.1	40.6
1995	0.0	25.5	2.9	10.2	10.4	49.0
1996 <sup>e/</sup>	0.0	37.1	2.0	6.3	7.7	53.1
1997 <sup>e/</sup>	0.0	12.3	NA	11.0	6.0	NA
<b>GOAL</b>				<b>4.4</b>	<b>8.2</b>	

a/ Non-local gillnet is catch in Area 2G prior to Aug. 16.

b/ Does not include non-local stocks catch.

c/ Adults. Sport catch since 1991 includes marine areas within Willapa Bay (e.g., Washaway Beach).

d/ Includes hatchery strays to natural spawning areas. Escapement estimates after 1984 are based on revised spawning habitat estimates.

e/ Preliminary.

TABLE B-23. Willapa Bay coho terminal run size, catch, and spawning escapement in numbers of fish.  
(Page 1 of 1)

Year or Average	Gillnet	Sport <sup>a/</sup>	Natural <sup>b/</sup>	Hatchery <sup>c/</sup>	Terminal <sup>d/</sup> Run Size
<b>COHO (thousands)</b>					
1976-1980	15.0	1.5	4.8	12.2	33.6
1981-1985	39.0	2.2	2.1	26.6	69.9
1986-1990	69.6	2.6	e/	36.1	108.3
1981	30.0	0.7	7.5	22.9	61.1
1982	70.0	3.6	2.1	33.4	109.1
1983	9.0	2.1	1.1	18.6	30.8
1984	50.7	2.9	e/	33.4	87.0
1985	35.3	1.5	e/	24.9	61.7
1986	118.6	5.7	e/	73.5	197.8
1987	63.8	2.0	e/	21.8	87.6
1988	49.4	2.4	e/	30.3	82.1
1989	68.4	1.7	e/	31.0	101.1
1990	48.0	1.2	e/	23.7	72.9
1991	95.5	6.3	e/	62.3	164.2
1992	10.8	2.0	e/	15.4	28.1
1993	19.8	1.9	e/	12.4	34.1
1994	11.7	2.3	e/	15.6	29.6
1995	33.6	1.7	e/	30.1	65.4
1996 <sup>f/</sup>	38.3	2.3 <sup>g/</sup>	30.2	48.9	89.5
1997 <sup>f/</sup>	1.5	NA	7.2	6.4	NA
<b>GOAL</b>			<b>Hatchery Production</b>		

a/ Adults. Sport catch since 1991 includes marine areas within Willapa Bay (e.g., Washaway Beach).

b/ Natural spawning escapement estimates in 1996 and 1997 include adult fish released upstream of hatchery racks.

c/ Hatchery rack number includes fish put upstream.

d/ Does not include natural spawning escapement after 1983.

e/ Estimates of natural spawning escapement were not made 1984 - 1995.

f/ Preliminary.

g/ Marine catch estimate not included, data not yet available.



TABLE B-24. Grays Harbor chinook terminal run size, catch, and spawning escapement in numbers of fish. (Page 1 of 2)

Year or Average	Early Non-local Catch	Terminal Catch			Spawning Escapement			Terminal Run Size <sup>d/</sup>
		Gillnet Non-Indian	Gillnet Treaty	Chehalis Tribal Gillnet	Sport <sup>a/</sup>	Natural <sup>b/</sup>	Hatchery <sup>c/</sup>	
<b>SPRING CHINOOK (thousands)</b>								
1976-1980	-	-	-	0.6	e/	0.6	-	1.2
1981-1985	-	-	-	0.1	e/	0.9	-	1.0
1986-1990	-	-	-	0.2	e/	2.0	-	2.2
1981	-	-	-	0.3	e/	0.6	-	0.9
1982	-	-	-	0.1	e/	0.6	-	0.7
1983	-	-	-	0.1	-	0.8	-	0.9
1984	-	-	-	-	e/	1.1	-	1.1
1985	-	-	-	-	e/	1.2	-	1.2
1986	-	-	-	e/	e/	2.0	-	2.0
1987	-	-	e/	0.2	e/	0.9	-	1.1
1988	-	-	-	0.1	e/	3.5	-	3.6
1989	-	-	e/	0.3	e/	2.1	-	2.4
1990	-	-	-	0.1	e/	1.5	-	1.6
1991	-	-	-	0.2	e/	1.3	-	1.5
1992	-	-	-	e/	e/	1.7	-	1.7
1993	-	-	-	0.1	e/	1.3	-	1.4
1994	-	-	-	0.1	e/	1.4	-	1.5
1995	-	-	-	0.1	-	2.1 <sup>h/</sup>	-	2.2
1996 <sup>f/</sup>	-	-	g/	0.1	e/	4.5 <sup>h/</sup>	-	4.6
1997 <sup>f/</sup>	-	-	g/	0.2	0.1	NA	-	NA
<b>GOAL</b>						1.4		

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TABLE B-24. Grays Harbor chinook terminal run size, catch, and spawning escapement in numbers of fish. (Page 2 of 2)

Year or Average	Terminal Catch				Spawning Escapement			Terminal Run Size <sup>d/</sup>
	Early Non-local Catch	Gillnet Non-Indian	Gillnet Treaty	Chehalis Tribal Gillnet	Sport <sup>a/</sup>	Natural <sup>b/</sup>	Hatchery <sup>c/</sup>	
<b>FALL CHINOOK (thousands)</b>								
1976-1980	4.4	1.8	3.1	1.0	1.1	6.5	0.3	13.9
1981-1985	0.6	0.8	3.5	0.5	0.3	9.8	0.8	15.7
1986-1990	0.4	4.6	10.4	0.6	1.5	20.7	0.9	38.7
1981	1.6	0.6	3.5	0.7	0.2	7.6	0.8	13.4
1982	0.6	3.1	4.6	0.7	0.2	5.6	0.4	14.6
1983	0.1	0.1	3.3	0.3	0.1	5.5	0.6	9.9
1984	0.5	0.2	0.9	0.3	0.4	21.0	0.9	23.7
1985	0.1	0.1	5.3	0.3	0.6	9.5	1.1	16.9
1986	0.2	2.2	5.4	0.3	0.4	13.7	1.3	23.3
1987	0.3	3.1	9.7	0.2	0.8 <sup>i/</sup>	18.8	2.0	34.6 <sup>i/</sup>
1988	0.7	3.5	4.9	0.8	2.0 <sup>i/</sup>	28.2	0.3	39.7 <sup>i/</sup>
1989	0.4	8.0	18.5	1.0	2.1 <sup>i/</sup>	25.7	0.7	56.0 <sup>i/</sup>
1990	0.3	6.3	13.5	0.6	2.0 <sup>i/</sup>	17.0	0.5	39.8 <sup>i/</sup>
1991	0.2	6.0	8.0	0.6	3.7 <sup>i/</sup>	14.4	0.5	33.2 <sup>i/</sup>
1992	0.2	5.6	6.6	0.9	2.1 <sup>i/</sup>	16.9	1.1	33.2 <sup>i/</sup>
1993	e/	5.8	8.8	1.6	3.5 <sup>i/</sup>	13.3	0.9	33.9 <sup>i/</sup>
1994	-	3.7	7.9	0.7	3.6 <sup>i/</sup>	14.3	0.8	31.0 <sup>i/</sup>
1995	-	5.1	7.4	0.7	5.4 <sup>i/</sup>	12.7	0.4	31.8 <sup>i/</sup>
1996 <sup>f/</sup>	-	1.4	7.1	e/	5.7 <sup>i/</sup>	20.2	0.7	35.2 <sup>i/</sup>
1997 <sup>f/</sup>	-	2.7	6.6	0.3	NA	NA	0.5	NA
GOAL						14.6		

a/ Age-3 and older.

b/ Age-3 and older, including hatchery fish spawning naturally.

c/ Includes naturally spawning fish taken for broodstock.

d/ Minimum estimate due to incomplete estimates of river recreational catch. Not including non-local catch.

e/ Less than 50 fish.

f/ Preliminary.

g/ WDFW does not include July catches in spring chinook total while the Quinault Indian Nation does. For 1996, the WDFW estimate of spring chinook catch is 12; the Quinault estimate is 151. For 1997, the WDFW estimate is 38; the Quinault estimate is 72.

h/ WDFW believes this includes a significant number of fall chinook.

i/ Recreational catch estimates by WDFW reflect application of punch card bias correction factor of 0.833. Quinault Indian Nation does not believe this factor is appropriate for this fishery. Unadjusted catch estimates are 1,000 for 1987; 2,400 for 1988; 2,500 for 1989; 2,400 for 1990; 4,500 for 1991; 2,600 for 1992; 4,200 for 1993; 4,300 for 1994; 6,500 for 1995 and 6,800 for 1996; terminal run sizes would be adjusted accordingly.

TABLE B-25. Grays Harbor coho terminal run size, catch, and spawning escapement estimates in numbers of fish.  
(Page 1 of 1)

Year or Average	Gillnet Catch			Sport Catch (Adults)	Spawning Escapement		Terminal Run Size
	Non-Indian	Treaty	Chehalis River Tribal		Natural <sup>a/</sup>	Hatchery <sup>a/</sup>	
<b>COHO (thousands)</b>							
1976-1980	5.2	9.8	3.5	2.5	29.5	9.4	59.9
1981-1985	5.2	15.6	2.9	4.9	36.7	14.4	79.7
1986-1990	7.7	30.1	1.8	5.3	44.8	26.4	116.2
1981	3.0	24.8	3.2	0.9	13.0	19.9	64.7
1982	17.4	26.0	6.0	3.9	18.1	10.1	81.7
1983	1.8	11.5	0.8	1.8	25.3	12.2	54.0
1984	3.2	6.6	3.4	16.3	105.2	24.4	159.1
1985	0.5	9.2	0.9	1.4	22.0	5.2	39.2
1986	12.5	36.6	1.9	6.2	36.9	33.9	128.0
1987	17.3	30.6	3.5	3.2 <sup>b/</sup>	23.0	11.7	89.4
1988	3.5	20.1	0.5	5.7 <sup>b/</sup>	61.9	39.4	131.1
1989	1.3	23.3	1.7	4.8 <sup>b/</sup>	56.7	25.4	113.3
1990	4.0	40.0	1.5	6.7 <sup>b/</sup>	45.6	21.7	119.3
1991	47.8	68.9	8.1	23.8 <sup>b/</sup>	64.3	76.1	289.0
1992	0.7	14.1	1.1	4.3 <sup>b/</sup>	32.9	8.7	61.8
1993	4.4	15.9	1.3	6.4 <sup>b/</sup>	25.5	14.1	67.6
1994	0.7	8.6	0.9	1.8 <sup>b/</sup>	12.4	14.4	38.8
1995	9.5	38.4	2.1	9.7 <sup>b/</sup>	47.4	35.4	142.5
1996 <sup>c/</sup>	10.1	51.8	2.9	5.8 <sup>b/</sup>	63.6	46.6	180.7
1997 <sup>c/</sup>	0.1	5.4	0.1	NA	NA	5.4	NA
<b>GOAL</b>					<b>35.4</b>		

a/ "Natural" includes hatchery fish spawning in wild. "Hatchery" includes wild fish taken for broodstock.

b/ Beginning in 1987, estimates provided by WDFW for recreational catch reflect punch card bias correction factor. Quinault Indian Nation does not believe this factor is appropriate. Unadjusted estimates are 3,900 for 1987; 6,800 for 1988; 5,800 for 1989; 8,000 for 1990; 28,600 for 1991; 5,100 for 1992; 7,600 for 1993; 2,100 for 1994; 11,700 for 1995; and 2,142 for 1996. Terminal run sizes would be adjusted accordingly.

c/ Preliminary.



TABLE B-26. Treaty Indian gillnet catch of chinook, chum, and sockeye in the Quinault River in numbers of fish. (Page 1 of 1)

Year or Average	Spring/Summer Chinook <sup>a/</sup>	Fall Chinook <sup>a/</sup>	Chum	Sockeye
1976-1980	149	4,320	7,960	17,560
1981-1985	114	5,100	4,720	12,600
1986-1990	338	8,822	4,686	11,218
1976	98	6,293	2,505	9,523
1977	52	3,200	7,400	14,800
1978	51	600	3,600	30,500
1979	163	6,900	13,700	21,000
1980	299	6,500	3,200	4,700
1981	178	4,400	11,900	16,800
1982	148	5,300	4,500	21,700
1983	146	5,500	7,400	15,300
1984	45	4,400	3,700	400
1985	118	5,500	4,300	900
1986	115	4,800	3,700	24,700
1987	115	6,700	7,100	1,900
1988	346	12,220	3,486	24,347
1989	437	9,801	8,623	18,186
1990	530	10,108	2,563	2,691
1991	260	5,282	1,660	8,965
1992	109	6,304	2,565	5,566
1993	142	7,512	2,566	8,801
1994	126	6,695	5,259	32,077
1995	85	6,878	1,449	963
1996	26	4,076	687	207
1997 <sup>b/</sup>	41	5,221	591	1,244

a/ Preliminary. Stock separation under review.

b/ Preliminary.

TABLE B-27. Estimated inriver run size, catch, and escapement for **Quinault River coho** in numbers of fish. (Page 1 of 1)

Year or Average	Terminal Catch <sup>a/</sup>			Escapement		Terminal Run Size		
	Gillnet	Ceremonial & Subsistence	River Sport	Natural	Hatchery	Natural	Hatchery	Total
1977-1980	9,750	NA	NA	3,425	2,875	8,475	7,475	15,950
1981-1985	10,700	NA	NA	4,220	6,300	7,800	13,420	21,220
1986-1989	13,777	NA	NA	3,177	4,239	7,101	13,206	20,307
1990-1995	7,963	NA	NA	4,319	8,046	6,205	13,472	19,678
1977	1,900	-	-	1,500	300	3,000	600	3,600
1978	6,900	-	-	2,500	1,600	6,600	4,200	10,800
1979	17,800	-	-	7,200	4,700	18,000	11,700	29,700
1980	12,400	-	-	2,500	4,900	6,300	13,400	19,700
1981	10,400	-	-	2,200	7,300	4,500	15,400	19,900
1982	11,000	-	-	7,200	4,900	14,400	8,700	23,100
1983	3,700	-	-	7,000	6,400	9,000	8,100	17,100
1984	21,100	-	-	3,200	9,800	7,800	26,200	34,000
1985	7,300	-	-	1,500	3,100	3,300	8,700	12,000
1986	24,382	-	-	4,780	4,907	11,483	21,332	32,815
1987	13,987	-	-	2,167	1,431	8,419	8,801	17,220
1988	12,757	-	-	1,194	6,156	2,282	16,582	18,864
1989	8,989	-	-	4,443	3,964	7,993	8,526	16,519
1990	8,770	-	-	3,301	4,738	5,329	10,787	16,116
1991	21,506	-	-	9,250	22,531	13,166	38,517	51,683
1992	5,214	-	-	4,617	4,855	6,682	7,771	14,453
1993	6,020	-	-	1,940	5,688	3,077	10,057	13,134
1994	1,564	-	-	820	1,299	1,278	2,047	3,325
1995	5,513	-	-	4,969	5,858	6,824	8,970	15,794
1996	10,083	-	-	5,526	9,149	8,764	13,519	22,283
1997 <sup>b/</sup>	365	-	-	4,351	945	4,580	992	5,572
GOAL				Hatchery Production				

a/ Ceremonial, subsistence, and recreational catch negligible. Includes dip-in fish destined for other river systems.  
 b/ Preliminary.

TABLE B-28. Estimated inriver run size, catch, and escapement for **Queets River spring/summer chinook** in numbers of fish. (Page 1 of 1)

Year or Average	Terminal Catch			Escapement		Terminal Run Size		
	Gillnet	Ceremonial & Subsistence	River Sport <sup>a/</sup>	Natural <sup>b/</sup>	Hatchery	Natural	Hatchery	Total
1976-1980	267	18	53	851	24	1,176	37	1,213
1981-1985	243	20	27	890	31	1,164	44	1,209
1986-1990	646	46	673	1,527	0	2,287	0	2,287
1991-1995	64	5	108	610	0	689	0	688
1976	160	11	61	505	0	737	0	737
1977	364	25	34	732	0	1,155	0	1,155
1978	229	16	51	1,110	0	1,406	0	1,406
1979	475	31	60	870	118	1,369	185	1,554
1980	108	8	59	1,038	0	1,213	0	1,213
1981	299	20	22	988	0	1,329	0	1,329
1982	495	35	6	781	119	1,244	180	1,424
1983	104	9	20	1,044	38	1,173	42	1,215
1984	150	18	63	958	0	1,189	0	1,189
1985	165	19	25	677	0	886	0	886
1986	201	22	45	925	0	1,193	0	1,193
1987	858	59	284	598	0	1,543	0	1,543
1988	391	34	774	1,765	0	2,267	0	2,267
1989	1,181	76	1,291	2,568	0	3,954	0	3,954
1990	601	41	582	1,780	0	2,480	0	2,480
1991	112	9	104	630	0	761	0	761
1992	104	11	154	375	0	505	0	5,056
1993	46	3	26	713	0	788	0	788
1994	21	1	0	705	0	727	0	725
1995	35	2	0	625	0	662	0	662
1996	43	3	23	758	0	827	0	827
1997 <sup>c/</sup>	72	10	22	704	0	808	0	808
GOAL				700 <sup>d/</sup>				

a/ Recreational catch of adults.

b/ Natural escapement includes hatchery strays.

c/ Preliminary.

d/ Minimum. Terminal run managed at 30% harvest rate.



TABLE B-29. Estimated inriver run size, catch, and escapement for **Queets River fall chinook** in numbers of fish.  
(Page 1 of 1)

Year or Average	Terminal Catch			Escapement		Terminal Run Size		
	Gillnet	Ceremonial & Subsistence	River Sport <sup>a/</sup>	Natural <sup>b/</sup>	Hatchery	Natural	Hatchery	Total
1976-1980	1,540	100	36	2,820	0	4,320	0	4,320
1981-1985	2,104	20	135	3,720	360	5,691	591	6,282
1986-1990	2,428	20	214	8,298	619	10,677	861	11,538
1991-1995	1,848	20	109	3,849	407	5,511	708	6,219
1976	1,300	NA	20	1,200	0	2,500	0	2,500
1977	2,000	NA	20	3,600	0	5,500	0	5,500
1978	900	NA	100	2,200	0	3,100	0	3,100
1979	900	100	20	3,900	0	4,700	0	4,700
1980	2,600	NA	20	3,200	0	5,800	0	5,800
1981	3,800	NA	100	4,300	100	8,000	200	8,200
1982	2,300	NA	200	4,100	200	6,200	400	6,600
1983	1,300	20	200	2,600	300	3,800	600	4,400
1984	1,600	20	100	3,900	600	5,300	1,000	6,300
1985	1,518	20	74	3,702	598	5,153	757	5,910
1986	965	20	194	7,805	239	8,890	290	9,180
1987	3,851	20	175	6,504	203	10,045	593	10,638
1988	2,556	20	333	8,390	1,254	11,000	1,505	12,505
1989	2,519	20	200	8,689	785	11,154	1,059	12,213
1990	2,247	20	169	10,103	616	12,297	858	13,155
1991	1,511	20	116	4,486	459	5,888	705	6,593
1992	1,693	20	106	4,695	366	6,338	542	6,880
1993	1,787	20	253	3,383	230	5,107	560	5,667
1994	2,441	20	18	3,805	578	5,866	988	6,854
1995	1,809	20	54	2,876	401	4,357	746	5,103
1996	1,308	20	109	4,163	672	5,340	906	6,246
1997 <sup>c/</sup>	1,708	20	99	2,944	924	4,500	1,180	5,680
<b>GOAL</b>						2,500 <sup>d/</sup>		

a/ Recreational catch of 3-year olds and older.

b/ Includes fish taken for hatchery brood stock.

c/ Preliminary. Escapement and run size estimates based on inseason data.

d/ Minimum. Terminal run managed at 40% harvest rate.

TABLE B-30. Estimated inriver run size, catch, and escapement for **Queets River coho** in numbers of fish. (Page 1 of 1)

Year or Average	Terminal Catch <sup>a/</sup>			Escapement		Terminal Run Size		
	Gillnet	Ceremonial & Subsistence	River Sport <sup>b/</sup>	Natural <sup>c/</sup>	Hatchery	Natural	Hatchery	Total
1976-1980	2,440	60	140	3,460	1,000	5,100	1,640	6,740
1981-1985	2,385	20	104	5,457	2,654	6,414	3,794	10,208
1986-1990	8,453	20	241	4,772	4,607	6,319	11,099	17,418
1991-1995	4,416	50	312	5,019	4,114	5,888	7,802	13,690
1976	2,900	NA	100	1,200	100	4,100	300	4,400
1977	1,000	NA	100	1,900	300	2,600	500	3,100
1978	2,400	NA	100	2,700	600	4,100	900	5,000
1979	2,700	100	200	6,800	1,600	8,700	2,100	10,800
1980	3,200	20	200	4,700	2,400	6,000	4,400	10,400
1981	4,200	NA	200	4,800	2,400	6,100	4,500	10,600
1982	1,610	NA	100	7,000	4,500	7,800	5,400	13,200
1983	1,017	20	20	2,282	1,100	2,438	1,800	4,238
1984	1,314	20	20	9,200	4,042	9,748	4,400	14,148
1985	3,782	20	180	4,001	1,228	5,984	2,868	8,852
1986	9,885	20	49	5,160	3,654	5,826	11,441	17,267
1987	12,413	20	140	4,747	2,401	8,892	9,774	18,666
1988	5,400	20	255	4,288	8,644	4,530	13,659	18,189
1989	5,900	20	247	4,501	2,565	5,478	7,636	13,114
1990	8,667	20	514	5,163	5,769	6,868	12,984	19,852
1991	10,342	20	709	6,525	4,129	8,574	12,441	21,015
1992	2,049	20	363	6,266	2,324	6,999	3,921	10,920
1993	3,896	150	367	5,020	8,146	5,350	12,145	17,495
1994	1,611	30	18	1,105	2,996	1,242	4,398	5,640
1995	4,184	30	102	6,181	2,977	7,273	6,105	13,378
1996	16,035	20	623	6,530	5,208	8,271	19,690	27,961
1997 <sup>d/</sup>	3,087	20	121	3,648	907	3,872	4,228	8,100
<b>GOAL</b>				<b>5,800-14,500</b>				

a/ Includes dip-in fish from other systems.

b/ Recreational catch of adults (coho over 20 inches).

c/ Natural escapement and run size estimates include fish taken for hatchery brood stock.

d/ Preliminary.

TABLE B-31. Estimated inriver run size, catch, and escapement for Hoh River spring/summer chinook in numbers of fish. (Page 1 of 1)

Year or Average	Terminal Catch			Escapement		Terminal Run Size		
	Gillnet	Ceremonial & Subsistence	River <sup>a/</sup> Sport	Natural <sup>b/</sup>	Hatchery	Natural	Hatchery	Total
1976-1980	640	52	84	1,040	0	1,835	0	1,835
1981-1985	448	30	124	1,431	50	1,944	128	2,073
1986-1990	1,072	33	328	2,829	34	4,052	257	4,309
1991-1995	432	22	286	1,268	0	1,971	164	2,135
1976	500	20	100	600	0	1,300	0	1,300
1977	900	20	20	1,000	0	2,000	0	2,000
1978	1,000	100	100	1,400	0	2,472	0	2,472
1979	700	100	100	1,400	0	2,326	0	2,326
1980	100	20	100	800	0	1,079	0	1,079
1981	432	63	20	1,498	22	2,005	47	2,052
1982	569	15	100	1,553	87	2,125	202	2,327
1983	458	36	100	1,696	67	2,233	131	2,364
1984	444	21	300	1,430	50	2,005	139	2,144
1985	336	15	100	978	22	1,353	123	1,476
1986	554	15	138	1,248	0	1,912	43	1,955
1987	676	38	227	1,710	0	2,480	171	2,651
1988	1,008	38	341	2,605	10	3,712	294	4,006
1989	1,735	38	565	4,697	119	6,863	334	7,197
1990	1,387	38	371	3,886	40	5,294	442	5,736
1991	600	13	155	1,078	0	1,693	153	1,846
1992	445	26	84	1,018	0	1,406	167	1,573
1993	509	25	373	1,411	0	2,077	242	2,319
1994	378	20	419	1,699	0	2,361	155	2,516
1995	230	25	397	1,132	0	2,319	102	2,421
1996	471	40	400	1,371	16	1,792	116	1,908
1997 <sup>c/</sup>	416	57	350	2,600	0	3,325	98	3,423
GOAL				9,000 <sup>d/</sup>				

a/ Recreational catch of adults.

b/ Includes fish taken for hatchery brood stock.

c/ Preliminary.

d/ Minimum. Terminal run managed at 31% harvest rate.



TABLE B-32. Estimated inriver run size, catch, and escapement for Hoh River fall chinook in numbers of fish. (Page 1 of 1)

Year or Average	Terminal Catch			Escapement		Terminal Run Size		
	Gillnet	Ceremonial & Subsistence	River Sport <sup>a/</sup>	Natural <sup>b/</sup>	Hatchery	Natural	Hatchery	Total
1976-1980	760	36	37	2,080	0	2,960	0	2,960
1981-1985	849	36	59	2,745	16	3,684	80	3,764
1986-1990	1,979	32	200	4,500	20	6,800	88	6,888
1991-1995	871	27	220	2,774	3	3,843	65	3,908
1976	500	20	45	2,500	0	3,100	0	3,100
1977	1,600	20	40	2,100	0	3,800	0	3,800
1978	800	100	51	1,900	0	2,900	0	2,900
1979	400	20	28	1,700	0	2,200	0	2,200
1980	500	20	21	2,200	0	2,800	0	2,800
1981	800	20	0	3,100	0	4,000	0	4,000
1982	1,200	20	12	4,500	20	5,800	100	5,900
1983	500	20	134	2,500	20	3,300	100	3,400
1984	800	20	118	1,900	20	2,600	100	2,700
1985	946	100	30	1,725	20	2,720	100	2,820
1986	900	20	178	4,981	20	6,000	100	6,100
1987	1,800	20	299	4,006	20	6,147	89	6,236
1988	2,600	20	188	4,128	20	6,873	100	6,973
1989	2,700	50	187	5,148	20	8,682	100	8,782
1990	1,893	50	149	4,236	20	6,298	50	6,348
1991	1,076	15	113	1,420	13	2,611	13	2,624
1992	940	30	181	4,003	0	5,136	18	5,154
1993	1,148	30	399	2,280	0	3,766	91	3,857
1994	687	30	228	3,967	0	4,806	179	4,985
1995	502	30	180	2,202	0	2,898	22	2,920
1996	836	30	520	3,022	0	4,213	95	4,308
1997 <sup>c/</sup>	1,114	35	350	1,771	0	3,248	22	3,270
GOAL				1,200 <sup>d/</sup>				

a/ River recreational catch of three-year olds and older.

b/ Includes fish taken for hatchery brood stock.

c/ Preliminary.

d/ Minimum. Terminal run managed at 40% harvest rate.

TABLE B-33. Estimated inriver run size, catch, and escapement for Hoh River coho in numbers of fish. (Page 1 of 1)

Year or Average	Terminal Catch <sup>a/</sup>			Escapement		Terminal Run Size		
	Gillnet	Ceremonial & Subsistence	River <sup>b/</sup> Sport	Natural <sup>c/</sup>	Hatchery	Natural	Hatchery	Total
1976-1980	1,960	74	28	2,700	39	4,683	259	4,942
1981-1985	1,604	48	22	3,371	92	4,655	452	5,107
1986-1990	2,507	30	162	3,145	238	5,218	760	5,979
1991-1995	801	26	167	3,078	122	3,815	379	4,194
1976	1,800	50	44	2,300	0	4,200	0	4,200
1977	1,000	30	6	2,400	0	3,400	0	3,400
1978	2,800	125	20	2,100	0	5,100	0	5,100
1979	2,900	100	47	5,000	93	8,200	593	8,793
1980	1,300	65	23	1,700	100	2,515	700	3,215
1981	2,073	40	7	1,900	100	3,245	875	4,120
1982	2,000	100	6	3,600	100	5,351	319	5,670
1983	152	10	9	1,735	260	1,810	346	2,156
1984	351	46	9	7,400	0	7,690	116	7,806
1985	3,444	43	79	2,218	0	5,178	606	5,784
1986	2,800	42	385	4,270	0	6,400	795	7,195
1987	3,917	50	239	3,516	46	7,165	557	7,722
1988	350	20	39	2,350	611	2,639	731	3,370
1989	2,350	20	106	3,497	351	5,428	720	6,148
1990	3,119	20	42	2,094	184	4,460	999	5,459
1991	1,254	20	276	4,129	14	5,370	323	5,693
1992	1,420	30	107	4,045	594	5,007	1,189	6,196
1993	709	30	90	1,345	0	1,874	300	2,174
1994	144	20	123	1,161	0	1,404	44	1,448
1995 <sup>d/</sup>	478	30	241	4,710	0	5,419	40	5,459
1996 <sup>d/</sup>	972	50	44	4,858	0	5,778	146	5,924
1997 <sup>d/</sup>	77	25	10	1,594	0	1,635	71	1,706

GOAL

2,000 to 5,000

a/ Includes dip-in fish from other systems.

b/ Recreational catch of adults (coho over 20 inches).

c/ Natural escapement and run size estimates include fish taken for hatchery brood stock.

d/ Preliminary.

TABLE B-34. Estimated inriver run size, catch, and escapement for Quillayute River spring/summer chinook in numbers of fish. (Page 1 of 1)

Year or Average	Terminal Catch			Escapement		Terminal Run Size		
	Gillnet	Ceremonial & Subsistence	River Sport <sup>a/</sup>	Natural <sup>b/</sup>	Hatchery	Natural	Hatchery <sup>c/</sup>	Total
1976-1980	2,520	20	380	2,080	800	3,020	2,780	5,800
1981-1985	700	20	124	920	260	1,580	480	2,060
1986-1990	1,657	22	256	1,278	1,003	2,094	2,096	4,191
1991-1995	894	25	264	1,113	827	1,319	1,804	3,123
1976	2,400	20	800	1,300	1,800	1,700	4,600	6,300
1977	3,200	20	400	3,800	900	5,300	3,000	8,300
1978	3,400	20	400	2,300	700	2,700	4,100	6,800
1979	2,600	20	200	2,100	200	3,900	1,200	5,100
1980	1,000	20	100	900	400	1,500	1,000	2,500
1981	1,000	20	100	800	300	1,700	600	2,300
1982	1,700	20	100	1,200	100	2,700	500	3,200
1983	400	20	100	1,400	200	1,800	400	2,200
1984	300	20	300	600	400	1,000	500	1,500
1985	100	20	20	600	300	700	400	1,100
1986	400	20	70	600	300	1,000	400	1,400
1987	1,800	20	100	600	1,500	1,600	2,200	3,800
1988	2,100	20	509	1,300	1,200	2,600	2,600	5,200
1989	2,255	25	300	2,407	1,150	3,445	2,702	6,147
1990	1,731	25	300	1,483	867	1,826	2,580	4,406
1991	1,271	25	300	1,190	781	1,507	2,060	3,567
1992	918	25	300	1,008	1,540	1,291	2,500	3,791
1993	1,237	25	367	1,292	866	1,531	2,256	3,787
1994	570	25	79	974	537	998	1,187	2,185
1995	472	25	341	1,333	412	1,501	1,082	2,583
1996	136	50	282	1,170	226	1,504	360	1,864
1997 <sup>d/</sup>	106	50	100	900	198	1,051	303	1,354
<b>GOAL</b>				1,200 <sup>e/</sup>				

a/ Recreational catch of adults (coho over 20 inches).  
 b/ Natural escapement includes hatchery strays.  
 c/ Hatchery escapement and terminal run size exclude hatchery strays.  
 d/ Preliminary.  
 e/ WDFW goal for summer chinook only. Includes jacks.



TABLE B-35. Estimated inriver run size, catch, and escapement for **Quillayute River fall chinook** in numbers of fish.  
(Page 1 of 1)

Year or Average	Terminal Catch			Escapement		Terminal Run Size		
	Gillnet	Ceremonial & Subsistence	River Sport <sup>a/</sup>	Natural <sup>b/</sup>	Hatchery <sup>c/</sup>	Natural	Hatchery <sup>c/</sup>	Total
1976-1980	2,640	20	220	4,220	144	6,540	640	7,180
1981-1985	2,075	50	131	6,282	77	8,219	305	8,525
1986-1990	5,475	50	640	12,238	112	18,079	379	18,459
1991-1995	713	50	258	5,341	11	6,343	29	6,372
1976	2,300	20	300	2,500	100	4,700	400	5,100
1977	5,400	20	100	3,300	200	7,600	1,400	9,000
1978	1,500	20	300	4,700	300	6,200	500	6,700
1979	2,700	20	200	3,900	100	6,600	200	6,800
1980	1,300	20	200	6,700	20	7,600	700	8,300
1981	1,328	50	109	5,963	127	7,102	428	7,530
1982	2,765	50	97	7,107	76	9,651	330	9,981
1983	2,539	50	120	3,069	83	5,530	296	5,826
1984	1,384	50	124	9,128	80	10,447	330	10,777
1985	2,360	50	204	6,145	20	8,367	142	8,509
1986	2,990	50	800	10,006	94	13,529	257	13,786
1987	7,996	50	700	12,352	172	20,663	453	21,116
1988	6,241	50	1,000	15,168	171	22,166	502	22,668
1989	7,288	50	300	9,951	108	17,102	586	17,688
1990	2,860	50	400	13,711	14	16,937	98	17,035
1991	951	50	400	6,292	13	7,655	51	7,706
1992	1,208	50	300	6,342	14	7,850	62	7,912
1993	407	50	26	5,254	28	5,735	30	5,765
1994	448	50	262	4,932	0	5,692	0	5,692
1995	552	50	300	5,532	0	6,434	0	6,434
1996	1,245	100	504	7,316	0	9,165	0	9,165
1997 <sup>d/</sup>	262	50	200	5,405	0	5,917	0	5,917
<b>GOAL</b>				<b>3,000<sup>e/</sup></b>				

- a/ River recreational catch of 3-year olds and older.
- b/ Includes fish taken for hatchery brood stock and hatchery strays.
- c/ Hatchery escapement and terminal run size exclude hatchery strays.
- d/ Preliminary.
- e/ Minimum. Terminal run managed at 40% harvest rate.

TABLE B-36. Estimated inriver run size, catch, and escapement for **Quillayute River coho** stocks in numbers of fish.  
(Page 1 of 1)

Year or Average	Terminal Catch <sup>a/</sup>			Escapement		Terminal Run Size		
	Gillnet	Ceremonial & Subsistence	River Sport <sup>b/</sup>	Natural <sup>c/</sup>	Hatchery <sup>d/</sup>	Natural <sup>c/</sup>	Hatchery <sup>d/</sup>	Total
<b>SUMMER COHO</b>								
1976-1980	5,038	53	266	1,192	4,565	1,960	9,153	11,113
1981-1985	4,062	50	172	946	2,635	2,177	5,748	7,925
1986-1990	3,204	50	214	723	4,033	1,616	6,628	8,244
1991-1995	1,286	50	181	830	6,413	1,050	7,709	8,759
1976	499	20	43	1,200	1,239	1,477	1,524	3,001
1977	1,304	20	39	1,000	1,847	1,479	2,731	4,210
1978	837	20	137	1,500	1,000	2,087	1,407	3,494
1979	10,563	100	580	1,460	9,720	2,928	19,495	22,423
1980	11,985	120	530	800	9,018	1,830	20,623	22,453
1981	2,104	30	114	800	500	2,366	1,479	3,845
1982	11,712	100	193	900	3,667	3,266	13,306	16,572
1983	391	20	159	784	4,010	877	4,487	5,364
1984	4,022	50	303	1,573	4,000	2,808	7,140	9,948
1985	2,082	50	91	674	1,000	1,569	2,328	3,897
1986	5,745	50	235	700	8,932	1,138	14,524	15,662
1987	7,520	50	500	600	895	3,839	5,726	9,565
1988	1,404	50	133	900	1,912	1,408	2,991	4,399
1989	797	50	100	950	3,631	1,168	4,464	5,632
1990	554	50	100	465	4,795	527	5,437	5,964
1991	2,661	50	300	1,001	9,913	1,278	12,647	13,925
1992	1,254	50	376	921	15,238	1,016	16,818	17,834
1993	396	50	63	256	1,654	324	2,095	2,419
1994	974	50	51	683	1,643	999	2,402	3,401
1995	1,144	50	113	1,288	3,619	1,631	4,583	6,214
1996 <sup>e/</sup>	2,552	50	131	574	3,400	969	5,738	6,707
1997 <sup>e/</sup>	70	50	100	792	1,509	851	1,620	2,471
<b>GOAL</b>	<b>Hatchery Production</b>							
<b>FALL COHO</b>								
1976-1980	5,985	53	70	9,002	2,435	13,971	3,574	17,545
1981-1985	3,789	49	119	7,464	2,102	10,974	2,549	13,523
1986-1990	5,794	100	324	8,766	1,771	14,120	2,634	16,754
1991-1995	3,599	100	327	6,791	4,736	9,310	6,242	15,553
1976	8,527	75	109	3,900	391	11,817	1,185	13,002
1977	2,809	30	18	3,526	109	6,297	195	6,492
1978	4,187	45	86	10,344	3,473	13,577	4,558	18,135
1979	7,384	60	101	20,224	4,984	26,277	6,476	32,753
1980	7,018	53	36	7,017	3,220	11,889	5,455	17,344
1981	3,734	50	119	6,268	624	9,818	977	10,795
1982	5,420	48	207	10,400	2,140	15,107	3,108	18,215
1983	674	48	69	2,660	675	3,291	835	4,126
1984	595	50	61	10,508	6,633	10,941	6,906	17,847
1985	8,520	50	141	7,484	438	15,713	920	16,633
1986	6,408	100	421	10,687	1,062	16,990	1,688	18,678
1987	13,849	100	400	11,416	751	23,781	2,735	26,516
1988	2,240	100	100	7,218	2,149	9,105	2,702	11,807
1989	2,492	100	400	8,995	3,591	11,208	4,370	15,578
1990	3,980	100	300	5,512	1,300	9,516	1,676	11,192
1991	2,078	100	600	9,532	7,168	10,891	8,587	19,478
1992	7,069	100	322	8,170	3,858	13,533	5,986	19,519
1993	1,318	100	60	4,165	3,746	4,704	4,685	9,389
1994	2,143	100	307	4,882	3,090	6,400	4,122	10,522
1995	5,386	100	991	10,035	5,819	14,428	8,248	22,676
1996 <sup>e/</sup>	7,742	100	1,089	11,009	11,515	18,652	12,803	31,455
1997 <sup>e/</sup>	436	50	50	4,623	2,645	4,924	2,880	7,804
<b>GOAL</b>	<b>6,300-15,800</b>							

a/ Includes dip-in fish from other systems.

b/ Recreational catch of adults (coho over 20 inches).

c/ Natural escapement and run size estimates include fish taken for hatchery brood stock.

d/ Hatchery escapement and terminal run size exclude hatchery strays.

e/ Preliminary.

TABLE B-37. Puget Sound commercial net and troll fishery salmon catches.<sup>a/</sup> (Page 1 of 1)

Year or Average	Fishery	Chinook	Coho	Pink	Chum	Sockeye
THOUSANDS OF FISH						
1971-1975	Non-Indian	103.9	523.6	1,942.9 <sup>b/</sup>	331.1	2,159.0
	Treaty Indian	<u>54.0</u>	<u>224.7</u>	<u>114.4</u> <sup>b/</sup>	<u>78.2</u>	<u>37.8</u>
	Total	157.9	748.3	2,057.3 <sup>b/</sup>	409.3	2,196.8
1976-1980	Non-Indian	103.5	413.4	2,626.1 <sup>b/</sup>	408.0	1,095.6
	Treaty Indian	<u>126.1</u>	<u>488.5</u>	<u>464.4</u> <sup>b/</sup>	<u>294.9</u>	<u>277.8</u>
	Total	229.6	901.9	3,090.5 <sup>b/</sup>	702.9	1,373.4
1981-1985	Non-Indian	71.1	344.1	1,917.1 <sup>b/</sup>	368.7	924.6
	Treaty Indian	<u>144.4</u>	<u>606.6</u>	<u>1,377.8</u> <sup>b/</sup>	<u>388.0</u>	<u>912.6</u>
	Total	215.5	950.7	3,294.9 <sup>b/</sup>	756.7	1,837.2
1986-1990	Non-Indian	57.6	470.5	1,273.6 <sup>b/</sup>	540.9	965.4
	Treaty Indian	<u>177.0</u>	<u>811.6</u>	<u>1,475.1</u> <sup>b/</sup>	<u>661.8</u>	<u>1,034.9</u>
	Total	234.6	1,282.1	2,748.8 <sup>b/</sup>	1,202.6	2,000.2
1986	Non-Indian	73.5	493.5	0.0	505.7	1,394.0
	Treaty Indian	<u>150.4</u>	<u>863.6</u>	<u>0.1</u>	<u>650.1</u>	<u>1,357.4</u>
	Total	223.9	1,357.1	0.1	1,155.8	2,751.3
1987	Non-Indian	57.3	664.0	963.3	597.3	974.7
	Treaty Indian	<u>155.8</u>	<u>1,118.2</u>	<u>1,106.4</u>	<u>704.3</u>	<u>971.3</u>
	Total	213.1	1,782.2	2,069.8	1,301.6	1,946.1
1988	Non-Indian	50.4	459.8	0.0	706.3	348.0
	Treaty Indian	<u>181.1</u>	<u>777.7</u>	<u>0.1</u>	<u>862.4</u>	<u>501.4</u>
	Total	231.4	1,237.5	0.1	1,568.7	849.4
1989	Non-Indian	54.1	344.4	1,583.9	368.1	1,127.8
	Treaty Indian	<u>199.8</u>	<u>621.1</u>	<u>1,843.8</u>	<u>518.4</u>	<u>1,124.0</u>
	Total	253.9	965.4	3,427.7	886.5	2,251.7
1990	Non-Indian	52.5	390.9	0.0	526.9	982.4
	Treaty Indian	<u>197.7</u>	<u>676.9</u>	<u>0.3</u>	<u>573.6</u>	<u>1,184.4</u>
	Total	250.2	1,067.7	0.3	1,100.5	2,166.7
1991	Non-Indian	21.6	196.4	1,578.4	476.8	983.4
	Treaty Indian	<u>121.6</u>	<u>401.8</u>	<u>1,710.0</u>	<u>545.0</u>	<u>844.7</u>
	Total	143.3	598.2	3,288.5	1,021.8	1,828.1
1992	Non-Indian	19.5	98.9	0.1	617.6	316.1
	Treaty Indian	<u>94.0</u>	<u>300.0</u>	<u>0.1</u>	<u>763.6</u>	<u>292.1</u>
	Total	113.5	398.9	0.2	1,381.2	608.2
1993	Non-Indian	18.1	27.7	974.9	588.6	1,328.5
	Treaty Indian	<u>64.2</u>	<u>162.0</u>	<u>1,117.2</u>	<u>539.4</u>	<u>1,364.5</u>
	Total	82.3	189.7	2,092.1	1,128.0	2,693.0
1994 <sup>c/</sup>	Non-Indian	19.8	20.0	<50	579.9	878.4
	Treaty Indian	<u>61.5</u>	<u>427.8</u>	<u>1.7</u>	<u>772.4</u>	<u>956.1</u>
	Total	81.3	447.8	1.7	1,352.3	1,834.5
1995 <sup>c/</sup>	Non-Indian	6.7	24.5	1,366.9	373.9	170.6
	Treaty Indian	<u>74.1</u>	<u>278.3</u>	<u>1,340.4</u>	<u>382.0</u>	<u>243.7</u>
	Total	80.8	302.7	2,707.3	755.9	414.3
1996 <sup>d/</sup>	Non-Indian	9.2	20.0	0.0	530.5	50.5
	Treaty Indian	<u>69.0</u>	<u>145.3</u>	<u>0.0</u>	<u>261.5</u>	<u>286.1</u>
	Total	78.2	165.3	0.0	792.1	336.6
1997 <sup>c/</sup>	Non-Indian	21.6	9.6	868.9	234.9	681.7
	Treaty Indian	<u>58.0</u>	<u>142.4</u>	<u>985.2</u>	<u>186.3</u>	<u>660.6</u>
	Total	79.6	152.0	1,854.1	421.2	1,342.3

a/ Data do not reflect treaty Indian allocations. Includes U.S. and Canadian-origin salmon and fish caught in test fisheries.

b/ Odd-year average.

c/ Preliminary.

d/ Preliminary.



TABLE B-38. Summary of Puget Sound marine recreational salmon catches. (Page 1 of 1)

Year or Average	Chinook	Coho	Pink
<b>THOUSANDS OF FISH</b>			
1971-1975	225.6	119.3	14.8 <sup>b/</sup>
1976-1980	252.4	200.2	47.0 <sup>b/</sup>
1981-1985	160.2	197.6	24.8 <sup>b/</sup>
1986-1990	128.5	248.3	39.9 <sup>b/</sup>
1976	307.2	223.9	0.2
1977	196.1	177.3	24.4
1978	228.7	223.6	0.1
1979	285.7	258.2	69.6
1980	244.5	118.2	0.2
1981	164.4	177.4	25.5
1982	120.2	209.7	0.0
1983	194.5	274.1	16.5
1984	174.6	140.7	0.1
1985	147.3	186.2	28.0
1986 <sup>c/</sup>	170.0	261.0	0.0
1987 <sup>c/</sup>	102.9	247.5	30.9
1988 <sup>c/</sup>	108.3	195.0	d/
1989 <sup>c/</sup>	135.7	220.6	48.8
1990 <sup>c/</sup>	125.5	317.2	d/
1991 <sup>c/</sup>	90.6	252.4	44.9
1992 <sup>c/</sup>	97.7	189.4	0.4
1993 <sup>c/</sup>	80.2	136.0	67.6
1994	48.2	31.7	d/
1995	67.7	74.3	100.5
1996 <sup>e/</sup>	76.2	76.9	1.2

- a/ WDFW Statistical Areas 5 through 13, which include the Strait of Juan de Fuca, San Juan Islands and inner Puget Sound.
- b/ Odd years only.
- c/ Punch card estimates adjusted for results of 1987-1990 WDFW/tribal sports emphasis study.
- d/ Less than 50 fish.
- e/ Preliminary.

TABLE B-39. Puget Sound commercial net fishery catches and spawning escapements in numbers of fish for hatchery and natural Puget Sound chinook stocks.<sup>a/</sup> (Page 1 of 3)

Year or Average	Commercial Net Catches			Spawning Escapement			Puget Sound Run Size <sup>b/</sup>			
	Hatchery <sup>c/</sup>	Wild	Total	Hatchery <sup>c/</sup>	Wild	Total	Hatchery <sup>c/</sup>	Wild	Total	
<b>ALL CHINOOK (thousands)</b>										
<u>Strait of Juan de Fuca</u>										
1981-1985	0.1	0.1	0.2	0.8	1.4	2.3	0.9	1.6	2.4	
1986-1990	0.1	0.4	0.6	1.3	4.5	5.8	1.4	5.0	6.4	
1981	0.0	0.1	0.2	0.4	0.9	1.3	0.5	1.0	1.5	
1982	0.1	0.3	0.4	0.9	2.2	3.1	1.0	2.5	3.5	
1983	0.1	0.1	0.2	0.7	1.6	2.3	0.8	1.7	2.5	
1984	0.1	0.0	0.1	1.4	1.1	2.5	1.4	1.1	2.6	
1985	0.0	0.1	0.1	0.6	1.5	2.1	0.6	1.5	2.2	
1986	0.1	0.2	0.2	1.3	2.7	4.0	1.4	2.8	4.2	
1987	0.1	0.5	0.6	1.3	5.2	6.5	1.4	5.7	7.1	
1988	0.3	0.9	1.2	2.1	6.6	8.7	2.4	7.5	9.9	
1989	0.1	0.3	0.3	1.1	5.2	6.3	1.2	5.5	6.7	
1990	0.1	0.4	0.5	0.6	3.1	3.7	0.7	3.5	4.1	
1991	0.1	0.3	0.4	1.0	3.5	4.5	1.1	3.8	4.9	
1992	0.0	0.2	0.2	0.1	4.5	4.6	0.1	4.7	4.8	
1993	0.0	0.1	0.1	0.2	2.3	2.5	0.2	2.4	2.6	
1994	0.0	0.1	0.1	0.4	1.6	2.0	0.4	1.7	2.1	
1995 <sup>d/</sup>	0.0	0.0	0.0	0.1	2.8	2.9	0.1	2.8	2.9	
1996 <sup>d/</sup>	0.0	e/	e/	0.2	3.1	3.3	0.2	3.1	3.3	
1997 <sup>d/</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA	
<u>GOAL</u>						<u>5.3</u>				
<u>Nooksack-Samish</u>										
1981-1985	54.0	33.5	87.5	16.1	6.5	22.6	70.1	40.1	110.1	
1986-1990	38.0	26.3	64.3	10.7	4.1	14.9	48.8	30.4	79.2	
1981	48.1	28.2	76.3	10.2	3.6	13.8	58.4	31.7	90.1	
1982	54.6	36.1	90.7	15.0	5.6	20.6	69.6	41.7	111.3	
1983	33.0	22.3	55.3	19.7	7.4	27.1	52.8	29.7	82.4	
1984	69.7	33.7	103.4	18.8	9.6	28.4	88.5	43.2	131.7	
1985	64.4	47.5	111.9	16.7	6.5	23.2	81.1	54.0	135.1	
1986	50.3	42.9	93.2	10.7	5.3	16.0	60.9	48.3	109.2	
1987	31.4	23.2	54.6	5.8	2.7	8.6	37.2	26.0	63.2	
1988	19.4	19.6	39.0	5.2	2.7	8.0	24.7	22.4	47.0	
1989	43.7	9.1	52.7	18.0	1.9	20.0	61.7	11.0	72.7	
1990	45.5	36.5	81.9	13.9	7.9	21.8	59.4	44.4	103.7	
1991	27.1	3.3	30.4	9.6	0.7	10.3	36.7	4.0	40.7	
1992	15.9	1.6	17.6	8.4	0.5	9.0	24.3	2.2	26.5	
1993	18.2	1.6	19.9	12.1	1.0	13.1	30.3	2.6	32.9	
1994	18.2	2.6	20.8	6.4	0.9	7.3	24.6	3.6	28.1	
1995 <sup>d/</sup>	12.5	1.2	13.7	8.1	0.5	8.6	20.6	1.7	22.3	
1996 <sup>d/</sup>	17.5	1.9	19.4	9.0	0.9	10.0	26.6	2.9	29.4	
1997 <sup>d/</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA	
<u>GOAL</u>				<u>8.7</u>						

<sup>a/</sup> Puget Sound commercial net fishery catches and spawning escapements in numbers of fish for hatchery and natural Puget Sound chinook stocks. Data not available for years with zero catches.

<sup>b/</sup> Total chinook run size.

<sup>c/</sup> Hatchery.

<sup>d/</sup> Last Survey.

TABLE B-39. Puget Sound commercial net fishery catches and spawning escapements in numbers of fish for hatchery and natural Puget Sound chinook stocks. (Page 2 of 3)

Year or Average	Commercial Net Catches			Spawning Escapement			Puget Sound Run Size <sup>b/</sup>		
	Hatchery <sup>c/</sup>	Wild	Total	Hatchery <sup>c/</sup>	Wild	Total	Hatchery <sup>c/</sup>	Wild	Total
<b>ALL CHINOOK (thousands)</b>									
<u>Skagit</u>									
1981-1985	0.6	9.2	9.8	0.8	11.5	12.3	1.4	20.7	22.1
1986-1990	0.2	4.1	4.3	0.8	12.7	13.6	1.1	16.8	17.9
1981	0.7	13.1	13.7	0.4	8.7	9.1	1.1	21.7	22.8
1982	1.1	13.7	14.8	0.8	10.4	11.3	2.0	24.1	26.1
1983	0.6	6.7	7.3	0.8	9.1	9.9	1.4	15.8	17.2
1984	0.3	2.8	3.1	1.6	13.2	14.8	1.9	16.0	17.9
1985	0.1	9.7	9.9	0.2	16.3	16.5	0.4	26.0	26.4
1986	0.2	4.5	4.7	0.8	18.1	18.9	1.0	22.6	23.6
1987	0.1	4.0	4.1	0.3	9.6	10.0	0.4	13.6	14.0
1988	0.4	3.4	3.8	1.3	12.0	13.2	1.7	15.3	17.0
1989	0.4	6.3	6.6	0.4	6.8	7.2	0.8	13.0	13.8
1990	0.2	2.2	2.3	1.3	17.2	18.5	1.5	19.4	20.8
1991	0.4	2.6	2.9	0.9	6.0	6.9	1.3	8.6	9.9
1992	0.5	1.6	2.1	2.2	7.7	9.9	2.7	9.3	12.0
1993	0.2	1.0	1.2	1.2	5.9	7.1	1.4	7.0	8.3
1994	0.3	0.4	0.7	4.0	6.2	10.3	4.3	6.6	10.9
1995 <sup>d/</sup>	0.8	2.4	3.2	2.5	7.2	9.6	3.3	9.6	12.9
1996 <sup>d/</sup>	e/	0.2	0.2	1.2	12.0	13.2	1.2	12.2	13.5
1997 <sup>d/</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA
<u>GOAL</u>					<u>14.9</u>				
<u>Hood Canal</u>									
1981-1985	4.9	3.6	8.6	3.8	2.0	5.8	8.7	5.7	14.4
1986-1990	10.5	4.9	15.4	6.2	2.0	8.2	16.7	6.9	23.7
1981	8.4	2.3	10.6	3.0	0.3	3.2	11.3	2.6	13.9
1982	3.5	2.5	6.0	5.0	0.4	5.4	8.5	2.9	11.4
1983	1.8	2.7	4.6	2.0	1.8	3.8	3.8	4.5	8.3
1984	5.7	4.3	10.0	4.8	2.5	7.3	10.5	6.8	17.2
1985	5.1	6.4	11.6	4.2	5.2	9.5	9.4	11.7	21.0
1986	8.8	6.5	15.4	4.7	2.8	7.5	13.6	9.3	22.9
1987	12.1	6.3	18.4	6.6	2.3	8.8	18.7	8.6	27.3
1988	11.8	4.8	16.6	10.3	2.9	13.2	22.1	7.7	29.8
1989	12.9	5.1	18.0	6.1	1.4	7.5	19.0	6.5	25.5
1990	6.9	1.9	8.7	3.4	0.7	4.1	10.3	2.6	12.9
1991	8.0	3.8	11.8	5.6	1.8	7.5	13.6	5.6	19.2
1992	0.3	0.6	0.8	1.2	0.9	2.2	1.5	1.5	3.0
1993	0.6	0.5	1.0	2.6	1.2	3.8	3.2	1.6	4.8
1994	0.2	0.2	0.4	2.4	1.1	3.4	2.6	1.3	3.8
1995 <sup>d/</sup>	0.2	0.0	0.2	7.2	2.0	9.2	7.4	2.0	9.4
1996 <sup>d/</sup>	e/	e/	e/	7.1	1.0	8.1	7.1	1.0	8.2
1997 <sup>d/</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA
<u>GOAL</u>					<u>3.4</u>				



TABLE B-39. Puget Sound commercial net fishery catches and spawning escapements in numbers of fish for hatchery and natural Puget Sound chinook stocks. (Page 3 of 3)

Year or Average	Commercial Net Catches			Spawning Escapement			Puget Sound Run Size <sup>b/</sup>		
	Hatchery <sup>c/</sup>	Wild	Total	Hatchery <sup>c/</sup>	Wild	Total	Hatchery <sup>c/</sup>	Wild	Total
<b>ALL CHINOOK (thousands)</b>									
<b>Stillaguamish-Snohomish</b>									
1981-1985	3.9	6.9	10.8	2.0	4.9	6.9	5.9	11.8	17.7
1986-1990	3.4	4.2	7.6	1.1	5.2	6.4	4.5	9.4	14.0
1981	8.5	8.8	17.3	3.7	4.0	7.7	12.2	12.8	25.0
1982	2.9	7.2	10.2	2.3	5.2	7.5	5.3	12.4	17.6
1983	2.6	7.1	9.6	1.2	4.9	6.1	3.7	12.0	15.7
1984	3.3	5.6	8.9	1.4	4.1	5.5	4.7	9.7	14.4
1985	2.1	5.8	7.9	1.4	6.3	7.7	3.5	12.1	15.6
1986	5.5	5.4	10.9	0.9	5.8	6.7	6.4	11.2	17.6
1987	1.3	2.9	4.3	1.2	6.0	7.2	2.5	8.9	11.5
1988	2.6	3.7	6.3	1.1	5.2	6.4	3.7	9.0	12.7
1989	4.4	4.0	8.4	1.5	3.9	5.4	5.9	7.9	13.8
1990	3.1	5.1	8.2	1.0	5.1	6.0	4.1	10.2	14.3
1991	2.6	3.6	6.2	0.6	4.4	5.0	3.1	8.0	11.1
1992	1.8	2.2	3.9	1.0	3.5	4.5	2.7	5.7	8.4
1993	2.2	2.1	4.3	1.9	4.9	6.9	4.1	7.0	11.2
1994	3.3	1.7	5.0	3.9	4.6	8.5	7.2	6.3	13.5
1995 <sup>d/</sup>	6.2	2.8	9.0	3.9	4.5	8.4	10.1	7.3	17.4
1996 <sup>d/</sup>	7.5	4.0	11.5	5.7	6.2	11.9	13.1	10.2	23.4
1997 <sup>d/</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>GOAL</b>					<b>7.3</b>				
<b>South Puget Sound</b>									
1981-1985	23.1	11.2	34.4	23.3	10.2	33.5	46.5	21.4	67.9
1986-1990	22.8	23.0	45.8	33.6	21.6	55.3	56.4	44.6	101.0
1981	23.9	4.6	28.5	26.1	8.6	34.7	50.0	13.2	63.2
1982	14.1	7.2	21.3	19.1	8.8	27.8	33.2	16.0	49.2
1983	24.2	18.7	42.9	21.8	11.3	33.1	45.9	30.1	76.0
1984	28.8	13.7	42.5	27.8	11.9	39.7	56.5	25.7	82.2
1985	24.7	11.9	36.6	22.0	10.3	32.3	46.6	22.3	68.9
1986	15.1	9.7	24.8	23.8	13.2	37.0	38.8	22.9	61.8
1987	18.9	22.3	41.2	29.7	23.3	53.0	48.7	45.6	94.2
1988	23.4	27.6	51.0	26.9	18.6	45.6	50.3	46.2	96.5
1989	25.0	24.6	49.5	47.4	24.9	72.3	72.4	49.5	121.9
1990	31.7	30.6	62.3	40.3	28.1	68.4	72.0	58.8	130.8
1991	17.0	14.1	31.1	22.4	17.7	40.0	39.4	31.8	71.1
1992	16.3	12.1	28.5	18.3	12.8	31.1	34.6	24.9	59.5
1993	16.3	10.4	26.7	20.4	9.4	29.8	36.8	19.8	56.5
1994	20.0	16.0	35.9	28.9	14.0	42.9	48.9	29.9	78.8
1995 <sup>d/</sup>	23.5	14.3	37.8	51.0	20.2	71.2	74.5	34.5	109.0
1996 <sup>d/</sup>	18.8	11.4	30.2	39.5	24.3	63.8	58.3	35.8	94.1
1997 <sup>d/</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>GOAL</b>						<b>34.9</b>			

a/ Includes treaty Indian and non-Indian net commercial catches during the adult accounting period. Source: Puget Sound run reconstruction model.

b/ Puget Sound run size is defined as the run available to Puget Sound net fisheries. Does not include fish caught by troll and recreational fisheries.

c/ Includes estimated off-station returns.

d/ Preliminary.

e/ Less than 50.

TABLE B-40. Puget Sound commercial net fishery catches and spawning escapements in numbers of fish for hatchery and natural Puget Sound coho stocks. <sup>a/</sup> (Page 1 of 3)

Year or Average	Commercial Net Catches			Spawning Escapement			Puget Sound Run Size <sup>b/</sup>		
	Hatchery <sup>c/</sup>	Wild	Total	Hatchery <sup>c/</sup>	Wild	Total	Hatchery <sup>c/</sup>	Wild	Total
<b>COHO (thousands)</b>									
<b>Strait of Juan de Fuca</b>									
1981-1985	17.4	3.4	20.8	9.0	5.1	14.1	26.4	8.5	34.9
1986-1990	6.3	2.6	8.8	3.0	6.0	9.0	9.2	8.6	17.8
1981	11.7	1.5	13.3	16.0	3.2	19.2	27.7	4.7	32.5
1982	37.7	11.0	48.7	11.5	10.1	21.6	49.2	21.1	70.3
1983	20.7	2.7	23.4	6.7	4.4	11.1	27.4	7.1	34.5
1984	6.1	0.8	6.9	3.6	5.3	8.9	9.7	6.1	15.8
1985	10.9	1.1	12.0	7.1	2.6	9.7	18.0	3.7	21.7
1986	5.9	3.4	9.3	4.4	10.3	14.7	10.3	13.7	24.0
1987	10.2	4.8	15.1	2.7	5.8	8.5	13.0	10.6	23.6
1988	3.9	1.3	5.1	2.4	4.2	6.6	6.2	5.5	11.7
1989	7.0	2.1	9.1	2.5	6.6	9.1	9.5	8.7	18.2
1990	4.3	1.3	5.7	2.7	3.3	6.0	7.1	4.6	11.7
1991	2.7	1.0	3.7	2.7	4.1	6.8	5.4	5.1	10.6
1992	2.4	0.3	2.7	3.5	6.1	9.5	5.9	6.4	12.3
1993	0.3	0.1	0.3	4.0	3.3	7.4	4.3	3.4	7.7
1994	1.4	0.3	1.7	2.3	2.4	4.6	3.7	2.6	6.3
1995 <sup>d/</sup>	1.0	2.3	3.4	7.2	5.7	12.9	8.2	8.0	16.3
1996 <sup>d/</sup>	4.3	0.1	4.3	7.5	2.4	10.0	11.8	2.5	14.3
1997 <sup>d/</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>GOAL</b>						<b>14.8</b>			
<b>Nooksack-Samish</b>									
1981-1985	131.0	18.9	149.9	24.4	7.2	31.6	155.4	26.1	181.5
1986-1990	146.9	22.8	169.7	21.1	7.4	28.5	168.0	30.2	198.2
1981	91.4	14.1	105.5	34.3	7.5	41.8	125.7	21.6	147.3
1982	160.4	15.3	175.7	22.0	4.4	26.4	182.4	19.7	202.1
1983	133.7	26.2	159.8	15.2	8.9	24.1	148.9	35.1	183.9
1984	118.9	18.9	137.8	18.6	9.5	28.1	137.5	28.4	165.9
1985	150.4	20.0	170.5	32.0	5.7	37.7	182.4	25.7	208.2
1986	172.3	17.6	189.9	22.0	6.7	28.7	194.4	24.3	218.7
1987	187.0	49.4	236.5	33.3	12.6	45.9	220.4	62.0	282.4
1988	158.0	15.4	173.4	21.2	6.9	28.1	179.2	22.3	201.5
1989	106.0	12.6	118.6	15.8	3.6	19.4	121.8	16.2	138.0
1990	111.0	19.1	130.1	13.1	7.3	20.4	124.1	26.4	150.5
1991	51.9	18.8	70.7	9.7	11.5	21.2	61.6	30.3	91.9
1992	61.5	9.4	70.9	19.6	8.4	28.0	81.1	17.8	98.9
1993	40.5	15.7	56.2	23.0	10.8	33.8	63.6	26.5	90.0
1994	43.9	20.5	64.4	12.1	13.8	25.9	56.0	34.3	90.3
1995 <sup>d/</sup>	44.5	11.7	56.2	12.0	7.1	19.1	56.5	18.8	75.3
1996 <sup>d/</sup>	51.0	1.6	52.5	38.2	2.0	40.3	89.2	3.6	92.8
1997 <sup>d/</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>GOAL</b>				<b>17.9</b>					

TABLE B-40. Puget Sound commercial net fishery catches and spawning escapements in numbers of fish for hatchery and natural Puget Sound coho stocks. <sup>a/</sup> (Page 2 of 3)

Year or Average	Commercial Net Catches			Spawning Escapement			Puget Sound Run Size <sup>b/</sup>		
	Hatchery <sup>c/</sup>	Wild	Total	Hatchery <sup>c/</sup>	Wild	Total	Hatchery <sup>c/</sup>	Wild	Total
<b>COHO (thousands)</b>									
<b>Skagit</b>									
1981-1985	9.2	11.6	20.8	21.7	19.8	41.5	30.9	31.4	62.3
1986-1990	6.4	13.8	20.2	13.9	25.8	39.7	20.3	39.6	59.9
1981	18.1	6.4	24.5	42.1	15.0	57.1	60.2	21.4	81.6
1982	12.0	23.0	35.0	4.7	9.0	13.7	16.7	32.0	48.7
1983	4.9	11.1	15.9	10.6	24.0	34.6	15.5	35.1	50.5
1984	5.6	4.2	9.9	44.1	33.0	77.1	49.7	37.2	87.0
1985	5.3	13.3	18.6	7.2	18.0	25.2	12.5	31.3	43.8
1986	9.8	28.4	38.2	15.4	45.0	60.4	25.2	73.4	98.6
1987	7.5	8.2	15.7	30.0	33.0	63.0	37.5	41.2	78.7
1988	5.9	10.9	16.8	10.3	19.0	29.3	16.2	29.9	46.1
1989	4.2	10.6	14.8	6.8	17.0	23.8	11.0	27.6	38.6
1990	4.9	10.9	15.7	6.7	15.0	21.7	11.6	25.9	37.5
1991	1.8	4.0	5.8	3.5	7.8	11.3	5.3	11.8	17.1
1992	3.1	2.0	5.1	11.6	7.5	19.1	14.7	9.5	24.2
1993	0.7	1.1	1.9	8.8	13.4	22.2	9.5	14.5	24.0
1994	1.2	1.4	2.6	24.9	29.1	54.0	26.1	30.5	56.6
1995	1.4	2.8	4.2	6.6	13.4	20.0	8.0	16.2	24.2
1996 <sup>d/</sup>	0.7	0.4	1.2	18.0	8.3	26.2	18.7	8.7	27.4
1997 <sup>d/</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>GOAL</b>					<b>30.0</b>				
<b>Hood Canal</b>									
1981-1985	40.5	24.3	64.8	19.0	23.6	42.6	59.5	47.9	107.4
1986-1990	45.2	23.5	68.7	14.7	18.3	33.0	59.9	41.8	101.8
1981	29.9	13.2	43.1	36.6	23.8	60.4	66.5	37.0	103.5
1982	59.2	41.2	100.4	13.8	28.3	42.1	73.0	69.5	142.5
1983	38.2	23.2	61.4	11.3	13.9	25.2	49.5	37.1	86.6
1984	41.5	20.5	62.0	25.4	37.0	62.4	66.9	57.5	124.4
1985	33.7	23.6	57.3	8.0	14.9	22.9	41.7	38.5	80.2
1986	72.8	42.3	115.1	24.8	39.9	64.7	97.5	82.2	179.7
1987	79.1	53.7	132.8	10.1	18.0	28.1	89.3	71.7	160.9
1988	9.2	3.9	13.1	9.5	11.6	21.1	18.7	15.5	34.2
1989	29.1	10.2	39.4	18.6	15.3	33.9	47.8	25.5	73.3
1990	35.9	7.4	43.3	10.5	6.8	17.3	46.4	14.2	60.7
1991	21.6	2.8	24.4	6.4	12.5	18.9	28.0	15.3	43.2
1992	3.7	0.7	4.4	5.4	19.2	24.6	9.1	19.9	29.0
1993	3.2	0.8	4.0	12.3	15.9	28.2	15.5	16.7	32.2
1994	31.5	0.9	32.3	24.8	56.1	80.9	56.2	57.0	113.2
1995	9.5	0.8	10.3	25.2	40.3	65.5	34.7	41.1	75.8
1996 <sup>d/</sup>	4.2	0.2	4.4	27.3	37.1	64.3	31.5	37.3	68.7
1997 <sup>d/</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>GOAL</b>					<b>21.5</b>				



TABLE B-40. Puget Sound commercial net fishery catches and spawning escapements in numbers of fish for hatchery and natural Puget Sound coho stocks.<sup>a/</sup> (Page 3 of 3)

Year or Average	Commercial Net Catches			Spawning Escapement			Puget Sound Run Size <sup>b/</sup>		
	Hatchery <sup>c/</sup>	Wild	Total	Hatchery <sup>c/</sup>	Wild	Total	Hatchery <sup>c/</sup>	Wild	Total
<b>COHO (thousands)</b>									
<b>Stillaguamish-Snohomish</b>									
1981-1985	22.4	56.5	79.0	12.9	88.0	100.9	35.4	144.5	179.9
1986-1990	61.9	94.8	156.7	26.1	110.4	136.5	88.0	205.2	293.2
1981	38.6	64.8	103.5	11.9	46.0	57.9	50.5	110.8	161.4
1982	19.9	41.8	61.7	3.7	65.0	68.7	23.6	106.8	130.4
1983	9.2	54.6	63.8	9.0	160.0	169.0	18.2	214.6	232.8
1984	9.7	35.6	45.3	25.9	89.0	114.9	35.6	124.6	160.2
1985	34.8	85.7	120.5	14.2	80.0	94.2	49.0	165.7	214.7
1986	36.3	113.6	149.9	26.2	140.0	166.2	62.5	253.6	316.0
1987	93.4	126.5	219.9	34.0	105.0	139.0	127.4	231.5	358.8
1988	51.0	74.3	125.3	25.0	96.0	121.0	76.1	170.3	246.3
1989	55.5	67.5	123.0	25.5	99.0	124.5	81.0	166.5	247.5
1990	73.2	92.3	165.4	20.0	112.0	132.0	93.1	204.3	297.4
1991	60.3	56.3	116.6	19.2	45.0	64.2	79.5	101.3	180.9
1992	42.8	36.8	79.6	26.4	97.5	123.9	69.2	134.3	203.4
1993	23.7	10.9	34.5	15.2	62.8	78.0	38.8	73.7	112.5
1994	48.1	32.7	80.8	24.8	182.6	207.4	72.9	215.3	288.2
1995	34.0	15.6	49.6	32.3	109.7	142.0	66.3	125.3	191.6
1996 <sup>d/</sup>	23.5	7.3	30.8	23.6	59.2	82.8	47.1	66.5	113.6
1997 <sup>d/</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>GOAL - Snohomish</b>					<b>17.0</b>				
<b>South Puget Sound</b>									
1981-1985	354.8	154.9	509.7	76.6	38.7	115.2	431.4	193.6	624.9
1986-1990	527.7	224.5	752.2	69.2	29.7	98.9	569.9	254.2	851.0
1981	245.1	65.0	310.1	73.3	34.0	107.3	318.4	99.0	417.4
1982	419.2	160.5	579.8	87.4	51.2	138.6	506.6	211.7	718.4
1983	401.3	132.3	533.6	93.5	31.1	124.6	494.8	163.4	658.2
1984	367.3	138.9	506.2	80.0	37.4	117.4	447.3	176.3	623.6
1985	341.0	277.7	618.7	48.6	39.6	88.2	389.6	317.3	706.9
1986	547.8	180.2	728.0	72.0	26.9	98.9	619.8	207.1	826.9
1987	706.0	359.4	1065.4	85.2	42.6	127.8	791.2	402.0	1193.2
1988	553.4	267.0	820.3	80.6	37.4	118.0	634.0	304.3	938.3
1989	421.3	110.8	532.1	57.3	14.5	71.8	478.6	125.3	603.9
1990	410.0	205.1	615.1	50.8	27.0	77.8	460.8	232.1	692.9
1991	223.0	78.1	301.1	54.7	15.0	69.7	277.7	93.1	370.8
1992	162.1	51.5	213.6	102.7	16.0	118.7	264.8	67.5	332.3
1993	66.6	9.4	76.0	101.2	18.4	119.6	167.8	27.8	195.6
1994	168.6	102.1	270.7	122.9	39.0	161.8	291.4	141.1	432.5
1995	115.6	50.6	166.2	103.5	32.4	135.9	219.1	83.0	302.1
1996 <sup>d/</sup>	56.4	13.6	70.0	107.5	22.0	129.5	163.9	35.6	199.5
1997 <sup>d/</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>GOAL</b>				<b>52.0</b>					

a/ Includes treaty Indian and non-Indian net commercial catches during the adult accounting period. Source: Puget Sound run reconstruction model.

b/ Puget Sound run size is defined as the run available to Puget Sound net fisheries. Does not include fish caught by troll and recreational fisheries.

c/ Includes estimated off-station returns.

d/ Preliminary.

TABLE B-41. Puget Sound commercial net fishery catches and spawning escapements in numbers of fish for hatchery and natural Puget Sound pink stocks. <sup>a/</sup> (Page 1 of 2)

Year or Average	Commercial Net Catches			Spawning Escapement			Puget Sound Run Size <sup>b/</sup>		
	Hatchery <sup>c/</sup>	Wild	Total	Hatchery <sup>c/</sup>	Wild	Total	Hatchery <sup>c/</sup>	Wild	Total
<b>PINK (thousands)</b>									
<b>Strait of Juan de Fuca</b>									
1981-1985	0.0	2.1	2.1	0.0	4.3	4.3	0.0	6.4	6.4
1986-1990	0.0	7.4	7.4	0.0	6.4	6.5	0.1	13.8	13.9
1981	0.0	1.7	1.7	0.0	3.1	3.1	0.0	4.8	4.8
1983	0.0	1.1	1.1	0.0	5.1	5.1	0.0	6.2	6.2
1985	0.0	3.5	3.5	0.0	4.8	4.8	0.0	8.3	8.3
1987	0.1	2.4	2.5	0.0	2.0	2.0	0.1	4.3	4.4
1989	0.0	12.3	12.3	0.0	10.9	10.9	0.0	23.3	23.3
1991	0.0	32.1	32.1	0.0	9.9	9.9	0.0	42.0	42.0
1993	0.0	2.4	2.4	0.0	1.7	1.7	0.0	4.1	4.1
1995	0.0	0.0	0.0	0.0	8.3	8.3	0.0	8.3	8.3
1997 <sup>d/</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>GOAL</b>				<b>Not Agreed Upon</b>					
<b>Nooksack-Samish</b>									
1981-1985	0.0	29.4	29.4	0.0	32.7	32.7	0.0	62.1	62.1
1986-1990	0.8	114.8	115.6	0.6	87.1	87.7	1.4	201.9	203.3
1981	0.0	35.3	35.3	0.0	15.0	15.0	0.0	50.3	50.3
1983	0.0	25.8	25.8	0.0	60.0	60.0	0.0	85.8	85.8
1985	0.0	27.1	27.1	0.0	23.0	23.0	0.0	50.1	50.1
1987	0.0	49.9	49.9	0.0	36.6	36.6	0.0	86.5	86.5
1989	1.6	179.7	181.3	1.2	137.6	138.8	2.8	317.3	320.1
1991	0.0	93.5	93.5	0.0	24.0	24.0	0.0	117.5	117.5
1993	0.0	83.6	83.6	0.0	56.5	56.5	0.0	140.1	140.1
1995	0.0	6.6	6.6	0.0	207.1	207.1	0.6	213.7	213.7
1997 <sup>d/</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>GOAL</b>					50.0				
<b>Skagit</b>									
1981-1985	0.1	121.9	122.0	0.1	426.7	426.8	0.3	548.5	548.8
1986-1990	0.5	463.2	463.6	0.8	496.7	497.4	1.2	959.8	961.0
1981	0.4	133.4	133.7	0.3	100.0	100.3	0.6	233.4	234.0
1983	0.0	8.0	8.0	0.1	470.0	470.1	0.1	478.0	478.2
1985	0.0	224.2	224.2	0.0	710.0	710.0	0.0	934.2	934.2
1987	0.9	351.3	352.2	1.5	592.0	593.5	2.4	943.3	945.7
1989	0.0	575.0	575.0	0.0	401.3	401.3	0.0	976.3	976.3
1991	0.0	144.7	144.7	0.0	351.0	351.0	0.0	495.7	495.7
1993	0.0	145.5	145.5	0.0	530.0	530.0	0.0	675.5	675.5
1995	0.0	857.0	857.0	0.0	527.4	527.4	0.0	1,384.4	1,384.4
1997 <sup>d/</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>GOAL</b>					330.0				

TABLE B-41. Puget Sound commercial net fishery catches and spawning escapements in numbers of fish for hatchery and natural Puget Sound pink stocks. <sup>a)</sup> (Page 2 of 2)

Year or Average	Commercial Net Catches			Spawning Escapement			Puget Sound Run Size <sup>b/</sup>		
	Hatchery <sup>c/</sup>	Wild	Total	Hatchery <sup>c/</sup>	Wild	Total	Hatchery <sup>c/</sup>	Wild	Total
<b>PINK (thousands)</b>									
<b>Hood Canal</b>									
1981-1985	0.1	1.1	1.2	1.2	32.0	33.1	1.3	33.1	34.4
1986-1990	4.1	11.0	15.1	5.3	61.6	66.9	9.3	72.6	81.9
1981	0.2	0.6	0.9	1.6	6.6	8.1	1.8	7.2	9.0
1983	0.0	0.2	0.3	0.5	25.2	25.7	0.5	25.4	26.0
1985	0.1	2.4	2.6	1.5	64.1	65.6	1.6	66.5	68.1
1987	1.2	2.2	3.4	8.1	62.2	70.3	9.2	64.4	73.6
1989	7.0	19.8	26.8	2.5	61.0	63.5	9.5	80.8	90.3
1991	0.8	1.5	2.3	3.3	118.5	121.8	4.1	119.9	124.0
1993	0.0	0.1	0.1	11.5	35.4	46.9	11.5	35.5	47.0
1995 <sup>d/</sup>	1.9	0.0	1.9	24.6	31.3	55.9	26.5	31.3	57.8
1997 <sup>d/</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA
GOAL				Not Agreed Upon					
<b>Stillaguamish-Snohomish</b>									
1981-1985	0.1	86.1	86.2	0.2	311.4	311.6	0.3	397.5	397.7
1986-1990	0.4	199.4	199.8	0.2	210.8	211.0	0.6	410.2	410.7
1981	0.0	38.7	38.7	0.1	108.0	108.1	0.1	146.7	146.8
1983	0.0	48.9	48.9	0.3	324.1	324.4	0.3	373.0	373.3
1985	0.1	170.8	171.0	0.2	502.0	502.2	0.3	672.8	673.2
1987	0.7	84.9	85.6	0.4	271.0	271.4	1.1	355.9	357.0
1989	0.0	313.9	313.9	0.0	150.5	150.5	0.0	464.4	464.5
1991	0.1	50.6	50.7	0.4	260.0	260.4	0.5	310.6	311.2
1993	7.0	2.9	9.9	0.1	210.0	210.1	7.1	212.9	220.0
1995 <sup>d/</sup>	46.6	6.5	51.0	0.0	309.6	309.6	44.6	316.1	360.6
1997 <sup>d/</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA
GOAL - Stillaguamish					155.0				
GOAL - Snohomish					120.0				
<b>South Puget Sound</b>									
1981-1985	1.1	22.6	23.8	0.3	19.7	20.0	1.4	42.3	43.7
1986-1990	0.7	97.0	97.6	0.2	52.1	52.3	0.9	149.1	149.9
1981	2.6	18.6	21.1	0.8	12.1	12.9	3.4	30.7	34.0
1983	0.6	15.3	15.9	0.1	12.2	12.3	0.8	27.5	28.3
1985	0.2	34.0	34.2	0.0	34.7	34.7	0.2	68.7	68.9
1987	0.0	64.1	64.1	0.0	42.2	42.2	0.0	106.3	106.3
1989	1.3	129.9	131.2	0.5	62.0	62.4	1.7	191.8	193.6
1991	2.4	64.8	67.2	0.3	16.0	16.3	2.7	80.8	83.5
1993	0.1	19.0	19.0	0.0	10.6	10.6	0.1	29.6	29.6
1995 <sup>d/</sup>	0.0	4.5	4.5	0.1	17.9	18.0	0.1	22.4	22.5
1997 <sup>d/</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA
GOAL					25.0				

a/ Includes treaty Indian and non-Indian net commercial catches during the adult accounting period. Source: Puget Sound run reconstruction model.

b/ Puget Sound run size is defined as the run available to Puget Sound net fisheries. Does not include fish caught by troll and recreational fisheries.

c/ Includes estimated off-station returns.

d/ Preliminary. Nisqually escapement estimate incomplete in 1993.



TABLE B-42. Puget Sound spring chinook spawning escapement estimates in numbers of fish. (Page 1 of 1)

Year	Stock						
	Skagit Hatchery	Skagit Natural	NF Nooksack Natural <sup>a/</sup>	NF Nooksack Hatchery	SF Nooksack Hatchery/Natural	White River Hatchery <sup>b/</sup>	Quilcene Hatchery
1981	9	1,250	NA	NA	NA	197	NA
1982	33	965	NA	NA	NA	43	NA
1983	14	710	NA	NA	NA	49	NA
1984	6	747	13	183	188	51	NA
1985	12	3,249	74	62	445	60	149
1986	27	1,978	65	42	170	192	197
1987	21	1,979	52	285	248	261	115
1988	120	2,064	131	837	233	631	119
1989	298	1,515	87	470	606	438	120
1990	307	1,592	3	109	142	517	76
1991	386	1,411	31	278	365	430	23
1992	249	1,001	143	1,016	103	1,156	20
1993	1,574	788	129	1,364	235	1,029	27
1994	881	899	13	549	118	1,227	10
1995	984	2,010	66	769	290	1,822	16
1996	856	1,728	156	1,070	203	1,972	12
1997	823	581	180	1,667	180	1,655	16
GOAL		3,000					

a/ Natural escapement estimates based on carcass counts which are conservative. Redd counts have been made in 2 years and escapement estimates from redd counts are 3 to 4 times higher than the carcass counts.

b/ This estimate includes adult chinook returns to Hupp Springs, White River Hatchery and to the Buckley Trap.

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# APPENDIX C

## HISTORICAL RECORD OF OCEAN SALMON FISHERY REGULATIONS AND A CHRONOLOGY OF 1997 EVENTS

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TABLE C-1. Summary of actual California troll salmon seasons in state and federal (EEZ) waters. (Page 1 of 4)

Year/Area/Species <sup>a/</sup>	Season Dates	Days	Area, Minimum Size, Gear and Other Restrictions <sup>b/</sup>
<b>1971-1978</b>			
<u>Statewide</u>			
All except coho	Apr. 15-May 14	30	
All	May 15-Sept. 30	139	
<b>1979</b>			
<u>Statewide</u>			
All except coho	Apr. 15-May 14	30	State waters.
All except coho	May 1-23	23	EEZ.
All	May 15-Sept. 30	139	State waters.
All	May 24-June 15; July 1-Sept. 30	115	EEZ.
<b>1980</b>			
<u>Statewide</u>			
All except coho	May 1-15	15	
All	May 16-31; July 1-Sept. 30	108	Closed north of Cape Vizcaino July 1-15, except open in state waters July 4-12.
<b>1981</b>			
<u>Statewide</u>			
All except coho	May 1-15	15	
All	June 1-30	30	State waters.
All	May 16-31; July 1-Sept. 30	108	
<b>1982</b>			
<u>Statewide</u>			
All except coho	May 1-15	15	Open in state waters south of Pt. Arena Apr. 22-30 (approval of 1982 federal regulations was delayed).
All	May 16-June 15; July 1-Sept. 30	123	Closed north of Pt. Arena June 9-15.
<b>1983</b>			
<u>Oregon-California Border to Cape Vizcaino</u>			
All except coho	May 16-31	16	
All	June 1-15; July 1-Aug. 31	77	Klamath River mouth 12 mi square closed in Aug.
All	June 17-27	11	State waters.
<u>Cape Vizcaino to Pt. Arena</u>			
All except coho	May 1-31	31	
All	June 1-15; July 1-Sept. 30	107	
<u>South of Pt. Arena</u>			
All except coho	Apr. 22-May 31	40	
All	June 1-15; July 1-Sept. 30	107	
<b>1984</b>			
<u>Oregon-California Border to Pt. Delgada</u>			
All except coho	May 16-June 6; July 16-Aug. 22	60	Klamath River mouth 12 mi square closed in Aug.
All	Aug. 16-22	7	State waters opened by California Legislature; Klamath River mouth 12 mi square closed.
<u>Pt. Delgada to Pt. Arena</u>			
All except coho	May 1-Sept. 30	153	
All	Aug. 16-Sept. 30	46	State waters opened by California Legislature.
<u>South of Pt. Arena</u>			
All except coho	May 1-31	31	
All	June 1-Sept. 30	122	
<b>1985</b>			
<u>Oregon-California Border to Pt. Delgada</u>			
All except coho	Closed		
<u>South of Pt. Delgada</u>			
All except coho	May 1-31	31	
All	June 1-Sept. 30	122	



TABLE C-1. Summary of actual California troll salmon seasons in state and federal (EEZ) waters. (Page 2 of 4)

Year/Area/Species <sup>a/</sup>	Season Dates	Days	Area, Minimum Size, Gear and Other Restrictions <sup>b/</sup>
<b>1986 Oregon-California Border to Pt. Delgada</b>			
All	June 16-19; 23-26; June 30-July 5; July 17-24	22	Klamath River mouth 12 mi square closed; no more than 2 coho per chinook.
All except coho	July 25-Aug. 26	33	Klamath River mouth 12 mi square closed.
All	Sept. 8-30	23	Open from south jetty of Humboldt Bay to Punta Gorda 0-6 mi.
<u>South of Pt. Delgada</u>			
All except coho	May 1-31; Aug. 21-Sept. 30	72	
All	June 1-Aug. 20	81	
<b>1987 Oregon-California Border to Pt. Delgada</b>			
All	June 1-3; 7-10; 14-25	19	Klamath River mouth 12 mi square closed; 2 coho, then no more than 1 coho per chinook.
All	Sept. 8-30	23	Open from Trinidad Head to Punta Gorda 0-6 mi.
<u>Pt. Delgada to Pt. Arena</u>			
All except coho	May 1-31	31	
All	June 1-3; 7-10; June 14-July 21	45	
All except coho	July 22-Sept. 30	71	
<u>South of Pt. Arena</u>			
All except coho	May 1-31; July 22-Sept. 30	102	
All	June 1-July 21	51	
<b>1988 Oregon-California Border to Horse Mt.</b>			
All	June 5-7	3	Klamath River mouth 12 mi square closed.
All	Sept. 1-8	8	Open from Trinidad Head to Punta Gorda 0-6 mi.
<u>Horse Mt. to Pt. Arena</u>			
All except coho	May 1-31; Aug. 20-Sept. 30	73	In May north of Cape Vizcaino: open 0-3 mi under state imposed 8,000 chinook quota; closed in EEZ.
All	June 5-8; 12-15; 19-22; 26-29; July 3-6; 10-13; July 17-Aug. 19	58	
<u>South of Pt. Arena</u>			
All except coho	May 1-31; Aug. 20-Sept. 30	42	
All	June 1-Aug. 19	80	
<b>1989 Oregon-California Border to Punta Gorda</b>			
All	June 5-8	4	Klamath River mouth 12 mi square closed.
All except coho	Aug. 18-20; 22-31	13	Klamath River mouth 12 mi square closed.
All	Sept. 15-Oct. 31	47	Open from Trinidad Head to Punta Gorda 0-6 mi.
<u>Horse Mt. to Pt. Arena</u>			
All except coho	May 1-17	17	
All	June 5-17; July 2-14; July 29-Sept. 30	90	
<u>South of Pt. Arena</u>			
All except coho	May 1-31	31	
All	June 1-Sept. 30	122	
<b>1990 Oregon-California Border to Punta Gorda</b>			
All except coho	Aug. 1-6; 8-31;	30	Klamath River mouth 12 mi square closed.
All	Sept. 3-Oct. 31	59	Open from Trinidad Head to Punta Gorda 0-6 mi.
<u>Horse Mt. to Pt. Arena</u>			
All except coho	May 1-29; Sept. 22-30	38	
All	June 6-11; 20-25; July 4-9; 18-23; Aug. 1-Sept. 21	76	
<u>South of Pt. Arena</u>			
All except coho	May 1-31; Sept. 22-30	40	
All	June 1-Sept. 21	113	

TABLE C-1. Summary of actual California troll salmon seasons in state and federal (EEZ) waters. (Page 3 of 4)

Year/Area/Species <sup>a/</sup>	Season Dates	Days	Area, Minimum Size, Gear and Other Restrictions <sup>b/</sup>
<b>1991 Oregon-California Border to Punta Gorda</b>			
All	Sept.1-Oct. 31	61	Open from Trinidad Head to Punta Gorda 0-6 mi.
<u>Horse Mt. to Pt. Arena</u>			
All	Aug. 1-2; 12-27;	18	
All except coho	Aug. 3-11; Aug. 28-Sept. 30	43	
<u>Pt. Arena to Pt. San Pedro</u>			
All except coho	May 1-31; July 12-15; Aug. 3-11;	78	
All	Aug. 28-Sept. 30		
All	June 8-12; June 26-July 2; July 11;	31	
	Aug. 1-2; Aug. 12-27;		
<u>South of Pt. San Pedro</u>			
All except coho	May 1-31; July 12-31; Aug. 3-11;	60	
All	Aug. 28-Sept. 30		
All	June 1-July 11; Aug. 1-2; Aug. 12-27	59	
<b>1992 Oregon-California Border to Horse Mt.</b>			
Closed			
<u>Horse Mt. to Pt. Arena</u>			
Closed			
<u>Pt. Arena to Pt. San Pedro</u>			
All except coho	May 1-10; Aug. 8-Sept. 30	64	May 1-10, open only south of Pt. Reyes.
All	Aug. 1-7	7	
<u>South of Pt. San Pedro</u>			
All except coho	May 1-31; Aug. 8-Sept. 30	85	
All	June 1-Aug. 7	68	
<b>1993 Oregon-California Border to Horse Mt.</b>			
Closed			
<u>Horse Mt. to Pt. Arena</u>			
All except coho	May 1-6; Sept. 1-30	36	May 1-6, open only 0-3 mi.
<u>Pt. Arena to Pt. San Pedro</u>			
All except coho	May 1-31; July 26-Aug. 31; Sept. 6-30	93	
<u>South of Pt. San Pedro</u>			
All except coho	May 1-Aug. 31; Sept. 6-30	148	
<b>1994 Oregon-California Border to Horse Mt.</b>			
Closed			
<u>Horse Mt. to Pt. Arena</u>			
All except coho	Sept. 1-30	30	
<u>Pt. Arena to Pt. Reyes</u>			
All except coho	Aug. 1-Sept. 30	61	
<u>Pt. Reyes to Pt. San Pedro</u>			
All except coho	June 15-Sept. 30	108	
<u>South of Pt. San Pedro</u>			
All except coho	May 1-June 11; July 1-Sept. 30	134	

TABLE C-1. Summary of actual California troll salmon seasons in state and federal (EEZ) waters. (Page 4 of 4)

Year/Area/Species <sup>a/</sup>	Season Dates	Days	Area, Minimum Size, Gear and Other Restrictions <sup>b/</sup>
<b>1995</b>	<u>Oregon-California Border to Horse Mt.</u>		
	Closed		
	<u>Horse Mt. to Pt. Arena</u>		
	All except coho Sept. 1-30	30	
	<u>Pt. Arena to Pt. Reyes</u>		
	All except coho July 5-Sept. 30	88	
	<u>Pt. Reyes to Pt. San Pedro</u>		
	All except coho May 24-July 4; July 19-Sept. 30	86	
	<u>South of Pt. San Pedro</u>		
	All except coho May 1-June 15; July 19-Sept. 30	120	
<b>1996</b>	<u>Oregon-California Border to Humboldt South Jetty</u>		
	All except coho Aug. 15-22	8	No more than 4 spreads per line; minimum size limit 27 in; 30 fish daily landing limit; Klamath River mouth 12 mi square closed.
	All except coho Sept. 1-14	14	No more than 4 spreads per line; minimum size limit 27 in; 30 fish daily landing limit; Klamath River mouth 12 mi square closed.
	<u>Horse Mt. to Pt. Arena</u>		
	All except coho Aug. 1-Sept. 30	61	Minimum size limit 27 in.
	<u>Pt. Arena to Pt. Reyes</u>		
	All except coho June 1-30; Aug 1-Sept. 15	76	Minimum size limit 26 in thru 6/30 and 27 in thereafter.
	<u>Bodega Head to Pt. San Pedro</u>		
	All except coho Sept. 16-30	15	Minimum size limit 27 in.
	<u>Pt. Reyes to U.S.-Mexico Border</u>		
	All except coho May 1-June 30; July 3-Sept. 15	136	Minimum size limit 26 in thru 6/30 and 27 in thereafter.
<b>1997</b>	<u>Oregon-California Border to Humboldt South Jetty</u>		
	All except coho Sept. 1-30	30	Landing limit 30 fish per day; all fish must be landed in the area; Klamath River mouth 12 mi square closed.
	<u>Horse Mt. to Pt. Arena</u>		
	All except coho Sept. 1-30	30	
	<u>Pt. Arena to Pt. Reyes</u>		
	All except coho July 16-Sept. 30	77	
	<u>Pt. Reyes to Pt. San Pedro</u>		
	All except coho July 1-Sept. 30	92	
	<u>Pt. San Pedro to U.S.-Mexico Border</u>		
	All except coho May 1-31; June 23-July 18; Sept. 1-30	87	
	<u>Pt. Lopez to Pt. Mugu</u>		
	All except coho Apr. 15-22	8	All fish must be landed within the area.

a/ Major ports located as follows: Oregon-California border to Horse Mt. includes Crescent City and Eureka; Horse Mt. to Pt. Arena includes Shelter Cove and Fort Bragg; Pt. Arena to Pt. Reyes includes Bodega Bay; Pt. Reyes to Pt. San Pedro includes San Francisco and Half Moon Bay; South of Pt. San Pedro includes Santa Cruz, Monterey and Morrow Bay.

b/ Unless otherwise noted: (1) minimum sizes (total length) are chinook 26 in., coho 22 in; (2) single barbless hooks required and (3) no more than 6 lines per vessel.



TABLE C-2. Summary of actual California recreational ocean salmon regulations. (Page 1 of 2)

Year	Area	Season	Bag Limit	Minimum Size Limit (inches)	
				All Salmon	
1977	North of Tomales Pt.	All Year	3	22 <sup>a/</sup>	
	South of Tomales Pt.	Feb. 12-Nov. 13	3	22 <sup>a/</sup>	
1978	North of Tomales Pt.	All Year	3	22 <sup>a/</sup>	
	South of Tomales Pt.	Feb. 18-Nov. 12	3	22 <sup>a/</sup>	
1979	Statewide	Feb. 17-Oct. 14	2	22 <sup>a/</sup>	
1980	Statewide	Feb. 17-Oct. 13	2	22 <sup>a/</sup>	
1981	Statewide	Feb. 14-Nov. 15	2	22 <sup>a/</sup>	
1982	Statewide	Feb. 13-Nov. 14	2	22 <sup>a/</sup>	
1983	Statewide	Feb. 12-Nov. 13	2	22 <sup>a/</sup>	
1984 <sup>b/</sup>	North of Cape Vizcaino <sup>c/</sup>	Feb. 18-June 15; July 1-Nov. 18	2	20	
	South of Cape Vizcaino	Feb. 18-Nov. 18	2	20	
1985 <sup>b/</sup>	Statewide <sup>d/</sup>	Feb. 16-Nov. 17	2	20	
1986 <sup>b/</sup>	North of Pt. Delgada <sup>c/</sup>	Feb. 16-Mar. 28; May 24-Sept. 7	2 <sup>e/f/</sup>	20	
	South of Pt. Delgada	Feb. 15-Nov. 16	2	20	
1987 <sup>g/</sup>	North of Pt. Delgada <sup>c/</sup>	May 23-Sept. 13	2 <sup>f/</sup>	20	
	South of Pt. Delgada	Feb. 14-Nov. 15	2	20	
1988 <sup>g/</sup>	North of Horse Mt. <sup>c/</sup>	May 28-Sept. 11 Sept. 12-30	2 <sup>f/</sup> 2 <sup>f/</sup>	20 20	
	South of Horse Mt.	Feb. 13-Nov. 13	2	20	
1989 <sup>g/</sup>	North of Horse Mt. <sup>c/</sup>	May 1-Sept. 30	2 <sup>f/</sup>	20	
	South of Horse Mt.	Feb. 18-Nov. 12	2	20	
1990 <sup>g/</sup>	North of Horse Mt.	May 1-Sept. 9 Sept. 10-Oct. 31 <sup>h/</sup>	2 <sup>f/i/</sup> 2 <sup>f/</sup>	20 20	
	South of Horse Mt. <sup>j/</sup>	Feb. 17-Nov. 18	2	20	
1991 <sup>g/</sup>	North of Horse Mt. <sup>c/</sup>	May 25-July 28 <sup>k/</sup> Aug. 31-Sept. 30 <sup>v/</sup> Oct. 1-31	2 <sup>f/m/</sup> 2 <sup>f/m/</sup> 2 <sup>f/</sup>	20 20 20	
	Horse Mt. to Pt. Arena	Feb. 16-Nov. 17	2	20	
	South of Pt. Arena <sup>n/</sup>	Mar. 2-Nov. 3	2	20	
1992 <sup>g/</sup>	North of Horse Mt.	July 6-8; July 13-15; July 20; Sept. 1-7	1	20	
	Horse Mt. to Pt. Arena	Feb. 15-May 31; June 30-July 16; Sept 1-Nov. 15	2	20	
	Pt. Arena to Pt. San Pedro <sup>o/</sup>	Feb. 29-May 31; June 30-Nov. 1 June 1-29 <sup>p/</sup>	2 2	20 20	
	South of Pt. San Pedro	Feb. 29-Nov. 1	2	20	
1993 <sup>g/</sup>	North of Horse Mt. <sup>c/</sup>	May 1-June 19; July 14-Aug. 28 <sup>q/</sup> Sept. 1-6	1 1	20 20	
	Horse Mt. to Pt. Arena	Feb. 13-Nov. 14	2	20	
	South of Pt. Arena <sup>r/</sup>	Feb. 27-Oct. 31	2 <sup>s/</sup>	20	
1994 <sup>g/</sup>	North of Horse Mt. <sup>c/t/</sup>	May 1-June 7; Aug. 27-31; Sept. 1-5	2	20	
	Horse Mt. to Pt. Arena <sup>u/</sup>	Feb. 12-June 30; Aug. 1-Nov. 13	2	20	
	South of Pt. Arena <sup>u/v/</sup>	Feb. 26-Oct. 30	2	20	

TABLE C-2. Summary of actual California recreational ocean salmon regulations. (Page 2 of 2)

Year	Area	Season	Bag Limit	Minimum Size Limit (inches) All Salmon
1995 <sup>g/</sup>	North of Horse Mt. <sup>c/t</sup>	May 17-July 1; Aug. 16-18 <sup>q/</sup> Sept. 1-9	1 <sup>f/</sup>	20 20
	Horse Mt. to Pt. Arena <sup>u/</sup>	Feb. 18-June 30; Aug. 1-Nov. 12	2	20
	South of Pt. Arena <sup>u/v/</sup>	Mar. 4-Oct. 29	2	20
1996 <sup>g/</sup>	North of Horse Mt. <sup>c/t/w/</sup>	May 12-July 7; Aug. 18-Sept. 21	1	20
	Horse Mt. to Pt. Arena <sup>t/w/</sup>	Feb. 17-July 7; Aug. 1-Nov. 17	2	24
	Pt. Arena to Pt. San Pedro <sup>t/w/</sup>	Mar. 2-Oct. 14 <sup>x/</sup>	2	24 <sup>y/</sup>
	South of Pt. San Pedro <sup>t/w/</sup>	Mar. 2-Aug. 25 <sup>x/</sup>	2	24 <sup>y/</sup>
1997 <sup>g/</sup>	North of Horse Mt. <sup>c/t/w/</sup>	May 24-30; June 17-July 6; Aug. 12-Sept. 14	1	20
	Horse Mt. to Pt. Arena <sup>t/w/</sup>	Feb. 15-July 6; Aug. 1-Nov. 16	2	24
	Pt. Arena to Pigeon Pt. <sup>t/w/</sup>	Mar. 29-Nov. 2	2	24
	South of Pigeon Pt. <sup>t/w/</sup>	Mar. 15-Oct. 19	2	24

- a/ Except that 1 salmon per day could be less than 22 inches, but not less than 20 inches.
- b/ Only single-point barbless hooks.
- c/ The 12-mile square off the Klamath River mouth closed during the month of Aug.
- d/ Closed to salmon fishing north of Pt. Delgada on Mondays and Tuesdays, July 19-Aug. 31 by action of the California Fish and Game Commission; 12-mile square closed off Klamath River mouth Aug. 1-31.
- e/ Prior to June 23, not more than 1 coho and 1 chinook.
- f/ Beginning in May, not more than 6 salmon in any 7 consecutive days.
- g/ Only single-point barbless hooks north of Pt. Conception.
- h/ Open only from Trinidad Head to Punta Gorda inside 6 miles.
- i/ Only 1 could be a chinook, June 30-Aug. 15.
- j/ A control zone near the mouth of San Francisco Bay closed Mar. 1-Apr. 30 and Nov. 1-18.
- k/ Closed Tuesdays and Wednesdays each week.
- l/ Closed Monday through Thursday each week except open Monday, Sept. 2.
- m/ Only 1 could be a chinook.
- n/ A control zone near the mouth of San Francisco Bay closed Mar. 2-31.
- o/ A control zone (at the mouth of San Francisco Bay) closed Feb. 29-Apr. 3.
- p/ Open inside conservation zone near the mouth of San Francisco Bay.
- q/ Open Wednesday through Saturday only.
- r/ Control zone at the mouth of San Francisco Bay closed Feb. 27-Apr. 2.
- s/ Sept. 1 through end of season only 1 fish of the 2-fish bag limit could be 26 inches or longer.
- t/ All salmon except coho.
- u/ All salmon through Apr. 30, then all salmon except coho.
- v/ Control zone at mouth of San Francisco Bay closed from opening of season through Mar. 31.
- w/ All persons fishing for salmon, and all persons fishing from a boat with salmon on board, may use no more than one rod per angler north of Point Conception. South of Pt. Arena, special gear restrictions were in effect governing the size and number of hooks when fishing with bait and 1 pound or less of weight.
- x/ Closed in federal waters July 2-14 to reduce impacts on Sacramento winter chinook to account for a delay in increasing the size limit within state waters during this same time.
- y/ After July 1, minimum size limit 26 inches; except the 24 inch limit remained in effect within state waters thru July 14.

TABLE C-3. Summary of actual Oregon troll salmon seasons in state and federal (EEZ) waters. (Page 1 of 6)

Year	Area	Seasons		Number of Days		Minimum Size Limit	
		All-Salmon-Except-Coho	All Salmon	All Except Coho	All Salmon	Chinook	Coho
1979	North of Cape Falcon	May 1-31	July 1-24; Aug. 4-31 <sup>a/</sup>	31	52	28	16
	Cape Falcon to OR/CA Border	May 1-31; Sept. 4-Oct. 31	July 1-Sept. 3 <sup>b/</sup>	89	65	26	16
	Cape Blanco to Humbug Mt. and Goat Island to OR/CA Border	Nov. 1-30 <sup>c/</sup>		30	-	26	-
1980	North of Cape Falcon	May 1-31	July 15-Sept. 8	31	56	28	16
	Cape Falcon to Cape Blanco	May 1-31; June 16-30; Sept. 9-Oct. 31	July 15-Sept. 8	99	56	26	16
	Cape Blanco to OR/CA Border	May 1-31; Sept. 9-Oct. 31	July 15-Sept. 8	84	56	26	16
	Cape Blanco to Humbug Mt. and Goat Island to OR/CA Border	Nov. 1-30 <sup>c/</sup>		30	-	26	-
1981	North of Cape Falcon	May 1-31	July 15-Aug. 21 <sup>d/e/</sup>	31	38	28	16
	Cape Falcon to OR/CA Border	May 1-31; Aug. 22-Sept. 8; <sup>f/</sup> Sept. 9-Oct. 31	July 1-Aug. 21 <sup>e/</sup>	102	55	26	16
	Cape Blanco to Humbug Mt. and Goat Island to OR/CA Border	Nov. 1-30 <sup>c/</sup>		30	-	26	-
1982	North of Cape Falcon	May 1-31	July 1-8	31	8	28	16
	Cape Falcon to Cape Blanco	May 1-June 15; July 13-Oct. 31	July 1-12	157	12	26	16
	Cape Blanco to OR/CA Border	May 1-June 8; July 13-Oct. 31	July 1-12	150	12	26	16
	Cape Blanco to Humbug Mt. and Goat Island to OR/CA Border	Nov. 1-30 <sup>c/</sup>		30	-	26	-
1983	North of Cape Falcon	May 1-31	July 1-31; <sup>g/</sup> Aug. 10-Sept. 8 <sup>h/</sup>	31	61	28	16
	Cape Falcon to Cape Kiwanda	May 1-31	Aug. 1-Sept. 4	103	35	26	16
	Cape Kiwanda to Heceta Head	May 1-31; June 1-15; Sept. 5-Oct. 31	July 1-25; Aug. 1-Sept. 4	103	60	26	16
	Heceta Head to Cape Blanco	May 1-31; June 1-15; July 26-Oct. 31 <sup>i/</sup>	July 1-25	144	25	26	16
	Cape Blanco to OR/CA Border	May 16-31; June 1-15; July 26-Sept. 15; <sup>j/</sup> Oct. 1-31	July 1-25	114	25	26	16
	Cape Blanco to Humbug Mt.	Nov. 1-30 <sup>c/</sup>		30	-	26	-

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TABLE C-3. Summary of actual Oregon troll salmon seasons in state and federal (EEZ) waters. (Page 2 of 6)

Year	Area	Seasons		Number of Days		Minimum Size Limit	
		All-Salmon-Except-Coho	All Salmon	All Except Coho	All Salmon	Chinook	Coho
1984	North of Cape Falcon	May 1-7	-	7	-	28	-
	Columbia River to Cape Falcon	-	Aug. 4-6	-	3	28	16
	Cape Falcon to Cape Blanco	May 1-June 15; July 1-Sept. 21 <sup>k/</sup>	-	129	-	26	-
	Manhattan Beach to Pyramid Rock	Oct. 1-31 <sup>c/</sup>	-	31	-	26	-
	Cape Blanco to OR/CA Border	May 16-June 6; July 16-Aug. 22	-	60	-	26	-
	Cape Blanco to Humbug Mt.	Oct. 1-Nov. 30 <sup>c/</sup>	-	61	-	26	-
1985	North of Cape Falcon	May 1-14; May 21-31	Aug. 21	25	1	28	16
	Cape Falcon to Cape Blanco	May 1-June 30; July 27-Oct. 31	July 1-26 <sup>v/</sup>	158	26	26	16
	Cape Blanco to Humbug Mt.	Oct. 1-Nov. 30 <sup>c/</sup>	-	61	-	26	-
	Tower Rock to Cape Blanco	Nov. 1-30 <sup>c/</sup>	-	30	-	26	-
1986	North of Cape Falcon	May 1-10; 14-17; 24-27; 30-31	Aug. 2-3; Aug. 7-9	20	5	28	16
	Cape Falcon to Cape Perpetua	May 1-June 30; July 25-Oct. 31	July 1-20; July 23-24 <sup>m/</sup>	160	22	26	16
	Cape Perpetua to Cape Blanco	May 1-June 30; July 25-Oct. 31	July 1-20; July 23-24 <sup>n/</sup>	160	22	26	16
	Twin Rocks to Pyramid Rock	Nov. 1-15	-	15	-	26	-
	Sisters Rocks to Chetco Pt. <sup>o/</sup>	May 1-June 6	-	37	-	26	-
	Cape Blanco to OR/CA Border	July 25-Aug. 26	June 16-19; 23-26; June 30-July 5; July 17-24 <sup>p/</sup>	24	22	26	22
	Sisters Rocks to Mack Arch	Aug. 29	-	1	-	26	-
	Cape Blanco to Humbug Mt.	Oct. 1-Nov. 26	-	57	-	26	-
1987	North of Cape Falcon	May 1-10; May 14-15	July 25-26	12	2	28	16
	Cape Falcon to Cascade Head	May 1-July 14; Sept. 16-Oct. 31	July 15-28; Aug. 1-Sept. 15 <sup>q/r/</sup>	121	60	26	16
	Cascade Head to Cape Perpetua	May 1-July 14; Sept. 16-Oct. 31	July 15-28; <sup>q/</sup> Aug. 1-Sept. 15 <sup>r/s/</sup>	121	60	26	16
	Cape Perpetua to Cape Blanco	May 1-June 30; Sept. 16-Oct. 31 <sup>v/</sup>	July 1-28; Aug. 1-Sept. 15 <sup>r/u/</sup>	107	74	26	16
	Sisters Rocks to Chetco Pt. <sup>o/</sup>	May 1-14	-	14	-	26	-
	Cape Blanco to OR/CA Border	-	June 1-3; June 7-10; June 14-25 <sup>v/</sup>	-	19	26	22
	Cape Blanco to Humbug Mt. <sup>c/</sup>	Oct. 1-Nov. 30	-	61	-	26	-

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TABLE C-3. Summary of actual Oregon troll salmon seasons in state and federal (EEZ) waters. (Page 3 of 6)

Year	Area	Seasons		Number of Days		Minimum Size Limit	
		All-Salmon-Except-Coho	All Salmon	All Except Coho	All Salmon	Chinook	Coho
1988	North of Cape Falcon	May 1-June 14	-	45	-	28	-
	Cape Falcon to Cascade Head	May 1-June 30; Aug. 20-Oct. 31	July 1-Aug. 19	134	50	26	16
	Cascade Head to Cape Arago	May 1-June 30; Aug. 20-Oct. 31	July 1-13; July 16-Aug. 19 <sup>v</sup>	134	48	26	16
	Cape Arago to Orford Reef Red Buoy	May 1-June 30; Aug. 20-31; Sept. 16-Oct. 31	July 16-Aug. 19	119	35	26	16
	Sisters Rocks to Chetco Pt. <sup>o/</sup>	May 1-4	-	4	-	26	-
	Orford Reef Red Buoy to OR/CA Border	-	June 5-7	-	3	26	22
	Sisters Rocks to Mack Arch <sup>o/</sup>	Sept. 1-14	-	14	-	26	-
	Orford Reef Red Buoy to Humbug Mt. <sup>c/</sup>	Oct. 1-31	-	31	-	26	-
1989	Cape Blanco to Humbug Mt. <sup>c/</sup>	Nov. 1-30	-	30	-	26	-
	North of Cape Falcon	May 1-June 8; June 13-15	Aug. 21; Aug. 24-Sept. 10 <sup>v/w/</sup>	42	19	28	16
	Cape Falcon to Cascade Head	May 1-July 11; Aug. 18-Oct. 31	July 12-14; July 18-Aug. 17 <sup>x/</sup>	147	34	26	16
	Cascade Head to Cape Arago	May 1-June 23; Aug. 18-Oct. 31	July 1-14; July 18-Aug. 17 <sup>y/</sup>	129	45	26	16
	Cape Arago to Orford Reef Red Buoy	May 1-June 23; Sept. 1-Oct. 31	July 1-14; Aug. 1-Aug. 17 <sup>y/</sup>	115	31	26	16
	Orford Reef Red Buoy to Humbug Mt. <sup>c/</sup>	Oct. 1-31	-	31	-	26	-
	Cape Blanco to Humbug Mt. <sup>c/</sup>	Nov. 1-30	-	30	-	26	-
	Humbug Mt. to OR/CA Border	Aug. 18-20; Aug. 22-31 <sup>z/</sup>	June 5-8 <sup>z/</sup>	13	4	26	22
1990	Sisters Rocks to House Rock <sup>o/</sup>	May 1-2	-	2	-	26	-
	Sisters Rocks to Mack Arch <sup>o/</sup>	Sept. 1-14	-	14	-	26	-
	North of Cape Falcon	May 1-14; 18-27; May 31-June 2; June 8-11; June 14	Aug. 18-21; 25-26; Aug. 30-Sept. 14; Sept. 18-19; Sept. 22-Oct. 15 <sup>aa/</sup>	32	48	28	16
	Cape Falcon to Cascade Head	May 1-June 25; July 4-15; Sept. 1-Oct. 31	July 16-Aug. 31 <sup>bb/</sup>	129	47	26	16
	Cascade Head to Cape Arago	May 1-June 25; Aug. 1-Oct. 31	July 4-31 <sup>cc/</sup>	148	28	26	16
	43°30'00"N to Cape Arago <sup>c/</sup>	-	Nov. 1-14 <sup>dd/</sup>	-	14	26	16
	Cape Arago to Humbug Mt.	May 1-June 25; Aug. 1-6; Aug. 15-Oct. 31	July 4-9; July 18-23 <sup>cc/</sup>	140	12	26	16
	Sisters Rocks to House Rock <sup>o/</sup>	May 1-24	-	24	-	26	-
1991	Sisters Rocks to OR/CA Border	Aug. 1-6; Aug. 8-31	-	30	-	26	-
	Sisters Rocks to Mack Arch <sup>o/</sup>	Sept. 3-16	-	14	-	26	-

TABLE C-3. Summary of actual Oregon troll salmon seasons in state and federal (EEZ) waters. (Page 4 of 6)

Year	Area	Seasons		Number of Days		Minimum Size Limit	
		All-Salmon-Except-Coho	All Salmon	All Except Coho	All Salmon	Chinook	Coho
1991	North of Cape Falcon	May 1-June 15	Aug. 10-11 <sup>ee/</sup> ; Sept. 1-2 <sup>ff/</sup>	46	4	28	16
	Cape Falcon to Cascade Head	May 1-June 30; <sup>gg/</sup> July 15-23; Aug. 1-Oct. 31	July 1-14	162	14	26	16
	Cascade Head to Florence South Jetty	May 1-June 23; <sup>gg/</sup> July 12-23; Aug. 1-Oct. 31	June 24-July 11	158	18	26	16
	Florence South Jetty to Cape Arago	July 12-14; Aug. 1-9	June 24-July 11	12	18	26	16
	Florence South Jetty to Humbug Mt.	Sept. 1-Oct. 31	-	61	-	26	-
	Sisters Rocks to Mack Arch	Sept. 1-15 <sup>c/</sup>	-	15	-	26	-
1992	North of Cape Falcon	May 1-June 15	July 20-21; 25-27; July 31-Aug. 2; Aug. 6-8; 12-14; Aug. 20-22 <sup>gg/h/ii/</sup>	46	17	28	16
	Cape Falcon to Cascade Head	May 1-31; <sup>gg/</sup> Sept. 1-Oct. 31	July 22-Aug. 21; <sup>p/</sup> Aug. 22-31 <sup>ii/</sup>	92	41	26	16
	Cascade Head to Florence South Jetty	May 1-31; <sup>gg/</sup> Aug. 8-Oct. 31	July 22-Aug. 7 <sup>p/</sup>	116	17	26	16
	Cape Blanco to Humbug Mt.	Oct. 24-26 <sup>c/</sup>	-	3	-	26	-
1993	North of Cape Falcon	May 1-June 15	July 14-17; 21-24; 28-31; Aug. 4-6; 27-28; Sept. 1-4; 9-12; 16-19 <sup>kk/</sup>	46	29	28	16
	Cape Falcon to Florence South Jetty	May 1-Oct. 31 <sup>gg/</sup>	-	184	-	26	-
	Florence South Jetty to Cape Arago	May 1-June 30; Sept. 1-Oct. 31 <sup>gg/</sup>	-	122	-	26	-
	Cape Arago to Humbug Mt.	May 1-31; Sept. 1-Oct. 31 <sup>gg/</sup>	-	92	-	26	-
	Cape Blanco to Humbug Mt.	Nov. 1-30 <sup>c/</sup>	-	30	-	26	-
1994	North of Cape Falcon	-	-	-	-	-	-
	Cape Falcon to Cascade Head	May 1-June 30; Oct. 1-31 <sup>gg/</sup>	-	92	-	26	-
	Twin Rocks to Pyramid Rock	Nov. 1-15 <sup>c/gg/</sup>	-	15	-	26	-
	Cascade Head to Florence South Jetty	May 1-June 30; Sept. 1-Oct. 31 <sup>gg/</sup>	-	122	-	26	-
	Florence South Jetty to Humbug Mt.	May 1-June 30; Sept. 1-Oct. 31 <sup>gg/</sup>	-	122	-	26	-
	Cape Blanco to Humbug Mt.	Nov. 1-7 <sup>c/gg/</sup>	-	7	-	26	-
	Sisters Rocks to House Rock	May 1-2; 5-6; 10-11; 14-15; 18-31 <sup>o/gg/</sup>	-	22	-	26	-
	Sisters Rocks to Mack Arch	Aug. 8-31 <sup>o/gg/</sup>	-	24	-	26	-
Goat Island to Red Pt.	Oct. 10-25; 30-31 <sup>c/z/gg/</sup>	-	18	-	26	-	

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TABLE C-3. Summary of actual Oregon troll salmon seasons in state and federal (EEZ) waters. (Page 5 of 6)

Year	Area	Seasons		Number of Days		Minimum Size Limit	
		All-Salmon-Except-Coho	All Salmon	All Except Coho	All Salmon	Chinook	Coho
1995	North of Cape Falcon	-	-	-	-	-	-
	Cape Falcon to Cape Arago	May 1-June 30; Aug. 1-Oct. 31 <sup>gg/ll/</sup>	-	153	-	26	-
	Cape Arago to Humbug Mt.	May 1-June 30; Sept. 1-Oct. 31 <sup>gg/</sup>	-	122	-	26	-
	Cape Blanco to Humbug Mt.	Nov. 1-7 <sup>mm/nn/</sup>	-	7	-	26	-
	Sisters Rocks to House Rock	May 1-2; 5-6; 10-11; 14-15; 18-31 <sup>oo/</sup>	-	22	-	26	-
	Sisters Rocks to Mack Arch	July 24-25 <sup>oo/</sup>	-	2	-	26	-
	Goat Isl. to 42°01'20" N	Oct. 10-20 <sup>pp/nn/</sup>	-	11	-	26	-
1996	North of Cape Falcon	-	-	-	-	-	-
	Cape Falcon to Cape Arago	May 1-Jun. 30; Aug. 7-Oct. 31 <sup>gg/qq/</sup>	-	147	-	26	-
	Cape Arago to OR/CA Border	May 1-4; May 8-11; May 15-June 4 <sup>gg/</sup>	-	29	-	26	-
	Cape Arago to Humbug Mtn.	Aug. 7-Oct. 31 <sup>gg/</sup>	-	86	-	26	-
	Cape Blanco to Humbug Mtn.	Nov. 1-30 <sup>mm/nn/</sup>	-	30	-	26	-
	Sisters Rocks to Mack Arch	Aug. 3-4; 7-8; 11-12; 15-31 <sup>rr/</sup>	-	23	-	26	-
	Goat Island to 42°01'20"N	Oct. 14-31 <sup>nn/pp/</sup>	-	18	-	26	-
1997	North of Cape Falcon	May 1-June 15	-	46	-	28	-
	Cape Falcon to Cape Arago	Apr. 15-June 27; Aug. 1-31; Sept. 4-Oct. 31 <sup>gg/ss/</sup>	-	163	-	26	-
	Twin Rocks to Pyramid Rock	Nov. 1-15	-	15	-	26	-
	Cape Arago to OR/CA Border	Apr. 15- May 28	-	44	-	26	-
	Cape Arago to Humbug Mtn.	Aug. 1-Oct. 31 <sup>gg/</sup>	-	92	-	26	-
	Cape Blanco to Humbug Mtn.	Nov. 1-30 <sup>mm/nn/</sup>	-	30	-	26	-
	Sisters Rocks to Mack Arch	Aug. 1-2; 5-6; 9-10; 13-31 <sup>rr/</sup>	-	25	-	26	-
	Goat Island to 42°01'20"N	Oct. 13-25; 29-30 <sup>nn/pp/</sup>	-	15	-	26	-

a/ Closed early in response to court order to meet Columbia River fall chinook treaty Indian obligations.

b/ Closed in Oregon waters Sept. 3 for coho. EEZ closed on Sept. 15.

c/ State waters only.

d/ Special lottery-selected, 10-boat only experimental troll fishery off Columbia River mouth out to 12 miles for coho only from Sept. 20-Oct. 9.

e/ State waters open until Aug. 24.

f/ From Aug. 25 in state waters, Cape Falcon to Cape Sebastian, whole bait or ≥5 inch plugs.

g/ Incidental coho allowance ≤33 percent per trip; 20,000 coho total. Conservation zone closure off Columbia River mouth, May 1-31 and July 1-31.

h/ Limited to area of Columbia River (south jetty) to Cape Falcon out to 10 miles only.

i/ From July 26-31, chinook fishing allowed from Cape Perpetua south.

j/ From Sept. 1-15, fishery limited to 12 by 24 mile area off Rogue River mouth.

k/ Sept. 1-21 state waters only.

TABLE C-3. Summary of actual Oregon troll salmon seasons in state and federal (EEZ) waters. (Page 6 of 6)

- l/ At least 1 chinook must be possessed or landed for each coho possessed or landed.
- m/ A single daily possession or landing of 50 coho is permitted without chinook restrictions. Over 50 coho, at least 1 chinook must be possessed or landed for each 2 coho possessed or landed.
- n/ July 1-20, at least 1 chinook must be possessed or landed for each 2 coho possessed or landed. July 23-24 see footnote m/.
- o/ Open from 0 to 6 nautical miles only.
- p/ At least 1 chinook must be possessed or landed for each 2 coho possessed or landed during the all salmon season.
- q/ July 15-Aug. 28, a single daily possession limit of 100 coho is permitted without chinook restrictions. Over 100 coho, at least 1 chinook must be possessed or landed for each 2 coho possessed or landed.
- r/ Aug. 29-Sept. 15, 200 coho may be possessed or landed without chinook restrictions. Over 200 coho, at least 1 chinook must be possessed or landed for each 2 coho possessed or landed.
- s/ Aug. 1-28, at least 1 chinook must be possessed or landed for each 2 coho possessed or landed, except that 1 coho may be possessed or landed without having chinook.
- t/ Sept. 16-18 closed to all commercial salmon fishing from Cape Arago to Cape Blanco.
- u/ One chinook must be possessed or landed for each 2 coho possessed or landed, except that the first 2 coho may be landed without a chinook.
- v/ Open from Columbia River to Cape Falcon on Aug. 21, open area extended north to Leadbetter Pt. from Aug. 24-Sept. 10.
- w/ A single daily limit of 40 coho and 4 chinook in effect Aug. 21 and Aug. 24-27. Daily landing limit of 40 coho and 8 chinook in effect from Aug. 28-Sept. 10.
- x/ A single daily landing of 50 coho in effect from July 18-Aug. 13. From Aug. 14-17, at least 1 chinook must be landed for each 2 coho landed, except that a single daily landing of 2 coho without any chinook is permitted.
- y/ A single daily landing of 50 coho plus 3 coho for each chinook landed in effect from July 1-14. For the remainder of the season, at least 1 chinook must be landed for each 2 coho landed, except that a single daily landing of 2 coho without any chinook is permitted.
- z/ A single daily landing of 20 chinook was permitted.
- aa/ Vessel landing limits of not more than 20 chinook and 200 coho for Aug. 18-21 opening and not more than 200 coho for Aug. 25-26 opening. Single daily landing limits of 50 coho during Aug. 30-Sept. 24 and 100 coho after Sept. 25.
- bb/ Single daily landing limit per vessel of 50 coho without landing chinook. Above 50 coho, at least 1 chinook must be landed for each coho.
- cc/ At least 1 chinook must be landed for each coho landed, except 1 coho may be landed without having chinook.
- dd/ Special test fishery restricted to 10 lottery selected vessels.
- ee/ Open period restriction of not more than 100 coho per vessel.
- ff/ Open period restriction of not more than 75 coho per vessel.
- gg/ Gear restriction of not more than 4 spreads per line. In 1991 this restriction applied only in June. In 1992 and 1993 the restriction applied in May and June. Beginning in 1993, the restriction applied to the entire season.
- hh/ Open period restriction of not more than 30 coho per vessel from July 20-21 and not more than 44 coho per vessel for each of the remaining open periods.
- ii/ Gear restricted to 6 inch plugs or larger.
- jj/ Single daily landing limit of 25 coho without landing chinook. Above 25 coho, at least 1 chinook must be landed for each 2 coho.
- kk/ Gear restriction of not more than 4 spreads per line for all open periods. From July 14 through Aug. 6, gear restriction of plugs and/or whole bait 6 inches or larger. Coho landing restriction per open period as follows: not more than 50 per period from July 14 through Aug. 6; not more than 35 coho per period from Aug. 27-28; and not more than 70 per period from Sept. 1-19.
- ll/ Closed at mouth of Tillamook Bay in June, Aug. and Sept.; open only 0-3 miles north of Cape Lookout in Sept.
- mm/ No more than 4 spreads per line. Open 0-3 miles. Landings restricted to Port Orford.
- nn/ Chinook only.
- oo/ No more than 4 spreads per line. Open 0-6 nautical miles in May and 0-4 nautical miles in July. Landings restricted to Port Orford, Gold Beach and Brookings. Closed within 1 mile of Rogue River mouth.
- pp/ No more than 4 spreads per line. Open 0-3 miles. Single daily landing limit of 20 chinook into the port of Brookings.
- qq/ Closed at mouth of Tillamook Bay from June 1 through Sept. 15.
- rr/ No more than 4 spreads per line. Open 0-4 miles. Landings restricted to Port Orford, Gold Beach, and Brookings. Closed within 1 mile of Rogue River mouth.
- ss/ Closed at mouth of Tillamook Bay from April 15 through Sept. 15.

TABLE C-4. Summary of actual Oregon recreational ocean salmon seasons, size limits and bag limits in state and federal (EEZ) waters. (Page 1 of 4)

Year	Area	Season <sup>a/</sup>	Days	Bag Limit	Minimum Size Limit (inches)	
					Chinook	Coho
1980	North of Cape Falcon	May 10-July 15	67	3	24	16
		July 16-Sept. 1	48	2	24	16
		Sept. 2-14 <sup>b/</sup>	13	2 <sup>c/</sup>	24	-
	South of Cape Falcon	May 10-July 15	67	3	22	16
		July 16-Sept. 1	48	2	22	16
		Sept. 2-14 <sup>b/</sup>	13	2	22	16
	Cape Blanco to Humbug Mt. Goat Island to OR/CA Border	Sept. 15-Oct. 31	60	2 <sup>d/</sup>	22	-
		Nov. 1-30 <sup>b/</sup>	30	2 <sup>c/</sup>	22	-
		Nov. 1-30 <sup>b/</sup>	30	2 <sup>c/</sup>	22	-
1981	North of Cape Falcon	May 23-Aug. 26	108	2	24	16
		Aug. 27-Sept. 7 <sup>b/</sup>	12	2	24	16
	South of Cape Falcon	May 15-Aug. 13	115	2	22	16
		Aug. 14-26	13	3	22	16
		Aug. 27-Sept. 20 <sup>b/</sup>	25	3	22	16
	South of Cape Blanco Cape Blanco to Humbug Mt. Goat Island to OR/CA Border	Sept. 21-Oct. 31	41	2 <sup>c/</sup>	22	-
		Nov. 1-30 <sup>b/</sup>	30	2 <sup>c/</sup>	22	-
		Nov. 1-30 <sup>b/</sup>	30	2 <sup>c/</sup>	22	-
1982	Leadbetter Pt. to Cape Falcon	June 12-July 24	43	2	24	16
	Columbia River South Jetty to Cape Falcon	July 25-Aug. 1 <sup>b/</sup>	8	2 <sup>e/</sup>	24	16
	Cape Falcon to Cape Blanco	May 29-July 21	54	2 <sup>f/</sup>	None	None
		July 22-Aug. 1 <sup>b/</sup>	11	2 <sup>f/</sup>	None	None
	Cape Blanco to Humbug Mt. Goat Island to OR/CA Border	Aug. 2-Oct. 31	91	2 <sup>c/f/</sup>	None	-
		Nov. 1-30 <sup>b/</sup>	30	2 <sup>c/f/</sup>	None	-
		Nov. 1-30 <sup>b/</sup>	30	2 <sup>c/f/</sup>	None	-
1983	Klipsan Beach to Cape Falcon	June 18-July 29 <sup>g/h/</sup>	42	2	24	16
		July 30-Aug. 15	17	2	24	16
	Columbia River South Jetty to Cape Falcon	Aug. 16-Sept. 11 <sup>h/i/</sup>	44	2	24	16
	Cape Falcon to Cape Blanco	June 18-Sept. 18	93	2 <sup>f/</sup>	None	None
	Twin Rocks to Pyramid Rock	Sept. 19-Oct. 31 <sup>b/</sup>	43	2 <sup>c/</sup>	24	-
	South of Cape Blanco Cape Blanco to Humbug Mt.	May 28-Sept. 18	114	2 <sup>f/</sup>	None	None
		Sept. 19-Oct. 31	43	2 <sup>c/f/</sup>	None	None
		Nov. 1-30 <sup>b/</sup>	30	2 <sup>c/f/</sup>	None	-
1984	Columbia River South Jetty to Cape Falcon	July 28-Aug. 8 <sup>h/i/j/</sup>	12	2 <sup>k/</sup>	None	16
	Cape Falcon to Cape Blanco	July 9-Aug. 7	30	2	20	20
		Aug. 25-Sept. 3 <sup>b/</sup>	10	1	20	20
	Manhattan Beach to Pyramid Rock	Sept. 15-21 <sup>b/</sup>	7	2 <sup>c/</sup>	20	-
	South of Cape Blanco	July 9-Aug. 7	30	2	20	20
		Aug. 8-24	17	2 <sup>c/</sup>	20	-
		Aug. 25-Sept. 3 <sup>b/l/</sup>	10	2 <sup>e/</sup>	20	20
	Cape Blanco to Humbug Mt.	Sept. 4-Oct. 31	58	2 <sup>c/</sup>	20	-
Nov. 1-30 <sup>b/</sup>		30	2 <sup>c/</sup>	20	-	
1985	Leadbetter Pt. to Cape Falcon	June 30-Aug. 22 <sup>h/j/m/</sup>	40	2	24	16
	Cape Falcon to Cape Blanco	July 1-Sept. 2	64	2 <sup>f/n/</sup>	None	None
	Twin Rocks to Pyramid Rock	Sept. 15-Oct. 31 <sup>b/</sup>	47	2 <sup>c/n/</sup>	None	-
	South of Cape Blanco	May 25-31; July 1-Sept. 2	71	2 <sup>f/n/</sup>	None	None
		Sept. 3-Oct. 31	59	2 <sup>c/f/n/</sup>	None	-
	Tower Rock to Humbug Mt.	Oct. 1-Nov. 30 <sup>b/</sup>	61	2 <sup>c/n/</sup>	None	-



TABLE C-4. Summary of actual Oregon recreational ocean salmon seasons, size limits and bag limits in state and federal (EEZ) waters. (Page 2 of 4)

Year	Area	Season <sup>a/</sup>	Days	Bag Limit	Minimum Size Limit (inches)	
					Chinook	Coho
1986	Columbia River South Jetty to Cape Falcon	June 29-Aug. 19 <sup>i/m/</sup>	37	2	24	16
	Cape Falcon to Cape Blanco	May 24-26; June 28-July 26	32	2 <sup>i/n/</sup>	None	None
		July 27-Aug. 13 <sup>o/</sup>	9	2 <sup>i/p/</sup>	None	None
	Twin Rocks to Pyramid Rock	Sept. 15-Nov. 15 <sup>b/</sup>	62	2 <sup>c/n/</sup>	None	-
	South of Cape Blanco	May 24-June 22	30	2 <sup>q/n/</sup>	20	20
		June 23-Sept. 7	77	2 <sup>n/</sup>	20	20
	Cape Blanco to Humbug Mt. Bird Isl. to OR/CA Bdr. East of 124°20'W	Oct. 1-Nov. 26 <sup>b/</sup> Oct. 1-31 <sup>b/</sup>	57 31	2 <sup>c/n/</sup> 2 <sup>c/n/</sup>	20 20	- -
1987	North of Cape Falcon	June 29-Aug. 19 <sup>h/j/m/r/</sup>	39	2	24	16
	Cape Falcon to Cape Blanco	June 13-Sept. 13	93	2 <sup>i/n/</sup>	None	None
	Twin Rocks to Pyramid Rock	Sept. 15-Oct. 31 <sup>b/</sup>	46	2 <sup>i/n/</sup>	None	-
	South of Cape Blanco	May 23-Sept. 13	114	2 <sup>n/</sup>	20	20
	Cape Blanco to Humbug Mt.	Oct. 1-Nov. 30 <sup>b/</sup>	61	2 <sup>c/n/</sup>	20	-
	Bird Isl. to OR/CA Bdr. East of 124°20'W	Oct. 1-31 <sup>b/</sup>	31	2 <sup>c/n/</sup>	20	-
1988	Klipsan Beach to Cape Falcon	July 11-24 <sup>h/m/s/</sup>	10	2 <sup>v/</sup>	24	16
	Cape Falcon to Orford Reef Red Buoy	May 1-27 <sup>b/u/</sup>	27	2 <sup>n/</sup>	20	16
		May 28-Sept. 11	107	2 <sup>n/</sup>	20	16
	Twin Rocks to Pyramid Rock	Sept. 12-Oct. 31 <sup>b/</sup>	50	2 <sup>c/n/</sup>	None	-
	South of Orford Reef Red Buoy	May 28-July 9	43	2 <sup>n/</sup>	20	20
		July 10-Sept. 11	64	1 <sup>n/</sup>	20	20
	Orford Reef Red Buoy to Humbug Mt.	Oct. 1-31 <sup>b/</sup>	31	2 <sup>c/n/</sup>	None	-
	Cape Blanco to Humbug Mt.	Nov. 1-30 <sup>b/</sup>	30	2 <sup>c/n/</sup>	None	-
1989	North of Cape Falcon	May 28-June 12 <sup>h/v/</sup>	10	2 <sup>c/</sup>	24	-
	Leadbetter Pt. to Cape Falcon	June 26-Aug. 17 <sup>h/m/</sup>	39	2	24	16
	Cape Falcon to Orford Reef Red Buoy	May 1-26 <sup>u/</sup>	26	2 <sup>n/</sup>	20	16
		May 27-July 27	62	2 <sup>n/</sup>	20	16
		July 28-Aug. 20 <sup>m/</sup>	16	2 <sup>n/</sup>	20	16
		Sept. 2-4	3	2 <sup>n/</sup>	20	16
	Twin Rocks to Pyramid Rock	Sept. 16-Oct. 31 <sup>b/</sup>	46	2 <sup>c/n/</sup>	24	-
	South of Orford Reef Red Buoy	May 1-Sept. 30	153	2 <sup>n/</sup>	20	20
	Cape Blanco to Humbug Mt.	Oct. 1-Nov. 30 <sup>b/</sup>	61	2 <sup>c/n/</sup>	20	-
	1990	Leadbetter Pt. to Cape Falcon	June 24-Aug. 30 <sup>h/m/</sup>	50	2	24
Cape Falcon to Humbug Mt.		May 1-27 <sup>u/</sup>	27	2 <sup>n/</sup>	20	16
		May 28-June 22;	26	2 <sup>n/</sup>	20	16
		June 30-July 31;	32	2 <sup>n/</sup>	20	16
		Aug. 8-Sept. 16	98	2 <sup>n/</sup>	20	16
Twin Rocks to Pyramid Rock		Sept. 17-Oct. 31 <sup>b/</sup>	45	2 <sup>c/n/</sup>	None	-
South of Humbug Mt.		May 1-Sept. 9	132	2 <sup>w/n/</sup>	20	20
1991		North of Cape Falcon	June 24-Aug. 12 <sup>h/m/</sup>	36	2	24
		Sept. 15-18; Sept. 26 <sup>x/</sup>	5	2	24	16
	Cape Falcon to Humbug Mt.	May 1-26 <sup>u/</sup>	26	2 <sup>n/</sup>	20	16
		May 27-July 28	62	2 <sup>n/</sup>	20	16
	Twin Rocks to Pyramid Rock	Sept. 16-Oct. 31 <sup>b/</sup>	47	2 <sup>c/n/</sup>	None	-
	South of Humbug Mt.	May 25-July 28 <sup>v/</sup>	47	2 <sup>v/n/</sup>	20	20
		Aug. 31-Sept. 2	3	2 <sup>v/n/</sup>	20	20
		Sept. 6-29	12	2 <sup>v/n/</sup>	20	20

TABLE C-4. Summary of actual Oregon recreational ocean salmon seasons, size limits and bag limits in state and federal (EEZ) waters. (Page 3 of 4)

Year	Area	Season <sup>a/</sup>	Days	Bag Limit	Minimum Size Limit (inches)	
					Chinook	Coho
1992	North of Cape Falcon	June 29-July 30 <sup>b/h/m/</sup>	24	2 <sup>aa/</sup>	24	16
		Aug. 2-6 <sup>h/m/</sup>	5	2 <sup>aa/</sup>	24	16
		Sept. 14-17; Sept. 27 <sup>h/</sup>	5	2 <sup>aa/</sup>	24	16
	Cape Falcon to Heceta Head	May 3-June 11 <sup>m/u/</sup>	30	2 <sup>aa/bb/</sup>	20	16
		June 14-Sept. 10 <sup>m/</sup>	65	2 <sup>aa/bb/</sup>	20	16
	Twin Rocks to Pyramid Rock	Sept. 16-Oct. 31 <sup>b/</sup>	46	2 <sup>c/n/bb/</sup>	None	-
		May 3-June 11 <sup>m/u/</sup>	30	2 <sup>aa/bb/</sup>	20	16
	Heceta Head to Humbug Mt.	June 14-July 2 <sup>m/</sup>	15	2 <sup>aa/bb/</sup>	20	16
		July 5-Aug. 31 <sup>m/cc/</sup>	42	2 <sup>aa/bb/</sup>	-	16
		Sept. 1-Sept. 10 <sup>m/</sup>	8	2 <sup>aa/bb/</sup>	20	16
	Cape Blanco to Humbug Mt.	Oct. 24-26 <sup>b/</sup>	3	1 <sup>c/aa/bb/</sup>	20	-
	South of Humbug Mt.	July 6-20 <sup>dd/</sup>	7	1	20	20
		Sept. 1-7	7	1	20	20
	Goat Island to Red Pt.	Oct. 15-26 <sup>b/</sup>	12	1 <sup>c/n/</sup>	20	-
1993	North of Cape Falcon	July 5-Sept. 9 <sup>h/m/</sup>	49	2 <sup>aa/</sup>	24	16
		Sept. 12-23 <sup>h/</sup>	12	2 <sup>aa/</sup>	24	16
	Cape Falcon to Humbug Mt.	May 1-June 6 <sup>m/u/</sup>	37	2 <sup>p/ff/</sup>	20	16
		July 13-Aug. 10 <sup>ee/</sup>	13	2 <sup>p/ff/</sup>	20	16
	Twin Rocks to Pyramid Rock	Sept. 16-Oct. 31 <sup>b/</sup>	46	2 <sup>c/n/ff/</sup>	None	-
	Cape Blanco to Humbug Mt.	Oct. 1 - Nov. 30 <sup>b/</sup>	61	1 <sup>c/n/ff/</sup>	20	-
	South of Humbug Mt.	May 5-June 19 <sup>gg/</sup>	28	1 <sup>n/</sup>	20	20
		July 14-Aug. 28 <sup>gg/</sup>	28	1 <sup>n/</sup>	20	20
Sept. 1-6	6	1 <sup>n/</sup>	20	20		
1994	North of Cape Falcon	-	-	-	-	-
	Cape Falcon to Humbug Mt.	May 1-June 5 <sup>u/</sup>	36	2 <sup>c/p/ff/</sup>	20	-
	Twin Rocks to Pyramid Rock	June 6-19 and Oct. 1-Nov. 15 <sup>b/</sup>	60	2 <sup>c/p/ff/</sup>	20	-
	Cape Blanco to Humbug Mt.	Oct. 1-Nov. 7 <sup>b/</sup>	38	1 <sup>d/aa/</sup>	20	-
	South of Humbug Mt.	May 1-June 7; Aug. 27-31; Sept. 1-5	48	2 <sup>c/n/</sup>	20	-
	Goat Island to Red Pt.	Oct. 10-20 <sup>b/</sup>	11	1 <sup>d/aa/</sup>	20	-
1995	North of Cape Falcon	July 24-Sept. 5; Sept. 10-11 <sup>mv/</sup>	37	2 <sup>aa/cc/hv/</sup>	-	16
	Cape Falcon to Humbug Mt.	May 1-June 30	61	2 <sup>c/ii/</sup>	20	-
	Twin Rocks to Pyramid Rock	Sept. 16-Nov. 15 <sup>b/</sup>	61	2 <sup>d/ii/</sup>	20	-
	Cape Foulweather to Seal Rock	Sept. 16-Oct. 31 <sup>b/</sup>	46	2 <sup>d/ii/</sup>	20	-
	3 Miles North of North Coos Bay Jetty to Cape Arago	Sept. 16-Oct. 31 <sup>b/</sup>	46	2 <sup>d/ii/</sup>	20	-
	Cape Blanco to Humbug Mt.	Oct. 1-Nov. 7 <sup>b/</sup>	38	2 <sup>d/aa/ii</sup>	20	-
	South of Humbug Mt.	May 17-July 1; Aug. 16-18 <sup>gg/</sup>	31	1 <sup>c/</sup>	20	-
		Sept. 1-9	9	1 <sup>c/n/</sup>	20	-
Goat Isl. to 42°01'20" N	Oct. 10-15; 21-22 <sup>b/</sup>	8	1 <sup>d/aa/</sup>	20	-	
1996	North of Cape Falcon	July 22-Sept. 26 <sup>mv/</sup>	49	2 <sup>aa/cc/</sup>	-	16
	Cape Falcon to Humbug Mt.	May 1-July 7; Aug. 16-Sep. 30	114	2 <sup>c/n/ij/</sup>	20	-
	Twin Rocks to Pyramid Rock	Oct. 1-31 <sup>b/</sup>	31	2 <sup>aa/d/ij</sup>	20	-
	Cape Blanco to Humbug Mt.	Oct. 1-Nov. 30 <sup>b/</sup>	61	1 <sup>d/aa/</sup>	20	-
	South of Humbug Mt.	May 12-July 7; Aug. 18-Sept. 21	92	1 <sup>c/aa/</sup>	20	-
	Goat Isl. to 42°01'20"	Oct. 5-13 <sup>b/</sup>	9	1 <sup>d/aa/</sup>	20	-

TABLE C-4. Summary of actual Oregon recreational ocean salmon seasons, size limits and bag limits in state and federal (EEZ) waters. (Page 4 of 4)

Year	Area	Season <sup>a/</sup>	Days	Bag Limit	Minimum Size Limit (inches)	
					Chinook	Coho
1997	North of Cape Falcon	July 21-Aug. 7 <sup>m/</sup>	14	2 <sup>aa/</sup>	24	16
	Cape Falcon to Humbug Mt.	Apr. 15-July 6; Aug. 1-Oct. 31	175	2 <sup>c/n/kk/</sup>	20	-
	Twin Rocks to Pyramid Rock	Aug. 1-Nov. 15 <sup>b/</sup>	107	2 <sup>aa/d/kk/</sup>	20	-
	Cape Blanco to Humbug Mt.	Nov. 1-30 <sup>b/</sup>	30	1 <sup>d/aa/</sup>	20	-
	South of Humbug Mt.	May 24-30; June 17-July 6; Aug. 12-Sept. 14	61	1 <sup>c/aa/</sup>	20	-
	Goat Isl. to 42°01'20"	Oct. 4-12 <sup>b/</sup>	9	1 <sup>d/aa/</sup>	20	-

- a/ Dates are inclusive.
- b/ Open in state waters only.
- c/ Open for all-salmon-except-coho.
- d/ Open for chinook only.
- e/ Only 1 coho allowed in bag limit.
- f/ Must retain the first 2 salmon caught.
- g/ Open inside of 6 miles from Cape Falcon north to 46°06'00" and inside of 3 miles from 46°06'00" to the south jetty of the Columbia River.
- h/ Mouth of the Columbia River is closed.
- i/ Open inside of 10 miles from Cape Falcon north to the Lightship Buoy then on a line to the south jetty of the Columbia River.
- j/ Closed inside 3 miles from Leadbetter Pt. to Klipsan Beach and 0 to 200 miles from Klipsan Beach to Red Buoy Line.
- k/ Open for all-salmon-except-chinook.
- l/ Federal waters (3 to 200 miles) open for all-salmon-except-coho.
- m/ Open Sunday through Thursday only.
- n/ No more than 6 fish in 7 consecutive days.
- o/ Open Tuesday through Saturday only.
- p/ No more than 2 fish in 7 consecutive days.
- q/ Only 1 coho and 2 chinook allowed in bag limit.
- r/ Closed inside of 3 miles between Cape Falcon and Columbia River (Red Buoy Line).
- s/ Open inside of 3 miles from Cape Falcon to the Red Buoy Line and inside of 5 miles from North Head to Klipsan Beach.
- t/ Only 1 chinook allowed in bag limit.
- u/ Open only inside the 27 fathom curve.
- v/ Open Sundays and Mondays only.
- w/ Only 1 chinook allowed in bag limit of 2 salmon from June 30-Aug. 15.
- x/ Open from Red Buoy Line south to Cape Falcon.
- y/ Open Thursday through Monday only.
- z/ All-salmon fishery with 1 chinook allowed and open on Fridays, Saturdays and Sundays only.
- aa/ No more than 4 fish in 7 consecutive days.
- bb/ No more than 20 fish per year.
- cc/ Open for all salmon except chinook.
- dd/ Open Monday through Wednesday only.
- ee/ Open Sunday through Tuesday only.
- ff/ No more than 10 fish per year.
- gg/ Open Wednesday through Saturday only.
- hh/ Closed inside 3 miles.
- ii/ No more than 6 fish in 7 consecutive days, except no more than 4 fish in 7 consecutive days in Sept. 16-Nov. 15 fishery between Twin Rocks and Pyramid Rock. Gear limited to artificial plugs or whole bait, no less than 6 inches long; no more than 2 hooks; nonpainted weights; all attractors prohibited (clear divers are legal). Plug cut bait allowed between Twin Rocks and Pyramid Rock Sept. 16-Nov. 15. Closed in Tillamook Bay mouth control zone June 1-30 and Sept. 16-30.
- jj/ Legal gear was limited to artificial lures, plugs or bait no less than 6 inches long (excluding hooks and swivels) with no more than 2 single-point, single-shank, barbless hooks; flashers and divers prohibited.
- kk/ Legal gear was limited to artificial lures, plugs or bait no less than 6 inches long (excluding hooks and swivels) with no more than 2 single-point, single-shank, barbless hooks. Divers were prohibited. Flashers were prohibited until May 1 and then could only be used with downriggers. Flashers were totally prohibited inside state waters between Twin Rocks and Pyramid Rock beginning August 1.



TABLE C-5. Summary of actual Washington non-Indian troll salmon fishing seasons. (Page 1 of 2)

Year	Area	Seasons		Number of Days		Size Limit <sup>a/</sup>	
		All Salmon Except Coho	All Salmon	All Except Coho	All Salmon	Chinook	Coho
1971-1975	Statewide	Apr. 15-June 14	June 15-Oct. 31	61	139	26	16 <sup>b/</sup>
1976	Statewide	May 1-June 14	June 15-22; July 1-Oct. 31	45	131	26	16 <sup>b/</sup>
1977	North of Pt. Grenville	May 1-June 14	July 1-Sept. 15	45	77	28 <sup>c/</sup>	16 <sup>b/</sup>
	South of Pt. Grenville	May 1-June 14	July 1-Oct. 9	45	101	28 <sup>c/</sup>	16
1978	North of Pt. Grenville	May 1-June 14	July 1-Sept. 15	45	77	28	16
	South of Pt. Grenville	May 1-June 14	July 1-Oct. 31	45	123	28	16
1979	Statewide	May 1-31	July 1-24; Aug. 4-31 <sup>d/</sup>	31	52	28	16
1980	North of Leadbetter Pt.	May 1-31	July 15-Aug. 25	31	42	28	16
	South of Leadbetter Pt.	May 1-31	July 15-Sept. 8	31	56	28	16
1981	Statewide	May 1-31	July 15-Aug. 21	31	38	28	16
1982	North of Leadbetter Pt.	May 1-31	July 15-30	31	16	28	16
	South of Leadbetter Pt.	May 1-31	July 1-8	31	8	28	16
1983	Statewide	May 1-31	July 1-31 <sup>e/</sup>	31	31	28	16
1984	Statewide	May 1-7	-	8	-	28	-
	North of Cape Alava	-	Aug. 4-6	-	3	-	16
1985	Statewide	May 1-14; May 21-31	-	25	-	28	-
	Cape Alava to Leadbetter Pt.	-	July 15-18	-	4	28	16
	Carroll Island to U.S.-Canada Border	Aug. 3-31 <sup>f/</sup>	-	-	29	28	-
1986	Statewide	May 1-10; 14-17; 24-27;30-31	-	20	-	28	-
	Carroll Island to U.S.-Canada Border	-	Aug. 2-3; 8-9	-	4	28	16
	South of Leadbetter Pt.	-	Aug. 2-3; 7-9	-	5	28	16
1987	Statewide	May 1-10; May 14-15	-	12	-	28	-
	Cape Alava to Cape Falcon	-	July 25-26	-	2	28	16
1988	Statewide	May 1-June 14	No Fishery	45	0	28	-
1989	South of Queets River	May 1-June 8; June 13-15	-	42	-	28	16
	Carroll Island to U.S.-Canada Border	-	Aug. 7-10; Aug. 10-18	-	7	28	16
	Columbia River Red Buoy Line to Cape Falcon	-	Aug. 21 <sup>g/</sup>	-	1	28	16
	Leadbetter Pt. to Cape Falcon	-	Aug. 24-Sept. 10 <sup>g/</sup>	-	18	28	16
1990	Statewide	May 1-14; 18-27; May 31-June 2; June 8-11; June 14	-	32	-	28	-
	-	-	Aug. 18-21; 25-26 <sup>h/</sup>	-	6	28	16
	South of Leadbetter Pt.	-	Aug. 30-Sept. 14; Sept. 18-19; Sept. 22-Oct. 15	-	42	28	16
	Cape Alava to South End of Destruction Island	-	Sept. 15-16; Sept. 19-Oct. 31 <sup>i/</sup>	-	45	28	16
	-	-	-	-	-	-	-
1991	Statewide	May 1-June 15	-	46	-	28	-
	Carroll Island to U.S.-Canada Border	-	Aug. 16-19; 23-26; Aug. 30-Sept. 2; Sept. 6-9; Sept. 13-15	-	19	28	16
	Copalis Head to Cape Falcon	-	Sept. 1-2 <sup>m/</sup>	-	2	28	16
-	Leadbetter Pt. to Cape Falcon	-	Aug. 10-11	-	2	28	16

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TABLE C-5. Summary of actual Washington non-Indian troll salmon fishing seasons. (Page 2 of 2)

Year	Area	Seasons		Number of Days		Size Limit <sup>a/</sup>	
		All Salmon Except Coho	All Salmon	All Except Coho	All Salmon	Chinook	Coho
1992	Statewide	May 1-June 15	-	46	-	2	16
			July 20-21; <sup>n/</sup> July 25-27; July 31-Aug. 2; Aug. 6-8; Aug. 12-14; Aug. 20-22	-	17	28	16
1993	Statewide	May 1-June 15	-	46	-	28	-
	Statewide	-	July 14-17; 21 <sup>p/</sup> ; 24; 28-31; August 4-6 <sup>d/</sup>	-	15	28	16
	Carroll Island to U.S.-Canada Border Queets River to Cape Falcon, OR	Aug. 8-25 <sup>o/</sup>	-	18 <sup>o/</sup>	-	-	-
			Aug. 27-28; Sept. 1-4; 9-12; Sept. 16-19 <sup>q/</sup>	-	14	28	16
1994	Statewide	-	-	-	-	-	-
1995	Carroll Island to U.S.-Canada Border	-	Aug. 5-8; 12-15; 19-22; 26-29; Sept. 2-3	-	18 <sup>r/</sup>	-	16
1996	Leadbetter Pt. to U.S.-Canada Border	-	July 26-28; Aug. 2-4; 9-11, 16-18; 23-24	-	14 <sup>s/</sup>	-	16
1997	U.S.-Canada Border to Cape Falcon	May 1-June 15	-	46	-	28	-

- a/ Inches total length.
- b/ Effective annually beginning on Aug. 1.
- c/ Only partial compliance in 1977.
- d/ U.S. District Court ordered 10-day closure of all-species season July 25-Aug. 3.
- e/ No more than 1 coho could be retained for every 2 chinook retained. North of Carroll Island it was illegal to retain sockeye or pink salmon except during a special season to take only sockeye and pink salmon from Aug. 7-20. Gear in this special Aug. fishery was restricted to bare, blued hooks and flashers.
- f/ Pink and chinook salmon only, gear restricted to barbless, bare, blued hooks and flashers. Effective Aug. 22, state landing restriction of not more than 1 chinook per 20 pinks.
- g/ Daily landing limit of 40 coho and 4 chinook.
- h/ Landing limit of 200 coho and 20 chinook per open period. Chinook restriction dropped Aug. 25-26.
- i/ Daily landing limit of 50 coho. Increased to 100 on Sept. 25.
- j/ Allowed 15 vessels, which were drawn at random by WDF, to participate in the limited participation fishery.
- k/ Landing limit of 80 coho per 4-day open period. Gear restricted to barbless, bare, blued or pink hooks and flashers or pink hoochies of 3 inches or less.
- l/ Landing limit of 75 coho per 2-day open period.
- m/ Landing limits of 100 coho per 2-day open period.
- n/ Gear restricted to 6 inch or larger plugs only and no more than 4 spreads per line during the entire all-salmon season. Landing limit of 30 coho per 2-day open period through July 21. Landing limit changed to 44 coho per 3-day open period starting July 25.
- o/ All-salmon-except chinook or coho salmon. Gear restricted to flashers with barbless, bared blue hooks only.
- p/ Gear restricted to plugs or whole bait 6 inches or longer and no more than 4 spreads per line. Possession limit of 50 coho per 4-day open period.
- q/ Possession limit of 35 coho Aug. 27-28, then modified to 70 coho for remaining periods. Fishery restricted to area south of Leadbetter Pt. for Sept. 16-19.
- r/ All except chinook. Possession and landing limit per opening: 80 coho August 5-8; 200 coho August 12-15; 375 coho for remaining 3 openings.
- s/ All except chinook. Season to follow a cycle of 3 days open/4 days closed, no more than 75 coho per open period for July 26-28 opening; 200 coho for remaining openings.

TABLE C-6. Summary of actual Washington recreational ocean salmon regulations.<sup>a/</sup> (Page 1 of 3)

Year	Season	Days	Bag	Minimum Size Limit (Inches)	
				Chinook	Coho
1971-1973	Apr. 15-Oct. 31	200	3	20	20
1974	Apr. 13-Oct. 31	202	3	20	20
1975	Apr. 12-Oct. 31	203	3	20	20
1976	May 1-Oct. 31	184	3	24	16
1977	Apr. 30-Oct. 9	163	3	24	16
1978	Apr. 29-Oct. 31	186	3	24	16
1979	May 12-Sept. 3	115	2+1 <sup>b/</sup>	24	16
1980	May 10-Aug. 25 North <sup>c/</sup>	108	3/2 <sup>c/</sup>	24	16
	May 10-Sept. 1 South <sup>c/</sup>	115	3/2 <sup>c/</sup>	24	16
1981	May 23-Aug. 26	96	2+1 <sup>d/</sup>	24	20
1982 <sup>e/</sup>	May 29-June 11 (Chinook Only)	14	2	24	-
	June 12-Aug. 19 North	69	2	24	16
	June 12-July 25 South	44	2	24	16
1983	May 8-June 17 (Chinook Only) <sup>f/</sup>	21	2	24	-
	June 18-July 29 <sup>g/</sup>	42	2	24	16
	July 1-29 <sup>h/</sup>	29	2	24	16
	July 30-Aug. 15 <sup>i/</sup>	17	2	24	16
	July 30-Sept. 11 <sup>j/</sup>	44	2	24	16
	Aug. 16-Sept. 11 <sup>k/</sup>	27	2	24	16
1984	May 26-28 (Chinook Only) <sup>l/</sup>	3	2	24	-
	June 25-July 27 (Chinook Only) <sup>m/</sup>	33	1	34	-
	July 28-Aug. 8 (Coho Only) <sup>n/</sup>	12	2	-	16
	July 28-Aug. 15 <sup>o/</sup>	19	1	24	16
1985	June 30-Aug. 22 <sup>p/</sup>	40	2	24	16
	June 30-Sept. 1 <sup>q/</sup>	46	2/1 <sup>q/</sup>	24	16
	June 30-Sept. 8 <sup>r/</sup>	51	2	24	16
1986	June 29-Aug. 14 <sup>s/</sup>	35	2	24	16
	June 29-Aug. 18 <sup>t/</sup>	37	2	24	16
1987	June 28-Aug. 20 <sup>u/</sup>	40	2/1 <sup>s/</sup>	24	16
	June 28-Aug. 6 <sup>v/</sup>	30	2 <sup>v/</sup>	24	16
	June 28-Aug. 20 <sup>w/</sup>	40	2	24	16
1988	July 3-Aug. 2, Aug. 19, Sept. 2 <sup>x/</sup>	25	2/1 <sup>w/</sup>	24	16
	July 3-31, Aug. 18 <sup>y/</sup>	22	2/1 <sup>w/</sup>	24	16
	July 11-24 <sup>z/</sup>	10	2/1 <sup>x/</sup>	24	16
1989	May 28-June 12 <sup>aa/</sup>	6	2	24	-
	July 2-26	19	2	24	16
	June 26-Aug. 30 <sup>ab/</sup>	48	2	24	16
	June 26-Aug. 17 <sup>ac/</sup>	39	2	24	16
1990	July 2-Aug. 12, Sept. 8-9 <sup>cc/</sup>	32	2	24	16
	July 2-Sept. 3, Sept. 8-9 <sup>cd/</sup>	48	2	24	16
	June 18-Sept. 20 <sup>ce/</sup>	75	2	24	16
	June 24-Aug. 30, Sept. 8-9 <sup>ff/</sup>	52	2	24	16
1991	July 1-24 <sup>gg/</sup>	17.5	2	24	16
	July 1-30 <sup>hh/</sup>	22	2	24	16
	June 24-Aug. 12, Sept. 3-4 <sup>ii/</sup>	38	2	24	16
	June 24-Aug. 12 <sup>jj/</sup>	36	2	24	16
	Sept. 15-18, Sept. 26 <sup>kk/</sup>	5	2	24	16
	May 1-31 <sup>ll/</sup>	31	2	24	16
1992	July 6-22 <sup>mm/</sup>	13	2	24	16
	July 13-Aug. 20 <sup>nn/</sup>	29	1	24	16
	Aug. 23-Oct. 1 <sup>oo/</sup>	30	2	24	16
	July 6-Oct. 1 <sup>pp/</sup>	64	2	24	16
	June 29-Aug. 6 <sup>qq/</sup>	29	2	24	16
	Sept. 14-17, Sept. 27 <sup>rr/</sup>	5	2	24	16



TABLE C-6. Summary of actual Washington recreational ocean salmon regulations.<sup>a/</sup> (Page 2 of 3)

Year	Season	Days	Bag	Minimum Size Limit (Inches)	
				Chinook	Coho
1993	May 1-31 <sup>r/</sup>	31	2	24	16
	July 12-Aug. 22 <sup>ss/</sup>	30	2	24	16
	July 5-Sept. 23 <sup>t/</sup>	59	2	24	16
	July 5-Sept. 23 <sup>u/</sup>	59	2	24	16
	July 5-Sept. 9 <sup>v/</sup> Sept. 12-23 <sup>w/</sup>	49 12	2 2	24 24	16 16
1994	Closed	0	-	-	-
1995	Aug. 1-4 <sup>xx/</sup>	4	2	-	16
	Aug. 1-Sept. 10 <sup>yy/</sup>	29	2	-	16
	July 24-Sept. 17 <sup>zz/</sup>	40	2	-	16
	July 24-Sept. 5; Sept. 10-17 <sup>aaa/</sup>	38	2	-	16
1996	Aug. 5-31 <sup>xx/</sup>	27	1	-	16
	Aug. 5-Sept. 26 <sup>bbb/</sup>	53	2	-	16
	July 22-Sept. 5 <sup>zz/</sup>	34	2	-	16
	July 22-Sept. 26 <sup>aaa/</sup>	49	2	-	16
1997	July 21-23 <sup>ccc/</sup>	3	2	24	-
	July 21-Aug. 3 <sup>ddd/</sup>	14	2	24	16
	July 21-Sept. 4 <sup>eee/</sup>	34	2	24	16
	July 21-Aug. 7 <sup>fff/</sup>	14	2	24	16

- a/ All dates inclusive; minimum size measured as total length; no minimum size for species other than chinook and coho.
- b/ Bag limit in 1979 restricted to only 2 chinook/coho; third salmon confined to other 3 species (to take advantage of large pink abundance).
- c/ Seasons differed in 1980 north and south of Leadbetter Pt.; initial 3-fish bag limit reduced to 2 fish on July 16.
- d/ Bag limits in 1981 restricted to only 2 chinook/coho; north of Queets River a third salmon of other species allowed (Neah Bay/La Push).
- e/ Seasons differing north and south of Leadbetter Pt.; some Ilwaco and Chinook based effort continued through Aug. 1 inside Oregon state waters and from Aug. 16-Sept. 30 inside Buoy 10 to the Astoria/Megler Bridge. The Aug. 25-Sept. 30 period was restricted to coho only, with barbless hooks required after Aug. 31. The easterly portion of Neah Bay (inside Koitlah Pt.) remained open after Aug. 19.
- f/ Queets River to Klipsan Beach inside 6 miles.
- g/ Queets River to North Head inside 6 miles and south jetty of the Columbia River to Cape Falcon inside a line approximately due south of the south jetty.
- h/ U.S.-Canada border to Queets River inside 3 miles.
- i/ Klipsan Beach to Cape Falcon.
- j/ U.S.-Canada border to Queets River and Pt. Brown to Klipsan Beach. Ocean waters north of Leadbetter Pt. and west of the Bonilla/Tatoosh Line closed Sept. 6 in anticipation of quota achievement.
- k/ South jetty of the Columbia River to Cape Falcon inside special fishery zone 1.
- l/ Limited area adjacent to Neah Bay; size limit changed to 24 inches July 17.
- m/ Cape Shoalwater to Klipsan Beach (also off Oregon from the south jetty of the Columbia River to Cape Falcon inside the special fishery zone).
- n/ Leadbetter Pt. to Cape Falcon. Waters between Leadbetter Pt. and Klipsan Beach inside 3 miles closed. From 0 to 200 miles between Klipsan Beach and Red Buoy Line of Columbia River closed. Fishing allowed Sunday through Thursday only.
- o/ U.S.-Canada border to Queets River. Bag limit 2 salmon only 1 of which may be a chinook. Effective July 24, fishing closed inside a line approximately 1 mile offshore from Sekiu River to the Umatilla Reef Light. Bag limit changed to not allow retention of chinook salmon, effective Aug. 15. Fishing allowed Sunday through Thursday only.
- p/ Queets River to Leadbetter Pt., except closed inside 3 miles through Aug. 29. Fishing allowed Sunday through Thursday only through Aug. 29. Fishing closed by state regulations Sept. 3-6 and reopened Sept. 7 and Sept. 8.
- q/ U.S.-Canada border to Queets River. Fishing allowed Sunday through Thursday only.
- r/ Queets River to Klipsan Beach. Fishing allowed Sunday through Thursday only. Closed inside 3 miles June 29-Aug. 7.
- s/ U.S.-Canada border to Queets River. Fishing allowed Sunday through Thursday only. Bag limit 2 salmon, only 1 of which may be a chinook. Inseason (July 12) closure of waters beyond 1 mile of coastline between Sekiu River and Tatoosh Island, and closure (July 15) of waters beyond 5 miles of coastline between Duncan Rock and Cape Alava. No retention of chinook July 19-Aug. 20 (noon).
- t/ Queets River to Leadbetter Pt. Fishing allowed Sunday through Thursday only. Closed to fishing inside 3 miles throughout entire season; additional area closure 3 to 6 miles from coastline between Pt. Brown and Cape Shoalwater July 5-25; additional area closure 6 to 10 miles from coastline between Pt. Brown and Cape Shoalwater July 8-25; adjusted area closure July 26 season end 3 to 6 miles from Grays Harbor buoy to Leadbetter Pt. and 0 to 200 miles north of Grays Harbor Buoy to Queets River. Bag limit changes from 2 salmon, all species to 2 salmon only 1 of which may be a chinook.
- u/ Leadbetter Pt. to Cape Falcon, Oregon. Fishing allowed Sunday through Thursday only. Closed 0 to 3 miles from Leadbetter Pt. to Klipsan Beach; closed 0 to 200 miles from Klipsan Beach to Red Buoy Line of the Columbia River; closed 0 to 3 miles from the Red Buoy Line to Cape Falcon June 28-Aug. 8.

TABLE C-6. Summary of actual Washington recreational ocean salmon regulations <sup>a</sup> (Page 3 of 3)

v/	U.S.-Canada border to Queets River. Fishing allowed Sunday through Thursday only. Bag limit initially 2 salmon, but only 1 chinook; changed to 2 fish, all species beginning July 24. Fishery reopened Aug. 19 and Sept. 2 to harvest quota shortfall.
w/	Queets River to Klipsan Beach. Southern boundary changed to Leadbetter Pt. prior to season opening date. Fishing allowed Sunday through Thursday only. Bag limit initially 2 salmon, but only 1 chinook; changed to 2 fish, all species beginning July 24. Fishery reopened Aug. 18 to harvest quota shortfall.
x/	Klipsan Beach to Cape Falcon. Fishing allowed Sunday through Thursday only.
y/	U.S.-Canada border to Cape Falcon. Fishing allowed Sunday through Monday only. 2 fish, all-salmon-except-coho.
z/	U.S.-Canada border to Queets River. Fishing allowed Sunday through Thursday only. 2 fish.
aa/	Queets River to Leadbetter Pt. Fishing allowed Sunday through Thursday only. 2 fish.
bb/	Leadbetter Pt. to Cape Falcon. Fishing allowed Sunday through Thursday only. 2 fish.
cc/	U.S.-Canada border to Cape Alava. Fishing allowed Sunday through Thursday only. 2 fish.
dd/	Cape Alava to Queets River. Fishing allowed Sunday through Thursday only. 2 fish.
ee/	Queets River to Leadbetter Pt. Fishing allowed Sunday through Thursday only through Aug. 30. Open 7 days per week starting Aug. 31. 2 fish.
ff/	Leadbetter Pt. to Cape Falcon. Fishing allowed Sunday through Thursday only. 2 fish.
gg/	U.S.-Canada border to Cape Alava. Fishing allowed Sunday through Thursday only. 2 fish.
hh/	Cape Alava to Queets River. Fishing allowed Sunday through Thursday only. 2 fish.
ii/	Queets River to Leadbetter Point. Fishing allowed Sunday through Thursday. 2 fish.
jj/	Leadbetter Point to Cape Flacon. Fishing allowed Sunday through Thursday. 2 fish.
kk/	South of the Red Buoy Line to Cape Falcon. Fishing allowed 7 days per week. 2 fish.
ll/	U.S.-Canada border to Cape Alava. East of Bonilla-Tatoosh Line only. All-salmon-except-coho. 2 fish.
mm/	U.S.-Canada border to Cape Alava. Open 0 to 1/2 mile from shore only. Fishing allowed Sunday through Thursday. 2 fish. No more than 4 fish in 7 consecutive days.
nn/	Cape Alava to Queets River. Open 0 to 6 miles from shore only through July 30. Fishing allowed Sunday through Thursday. 1 fish. No more than 4 fish in 7 consecutive days.
oo/	Cape Alava to Queets River. Fishing allowed Sunday through Thursday. 2 fish. No more than 4 fish in 7 consecutive days.
pp/	Queets River to Leadbetter Pt. Open 0 to 6 miles from shore only through July 30. Fishing allowed Sunday through Thursday. 2 fish. No more than 4 fish in 7 consecutive days.
qq/	Leadbetter Pt. to Cape Falcon. Open 0 to 3 miles from shore only through July 30. Fishing allowed Sunday through Thursday. 2 fish. No more than 4 fish in 7 consecutive days.
rr/	U.S.-Canada border to Cape Alava. East of Bonilla-Tatoosh line only. All-salmon except coho. 2 fish.
ss/	U.S.-Canada border to Cape Alava. Fishing allowed Sunday through Thursday. 2 fish. No more than 6 fish in 7 consecutive days.
tt/	Cape Alava to Queets River. Fishing allowed Sunday through Thursday. 2 fish. No more than 6 fish in 7 consecutive days.
uu/	Queets River to Leadbetter Pt. Fishing allowed Sunday through Thursday. 2 fish. No more than 4 fish in 7 consecutive days.
vv/	Leadbetter Pt. to Cape Falcon. Fishing allowed Sunday through Thursday. 2 fish. No more than 4 fish in 7 consecutive days.
ww/	Leadbetter Pt. to Cape Falcon. 2 fish. No more than 4 fish in 7 consecutive days.
xx/	U.S.-Canada border to Cape Alava. All salmon except chinook. Closed 0-3 miles of shore south of Skagway Rock.
yy/	Cape Alava to Queets River. All except chinook. Open Sunday through Thursday only. Closed 0-3 miles.
zz/	Queets River to Leadbetter Pt. All except chinook. Sunday through Thursday only. Closed 0-3 miles. No more than 4 fish in 7 consecutive days.
aaa/	Leadbetter Pt. to Cape Falcon. All salmon except chinook. Sunday through Thursday only. Closed 0-3 miles and in Columbia River mouth control zone. No more than 4 fish in 7 consecutive days.
bbb/	Cape Alava to Queets River. All except chinook. Closed 0-3 miles.
ccc/	U.S.-Canada border to Cape Alava. All salmon except coho (7 days per week).
ddd/	Cape Alava to Queets River. All salmon (7 days per week).
eee/	Queets River to Leadbetter Pt. All salmon (Sun. thru Thurs.). Daily bag limit 2 fish; except from July 21-Aug. 12, daily bag limit 2 fish, no more than 1 chinook. No more than 4 fish in 7 consecutive days. Closed 0-3 miles from shore from July 21-Aug. 12.
fff/	Leadbetter Pt. to Cape Falcon. All salmon (Sun. thru Thurs.). No more than 4 fish in 7 consecutive days. Closed 0-3 miles offshore north of Columbia Control Zone and closed within the Zone.



TABLE C-7. Summary of actual treaty Indian ocean and Area 4B troll regulations. (Page 1 of 5)

Year	Species	Season	Days	Minimum Size, Area, Gear, and Other Restrictions <sup>a/</sup>
<b>QUINALT, QUILEUTE AND HOH TRIBES</b>				
<u>Statistical Areas 2 and 3 (Ocean Waters 3-200 miles)</u>				
1977-1981	All	May 1-Oct. 31	184	Chinook 28 in., coho 16 in.; except chinook 26 in. during 1977.
1982	All	May 1-Sept. 7	129	Chinook 26 in., coho 16 in. Six-mi. radius closed at mouths of Hoh and Queets rivers when Area 4A closed to non-Indian salmon fishing.
1983	All	May 1-Sept. 15	137	Chinook 26 in., coho 16 in.
1984	All except coho	May 1-June 30	61	Chinook 26 in. Barbless hooks.
	All	July 1-Aug. 16	47	Chinook 26 in., coho 16 in. Barbless hooks.
1985	All except coho	May 1-22	22	Chinook 26 in. b/.
	All	June 15-July 22; Aug. 1-10; Sept. 1-4	52	Chinook 26 in., except 28 in. June 15-30; coho 16 in. b/. Landing ratio of at least 1 chinook/10 coho June 15-July 22 and 1 chinook/13 coho Aug. 1-10.
	Pink	Aug. 16-31	16	b/.
1986	All except coho	May 1-31	31	Chinook 26 in. b/.
	All	June 1-Aug. 8	69	Chinook 26 in., coho 16 in. b/. Landing ratio of at least 1 chinook/20 coho July 11-Aug. 8; 2-mile radius closed at Quinalt River mouth; Quinalt fishery closed on July 18.
1987	All except coho	May 1-26	26	Chinook 26 in. b/.
	All	July 19-Aug. 9; Aug. 17-26	32	Chinook 26 in., coho 16 in. b/. Chinook to coho landing ratios 1:19 July 19-31; 1:10 Aug. 1-9 and 5:1 Aug. 17-26 (Quileute and Hoh rescinded Aug. 26).
1988	All except coho	May 1-July 9	70	Chinook 26 in. b/.
	All	July 10-19; July 20-Aug. 21; Sept. 1-3	46	Chinook 26 in., coho 16 in. b/. Landing ratio of at least 1 chinook/2 coho July 10-19.
1989	All except coho	May 1-June 30	61	Chinook 26 in. b/.
	All	July 15-Aug. 8; Aug. 30-Sept. 5	32	Chinook 26 in., coho 16 in. b/.
1990	All except coho	May 1-June 30	61	Chinook 26 in. b/.
	All	July 10-27; Aug. 12-31; Sept. 4-7	42	Chinook 26 in., coho 16 in. b/. Landing ratio of at least 1 chinook/15 coho Aug. 12-31.
1991	All except coho	May 1-June 30	61	Chinook 24 in. Barbless hooks.
	All	July 7-19; Aug. 3-8; 10-13 and 19	24	Chinook 24 in., coho 16. Barbless hooks. Part day fishery on Aug. 19.
1992	All except coho	May 1-June 30	61	Chinook 24 in. Barbless hooks.
	All	July 15-21; Aug. 1-5	12	Chinook 24 in., coho 16. Barbless hooks.
1993	All except coho	May 1-June 30	61	Chinook 24 in. Barbless hooks.
	All	July 1-Sept. 23	85	Chinook 24 in., coho 16. Barbless hooks.
1994	All except coho	May 1-June 30	61	Chinook 24 in. Barbless hooks.
1995	All except coho	May 1-31	31	Chinook 24 in. Barbless hooks.
	All	Aug. 1-24	24	Chinook 24 in., coho 16 in. Barbless hooks.
1996	All except coho	May 1-June 30	61	Chinook 24 in. Barbless hooks.
	All	Aug. 5-Aug. 13; Sept. 1-11	20	Chinook 24 in., coho 16 in. Barbless hooks.
1997	All except coho	May 1-June 30	61	Chinook 24 in. Barbless hooks.
	All	Aug. 4-29;	26	Chinook 24 in., coho 16 in. Barbless hooks.
	All	Sept. 3-7 (Quinalt only)	5	Chinook 24 in., coho 16 in. Barbless hooks.

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TABLE C-7. Summary of actual treaty Indian ocean and Area 4B troll regulations. (Page 2 of 5)

Year	Species	Season	Days	Minimum Size, Area, Gear, and Other Restrictions <sup>a/</sup>
<b>MAKAH TRIBE</b>				
<u>Statistical Areas 3N, 4 and 4A (Ocean Waters 3-200 miles)</u>				
1977-1983	All	May 1-Oct. 31	184	Chinook: 26 in. during 1977; 28 in. during 1978-1979; 24 in. during 1980-1983. Coho: 16 in., except in 1983 changed to 20 in. May 11-June 5 and 22 in. June 6-July 25.
1984	All except coho	May 1-June 30	61	Chinook 24 in.; barbless hooks.
	All	July 1-Aug. 18	49	Chinook 24 in., coho 16 in.; barbless hooks.
1985	All except coho	May 1-20	20	Chinook 24 in. b/.
	All	June 15-30; July 1-20; Aug. 1-10; Sept. 1-4; 10-11	52	Chinook 28 in. except 24 in. from July 1-20, coho 20 in. b/. Landing ratio of at least 1 chinook/13 coho Aug. 1-10.
	Pink	Aug. 15-31	17	b/.
1986	All except coho	May 1-31	31	Chinook 26 in. b/.
	All	June 1-Aug. 8	69	Chinook 26 in. Coho 20 in. b/. Landing ratio of at least 1 chinook/20 coho July 13-Aug. 8.
1987	All except coho	May 1-26	26	Chinook 26 in. b/.
	All	July 19-Aug. 9; Aug. 17-26	32	Chinook 26 in., coho 16 in. b/. Chinook to coho landing ratios 1:19 July 19-31; 1:10 Aug. 1-9 and 5:1 Aug. 17-25.
1988	All except coho	May 1-July 9	70	Chinook 26 in. b/.
	All	July 10-Aug. 21; Sept. 1-3	46	Chinook 26 in., coho 16 in. b/. Landing ratio of at least 1 chinook/2 coho July 10-19.
1989	All except coho	May 1-June 30	61	Chinook 26 in. b/.
	All	July 15-Aug. 8; Aug. 30-Sept. 5	32	Chinook 26 in., coho 16 in. b/.
1990	All except coho	May 1-June 30	61	Chinook 26 in. b/.
	All	July 10-27; Aug. 12-31; Sept. 4-7	42	Chinook 26 in., coho 16 in. b/. Landing ratio of at least 1 chinook/15 coho Aug. 12-31.
1991	All except coho	May 1-June 30	61	Chinook 24 in. Barbless hooks.
	All	July 7-19; Aug. 3-8; 10-13 and 19	24	Chinook 24 in., coho 16. Barbless hooks. Part day fishery on Aug. 19.
1992	All except coho	May 1-June 30	61	Chinook 24 in. Barbless hooks.
	All	July 15-21; Aug. 1-5	12	Chinook 24 in., coho 16. Barbless hooks.
1993	All except coho	May 1-June 30	61	Chinook 24 in. Barbless hooks.
	All	July 1-Sept. 30	92	Chinook 24 in., coho 16. Barbless hooks.
1994	All except coho	May 1-June 30	61	Chinook 24 in. Barbless hooks.
	All	July 1-Sept. 30	92	Chinook 24 in., coho 16. Barbless hooks.
1995	All except coho	May 1-31	31	Chinook 24 in. Barbless hooks.
	All	Aug. 1-24	24	Chinook 24 in., coho 16 in. Barbless hooks.
1996	All except coho	May 1-June 30	61	Chinook 24 in. Barbless hooks.
	All	Aug. 5-13; Sept. 1-11	20	Chinook 24 in., coho 16 in. Barbless hooks.
1997	All except coho	May 1-June 30	61	Chinook 24 in. Barbless hooks.
	All	Aug. 4-31; Sept. 3-6	32	Chinook 24 in., coho 16 in. Barbless hooks.

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TABLE C-7. Summary of actual treaty Indian ocean and Area 4B troll regulations. (Page 3 of 5)

Year	Species	Season	Days	Minimum Size, Area, Gear, and Other Restrictions <sup>a/</sup>
<b>Statistical Area 4B (Inside Waters) Makah Fishery</b>				
1977-1981	All	Jan. 1-Dec. 31	365	Chinook 22 in., coho 20 in.; except May 1-Sept. 15 chinook 24 in., coho 16 in.
1982	All	Jan. 1-Dec. 31	365	Chinook 22 in., coho 20 in.; except May 1-Sept. 15 chinook 24 in., coho 16 in. Maximum 30 in. chinook size limit Apr. 15-June 15 to protect Puget Sound spring chinook.
1983	All	Jan. 1-Dec. 31	365	Chinook 22 in. except 24 in. May 1-Sept. 15. Coho 20 in. except 16 in. May 1-10 and July 26-Sept. 15.; 22 in. June 6-July 25. Maximum 30 in. chinook size limit Apr. 15-June 15 to protect Puget Sound spring chinook.
1984	All	Jan. 1-Dec. 31	366	Chinook 22 in., coho 20 in.; except chinook 24 in., coho 16 in. May 1-Sept. 15. Maximum 30 in. chinook size limit Apr. 15-June 15 to protect Puget Sound spring chinook.
1985	Chinook	May 1-20	20	Chinook 24 in.
	All	June 15-July 20; Aug. 1-10; Sept. 1-4; Sept. 10-11; Oct. 1-31	83	Chinook 28 in. except 24 in. July 1-20; 22 in. Oct. 1-31. Coho 20 in. Maximum 30 in. chinook size limit Apr. 15-June 15. Landing ratios of at least 1 chinook/13 coho Aug. 1-10 and at least 1 chinook/20 coho Sept. 10-11.
	Pink Coho	Aug. 15-31 Sept. 7-10; Sept. 11-30	17 24	Ceremonial and subsistence fishery.
1986	All	Jan. 1-Apr. 30; June 1-Aug. 9; Nov. 1-Dec. 31	251	Chinook 24 in. prior to May; 26 in. June 1-Aug. 9; 22 in. Nov. 1-Dec. 31. Coho 16 in. prior to May and 20 in. thereafter. Landing ratio of at least 1 chinook/10 coho on Aug. 9.
	Chinook Coho	May 1-31 Aug. 10-12	31 3	Chinook 26 in. Coho 20 in.
1987	All	Jan. 1-Apr. 30; July 19-Aug. 9; Aug. 17-26; Nov. 1-Dec. 31	213	Chinook 22 in., coho 20 in.; except chinook 26 in., coho 16 in. May-Sept. Landing ratios of at least 1 chinook: per 19 coho in July; per 10 coho Aug. 1-9 and per 5 coho Aug. 17-25.
	Chinook	May 1-26	26	Chinook 26 in.
1988	All	Jan. 1-Apr. 30; July 10-Aug. 21; Sept. 1-3; Nov. 1-Dec. 31	228	Chinook 22 in. prior to Apr. 15 and after Sept. 30; 24 in. Apr. 15-30; 26 in. May-Sept. Coho 20 in. prior to Apr. 15 and after Sept. 30; 22 in. Apr. 15-30; 16 in. July-Sept. Landing ratio of at least 1 chinook/2 coho July 10-19.
	Chinook	May 1-July 9	70	Chinook 26 in.
1989	All	Jan. 1-Apr. 30; July 15-Aug. 8; Aug. 30-Sept. 5; Nov. 1-Dec. 23	205	Chinook 24 in. except 26 in. May-Sept. Coho 22 in. except 16 in. July-Sept.
	Chinook	May 1-June 30	61	Chinook 26 in.
1990	All	Jan. 1-Apr. 30; July 10-27; Aug. 12-31; Sept. 4-7; Nov. 1-Dec. 31	223	Chinook 24 in. prior to May and 26 in. after May. Coho 22 in. except 16 in. July-Sept. Landing ratio of at least 1 chinook/15 coho in Aug.
	Chinook	May 1-June 30	61	Chinook 26 in.
1991	All	Jan. 1-Apr. 30; July 7-19; Aug. 3-8; Aug. 10-13; Aug. 19; Oct. 7-Dec. 31	230	Chinook 24 in., coho 22 in. except 16 in. July-Sept. Part day fishery on Aug. 19.
	Chinook	May 1-June 30	61	Chinook 24 in.
1992	All	Jan. 1-Apr. 30; July 15-21; Aug. 1-5; Nov. 1-Dec. 1-31	194	Chinook 22 in. except 24 in. July and Aug. Coho 22 in. except 16 in. July and Aug.
	Chinook	May 1-June 30	61	Chinook 24 in.
1993	All	Jan. 1-Apr. 15; July 1-Oct. 31	228	Chinook 22 in., coho 22 in. except 16 in. July-Oct.
	Chinook	May 1-June 30; Nov. 1-Dec. 31	122	Chinook 24 in. May-June, 22 in. Nov. -Dec.
1994	Chinook	Jan. 1-Apr. 15; May 1-June 30; Nov. 15-Dec. 31	213	Chinook 22 in. except 24 in. May-June.

TABLE C-7. Summary of actual treaty Indian ocean and Area 4B troll regulations. (Page 4 of 5)

Year	Species	Season	Days	Minimum Size, Area, Gear, and Other Restrictions <sup>a/</sup>
1995	Chinook All	Jan. 1-Apr. 15; May 1-31; Nov. 1-30 Aug. 1-24; Dec. 1-31	166 55	Chinook 22 in. except 24 in. in May. Chinook 22 in. except 24 in. in Aug. Coho 16 in.
1996	Chinook All	Jan. 1-Apr. 15; May 1-June 30; Nov. 1-30 Aug. 5-13; Sept. 1-11; Dec. 1-31	197 51	Chinook 22 in. except 24 in. May-June. Chinook 22 in. except 24 in. Aug.-Sept. Coho 16 in.
1997	Chinook All	Jan. 1-Apr. 15; May 1-June 30; Nov. 1-30 Aug. 4-31; Sept. 3-6; Dec. 1-31	196 63	Chinook 22 in. except 24 in. in May-June. Chinook 22 in. except 24 in. in Aug.-Sept. Coho 16 in.
<b>S'KLALLAM TRIBES</b>				
<u>Statistical Area 4B (Inside Waters)</u>				
1977- 1979	All	Jan. 1-Dec. 20	354	Chinook 24 in., coho 16 in.; except chinook 26 in. during 1979.
1980	All	Jan. 1-Dec. 31	366	Chinook 28 in.; coho 20 in., except 16 in. early June to first week in Sept.
1981	All	Jan. 1-Dec. 31	365	Chinook 20 in. except 28 in. early May to first week in Sept. Coho 20 in. except 16 in. early June to first week in Sept.
1982	All	Jan. 1-Dec. 31	365	Chinook 22 in. except 24 in. early May to first week in Sept. Coho 20 in. except 16 in. early June to first week in Sept. Maximum 30 in. chinook size limit Apr. 15-June 15 to protect Puget Sound spring chinook.
1983	All	Jan. 1-Apr. 14; June 16-Dec. 31	303	Chinook 22 in., coho 20 in; except June 16 to first week in Sept. chinook 24 in., coho 16 in. Apr. 15-June 15 closure to protect Puget Sound spring chinook.
1984	All	Jan. 1-Apr. 14; June 17-Dec. 31	303	Chinook 22 in. except 24 in. June 17-Sept. 3. Coho 16 in.
1985	All	Jan. 1-Dec. 31	365	Chinook 22 in. Coho 16 in. Maximum 30 in. chinook size limit Apr. 14-June 15.
1986	All	Jan 1-Aug. 8; Oct. 1-Dec. 31	312	Chinook 22 in. except 30 in. Apr. 14-June 15. Coho 16 in. Closed within 600 ft. of stream mouths.
1987	All	Jan 1-Aug. 31; Sept. 27-Oct. 6; Nov. 29-Dec. 31	286	Chinook 22 in. except 24 in. after Apr. 11; maximum size limit 30 in. Apr. 12-June 15. Coho 16 in.
	Chinook	Nov. 1-28	28	Chinook 24 in.
1988	All	Jan 1-Sept. 3; Nov. 1-Dec. 31	307	Chinook 24 in. except 22 in. after Sept. Coho 16 in. except 20 in. May-Sept.
1989	All	Jan. 1-Sept. 6; Nov. 1-Dec. 31	310	Chinook 24 in., coho 16 in.
1990	All	Jan. 1-Sept. 7; Nov. 1-Dec. 31	311	Chinook 24 in., coho 16 in.
1991	All	Jan. 1-Apr. 30; July 1-Aug. 13; Nov. 1-Dec. 31	225	Chinook 24 in., coho 16 in.
	Chinook	May 1-June 30	61	Chinook 24 in.
1992	All	Jan. 1-Apr. 30; July 1-Aug. 6; Nov. 1-30; Dec. 7-31	213	Chinook 22 in. except 24 in. July-Aug. Coho 16 in.
	Chinook	May 1-June 30	61	Chinook 24 in.
1993	All	Jan. 1-Apr. 15; July 1-Sept. 30; Nov. 1-Dec. 31	258	Chinook 22 in. except 24 in. July-Sept. Coho 16 in.
	Chinook	May 1-June 30	61	Chinook 24 in.
1994	All	Jan. 1-Apr. 15; Nov. 15-Dec. 31	152	Chinook 22 in., coho 16 in.
	Chinook	May 1-June 30	61	Chinook 24 in.



TABLE C-7. Summary of actual treaty Indian ocean and Area 4B troll regulations. (Page 5 of 5)

Year	Species	Season	Days	Minimum Size, Area, Gear, and Other Restrictions <sup>a/</sup>
1995	Chinook	Jan. 1-Apr. 15; May 1-31; Nov. 1-30	166	Chinook 22 in. except 24 in. in May.
	All	Aug. 1-24; Dec. 1-31	55	Chinook 22 in. except 24 in. in Aug. Coho 16 in.
1996	Chinook	Jan. 1-Apr. 15; May 1-June 30; Nov. 1-30	197	Chinook 22 in. except 24 in. May-June.
	All	Aug. 5-13; Sept. 1-11; Dec. 1-31	51	Chinook 22 in. except 24 in. Aug.-Sept. Coho 16 in.
1997	Chinook	Jan. 1-Apr. 15; May 1-June 30; Nov. 1-30	196	Chinook 22 in. except 24 in. May-June.
	All	Aug. 4-29; Sept. 3-7; Dec. 1-31	62	Chinook 22 in. except 24 in. Aug.-Sept. Coho 16 in.

a/ Ceremonial and subsistence harvest restrictions for ocean fisheries are as follows. Makah Tribe: none. Quinault, Quileute and Hoh tribes: 1983-1988, no more than 2 chinook between 24-26 in. per day; beginning in 1989, no restriction on chinook less than 24 in., but no more than 2 chinook longer than 24 in. per day. Beginning in 1985, restrictions on fishing lines have been: no more than 8 fixed lines per boat for Quinault, Quileute and Hoh tribes; no more than 8 fixed lines per boat or no more than 4 hand-held lines per person for the Makah Tribe. Beginning in 1985, the following closure has been in effect for Quinault, Quileute and Hoh fisheries: the area within a 6-mile radius of the mouths of the Hoh, Queets and Quillayute rivers is closed.

b/ Barbless hooks required except on whole bait and plugs.

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TABLE C-8. Council preseason adopted catch quotas for ocean fisheries north of Cape Falcon and critical stocks driving management in thousands of fish. (Page 1 of 1)

Year	Chinook			Coho				
	Critical Stocks	Treaty Troll	Non-Indian Troll	Sport	Critical Stocks	Treaty Troll	Non-Indian Troll	Sport
1979	None	-	-	-	None	-	-	-
1980	None	-	-	-	Washington Coastal Coho	-	-	-
1981	None	-	-	-	Hoh and Skagit <sup>a/</sup>	-	372	248
1982	None	-	-	-	Washington Coastal Coho	-	293	215
1983	Columbia River Hatchery and Depressed Upriver Stocks	-	114	88	Queets and Skagit <sup>b/</sup>	-	164	318
1984	LRH and SCH	8.3	16.7	10.3	Grays Harbor	38.5	24.8	50.2
1985	SCH	10.5	47.5 <sup>c/</sup>	37.2	Skagit	75	91.5	198.4
1986	SCH	12.5	51	37.1	Quillayute and Queets	86	140.6	207.5
1987	SCH	15.8	58.2 <sup>d/</sup>	44.6	Skagit	86	141.2	200.9
1988	Columbia River Upriver Stocks	60	73.7	29.8	Washington Coastal and Puget Sound	68	0.0 <sup>e/</sup>	100
1989	Columbia River Upriver Stocks	32	47.5	47.5	Queets and Skagit	77	75	225
1990	Columbia River LRH	31.2	37.5	37.5	Queets and Skagit	90	105	245
1991	Columbia River LRH	33	40	40	Hood Canal and Skagit	80	87	233
1992	Columbia River tules and Snake River falls	33	47	33	Hood Canal and Stillaguamish	68	19	141
1993	Columbia River tules and Snake River falls	33	35	25	Skagit	90	47.5	202.5
1994	Columbia River LRH and Snake River falls	16.4	0	0	Washington Coastal and Puget Sound	0	0	0
1995	Columbia River LRH and Snake River falls	12	0	0	Washington Coastal and Puget Sound	30	25	75
1996	Columbia River LRH and Snake River falls	11	0	0	Washington Coastal and Puget Sound	30	20.8	62.2
1997	Snake River Falls	15	11.5	5.2	Washington Coastal and Puget Sound	12.4	0	32.3 <sup>f/</sup>

a/ Although the Skagit River escapement goal would not be achieved, management was based on meeting WDFW's escapement goal for Hoh River coho and allocation based on aggregation to Washington coastal tribes.

b/ The Council management regime was not expected to meet equitable adjustment requirements for Skagit River coho.

c/ Plus 7,430 hooking mortality for pink fishery.

d/ Plus 3,250 hooking mortality for pink fishery.

e/ Hooking mortality of 2,800 coho for June 1-15 fishery not included.

f/ Plus 1,200 hook-and-release mortality for the Neah Bay all-salmon-except-coho fishery.

**GENERAL MANAGEMENT ACTIONS AND INSEASON CONFERENCES**

Jan. 22	The National Marine Fisheries Service (NMFS) convenes Inseason Conference number one to consider prohibiting the retention of coho in the recreational fishery south of Pt. Arena, California. Based on the expectation of continued low coho abundance for 1997 and the threatened status of central California coho, the fishery will be restricted to all salmon except coho when it opens in March.
Feb. 18	NMFS notifies the Council that the 1996 Biological Opinion for Sacramento River winter chinook has been amended to require a 31% rather than a 35% increase in escapement. The change is based on the inclusion of data from the 1996 escapement.
Feb. 26	NMFS notifies the Council that there is no change in the 1996 Biological Opinion with regard to listed Snake River salmon. With regard to threatened central California coho and other coho stocks proposed for listing, NMFS stipulates these stocks will not be jeopardized if coho retention is prohibited in all areas that significantly impact the listed coho and if the total harvest mortality to Oregon coast natural coho does not exceed 13%.
Mar. 7	Council adopts four troll and four recreational ocean salmon fishery management options for public review. One option does not comply with the salmon fishery management plan (FMP) allocation objectives north of Cape Falcon and would require emergency implementation.  NMFS Inseason Conference number two at the Council meeting results in an April 15 opening of the commercial fisheries off Oregon between Cape Falcon and the Oregon-California border and an April 15 opening of the recreational fishery between Cape Falcon and Humbug Mt. Both fisheries are for all salmon except coho.
Mar. 12-13	North of Cape Falcon Salmon Forum meets in Vancouver, Washington, to initiate consideration of recommendations for treaty Indian and non-Indian salmon management options.
Mar. 26-27	North of Cape Falcon Salmon Forum meets in Tacoma, Washington to further consider recommendations for treaty Indian and non-Indian salmon management options.
Mar. 31, Apr. 1, and Apr. 8	Council holds public hearings on proposed 1997 management options in five locations within the three Pacific coast states.
Apr. 11	Council adopts final ocean salmon fishery management recommendations for approval and implementation by the U.S. Secretary of Commerce. The proposed measures comply with the salmon FMP and the current Biological Opinion for listed species. An emergency rule is not required for implementation.
Apr. 21	NMFS convenes Inseason Conference number three to consider closure of the commercial fishery between Pt. Lopez and Pt. Mugu, California. The fishery is closed on April 22 as the 10,000 chinook quota is projected to be met by that time. Fishers must land all fish within 24 hours of the closure.
Apr. 25	NMFS announces it will list southern Oregon/northern California coho as threatened, effective June 5, 1997 (62 FR 24588).
May 1	Ocean salmon seasons implemented as recommended by the Council and published in the <i>Federal Register</i> on May 5 (62 FR 24355).
May 27	NMFS convenes Inseason Conference number four to consider closing the all-salmon-except-coho troll fishery between Cape Arago and the Oregon-California border. The 5,300 chinook quota is projected to be exceeded at the time of the conference and the fishery is closed on May 28 to allow time for notice.
June 4	NMFS convenes Inseason Conference number five to consider a change in the daily bag limit prior to the opening of the season on July 21 for the recreational fishery between Queets River and Leadbetter Pt. The daily bag limit is changed from two fish to "two fish, but no more than one chinook." The purpose of the change is to help assure season duration (i.e., coho harvest will not be precluded by early achievement of the chinook harvest guideline).



TABLE C-9. Sequence of events in ocean salmon fishery management, 1997.<sup>a/</sup> (Page 2 of 5)

**GENERAL MANAGEMENT ACTIONS AND INSEASON CONFERENCES (continued)**

June 12	NMFS convenes Inseason Conference number six to consider extending the non-Indian commercial, all-salmon-except-coho fishery north of Cape Falcon past the scheduled June 15 closure. Primarily due to low effort, over 5,000 chinook remain in the quota at the scheduled closing. However, the fishery will not be extended since insufficient impacts are available for more coho hook-and-release mortality.
June 13	Contrary to Council assumptions in setting the 1997 ocean salmon season, the California Fish and Game Commission sets the Klamath River recreational salmon harvest allocation at 4,200 fish. This is 1,000 fish more than assumed by the Council and will require inseason action by NMFS to significantly reduce ocean fisheries to rebalance the Indian and non-Indian harvest shares.
June 23	Council considers and rejects request to liberalize the California commercial fishery south of Point San Pedro.
June 24	NMFS Inseason Conference number seven results in a modification of item B.2. in the annual recreational regulations which relates to minimum size restrictions. The change maintains the requirement that fish must meet the minimum size limit of the area in which they are caught, but deletes the requirement that they must also meet the minimum size limit of the area in which they are landed. This change was necessary to avoid confounding regulations when the area between Pt. Reyes and Pigeon Pt. changes to a first-two-fish bag limit, rather than having a minimum size limit (effective July 1).
June 27	California Fish and Game Commission convenes an emergency meeting during which it (1) rescinds its previous action to set the harvest allocation for the recreational fishery in the Klamath River at 4,200 chinook and (2) requests NMFS to increase the present allocation of 3,200 chinook by 300 fish which are unallocated. NMFS agrees to the request, and no changes are made to the ocean salmon fisheries.
July 22	NMFS convenes Inseason Conference number eight to consider closure of the Neah Bay sport fishery upon projected achievement of the 550 chinook quota. The fishery is closed on July 23.
July 31	NMFS convenes Inseason Conference number nine to consider closure of the La Push sport fishery upon achievement of the 800 coho quota. With an expected transfer of less than 300 coho from the Neah Bay and Westport areas, the fishery is allowed to continue through Aug. 3.
Aug. 6	NMFS Inseason Conference number ten closes the recreational fishery at the mouth of the Columbia River (Leadbetter Pt. to Cape Falcon) on Aug. 7 as the 17,500 coho quota is projected to be reached. The fishery is on a five-day per-week schedule and was already scheduled to be closed Aug. 8-9.
Aug. 11	NMFS Inseason Conference number 11 liberalizes the open periods in the commercial fishery between Sisters Rocks and Mack Arch which has been following a cycle of two days open/two days closed. With very little effort and fewer than 200 chinook landed through the close of the third, two-day opening, the fishery will be open continuously from Aug. 13 through the earlier of Aug. 31 or attainment of the 3,000 chinook quota.
Aug. 11	NMFS Inseason Conference number 12 liberalizes the recreational fishery off Westport (Queets River to Leadbetter Pt.). With about 5,000 coho remaining in the subarea quota and an overall remaining quota of 2,500 chinook to draw on, the closure from zero to three miles is rescinded and the daily bag limit is modified to allow two fish of any species (formerly, no more than one fish could be a chinook).
Aug. 28	NMFS Inseason Conference number 13 closes the recreational fishery off Westport on Sept. 4 as the coho quota is expected to be reached.

**NON-INDIAN COMMERCIAL TROLL SEASONS**

Apr. 15	All-salmon-except-coho fisheries open between (1) Cape Falcon, Oregon, and the Oregon-California border (the area between Cape Arago and the border is under a quota of 5,300 chinook) and (2) Pt. Lopez and Pt. Mugu, California (test fishery open until the earlier of a 10,000 chinook quota or April 28).
Apr. 22	The all-salmon-except-coho test fishery between Pt. Lopez and Pt. Mugu closes as the 10,000 chinook quota is projected to have been met.

TABLE C-9. Sequence of events in ocean salmon fishery management, 1997.<sup>a/</sup> (Page 3 of 5)

**NON-INDIAN COMMERCIAL TROLL SEASONS** (continued)

May 1	All-salmon-except-coho fisheries open between (1) the U.S.-Canada border and Cape Falcon and (2) Pt. San Pedro and the U.S.-Mexico border.
May 28	Cape Arago to Oregon-California border, all-salmon-except-coho fishery closes as the 5,300 chinook quota is projected to be met.
May 31	Pt. San Pedro to U.S.-Mexico border, all-salmon-except-coho fishery closes.
June 15	U.S.-Canada border to Cape Falcon, all-salmon-except-coho fishery closes as scheduled.
June 23	Pt. San Pedro to U.S.-Mexico border, all-salmon-except-coho fishery reopens.
June 27	Cape Falcon to Cape Arago, all-salmon-except-coho fisheries close as scheduled. The fishery will reopen Aug. 1.
July 1	Pt. Reyes to Pt. San Pedro, all-salmon-except-coho fishery opens.
July 16	Pt. Arena to Pt. Reyes, all-salmon-except-coho fishery opens.
Aug. 1	All-salmon-except-coho fisheries open between (1) Cape Falcon and Humbug Mt. (the area south of Cape Arago is under quotas of 8,800 chinook in Aug. and 10,000 chinook for Sept. and Oct.) and (2) Sisters Rocks and Mack Arch (under a 3,000 chinook quota).
Aug. 2	Sisters Rocks to Mack Arch, all-salmon-except-coho fishery closes after the first two-day opening.
Aug. 5-6	Second, two-day opening of the Sisters Rocks to Mack Arch all-salmon-except-coho fishery.
Aug. 9-10	Third, two-day opening of the Sisters Rocks to Mack Arch all-salmon-except-coho fishery.
Aug. 13	Sisters Rocks to Mack Arch, all-salmon-except-coho fishery reopens to run continuously through the earlier of Aug. 31 or the 3,000 chinook quota.
Aug. 31	Cape Falcon to Cape Arago, all-salmon-except-coho fishery closes for three days. Sisters Rocks to Mack Arch, all-salmon-except-coho season closes as scheduled.
Sept. 1	All-salmon-except-coho fisheries open between (1) the Oregon-California border and Horse Mt. under a 6,000 chinook quota and (2) Horse Mt. and Pt. Arena.
Sept. 4	Cape Falcon to Cape Arago, all-salmon-except-coho fishery reopens.
Sept. 30	All-salmon-except-coho fisheries close for the season from Humbug Mt. to the U.S.-Mexico border.
Oct. 13	Goat Island to 42°01'20" N latitude (Chetco River), chinook only fishery opens inside Oregon territorial waters under a 1,000 chinook quota. Landings are restricted to Brookings with a single daily landing limit of no more than 20 chinook.
Oct. 25	Chetco River, chinook only fishery inside Oregon territorial waters closes as the 1,000 chinook quota is projected to be met.
Oct. 29	Chetco River, chinook only fishery inside Oregon territorial waters reopens as the previous closure proved to be premature.
Oct. 30	Chetco River (Goat Island to 42°01'20" N latitude), chinook only fishery inside state territorial waters closes as scheduled.
Oct. 31	Cape Falcon to Humbug Mt., all-salmon-except-coho fishery closes for the season.



TABLE C-9. Sequence of events in ocean salmon fishery management, 1997.<sup>a/</sup> (Page 4 of 5)

**NON-INDIAN COMMERCIAL TROLL SEASONS** (continued)

- Nov. 1 Oregon State territorial waters, chinook only fisheries open from (1) Pyramid Rock to Twin Rocks (Tillamook Bay mouth) and (2) Cape Blanco to Humbug Mt. (Elk River). All landings in the Elk River fishery must be made in Port Orford.
- Nov. 15 Pyramid Rock to Twin Rocks (Tillamook Bay mouth), chinook only fishery inside Oregon territorial waters closes.
- Nov. 30 Cape Blanco to Humbug Mt., chinook only fishery inside Oregon territorial waters closes.

**TREATY INDIAN TROLL SEASONS**

- May 1 All-salmon-except-coho fisheries open under a 7,500 chinook guideline.
- June 30 All-salmon-except-coho fisheries close as scheduled.
- Aug. 4 All-salmon fisheries open under a 12,500 coho quota and the remainder of an overall 15,000 chinook quota.
- Aug. 29 All-salmon fisheries close to evaluate catch in relation to quota levels (the Makah fishery continued thru Aug. 31).
- Sept. 3 All-salmon fishery reopens (except Hoh and Quileute tribes) under remaining coho and chinook quotas
- Sept. 7 All-salmon fisheries close for the season (the Makah fishery closed Sept. 6).

**RECREATIONAL SEASONS**

- Feb. 15 Horse Mt. to Pt. Arena, all-salmon-except-coho fishery opens.
- Mar. 15 Pigeon Point to the U.S.-Mexico border, all-salmon-except-coho fishery opens.
- Mar. 29 Point Arena to Pigeon Point, all-salmon-except-coho fishery opens.
- Apr. 15 Cape Falcon to Humbug Mountain, all-salmon-except-coho fishery opens.
- May 24 Humbug Mt., Oregon to Horse Mt., all-salmon-except-coho fishery opens with a daily bag limit of one fish.
- May 30 Humbug Mt. to Horse Mt., all-salmon-except-coho fishery closes.
- June 17 Humbug Mt. to Horse Mt., all-salmon-except-coho fishery reopens.
- July 1 To address differences in size limit restrictions in adjacent areas, the minimum size limit compliance restriction is modified to require only that all salmon on board a vessel must meet the minimum size limit of the area in which they are caught-- rather than that of both the area of catch and the area of landing.
- July 6 All-salmon-except-coho fisheries between Cape Falcon and Pt. Arena close. Reopenings are scheduled for Aug. 1 from Cape Falcon to Humbug Mt. and Horse Mt. to Pt. Arena, and Aug. 12 from Humbug Mt. to Horse Mt.
- July 21 All fisheries between the U. S.-Canada border and Cape Falcon open. North of Cape Alava (Neah Bay), the season is an all-salmon-except-coho fishery, while south of Cape Alava the seasons are all-salmon fisheries. In the Westport area, the daily bag limit allows two fish, but only one chinook. The other areas maintain a standard two-fish bag limit.
- July 23 U.S.-Canada border to Cape Alava (Neah Bay), all-salmon-except-coho fishery closes upon projection of achieving the 550 chinook quota.



TABLE C-9. Sequence of events in ocean salmon fishery management, 1997.<sup>a/</sup> (Page 5 of 5)

RECREATIONAL SEASONS (continued)

Aug. 1	All-salmon-except-coho fisheries reopen between (1) Cape Falcon and Humbug Mt. and (2) Horse Mt. and Pt. Arena. Between Pyramid Rock and Twin Rocks (Tillamook Bay mouth), state regulations inside Oregon territorial waters make barbless hooks optional and allow no more than four adult salmon per week (instead of six). Adult salmon are defined as greater than 24 inches in length.
Aug. 3	Cape Alava to Queets River (La Push), all-salmon fishery closes upon projection of achieving its 800 coho quota, plus some transfer of coho from Neah Bay and Westport.
Aug. 7	Leadbetter Pt. to Cape Falcon (Columbia River), all-salmon fishery closes upon projection of achieving its 17,500 coho quota.
Aug. 12	Humbug Mt. to Horse Mt., all-salmon-except-coho fishery reopens.
Aug. 13	Queets River to Leadbetter Pt. (Westport), all-salmon-except-coho fishery is modified by rescinding the closure from zero to three miles and reestablishing the daily bag limit at two fish of any species (formerly only one fish could be a chinook).
Sept. 1	Between Pt. Reyes and Pigeon Pt., the bag limit of the first two fish with no minimum size limit ends and is replaced on Sept. 2 with a two fish bag and a minimum size restriction of 24 inches.
Sept. 2	A change in gear restrictions for fisheries between Horse Mt. and Pt. Conception requires no more than two barbless circle hooks per line.
Sept. 4	Queets River to Leadbetter Pt. (Westport), all-salmon-except-coho fishery closes for the season upon projection of reaching its coho quota.
Sept. 14	Humbug Mt. to Horse Mt., all-salmon-except-coho fishery closes for the season.
Oct. 4	Goat Island to 42°01'20" N latitude (Chetco River), chinook only fishery inside Oregon territorial waters opens.
Oct. 12	Chetco River, chinook only fishery inside Oregon territorial waters closes.
Oct. 19	Pigeon Pt. to U.S.-Mexico border, all-salmon-except-coho fishery closes for the season.
Oct. 31	Cape Falcon to Humbug Mt., all-salmon-except-coho fishery closes for the season.
Nov. 1	Pyramid Rock to Twin Rocks (Tillamook Bay mouth), chinook only fishery remains open inside Oregon territorial waters (barbless hooks optional).  Cape Blanco to Humbug Mt. (Elk River), all-salmon-except-coho fishery inside Oregon territorial waters opens.
Nov. 2	Pt. Arena to Pigeon Pt., all-salmon-except-coho fishery closes for the season.
Nov. 15	Pyramid Rock to Twin Rocks (Tillamook Bay mouth), chinook only fishery inside Oregon territorial waters closes.
Nov. 16	Horse Mt. to Pt. Arena, all-salmon-except-coho fishery closes for the season.
Nov. 30	Elk River, chinook only fishery inside Oregon territorial waters closes.

a/ Unless stated otherwise, season openings or modifications of restrictions are effective at 0001 hours of the listed date. Closures are effective at midnight.



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## APPENDIX D

### HISTORICAL ECONOMIC DATA

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TABLE D-1. California monthly troll chinook and coho average dressed weights (pounds) by area of landing. (Page 1 of 3)

Year	Apr.	May	June	July	Aug.	Sept.	Oct.	Season	May	June	July	Aug.	Sept.	Season <sup>a/</sup>
<b>Crescent City</b>														
1976-1980	9.1	8.5	8.6	9.1	9.8	8.9	-	8.9	3.9	4.3	6.4	7.1	7.1	5.0
1981-1985	-	8.5	8.1	9.1	9.4	9.1	-	8.9	3.9	4.5	5.6	6.7	6.9	5.5
1986-1990	-	10.0	9.1	9.7	8.8	9.2	-	9.2	-	5.0	5.1	4.5	5.6	5.0
1981	-	8.9	9.7	8.8	9.4	9.1	-	9.2	3.9	4.4	6.0	6.8	7.1	5.6
1982	-	8.0	8.8	9.9	9.7	9.3	-	9.4	3.9	4.9	5.9	6.5	6.5	5.9
1983	-	6.8	7.6	7.6	7.2	-	-	7.5	-	4.4	4.3	4.5	-	4.4
1984	-	7.1	7.2	7.9	8.4	-	-	7.9	-	-	-	7.7	-	7.7
1985	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986	-	9.1	8.3	9.5	8.6	9.1	-	8.7	-	4.7	5.0	-	-	4.8
1987	-	10.2	8.8	9.9	-	10.2	-	8.9	-	5.3	5.5	-	5.5	5.4
1988	-	9.0	9.1	-	-	9.0	-	9.1	-	5.4	-	-	5.6	5.4
1989	-	11.7	12.2	-	9.2	-	-	11.8	-	4.6	-	4.5	-	4.6
1990	-	-	-	-	9.7	-	-	9.7	-	-	-	-	-	-
1991	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1992	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1993	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1996	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1997 <sup>b/</sup>	-	-	-	-	8.3	10.6	-	9.6	-	-	-	-	-	-
	-	-	-	-	-	10.0	-	10.0	-	-	-	-	-	-
<b>Eureka</b>														
1976-1980	7.8	8.1	8.4	8.6	9.8	9.5	-	8.4	3.1	4.3	6.2	7.1	6.8	4.3
1981-1985	-	7.6	8.3	9.3	9.7	9.6	-	8.6	3.8	4.5	5.6	6.4	6.6	5.4
1986-1990	-	-	8.8	10.1	10.5	9.2	11.8	9.2	-	5.3	5.6	5.3	6.1	5.5
1981	-	7.6	8.9	9.5	9.4	10.0	-	8.5	3.7	4.6	5.9	6.7	6.7	5.7
1982	-	7.8	9.4	9.6	10.9	9.2	-	9.0	5.1	5.3	5.8	6.6	6.4	5.9
1983	-	7.2	7.6	8.0	7.9	-	-	7.6	5.0	4.3	4.3	5.0	-	4.4
1984	-	7.2	7.0	8.7	8.4	-	-	7.9	-	-	7.6	6.6	-	6.8
1985	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1986	-	-	8.1	10.1	10.8	10.9	-	9.6	-	5.1	5.6	5.9	6.9	5.2
1987	-	-	8.9	-	-	8.2	-	8.8	-	5.2	-	-	6.5	5.3
1988	-	-	8.7	-	-	9.1	-	8.8	-	5.6	-	-	6.1	5.7
1989	-	-	10.3	-	9.9	9.6	9.5	10.0	-	4.7	-	4.9	6.3	4.9
1990	-	-	-	-	9.9	8.4	9.7	9.5	-	-	-	5.7	5.3	5.3
1991	-	-	-	-	-	9.5	17.7	10.1	-	-	-	-	6.2	6.2
1992	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1993	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1996	-	-	-	-	11.9	10.3	-	10.7	-	-	-	-	-	-
1997 <sup>b/</sup>	-	-	-	-	-	10.0	-	10.0	-	-	-	-	-	-

TABLE D-1. California monthly troll chinook and coho average dressed weights (pounds) by area of landing. (Page 2 of 3)

Year	Apr.	May	June	July	Aug.	Sept.	Oct.	Season	May	June	July	Aug.	Sept.	Season <sup>a/</sup>
<b>CHINOOK</b>														
<b>COHO</b>														
<u>Fort Bragg</u>														
1976-1980	9.1	8.6	9.4	10.8	10.2	10.5	-	10.1	3.9	4.9	6.7	6.9	7.6	5.4
1981-1985	7.6	9.5	10.6	10.1	11.3	10.3	-	10.3	3.8	5.2	6.4	6.3	7.6	6.2
1986-1990	-	9.2	9.9	9.4	10.1	10.4	-	9.6	-	5.3	5.9	6.2	6.1	5.7
1981	-	8.5	10.5	9.6	9.8	10.5	-	9.7	3.7	5.0	6.1	6.2	7.5	5.8
1982	7.6	9.7	10.8	10.0	11.6	9.9	-	10.1	4.2	6.2	6.1	6.5	7.1	6.2
1983	-	7.1	7.6	7.7	8.4	8.2	-	7.7	6.0	4.2	4.7	5.3	5.5	4.6
1984	-	7.1	10.0	8.8	8.9	9.7	-	9.0	-	7.4	7.3	7.8	8.6	7.4
1985	-	12.5	13.0	11.7	12.9	12.0	-	12.3	-	7.1	7.5	7.3	7.6	7.4
1986	-	8.6	8.4	7.9	9.2	9.3	-	8.4	-	4.9	5.9	6.4	6.1	5.6
1987	-	9.2	10.2	9.6	9.7	10.2	-	9.7	-	5.7	5.8	-	6.4	5.8
1988	-	9.6	10.8	10.1	11.5	10.5	-	10.3	-	5.9	6.6	7.3	6.8	6.4
1989	-	9.7	12.0	9.8	9.3	10.9	-	10.0	-	5.3	5.6	6.0	5.4	5.7
1990	-	9.4	9.5	9.0	10.9	9.5	-	9.4	-	4.8	5.1	6.0	6.4	5.0
1991	-	-	-	-	10.5	9.5	-	10.5	-	-	-	6.4	-	6.4
1992	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1993	-	8.2	-	-	-	9.4	-	9.4	-	-	-	-	-	-
1994	-	-	-	-	-	11.0	-	11.0	-	-	-	-	-	-
1995	-	-	-	-	-	11.7	-	11.7	-	-	-	-	-	-
1996	-	-	-	-	11.0	11.7	-	11.2	-	-	-	-	-	-
1997 <sup>b/</sup>	-	-	-	-	-	9.1	-	9.1	-	-	-	-	-	-
<u>San Francisco</u>														
1976-1980	8.5	8.9	9.9	10.8	11.4	11.6	-	9.9	4.2	5.0	6.8	6.8	7.7	5.2
1981-1985	7.5	9.0	10.3	10.6	10.4	10.5	-	10.0	4.5	6.5	7.4	6.7	7.5	7.0
1986-1990	-	9.4	10.5	11.0	12.5	12.1	-	10.4	-	5.3	6.0	6.5	6.1	5.6
1981	-	8.6	9.8	11.3	11.3	9.9	-	10.4	4.0	6.7	7.0	5.6	10.2	6.4
1982	7.5	9.0	10.1	10.4	11.0	11.2	-	9.9	4.4	5.6	6.6	7.2	7.9	6.2
1983	6.1	6.3	6.9	7.5	8.5	8.3	-	7.1	5.5	3.8	4.6	5.1	4.3	4.6
1984	-	8.0	8.5	9.2	8.8	8.6	-	8.9	-	6.9	7.9	7.6	8.7	7.6
1985	-	10.9	11.8	14.2	12.9	12.4	-	12.2	-	6.6	7.4	7.4	7.9	6.9
1986	-	8.3	8.8	9.4	11.0	13.6	-	9.1	-	5.4	6.2	6.6	5.5	6.0
1987	-	10.1	11.4	11.3	12.3	11.5	-	10.9	-	5.7	5.9	-	-	5.8
1988	-	9.5	11.9	11.7	13.5	12.5	-	11.2	-	6.4	7.2	7.6	7.1	6.9
1989	-	9.1	10.0	11.7	11.9	11.2	-	10.0	-	5.7	5.9	6.1	5.8	5.8
1990	-	9.1	9.1	10.5	13.5	11.9	-	9.5	-	5.0	5.4	6.4	6.5	5.2
1991	-	9.4	10.4	10.8	11.8	10.8	-	10.4	-	5.3	5.9	6.4	-	5.6
1992	-	8.2	-	-	11.0	12.4	-	11.5	-	-	-	4.8	-	4.8
1993	-	7.7	7.8	9.8	9.7	11.3	-	8.8	-	-	-	-	-	-
1994	-	9.1	10.1	10.5	10.4	11.7	-	10.1	-	-	-	-	-	-
1995	-	8.4	8.8	9.8	13.5	12.8	-	9.3	-	-	-	-	-	-
1996	-	9.4	9.4	10.8	12.5	12.9	-	10.3	-	-	-	-	-	-
1997 <sup>b/</sup>	-	9.9	10.1	10.5	12.3	12.1	-	10.4	-	-	-	-	-	-

TABLE D-1. California monthly troll chinook and coho average dressed weights (pounds) by area of landing. (Page 3 of 3)

Year	Apr.	May	June	July	Aug.	Sept.	Oct.	Season	May	June	July	Aug.	Sept.	Season <sup>a/</sup>
<b>CHINOOK</b>														
<b>COHO</b>														
<u>Monterey</u>														
1976-1980	8.5	9.3	9.2	10.9	13.2	10.0	-	9.9	4.4	4.9	6.7	7.2	5.6	5.1
1981-1985	8.2	8.1	8.9	9.4	10.7	11.4	-	8.8	5.8	6.1	7.2	7.5	7.6	6.4
1986-1990	-	10.0	11.1	12.3	12.9	11.8	-	11.0	-	5.3	6.5	6.6	6.1	5.8
1981	-	7.2	9.3	8.5	11.8	8.7	-	8.0	5.0	4.0	6.9	5.5	10.0	5.7
1982	8.3	9.1	10.1	10.8	10.8	11.9	-	9.7	6.7	5.5	5.8	8.7	10.4	6.9
1983	6.3	6.4	7.0	7.9	8.4	9.5	-	7.1	4.4	3.9	5.0	5.9	5.3	4.2
1984	-	7.8	8.3	9.8	9.5	8.6	-	8.4	-	6.7	7.9	10.7	-	7.0
1985	-	12.5	13.5	15.0	14.8	12.3	-	13.1	-	5.9	6.9	7.4	7.5	6.5
1986	-	8.8	9.7	10.1	11.5	11.0	-	9.4	-	5.0	7.4	6.8	8.0	6.3
1987	-	11.6	12.3	12.3	11.1	11.4	-	11.9	-	5.6	5.6	-	5.2	5.6
1988	-	10.1	12.5	15.0	16.6	12.5	-	12.3	-	5.8	5.1	6.1	-	5.8
1989	-	11.1	11.9	12.4	12.4	12.1	-	11.7	-	6.1	5.8	6.7	6.2	6.1
1990	-	9.8	10.2	11.3	9.7	11.8	-	10.3	-	5.3	6.4	6.3	6.3	5.6
1991	-	9.7	14.2	13.0	12.1	13.0	-	12.6	-	5.2	6.0	6.6	-	5.4
1992	-	8.6	9.3	9.1	9.9	9.7	-	9.0	-	4.3	5.2	4.4	-	4.5
1993	-	8.7	9.2	11.0	10.7	10.9	-	9.4	-	-	-	-	-	-
1994	-	10.9	11.6	12.5	12.8	10.0	-	11.8	-	-	-	-	-	-
1995	-	9.2	10.2	11.0	12.9	12.0	-	10.2	-	-	-	-	-	-
1996	-	10.4	11.3	12.6	11.7	11.2	-	11.3	-	-	-	-	-	-
1997 <sup>b/</sup>	10.6	10.7	10.4	11.7	10.0	9.9	-	10.9	-	-	-	-	-	-
<u>Total Statewide</u>														
1976-1980	8.4	8.6	9.1	10.3	10.7	10.5	-	9.5	3.5	4.5	6.5	7.0	7.1	4.9
1981-1985	7.9	8.6	9.8	10.1	10.3	10.2	-	9.6	3.9	5.1	6.2	6.5	7.0	5.9
1986-1990	-	9.5	10.2	10.5	11.2	10.9	11.8	10.2	-	5.2	6.0	6.2	6.0	5.6
1981	-	8.0	10.1	10.3	10.0	9.7	-	9.4	3.8	4.6	6.0	6.7	7.1	5.7
1982	7.9	8.8	10.0	10.2	10.7	10.4	-	9.7	4.9	5.4	6.0	6.6	6.8	6.0
1983	6.2	6.5	7.4	7.7	8.3	8.4	-	7.3	5.0	4.3	4.4	5.0	4.8	4.4
1984	-	7.5	8.5	9.1	8.8	9.3	-	8.7	-	6.8	7.7	7.2	8.6	7.4
1985	-	11.6	12.4	12.7	13.0	12.2	-	12.3	-	7.0	7.5	7.3	7.6	7.3
1986	-	8.6	8.8	8.9	10.3	11.6	-	9.0	-	5.0	6.0	6.4	6.1	5.5
1987	-	10.1	10.4	10.3	10.7	10.5	-	10.3	-	5.4	5.8	-	6.4	5.6
1988	-	9.7	11.3	11.3	12.9	11.0	-	11.0	-	5.8	6.6	7.4	6.2	6.3
1989	-	9.7	10.7	10.7	10.4	10.9	9.5	10.3	-	5.1	5.7	5.9	5.9	5.5
1990	-	9.4	9.5	10.4	11.3	10.1	9.7	9.7	-	4.9	5.4	6.2	5.6	5.1
1991	-	9.5	11.9	11.6	11.2	10.4	17.7	11.0	-	5.3	5.9	6.4	6.2	5.6
1992	-	8.6	9.3	9.1	10.9	12.1	-	10.0	-	4.3	5.2	4.8	-	4.5
1993	-	8.2	8.7	10.2	9.9	9.7	-	9.1	-	-	-	-	-	-
1994	-	9.7	10.3	11.2	10.5	11.4	-	10.5	-	-	-	-	-	-
1995	-	8.8	9.5	10.5	13.2	12.4	-	9.8	-	-	-	-	-	-
1996	-	10.2	10.2	11.8	11.7	11.9	-	10.8	-	-	-	-	-	-
1997 <sup>b/</sup>	10.6	10.2	10.4	11.0	12.3	11.4	-	10.7	-	-	-	-	-	-

a/ Season average includes minor catches for Oct. where appropriate.

b/ Preliminary.



TABLE D-2. Oregon monthly troll chinook and coho salmon average dressed weights (pounds).  
(Page 1 of 1)

Year or Average	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Season
<b>CHINOOK</b>									
1971-1975	-	9.4	10.8	10.4	10.1	9.2	11.0	16.3	10.2
1976	-	10.2	10.3	10.8	10.5	9.7	10.6	11.7	10.4
1977	-	8.8	10.5	10.5	10.0	9.4	11.0	14.1	10.2
1978	-	9.6	9.8	9.9	9.2	9.5	12.0	18.5	9.9
1979	-	11.9	9.9	11.0	10.2	10.9	9.0	16.3	10.5
1980	-	10.7	10.5	10.6	10.3	9.8	9.9	16.4	10.4
1981	-	9.2	9.1	10.7	9.8	8.6	10.5	14.4	9.8
1982	-	9.4	10.4	10.4	10.0	8.8	9.8	12.9	10.1
1983	-	8.8	8.0	7.9	7.8	8.8	10.1	11.7	8.2
1984	-	8.6	8.5	8.5	8.2	9.2	16.6	15.4	8.5
1985	-	9.1	9.3	10.0	9.0	8.6	10.6	19.3	9.4
1986	-	9.4	8.7	8.5	8.0	7.8	7.5	13.1	8.4
1987	-	9.3	9.7	10.2	9.4	8.4	10.8	14.2	9.8
1988	-	8.6	9.5	9.5	9.3	10.0	9.3	14.6	10.1
1989	-	9.8	9.4	10.5	9.6	10.9	10.5	16.8	10.0
1990	-	9.4	10.0	9.4	8.7	9.6	13.8	10.5	9.4
1991	-	10.4	9.9	9.7	8.3	8.9	10.4	-	9.3
1992	-	9.7	10.3	8.7	8.5	9.7	9.9	-	9.2
1993	-	9.5	8.9	9.5	8.2	9.2	10.9	12.5	9.3
1994	-	10.6	10.6	8.7	13.0	9.6	13.3	15.6	11.3
1995	-	9.5	9.3	9.5	9.1	8.7	8.9	8.9	9.0
1996	-	9.8	11.3	12.3	11.2	10.5	10.2	11.1	10.9
1997 <sup>a/</sup>	11.8	11.3	11.0	11.9	9.3	9.1	12.4	15.8	10.3
<b>COHO</b>									
1971-1975	-	-	5.1	6.1	7.0	7.2	7.9	-	6.2
1976	-	-	4.1	5.0	5.8	5.7	6.2	-	5.0
1977	-	-	4.6	6.0	7.1	6.6	7.6	-	5.9
1978	-	-	4.4	4.5	5.1	4.9	5.2	-	4.5
1979	-	-	-	6.3	6.8	6.2	-	-	6.4
1980	-	-	-	5.5	5.9	6.1	-	-	5.7
1981	-	-	-	4.8	6.0	-	-	-	5.4
1982	-	-	-	5.2	5.6	-	-	-	5.2
1983	-	-	-	3.4	3.8	3.6	-	-	3.4
1984	-	-	-	-	5.1	-	-	-	5.1
1985	-	-	-	5.7	5.9	-	-	-	5.8
1986	-	-	4.3	4.4	3.9	-	-	-	4.3
1987	-	-	5.0	5.3	5.6	5.9	-	-	5.4
1988	-	-	5.2	5.1	5.9	-	-	-	5.4
1989	-	-	4.6	4.3	4.7	4.7	-	-	4.4
1990	-	-	-	5.1	5.3	5.5	7.2	-	5.2
1991	-	-	4.2	4.8	5.1	4.8	-	-	4.6
1992	-	-	-	4.0	4.2	-	-	-	4.2
1993	-	-	-	3.3	5.2	6.0	-	-	5.4
1994	-	-	-	-	-	-	-	-	-
1995	-	-	-	-	-	-	-	-	-
1996	-	-	-	-	-	-	-	-	-
1997 <sup>a/</sup>	-	-	-	-	-	-	-	-	-

a/ Preliminary.

TABLE D-3. Washington monthly troll chinook and coho salmon average dressed weights (pounds).<sup>a/b/</sup> (Page 1 of 2)

Year	May		June		July		Aug.		Sept.		Oct.		Season <sup>c/</sup>	
	Treaty Indian	Non-Indian	Treaty Indian	Non-Indian	Treaty Indian	Non-Indian	Treaty Indian	Non-Indian	Treaty Indian	Non-Indian	Treaty Indian	Non-Indian	Treaty Indian	Non-Indian
<b>CHINOOK</b>														
1980	10.9	12.0	12.6	-	12.5	13.2	14.2	13.5	10.9	13.1	6.7	-	7.3	13.0
1981	7.3	10.2	9.8	-	10.4	12.8	11.0	13.0	8.1	-	5.7	-	6.7	11.4
1982	8.9	9.7	8.0	-	10.2	12.9	8.4	14.0	5.9	13.6	5.5	-	7.0	11.2
1983	7.1	9.9	8.5	-	9.6	11.8	7.8	12.3	7.2	11.7	5.1	-	6.1	10.5
1984	6.6	9.1	8.8	-	8.1	-	8.6	10.7	8.0	-	4.4	-	5.3	9.4
1985	6.5	9.7	8.9	-	9.8	11.5	10.8	11.1	9.5	-	4.9	-	6.9	10.4
1986	8.3	10.1	7.3	-	8.8	-	8.3	10.3	5.9	-	4.5	-	6.0	10.2
1987	8.2	9.0	6.0	-	10.1	10.6	10.0	-	6.1	-	-	-	6.3	9.5
1988	8.2	10.3	9.6	11.1	10.1	-	9.8	-	8.4	-	5.1	-	7.0	10.6
1989	8.8	10.1	7.7	10.1	9.0	-	9.3	13.2	7.8	12.6	5.1	-	7.1	10.6
1990	7.0	8.0	9.7	12.0	10.1	13.6	8.2	12.7	6.0	11.7	6.2	12.6	7.0	11.1
1991	7.4	10.1	7.9	10.9	8.9	-	8.7	12.7	4.3	12.0	7.9	-	6.5	10.6
1992	6.4	11.3	7.3	12.3	8.3	12.1	8.4	11.5	7.5	-	4.8	-	6.1	11.6
1993	6.3	10.7	7.3	10.8	8.5	12.0	8.3	11.4	8.4	12.1	8.5	-	7.0	11.0
1994	9.6	-	9.9	9.3 <sup>d/</sup>	11.9	-	-	-	-	-	-	-	8.1	9.3 <sup>d/</sup>
1995	5.7	-	6.7	-	6.0	-	7.7	9.1 <sup>d/</sup>	6.2	9.4 <sup>d/</sup>	4.2	8.3 <sup>d/</sup>	6.9	8.4 <sup>d/</sup>
1996	5.8	-	6.2	12.9	-	12.6	7.8	-	6.7	-	-	-	6.9	12.4
1997	7.3	10.4	6.7	10.9	-	-	8.4	-	9.3	-	-	-	7.4	10.6

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TABLE D-3. Washington monthly troll chinook and coho salmon average dressed weights (pounds).<sup>a/b/</sup> (Page 2 of 2)

Year	May		June		July		Aug.		Sept.		Oct.		Season <sup>c/</sup>	
	Treaty Indian	Non-Indian	Treaty Indian	Non-Indian	Treaty Indian	Non-Indian	Treaty Indian	Non-Indian	Treaty Indian	Non-Indian	Treaty Indian	Non-Indian	Treaty Indian	Non-Indian
COHO														
1980	2.5	-	3.4	-	4.3	4.8	5.7	6.0	6.9	5.7	-	-	3.7	5.2
1981	1.7	-	2.9	-	3.9	4.2	4.7	4.7	5.9	5.9	-	5.8	4.5	4.3
1982	2.2	-	3.5	-	4.2	4.7	5.3	4.1	6.5	4.9	-	-	5.3	5.0
1983	3.0	-	3.4	-	3.6	5.0	4.0	4.0	4.8	-	-	-	4.1	4.2
1984	-	-	-	-	3.1	-	5.0	4.5	5.1	-	6.5	-	4.2	4.5
1985	-	-	3.1	-	4.4	4.5	5.5	5.8	5.7	-	-	-	5.0	4.6
1986	-	-	3.0	-	3.5	-	3.9	4.2	-	-	5.8	-	3.4	4.1
1987	-	-	-	-	3.9	4.3	4.3	-	4.6	-	4.6	-	4.1	4.3
1988	-	-	2.6	-	4.1	-	3.9	-	4.4	-	5.0	-	4.0	-
1989	-	-	-	-	4.0	-	4.2	3.8	4.6	4.9	5.0	-	4.3	3.9
1990	-	-	2.9	-	4.6	5.5	4.8	5.2	5.8	6.0	6.2	7.0	4.8	5.6
1991	-	-	-	-	4.1	-	4.8	5.0	3.9	5.6	6.0	-	4.4	5.1
1992	-	-	2.7	-	3.5	3.8	3.4	4.5	2.9	-	3.9	-	3.5	4.1
1993	-	-	-	-	3.4	3.6	4.6	5.0	4.9	5.8	5.7	-	4.6	4.8
1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	-	-	-	-	3.8	-	4.6	4.2	3.9	4.7	8.0	-	4.6	4.4
1996	-	-	-	-	-	3.8	3.5	4.0	5.3	-	-	-	5.0	4.0
1997	-	-	-	-	-	-	3.4	-	3.9	-	-	-	3.6	-

a/ Split between treaty Indian and non-Indian beginning in 1979. Treaty Indian statistics include landings from Puget Sound.

b/ All values in this table are based on preliminary information available at the start of each year's review.

c/ Season totals include additional winter treaty Indian troll.

d/ The fishery was closed north of Cape Falcon, however chinook were caught off Oregon and landed in Washington.



TABLE D-4. California troll salmon landings<sup>a/</sup> in dressed weight, value of landings and number of registered vessels making commercial salmon landings. (Page 1 of 1)

Year	Dressed Pounds Landed (thousands)	Nominal Exvessel Value (\$ thousands)	Vessels Landing Salmon	Vessels with Permits	Nominal Average Exvessel Value/Vessel (dollars)	Real Average Exvessel Value/Vessel <sup>c/</sup> (dollars)
1960	6,221	3,339	1,365	-	2,446	11,820
1961	8,638	4,698	1,615	-	2,909	13,895
1962	6,673	4,023	1,563	-	2,574	12,140
1963	7,849	3,959	1,611	-	2,457	11,456
1964	9,481	5,013	1,774	-	2,826	12,979
1965	9,674	4,989	2,001	-	2,493	11,232
1966	9,447	4,845	1,929	-	2,512	11,002
1967	7,402	3,945	2,137	-	1,846	7,836
1968	6,952	4,014	2,249	-	1,785	7,261
1969	6,151	3,843	2,125	-	1,808	7,026
1970	6,629	5,101	2,065	-	2,470	9,113
1971	8,117	4,757	2,221	-	2,142	7,512
1972	6,423	4,830	2,392	-	2,019	6,794
1973	9,669	8,991	2,848	-	3,157	10,056
1974	8,749	8,013	3,185	-	2,516	7,353
1975	6,925	6,972	3,150	-	2,213	5,913
1976	7,788	10,707	3,526	-	3,037	7,664
1977	5,920	12,074	3,797	-	3,180	7,538
1978	6,788	11,001	4,919	-	2,236	4,941
1979	8,746	19,659	4,593	-	4,280	8,714
1980	6,017	13,149	4,738	-	2,775	5,172
1981	6,012	14,322	4,102	-	3,491	5,947
1982	8,000	19,489	4,013	5,964	4,856	7,782
1983	2,411	4,608	3,223	4,617	1,430	2,197
1984	2,970	7,562	2,569	4,180	2,944	4,360
1985	4,600	11,515	2,308	3,869	4,989	7,144
1986	7,598	15,112	2,582	3,753	5,853	8,167
1987	9,293	25,623	2,442	3,533	10,493	14,204
1988	14,750	41,927	2,571	3,493	16,308	21,299
1989	5,720	13,485	2,534	3,464	5,322	6,669
1990	4,436	12,056	2,115	3,372	5,700	6,848
1991	3,697	9,047	1,769	3,242	5,114	5,909
1992	1,643	4,505	1,085	2,974	4,152	4,669
1993	2,537	5,707	1,240	2,740	4,602	5,042
1994	3,103	6,437	1,024	2,470	6,286	6,726
1995	6,633	11,693	1,104	2,333	10,591	11,051
1996	4,113	5,984	985	2,222	6,075	6,198
1997 <sup>d/</sup>	5,200	7,200	832	2,069	8,654	8,654

a/ Includes only chinook and coho salmon landings.

b/ Derived from vessel registrations and fish landing tickets.

c/ Expressed in 1997 dollars.

d/ Preliminary.

TABLE D-5. Oregon troll salmon landings<sup>a/</sup> in dressed weight, value of landings and number of registered vessels making commercial salmon landings. (Page 1 of 1)

Year	Dressed Pounds Landed (thousands)	Nominal Exvessel Value (\$ thousands)	Vessels Landing Salmon	Vessels with Permits	Nominal Average Exvessel Value/Vessel (dollars)	Real Average Exvessel Value/Vessel <sup>c/</sup> (dollars)
1974	-	7,937	2,253	-	3,523	10,297
1975	-	5,808	2,304	-	2,521	6,734
1976	10,983	14,868	2,770	-	5,368	13,547
1977	6,209	11,484	3,108	-	3,695	8,760
1978	4,673	7,340	3,158	-	2,324	5,135
1979	7,166	16,989	3,114	-	5,456	11,107
1980	4,362	8,185	3,875 <sup>d/</sup>	4,314	2,112	3,937
1981	4,897	9,573	3,615	3,926	2,648	4,511
1982	5,060	9,895	3,269	3,646	3,027	4,850
1983	1,753	2,296	2,951	3,439 <sup>e/</sup>	778	1,196
1984	621	1,595	771	3,203 <sup>f/</sup>	2,069	3,064
1985	2,514	5,774	2,050	2,993 <sup>f/</sup>	2,817	4,033
1986	5,275	7,954	2,288	2,739	3,476	4,851
1987	7,098	16,763	2,111	2,626	7,941	10,750
1988	7,723	21,536	2,061	2,597	10,449	13,648
1989	5,528	10,025	1,937	2,569	5,176	6,486
1990	2,815	6,641	1,557	2,528	4,265	5,124
1991	2,106	3,120	1,217	2,044 <sup>g/</sup>	2,564	2,962
1992	1,219	2,712	649	2,111	4,179	4,699
1993	770	1,671	612	1,814	2,735	2,991
1994	287	690	371	1,569	1,859	1,990
1995	1,941	3,294	476	1,465	6,920	7,221
1996	1,926	3,007	455	1,377	6,609	6,743
1997 <sup>h/</sup>	1,542	2,469	433	1,286	5,701	5,701

a/ Includes only chinook and coho salmon landings.

b/ Derived from vessel registrations and fish landing tickets.

c/ Expressed in 1997 dollars.

d/ The establishment of a restricted vessel permit system drew a number of historically active vessels back into the fishery in 1980.

e/ Vessels were not required to land one salmon in 1984 to be eligible for a permit in 1985. The Oregon Fish and Wildlife Commission waived this requirement because of the elimination of the coho fishery south of Cape Falcon.

f/ Vessels traditionally landing salmon south of Cape Blanco and north of Cape Falcon were not required to land one salmon in 1985 to be eligible for a permit in 1986. The Oregon Fish and Wildlife Commission waived this requirement because of the complete salmon closure south of Cape Blanco and a limited one-day coho season between the Columbia River and Cape Blanco.

g/ Legislation passed during the 1991 season of the Oregon Legislature **waived** the requirement that troll permit holders must buy a 1991 permit to be able to renew for 1992. This was a **one-time** exemption for 1991 only.

h/ Preliminary.

TABLE D-6. Washington non-Indian troll salmon landings in dressed weight, value of landings and number of registered vessels making commercial salmon landings. (Page 1 of 1)

Year	Dressed Pounds Landed (thousands)	Nominal Exvessel Value (\$ thousands)	Vessels Landing Salmon	Vessels with Permits	Nominal Average Exvessel Value/Vessel (dollars)	Real Average Exvessel Value/Vessel (dollars)
1978	4,746	10,025	3,041	3,291	3,297	7,284
1979	5,262	15,091	2,778	3,068	5,432	11,059
1980	3,398	7,114	2,626	2,797	2,709	5,049
1981	2,678	5,921	2,439	2,603	2,428	4,135
1982	2,671	6,730	2,253	2,512	2,987	4,787
1983	653	1,465	2,045	2,328 <sup>c/</sup>	716	1,101
1984	197	410	381	2,071 <sup>d/</sup>	1,076	1,594
1985	964	1,601	1,259	1,650 <sup>d/</sup>	1,272	1,821
1986	659	1,175	1,252	1,531	938	1,310
1987	758	1,960	883	1,401	2,220	3,005
1988	798	2,337	650	1,337	3,596	4,696
1989	696	1,230	883	1,306	1,393	1,746
1990	850	1,648	897	1,170	1,837	2,207
1991	612	1,126	811	1,013	1,388	1,604
1992	583	1,299	604	806	2,151	2,418
1993	398 <sup>e/</sup>	795	474	668	1,677	1,837
1994	7 <sup>e/</sup>	11	1	7 <sup>g/</sup>	f/	f/
1995	126	91	96	435 <sup>h/</sup>	948	989
1996	89	85	90	333	943	963
1997	81	126	51	323 <sup>i/</sup>	2,470	2,470

- a/ Includes only chinook and coho landings and is derived from vessel registrations and fish landing tickets. All values in this table are based on preliminary information available at the start of each year's salmon review.
- b/ Expressed in 1997 dollars.
- c/ 312 licenses and delivery permits purchased by buyback program.
- d/ 118 licenses and delivery permits purchased by buyback program.
- e/ Chinook were caught off Oregon and landed in Puget Sound.
- f/ Value information is not provided in order to preserve confidentiality.
- g/ Vessels were not required to purchase a permit in 1994 to maintain their eligibility for a permit in 1995.
- h/ 190 licenses and delivery permits purchased by buyback program.
- i/ 72 licenses and delivery permits purchased by buyback program at the end of 1996 and early 1997.



TABLE D-7. California salmon troll boat-size catch statistics in pounds of dressed salmon. <sup>a/</sup> (Page 1 of 2)

Year	Vessels			Catch <sup>b/</sup>		
	Length Category (feet)	Number <sup>c/</sup>	Percentage	Average Per Boat (pounds)	Total (pounds)	% of Total
1997 <sup>d/</sup>	≤20	51	6	1,164	59,372	1
	21-25	199	24	2,732	543,651	10
	26-30	122	15	4,530	552,603	11
	31-35	147	18	6,141	902,662	17
	36-40	156	19	8,633	1,346,716	26
	41-45	79	9	11,055	873,351	17
	46-50	56	7	13,191	738,704	14
	51-55	12	1	11,141	133,692	3
	>56	10	1	10,475	49,344	1
	Unknown	0	-	-	-	-
TOTAL	832		6,250	5,200,094		
1996	≤20	66	7	1,500	99,021	2
	21-25	221	22	1,793	396,205	10
	26-30	163	16	2,648	431,620	11
	31-35	161	16	4,315	694,793	17
	36-40	176	18	5,945	1,046,274	25
	41-45	97	10	7,311	709,120	17
	46-50	73	7	7,984	582,826	14
	51-55	14	2	7,751	108,511	3
	>56	14	2	5,508	45,032	1
	Unknown	0	-	-	-	-
TOTAL	985		4,176	4,113,403		
1995	≤20	88	7	1,478	130,074	2
	21-25	295	25	2,905	856,987	13
	26-30	188	16	4,542	853,887	13
	31-35	176	15	6,636	1,167,899	18
	36-40	210	18	8,147	1,710,765	26
	41-45	105	9	8,748	918,546	14
	46-50	82	7	8,480	695,374	10
	51-55	21	2	10,708	224,861	3
	>56	14	1	10,724	75,068	1
	Unknown	0	-	-	-	-
TOTAL	1,179		5,626	6,633,463		
1994	≤20	78	8	584	45,530	1
	21-25	254	25	1,425	362,007	12
	26-30	170	17	2,085	354,515	11
	31-35	151	15	3,340	504,287	16
	36-40	188	18	4,719	887,232	29
	41-45	94	9	5,878	552,514	18
	46-50	69	7	4,001	276,100	9
	51-55	13	1	8,541	111,033	4
	>56	7	1	1,704	9,887	e/
	Unknown	0	-	-	-	-
TOTAL	1,024		3,030	3,103,104		
1993	≤20	101	8	447	45,103	2
	21-25	321	26	1,028	330,110	13
	26-30	218	18	1,538	335,333	13
	31-35	167	13	2,467	411,989	16
	36-40	216	17	3,103	670,209	26
	41-45	103	8	3,859	397,525	16
	46-50	78	6	3,050	237,930	9
	51-55	22	2	4,205	92,500	4
	>56	14	1	1,156	16,185	1
	Unknown	0	-	-	-	-
TOTAL	1,240		2,046	2,536,884		

TABLE D-7. California salmon troll boat-size catch statistics in pounds of dressed salmon. <sup>a/</sup> (Page 2 of 2)

Year	Vessels			Catch <sup>b/</sup>			
	Length Category (feet)	Number <sup>c/</sup>	Percentage	Average Per Boat (pounds)	Total (pounds)	% of Total	
1992	≤20	98	9	347	33,962	2	
	21-25	279	26	838	233,894	14	
	26-30	190	18	1,178	223,847	14	
	31-35	158	15	1,535	242,532	15	
	36-40	180	17	2,579	464,288	28	
	41-45	87	8	2,842	247,249	15	
	46-50	64	6	1,720	110,058	7	
	51-55	19	2	3,719	70,668	4	
1993	>56	10	1	2,194	16,906	1	
	Unknown	0	-	-	-	-	
	TOTAL	1,085	-	1,515	1,643,403	-	
	1991	≤20	196	11	540	105,895	3
		21-25	427	24	944	403,026	11
26-30		300	17	1,489	446,841	12	
31-35		219	12	2,284	500,112	14	
36-40		309	17	3,194	987,011	27	
41-45		148	8	4,315	638,649	17	
46-50		118	7	3,814	450,025	12	
51-55		27	2	4,852	130,991	4	
1994	56-60	13	1	1,514	19,681	1	
	>60	9	1	1,594	14,349	e/	
	Unknown	3	e/	226	677	e/	
	TOTAL	1,769	-	24,766	3,697,257	-	

- a/ Derived from vessel registrations and fish landing tickets.
- b/ Excludes pink salmon landings.
- c/ Number of boats includes only those recording pounds greater than 0.
- d/ Preliminary.
- e/ Less than 0.5%.

TABLE D-8. Oregon salmon troll boat-size catch statistics in pounds of dressed salmon. (Page 1 of 1)

Year	Vessels			Catch <sup>a/</sup>		
	Length Category (Feet)	Number <sup>b/</sup>	Percentage	Average Per Boat (pounds)	Total (pounds)	Percent of Total
1997 <sup>c/</sup>	<20	5	1	1,149	5,743	d/
	20-29	98	23	838	82,089	5
	30-39	185	43	3,976	735,478	48
	40-49	114	26	5,401	615,756	40
	≥50	<u>31</u>	7	<u>3,322</u>	<u>102,982</u>	7
	TOTAL	433		2,937	1,542,048	
1996	<20	6	1	2,088	12,530	1
	20-29	117	26	1,009	118,069	6
	30-39	186	41	5,010	931,895	48
	40-49	115	25	6,466	743,584	39
	≥50	<u>32</u>	7	<u>3,720</u>	<u>119,048</u>	6
	TOTAL	456		4,222	1,925,126	
1995	<20	8	2	1,561	12,486	1
	20-29	142	30	1,190	168,999	9
	30-39	185	39	4,573	845,647	44
	40-49	111	23	6,884	764,118	39
	≥50	<u>30</u>	6	<u>4,995</u>	<u>149,846</u>	8
	TOTAL	476		4,078	1,941,096	
1994	<20	7	2	968	6,776	2
	20-29	114	31	435	49,573	17
	30-39	153	41	824	126,188	44
	40-49	85	23	1,080	91,834	32
	≥50	<u>12</u>	3	<u>1,032</u>	<u>12,382</u>	4
	TOTAL	371		773	286,753	
1993	<20	10	2	662	6,619	1
	20-29	206	34	558	115,029	15
	30-39	236	39	1,549	365,597	48
	40-49	128	21	1,888	241,663	31
	≥50	<u>32</u>	5	<u>1,282</u>	<u>41,029</u>	5
	TOTAL	612		1,258	769,937	
1992	<20	7	1	706	4,945	d/
	20-29	242	37	849	205,466	17
	30-39	245	38	2,384	584,162	48
	40-49	134	21	2,911	390,040	32
	≥50	<u>21</u>	3	<u>1,630</u>	<u>34,231</u>	3
	TOTAL	649		1,878	1,218,844	
1991	<20	22	2	622	13,672	1
	20-29	568	47	1,266	719,071	34
	30-39	365	30	2,138	780,386	37
	40-49	209	17	2,468	515,790	24
	≥50	<u>53</u>	4	<u>1,583</u>	<u>84,279</u>	4
	TOTAL	1217		1,736	2,113,198	

a/ Excludes pink salmon landings.

b/ Number of boats includes only those recording pounds greater than 0.

c/ Preliminary.

d/ Less than 0.5%.



TABLE D-9. Washington non-Indian salmon troll boat-size catch statistics in pounds of dressed salmon.<sup>a/</sup> (Page 1 of 1)

Year	Vessels			Catch <sup>b/</sup>		
	Length Category (Feet)	Number <sup>c/</sup>	Percentage	Average Per Boat (pounds)	Total (pounds)	% of Total
1997	≤25	7	14	322	2,253	3
	26-36	16	31	1,468	23,491	29
	>36	26	51	2,096	54,500	67
	Unknown	<u>2</u>	4	<u>352</u>	<u>703</u>	1
	TOTAL	51		1,587	80,947	
1996	≤25	39	43	709	27,664	31
	26-36	24	27	868	20,826	23
	>36	20	22	1,372	27,440	31
	Unknown	<u>7</u>	8	<u>1,861</u>	<u>13,029</u>	15
	TOTAL	90		988	88,959	
1995	≤25	45	47	1,864	83,901	36
	26-36	30	31	2,936	88,083	38
	>36	17	18	2,950	50,144	22
	Unknown	<u>4</u>	4	<u>2,351</u>	<u>9,403</u>	4
	TOTAL	96		2,412	231,531	
1994	≤25	0	-	-	-	-
	26-36	0	-	-	-	-
	>36	1	100	7,263 <sup>d/</sup>	7,263	100
	Unknown	<u>0</u>	-	-	-	-
	TOTAL	1		7,263	7,263	
1993	≤25	174	37	235	40,879	10
	26-36	134	28	627	84,005	21
	>36	145	31	1,832	265,684	65
	Unknown	<u>21</u>	4	<u>924</u>	<u>19,406</u>	5
	TOTAL	474		904	409,974	
1992	≤25	241	40	276	66,617	11
	26-36	167	28	727	121,416	21
	>36	170	28	2,176	369,833	64
	Unknown	<u>26</u>	4	<u>956</u>	<u>24,848</u>	4
	TOTAL	604		4,135	582,714	
1991	≤25	292	36	426	124,397	16
	26-36	204	25	729	148,643	19
	>36	212	26	1,859	394,075	51
	Unknown	<u>103</u>	13	<u>1,006</u>	<u>103,637</u>	14
	TOTAL	811		950	770,752	

a/ All values in this table are based on preliminary information available at the start of each year's review.

b/ Excludes pink salmon landings.

c/ Number of boats includes only those recording pounds greater than 0.

d/ The fishery was closed north of Cape Falcon, however, chinook were caught off Oregon and landed in Puget Sound.

TABLE D-10. Preliminary California salmon landings (in pounds of dressed salmon) and exvessel values by vessel size categories and ports from Crescent City to Santa Barbara, 1997. (Page 1 of 2)

Port	Vessel Length (feet)	Number of Deliveries	Total Dressed Pounds Landed	Total Exvessel Value (dollars)	% Total Exvessel Value Landed In Port
Crescent City	<26	0	-	-	-
	26-36	5	925	1,542	73
	>36	1	387	581	27
	Unknown	0	-	-	-
Trinidad	<26	0	-	-	-
	26-36	0	-	-	-
	>36	0	-	-	-
	Unknown	0	-	-	-
Eureka	<26	9	891	1,548	6
	26-36	44	4,513	7,781	28
	>36	51	10,901	18,079	66
	Unknown	0	-	-	-
Shelter Cove	<26	5	460	903	100
	26-36	0	-	-	-
	>36	0	-	-	-
	Unknown	0	-	-	-
Fort Bragg	<26	123	10,093	17,412	23
	26-36	75	15,018	24,927	33
	>36	74	21,358	34,002	44
	Unknown	0	-	-	-
Mendocino	<26	60	6,547	13,671	98
	26-36	3	87	208	2
	>36	0	-	-	-
	Unknown	0	-	-	-
Bodega Bay	<26	718	74,593	136,448	18
	26-36	793	169,041	277,208	36
	>36	546	240,656	352,076	46
	Unknown	0	-	-	-
San Francisco	<26	163	17,831	38,280	3
	26-36	384	271,521	409,750	30
	>36	476	697,110	933,697	67
	Unknown	0	-	-	-
Half Moon Bay	<26	406	104,963	159,751	9
	26-36	806	461,510	680,447	39
	>36	651	606,943	917,933	52
	Unknown	0	0	0	0
Santa Cruz	<26	258	68,430	91,350	15
	26-36	415	212,672	279,865	47
	>36	176	171,106	223,468	38
	Unknown	-	-	-	-

TABLE D-10. Preliminary California salmon landings (in pounds of dressed salmon) and exvessel values by vessel size categories and ports from Crescent City to Santa Barbara, 1997. (Page 2 of 2)

Port	Vessel Length (feet)	Number of Deliveries	Total Dressed Pounds Landed	Total Exvessel Value (dollars)	% Total Exvessel Value Landed In Port
Moss Landing	<26	801	167,274	208,469	14
	26-36	717	378,147	435,106	29
	>36	411	728,450	849,054	57
	Unknown	0	-	-	-
Monterey	<26	562	119,769	145,989	28
	26-36	551	195,711	241,463	45
	>36	158	110,073	142,986	27
	Unknown	0	-	-	-
Santa Barbara	<26	301	32,173	54,710	10
	26-36	423	138,385	221,806	40
	>36	233	162,559	279,316	50
	Unknown	0	0	0	0



TABLE D-11. Preliminary Washington non-Indian troll salmon landings (in pounds of dressed salmon) and exvessel value by vessel size categories and port areas, 1997. <sup>a/</sup> (Page 1 of 1)

Port	Vessel Length (Feet)	Number of Boats	Boat Days Fished	Total Dressed Pounds Landed	Total Exvessel Value (dollars)	% Total Exvessel Value Landed by Port (dollars)
Neah Bay	≤25	5	22	1,331	2,038	6
	26-36	5	20	4,926	7,370	22
	>36	8	29	13,354	22,872	69
	Unknown	<u>2</u>	<u>5</u>	<u>703</u>	<u>1,088</u>	3
	TOTAL	20	76	20,314	33,368	
La Push	≤25	0	0	-	-	-
	26-36	0	0	-	-	-
	>36	1	3	356	523	100
	Unknown	<u>0</u>	<u>0</u>	<u>-</u>	<u>-</u>	-
	TOTAL	1	3	356	523	
Grays Harbor	≤25	2	23	922	1,872	3
	26-36	11	52	18,565	28,942	41
	>36	13	43	25,774	39,463	56
	Unknown	<u>0</u>	<u>0</u>	<u>-</u>	<u>-</u>	-
	TOTAL	26	118	45,261	70,277	
Columbia River Ports	≤25	0	0	-	-	-
	26-36	0	0	-	-	-
	>36	<u>0</u>	<u>0</u>	<u>-</u>	<u>-</u>	-
	Unknown	0	0	-	-	-
	TOTAL					
Puget Sound	≤25	0	0	-	-	-
	26-36	0	0	-	-	-
	>36	4	5	15,016	21,344	100
	Unknown	<u>0</u>	<u>0</u>	<u>-</u>	<u>-</u>	-
	TOTAL	4	5	15,016	21,344	

a/ Preliminary.

TABLE D-12. California number of vessels landing 50% and 90% of total pounds of salmon troll catch each year. (Page 1 of 1)

Year	Total Vessels	50% of Pounds Landed		90% of Pounds Landed	
		Number of Vessels	% of Fleet	Number of Vessels	% of Fleet
1977	3,797	NA	NA	NA	NA
1978	4,919	542	11.0	2,024	41.1
1979	4,594	373	8.1	1,641	35.7
1980	4,738	431	9.1	1,733	36.6
1981	4,102	395	9.6	1,599	39.0
1982	4,013	438	10.9	1,602	40.0
1983	3,223	353	11.0	1,268	39.4
1984	2,569	213	8.3	918	35.7
1985	2,308	241	10.4	898	38.9
1986	2,582	302	11.8	1,151	45.1
1987	2,442	320	13.2	1,080	44.5
1988	2,571	409	15.9	1,285	50.0
1989	2,534	363	14.3	1,244	49.1
1990	2,115	295	14.0	976	46.2
1991	1,769	224	12.7	791	44.7
1992	1,085	131	12.1	485	44.7
1993	1,240	163	13.1	554	44.7
1994	1,024	141	13.8	459	44.8
1995	1,179	190	16.1	581	49.3
1996	985	128	13.0	434	44.1
1997 <sup>a/</sup>	832	116	13.9	375	45.1

a/ Preliminary.

TABLE D-13. Oregon number of vessels landing 50% and 90% of total pounds of salmon troll catch each year. <sup>a/</sup> (Page 1 of 1)

Year	Total Vessels	50% of Pounds Landed		90% of Pounds Landed	
		Number of Vessels	% of Fleet	Number of Vessels	% of Fleet
1974	1,914	326	17.0	1,032	53.9
1975	1,979	329	16.6	1,054	53.3
1976	2,770	453	16.4	1,460	52.7
1977	3,108	473	15.2	1,597	51.4
1978	3,157	446	14.1	1,576	49.9
1979	3,114	423	13.6	1,449	46.5
1980	3,875	372	9.6	1,375	35.5
1981	3,615	420	11.6	1,391	38.5
1982	3,269	359	11.0	1,249	38.2
1983	2,951	294	10.0	1,082	36.7
1984	771	88	11.4	333	43.2
1985	2,050	132	6.4	514	25.1
1986	2,284	238	10.4	851	37.3
1987	2,111	292	13.8	928	44.0
1988	2,061	337	16.4	1,069	51.9
1989	1,937	303	15.6	959	49.5
1990	1,557	221	14.2	709	45.5
1991	1,217	206	16.9	651	53.5
1992	649	87	13.4	286	44.1
1993	612	67	10.9	235	38.4
1994	371	43	11.6	152	41.0
1995	476	52	10.9	184	38.7
1996	456	62	13.6	202	44.3
1997 <sup>b/</sup>	433	60	13.9	184	42.5

a/ Includes licensed (permitted for 1980 on) and properly identified vessels only. Total poundage on which the numbers are based is not equal to total aggregate troll landings because of landings by unlicensed or misidentified vessels. Percentages of total pounds not credited to licensed (permitted) vessels were 1974 - 19%, 1975 - 19%, 1976 - 9.4%, 1977 - 8%, 1978 - 1.4%, 1979 - 0.2%, 1980 - 1.7%, 1981 - 0.11% and 1982-1997 - less than 0.05%.

b/ Preliminary.



TABLE D-14. Washington number of vessels landing 50% and 90% (by numbers of fish) of non-Indian troll salmon catch.<sup>a/</sup> (Page 1 of 1)

Year	Total Vessels	50% of Fish Landed		90% of Fish Landed	
		Number of Vessels	% of Fleet	Number of Vessels	% of Fleet
1978	3,041	223	7.3	1,040	34.2
1979	2,778	253	9.1	946	34.1
1980	2,626	206	7.8	883	33.6
1981	2,439	214	8.8	810	33.2
1982	2,253	181	8.0	703	31.2
1983	2,056	75	3.6	409	19.9
1984	374	55	14.7	180	48.1
1985	1,259	104	8.3	443	35.2
1986	1,252	100	8.0	387	30.9
1987	883	97	11.0	385	43.6
1988	650	51	7.8	239	36.8
1989	883	70	7.9	268	30.4
1990	897	111	12.4	373	41.6
1991	811	84	10.4	344	42.4
1992	604	59	9.8	193	32.0
1993	474	47	9.9	162	34.2
1994	1	NA	NA	NA	NA
1995	96	13	13.5	41	42.7
1996	90	14	15.6	45	50.0
1997	51	7	13.7	23	45.1

a/ All values in this table are based on preliminary information available at the start of each year's review.

TABLE D-15. Preliminary California, Oregon and Washington troll fleet by home state and salmon landings, 1997. (Page 1 of 1)

Home State	Number of Vessels	Percent	Landings (Pounds)	Percent	Total Value (Dollars)	Percent
<b>CALIFORNIA</b>						
California	777	93	4,634,701	89	6,481,217	90
Oregon	31	4	385,803	8	490,392	7
Washington	5	1	113,613	2	138,601	2
Unknown/Other	19	2	65,977	1	89,617	1
<b>TOTAL</b>	<b>832</b>		<b>5,200,094</b>		<b>7,199,826</b>	
<b>OREGON</b>						
Oregon	368	85	1,164,815	76	N/A	N/A
California	5	1	15,808	1	N/A	N/A
Washington	54	13	344,376	22	N/A	N/A
Unknown/Other	6	1	17,049	1	N/A	N/A
<b>TOTAL</b>	<b>433</b>		<b>1,542,048</b>			
<b>WASHINGTON</b>						
Washington	49	96	80,244	99	122,635	99
Oregon	0	-	-	-	-	-
California	0	-	-	-	-	-
Unknown/Other	2	4	703	1	1,026	1
<b>TOTAL</b>	<b>51</b>		<b>80,947</b>		<b>123,661</b>	

a/ Preliminary.

TABLE D-16. **Vessels landing salmon in California by vessel skipper's state of residence and length.** (Page 1 of 1)

Year	Home State <sup>a/</sup>																
	California (length)				Oregon (length)				Washington (length)				Total (length)				Grand Total <sup>b/</sup>
	<26	26-36	>36	Subtotal	<26	26-36	>36	Subtotal	<26	26-36	>36	Subtotal	<26	26-36	>36		
1978	2,325	1,165	1,006	4,496	97	176	262	535	5	16	85	106	2,462	1,365	1,378	5,205	
1979	2,243	1,152	980	4,375	68	158	210	436	3	20	59	82	2,338	1,338	1,266	4,942	
1980	2,069	1,248	1,138	4,455	97	163	228	488	6	25	90	121	2,189	1,447	1,478	5,114	
1981	1,611	1,052	865	3,528	64	126	204	394	2	11	66	79	1,717	1,224	1,159	4,100	
1982 <sup>c/</sup>	1,535	1,051	873	3,459	59	117	196	372	2	16	64	82	1,631	1,223	1,157	4,011	
1983	1,223	891	733	2,847	41	82	125	248	0	13	34	47	1,292	1,020	909	3,221	
1984	909	805	620	2,334	25	47	84	156	2	10	34	46	951	871	745	2,567	
1985	769	731	630	2,130	6	23	66	95	2	7	15	24	795	784	726	2,305	
1986	866	815	658	2,339	22	60	98	180	1	8	27	36	898	891	790	2,579	
1987	831	759	641	2,231	11	42	85	138	2	4	34	40	854	816	769	2,439	
1988	834	788	670	2,292	12	42	92	146	1	7	35	43	895	855	817	2,567	
1989	865	771	652	2,288	11	46	94	151	4	4	42	50	880	821	788	2,489	
1990	744	653	553	1,950	6	31	63	100	2	5	20	27	752	689	636	2,077	
1991	615	548	465	1,628	3	34	57	94	2	6	13	21	620	588	535	1,743	
1992	374	369	304	1,047	2	12	10	24	0	2	1	3	376	383	315	1,074	
1993	414	422	347	1,183	2	11	22	35	0	3	4	7	421	440	379	1,240	
1994	323	341	286	950	4	18	24	46	0	3	9	12	327	362	319	1,024	
1995	372	395	326	1,093	4	21	38	63	0	2	8	10	376	418	372	1,179	
1996	275	340	283	898	3	9	27	39	0	4	17	21	278	353	327	985	
1997 <sup>d/</sup>	244	294	239	777	1	9	21	31	0	1	4	5	245	304	264	832	

a/ "Home state" refers to the declared state of residence of vessel skipper, who, in most cases, is also the vessel owner.

b/ Includes vessels with home states other than California, Oregon and Washington and vessels of unknown length.

c/ Length category for 1982 is  $\geq 36$ .

d/ Preliminary.



TABLE D-17. Percentages of vessels landing troll salmon in Oregon by license holder's state of residence. (Page 1 of 1)

Year	Oregon	California	Washington	Other/Unknown
1977	83.8	6.9	8.7	0.6
1978	83.6	5.9	10.0	0.5
1979	82.5	6.5	10.3	0.7
1980	80.4	8.5	9.6	1.5
1981	81.2	7.4	9.9	1.6
1982	82.1	6.3	10.2	1.4
1983	85.0	3.9	10.1	1.0
1984	85.2	2.9	11.0	0.9
1985	86.9	4.0	8.0	1.1
1986	84.5	5.2	9.1	1.2
1987	81.7	6.8	10.2	1.2
1988	78.7	6.4	13.5	1.3
1989	80.0	5.6	12.9	1.4
1990	81.1	6.7	10.7	1.5
1991	83.8	2.5	12.1	1.6
1992	83.4	3.4	12.5	0.8
1993	85.8	2.5	11.1	0.6
1994	86.5	1.1	12.1	0.3
1995	85.5	2.7	10.7	1.1
1996	83.5	2.0	13.8	0.7
1997 <sup>a/</sup>	85.0	1.2	12.5	1.4

a/ Preliminary.

TABLE D-18. Percentages of vessels landing non-Indian troll salmon in Washington by license holder's state of residence. (Page 1 of 1)

Year	Washington	Oregon	California	Alaska	Other/Unknown
1978	90.8	4.6	0.3	0.2	4.1
1979	90.9	3.8	0.3	0.3	4.7
1980	93.7	3.6	0.3	0.3	2.1
1981	92.6	3.0	0.4	0.2	3.8
1982	92.6	4.1	0.6	0.0	2.8
1983	92.7	2.8	0.2	0.1	4.2
1984	94.8	1.6	0.0	0.0	3.7
1985	92.7	3.3	0.2	0.2	3.6
1986	93.1	1.7	0.0	0.1	5.1
1987	90.4	1.3	0.0	b/	8.0
1988	88.0	1.8	0.2	1.5	8.5
1989	92.2	0.9	0.0	1.0	5.9
1990	92.7	0.7	0.0	b/	6.5
1991	85.8	0.7	0.0	0.0	13.5
1992	92.7	2.0	0.7	0.3	4.3
1993	93.3	0.8	0.8	0.0	5.1
1994 <sup>c/</sup>	100.0	0.0	0.0	0.0	0.0
1995	95.8	0.0	0.0	0.0	4.2
1996	93.3	0.0	0.0	0.0	6.7
1997	96.1	0.0	0.0	0.0	3.9

a/ All values in this table are based on preliminary information available at the start of each year's review.

b/ Less than 0.5%.

c/ The fishery was closed north of Cape Falcon, however, Chinook were caught off Oregon and landed in Washington.

TABLE D-19. Number of California charter boats participating in the ocean recreational salmon fishery, by port area and activity level. (Page 1 of 1)

Year	Activity Level <sup>a/</sup>	Port Area						Total
		Monterey	San Francisco	Fort Bragg	Eureka	Crescent City	Unknown <sup>b/</sup>	
1987	Active	20	62	6	4	4	0	96
	Casual	11	30	1	6	1	4	53
	TOTAL	31	92	7	10	5	4	149
1988	Active	19	58	8	6	3	1	95
	Casual	13	24	4	5	1	24	71
	TOTAL	32	82	12	11	4	25	166
1989	Active	16	53	5	11	1	3	89
	Casual	31	35	18	5	0	4	93
	TOTAL	47	88	23	16	1	7	182
1990	Active	19	50	7	8	4	5	93
	Casual	26	30	3	5	0	3	67
	TOTAL	45	80	10	13	4	8	160
1991	Active	18	42	7	7	3	1	78
	Casual	71	29	1	2	1	4	108
	TOTAL	89	71	8	9	4	5	186
1992	Active	11	33	4	0	0	1	49
	Casual	42	37	4	4	2	2	91
	TOTAL	53	70	8	4	2	3	140
1993	Active	13	36	2	2	2	11	66
	Casual	37	14	3	3	0	4	61
	TOTAL	50	50	5	5	2	15	127
1994	Active	12	34	3	0	1	10	60
	Casual	17	18	3	3	1	0	42
	TOTAL	29	52	6	3	2	10	102
1995	Active	40	47	5	1	0	0	93
	Casual	51	15	0	3	1	1	71
	TOTAL	91	62	5	4	0	0	164
1996	Active	19	46	8	2	0	0	75
	Casual	27	18	3	2	1	0	51
	TOTAL	46	64	11	4	1	0	126
1997 <sup>c/</sup>	Active	27	44	7	4	0	0	82
	Casual	18	15	2	3	0	0	38
	TOTAL	45	59	9	7	0	0	120

a/ Active vessels landed over 100 salmon; casual vessels landed 1 to 100 salmon.

b/ Unknown vessels did not report port of landing or landed in 2 or more port areas during the season.

c/ Preliminary.



TABLE D-20. Number of charter boats licensed in Oregon. (Page 1 of 1)

Year	Total Number Licensed Charter Boats <sup>a/</sup>	Licensed By Oregon Residents	Licensed By Washington Residents	Licensed By Residents of Other States
1980	194	192	2	0
1981	248	213	34	1
1982	253	212	40	1
1983	255	206	47	2
1984	218	185	31	2
1985	226	198	25	3
1986	247	216	26	5
1987	254	226	23	5
1988	313	266	42	5
1989	322	273	44	5
1990 <sup>b/</sup>	170	157	9	4
1991	171	161	7	3
1992	157	150	4	3
1993	148	144	2	2
1994	145	137	6	2
1995	134	NA	NA	NA
1996	127	121	6	0
1997 <sup>c/</sup>	122	119	3	0

a/ Legislation which created the license expired in 1987. Fees were between \$25 and \$100 from 1980-1987. License was reinstated by rule in 1988 and 1989 with a \$10 fee.

b/ In 1990, responsibility for licensing of charter vessels was transferred to the Marine Board and fees for Oregon residents were increased from \$10 to between \$50 and \$100.

c/ Preliminary.

TABLE D-21. Number of salmon charter boats licensed in Washington (including Puget Sound). (Page 1 of 1)

Year	Number of Licenses Issued	Licensed by Washington Residents	Licensed by Residents of Other States	Buyback
1975	404	351	53	-
1976	427	362	65	-
1977 <sup>a/</sup>	569	NA	NA	-
1978	535	483	52	-
1979	516	473	43	-
1980	510	465	45	1
1981	478	443	35	-
1982	415	387	28	25
1983	375	354	21	15
1984	334 <sup>b/</sup>	313	21	21
1985	288	268	20	15
1986	308	286	22	4
1987	280	269	11	-
1988	281	268	13	-
1989	276	263	13	-
1990	273	258	15	-
1991	267	251	16	-
1992	269	252	17	-
1993	265	250	15	-
1994	260	245	15	-
1995	231	217	14	23
1996	210	199	9	16
1997 <sup>c/</sup>	209	196	13	0

a/ First year moratorium in effect.

b/ Vessel license refund program participated in by 85 boats in 1984.

c/ Preliminary.

TABLE D-22. Price index.<sup>a/</sup> (Page 1 of 1)

Year	Price Index
1960	21.2
1961	21.5
1962	21.8
1963	22.1
1964	22.3
1965	22.8
1966	23.4
1967	24.2
1968	25.3
1969	26.4
1970	27.9
1971	28.5
1972	29.7
1973	31.4
1974	34.2
1975	37.4
1976	39.6
1977	42.2
1978	45.3
1979	49.1
1980	53.7
1981	58.7
1982	62.4
1983	65.1
1984	67.5
1985	69.8
1986	71.7
1987	73.9
1988	76.6
1989	79.8
1990	83.2
1991	86.6
1992	88.9
1993	91.3
1994	93.5
1995	95.8
1996	98.0
1997 <sup>b/</sup>	100.0

a/ Based on gross domestic product implicit price deflator.

b/ Preliminary estimate of annual change based on the change in the first 3 quarters of the year.



