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THE 1986 OREGON OCEAN SALMON FISHERIES

Annual Report  
September 30, 1985 to September 29, 1986

by

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National Marine Fisheries Service  
National Oceanic and Atmospheric Administration  
United States Department of Commerce  
Anadromous Fisheries Act

Project Number: AFC-130-1  
Contract Numbers: 84-ABD-00119 (extended) and 85-ABD-00111

Bonneville Power Administration  
Pacific Marine Fisheries Commission  
Contract Numbers: 85-014 and 86-012

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# THE 1986 OREGON OCEAN SALMON FISHERIES

## INTRODUCTION

The Ocean Salmon Management Program is responsible for collecting fishery and biological data from the commercial and recreational ocean salmon fisheries, and analyzing the data and recommending appropriate management regulations for these fisheries. Management regulations are designed to achieve the optimum sustained use of the salmon resources.

In FY 1986 we sampled and analyzed data on catch and fishing effort, investigated chinook age composition, and recovered marked and coded-wire tagged salmon caught in offshore fisheries. Short-term activities included an evaluation of a troll season extension for chinook salmon off southern Oregon, the collection of random coho scales for a Research Section scale study to identify hatchery and wild coho, and the collection of chinook lengths from the recreational fishery to maintain an ongoing data base.

We continued the program of telephoning "key buyer" processors to estimate daily troll coho landings north and south of Cape Falcon. We enlarged the program to monitor the chinook quotas north of Cape Falcon and south of Cape Blanco. The key buyers represented about 90% of the total area landings.

The sampling program for the ocean salmon fisheries is supervised by a program leader and 2 project leaders, one each for the troll and recreational fisheries. We sampled at 11 major ports along the coast utilizing 10 troll and 23 recreational samplers and 2 crew chiefs. One of the troll samplers was designated as a "roving sampler". This sampler was based at Newport and traveled the length of the Oregon coast wherever extra sampling was needed. This concept worked very well and will be continued. The two crew chiefs acted as liaison between samplers and the project leaders in Newport and helped sample whenever necessary. They also brought the survey data and coded

wire tags to Newport each week. Three seasonal employees helped Newport staff edit, keypunch, and computer process the sampled data.

Sampling program activities for 1985 were reduced by not using a central coast crew chief and not sampling commercial landings at Pacific City and Depoe Bay. These reductions were implemented because of the limited commercial coho fishing opportunities south of Cape Falcon. Normally, coho predominate in the landings at both Pacific City and Depoe Bay, and with a limited fishery, sampling was not justified. The roving sampler spent some time at Depoe Bay and the Astoria sampler spent about three weeks at Pacific City during the coho season.

Funding of the ocean sampling program came from two sources: (1) Anadromous Fisheries Act 89-304 Grant NA84-ABD-00119 (extended) and NA85-ABD-00111 (current) (Project Number AFC 130 Segment 1, Task 1 (extended) and Segment 2, Task 1 (current)), and (2) Bonneville Power Administration-Pacific Marine Fisheries Commission (Contract Numbers 85-014 and 86-012).



The 1986 OCEAN TROLL SALMON FISHERY  
REGULATIONS

Chinook and Pink Salmon

For all areas barbless hooks were required (Table 1). There were no exceptions allowing baited hooks and plugs north of Cape Falcon as in previous years.

In the area north of Cape Falcon to the U.S./Canada border, the season was open during the periods May 1-10, May 14-17, May 24-27, and May 30-31. This fishing time resulted in landings of 31,300 chinook, a little under the 33,700 fish quota. The season opened again on August 2-3 and August 7-9 between Cape Falcon and Leadbetter Point with a new quota of 13,300 fish. Landings during this season were only 1,600 fish. The fishery was closed because of reaching the coho quota. Minimum size was 28" for chinook and 16" for pink salmon.

In the area from Cape Falcon to Cape Blanco the season was open from May 1 to July 20, and from July 23 to October 31. State waters were open from Twin Rocks to Pyramid Rock off Tillamook Bay from November 1-15 to target on abundant Trask River hatchery fish. Minimum size was 26" for chinook and 16" for pink salmon.

The area between Cape Blanco and Point Delgada was designated as the Klamath River Management Area in 1986. This resulted in some rather complicated regulations for this area. A sub-area fishery between Sisters Rock and Chetco Point ran from May 1 to June 6. This fishery had a quota of 7,000 fish and was designed to harvest returning Rogue River spring chinook. The entire management area was open for the period June 16-19, June 23-26, June 30-July 5, and July 17-August 26, with a quota of 68,000 fish.

Quotas in the previous sub-area and total area fisheries were exceeded and the final scheduled sub-area fishery between Sisters Rock and Mack Arch to

Table 1. History of Oregon Troll Regulations, 1948-86.

Year	Chinook		Coho	
	Season	Size	Season	Size
Prior to 1948	No Restrictions	No Restrictions	No Restrictions	No Restrictions
1948	No Restrictions	27"	July 1-November 15	Same
1949-1955	March 15-October 31	26"	June 15-October 31	Same
1956-1964	April 15-October 31	Same	Same	Same
1965-1975	Same	Same	Same	15"
1976	North of Tillamook Head May 1-June 14 and July 1-October 31	28" until 6-4-76 26" after 6-4-76	North of Tillamook Head July 1-October 31	16"
	South of Tillamook Head May 1-October 31	26"	South of Tillamook Head June 15-October 31	16"
1977	Same	28" N. of Tillamook Head 26" S. of Tillamook Head	Same	16"
1978	Boundary moved south to Cape Falcon - same dates and size limits as 1977.			
1979	North of Cape Falcon May 1-May 31 and July 1-July 24 and August 4-August 31	28"	North of Cape Falcon July 1-July 24 and August 4-August 31	16"
	South of Cape Falcon May 1-May 31 and July 1-October 31	26"	South of Cape Falcon July 1-September 3	16"
1980	North of Cape Falcon May 1-May 31 and July 15-September 8	28"	North of Cape Falcon July 15-September 8	16"
	South of Cape Falcon May 1-May 31 and June 16-June 30 (Cape Falcon to Cape Blanco only) July 15-October 31	26"	South of Cape Falcon July 15-September 8	16"
1981	North of Cape Falcon May 1-May 31 and July 15-August 24 <sup>a</sup> /	28"	North of Cape Falcon July 15-August 24 <sup>a</sup> /	16"
	South of Cape Falcon May 1-May 31 and July 1-October 31 <sup>b</sup> /	26"	South of Cape Falcon July 1-August 24 <sup>a</sup> /	16"
1982	North of Cape Falcon May 1-May 31 July 1-7	28"	North of Cape Falcon July 1-8	16"
	Cape Falcon to Cape Blanco May 1-May 31 June 1-June 15 July 1-October 31 <sup>c</sup> /	26"	Cape Falcon to OR/CA border July 1-12	16"
	Cape Blanco to OR/CA border May 1-May 31 June 1-June 8 July 1-October 31 <sup>c</sup> /	26"		

Table 1 (continued)

Year	Chinook		Coho	
		Size	Season	Size
1983	North of Cape Falcon May 1-May 31 July 1-July 31 <sup>d/</sup> August 10-September 8 <sup>e/</sup>	28"	North of Cape Falcon July 1-July 31 <sup>d/</sup>	16"
	Cape Falcon to Cape Blanco May 1-June 15 August 1-October 31	26"	Cape Falcon to Cape Kiwanda August 1-Quota 2	16"
	Cape Blanco to OR/CA border May 16-June 15 July 1-August 31	26"	Cape Kiwanda to Heceta Head July 1-Quota 1 August 1-Quota 2	16"
	September 1-September 15 <sup>f/</sup> October 1-October 31	26"	Heceta Head to OR/CA border July 1-Quota 1	16"
1984 <sup>g/</sup>	North of Cape Falcon May 1 31 or 14,000 quota August 4 - September 3 or 12,400 quota	28" 28"	August 4-September 3 or 12,400 quota	16"
	Cape Falcon to Cape Blanco May 1 - June 15	26"		
	Cape Blanco to OR/CA border May 16 - June 16 July 16 - August 22			
1985	North of Cape Falcon <sup>h/</sup> May 1-31- or 27,000 quota August 21 to 2,700 quota	28"	August 21 to 10,000 quota	16"
	Cape Falcon to Cape Blanco <sup>i/</sup> May 1 - October 31	26"	July 1 to 45,000 quota	16"
1986	North of Cape Falcon <sup>i/</sup> May 1 thru earlier of May 10 or quota May 14 thru earlier of May 31 or quota May quota - 33,700 fish August 2-3 August 7 thru earliest of Sept. 15 Coho quota or chinook quota August chinook quota - 13,300	28"	August 2-3 August 7 thru earliest of Sept. 15 quota or chinook quota  August coho quota - 110,600	16"
	Cape Falcon to Cape Perpetua May 1-July 20 and July 23-Oct 31	26"	July 1-20 <sup>j/</sup> July 20 thru quota <u>k/</u>	16"
	Cape Perpetua to Cape Blanco May 1-July 20 and July 23-Oct. 31	26"	July 1-20 <sup>i/</sup> July 23 thru quota <sup>k/</sup>	16"
	South of Cape Blanco Area Sisters Rock to Chetco Point May 1 to earliest of June 7 or sub-area quota of 7,000 fish	26"		
	Cape Blanco to OR/CA border June 16-19 June 23-26 June 30 thru earlier of August 31 or quota of 68,200 fish	26"	June 16-19 June 23-26 June 30-earliest of July 26 or chinook quota	22"
	Sisters Rock to Mack Arch Latest of Aug. 7 or chinook quota of 7,000 fish to earlier of Sept. 30 or chinook sub-area quota	26"		

Table 1. (Continued)

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SPECIAL TROLL SEASONS IN STATE WATERS

1974-1975	November 1 through December 31 - Elk and Chetco
1976-1982	November 1 through November 30 - Elk and Chetco
1983	November 1 through November 30 - Elk River only
1984	September 1 through September 21 - Cape Falcon-Cape Blanco October 1 through October 31 - Manhattan Beach-Pyramid Rock October 1 through November 30 - Elk River area
1985	October 1 through November 30 - Elk River area November 1 through November 30 - Sixes River area
1986	October 1 through November 30 - Elk River area or November quota of 750 fish November 1 through November 15 - Twin Rocks to Pyramid Rock

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a/ Closed August 21 in FCZ (3-200 miles)

b/ From 3-200 miles, chinook fishery was limited to the area between Cape Falcon and Cape Sebastian from August 25 through September 8 using whole bait or five inch or larger plugs.

c/ Use whole bait and plugs not less than 5" from July 12 through September 5.

d/ Must land 2 chinook for each coho. Use plugs 6" or larger.

e/ Limited to area from Columbia River south jetty to Cape Falcon out to 10 miles.

f/ 12x24 mile rectangle open around mouth of Rogue River.

g/ Single point barbless hooks on all gear.

h/ Barbless hooks except for plugs and whole bait.

i/ Barbless hooks on all gear.

j/ A single daily possession or landing per boat of 50 coho is permitted without chinook restrictions. Over 50 coho, at least one chinook must be possessed or landed for each two coho possessed or landed.

k/ From Cape Falcon to Point Delgada the quota is 383,000 fish.

l/ From July 1-20 at least one chinook must be possessed or landed for each two coho possessed or landed. For July 23 reopening, a single daily possession or landing per boat of 50 coho is permitted without chinook restrictions.

target on Rogue River fall chinook was opened for a one-day fishery on August 29. State waters were open from Cape Blanco to Humbug Mountain from October 1 to November 30. Minimum size was 26" for chinook and 16" for pink salmon.

### Coho

Coho fishing was allowed from Cape Falcon to Leadbetter Point on August 2-3 and August 7-9 with a quota of 110,600 fish. Barbless hooks were required on all gear. Minimum size was 16".

From Cape Falcon to Point Delgada a quota of 383,000 fish was established. For Oregon waters, this area was divided into three sub-areas with specific regulations for each area. A decision was made on July 22 to add 21,000 additional fish to the quota because of low catches south of Point Delgada and a recalculation of shaker loss.

The season from Cape Falcon to Cape Perpetua was open during the periods July 1-20 and July 23-24. Fishermen were allowed a single daily possession or landing of 50 coho with no chinook restrictions. Over 50 coho, at least one chinook must be possessed or landed for each two coho possessed or landed. minimum size was 16".

The season from Cape Perpetua to Cape Blanco was also open during the periods July 1-20 and July 23-24. The regulations during the July 1-20 period allowed two coho possessed or landed for each chinook possessed or landed. For the July 23-24 period the regulations were the same as the Cape Falcon to Cape Perpetua area. Minimum size was 16".

The season in the area south of Cape Blanco was open during the periods June 16-19, June 23-26, June 30-July 5, and July 17-24. The regulations allowed two coho possessed or landed for each chinook possessed or landed. Minimum size was 22".

## EFFORT AND LANDING STATISTICS

Effort and catch statistics for the 1986 Oregon troll salmon fishery are preliminary. Poundages, dollar value, area of catch, and days fished are obtained directly from commercial fish receiving tickets. Pounds landed are converted to number of fish utilizing average weight information. In early years, all troll catch statistics for Oregon were reported by port of landing; however, since 1979 catch and effort estimates have also been reported by catch area (Figure 1).

Data by port of landing are reported on a port area format that corresponds to the above catch areas. The Astoria area includes the Astoria-Warrenton-Hammond complex and dory landings at Seaside and Cannon Beach. The Garibaldi-Pacific City area includes the ports of Nehalem, Garibaldi, and Pacific City; the Depoe Bay-Waldport area, the ports of Depoe Bay, Newport and Waldport; the Florence-Bandon area, the ports of Florence, Winchester Bay, Coos Bay and Bandon; and the Port Orford-Brookings area, the ports of Port Orford, Gold Beach and Brookings.

### Effort

Since 1979, Oregon's troll effort has been estimated in boat days. Cumulative effort for the troll fishery totaled 32,500 boat days in 1986, or 54% greater than the 21,100 boat days in 1985 (Table 2, Column 1). The Coos Bay and Newport area accounted for 75% of the effort (Table 3). Effort in all areas was higher than in 1985, due mainly to the excellent chinook fishing but in part to the expanded coho quotas. Effort was heaviest during July and August corresponding to the coho season coastwide and the very good chinook fishing in the Coos Bay area (Table 4).

## Landings

Chinook. The 1986 troll chinook landings were 86% greater than the 1985 catch and 90% greater than the 1979-82 average (Table 2, Figure 2). A total of 402,000 chinook weighing 3.36 million pounds (dressed weight) was landed in 1986 compared to 216,600 chinook in 1985 and 212,000 chinook for 1979-82.

Of the 402,000 chinook landed in 1986, 95% were caught from the Newport area south (Table 3). Catches in all areas were higher in 1986 than in 1985.

The troll landings of chinook salmon peaked during July in the Newport and Coos Bay areas, during August in the Brookings area and during September in the Tillamook area in 1986 (Tables 4, 5, and 6). The Newport area set a record in October when 22,300 fish were reported. This overall pattern, similar to 1985, spread the landings over the entire season instead of the single high peak usually seen in August.

Coho. The commercial troll landings in 1986 totaled 439,600 fish weighing 1,904,900 pounds (dressed weight) which is 423% greater than the 1985 landings and 78% of the 1979-82 average (Table 2, Figure 2).

The coho fishery from Cape Falcon north to Leadbetter Point was open from August 2-3 and August 7-9 with a quota of 110,600 fish. Oregon trollers landed 45,800 coho and Washington trollers landed 45,500 coho for an area total of 91,300 fish or 83% of the quota.

Pink Salmon. Pink salmon are not abundant in Oregon landings during even-numbered years and 1986 was no exception. Salmon buyers reported a total of four pink salmon this year.

ALASKA

8

1

LEADBETTER POINT

• Willapa

WASHINGTON

2

CAPE FALCON

COLUMBIA RIVER

• Astoria

• Garibaldi

3

CASCADE HEAD

• Pacific City

• Depoe Bay

• Newport

4

4H

HECETA HEAD

Heceta Bank

OREGON

• Florence

• Winchester Bay

5

CAPE BLANCO

• Charleston

• Sandon

• Port Orford

6

• Gold Beach

• Brookings

POINT ST. GEORGE

CALIFORNIA

• Crescent City

7

Figure 1. Ocean Salmon Management Areas.



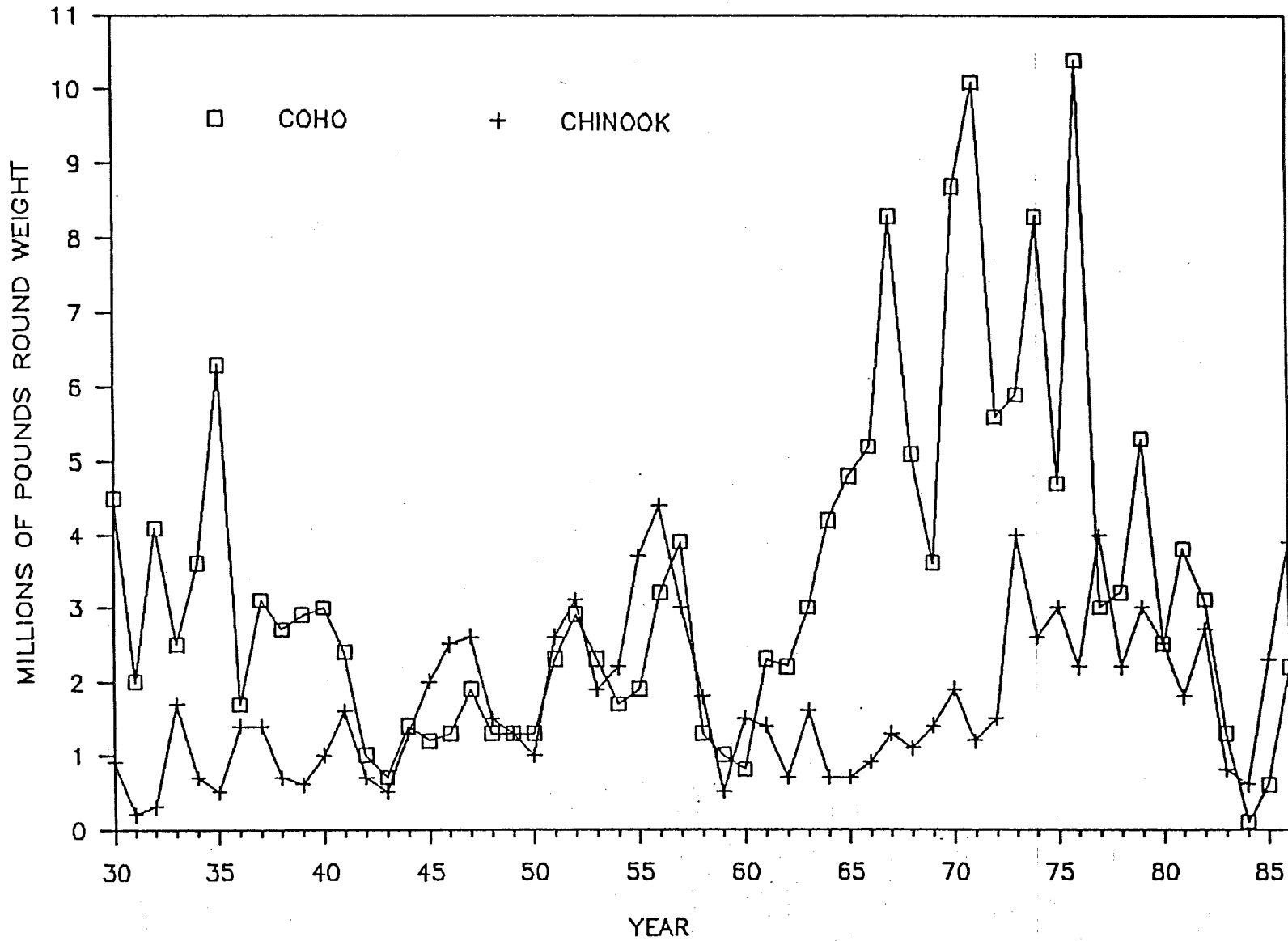


Figure 2. Oregon Ocean Troll Salmon Production, 1930-1986.

Table 2. Oregon Commercial Troll Salmon Effort and Landings in Number of Fish and Pounds Dressed, 1971-1986<sup>a/</sup>

Year	Effort (boat days)	Chinook		Coho		Pinks	
		No.	lbs dr.	No.	lbs dr.	No.	lbs dr.
1971	-	102,900	1,000,800	1,490,100	8,765,100	2,000	9,000
1972	-	127,300	1,303,700	824,600	4,856,300	<100	100
1973	-	363,300	3,461,300	795,500	5,137,100	3,200	14,200
1974	-	224,100	2,290,400	1,137,200	7,230,900	<100	100
1975	-	224,700	2,583,300	657,400	4,087,500	200	900
1971-75 Average	-	208,500	2,127,900	981,000	6,015,400	1,800 <sup>b/</sup>	8,000 <sup>b/</sup>
1976	-	184,300	1,921,600	1,827,000	9,061,200	0	0
1977	-	340,000	3,464,900	446,100	2,640,800	88,000	396,100
1978	-	191,500	1,893,600	611,600	2,779,000	<100	200
1979	48,800	245,500	2,580,000	714,600	4,586,300	20,500	106,300
1980	39,900	209,400	2,171,500	383,300	2,190,200	300	1,600
1981	45,200	160,400	1,573,400	620,300	3,324,300	60,200	324,000
1982	33,900	232,600	2,351,300	522,200	2,708,400	0	0
1979-82 Average	42,000	212,000	2,169,100	560,100	3,202,600	40,400 <sup>b/</sup>	215,200 <sup>b/</sup>
1983	22,200	79,600	655,300	319,800	1,097,900	<100	200
1984	7,900	64,300	549,700	14,000	71,000	0	0
1985	21,100	216,600	2,030,300	84,100	483,800	44,900	258,600
1986 <sup>c/</sup>	32,500	402,000	3,361,700	439,600	1,904,900	<100	<100

<sup>a/</sup> Includes catches made off California, Washington and Alaska and landed in Oregon.

<sup>b/</sup> Odd-year average

<sup>c/</sup> Preliminary

Table 3. Summary of Oregon Commercial Troll Effort and Landings by Area of Catch in Number of Fish, 1979-86.

Year	Area of Catch						Oregon Subtotal	Alaska	Wash.	Calif.	Total
	Col. R.	Tillamook	Newport	Coos Bay	Brookings						
<b>EFFORT</b>											
<b>(Boat Days)</b>											
1979	2,400	6,300	12,800	16,800	9,900	48,200	0	600	100	48,800	
1980	1,700	6,000	10,700	12,400	8,300	39,100	50	700	30	39,900	
1981	2,500	8,600	11,000	13,400	9,300	44,800	0	200	100	45,200	
1982	800	3,600	5,800	13,600	8,900	32,800	0	700	400	33,900	
1983	1,100	3,000	7,100	6,900	3,700	21,700	0	200	300	22,200	
1984	500	500	1,900	2,300	2,600	7,800	0	100	<100	7,900	
1985	600	1,400	4,100	14,000	600	20,800	0	300	<100	21,100	
1986 <sup>a/</sup>	1,200	3,700	8,600	15,700	3,200	32,400	0	<100	<100	32,500	
<b>LANDINGS</b>											
<b>Chinook</b>											
1979	5,900	5,000	38,600	68,700	123,800	242,000	0	2,600	900	245,500	
1980	5,600	7,800	48,700	74,800	68,400	205,300	300	2,900	900	209,400	
1981	8,400	12,200	27,100	24,400	86,000	158,200	0	1,000	1,300	160,400	
1982	7,300	9,000	27,600	109,200	69,500	222,600	0	7,000	3,100	232,600	
1983	5,400	4,900	24,000	19,800	22,000	76,100	0	1,600	1,900	79,600	
1984	1,500	1,600	18,700	15,400	24,600	61,800	0	200	300	64,300	
1985	5,500	3,300	41,700	155,600	6,100	212,200	0	3,600	800	216,600	
1986 <sup>a/</sup>	6,000	14,000	88,700	238,900	53,500	401,200	0	400	500	402,000	
<b>Coho</b>											
1979	48,700	77,900	211,800	263,100	101,200	702,700	0	11,300	600	714,600	
1980	23,500	80,600	137,300	99,200	33,500	374,200	1,800	7,200	40	383,300	
1981	41,900	160,400	192,400	161,400	53,500	609,600	0	10,400	300	620,300	
1982	24,100	114,800	117,800	227,900	22,300	506,800	0	14,100	1,200	522,200	
1983	4,900	63,300	118,000	109,700	22,500	318,400	0	100	1,300	319,800	
1984	13,900	0	0	0	0	13,900	0	200	0	14,000	
1985	18,300	1,600	12,600	29,400	200	62,100	0	21,900	<100	84,100	
1986 <sup>a/</sup>	45,800	95,600	193,800	85,300	19,100	439,600	0	0	0	439,600	

<sup>a/</sup> Preliminary

Table 4. Oregon Commercial Troll Effort and Landings of Coho and Chinook in Number of Fish by Month, 1971-75 Average and 1979-86<sup>a</sup>/.

		April	May	June	July	August	September	October	November <sup>d</sup> /	Total
<b>EFFORT (Boat Days)</b>										
<b>1971-75</b>										
Average		NA	NA	NA	NA	NA	NA	NA	NA	NA
1979	Monthly	-	1,400	<100 <sup>c</sup> /	21,500	21,700	1,300	2,000	none	
	Cumulative	-	1,400	1,500 <sup>c</sup> /	23,000	44,700	46,000	48,000	48,800	48,800
1980	Monthly	-	2,100	3,700 <sup>d</sup> /	12,100	14,600	4,600	2,300	500	
	Cumulative	-	2,100	5,800 <sup>d</sup> /	17,900	32,500	37,100	39,400	39,900	39,900
1981	Monthly	-	3,300 <sup>e</sup> /	-	21,300	16,700	1,600	1,900	500	
	Cumulative	-	3,300 <sup>e</sup> /	3,300	24,600	41,300	42,800	44,700	45,200	45,200
1982	Monthly	-	2,300	2,100	18,800	5,600	2,800	1,500	600	
	Cumulative	-	2,300	4,500	23,300	29,000	31,800	33,300	33,900	33,900
1983	Monthly	-	1,600	1,900	12,200	4,100	1,200	1,100	100	
	Cumulative	-	1,600	3,500	15,700	19,800	21,000	22,100	22,200	22,200
1984	Monthly	-	400	400	2,100	4,300	200	300	200	
	Cumulative	-	400	900	2,900	7,200	7,400	7,700	7,900	7,900
1985	Monthly	-	3,100	2,100	6,300	6,600	1,900	900	200	
	Cumulative	-	3,100	5,200	11,500	18,100	20,000	20,900	21,100	21,100
1986	Monthly	-	4,000	4,000	14,300	6,800	2,000	1,300	100	
Preliminary	Cumulative	-	4,000	8,000	22,300	29,100	31,100	32,400	32,500	32,500
<b>Chinook</b>										
<b>1971-75</b>										
Average	Monthly	500	8,300	27,500	56,600	69,700	31,400	13,700	1,300	
	Cumulative	500	8,800	36,400	93,000	162,800	194,200	207,200	209,200	209,200
1978	Monthly	-	3,200	40,600	63,100	46,900	25,000	9,300	3,500	
	Cumulative	-	3,200	43,800	106,900	153,800	178,800	188,100	191,500	191,500
1979	Monthly	-	11,000	200 <sup>c</sup> /	73,600	119,500	13,200	25,200	2,600	
	Cumulative	-	11,000	11,300 <sup>c</sup> /	84,900	204,400	217,700	242,900	245,500	245,500
1980	Monthly <sup>b</sup> /	-	25,800	29,700 <sup>d</sup> /	47,700	64,000	25,200	16,000	1,000	
	Cumulative	-	25,800	55,400 <sup>d</sup> /	103,200	167,200	192,300	208,400	209,400	209,400
1981	Monthly	-	28,600 <sup>e</sup> /	-	34,900	65,700	16,900	13,200	1,200	
	Cumulative	-	28,600 <sup>e</sup> /	28,600	63,500	129,200	146,100	159,200	160,400	160,400
1982	Monthly	-	23,000	14,800	125,400	46,100	15,000	6,900	1,400	
	Cumulative	-	23,000	37,800	163,200	209,300	224,300	231,200	232,600	232,600
1983	Monthly	-	9,500	16,300	34,100	11,500	2,700	4,600	900	
	Cumulative	-	9,500	25,800	59,900	71,400	74,100	78,700	79,600	79,600

1984	Monthly	-	4,600	2,400	17,800	36,900	700	1,000	900	
	Cumulative	-	4,600	7,000	24,800	61,700	62,400	63,400	64,300	64,300
1985	Monthly	-	39,900	14,900	57,900	76,300	21,400	5,300	900	
	Cumulative	-	39,900	54,800	112,700	189,000	210,400	215,700	216,600	216,600
1986	Monthly	-	37,200	50,000	138,500	115,100	33,900	26,500	800	
Preliminary	Cumulative	-	37,200	87,200	225,700	340,800	374,700	401,200	402,000	402,000
<b>COHO</b>										
<b>1971-75</b>										
Average	Monthly	-	-	227,800	414,400	305,800	29,700	3,300	-	
	Cumulative	-	-	227,800	642,200	948,000	977,700	981,000	-	981,000
1978	Monthly	-	-	279,600	227,200	92,800	10,400	1,600	-	
	Cumulative	-	-	279,600	506,800	599,700	610,000	611,600	-	611,600
1979	Monthly	-	-	400 <sup>c/</sup>	534,000	178,700	1,600	-	-	
	Cumulative	-	-	400	534,400	713,100	714,600	-	-	714,600
1980	Monthly	-	-	-	228,700	137,500	17,100	-	-	
	Cumulative	-	-	-	228,700	366,200	383,300	-	-	383,300
1981	Monthly	-	-	-	350,300	270,000	-	-	-	
	Cumulative	-	-	-	350,300	620,300	-	-	-	620,300
1982	Monthly	-	-	-	522,200	-	-	-	-	
	Cumulative	-	-	-	522,200	-	-	-	-	522,200
1983	Monthly	-	-	-	275,300	36,100	8,400	-	-	
	Cumulative	-	-	-	275,300	311,400	319,800	-	-	319,800
1984	Monthly	-	-	-	-	14,000	-	-	-	
	Cumulative	-	-	-	-	14,000	-	-	-	14,000
1985	Monthly	-	-	-	65,700	18,300	-	-	-	
	Cumulative	-	-	-	65,700	84,000	-	-	-	84,000
1986	Monthly	-	-	12,000	381,800	45,800	-	-	-	
Preliminary	Cumulative	-	-	12,000	393,800	439,600	-	-	-	439,600

a/ Statistics from 1971-78 are reported by calendar months; monthly totals from 1979-82 are the sum of statistical weeks with closest fit to calendar months. Includes catches made off California, Washington, and Alaska and landed in Oregon.

b/ Late season at mouth of Elk and Chetco Rivers only (initiated in 1974). Averages for November include only 1974-75.

c/ Caught off California and landed in Oregon.

d/ Totals for June 1980 include landings made through July 6.

e/ Totals for May 1981 include landings made through June 7.

Table 5. Oregon Troll Salmon Effort and Landings, in Number of Fish by Area of Catch and by Statistical Month, 1986.

Month	Columbia R	Tillamook	Newport	Coos Bay	Brookings	Oregon	Alaska	Wash.	Calif.	Total
						Subtotal				
<u>EFFORT (Boat Days)</u>										
May	300	<100	900	2,200	500	3,900	0	<100	0	4,000
June	0	<100	800	2,400	700	4,000	0	0	0	4,000
July	0	2,700	5,500	5,700	500	14,400	0	0	0	14,400
August	800	300	400	4,100	1,100	6,700	0	0	<100	6,800
September	0	400	400	1,200	0	2,000	0	0	<100	2,000
October	0	200	700	300	200	1,300	0	0	0	1,300
November	0	<100	0	0	100	100	0	0	0	100
Total	1,200	3,700	8,600	15,800	3,200	32,500	0	<100	<100	32,500
<u>Chinook</u>										
May	4,400	200	10,300	18,200	3,700	36,800	0	400	0	37,200
June	0	100	11,900	21,400	16,700	50,000	0	0	0	50,000
July	0	2,900	31,100	95,100	9,400	138,500	0	0	0	138,500
August	1,600	3,100	6,600	81,800	22,100	114,600	0	0	500	115,100
September	0	6,200	7,100	20,500	0	33,900	0	-	<100	33,900
October	0	1,500	22,300	1,900	800	26,500	0	-	0	26,500
November	0	<100	0	0	800	800	0	-	-	800
Total	6,000	14,000	88,700	238,900	53,500	401,200	0	400	500	402,000
<u>Coho</u>										
June	-	-	-	-	12,000	12,000	0	-	-	12,000
July	-	95,600	193,800	85,300	7,100	381,800	0	0	0	381,800
August	45,800	-	-	-	-	45,800	0	-	-	45,800
September	-	-	-	-	-	-	0	-	-	0
Total	45,800	95,600	193,800	85,300	19,100	439,600	0	0	0	439,600

Table 6. Oregon Troll Salmon Landings by Species in Pounds Dressed, by Calendar Month and Port Area, 1986.

Month	Port of Landing					Total
	Astoria	Garibaldi to Pacific City	Depoe Bay to Waldport	Florence to Bandon	Port Orford to Brookings	
<u>CHINOOK</u>						
May	43,565	1,611	102,697	164,277	31,229	343,379
June	360	906	119,838	216,837	119,068	457,009
July	5,789	24,241	254,685	755,448	105,868	1,146,031
August	7,046	32,593	56,361	697,940	147,030	940,970
September	2,686	49,345	57,510	137,442	21,757	268,740
October	1,595	10,933	150,434	9,872	22,557	195,391
November	0	206	0	262	9,689	10,157
Total	61,041	119,835	741,525	1,982,078	457,198	3,361,677
<u>COHO</u>						
June	-	-	118	4,822	47,297	52,237
July	3,319	385,080	851,932	385,019	53,253	1,678,603
August	105,087	32,952	33,248	2,803	0	174,090
Total	108,406	418,032	885,298	392,644	100,550	1,904,930

## THE DOLLAR VALUE OF THE LANDINGS

The chinook landings in 1986 were worth \$5,963,000 to the fishermen, the coho \$1,979,000. The average price per pound for chinook was \$1.77, for coho \$1.04 (Table 7).

## EXTENDED TROLL SEASON LANDINGS

Chinook landings during the 1986 Elk River area extended season were 19,700 pounds dressed weight or an estimated 1,600 fish. The season closed on November 26 when the November quota of 750 fish was reached.

Chinook landings during the November 1-15 Tillamook Bay area extended season were very small with only 14 fish reported. Effort was also low with only 10 landings reported during this two-week extension.

One objective of the extended seasons has been the harvest of mature, surplus local stocks of fish. The available data indicate that both extended seasons accomplished this objective.

## AVERAGE WEIGHT DATA

Data on average dressed weights from chinook and coho by port of landing enabled us to convert landings in pounds to numbers of fish.

The seasonal average weight for chinook in 1986 was 8.4 pounds dressed weight compared to 9.4 pounds in 1985 (Table 8). In 1986, the average weights were smaller in all areas except Columbia River when compared to 1985. Columbia River average weight was the same as in 1985.

The seasonal average weight for coho in 1986 was 4.3 pounds dressed weight compared to 5.8 pounds in 1985 (Table 9). The average weight data for 1986 is of less value than that of previous years when used for comparison purposes, since the fish were sampled from a fishery operating for a relatively short period of time. Previous data cover a range of areas and time.



Table 7. Estimates of Ex-vessel Value<sup>a/</sup> of Oregon Troll Salmon Landings and Average Price per Pound, 1971-86.

Year	Chinook		Coho		Total Value
	\$ Value	\$/lb	\$ Value	\$/lb	
1971	587,000	0.59	3,155,000	0.36	3,742,000
1972	982,000	0.75	2,475,000	0.51	3,457,000
1973	3,520,000	1.02	4,004,000	0.78	7,524,000
1974	2,412,000	1.05	5,525,000	0.76	7,937,000
1975	2,680,000	1.04	3,128,000	0.77	5,808,000
1976	3,410,000	1.77	11,458,000	1.26	14,868,000
1977	7,938,000	2.29	3,546,000	1.34	11,484,000
1978	3,584,000	1.89	3,756,000	1.35	7,340,000
1979	6,639,000	2.57	10,350,000	2.26	16,988,000
1980	5,259,000	2.42	2,926,000	1.34	8,185,000
1981	4,036,000	2.57	5,535,000	1.66	9,571,000
1982	6,094,000	2.59	3,801,000	1.40	9,895,000
1983	1,244,000	1.90	1,052,000	0.96	2,296,000
1984	1,513,000	2.75	118,000	1.67	1,631,000
1985	5,043,000	2.48	729,000	1.51	5,838,000
1986 <sup>b/</sup>	5,963,000	1.77	1,979,000	1.04	7,942,000

<sup>a/</sup> Dressed weight value

<sup>b/</sup> Preliminary

Table 8. Observed Average Dressed Weight and Calculated Number of Chinook Landed in Oregon by Calendar Month and Port Area, 1986.

Port of Landing	Month							Total
	May	June	July	Aug.	Sept.	Oct.	Nov.	
<u>Astoria</u>								
Numbers	4,719	32	629	731	312	198	0	6,621
Pounds	43,565	360	5,789	7,046	2,686	1,595	0	61,041
Ave. wt.	9.2	11.3	9.2	9.6	8.6	8.1	0	9.2
<u>Garibaldi-Pacific City</u>								
Numbers	178	84	2,674	3,376	5,618	1,305	14	13,249
Pounds	1,611	906	24,241	32,593	49,345	10,933	206	119,835
Ave. wt.	9.1	10.8	9.1	9.7	8.8	8.4	14.7	9.0
<u>Depoe Bay-Waldport</u>								
Numbers	10,019	13,081	27,190	6,747	7,383	20,965	0	85,385
Pounds	102,697	119,833	254,685	56,361	57,510	150,434	0	741,525
Ave. wt.	10.3	9.2	9.4	8.4	7.8	7.2	0	8.7
<u>Florence-Bandon</u>								
Numbers	18,063	23,545	90,123	87,888	18,170	1,216	21	239,026
Pounds	164,277	216,837	755,448	697,940	137,442	9,872	262	1,982,078
Ave. wt.	9.1	9.2	8.4	7.9	7.6	8.1	12.5	8.3
<u>Port Orford-Brookings</u>								
Numbers	3,525	16,023	13,859	18,371	2,863	2,339	763	57,743
Pounds	31,229	119,063	105,868	147,030	21,757	22,557	9,689	457,198
Ave. wt.	8.9	7.4	7.6	8.0	7.6	9.6	12.7	7.9
<u>Total</u>								
Numbers	36,504	52,765	134,475	117,113	34,346	26,023	798	402,024
Pounds	343,379	457,009	1,146,031	940,970	268,740	195,391	10,157	3,361,677
Ave. wt.	9.4	8.7	8.5	8.0	7.8	7.5	12.8	8.4

## TROLL SALMON MARK SAMPLING

In 1986, two samplers were assigned to Newport and Charleston and one each to Astoria, Garibaldi, Winchester Bay, Port Orford, and Brookings. A roving sampler, based at Newport, assisted in sampling at Brookings, Astoria, Garibaldi, Depoe Bay, and Newport. Some sampling of the troll fishery was done at Pacific City by the Astoria troll sampler. In 1986, 35% of all chinook and 24% of all coho landings were examined for coded wire tags (Table 10,11).

Chinook. Samplers found 8,451 adipose-clipped chinook in the 1986 troll landings and obtained 8,380 random snouts. Technicians found tags in 7,880 or 94% of the snouts. The main agencies contributing the tags were:

California Department of Fish and Game	44%
Oregon Department of Fish and Wildlife	36%
Anadromous	10%

Coho. Samplers found 6,251 adipose-clipped coho in the 1986 troll coho landings and obtained 6,209 random snouts. Technicians found coded-wire tags in 5,541 or 89% of the snouts. The main agencies contributing tags were:

Oregon Department of Fish and Wildlife	46%
Washington Department of Fisheries	28%
Oregon Aqua-Foods	14%
Anadromous	10%

Table 9. Observed Average Dressed Weight and Calculated Number of Coho Landed in Oregon by Calendar Month and Port Area, 1986.

Port of Landing	June	July	August	Sept.	Total
<u>Astoria</u>					
Numbers	0	828	28,331	0	29,159
Pounds	0	3,319	105,087	0	108,406
Ave. wt.	0	4.0	3.7	0	3.7
<u>Garibaldi-Pacific City</u>					
Numbers	0	94,993	7,963	0	102,956
Pounds	0	385,080	32,952	0	418,032
Ave. wt.	0	4.1	4.1	0	4.1
<u>Depoe Bay-Waldport</u>					
Numbers	36	191,474	8,767	0	200,277
Pounds	118	851,932	33,248	0	885,298
Ave. wt.	3.3	4.4	3.8	0	4.4
<u>Florence-Bandon</u>					
Numbers	1,074	83,216	637	0	84,927
Pounds	4,822	385,019	2,803	0	392,644
Ave. wt.	4.4	4.6	4.6	0	4.6
<u>Port Orford-Brookings</u>					
Numbers	10,928	11,345	0	0	22,273
Pounds	47,297	53,253	0	0	100,550
Ave. wt.	4.3	4.7	0	0	4.5
<u>Total</u>					
Numbers	12,038	381,856	45,698	0	439,592
Pounds	52,237	1,678,603	174,090	0	1,904,930
Ave. wt.	4.3	4.3	3.8	0	4.3

Table 10. Oregon Troll Chinook Mark Sampling by Calendar Month and Port Area, 1986.

Port of Landing	Month							Total
	May	June	July	Aug.	Sept.	Oct.	Nov.	
<u>Astoria</u>								
No. Examined	2,858	15	0	124	0	0	0	2,997
No. Landed	4,719	32	629	731	312	198	0	6,621
% Examined	61	49	0	18	0	0	0	45
No. Marks	95	1	0	8	0	0	0	104
<u>Garibaldi-Pacific City</u>								
No. Examined	0	4	601	1,179	1,658	192	4	3,638
No. Landed	178	84	2,674	3,376	5,618	1,305	14	13,249
% Examined	0	5	22	35	30	15	29	27
No. Marks	0	0	35	71	130	14	0	250
<u>Depoe Bay-Waldport</u>								
No. Examined	4,712	5,350	4,674	2,469	3,052	8,596	0	28,849
No. Landed	10,019	13,081	27,190	6,747	7,383	20,965	0	85,385
% Examined	47	41	17	37	41	41	0	34
No. Marks	197	208	235	135	219	485	8	1,479,397
<u>Florence-Bandon</u>								
No. Examined	5,469	6,931	26,174	24,509	5,422	509	0	68,933
No. Landed	18,063	23,545	90,123	87,888	18,170	1,216	21	239,026
% Examined	30	29	29	28	30	42	0	29
No. Marks	162	193	453	1,583	311	26	0	4,122
<u>Port Orford-Brookings</u>								
No. Examined	3,277	6,871	10,755	11,277	2,109	1,196	573	36,058
No. Landed	3,525	16,023	13,859	18,371	2,863	2,339	763	57,743
% Examined	93	43	78	61	74	51	75	62
No. Marks	176	414	710	656	135	193	86	2,370
<u>Total</u>								
No. Examined	16,316	19,171	42,204	39,557	12,241	10,493	577	140,559
No. Landed	36,504	52,765	134,475	117,113	34,346	26,023	798	402,024
% Examined	45	59	31	34	36	40	72	35
No. Marks	686	927	2,660	2,453	795	718	86	8,325

Table 11. Oregon Troll Coho Mark Sampling by Calendar Month and Port Area, 1986.

Port of Landing	Month				Total
	June	July	August	Sept.	
<u>Astoria</u>					
No. Examined	0	0	12,457	0	12,457
No. Landed	0	828	28,331	0	29,159
% Examined	0	0	44	0	42
No. Marks	0	0	521	0	521
<u>Garibaldi-Pacific City</u>					
No. Examined	0	20,356	4,125	0	24,481
No. Landed	0	94,993	7,963	0	102,956
% Examined	0	21	52	0	24
No. Marks	0	983	196	0	1,179
<u>Depoe Bay-Waldport</u>					
No. Examined	0	31,423	2,673	0	34,096
No. Landed	36	191,474	8,767	0	200,277
% Examined	0	16	30	0	17
No. Marks		1,785	136	0	1,921
<u>Florence-Bandon</u>					
No. Examined	0	23,529	0	0	23,529
No. Landed	1,074	83,216	637	0	84,927
% Examined	0	28	0	0	28
No. Marks		1,712	0	0	1,712
<u>Port Orford-Brookings</u>					
No. Examined	2,090	8,544	0	0	10,634
No. Landed	10,928	11,345	0	0	22,273
% Examined	19	75	0	0	48
No. Marks	150	662	0	0	812
<u>Total</u>					
No. Examined	2,090	83,852	19,255	0	105,197
No. Landed	12,038	381,856	45,698	0	439,592
% Examined	17	22	42	0	24
No. Marks	150	5,142	853	0	6,145

## THE 1986 RECREATIONAL OCEAN SALMON FISHERY

The 1986 season was characterized by a record high angler success rate and resultant high effort and confusion from a complex set of regulations. Unlike 1985, the recreational fleet had competition from a commercial troll fishery on coho this year.

We estimated a catch of 22,366 chinook and 211,666 coho with 186,483 salmon angler trips and 29,168 bottomfish trips. It is difficult to compare 1986 data with other years because of the unique management steps taken to slow the harvest rate in late July of this year.

### REGULATIONS

Ocean salmon regulations for Oregon's recreational anglers in 1986 were slightly more liberal than the recent past with larger quotas and earlier opening dates. An above average predicted OPI hatchery coho stock size was counterbalanced by an expected low return of Oregon coastal wild coho, the progeny of the record low 1983 "El Nino" year-class. North of Cape Falcon, impacts on Columbia River fall (Tule) chinook and Washington coastal coho stocks were the focus of management concerns. On the south coast, Klamath River chinook concerns were the impetus for the creation of a new fisheries management area between Cape Blanco and Point Delgada. For the first time, Oregon and California have the same salmon regulations in adjacent areas. Thus the Oregon coast is now divided into 3 salmon management areas, each with different regulations. The regulations were implemented by the Pacific Fishery Management Council and the Oregon Department of Fish and Wildlife. The Council made a special effort to listen to the recommendations of various advisory groups and the complex regulations reflect that attitude.

### North of Cape Falcon

A recreational quota of 103,200 coho and 11,700 chinook was established between the red buoy line off the South Jetty of the Columbia River and Cape Falcon. A conservation zone closure was in effect out to 200 miles from the red buoy line north to Klipsan Beach (Figure 3). The daily bag limit was 2 salmon, with minimum size limits of 24 inches for chinook and 16 inches for other salmon. Only barbless hooks were permitted. There was an annual bag limit of 40 salmon or steelhead but no weekly possession limit. Ocean salmon angling was only permitted Sunday through Thursday, same as in 1985 (Tables 12 and 13).

### Cape Falcon to Cape Blanco

South of Cape Falcon, the recreational coho quota was 189,000 fish. The daily bag limit was the first 2 salmon caught regardless of species or size. Barbed or barbless hooks were allowed. The annual bag limit was 40 salmon or steelhead but there was a further restriction that not more than six salmon could be caught in 7 consecutive days. New for 1986 were provisions for in-season restrictions to extend the fishing seasons. These restrictions are listed in the footnotes in Table 12 and are also discussed below.

### Cape Blanco to Point Delgada

The coho catch in this new management area counted against the 189,000 fish quota but the fishery continued after the quota was met. A 40,000 chinook quota was in effect in this area. The daily bag limit started as 1 coho and 1 chinook until June 22 when it changed to 2 salmon of any species; the size limit for all species and time periods was 20 inches. Barbless hooks were required. The annual bag limit in Oregon was 40 salmon or steelhead and not more than six salmon could be caught in 7 consecutive days. In-season restrictions to reduce the chinook catch rate were not necessary in 1986 but are listed in Table 12.



Table 12. Recreational Management Measures Approved for 1986 Ocean Salmon Fisheries.<sup>a/</sup>

AREA AND SEASON	SALMON SPECIES	Quota		Minimum Size Limit (inches)		Daily Bag Limit and Special Restrictions by Area
		Chinook	Coho	Chinook	Coho	
UNITED STATES-CANADA BORDER TO QUEETS R.:						
June 29 thru earliest of Sept. 25, chinook quota, or coho quota Sunday through Thursday only	All	2,300 <sup>b/</sup>	28,000 <sup>b/</sup>	24	16	2 fish.
QUEETS RIVER TO KLIPSAN BEACH						
June 29 thru earliest of Sept. 25, chinook quota, or coho quota Sunday through Thursday only	All	23,100 <sup>b/</sup>	76,300 <sup>b/</sup>	24	16	2 fish; closed within 0-3 nautical miles.
KLIPSAN BEACH TO RED BUOY LINE: ----- C L O S E D -----						
RED BUOY LINE TO CAPE FALCON:						
June 29 thru earliest of Sept. 25, chinook quota, or coho quota Sunday through Thursday only	All	11,700 <sup>b/</sup>	103,200 <sup>b/</sup>	24	16	2 fish.
CAPE FALCON TO CAPE BLANCO:						
May 24 thru May 26 June 28 thru earlier of Sept. 4 or coho quota	All	None	<u>c/</u>	None	None	First 2 fish hooked per day must be retained, no more than 2 fish may be retained per day, and no more than 6 fish may be retained in 7 consecutive days. <u>d/</u>
CAPE BLANCO TO POINT DELGADA: <u>f/</u>						
Effective immediately closed until May 24 May 24 thru earlier of Sept. 7 or chinook quota.	All	40,000 <sup>a/</sup>	<u>c/</u>	20	20	From May 24 thru June 22, not more than 1 coho and 1 chinook after June 22, 2 salmon of any species. No more than 6 fish may be retained in 7 consecutive days; barbless hooks; Conservation Zone 4 (12-mile square at Klamath River mouth) is closed Aug. 1 thru August 31. <u>g/</u>
POINT DELGADA TO UNITED STATES-MEXICO BORDER:						
Nearest Saturday to Feb. 15 thru nearest Sunday to November 15	All	None	<u>c/</u>	20	20	2 fish; barbless hooks.

- a/ These management measures assume a Buoy 10 recreational fishery in Washington and Oregon state waters (Columbia R. mouth to the Astoria-Megler Bridge) with total state quotas of 10,000 chinook and 67,000 coho. Washington and Oregon will negotiate a Buoy 10 fishery within these parameters at a later date. In addition to the ocean recreational season listed, the Oregon Fish and Wildlife Commission may establish limited additional late all-salmon-except-coho seasons inside State waters near the mouths of the Elk, Sixes, and Chetco rivers and Tillamook Bay, which seasons will be consistent with the objectives of these regulations.
- b/ The non-treaty ocean fisheries north of Cape Falcon (recreational and troll) will be managed not to exceed either (1) an overall 88,100 chinook quota, or (2) impacts on Washington coastal natural coho stocks equivalent, but not necessarily equal to the subarea quotas.
- c/ Coho quota south of Cape Falcon is 189,000 fish. Coho caught south of Cape Blanco count toward the total quota, but the fishery south of Cape Blanco will not close when the coho quota is met.
- d/ If the inseason catch rate indicates the possibility of reaching the recreational quota before Labor Day, inseason revision of fishing days per week to extend the season through Labor day will be invoked. The order of preference for daily closures will be (1) Sundays, (2) Sundays and Mondays, and (3) other combination of days.
- e/ On July 16, the Salmon Plan Development Team will determine how many chinook will be required to complete the recreational season. Any portion of the recreational chinook quota (40,000 fish) not needed to complete the recreational season will be reallocated to the troll fishery. Troll and recreational fisheries from Cape Blanco to Point Delgada will be managed not to exceed a total quota of 123,200 chinook.
- f/ Federal regulations for 1985 allowed the recreational fishery to open on February 15, 1986. The State of California closed the fishery in territorial waters north of Point Delgada on March 28, 1986. Effective upon filing of these regulations, the recreational fishery in the FCZ from the Oregon-California Border to Point Delgada closed until opened by these regulations on May 24.
- g/ If 14,000 or more chinook are caught by July 1, no more than 1 chinook may be retained per day, fishing for all species will be open only Thursday through Monday each week, and no more than 4 salmon may be retained in 7 consecutive days. This determination will be made by the Pacific Fishery Management Council's Salmon Plan Development Team, and will be announced by notice in the Federal Register. Conservation Zone 4 is defined as the ocean area surrounding the Klamath River mouth bounded on the north by 41°38'43" N. latitude (approximately 6 nautical miles north of the Klamath River mouth) on the west by 124°23'00" W. longitude (approximately 12 miles from shore), and on the south by 41°26'48" N. latitude (approximately 6 nautical miles south of the Klamath River mouth).

Table 13. Summary of Oregon's Recreational Ocean Salmon Regulations, 1946-85

Year	Season	Regulations
1946	All Year	3 fish/day; 9 in possession.
1947	All year	2 fish/day; 6 in possession
1948-54	All year	2 fish/day; 4 in possession; 20 fish annual limit.
1955-57	All year	2 fish/day; 4 in possession; 20 fish annual limit; 20" minimum size, both species.
1958-64	All year	2 fish/day; 4 in possession; 20 fish annual limit; 20" minimum size, both species, except 22" minimum size north of Tillamook Head (July 1-October 31).
1965-69	All year	3 fish/day; 6 in possession; 20 fish annual limit; 20" minimum size, both species.
1970-75	All year	3 fish/day; no possession limit; 40 fish annual limit; North of Tillamook Head, 20" minimum size both species. South of Tillamook Head, no size limits.
1976	April 10-Dec. 31	3 fish/day; 40 fish annual limit. North of Tillamook Head--Chinook, 24" minimum size; coho, 16" minimum size. South of Tillamook Head, no size limits.
1977	April 30-Oct. 31 November 1-31	Same as in 1976. (State waters off Elk and Chetco rivers)--3 chinook/day; no size limit.
1978	April 29-Oct. 31  November 1-30	3 fish/day; 40 fish annual limit. North of Cape Falcon--chinook, 24" minimum size; coho, 16" minimum size. South of Cape Falcon--chinook, 22" minimum size; coho, 16" minimum size. (State waters off Elk and Chetco rivers)--3 chinook/day; 22" minimum size.
1979	May 12-Sept. 16 November 1-30	2 fish/day south of Cape Falcon; 3 fish/day north of Cape Falcon, of which only 2 may be chinook or coho; 40 fish annual limit. Size limits as in 1978. (State waters off Elk and Chetco rivers)--2 chinook/day; 22" minimum size.
1980	May 10-Sept. 14 <sup>a</sup> / Sept. 15-Oct. 31 November 1-30	3 fish/day lowered to 2 fish/day on July 16; 40 fish annual limit. Size limits as in 1978. (South of Cape Falcon) 2 chinook/day; 22" minimum size. (State waters off Elk and Chetco rivers)--as above.
1981	May 15-Sept. 20 <sup>b</sup> /  May 23-Sept. 7 <sup>b</sup> / Sept. 21-Oct. 31 November 1-30	(South of Cape Falcon) 2 fish/day; increased to 3 fish/day on August 14; 40 fish annual limit. Size limits as in 1978.  (North of Cape Falcon) 2 fish/day; 40 fish annual limit. Size limit as in 1978. (South of Cape Blanco) 2 chinook per day; 22" minimum size. (State waters off Elk and Chetco rivers)--as above.
1982	May 28-June 11  May 28-Aug. 1 <sup>c</sup> /  June 12-August 1 <sup>c</sup> /  Aug. 2-Oct. 31 November 1-30	(Between Cape Blanco and Cape Falcon in state waters) first 2 chinook taken per day; barbless hook only.  (South of Cape Blanco)--as above.  (Entire coast) 2 fish/day north of Cape Falcon; first 2 fish taken/day south of Cape Falcon, regardless of size. Size limit north of Cape Falcon same as in 1978. 40 fish annual limit.  (South of Cape Blanco) first 2 chinook taken/day. (State waters off Elk and Chetco rivers) first 2 chinook taken/day.
1983	May 28-Sept. 18  June 18-Sept. 18 June 18-Sept. 11 Sept. 19-Oct. 31 November 1-30	(South of Cape Blanco) first 2 fish taken/day regardless of size. 40 fish annual limit.  (Entire coast south of Cape Falcon) as above. (North of Cape Falcon) 2 fish/day (South of Cape Blanco) first 2 chinook taken/day. (State waters off Elk River) first 2 chinook taken/day.

Table 13 (Continued)

Year	Season	Regulations
1984	July 9-Aug. 7	(South of Cape Falcon) 2 fish/day; 40 fish annual limit. Minimum size 20". Single-point barbless hooks.
	July 28-Aug. 8	(Cape Falcon to Columbia River, South Jetty) 2 coho/day; 40 fish annual limit. Minimum size 16". No chinook allowed. Single-point barbless hooks.
	Aug. 9-Aug. 24	Cape Blanco to OR/CA border) 2 chinook/day; 20" minimum size. Single-point barbless hooks.
	Aug. 25-Sept. 3 (State waters only)	(Cape Falcon to Cape Blanco) 1 fish/day; 20" minimum size. Single-point barbless hooks. (Cape Blanco to OR/CA border) 2 fish/day, one of which can be coho; 20" minimum size. Single-point barbless hooks.
	Sept. 4-Oct. 31	(Cape Blanco to OR/CA border) 2 chinook/day; 20" minimum size. Single-point barbless hooks.
	Sept. 15-Sept. 21 <sup>d</sup> / (State waters only)	(Manhattan Beach to Pyramid Rock off Tillamook Bay) 2 chinook/day; 20" minimum size. Single-point barbless hooks.
	November 1-30 (State waters only)	(Cape Blanco to Humbug Mountain-Elk River) 2 chinook/day; 20" minimum size. Single-point barbless hooks.
1985	May 25 - May 31	(OR-CA border to Cape Blanco) first 2 fish taken per day; not more than 6 fish may be retained in 7 consecutive days.
	July 1 - Sept. 2	(OR-CA border to Cape Falcon) -- As above.
	June 30 - Aug. 22	(Cape Falcon to Leadbetter Pt.) 2 fish per day; 40 fish annual bag limit. Minimum size 24" for chinook, 16" for coho and other salmon. Barbless hooks. Area closure: Red buoy line on Columbia R. mouth north to Klipsan Beach. Fishery closed Fridays and Saturdays.
	Sept. 3 - Oct. 31	(OR-CA border to Cape Blanco) first 2 salmon except coho taken per day; not more than 6 fish may be retained in 7 consecutive days.
	Sept. 15 - Oct. 31	(Twin Rocks to Pyramid Rock off Tillamook Bay; state waters only) first 2 salmon except coho taken per day; not more than 6 fish may be retained in 7 consecutive days.
	Oct. 1 - Nov. 30	(Tower Rock to Humbug Mountain; state waters near Elk River) first 2 salmon except coho taken per day; not more than 6 fish may be retained in 7 consecutive days.

<sup>a</sup>/ Federal waters (3-200 miles) closed to coho fishing effective Sept. 1.

<sup>b</sup>/ Federal waters closed August 26-September 20 for all species of salmon.

<sup>c</sup>/ Federal waters closed to coho fishing on July 21, north of Cape Falcon and July 25 south of Cape Falcon.

<sup>d</sup>/ Pacific Ocean between 45 degrees 38 minutes N. Latitude and 45 degrees 29 minutes 45 seconds N. latitude and seaward  $\frac{1}{3}$  miles.

There was a brief "Memorial Day" season for all ports south of Cape Falcon May 24 through May 26. The Blanco to Delgada area remained open but all other ports closed until June 28. North of Cape Falcon, the recreational salmon season opened Sunday, June 29.

The high effort and catch rate made in-season restrictions necessary between Cape Falcon and Cape Blanco. On July 27, Sundays and Mondays were closed to salmon fishing and effective July 29, the possession limit was reduced to not more than 2 fish in 7 consecutive days. These measures extended the season until August 13.

North of Cape Falcon, the ocean season extended through August 19. The Buoy 10 fishery inside the Columbia River mouth opened on August 16 and catches in this area counted towards ocean quotas until the ocean season closed.

The Cape Blanco to Point Delgada season continued as scheduled until September 7. No in-season restrictions were necessary and 8,000 chinook were reallocated to the commercial fleet on July 16.

There were several state water salmon fisheries after the general seasons closed (Table 14). State waters off Tillamook Bay were open to chinook fishing from September 15 through November 15. The Chetco River area (Bird Island to the Oregon-California border) was open to salmon fishing October 1-31. The Port Orford area also had a state waters fishery scheduled from October 1 through November 30 but this area is not accessible to most recreational anglers. Only the Brookings area (Chetco River) was sampled systematically.

Table 14. Late Season State Waters All-Salmon-Except-Coho Fisheries, 1986.

Geographic Area	Fishery	Quota	Fishing Season	Open Area	Minimum length (in) chinook	Special restriction/comments
Tillamook Bay Area	Troll	None	Nov 1-15	South of latitude of Twin Rocks (45°35'49" N. Lat.) north of latitude of Pyramid Rock (45°29'45") and seaward to 3 miles (state waters).	26	1986 PFI/C regulations provide for FCZ/state waters fishery through October 31. Barbless hooks only.
	Recreational	None	Sept 15-Nov 15	Same as above	None	Bag limit: first 2 fish per day; no more than 6 fish in 7 consecutive days. Barbed hooks allowed.
Port Orford Area	Troll	750 chinook for November	Oct 1-Nov 30 or quota	South of Cape Blanco (42°50'12" N. Lat), north of latitude of Humbug Mt. and seaward to 3 miles (state waters)	26	Barbless hooks only
	Recreational	None	Oct 1-Nov 26 <sup>a/</sup>	Same as above	20	Bag limit: 2 fish per day; no more than 6 fish in 7 consecutive days. Barbless hooks only.
Brookings Area	Troll	Closed	Closed	Closed		
	Recreational	None	Oct 1-31	South of latitude of Goat (Bird) Island (42°04'N.Lat.) north of OR/CA border, and east of (124°20'W.Long.)	20	Bag limit 2 fish per day no more than 8 fish in 7 consecutive days. Barbless hooks only. Seaward boundary approximated at 20 fathom line.

<sup>a/</sup> Fishery closed when Port Orford area October-November commercial troll quota was met.

## OCEAN SALMON SAMPLING

Twenty-three seasonal aides sampled the ocean recreational fishery in 1986. Newport had 4 samplers; Astoria, Garibaldi, Winchester Bay, Coos Bay and Brookings each had 3; Pacific City, Depoe Bay, Florence and Gold Beach each had one sampler. All samplers made boat counts and sampled anglers.

A modified random sampling design was used at each port to survey the ocean recreational fishery. Catch per unit effort data were collected at least 5 days a week, including all weekends and holidays through interviews with ocean anglers at boat ramps, moorages, and charter docks. The salmon catch was sampled for species, marks, and scales. Snouts were collected from marked (adipose-clipped) fish and their coded wire tags were later recovered.

Effort was primarily obtained through boat counts by ODFW samplers but Coast Guard bar crossing counts and information from charter boat offices were also used. In Pacific City, total effort was estimated from a combination of trailer counts and angler interviews. All catch and effort data were entered and expanded on the Department's Burroughs computer. The survey provided accurate weekly estimates of Oregon's ocean recreational effort and catch within 7 days after the week ended. Preliminary catch estimates were available within a day after the fishing week ended.

Department samplers checked 101,940 salmon in 1986 compared to 110,907 salmon in 1985. Catch sampling rates in 1986 ranged from 75% at Pacific City to 33% at Winchester Bay. Overall, 44% of the total combined salmon catch from all ports was sampled in 1986, a decrease of 3% from 1985 (Table 15).

Table 15. Recreational Ocean Salmon Sampling Rates at Oregon Ports, 1977-86.

Port	Percent of Catch Sampled <sup>a/</sup>									
	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Astoria	9	29	35	20	40	42	44	31	57	38
Garibaldi	48	33	43	39	36	55	61	35	47	37
Pacific City	-	41	-	-	82	87	82	71	72	75
Depoe Bay	26	49	47	45	50	68	60	65	60	55
Newport	15	15	31	39	40	31	34	48	36	35
Florence	-	-	-	-	30	37	44	27	29	41
Winchester Bay	21	22	35	33	26	32	33	27	34	33
Coos Bay	32	51	47	49	57	63	47	54	48	50
Gold Beach	29	23	42	50	48	62	43	47	43	63
Brookings	19	20	29	22	21	30	36	42	49	62
Combined Ports	19	27	37	34	39	44	42	42	47	44
Number of Samplers	8	11	13	14	16	16	19	20	23	23
Sampler months	27	36	47	54	62	51	60	55	47	62
<sup>a/</sup> Percentage of total catch observed by samplers =							$\frac{\text{number of salmon observed}}{\text{estimated catch of salmon}}$			



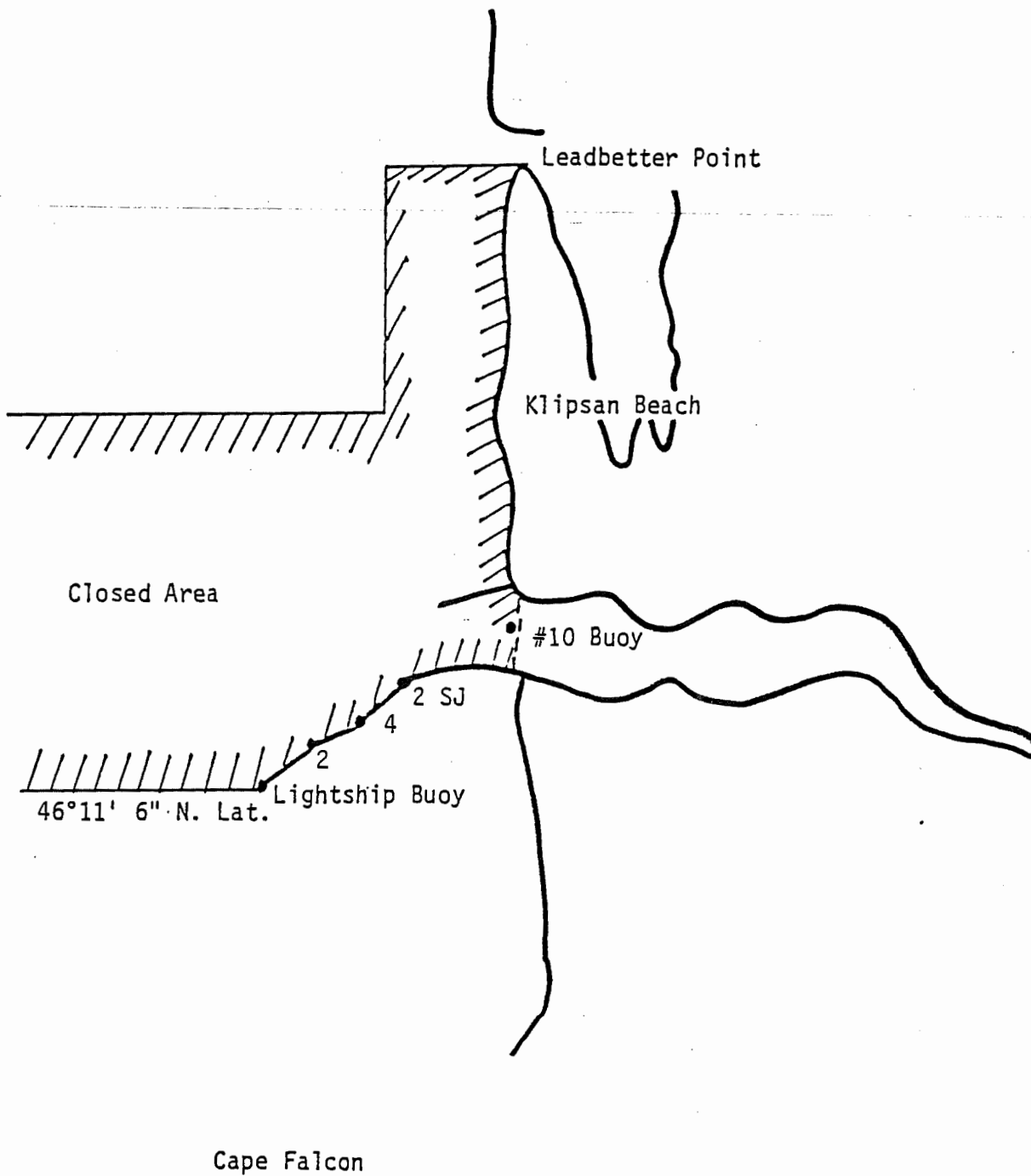


Figure 3. Area Restrictions in the Ocean Recreational Salmon Fishery off the Columbia River, 1986.

## EFFORT AND CATCH STATISTICS

### Effort

Historically, ocean fishing effort data have always included a small number of bottomfishing trips. Since 1979, salmon fishing trips have been tallied separately. The majority of ocean anglers choose salmon fishing over bottomfishing when both fisheries are available. In 1986, 186,500 trips (89%) targeted on salmon and 29,200 trips went out for bottomfish during the salmon season for a combined total of 212,600 angler trips. This total is less than the sum of the salmon and bottomfish trips because of a small number of combination trips. The 1986 salmon and total angler trips fell 28% below the 1979-85 average. The total effort is 38% below the 1971-85 average of 342,800 angler trips which includes years with no closed season or 8 month seasons (Table 16).

July is usually the peak month for recreational ocean salmon effort, followed by August. The seasons have been largely restricted to those two months for the last five years. From Winchester Bay south, July tends to have the highest effort while to the north, August is the peak month (Tables 17, 18). That relationship was again obscured in 1986 by the restrictive management measures. Coast-wide, 117,500 angler trips or 63% of the total salmon trips occurred in July and only 35,900 trips or 19% of the total took place in August. August was the top month for bottomfishing effort with 16,600 trips or 57% of the total bottomfish trips (Table 17).

Brookings had the highest salmon effort in 1986 with 48,100 or 26% of the state's total salmon trips. The salmon season was also the longest on the southern Oregon coast. Newport had the second highest salmon effort with 34,300 angler trips followed by Winchester Bay with 23,200. Salmon effort decreased from the 1985 levels in all ports except at the Columbia River

Table 16. Oregon Ocean Recreational Salmon Catch and Effort for 1966-86<sup>a/</sup>

Year	Effort (Angler Trips)		Catch			Fish/Angler
	Salmon	Total	Coho	Chinook	Pinks	
1966	-	-	227,900	37,400	-	-
1967	-	-	351,000	42,800	-	-
1968	-	-	265,800	25,100	-	-
1969	-	-	232,900	31,800	-	-
1970	-	-	257,400	42,900	-	-
1971	-	303,700	311,700	29,600	121	1.12
1972	-	331,700	248,400	44,100	58	0.88
1973	-	350,400	232,068	60,984	2,008	0.84
1974	-	335,849	314,501	36,729	34	1.05
1975	-	407,498	252,209	75,719	1,218	0.81
<b>1971-75 Avg</b>	-	<b>345,829</b>	<b>271,776</b>	<b>49,426</b>	<b>1,115<sup>b/</sup></b>	<b>0.93</b>
1976	-	538,414	501,306	79,316	50	1.08
1977	-	404,534	195,277	61,364	4,037	0.62
1978	-	403,740	259,769	22,844	24	0.70
1979	301,343	341,770	180,834	20,902	607	0.67
1980	331,443	362,015	325,843	19,014	24	1.04
1981	311,027	350,937	199,812	29,173	1,589	0.74
1982	226,029	275,947	175,128	38,716	14	0.95
1983	226,022	261,456	146,904	24,677	69	0.76
1984	153,061	203,591	123,325	16,992	3	0.91
1985	251,583	270,860	182,486	55,867	7,711	0.97
<b>Long-term average</b>	<b>257,215</b>	<b>342,827</b>	<b>249,278</b>	<b>39,800</b>	<b>2,170<sup>b/</sup></b>	<b>0.97</b>
1986	186,483	212,600	211,666	22,366	0	1.26

<sup>a/</sup> Prior to 1981, sampling data were supplemented with salmon/steelhead tag data for ports and time periods not sampled.

<sup>b/</sup> Odd year average

Table 17. Oregon Ocean Recreational Effort by Port, by Month and by Trip Type, 1986.

Port/Trip Type	Month						Total
	May	June	July	August	Sept.	Oct.	
Columbia R.	-	695	12,145	7,901	-	-	20,741
Salmon	-	695	12,065	7,823	-	-	20,583
Bottomfish	-	0	80	78	-	-	158
Garibaldi	0	1,483	12,431	5,621	165	-	19,700
Salmon	0	1,228	10,920	2,517	-	-	14,665
Bottomfish	0	255	1,511	3,104	165	-	5,035
Pacific City	0	650	2,084	1,251	78	-	4,063
Salmon	-	644	2,069	531	-	-	3,244
Bottomfish	-	6	15	720	78	-	819
Depoe Bay	472	1,546	13,637	6,416	95	-	22,167
Salmon	336	1,341	12,457	3,436	-	-	17,570
Bottomfish	137	205	1,180	2,980	95	-	4,597
Newport	1,333	2,981	29,859	10,570	423	-	45,213
Salmon	1,054	2,589	26,229	4,474	-	-	34,346
Bottomfish	281	392	3,630	6,141	423	-	10,867
Florence	0	929	6,987	1,006	-	-	8,899
Salmon	0	929	6,961	1,004	-	-	8,894
Bottomfish	0	0	5	0	0	-	5
Winchester Bay	123	2,569	18,077	2,757	-	-	23,547
Salmon	123	2,569	18,005	2,475	-	-	23,172
Bottomfish	0	0	72	283	20	-	375
Coos Bay	686	1,447	8,849	2,110	73	-	13,165
Salmon	655	1,425	8,757	739	-	-	11,576
Bottomfish	31	22	92	1,371	73	-	1,589
Gold Beach	29	608	1,554	2,851	102	-	5,152
Salmon	11	456	1,317	2,524	73	-	4,381
Bottomfish	18	152	237	327	29	-	771
Brookings	3,727	10,403	19,755	11,983	1,935	5,209	53,012
Salmon	3,518	9,944	18,713	10,338	523	5,016	48,052
Bottomfish	209	459	1,042	1,645	1,412	193	4,960
Total south of Cape Falcon	6,371	22,616	113,233	44,566	2,890	5,209	194,910
Salmon	5,695	21,125	105,428	28,038	595	5,016	165,900
Bottomfish	676	1,491	7,784	16,571	2,295	193	29,010
State Total	6,371	23,311	125,378	52,466	2,890	5,209	215,651
Salmon	5,695	21,820	117,493	35,861	595	5,016	186,483
Bottomfish	676	1,491	7,864	16,649	2,295	193	29,168

(Table 18). Table 19 shows past ocean recreational effort and catch by management areas.

### Catch

The sampling survey estimated the total salmon catch by species for Oregon's ocean fishery in 1986 except for minor landings at unsurveyed ports (Table 20). Fish landed at these unsurveyed ports represent less than one percent of the total catch off Oregon and will not be available until late 1987. The 1986 total ocean recreational salmon catch was 234,000 fish, a 5% decrease from the 1985 level. This is only 40% of the record high recreational ocean catch (580,700) in 1976 but 80% of the 1966-85 average of 291,200 fish (Table 16). Figure 4 shows the trend in recreational ocean catches since 1966.

Chinook. The recreational harvest of 22,400 chinook in 1986 was less than half of the 1985 catch and the 1971-75 and 1966-85 average catches (Table 16). In contrast to 1985, there was an active commercial troll fishery south of Cape Blanco in 1986.

July accounted for 50% of the catch (11,100 fish) with Brookings taking 32% of those fish. Brookings also dominated the total chinook landings, harvesting 10,700 fish or 48% of the total. Winchester Bay and Coos Bay had the next highest catches with 2,300 chinook each (Table 21). Historically, the Columbia River and the Brookings areas have been the most important chinook catch areas but the complex fisheries issues north of Cape Falcon have very much dampened catches in that area. The Coos Bay-Winchester Bay areas have good catches most years (Tables 19 and 22).

Table 18. Oregon Recreational Effort in Salmon Angler Trips by Management Area<sup>a/</sup> and Month for 1979-1986.

Area	May	June	July	August	Sept.	Oct.	Nov.	Season <sup>b/</sup>
<b>Columbia R</b>								
1979	800	5,000	14,800	19,700	2,900	-	-	43,300
1980	1,300	7,800	13,700	19,700	3,800	-	-	46,300
1981	1,000	4,900	14,100	20,100	4,600	-	-	44,700
1982	-	4,900	22,300	-	-	-	-	27,200
1983	-	2,700	12,900	11,500	3,800	-	-	30,900
1984	-	-	2,000	5,100	-	-	-	7,100
1985	-	600	7,800	11,600	-	-	-	20,000
1986	-	700	12,100	7,800	-	-	-	20,600
<b>Tillamook</b>								
1979	900	3,200	11,800	14,500	600	-	-	31,000
1980	400	8,500	17,300	18,100	3,600	-	-	47,800
1981	1,300	2,200	11,500	16,500	6,600	-	-	38,000
1982	100	2,700	21,800	-	-	-	-	24,600
1983	-	1,200	12,600	7,800	3,700	-	-	25,300
1984	-	-	11,800	10,800	1,200	-	-	23,800
1985	-	-	13,000	21,700	2,200	1,600 <sup>c/</sup>	-	38,600
1986	0	1,900	13,000	3,000	-	-	-	17,900
<b>Newport</b>								
1979	2,000	8,200	33,200	28,700	200	-	-	72,400
1980	1,800	16,700	39,000	22,600	3,800	-	-	83,900
1981	2,300	8,200	27,600	31,700	7,500	-	-	77,300
1982	200	7,300	46,000	-	-	-	-	53,500
1983	-	3,600	22,800	10,900	5,200	-	-	42,600
1984	-	-	24,000	19,200	800	-	-	44,000
1985	-	-	24,300	44,400	1,800	-	-	70,600
1986	1,400	3,900	38,700	7,900	-	-	-	51,900
<b>Coos Bay</b>								
1979	4,800	21,500	42,900	25,200	300	-	-	94,700
1980	2,200	32,100	46,200	14,300	2,600	-	-	97,400
1981	6,600	13,900	35,200	22,700	5,500	-	-	83,900
1982	100	12,000	77,300	-	-	-	-	59,400
1983	-	14,200	36,900	13,600	6,900	-	-	71,600
1984	-	-	22,000	17,900	300	-	-	40,200
1985	-	-	33,100	29,200	1,200	-	-	63,500
1986	800	4,900	33,700	4,200	-	-	-	43,600
<b>Brookings</b>								
1979	300	4,900	27,100	18,500	3,300	5,000	900	59,900
1980	200	13,300	23,900	10,000	5,300	2,900	400	56,000
1981	2,700	16,500	23,700	19,300	2,300	2,300	300	67,100
1982	400	5,200	39,700	10,200	3,000	2,600	300	61,400
1983	800	9,800	22,700	11,200	6,100	5,000	100	55,700
1984	-	-	15,100	16,800	2,900	3,100	-	38,000
1985	4,600	-	28,500	19,300	2,600	4,000	-	59,000
1986	3,500	10,400	20,000	12,900	600	5,000	-	52,400
<b>All Areas</b>								
1979	8,900	42,800	129,800	106,700	7,300	5,000	900	301,300
1980	5,900	78,400	140,000	84,700	19,100	2,900	400	331,400
1981	13,800	45,700	112,200	110,300	26,400	2,300	300	311,000
1982	700	32,100	177,100	10,200	3,000	2,600	300	226,000
1983	800	31,500	108,000	55,100	25,500	5,000	100	226,000
1984	-	-	74,900	69,800	5,300	3,100	-	153,100
1985	4,600	600	106,800	126,200	7,800	5,600	-	251,600
1986	5,700	21,800	117,500	35,900	600	5,000	-	186,500

a/ 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/ By area and calendar month. Season totals may vary from summarized months due to rounding.

c/ Only 600 were ocean only trips. Most were combination bay-ocean trips.

Table 19. Summary of Oregon Recreational Ocean Salmon Effort and Catch by Area, 1974-75 Average and 1976-86.

Year	Area <sup>a/</sup>					Total
	Columbia R.	Tillamook	Newport	Coos Bay	Brookings	
<b>EFFORT</b>						
(Salmon Angler Trips) <sup>b/</sup>						
1974-75 Avg.	75,900	40,900	91,300	104,300	59,200	371,700
1976	100,900	56,500	132,200	154,600	94,200	538,400
1977	60,500	57,500	92,200	113,000	81,200	404,500
1978	63,400	31,700	115,600	104,400	88,600	403,700
1979	43,300	31,000	72,400	94,700	59,900	301,300
1980	46,300	47,800	83,900	97,400	56,000	331,400
1981	44,700	38,000	77,300	83,900	67,100	311,000
1982	27,200	24,600	53,500	59,400	61,300	226,000
1983	30,900	25,300	42,600	71,600	55,700	226,000
1984	7,100	23,800	44,000	40,200	38,000	153,100
1985	20,200	38,500	70,600	63,500	59,000	251,600
1986	20,600	17,900	51,900	43,600	52,400	186,500
<b>CATCH</b>						
<b>Chinook</b>						
1974-75 Avg.	32,600	2,000	4,300	6,800	10,600	56,200
1976	44,600	2,300	4,600	14,600	13,200	79,300
1977	22,600	1,500	2,600	22,700	11,800	61,400
1978	7,900	800	2,100	4,800	7,300	22,800
1979	7,500	1,000	1,400	4,500	6,400	20,900
1980	5,500	1,600	1,800	5,300	4,800	19,000
1981	11,500	1,900	2,400	4,500	8,900	29,200
1982	8,200	1,400	3,500	10,100	15,500	38,700
1983	3,400	700	1,600	6,600	12,400	24,700
1984	< 100	1,100	2,000	4,900	9,000	17,000
1985	3,600	2,600	4,100	9,500	36,100	55,900
1986	1,900	500	2,200	5,900	11,800	22,400
<b>Coho</b>						
1974-75 Avg.	70,700	27,200	65,100	90,100	30,200	283,400
1976	116,700	50,000	118,100	164,800	51,800	501,300
1977	55,300	15,600	34,000	76,300	14,000	195,300
1978	60,200	8,500	61,200	82,800	47,100	259,800
1979	38,000	9,400	36,300	79,000	18,200	180,800
1980	55,600	28,900	72,400	135,900	33,000	325,800
1981	54,300	17,700	61,900	57,600	8,300	199,800
1982	35,500	23,100	44,000	55,600	16,900	175,100
1983	37,200	8,800	21,800	62,700	16,300	146,900
1984	10,900	20,300	41,200	39,400	11,500	123,300
1985	31,000	31,000	61,900	51,200	7,400	182,500
1986	36,900	23,500	78,500	61,100	11,700	211,700

<sup>a/</sup> 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.

<sup>b/</sup> 1979-1986 effort consists of salmon angler trips only.

Table 20. Expanded Oregon Ocean Recreational Salmon Catch Statistics from Sampling Data, 1986<sup>a/</sup>

Port	Catch					Angler Trips	Salmon Catch	Salmon per Angler Trip
	Chinook	Coho	Pink	Marked Coho	Marked Chinook			
Columbia R.	1,948	36,893	0	540	52	20,583	38,841	1.9
Garibaldi	384	18,235	0	299	4	14,665	18,619	1.3
Pacific City	87	5,224	0	137	7	3,244	5,311	1.6
Depoe Bay	458	28,848	0	1,372	21	17,570	29,306	1.7
Newport	1,728	49,658	0	1,001	29	34,346	47,386	1.4
Florence	1,255	12,436		285	18	8,894	13,691	1.5
Winchester Bay	2,326	32,912	0	532	39	23,172	35,238	1.5
Coos Bay	2,337	15,749	0			11,576	18,086	1.6
Gold Beach <sup>b/</sup>	1,175	845	0	38	45	4,381	2,020	0.5
Brookings	10,668	10,866	0	559	308	48,052	21,534	0.4
Total	22,366	211,666		4,850	588	186,483	234,032	1.3

<sup>a/</sup> All ports except Garibaldi were sampled the entire season.



Table 21. Oregon Ocean Recreational Chinook Catch by Port by Month<sup>a/</sup>, 1986.

Port	Month						Total
	May	June	July	Aug.	Sept.	Oct.	
Columbia R.	-	72	1,164	712	-	-	1,948
Garibaldi	0	26	186	172	-	-	384
Pacific City	0	22	59	6	-	-	87
Depoe Bay	15	29	369	45	-	-	458
Newport	94	114	1,467	53	-	-	1,728
Florence	-	180	1,013	62	-	-	1,255
Winchester Bay	2	470	1,593	261	-	-	2,326
Coos Bay	15	352	1,802	168	-	-	2,337
Gold Beach	1	112	174	886	2	-	1,175
Brookings	1,070	2,628	3,308	3,038	13	611	10,668
Total South of Cape Falcon	1,197	3,933	9,971	4,691	15	611	20,418
Statewide Total	1,197	4,005	11,135	5,403	15	611	22,366

<sup>a/</sup> Monthly totals are the sum of statistical weeks estimates with closest fit to calendar month.

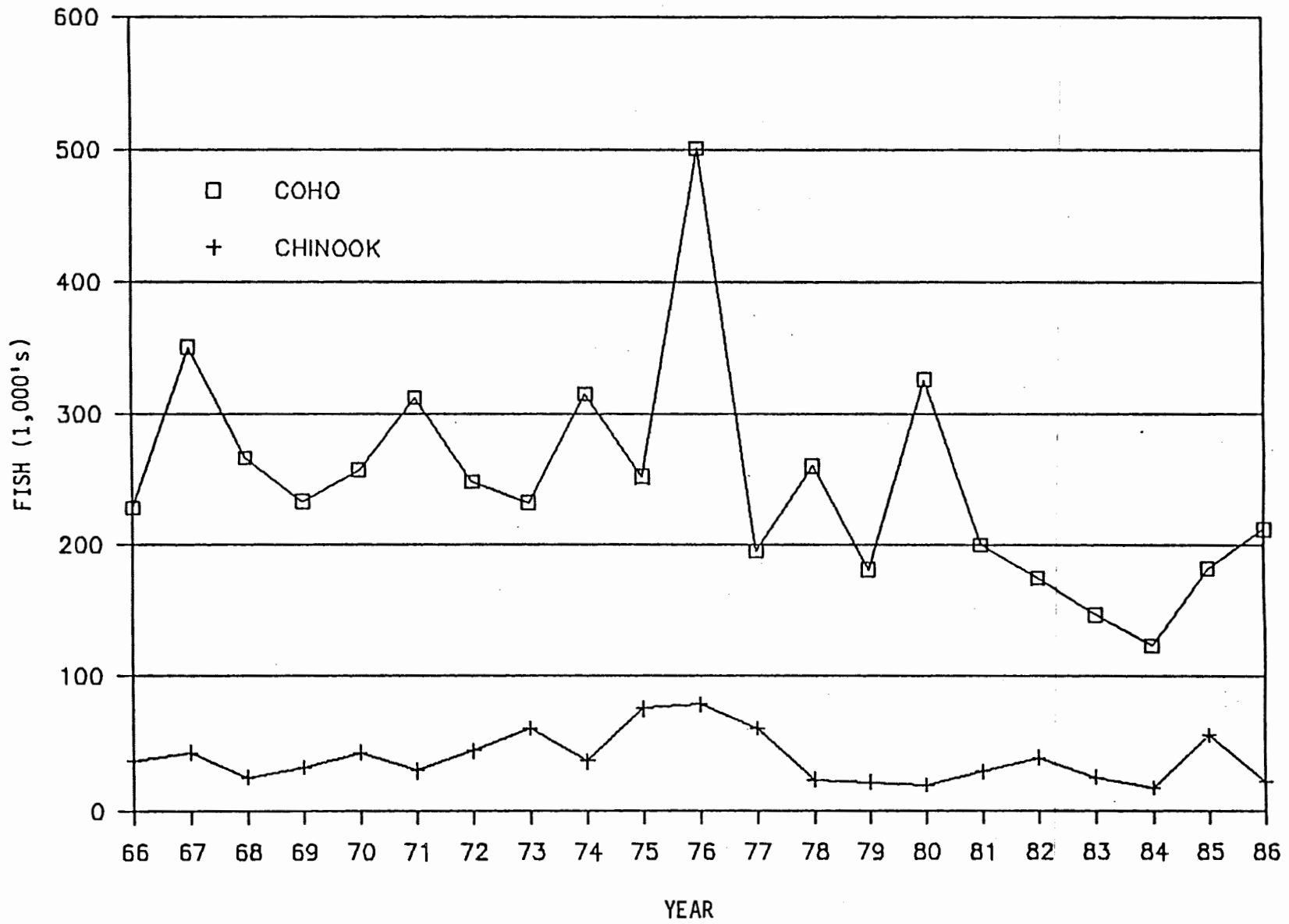


Figure 4. Trends in Oregon's Recreational Ocean Salmon Catch, 1966-86.

Table 22. Oregon Ocean Recreational Chinook Catch (Number of Fish) by Catch Area and Month, 1979-86, with 1974-75 Average.

Area <sup>a</sup>	Chinook								
	April	May	June	July	August	Sept.	Oct.	Nov.	Season <sup>b</sup>
<b>Columbia R</b>									
1974-75 ave.	100	600	2,800	12,800	10,500	5,700	100	-	32,600
1979	-	600	1,600	2,100	3,100	100	-	-	7,500
1980	-	100	1,200	1,400	2,500	400	-	-	5,500
1981	-	<50	400	3,200	6,700	1,200	-	-	11,500
1982	-	-	2,200	6,000	-	-	-	-	8,200
1983	-	-	1,000	1,600	500	200	-	-	3,400
1984	-	-	-	-	-	-	-	-	-
1985	-	-	<100	1,300	2,200	-	-	-	3,600
1986	-	-	<100	1,200	700	-	-	-	1,900
<b>Tillamook</b>									
1974-75 ave.	<50	<50	100	200	1,100	300	200	-	2,000
1979	-	<50	<50	600	300	<50	-	-	1,000 <sup>c/</sup>
1980	-	<50	200	300	1000	200	-	-	1,000 <sup>d/</sup>
1981	-	<50	<50	600	900	400	-	-	1,900
1982	-	-	100	1,300	-	-	-	-	1,400
1983	-	-	<100	400	200	100	-	-	700
1984	-	-	-	600	500	<100	-	-	1,100
1985	-	-	-	1,100	1,400	<100	<100	-	2,600
1986	-	0	>50	200	200	-	-	-	500
<b>Newport</b>									
1974-75 ave.	<50	<50	600	1,800	1,400	300	100	-	4,300
1979	-	200	300	500	400	<50	-	-	1,400 <sup>d/</sup>
1980	-	100	600	600	400	200	-	-	1,800 <sup>d/</sup>
1981	-	<50	100	1,100	1,000	200	-	-	2,400
1982	-	-	600	2,900	-	-	-	-	3,500
1983	-	-	400	800	300	200	-	-	1,600
1984	-	-	-	1,100	900	<100	-	-	2,000
1985	-	-	-	1,400	2,600	<100	-	-	4,100
1986	-	100	100	1,800	100	-	-	-	2,200
<b>Coos Bay</b>									
1974-75 ave.	<50	200	700	1,600	2,900	1,000	200	-	6,800
1979	-	200	2,400	1,500	500	<50	-	-	4,500
1980	-	<50	1,400	2,700	700	200	-	-	5,300
1981	-	100	400	2,300	1,300	300	-	-	4,500
1982	-	<50	1,000	9,100	-	-	-	-	10,100
1983	-	-	1,300	2,400	1,100	1,700	-	-	6,600
1984	-	-	-	2,200	2,600	<100	-	-	4,900
1985	-	-	-	4,400	4,900	100	-	-	9,500
1986	-	>50	1,000	4,400	500	-	-	-	2,200
<b>Brookings</b>									
1974-75 ave.	<50	<50	300	3,400	4,200	1,200	1,000	-	10,600
1979	-	<50	300	2,100	3,400	<50	600	100	6,400
1980	-	<50	1,300	1,700	1,000	400	300	100	4,800
1981	-	500	2,200	3,200	2,600	100	300	<50	8,900
1982	-	<50	800	12,700	1,500	200	200	<50	15,500
1983	-	500	3,400	4,900	1,500	1,000	1,000	<50	12,400
1984	-	-	-	1,900	5,600	1,100	400	-	9,000
1985	-	2,500	-	23,000	9,700	400	600	-	36,100
1986	-	1,100	2,700	3,500	3,900	<50	600	-	11,800
<b>All Areas</b>									
1974-75 ave.	200	900	4,800	19,700	19,700	9,200	1,800	-	56,200
1979	-	1,000	4,600	6,700	7,700	200	600	100	20,900
1980	-	300	4,700	6,900	5,400	1,300	300	100	19,000
1981	-	700	3,100	10,300	12,500	2,200	300	<50	29,200
1982	-	<50	4,700	31,900	1,500	200	200	<50	38,700
1983	-	500	6,100	10,100	3,600	3,300	1,000	-	24,700
1984	-	-	-	5,800	9,600	1,200	400	-	17,000
1985	-	2,500	<100	31,400	20,800	600	600	-	55,900
1986	-	1,200	4,000	11,100	5,400	<50	600	-	22,400

a/ 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/ Individual monthly catches may not equal season total due to rounding. Season totals for individual catch areas for 1974-75 data may not equal the sum of combined months due to some effort/landings not identified by port of landing. "All Areas" summary includes unidentified data. Effort for 1979-1986 consists of salmon angler trips only. Data prior to 1979 includes combined bottomfish and salmon trips.

c/ Includes Nehalem Bay

d/ Includes Salmon and Siletz Rivers and Waldport

Coho. The ocean recreational coho catch of 211,700 fish was the best catch since 1980 but only 78% of the 1971-75 average of 271,800 coho. The long term 1966-85 average coho catch is 249,300 fish (Table 16).

In the abbreviated 1986 season, 144,700 or 68% of the total recreational coho catch was made in July and 40,800 coho (19%) were taken in August. Newport landed the most coho, 49,700 fish or 23% of the total season's catch, but Astoria, Winchester Bay and Depoe Bay also made substantial landings, together accounting for another 47% of the total catch. Coho catches increased from the 1985 season in all ports except Garibaldi and Pacific City (Table 23). A historical perspective on salmon catch by month and management area is shown in Tables 19 and 24.

Table 23. Oregon Ocean Recreational Coho Catch by Port by Month, 1986<sup>a/</sup>

Port	Month					Total
	May	June	July	August	September	
Columbia R.	-	1,329	21,532	14,032	-	36,893
Garibaldi	0	2,076	12,081	4,078	-	18,235
Pacific City	0	1,176	3,097	951	-	5,224
Depoe Bay	434	2,493	19,558	6,363	-	28,848
Newport	1,098	4,816	36,521	7,223	-	49,658
Florence	0	1,454	9,562	1,420	-	12,436
Winchester Bay	227	4,013	24,953	3,719	-	32,912
Coos Bay	802	2,268	11,777	902	-	15,749
Gold Beach	4	134	366	341	0	845
Brookings	1,455	2,403	5,251	1,754	0	10,866 <sup>b/</sup>
Total South of Cape Falcon	4,020	20,833	123,166	26,751	-	174,773
Statewide Total	4,020	22,162	144,698	40,783	-	211,666 <sup>b/</sup>

<sup>a/</sup> Monthly totals are the sum of statistical weeks estimates with closest fit to calendar month.

<sup>b/</sup> Includes 3 illegal coho landed in October.

Table 24. Oregon Ocean Recreational Coho Catch (Number of Fish) by Catch Area and Month, 1979-86, with 1974-75 Average.

Area <sup>a/</sup>	Coho								Season <sup>b/</sup>
	April	May	June	July	August	Sept.	Oct.	Nov.	
<b>Columbia R</b>									
1974-75 ave.	200	800	3,900	17,600	35,000	11,700	100	-	70,700
1979	-	400	6,500	13,300	16,300	1,500	-	-	38,000
1980	-	1,800	17,300	19,800	15,600	1,200	-	-	55,600
1981	-	1,700	8,300	18,100	20,200	6,000	-	-	54,300
1982	-	-	5,300	30,200	-	-	-	-	35,500
1983	-	-	3,600	18,900	9,700	5,100	-	-	37,200
1984	-	-	-	3,600	7,300	-	-	-	10,900
1985	-	-	700	11,600	18,800	-	-	-	31,000
1986	-	-	1,300	21,500	14,000	-	-	-	36,900
<b>Tillamook</b>									
1974-75 ave.	<50	100	1,500	5,000	15,300	4,500	200	-	27,200
1979	-	100	1,100	2,600	5,600	<50	-	-	9,400 <sup>c/</sup>
1980	-	100	7,100	10,800	10,300	600	-	-	28,900 <sup>c/</sup>
1981	-	300	1,000	5,600	9,600	1,300	-	-	17,700
1982	-	-	1,300	21,800	-	-	-	-	23,100
1983	-	-	200	6,100	1,600	900	-	-	8,800
1984	-	-	-	9,300	10,600	500	-	-	20,300
1985	-	-	-	8,900	21,700	400	-	-	31,000
1986	-	0	3,300	15,200	5,000	-	-	-	23,500
<b>Newport</b>									
1974-75 ave.	100	100	8,100	24,800	26,400	4,500	100	-	65,100
1979	-	200	3,700	18,700	13,600	<50	-	-	36,300 <sup>d/</sup>
1980	-	200	18,500	41,500	10,800	1,400	-	-	72,400 <sup>d/</sup>
1981	-	400	6,300	20,700	30,500	7,000	-	-	61,900
1982	-	-	3,600	40,500	-	-	-	-	44,000
1983	-	-	600	13,500	4,300	3,500	-	-	21,800
1984	-	-	-	24,700	16,400	100	-	-	41,200
1985	-	-	-	14,900	45,700	1,400	-	-	61,900
1986	-	1,500	7,300	56,100	13,600	-	-	-	78,500
<b>Coos Bay</b>									
1974-75 ave.	300	3,400	17,900	39,100	21,000	6,700	200	-	90,100
1979	-	4,900	22,700	33,200	18,100	<50	-	-	79,000
1980	-	3,800	53,600	70,600	7,100	800	-	-	135,900
1981	-	6,300	8,100	25,100	16,500	1,700	-	-	57,600
1982	-	-	12,200	43,400	-	-	-	-	55,600
1983	-	-	20,700	28,300	9,200	4,500	-	-	62,700
1984	-	-	-	19,600	19,700	100	-	-	39,400
1985	-	-	-	30,900	19,700	500	-	-	51,200
1986	-	1,000	7,700	46,300	6,000	-	-	-	61,100
<b>Brookings</b>									
1974-75 ave.	100	900	4,100	16,000	5,300	3,100	100	-	30,200
1979	-	<50	1,600	14,500	2,100	-	-	-	18,200
1980	-	100	17,700	13,400	1,400	500	-	-	33,000
1981	-	500	2,600	1,400	3,800	<100	-	-	8,300
1982	-	<50	1,700	15,200	-	-	-	-	16,900
1983	-	500	4,900	8,900	1,600	500	-	-	16,300
1984	-	-	-	7,400	4,000	200	-	-	11,500
1985	-	<50	-	4,900	2,500	<50	-	-	7,400
1986	-	1,500	2,500	5,600	2,100	0	0	-	11,700
<b>All Areas</b>									
1974-75 ave.	800	5,800	36,500	102,500	103,000	33,900	900	-	283,400
1979	-	5,400	35,800	73,800	64,200	1,600	-	-	180,800
1980	-	6,000	114,200	156,100	45,100	4,400	-	-	325,800
1981	-	9,200	26,300	70,800	80,600	12,900	-	-	200,600
1982	-	<50	24,100	151,000	-	-	-	-	175,100
1983	-	500	30,000	75,600	26,400	14,400	-	-	146,900
1984	-	-	-	64,600	57,900	900	-	-	123,300
1985	-	<50	700	71,100	108,300	2,300	-	-	182,500
1986	-	4,000	22,200	144,700	40,800	-	-	-	211,700

a/ 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/ Individual monthly catches may not equal season total due to rounding. Season totals for individual catch areas for 1974-1975 data may not equal the sum of combined months due to some effort/landings not identified by port of landing. "All Areas" summary includes unidentified data. Effort for 1979-1986 consists of salmon angler trips only. Data prior to 1979 includes combined bottomfish and salmon trips.

c/ Includes Nehalem Bay.

d/ Includes Salmon and Siletz Rivers and Waldport.

## SPECIAL RECREATIONAL SEASONS

Oregon's ocean recreational salmon anglers had four fishing opportunities in addition to the seasons set by the Pacific Fishery Management Council: (1) a mid September-mid November chinook fishery off Tillamook Bay, (2) a Buoy 10 fishery inside the Columbia River that counted against the ocean quota, (3) a October chinook fishery off Brookings, and (4) a November chinook fishery in state waters between Cape Blanco and Humbug Mountain.

### September-October Fishery off Tillamook Bay

The Fish and Wildlife Commission set an open season for all salmon except coho in state waters off Tillamook Bay between Twin Rocks (45° 35' 49" N. Lat.) and Pyramid Rock to the south (45° 29' 45" N. Lat.) and seaward to 3 miles. The season was set for September 15 through November 15. The bag limit remained the first two fish caught with either barbed or barbless hooks permitted.

This fishery targets on returning hatchery fall chinook and most of the effort and catch is inside Tillamook Bay. Some of the boats will troll across the bar and circle right back into the bay again. Our 1985 creel between September 15 and October 31 estimated a total 19,300 angler trips of which 2,650 (18%) crossed the Tillamook Bay bar but only 600 (3%) fished only in the ocean. Our 1985 survey estimated an ocean catch of 66 chinook and 5 coho (illegal). We did not have a statistical creel of this late fishery in 1986. Incidental effort counts and creel checks were made while monitoring the troll fishery. These checks verified the fishing pattern of past years. There was some illegal take of coho by ocean anglers. There was very little ocean effort in November.

Buoy 10 Fishery Inside the Columbia River

The river mouth opened August 16 under the ocean quota and closed on August 31 when the in-river coho quota of 67,000 fish was filled. The river reopened on September 7 without a quota and remained open for the rest of the year. We sampled the Buoy 10 fishery until the end of September. The total estimated effort was 102,190 angler trips and harvest was 15,600 chinook and 120,422 coho (Table 25). This fishery is discussed in more detail in the 1986 Annual Report on the Lower Columbia River and Estuary Salmon (Buoy 10) Recreational Fisheries by Steve King of the Department's Columbia River Management Group.

Table 25. Columbia River Buoy 10 Effort and Catch, 1986.

State/Fishery	Angler Trips	Catch		Catch/Trip
		Chinook	Coho	
Oregon Boat	33,118	5,220	38,676	1.33
Oregon Bank	4,377	48	2,297	0.54
Washington Boat	54,037	10,259	68,460	1.46
Washington Bank	6,658	73	5,589	0.85
Wks. 42-45	<u>4,000</u>	<u>0</u>	<u>5,400</u>	<u>1.35</u>
TOTAL	102,190	15,600	120,422	1.33
=====				
1985 Total	32,156	2,655	25,387	0.87
1984 Total	67,365	12,177	74,370	1.28
1983 Total	7,128	604	3,574	0.59
1982 Total	17,336	723	18,857	1.13

## October-November Fisheries South of Cape Blanco

Traditionally, the recreational chinook fishery off Brookings stayed open the full season through October. In 1986, the season closed after September 7 but reopened for salmon (except coho) for October (Table 14)

Two samplers were assigned to this late creel to retrieve as many coded-wire tagged fish as possible since there was concern about the impact on Klamath chinook stocks. We sampled 85% of the 611 chinook caught and estimated 5,016 angler trips. All but one of the 28 marked fish were Chetco River releases of the Elk River hatchery stocks. One tagged chinook had been released from Rowdy Creek in California.

The November chinook fishery in state waters between Cape Blanco and Humbug Mountain is inaccessible to most anglers and was not sampled.

### CHARTER/PRIVATE BOAT FISHERIES

There were 247 charter boat licenses issued in 1986 but only about 143 vessels were active. This compares to about 132 vessels active last year out of 226 licensed. No estimate is available of the number of individual private boats that fished. Since 1973, catch and effort statistics have been compiled by boat type at all ports sampled.

#### Charters

Effort. The 1986 charter boat effort was estimated at 43,700 salmon angler trips, down 18% from the 1985 level and also below the 1979-85 average (55,900) for charter angler trips. The data prior to 1979 includes bottomfish effort. Charter anglers made up 23% of the total ocean salmon trips in 1986, compared to 21% in 1985 and the 1973-85 average of 26% (Table 26 and Figure 5).



Charter boat fleets operate out of most major Oregon ports but vary greatly in size and number of vessels. The Astoria-Warrenton-Hammond area had the largest fleet in 1986 (46 boats) but only 7,700 salmon angler trips in the ocean. In contrast, the 1979-83 average for Astoria area charter trips for comparable time periods was 12,900. This 40% decrease in 1986 reflects, in part, the Friday-Saturday prohibition on salmon fishing north of Cape Falcon. The same value for 1985 was 36%. Depoe Bay, with 19 active charter boats, had the most salmon effort with 10,400 angler trips, closely followed by Newport (30 boats) with 9,500 trips. Salmon charter effort was down in all ports except Florence compared to 1985 (Table 26).

Not all charter anglers go salmon fishing during the salmon season. Salmon is the primary pursuit of the Astoria and Winchester Bay charters but bottomfishing is important to the Garibaldi, Depoe Bay, Newport, and Coos Bay charter fleets (Table 27). Coastwide in 1986, 17,200 trips (30%) of the total 57,900 charter trips targeted on bottomfish during the sampling season, a reflection of the inseason restrictions and the abbreviated salmon season. In 1985, 10,800 (17%) of the total charter anglers went bottomfishing during a season that lasted from July 1 through September 2.

Catch. Charter anglers landed 71,100 coho and 4,000 chinook in 1986. The total catch of 75,100 salmon by charter anglers in 1986 was above the 1985 catch of 72,800 fish even though the season was shorter this year. The charter fleet landed 32% of the total recreational salmon catch in 1986, up from 30% in 1985 and approaching the 1973-85 average share of 34% (Figure 5).

The Depoe Bay charter fleet landed 18,000 salmon or 24% of the total catch in 1986. Success remained high through most of the season with a final average of 1.8 salmon/angler. Newport, Astoria, and Winchester Bay charters took 16,800, 15,300, and 12,300 salmon respectively and averaged 1.8, 1.9, and

Table 26. Oregon Ocean Recreational Salmon Effort and Catch by Boat Type, 1986<sup>a/</sup>

Port	Salmon Charter Boats					Salmon Private Boats				
	Boat Trips	Angler Trips	Salmon Catch			Boat Trips	Angler Trips	Salmon Catch		
			Chinook	Coho	Pink			Chinook	Coho	Pink
Columbia R.	884	7,698	581	14,683	0	3,531	12,886	1,367	22,210	0
Garibaldi	329	2,847	106	4,725	0	4,735	11,820	278	13,510	0
Pacific City	27	111	2	194	0	1,205	3,134	85	5,030	0
Depoe Bay	1,288	10,441	289	18,048	0	2,649	7,130	169	10,800	0
Newport	1,082	9,259	444	16,321	0	9,164	24,818	1,284	33,337	0
Florence	60	625	87	1,036	0	2,962	8,269	1,168	11,400	0
Winchester Bay	1,053	6,955	817	11,498	0	5,724	16,219	1,509	21,414	0
Coos Bay	244	2,129	454	3,513	0	3,631	9,446	1,883	12,236	0
Gold Beach	258	1,365	363	255	0	1,577	3,015	812	590	0
Brookings	333	1,997	838	861	0	20,608	46,059	9,830	10,005	0
<b>Total</b>	<b>5,558</b>	<b>43,697</b>	<b>3,981</b>	<b>71,134</b>	<b>0</b>	<b>55,786</b>	<b>142,796</b>	<b>18,385</b>	<b>140,532</b>	<b>0</b>
Combined totals for all Oregon craft	61,344	186,493	22,366	211,666	0					

<sup>a/</sup> All ports were sampled the entire ocean salmon season except Garibaldi where sampling ended Sept. 2.

Table 27. Oregon Ocean Recreational Effort and Catch by Boat and Trip Type<sup>a/</sup> 1986<sup>b/</sup>.

Port	Charter						Private					
	Boat Trips		Angler Trips		Total Catch		Boat Trips		Angler Trips		Total Catch	
	Sal	Bot <sup>c/</sup>	Sal	Bot <sup>c/</sup>	Sal <sup>d/</sup>	Bot <sup>c/</sup>	Sal	Bot <sup>c/</sup>	Sal	Bot <sup>c/</sup>	Sal <sup>d/</sup>	Bot <sup>c/</sup>
Columbia R.	884	13	7,698	105	15,265	1,056	3,531	17	12,886	53	23,578	1,165
Garibaldi	329	368	2,847	3,792	4,834	33,566	4,735	434	11,820	1,243	13,789	8,111
Pacific City	27	12	111	49	196	371	1,205	225	3,134	770	5,116	5,228
Depoe Bay	1,288	492	10,441	4,066	18,339	21,639	2,649	187	7,130	531	10,973	7,661
Newport	1,082	830	9,529	7,606	16,765	39,800	9,164	1,078	24,818	3,261	34,624	12,305
Florence	60	0	625	0	1,123	0	2,962	2	8,269	5	12,566	71
Winchester Bay	1,053	51	6,955	287	12,317	1,048	5,724	27	16,219	88	22,923	453
Coos Bay	244	86	2,129	730	3,967	6,555	3,631	309	9,446	853	14,119	6,740
Gold Beach	258	44	1,365	252	617	2,712	1,577	204	3,015	511	1,402	7,515
Brookings	333	59	1,997	304	1,699	2,646	20,608	1,812	46,059	4,656	19,837	46,381
<b>Total</b>	<b>5,558</b>	<b>1,956</b>	<b>43,697</b>	<b>17,197</b>	<b>75,118</b>	<b>113,276</b>	<b>55,786</b>	<b>4,295</b>	<b>142,796</b>	<b>11,971</b>	<b>158,927</b>	<b>90,393</b>

<sup>a/</sup> Trip-types are separated by boat trips that target for salmon (SAL) and for bottomfish (BOT). Combination salmon and bottomfish trips are included in salmon trip estimates.

<sup>b/</sup> All ports were sampled the entire ocean salmon season except for Garibaldi where sampling ended September 2.

<sup>c/</sup> Bottomfish include rockfish, lingcod, flatfish and miscellaneous species.

<sup>d/</sup> Includes chinook, coho, pink, and chum salmon.

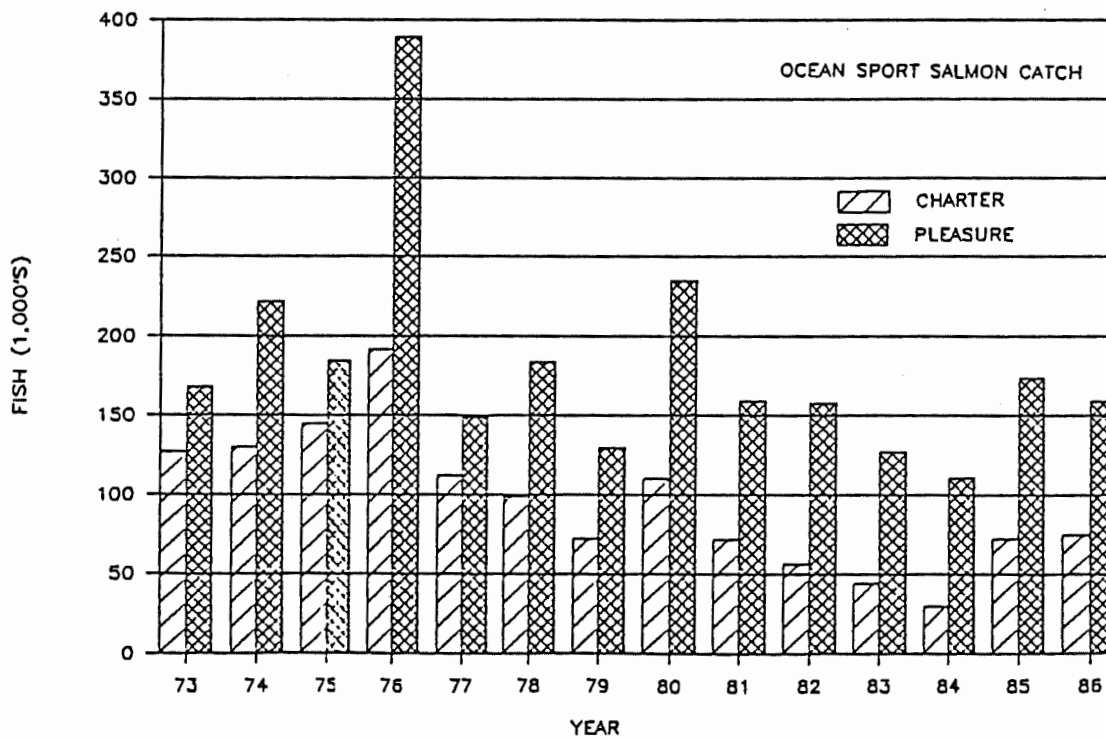
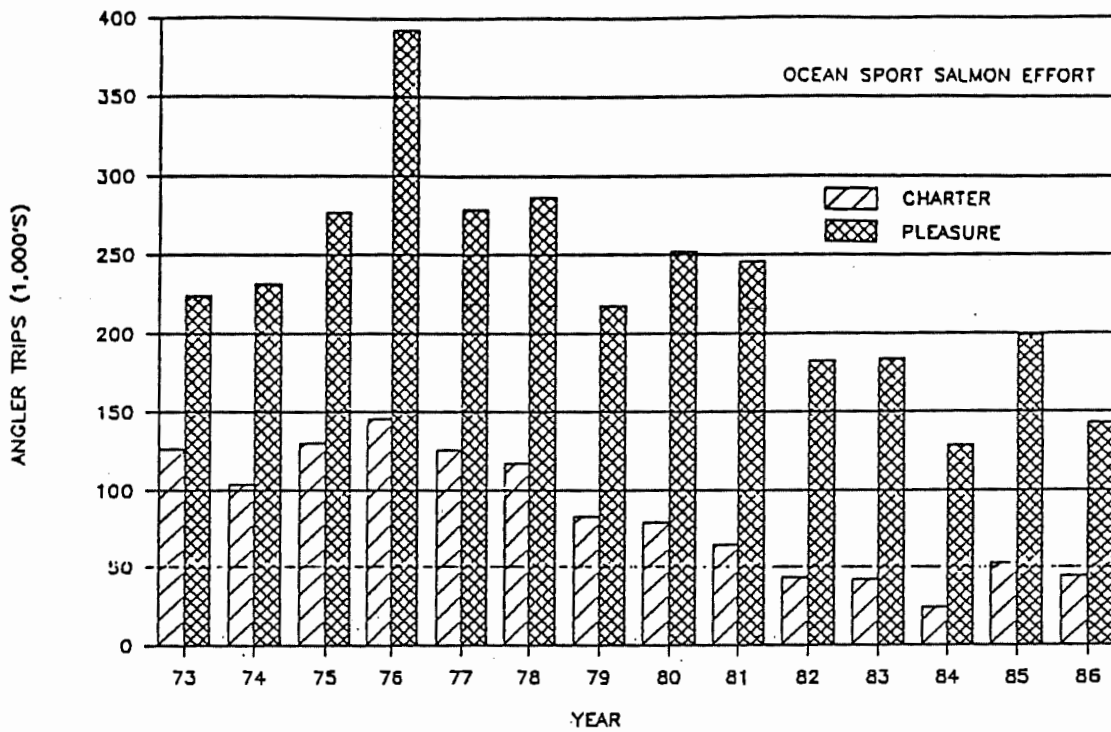


Figure 5. A Comparison of Effort and Catch by Oregon Ocean Salmon Charter and Pleasure Anglers, 1973-86.

1.8 salmon/angler. These four ports made up 83% of the charter catch (Table 29). The state-wide average charter angler success was 1.7 fish/angler, considerably better than the 1979-85 average.

### Private Anglers

Effort. The 1986 salmon effort by private boats was estimated at 142,800 angler trips or 76% of the total salmon effort. This total contrasts with the 1985 effort of 198,200 and is 71% of the 1979-85 average of 201,300 trips (Table 26 and Figure 5). Brookings as usual had most effort with 46,100 private salmon trips or 32% of the coast total. Brookings' relatively long salmon season, safe bar, and large population of retired people all contribute to make this the leading small boat port on the Oregon coast. Newport, often a contender with Brookings for the most effort, had 24,800 angler trips or 17% of the total followed by Winchester Bay with 16,200 salmon angler trips. These three ports accounted for 59% of the total private boat effort. Astoria's 12,900 angler trips is 19% below the 1979-83 average for pleasure boats for comparable time periods (15,800 angler trips). This, in part, reflects the Friday-Saturday restriction on salmon fishing.

As with charters, some private boats only fish for bottomfish, even during the salmon season. Effort data by trip type (salmon or bottomfish) was collected through interviews and applied proportionately to the total effort counts. These data showed that 12,000 angler trips or 8% of the private trips targeted on bottomfish, compared to 8,500 angler trips or 5% in 1985. Brookings had the most private bottomfish anglers, followed by Newport, (Table 27). Almost all anglers target on salmon in the Columbia River, Florence, and Winchester Bay areas.

Catch. Anglers from private boats landed 140,500 coho and 18,400 chinook in 1986. The total salmon catch of 158,900 fish in 1986 is 8% below the 1985 catch and 6% less than the 1973-84 average of 184,400 fish (Figure 5). Private boat anglers caught 68% of the total recreational salmon catch in 1986 compared to the 1973-84 average of 65%.

Newport anglers caught the most salmon, 34,600, or 22% of the total private boat angler catch. Angler success was 1.8 fish/angler. Anglers in Astoria and Winchester Bay both landed near 23,000 salmon with an average success rate of 1.8 and 1.4 fish/angler respectively. These three ports accounted for 51% of the total private boat angler catch but Brookings, Coos Bay and Garibaldi also had substantial catches. The average angler success on private boats was 1.1 salmon/angler, compared to 0.9 in 1985 and the 1973-84 average of 0.9 (Table 26).

EVALUATION OF MINIMUM SIZE LIMITS

North of Cape Falcon

The number of shakers (undersized salmon or prohibited species) was estimated from interview data collected during the ocean sampling survey. We estimated that 2,300 chinook (55%) were released in the Columbia River area during the ocean season. Shaker rates have always been high in this area with the 1979-85 average (less 1984) shaker rate for chinook at 58% (Table 28).

Table 28. Chinook Salmon Released by Oregon Ocean Recreational Anglers in the Columbia River Area, 1979-1986.

Year	Number of Fish Retained	Number of Fish Released	Total Number of Fish Caught	Percentage of Catch Released
1979	7,072	8,719	15,791	55
1980	5,503	7,891	13,394	59
1981	11,516	21,664	33,180	65
1982	8,235	6,949	15,184	46
1983	3,440	3,671	7,111	52
1984	26 <sup>a/</sup>	1,410	1,436	98
1985	3,565	5,235	8,800	59
<b>1979-85 Average<sup>b/</sup></b>	<b>6,555</b>	<b>9,022</b>	<b>15,577</b>	<b>58</b>
1986	1,909	2,320	4,229	55

<sup>a/</sup> Illegal or taken south of Cape Falcon

<sup>b/</sup> Excluding 1984

The minimum size limit for coho in the Columbia River area was 16 inches. The shaker rate was 6% in 1985, compared to the 1979-85 average of 7% (Table 29).

Table 29. Coho Salmon Released by Oregon Ocean Recreational Anglers in the Columbia River Area, 1979-1986.

Year	Number Retained	Number Released	Total Catch	Percentage of catch released
1979	37,894	4,905	42,799	12
1980	55,647	1,905	57,552	3
1981	54,294	1,643	55,937	3
1982	35,476	2,082	37,558	6
1983	37,245	8,318	45,563	18
1984	10,874	654	11,528	6
1985	31,010	1,275	32,285	4
<b>1979-85 Average</b>	<b>37,491</b>	<b>2,969</b>	<b>40,460</b>	<b>7</b>
1986	36,666	2,197	38,863	6

#### South of Cape Falcon

Anglers fishing between Cape Falcon and Cape Blanco were required to keep the first two salmon caught regardless of size in 1986, same as in 1985, 1983, and 1982. Only tagged fish were measured in 1986.

South of Cape Blanco there was a 20 inch minimum size limit in effect for all salmon. Regulations also specified a 2 fish daily bag limit of only 1 coho and chinook until June 22, resulting in additional sorting of fish. The 1986 data is therefore not directly comparable to past years.



The season's total for chinook released was 9% with the majority coming from the second half of August but with another peak showing up opening weekend in May (Table 30).

Coho shaker data indicated that 22% of the season's coho catch was released, primarily in May and June (Table 31).

Table 30. Chinook Salmon Released by Oregon Ocean Recreational Anglers South of Cape Blanco, 1986

Month	No. of Fish Retained	No. of Fish Released	Total Number of Fish Caught	Percentage of catch released
May	1,071	157	1,228	13
June	2,740	111	2,851	4
July	3,482	167	3,649	4
August	3,924	617	4,541	14
September	15	7	22	32
October	611	46	657	7
Total	11,843	1,105	12,948	9

Table 31. Coho Salmon Released by Oregon Ocean Recreational Anglers South of Cape Blanco, 1986

Month	No. of Fish Retained	No. of Fish Released	Total Number of Fish Caught	Percentage of catch released
May	1,459	1,308	2,767	47
June	2,523	1,638	4,161	39
July	5,617	286	5,903	5
August	2,095	89	2,184	4
September	0	0	0	0
October	3	10	13	77
Total	11,697	3,331	15,028	22

## RECREATIONAL OCEAN SALMON CODED-WIRE TAG SAMPLING

Samplers at ten ports observed 44% of the combined chinook and coho landed during the 1986 port sampling survey.

### Chinook

The samplers examined 11,751 chinook and found 588 or 5% had been adipose fin clipped (Table 32). The samplers collected 577 heads from these fish in order to recover coded-wire tags. An additional 31 chinook heads were taken from marked fish that were not sampled in the survey. Department staff found readable tags in 580 of the 608 chinook heads for an 84% recovery ratio.

Major contributors of the chinook tags were:

California Department of Fish and Game	48%
Oregon Department of Fish and Wildlife	29%
Washington Department of Fisheries	13%
Various private hatcheries	9%

### Coho

The samplers examined 90,189 coho and found that 4,850 or 5% had their adipose fin clipped (Table 33). They collected 4,761 heads from these marked fish for coded wire recovery. An additional 148 coho heads were collected from marked fish that were not sampled in the survey. Technicians found 4,554 readable tags in the 4,909 coho heads. This is a 93% recovery ratio.

Major agencies contributing coho tags were:

Oregon Department of Fish and Wildlife	46%
Washington Department of Fisheries	29%
Various private hatcheries	21%

Table 32. Chinook Coded-wire Tag Sampling from the Ocean Recreational Fishery, by Port and Month, 1986.

Port	May	June	July	August	September	October	Total
<u>Columbia R.</u>							
Total Catch	-	72	1,164	712	-	-	1,948
No. Sampled	-	26	507	226	-	-	759
% Sampled	-	44%	60%	53%	-	-	38%
No. Ad Marks	-	0	20	49	-	-	52
<u>Garibaldi</u>							
Total Catch	0	26	186	172	-	-	384
No. Sampled	0	9	59	64	-	-	132
% Sampled	0	34%	32%	37%	-	-	34%
No. Ad Marks	0	0	1	3	-	-	4
<u>Pacific City</u>							
Total Catch	0	22	59	6	-	-	87
No. Sampled	0	18	47	4	-	-	69
% Sampled	0	82%	80%	67%	-	-	79%
No. Ad Marks	0	1	5	1	-	-	7
<u>Depoe Bay</u>							
Total Catch	15	29	369	45	-	-	458
No. Sampled	9	20	200	27	-	-	256
% Sampled	60%	69%	54%	60%	-	-	56%
No. Ad Marks	1	0	16	4	-	-	21
<u>Newport</u>							
Total Catch	94	114	1,467	53	-	-	1,728
No. Sampled	34	39	514	26	-	-	613
% Sampled	36%	34%	35%	49%	-	-	35%
No. Ad Marks	0	0	29	0	-	-	29
<u>Florence</u>							
Total Catch	0	180	1,013	62	-	-	1,255
No. Sampled	0	71	298	39	-	-	408
% Sampled	0	39%	29%	63%	-	-	33%
No. Ad Marks	0	2	15	1	-	-	18
<u>Winchester Bay</u>							
Total Catch	2	470	1,593	261	-	-	2,326
No. Sampled	2	109	517	145	-	-	773
% Sampled	100%	23%	32%	56%	-	-	33%
No. Ad Marks	0	8	30	1	-	-	39
<u>Coos Bay</u>							
Total Catch	15	352	1,802	168	-	-	2,337
No. Sampled	6	177	847	115	-	-	1,145
% Sampled	40%	50%	47%	68%	-	-	48%
No. Ad Marks	-	6	54	4	-	-	65
<u>Gold Beach</u>							
Total Catch	1	112	174	886	2	-	1,175
No. Sampled	1	86	92	625	2	-	806
% Sampled	100%	77%	53%	71%	100%	-	69%
No. Ad Marks	0	12	2	31	0	-	45
<u>Brookings</u>							
Total Catch	1,070	2,628	3,038	3,038	13	611	10,668
No. Sampled	786	1,942	1,725	1,808	11	3	6,763
% Sampled	73%	74%	52%	60%	84%	85%	63%
No. Ad Marks	31	46	71	131	1	28	308
<u>Total</u>							
Total Catch	1,197	4,405	11,135	5,403	15	611	22,366
No. Sampled	838	2,497	4,806	3,709	13	518	11,751
% Sampled	70%	62%	43%	57%	87%	85%	53%
No. Ad Marks	33	74	259	191	1	28	588

Table 33. Coho Coded-wire Tag Sampling Data from the Ocean Recreational Fishery, by Port and Month, 1986.

Port	May	June	July	August	September	October	Total
<u>Columbia R.</u>							
Total Catch	-	1,329	21,532	14,032	-	-	36,893
No. Sampled	-	533	9,220	4,580	-	-	14,333
% Sampled	-	40%	43%	33%	-	-	39%
No. Ad Marks	-	15	301	224	-	-	540
<u>Garibaldi</u>							
Total Catch	-	2,076	12,081	4,078	-	-	18,235
No. Sampled	-	815	4,441	1,583	-	-	6,839
% Sampled	-	39%	37%	39%	-	-	38%
No. Ad Marks	0	30	185	84	-	-	299
<u>Pacific City</u>							
Total Catch	0	1,176	3,097	951	-	-	5,224
No. Sampled	0	945	2,264	691	-	-	3,900
% Sampled	0	80%	73%	73%	-	-	75%
No. Ad Marks	0	33	75	29	-	-	137
<u>Depoe Bay</u>							
Total Catch	434	2,493	19,558	6,363	-	-	28,848
No. Sampled	328	1,689	10,352	3,650	-	-	16,019
% Sampled	76	67%	53%	57%	-	-	56%
No. Ad Marks	19	69	553	245	-	-	886
<u>Newport</u>							
Total Catch	1,098	4,816	36,521	7,223	-	-	49,658
No. Sampled	264	1,774	12,779	3,015	-	-	17,832
% Sampled	24%	36%	35%	42%	-	-	36%
No. Ad Marks	16	98	669	218	-	-	1,001
<u>Florence</u>							
Total Catch	0	1,454	9,562	1,420	-	-	12,436
No. Sampled	0	560	3,737	850	-	-	5,147
% Sampled	0	39%	39%	60%	-	-	41%
No. Ad Marks	-	32	203	50	-	-	285
<u>Winchester Bay</u>							
Total Catch	227	4,013	24,953	3,719	-	-	32,912
No. Sampled	199	937	7,881	1,941	-	-	10,958
% Sampled	88%	23%	32%	52%	-	-	33%
No. Ad Marks	9	41	422	60	-	-	532
<u>Coos Bay</u>							
Total Catch	802	2,268	11,777	902	-	-	15,749
No. Sampled	341	1,162	5,801	624	-	-	7,928
% Sampled	43%	51%	49%	69%	-	-	50%
No. Ad Marks	19	79	436	39	-	-	573
<u>Gold Beach</u>							
Total Catch	4	134	366	341	0	-	845
No. Sampled	4	80	182	204	0	-	470
% Sampled	100%	60%	50%	60%	0%	-	56%
No. Ad Marks	0	9	12	17	0	-	38
<u>Brookings</u>							
Total Catch	1,455	2,403	5,251	1,754	0	3	10,866
No. Sampled	1,098	1,742	2,891	1,029	0	3	6,763
% Sampled	75%	72%	55%	59%	0%	100%	62%
No. Ad Marks	74	118	258	109	0	0	559
<u>Total</u>							
Total Catch	4,020	22,162	144,698	40,783	-	3	211,666
No. Sampled	2,234	10,237	59,548	18,167	-	3	90,189
% Sampled	56%	46%	41%	45%	-	100%	43%
No. Ad Marks	137	524	3,114	1,075	-	0	4,850

## ACKNOWLEDGMENTS

We greatly appreciate the help of crew chiefs Jeff Boechler and Eric Schindler and all seasonal samplers. We also thank Phil Flanders and Donna Lamb for assistance in the preparation of the tables and figures, and Rebecca Henry for typing the report.

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