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# **THE 1979 OREGON OCEAN SALMON FISHERIES**

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and Stephen L. Lewis**

**OREGON DEPARTMENT OF FISH AND WILDLIFE  
Anadromous Fish  
Ocean Salmon Management**

MANAGEMENT OF THE OCEAN SALMON FISHERY

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October 1, 1979 to September 30, 1980

by  
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# MANAGEMENT OF THE OCEAN SALMON FISHERY

## INTRODUCTION

The Ocean Salmon Management Program is responsible for obtaining fishery and biological data, analyzing these data and recommending appropriate management options for the ocean fisheries. Proposed management options are designed to achieve the optimum use of the salmon resource on a sustained basis.

Activities pursued during FY 1980 included the sampling and analysis of catch statistics, chinook age composition, mark recovery data, and coded wire tag data. Short term work was done on the evaluation of a troll season extension for chinook salmon off southern Oregon, and the collection of random coho scales for a Research Section scale study to separate hatchery and wild coho.

## THE 1979 TROLL SALMON FISHERY

### Regulations

The 1979 chinook troll season opened on May 1 coastwide and continued through May 31. The month of June was closed to commercial salmon fishing. North of Cape Falcon, the chinook fishery then ran from July 1-July 24 and August 4-August 31. South of Cape Falcon, the chinook fishery went from July 1-October 31.

The coho fishery north of Cape Falcon was open July 1-July 24 and August 4-August 31. South of Cape Falcon, the coho fishery ran from July 1-September 3.

The Department of Fish and Wildlife extended the troll season through November, 1979, in two areas off the southern Oregon coast. The purpose of the extension was to reduce the numbers of surplus hatchery chinook anticipated at the Elk and Chetco River stations. The extended fishery was restricted to the following areas:

Elk River Area: Cape Blanco south to Humbug Mountain  
offshore to three miles

Chetco River Area: Goat Island south to the California-  
Oregon border and offshore to three miles

### Catch Statistics

Final 1979 Oregon troll landings are summarized in Tables 1 and 2 for chinook and coho respectively. The number of individual Oregon salmon landings made during 1979 was tabulated as a measure of fishing effort (Table 3). Landings from May 1-May 31 were exclusively chinook.

Statistical data are reported on a management area format. The Astoria area includes only the Astoria, Warrenton, Hammond complex. Garibaldi-Pacific City area includes Nehalem, Garibaldi and Pacific City. Depoe Bay-Newport area includes Depoe Bay and Newport. Florence-Bandon area includes Florence, Winchester Bay, Coos Bay and Bandon. Port Orford-Brookings area includes Port Orford, Gold Beach and Brookings.

Table 1. Oregon Troll Chinook Catch Statistics for 1979 by Management Area and Month.

Category and Month	Astoria	Garibaldi-Pac. City	Depoe Bay Newport	Florence to Bandon	Port Orford to Brookings	Total
<u>No. of lbs dr</u>						
May	26,509	1,184	61,905	37,036	3,004	129,638
June	1,426	1,411	165	192	508	3,702
July	21,502	19,832	191,724	314,410	339,582	887,050
August	42,080	25,868	158,248	452,368	437,063	1,115,627
September	9,734	435	50,645	39,605	76,886	177,305
October	71	2,077	27,324	68,271	134,661	232,404
November	0	0	28	0	34,213	34,241
Total	101,322	50,807	490,039	911,882	1,025,917	2,579,967
<u>No. of fish</u>						
May	2,527	129	4,506	3,295	413	10,870
June	130	144	16	18	67	375
July	1,922	1,543	12,952	27,582	36,384	80,383
August	3,823	2,283	11,579	44,622	47,422	109,729
September	1,095	31	5,110	3,820	6,233	16,289
October	9	159	3,088	7,613	14,857	25,726
November	0	0	2	0	2,099	2,101
Total	9,506	4,289	37,253	86,950	107,475	245,473

Table 2. Oregon Troll Coho Catch Statistics for 1979 by Management Area and Month.

Category and Month	Astoria	Garibaldi-Pac. City	Depoe Bay Newport	Florence to Bandon	Port Orford to Brookings	Total
<u>No. of lbs dr</u>						
June	11	1,359	40	56	793	2,259
July	205,339	329,178	907,259	1,497,238	498,628	3,437,642
August	137,394	153,171	411,723	339,255	62,791	1,104,334
September	33,576	751	4,949	1,955	853	42,084
October	0	0	0	0	0	0
November	0	0	0	0	0	0
December	9	0	0	0	0	9
Total	376,329	484,459	1,323,971	1,838,504	563,065	4,586,328
<u>No. of fish</u>						
June	3	267	9	9	148	436
July	35,062	52,676	146,100	232,548	78,514	544,900
August	21,578	23,422	60,357	47,089	10,095	162,541
September	5,502	103	767	279	104	6,755
October	0	0	0	0	0	0
November	0	0	0	0	0	0
December	2	0	0	0	0	2
Total	62,147	76,468	207,233	279,925	88,861	714,634

Table 3. Number of Individual Salmon Landings in Oregon for 1979 by Management Area and Month.

Month	Astoria	Garibaldi- Pac. City	Depoe Bay- Newport	Florence to Bandon	Port Orford to Brookings	Total
May	99	40	267	666	44	1,116
June	3	3	4	5	5	20
July	823	3,090	5,920	8,236	2,696	20,765
August	1,459	2,774	5,372	5,764	2,842	18,211
September	29	32	151	308	654	1,174
October	1	18	65	340	1,189	1,613
November	0	0	1	0	703	704
December	1	0	0	0	0	1
Total	2,415	5,957	11,780	15,319	8,133	43,604

Troll chinook landings were 2,580,000 pounds dressed weight in 1979, about 36% greater than the 1,894,000 pounds landed in 1978 (Figure 1). The 1979 landings were 5% greater than the 1971-75 average of 2,447,000 pounds dressed. An estimated 245,473 chinook were landed during the 1979 season.

The 1979 coho landings were 4,586,000 pounds dressed weight, about 65% higher than the 2,779,000 pounds landed in 1978. The 1979 landings were about 66% of the 1971-75 average of 6,918,000 pounds dressed. An estimated 714,634 coho were landed during the 1979 season.

Troll pink landings for 1979 were 106,000 pounds dressed weight. An estimated 20,498 pinks were landed during the 1979 season.

#### The Dollar Value of the Catch

The chinook landings in 1979 were worth \$6,645,818 to the fishermen. The coho value was \$10,351,153 and the pink value was \$90,585. The average price per pound for chinook was \$2.58; for coho, \$2.26; and for pinks, \$0.85. Total landed value was \$17,087,556.

#### Extended Troll Landings

Chinook landings during the extended season were 34,241 pounds dressed weight or an estimated 2,101 fish. No coho were landed during this period.



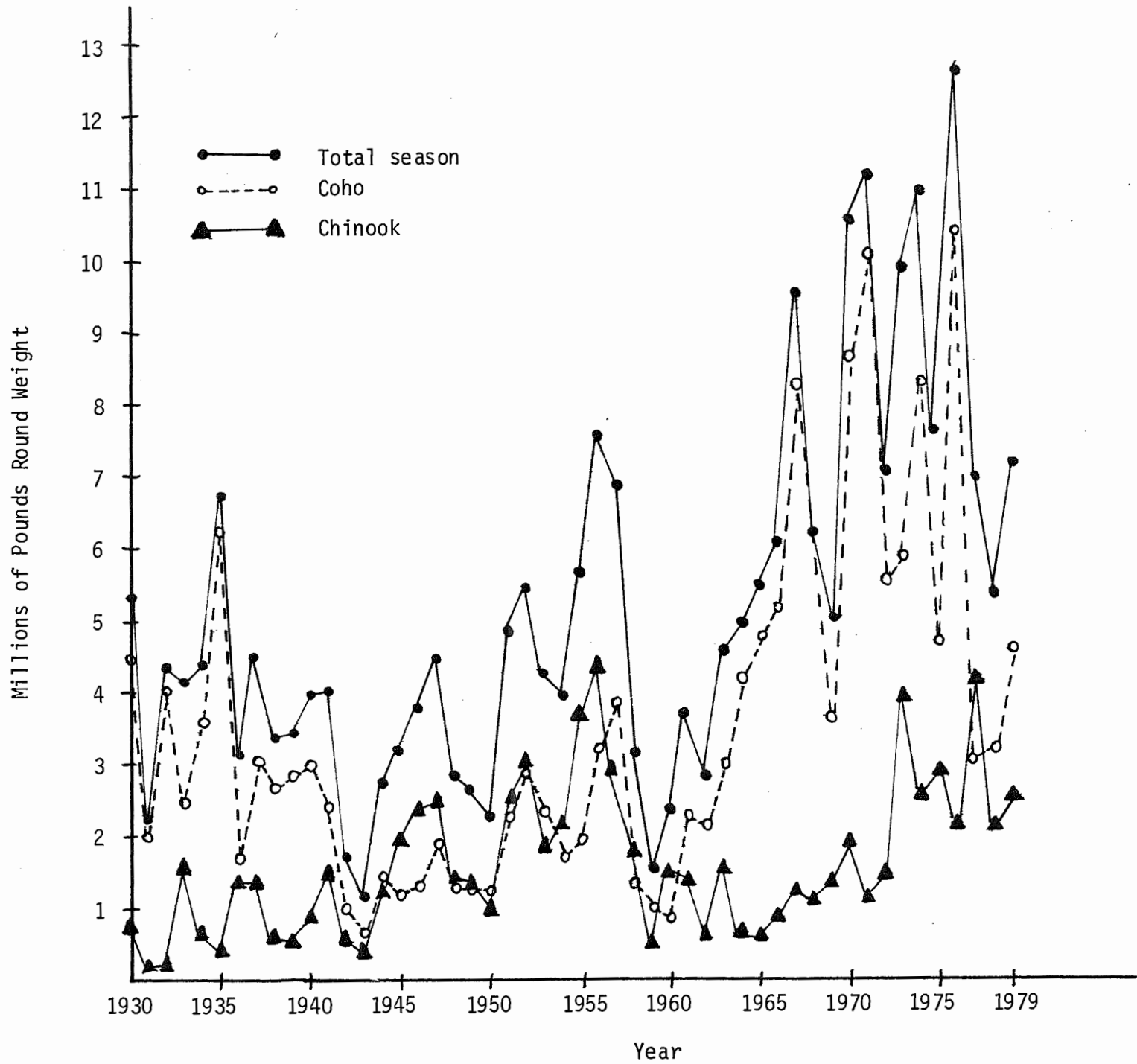


Figure 1. Oregon Ocean Troll Salmon Production 1930-1979.

An anticipated benefit of the extended season has always been the high incidence of mature Elk and Sixes River chinook observed in the catch. The available data from all sources again indicate that the extended season is still taking primarily mature local stocks of chinook.

### Troll Salmon Mark Sampling

Two samplers each were assigned to Astoria, Newport and Charleston. Garibaldi, Depoe Bay, Winchester Bay, Port Orford and Brookings were assigned one sampler each. This sampling effort resulted in 17% of all chinook and 17% of all coho being examined for coded wire tags. Detailed sampling information is presented in Tables 4 and 5 for chinook and coho.

Samplers observed 1,520 adipose-clipped chinook in the troll landings and obtained 1,314 snouts. Technicians found coded-wire tags in 1,231 or 94% of the total. The main contributing agencies were:

Oregon Department of Fish and Wildlife	-	59%
California Department of Fish and Game	-	25%
Washington Department of Fisheries	-	12%

Samplers found 3,415 adipose-clipped coho in the troll landings and obtained 2,921 snouts. Technicians found coded-wire tags in 2,579 or 88%. The main contributing agencies were:

Oregon Department of Fish and Wildlife	-	65%
Washington Department of Fisheries	-	13%
National Marine Fisheries Service	-	8%

### Average Weight Data

Average weight data were collected from chinook and coho salmon for conversion of landings in pounds to numbers of fish. The 1979 chinook average weights are presented in Table 6. The seasonal average weight for chinook was 10.5 pounds dressed weight compared to 9.9 pounds in 1978. Generally, the 1979 average weights were lower on the north and south coast and higher along the central coast area as compared to the 1978 landings. Chinook average weights seldom reflect growth with time because age and stock composition in a given area continually fluctuate.

The seasonal average weight of coho salmon was 6.4 pounds dressed weight compared to 4.5 pounds in 1978 (Table 7). Coho average weights usually show a monthly increase from the start to the end of the season. Some decrease is normal in the final period as coho jacks enter the fishery in greater numbers. This pattern was evident during 1979 with the exception of the Port Orford-Brookings area.

Table 4. Oregon Troll Chinook Mark Sampling by Management Area, 1979

Area	May	June	July	August	Sept.	Oct.	Nov.	Total
<u>Astoria</u>								
No. Examined	215	0	486	740	0	0	0	1,441
No. Landed	2,694	5	1,920	4,697	181	0	9	9,506
% Examined	8	0	25	16	0	0	0	15
No. Marks	12	0	33	87	0	0	0	132
<u>Garibaldi-Pacific City</u>								
No. Examined	0	0	296	472	3	0	0	771
No. Landed	127	144	1,413	2,432	15	155	3	4,289
% Examined	0	0	21	19	20	0	0	18
No. Marks	0	0	5	32	0	0	0	37
<u>Depoe Bay-Newport</u>								
No. Examined	816	0	2,546	2,821	2,906	382	0	9,471
No. Landed	4,524	17	10,960	13,650	5,007	3,059	36	37,253
% Examined	18	0	23	21	58	12	0	25
No. Marks	3	0	45	74	134	19	0	275
<u>Florence-Bandon</u>								
No. Examined	686	188	3,214	5,479	885	1,930	2	12,384
No. Landed	3,289	322	23,854	48,544	3,325	7,425	191	86,950
% Examined	21	58	13	11	27	26	1	14
No. Marks	7	5	91	226	25	80	0	434
<u>Port Orford-Brookings</u>								
No. Examined	0	537	4,644	8,916	391	3,183	1,170	18,841
No. Landed	413	1,343	33,874	50,195	4,712	14,572	2,366	107,475
% Examined	0	40	14	18	8	22	49	17
No. Marks	0	4	122	374	13	120	9	642
<u>Total</u>								
No. Examined	1,717	725	11,186	18,428	4,185	5,495	1,172	42,908
No. Landed	11,047	1,831	72,021	119,518	13,240	25,211	2,605	245,473
% Examined	15	39	15	15	32	22	45	17
No. Marks	22	9	296	793	172	219	9	1,520

Table 5. Oregon Troll Coho Mark Sampling by Management Area, 1979

Area	June	July	August	Sept.	Oct.	Nov.	Dec.	Total
<u>Astoria</u>								
No. Examined	0	5,155	3,198	0	0	0	0	8,353
No. Landed	11	35,161	26,013	960	0	0	2	62,147
% Examined	0	15	12	0	0	0	0	13
No. Marks	0	114	107	0	0	0	0	221
<u>Garibaldi-Pacific City</u>								
No. Examined	0	6,273	2,628	0	0	0	0	8,901
No. Landed	266	51,917	24,259	26	0	0	0	76,468
% Examined	0	12	11	0	0	0	0	12
No. Marks	0	69	45	0	0	0	0	114
<u>Depoe Bay-Newport</u>								
No. Examined	0	33,085	17,046	0	0	0	0	50,131
No. Landed	9	138,595	68,085	544	0	0	0	207,233
% Examined	0	24	25	0	0	0	0	24
No. Marks	0	885	519	0	0	0	0	1,404
<u>Florence-Bandon</u>								
No. Examined	1,789	30,111	10,573	0	0	0	0	42,473
No. Landed	6,461	223,852	49,590	22	0	0	0	279,925
% Examined	28	13	21	0	0	0	0	15
No. Marks	47	888	381	0	0	0	0	1,316
<u>Port Orford-Brookings</u>								
No. Examined	948	8,631	2,188	0	0	0	0	11,767
No. Landed	1,898	76,242	10,710	11	0	0	0	88,861
% Examined	50	11	20	0	0	0	0	13
No. Marks	17	245	98	0	0	0	0	360
<u>Total</u>								
No. Examined	2,737	83,255	35,633	0	0	0	0	121,625
No. Landed	8,645	525,767	178,657	1,563	0	0	2	714,634
% Examined	32	16	20	0	0	0	0	17
No. Marks	64	2,201	1,150	0	0	0	0	3,415

Table 6. Observed Average Dressed Weight and Calculated Numbers of Chinook by Month and Management Area, 1979.

<u>Astoria</u>								
Number	2,527	130	1,922	3,823	1,095	9	0	9,506
Pounds	26,509	1,426	21,502	42,080	9,734	71	0	101,322
Av. Wt.	10.5	11.0	11.2	11.0	8.9	7.9	0	10.7
<u>Garibaldi-Pacific City</u>								
Number	129	144	1,543	2,283	31	159	0	4,289
Pounds	1,184	1,411	19,832	25,868	435	2,077	0	50,807
Av. Wt.	9.2	9.8	12.9	11.3	14.0	13.1	0	11.8
<u>Depoe Bay-Newport</u>								
Number	4,506	16	12,952	11,579	5,110	3,088	2	37,253
Pounds	61,905	165	191,724	158,248	50,645	27,324	28	490,039
Av. Wt.	13.7	10.3	14.8	13.7	9.9	8.8	14.0	13.2
<u>Florence-Bandon</u>								
Number	3,295	18	27,582	44,622	3,820	7,613	0	86,950
Pounds	37,036	192	314,410	452,368	39,605	68,271	0	911,882
Av. Wt.	11.2	10.7	11.4	10.1	10.4	9.0	0	10.5
<u>Port Orford-Brookings</u>								
Number	413	67	36,384	47,422	6,233	14,857	2,099	107,475
Pounds	3,004	508	339,582	437,063	76,886	134,661	34,213	1,025,917
Av. Wt.	7.3	7.6	9.3	9.2	12.3	9.1	16.3	9.5
<u>Total</u>								
Number	10,870	375	80,383	109,729	16,289	25,726	2,101	245,473
Pounds	129,638	3,702	887,050	1,115,627	177,305	232,404	34,241	2,579,967
Av. Wt.	11.9	9.9	11.0	10.2	10.9	9.0	16.3	10.5

Table 7. Observed Average Dressed Weight and Calculated Numbers of Coho by Month and Management Area, 1979.

	June	July	August	Sept.	Oct.	Nov.	Dec.	Total
<u>Astoria</u>								
Numbers	3	35,062	21,578	5,502	0	0	2	62,147
Pounds	11	205,339	137,394	33,576	0	0	9	376,329
Av. wt.	3.7	5.9	6.4	6.1	0	0	4.5	6.1
<u>Garibaldi-Pac. City</u>								
Numbers	267	52,676	23,422	103	0	0	0	76,468
Pounds	1,359	329,178	153,171	751	0	0	0	484,459
Av. wt.	5.1	6.2	6.5	7.3	0	0	0	6.3
<u>Depoe Bay-Newport</u>								
Numbers	9	146,100	60,357	767	0	0	0	207,233
Pounds	40	907,259	411,723	4,949	0	0	0	1,323,971
Av. wt.	4.4	6.2	6.8	6.5	0	0	0	6.4
<u>Florence-Bandon</u>								
Numbers	9	232,548	47,089	279	0	0	0	279,925
Pounds	56	1,497,238	339,255	1,955	0	0	0	1,838,504
Av. wt.	6.2	6.4	7.2	7.0	0	0	0	6.6
<u>Port Orford-Brookings</u>								
Numbers	148	78,514	10,095	104	0	0	0	88,861
Pounds	793	498,628	62,791	853	0	0	0	563,065
Av. wt.	5.4	6.4	6.2	8.2	0	0	0	6.3
<u>Total</u>								
Numbers	436	544,900	162,541	6,755	0	0	2	714,634
Pounds	2,259	3,437,642	1,104,334	42,084	0	0	9	4,586,328
Av. wt.	5.2	6.3	6.8	6.2	0	0	4.5	6.4

## THE 1979 OCEAN RECREATIONAL FISHERY

### Regulations

Ocean salmon regulations for Oregon's recreational fishery were more restrictive in 1979 than any previous year in terms of a shorter season, a reduced bag limit, and minimum size limits for salmon (Table 8). These regulations were implemented by the Pacific Fishery Management Council in response to the poor status of salmon stocks, especially Oregon coastal coho, along the Pacific coast.

The 1979 ocean salmon season for the recreational fishery opened on May 12 and continued through only September 16, except for an emergency closure on September 3 for coho caught south of Cape Falcon. A special chinook season remained open for ocean waters within three miles of shore off the Chetco River (Brookings) from September 17 to October 31 and from November 1-30 for the Elk and Chetco River areas.

Minimum size limits for salmon remained the same for 1979 with a coastwide 16" size limit for coho, a 24" chinook size limit north of Cape Falcon, and a 22" chinook size limit south of Cape Falcon. A 3 fish bag limit for the ocean fishery had been in effect since 1965. In 1979, the daily bag limit for ocean salmon caught south of Cape Falcon was reduced to 2 fish. North of Cape Falcon the bag limit remained 3 fish, provided not more than 2 of the salmon were chinook or coho. There was no possession limit for the ocean fishery, and Oregon's annual bag limit for adult salmon and steelhead was 40 fish. Ocean salmon anglers were required in 1979 to enter all legal-sized salmon (not just adults as in prior years) on their Salmon-Steelhead tag.

### Ocean Sampling Program

The ocean salmon survey for the 1979 recreational fishery was conducted at eight ports which represented a large percentage and wide distribution of Oregon's ocean salmon catch and effort. These ports were: Astoria, Garibaldi, Depoe Bay, Newport, Winchester Bay, Coos Bay, Gold Beach and Brookings. The survey estimates for 5 of these ports were for the entire salmon season. A total of 13 samplers (2 more than in 1978) were employed in 1979 with Astoria, Garibaldi, Newport, Winchester Bay, and Coos Bay assigned two samplers each. These additional positions, plus longer sampling periods at most ports, improved the survey coverage during the ocean recreational salmon season. ODFW Marine Region personnel at Garibaldi and Newport assisted in the sampling survey.

A random sampling design was used at each port to survey the ocean recreational fishery. A 5-day per week sampling schedule including all weekends and holidays was followed to collect catch per unit effort data. Anglers were interviewed to obtain catch and effort data upon completion of their ocean angling trips. Samplers conducted the survey at several locations including boat ramps, moorages, and charter docks in each port. Pressure counts (utilizing boat counts from Coast Guard or direct observations) or trailer counts at boat ramps were used to estimate total angling effort. All catch and effort data was keypunched and processed on the OSU CYBER computer by program personnel in Newport.

Table 8. Oregon Ocean Recreational Salmon Regulations 1946-79.

Years	Season	Regulations
1946	All Year	3 Fish daily limit; 9 in possession; no annual limit; no size limits.
1947	All Year	2 Fish daily limit; 6 in possession; no annual limit; no size limits.
1948-54	All Year	2 Fish daily limit; 4 in possession; 20 fish annual limit; no size limits.
1955-57	All Year	2 Fish daily limit; 4 in possession; 20 salmon annual limit; 20" minimum size limit - both species.
1958-64	All Year	2 Fish daily limit; 4 in possession; 20 salmon annual limit; 20" minimum size limit - both species except; 22" minimum size limit - north of Tillamook Head (July 1-October 31).
1965-69	All Year	3 Fish daily limit; 6 in possession; 20 salmon annual limit; 20" minimum size limit; both species all year.
1970-75	All Year	3 Fish daily limit; no possession limit; 40 fish annual limit. North of Tillamook Head - 20" minimum size limit; both species. South of Tillamook Head - no size limit, both species.
1976	April 10- Dec. 31	3 Fish daily limit; no possession limit; 40 fish annual limit. North of Tillamook Head - 24" minimum size for chinook; 16" minimum size for coho. South of Tillamook Head - no size limit for both species.
1977	April 30- Oct. 31 <sup>1/</sup>	Same as 1976.
1978	April 29- Oct. 31 <sup>1/</sup>	3 Fish daily limit; no possession limit; 40 fish annual limit. North of Falcon - chinook, 24" minimum; coho, 16" minimum. South of Falcon - chinook, 22" minimum; coho, 16" minimum.
1979	May 12- Sept. 16	2 Fish daily limit south of Cape Falcon; 3 fish daily limit north of Cape Falcon, of which only 2 may be chinook or coho; no possession limit; 40 fish annual limit. Size limit - same as above.

<sup>1/</sup> The ocean salmon season off the Elk and Chetco rivers was extended through November in 1977-1979.



The salmon catch was sampled for species, marks, scales, and lengths. Samplers collected biological data and snouts from adipose-clipped fish for coded wire tag recovery. Bottomfish catches were also sampled and recorded by species.

In the 1979 sampling survey, a total of 114,146 anglers were interviewed and 65,833 salmon were examined. Expansions for those ports and weeks sampled resulted in estimates of 301,815 angler trips and 180,942 salmon (Table 9). Sampling rates ranged from 48% at Coos Bay to 29% at Brookings, with an average of 37% from all ports sampled. However, only 89% of Oregon's total salmon and 88% of the total effort were included in the sampling design. The remaining catch and effort (for ports and time periods not sampled) were derived from returned Salmon-Steelhead tags and Daily Angler licenses. If catch and effort estimates from all ports and weeks were included, statewide sampling rates for 1979 were 33% of the total angler trips and salmon catch.

### Effort

Recreational ocean salmon effort in 1979 was well below the 1978 effort, but equal to the 1971-75 average (Table 10). Total effort for 1979 was 341,770 angler trips, compared to 403,740 trips in 1978 and the 1971-75 average of 345,829. The peak for ocean recreational effort occurred in August with 143,167 angler trips or 42% of the total effort (Table 11). Astoria, Newport, Winchester Bay, and Brookings accounted for 219,185 angler trips or 64% of the total ocean effort for Oregon. Brookings and Newport were the busiest ports with 66,534 and 60,068 angler trips, respectively. Most management areas were below 1978 effort levels including very low effort at Astoria compared to recent years (Table 12).

With the increased effort for bottomfish in recent years, the design of the sampling program for the ocean recreational fishery was revised in 1979. Separate catch and effort statistics for salmon and bottomfish trips were calculated for each port. Samplers collected trip-type information from angler interviews and charterboat records to calculate estimates. For the eight ports sampled, 261,388 anglers or 87% of the 301,815 total ocean angler trips targeted on salmon for all or part of their trip. This means 40,427 ocean angler trips during the 1979 salmon season were spent fishing for bottomfish species only. This information improved the ocean recreational salmon fishery estimates and will be used to compare actual salmon catch and effort data for ocean trips off Oregon by port and time periods.

### Catch Statistics

Final ocean recreational salmon catch statistics were estimated from angler creel surveys at eight major ports (Table 9) and from Salmon-Steelhead tag return data. Ocean recreational salmon catch estimates for Oregon, 1966-79, are shown in Figure 2. The sampling survey estimates represented 89% of the total chinook and coho catch figures for all Oregon ports in 1979 (Tables 13 and 14).

The 1979 salmon catch estimates for the ocean recreational fishery were the lowest figures for both chinook and coho in the last 14 years. The total estimate for 1979 was 202,343 salmon, which is nearly 60,000 fish below the

Table 9. 1979 Oregon Ocean Recreational Salmon Catch Statistics from Sampling Data, 1979.

Port	Catch						Pinks	Marked Coho	Marked Chinook	Angler Trips	Total Salmon	Salmon per Angler Trip
	Coho			Chinook								
	Adult	Jack	Total	Adult	Jack	Total						
Columbia R <sup>1/</sup>	37,863	31	37,894	7,072	0	7,072	69	803	862	42,869	45,035	1.0
Garibaldi <sup>2/</sup>	5,950	18	5,968	695	16	711	16	156	21	24,374	6,695	0.3
Depoe Bay <sup>3/</sup>	12,207	95	12,302	318	9	327	125	317	9	27,880	12,754	0.5
Newport <sup>3/</sup>	23,667	158	23,825	1,043	38	1,081	81	519	23	60,068	24,987	0.4
Winchester <sup>3/</sup>	43,670	188	43,858	2,668	89	2,757	114	817	51	49,215	46,729	0.9
Coos Bay <sup>3/</sup>	19,540	135	19,675	991	32	1,023	36	521	18	29,478	20,734	0.7
Gold Beach <sup>1/</sup>	817	9	826	1,045	83	1,128	6	18	0	9,406	1,960	0.2
Brookings <sup>3/</sup>	17,264	44	17,308	2,775	1,831	4,606	134	376	93	58,525	22,048	0.4
Total	160,978	678	161,656	16,607	2,098	18,705	581	3,527	1,077	301,815	180,942	0.6

<sup>1/</sup> Statistics include data for June 1-Sept. 16.

<sup>2/</sup> Statistics include data for June 16-Sept. 16.

<sup>3/</sup> Statistics include data for May 12-Sept. 16 (entire sport salmon season).

Table 10. Oregon Ocean Recreational Salmon Catch and Effort for 1966-79.

Year	Number of Angler Trips	Catch			Fish/Angler
		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	.88
1973	350,400	232,068	60,984	2,008	.84
1974	335,849	314,501	36,729	34	1.05
1975	407,498	252,209	75,719	1,218	.81
1971-75 Av.	345,829	271,776	49,426	1,115*	.93
1976	538,414	501,306	79,316	50	1.08
1977	404,534	195,277	61,364	4,037	.62
1978	403,740	259,769	22,844	24	.70
1979	341,770	180,834	20,902	607	.59

\* Odd years only average

Table 11. Oregon Ocean Recreational Effort (Angler Trips) by Port by Month, 1979<sup>1/</sup>

Port	Month							Total
	May	June	July	Aug.	Sept.	Oct.	Nov.	
Astoria	499	5,368	10,674	23,903	2,924	-	-	43,368
Nehalem Bay	163	224	842	1,839	188	-	-	3,256
Garibaldi	650	2,376	6,892	15,196	559	-	-	25,673
Netarts Bay	0	0	31	285	59	-	-	375
Pacific City	124	1,400	2,578	2,679	238	-	-	7,019
Salmon River	0	13	37	22	7	-	-	79
Siletz R.	0	46	42	15	9	-	-	112
Depoe Bay	1,457	3,561	8,551	13,741	570	-	-	27,880
Newport	4,299	7,362	19,954	27,022	1,431	-	-	60,068
Waldport	0	0	13	130	59	-	-	202
Florence	69	2,538	7,265	8,759	253	-	-	18,884
Winchester Bay	3,659	13,149	18,126	14,124	157	-	-	49,215
Coos Bay	1,577	6,258	12,264	8,762	617	-	-	29,478
Bandon	11	16	46	56	11	-	-	140
Port Orford	0	31	15	28	7	-	-	81
Gold Beach	34	881	1,828	6,518	145	-	-	9,406
Brookings	2,748	10,148	23,492	20,088	4,098	4,791	1,169	66,534
Total	15,290	53,371	112,650	143,167	11,332	4,791	1,169	341,770

<sup>1/</sup> Monthly totals are the sum of statistical weeks estimates with closest fit to calendar month.

Table 12. Oregon Ocean Recreational Effort (Angler Trips) by Management Area, 1974 to 1979.

Management Area (Ports Included)	Effort (Angler Trips)					
	1974 (Mean)	1975	1976	1977	1978	1979
2 (Astoria)	71,326 (75,892)	80,457	107,500	62,200	63,409	43,368
3 (Garibaldi and Pacific City)	35,729 (40,936)	46,143	56,650	59,400	31,740	36,323
4 (Depoe Bay and Newport)	86,611 (91,339)	96,066	136,950	91,300	115,556	88,341
5 (Florence, Win. Bay, Coos Bay and Bandon)	80,911 (104,299)	127,687	148,450	110,400	104,441	97,717
6 (Port Orford, Gold Beach and Brookings)	61,272 (59,209)	57,145	88,850	81,200	88,594	76,021
Total	335,849 (371,674)	407,498	538,400	404,500	403,740	341,770

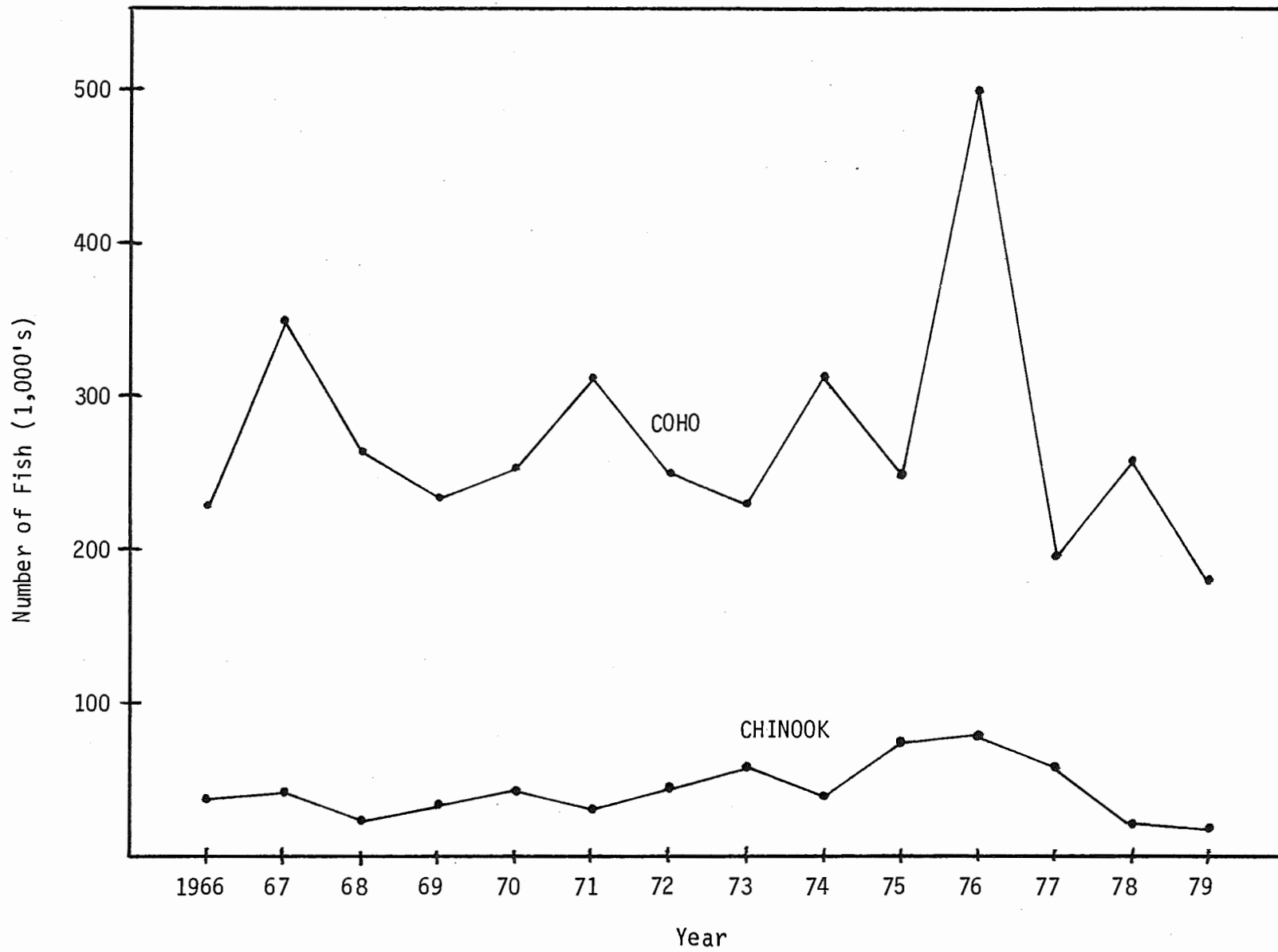


Figure 2. Oregon Ocean Recreational Salmon Catch 1966-79.

Table 13. Oregon Ocean Recreational Chinook Catch by Port by Month, 1979<sup>1/</sup>

Port	May	June	July	Aug.	Sept.	Oct.	Nov.	Total
Astoria	470	1,742	1,291	3,920	119	-	-	7,542
Nehalem Bay	3	2	43	29	4	-	-	81
Garibaldi	1	14	352	338	11	-	-	716
Netarts Bay	0	0	3	7	0	-	-	10
Pacific City	0	0	34	109	31	-	-	174
Salmon R.	0	1	3	1	0	-	-	5
Siletz R.	0	1	3	1	0	-	-	5
Depoe Bay	17	58	100	152	0	-	-	327
Newport	153	274	233	417	4	-	-	1,081
Waldport	0	0	0	3	10	-	-	13
Florence	4	288	236	217	3	-	-	748
Winchester Bay	119	1,754	645	239	0	-	-	2,757
Coos Bay	53	342	336	291	1	-	-	1,023
Bandon	0	1	2	2	4	-	-	9
Port Orford	0	11	3	6	0	-	-	20
Gold Beach	0	36	104	988	0	-	-	1,128
Brookings	3	216	1,727	2,645	15	582	75	5,263
Total	823	4,740	5,115	9,365	202	582	75	20,902

<sup>1/</sup> Monthly totals are the sum of statistical weeks estimates with closest fit to calendar month.

Table 14. Oregon Ocean Recreational Coho Catch by Port by Month, 1979<sup>1/</sup>

	May	June	July	Aug.	Sept.	Oct.	Nov.	Total
Astoria	140	6,738	10,162	19,449	1,545	-	-	38,034
Nehalem Bay	10	54	119	562	44	-	-	789
Garibaldi	51	575	995	4,556	0	-	-	6,177
Netarts Bay	0	0	3	85	3	-	-	91
Pacific City	14	494	913	930	10	-	-	2,361
Salmon R.	0	5	17	9	0	-	-	31
Siletz R.	0	20	20	6	0	-	-	46
Depoe Bay	196	1,560	4,507	6,039	0	-	-	12,302
Newport	52	2,103	10,202	11,468	0	-	-	23,825
Waldport	0	0	7	54	10	-	-	71
Florence	51	2,238	6,628	6,403	14	-	-	15,334
Winchester Bay	4,462	13,061	18,562	7,773	0	-	-	43,858
Coos Bay	397	7,390	7,980	3,904	4	-	-	19,675
Bandon	3	19	29	25	13	-	-	89
Port Orford	0	9	4	4	0	-	-	17
Gold Beach	0	22	275	529	0	-	-	826
Brookings	26	1,546	13,376	2,360	0	-	-	17,308
Total	5,402	35,834	73,799	64,156	1,643	-	-	180,834

<sup>1/</sup> Monthly totals are the sum of statistical weeks estimates with closest fit to calendar month.



lowest previous catch of 260,678 salmon recorded in 1977. The highest total salmon catch for the ocean recreational fishery occurred in 1976 with 580,672 fish landed in Oregon.

The ocean recreational chinook catch was 20,902 in 1979. This was slightly below the 1978 catch and well below the 1971-75 average (Table 10). The 1979 catch was 9% below the 1978 catch of 22,844 and 58% below the 1971-75 average of 49,426 fish. All management areas had below average chinook recreational landings in 1979 with Astoria showing an extremely low catch compared to recent years (Table 15). The 1974-75 average for chinook landings at Astoria was

Table 15. Oregon Ocean Recreational Chinook Landings by Management Area, 1974 to 1979.

Management Area (Ports Included)	Chinook Catch					
	1974 (Mean)	1975	1976	1977	1978	1979
2 (Astoria)	17,268 (32,607)	47,947	44,578	22,630	7,939	7,542
3 (Garibaldi and Pacific City)	2,238 (1,978)	1,718	2,323	1,541	833	981
4 (Depoe Bay and Newport)	3,579 (4,317)	5,054	4,570	2,626	2,068	1,431
5 (Florence, Win. Bay, Coos Bay, and Bandon)	3,128 (6,761)	10,393	14,613	22,727	4,751	4,537
6 (Port Orford, Gold Beach, and Brookings)	10,516 (10,561)	10,607	13,232	11,840	7,253	6,411
Total	36,729 (56,244)	75,719	79,316	61,364	22,844	20,902

32,607 chinook compared to 7,542 fish in 1979 and 7,939 fish in 1978. Astoria, Coos Bay and Brookings areas accounted for 88% of Oregon's total ocean chinook catch.

Ocean recreational salmon landings by month show the 1979 chinook catch was poor throughout the entire season, similar to 1978 (Table 16). In July, chinook landings were 3% above 1978, but 74% below the 1974-75 average. The August catch in 1979 was 2% below 1978 and 53% below the 1974-75 average. For September, only 202 chinook were landed off Oregon due to the more restrictive regulations in 1979. This compares to 1,611 fish in 1978 and the 1974-75 average of 9,193 chinook.

The ocean recreational coho catch was 180,834 fish in 1979. This was well below the 1978 catch and the 1971-75 average (Table 13). The 1979 coho catch

Table 16. Oregon Ocean Recreational Effort (Angler Trips) by Month, 1974-75 Average, 1978-79 and Salmon Catch in Numbers of Fish by Species by Month, 1974-75 Average, and 1976-79.

		April <sup>a/</sup>	May	June	July	August	Sept.	Oct.	Nov.	Season
<b>E F F O R T (Angler Trips)</b>										
1974-75 <sup>b/</sup>	Monthly	1,757	9,788	39,348	124,660	129,779	61,275	5,067	-	371,674
	Cumulative	1,757	11,545	50,893	175,553	305,332	366,607	371,674	-	
1978	Monthly	-	12,278	78,669	144,534	115,855	37,582	13,284	1,528	403,740
	Cumulative	-	12,278	90,947	235,481	351,336	388,918	402,212	403,740	
1979	Monthly	-	15,290	53,371	112,650	143,167	11,332	4,791	1,169	341,770
	Cumulative	-	15,290	68,861	181,311	324,478	335,810	340,601	341,770	
<b>C H I N O O K</b>										
1974-75 <sup>b/</sup> Average	Monthly	165	899	4,789	19,678	19,732	9,193	1,768	0	56,224
	Cumulative	165	1,064	5,853	25,551	45,263	54,456	56,224	56,224	
1976	Monthly	59	1,930	12,540	19,616	35,317	8,826	904	124	79,316
	Cumulative	59	1,989	14,529	34,145	69,462	78,288	79,192	79,316	
1977	Monthly	90	1,370	8,994	17,199	25,610	6,331	1,670	100	61,364
	Cumulative	90	1,460	10,454	27,653	53,263	59,594	61,264	61,364	
1978	Monthly	130	869	4,708	4,963	9,573	1,611	911	79	22,844
	Cumulative	130	999	5,707	10,670	20,243	21,854	22,765	22,844	
1979	Monthly	-	823	4,740	5,115	9,365	202	582	75	20,902
	Cumulative	-	823	5,563	10,678	20,043	20,245	20,827	20,902	
<b>C O H O</b>										
1974-75 <sup>b/</sup> Average	Monthly	779	5,772	36,510	102,519	103,028	33,866	881	0	283,355
	Cumulative	779	6,551	43,061	145,580	248,608	282,474	283,355	283,355	
1976	Monthly	576	18,663	75,711	170,092	192,096	39,564	4,050	554	501,306
	Cumulative	576	19,239	94,950	265,042	457,138	496,702	500,752	501,306	
1977	Monthly	460	15,709	26,672	84,102	58,706	9,169	459	0	195,277
	Cumulative	460	16,169	42,841	126,943	185,649	194,818	195,277	195,277	
1978	Monthly	181	5,130	101,523	71,423	67,810	13,208	494	0	259,769
	Cumulative	181	5,311	106,834	178,257	246,067	259,275	259,769	259,769	
1979	Monthly	-	5,402	35,834	73,799	64,156	1,643	-	-	180,834
	Cumulative	-	5,402	41,236	115,035	179,191	180,834	-	-	

<sup>a/</sup> April value includes any early season catches.

<sup>b/</sup> Only 1974 and 1975 of the 1971-75 period are available on a monthly basis.

NOTE: 1979 monthly totals are the sum of statistical weeks estimates with the closest fit to calendar month.

was 30% below the 1978 catch of 259,769 fish, and 33% below the 1971-75 average of 271,776 coho. All management areas had below average recreational coho catches in 1979, especially for the north and central coast ports (Table 17). Astoria, Newport, and Coos Bay areas accounted for 85% of Oregon's ocean recreational coho catch.

Ocean recreational salmon landings by month show the 1979 coho catch peaked in July and August (Table 16). In June, the coho catch in 1979 was 65% below the 1978 catch, but only 2% below the 1974-75 average. The July and August landings of coho in 1979 were similar to 1978, but 32% below the 1974-75 average. For September, only 1,643 coho were landed in 1979 compared to 13,208 fish in 1978 and the 1974-75 average of 33,866 coho. This low September catch was due primarily to the season closure after Labor Day for all areas south of Cape Falcon.

Table 17. Oregon Ocean Recreational Coho Landings by Management Area 1974 to 1979.

Management Area (Ports Included)	Coho Catch					
	1974 (Mean)	1975	1976	1977	1978	1979
2 (Astoria)	98,587 (70,724)	42,861	116,677	55,297	60,155	38,034
3 (Garibaldi and Pacific City)	29,928 (27,232)	24,536	50,022	15,594	8,510	9,418
4 (Depoe Bay and Newport)	68,089 (65,145)	62,202	118,071	34,043	61,210	36,275
5 (Florence, Win. Bay, Coos Bay, and Bandon)	77,247 (90,077)	102,906	164,764	76,305	82,784	78,956
6 (Port Orford, Gold Beach, and Brookings)	40,650 (30,177)	19,704	51,772	14,038	47,110	18,151
Total	314,501 (283,355)	252,209	501,306	195,277	259,769	180,834

In recent years, regulations for the ocean recreational fishery have included more restrictive minimum size limits for chinook and coho. This has resulted in a significant number of fish released because of their small size, as indicated by shaker estimates derived from interviews of recreational anglers (Tables 18 and 19).

The chinook minimum size limits for 1979 were 24" north of Cape Falcon and 22" south of Cape Falcon. The estimated number of chinook released by ocean anglers was 12,871 or 41% of the total chinook catch during the recreational fishery survey. At Astoria, 8,719 chinook were released compared to 7,072 chinook landed. These figures indicate 55% of the chinook caught at this port were below legal size. For the other ports, the percentage of the catch that was released ranged from none at Garibaldi and Gold Beach to 39% at Brookings.

Table 18. Chinook Salmon Released by Ocean Recreational Fishery in 1979 by Port.

	Number of Fish Landed	Number of Fish Released	Total Fish Caught	Percent of Catch Released
Astoria	7,072	8,719	15,791	55
Garibaldi	711	0	711	0
Depoe Bay	327	31	358	9
Newport	1,081	44	1,125	4
Winchester Bay	2,757	1,105	3,862	29
Coos Bay	1,023	54	1,077	5
Gold Beach	1,128	0	1,128	0
Brookings	4,606	2,918	7,524	39
Total	18,705	12,871	31,576	41

Table 19. Coho Salmon Released by Ocean Recreational Fishery in 1979 by Port.

	Number of Fish Landed	Number of Fish Released	Total Fish Caught	Percent of Catch Released
Astoria	37,894	4,905	42,799	12
Garibaldi	5,968	11	5,979	<1
Depoe Bay	12,302	139	12,441	1
Newport	23,825	198	24,023	1
Winchester Bay	43,858	2,802	46,660	6
Coos Bay	19,675	61	19,736	<1
Gold Beach	826	0	826	0
Brookings	17,308	82	17,390	1
Total	161,656	8,198	169,854	5

Oregon's minimum size limit for coho in 1979 was 16 inches. Ocean anglers released an estimated 8,198 coho, which is 5% of the 169,584 coho caught state-wide during the survey in 1979. Ocean salmon anglers at Astoria released 4,905 or 60% of the 8,198 coho shakers. These small coho comprised 12% of the total coho catch at Astoria and 6% of the coho catch at Winchester Bay. Anglers at the other 6 ports released 1% or less of each port's total coho catch.

### Extended Recreational Season

A recreational ocean salmon season was included with the 1979 extended troll season in November off the Elk and Chetco Rivers. The season extensions were granted to allow the harvest of surplus hatchery fall chinook to the two rivers. In the 1979 extended season, the recreational ocean fishery was limited to the port of Brookings where an estimated 75 chinook were harvested. Ocean recreational effort at Brookings during November was an estimated 1,169 angler trips.

### Charter/Private Boat Fisheries

In 1979 approximately 200 charter boats and an unknown number of private boats participated in Oregon's ocean recreational salmon fishery. Catch and effort statistics were compiled by boat type at ports included in the sampling surveys for 1973-79. These survey estimates represent annually up to 95% of the total ocean salmon catch and effort.

The 1979 charterboat fishery effort was an estimated 13,154 boat trips and 89,777 angler trips during the ocean sampling survey (Table 20). Charterboat effort comprised 30% of the 301,815 total ocean recreational angler trips for 1979, similar to 1978 and slightly below the 1973-78 average of 31% (Figure 3). The number of charterboat angler trips in 1979 was 10% below the 100,035 angler trips in 1978 and 12% below the 1973-78 average of 101,741 trips. Charterboat fleets operated out of most major Oregon ports and varied greatly in size and number of vessels. Astoria, Depoe Bay, Newport and Winchester Bay charterboat fleets each had over 2,300 boat trips and over 14,000 angler trips in 1979. Only a few charterboats operate at Gold Beach and Brookings, and their effort was less than 400 boat trips and 2,000 angler trips at each port.

Charterboat anglers landed 59,831 coho and 5,370 chinook in 1979. The total of 65,201 salmon caught by charterboats was 29% below the 1978 catch of 92,008 salmon and 41% below the 1973-78 average of 111,268 fish. Charterboats landed 36% of the total recreational salmon catch in the 1979 survey compared to 35% in 1978, and the 1973-78 average of 39% of the total catch. Oregon's largest charterboat fleet located near the Columbia River (Astoria, Hammond, Warrenton) landed 23,539 salmon or 36% of the total charterboat catch in 1979. Gold Beach, with only a few vessels, landed 355 salmon or less than 1% of Oregon's charterboat catch. The average angler success on charterboats in 1979 was 0.7 salmon per angler trip, well below the 1973-78 average of 1.1 salmon per angler trip for Oregon's ocean charterboat fishery.

In 1979, charterboat catch and effort was estimated by trip-type (salmon or bottomfish) for the first time (Table 21). Trip-type effort data was obtained from charterboats' office records and interview data. These statistics show

Table 20. Oregon Ocean Recreational Salmon Statistics by Boat-Type, 1979.

Port	Charter Boats				Private Boats			
	Boat Trips	Angler Trips	Catch		Boat Trips	Angler Trips	Catch	
			Coho	Chinook			Coho	Chinook
Astoria <sup>1/</sup>	2,954	18,511	20,124	3,415	7,641	24,358	17,770	3,657
Garibaldi <sup>2/</sup>	805	6,116	1,246	47	6,685	18,258	4,722	664
Depoe Bay <sup>3/</sup>	2,720	19,541	8,435	197	3,012	8,339	3,867	130
Newport <sup>3/</sup>	2,415	17,786	5,770	249	14,342	42,282	18,055	832
Winchester Bay <sup>3/</sup>	2,394	14,941	15,385	668	12,745	34,274	28,473	2,089
Coos Bay <sup>3/</sup>	1,325	9,505	8,173	480	7,039	19,973	11,502	543
Gold Beach <sup>1/</sup>	310	1,568	201	154	3,376	7,838	625	974
Brookings <sup>3/</sup>	231	1,809	497	160	22,814	56,716	16,811	4,446
Totals	13,154	89,777	59,831	5,370	77,654	212,038	101,825	13,335
Totals for all Oregon craft	90,808	301,815	161,656	18,705				

<sup>1/</sup> Statistics include data for June 1-September 16

<sup>2/</sup> Statistics include data for June 16-September 16

<sup>3/</sup> Statistics include data for May 12-September 16 (entire sport salmon season)

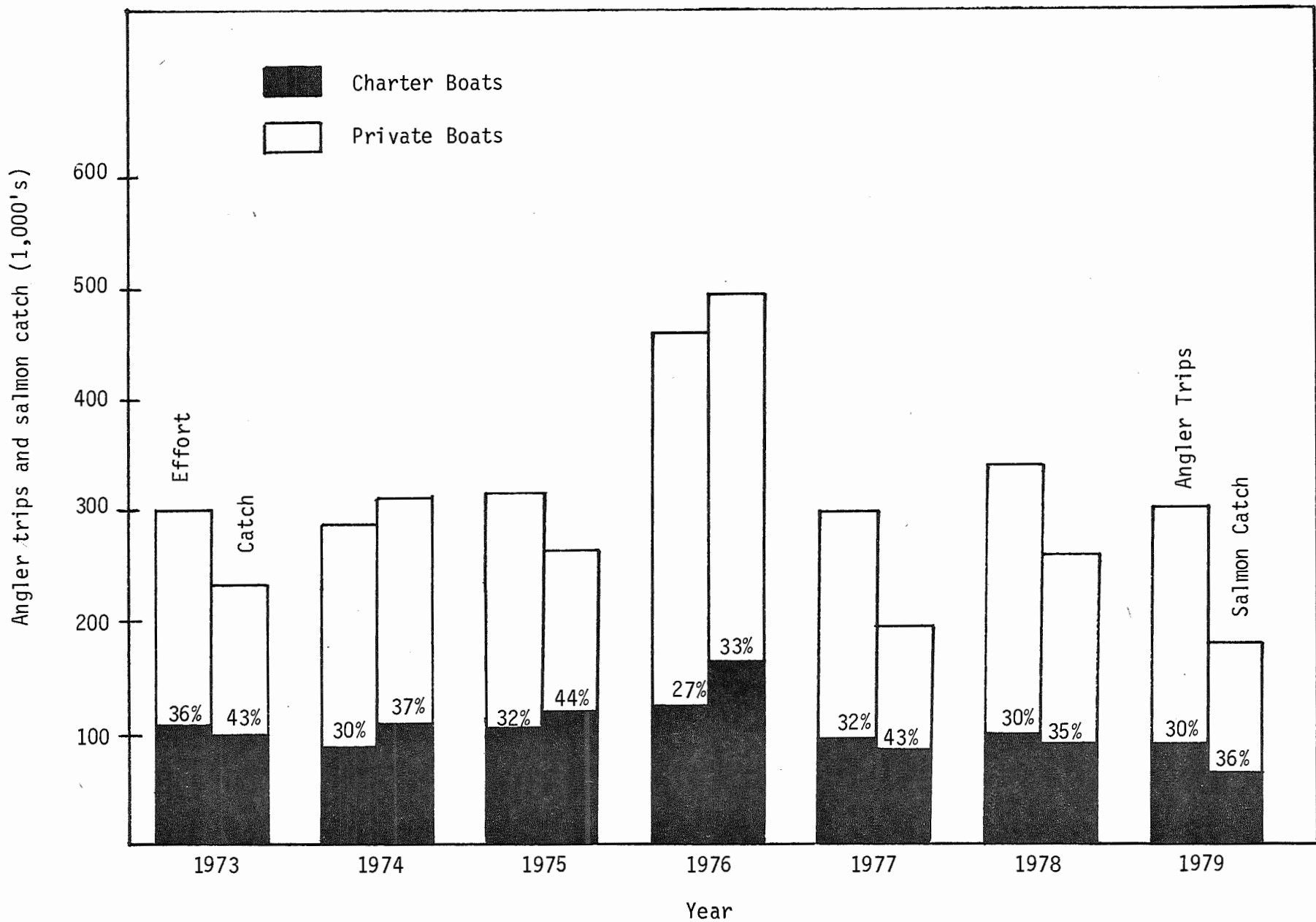


Figure 3. Oregon Ocean Recreational Salmon Fishery Statistics by Boat-Type 1973-1979.

Table 21. Oregon Ocean Recreational Salmon Catch Statistics by Boat and Trip Type<sup>1/</sup> from Angler Creel Survey, 1979.

Port	Charter						Private					
	Boat Trips		Angler Trips		Salmon Catch		Boat Trips		Angler Trips		Salmon Catch	
	Sal	Bot	Sal	Bot	Sal	Bot	Sal	Bot	Sal	Bot	Sal	Bot
Astoria <sup>2/</sup>	2,954	0	18,511	0	23,567	0	7,613	28	24,267	91	21,468	0
Garibaldi <sup>3/</sup>	445	360	2,786	3,330	1,294	3	6,059	626	16,288	1,970	5,381	17
Depoe Bay <sup>4/</sup>	1,993	727	14,535	5,006	8,685	45	2,729	283	7,511	828	4,014	10
Newport <sup>4/</sup>	1,663	752	12,144	5,642	5,993	41	12,838	1,504	37,848	4,434	18,934	19
Winchester <sup>4/</sup>	2,352	42	14,795	146	16,089	8	12,689	56	34,133	141	30,619	13
Coos Bay <sup>4/</sup>	1,113	212	7,925	1,580	8,665	15	6,657	382	18,788	1,185	12,052	2
Gold Beach <sup>4/</sup>	298	12	1,515	53	358	0	2,532	844	5,840	1,998	1,547	55
Brookings <sup>4/</sup>	189	42	1,507	302	664	0	17,594	5,220	42,995	13,721	21,359	25
Total	11,007	2,147	73,718	16,059	65,315	112	68,711	8,943	187,670	24,368	115,374	141
Total for all boats:	79,718	11,090	261,388	40,427	180,689	253						

<sup>1/</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>2/</sup> Statistics include data for June 1-September 16.

<sup>3/</sup> Statistics include data for June 16-September 16.

<sup>4/</sup> Statistics include data for May 12-September 16 (entire ocean salmon season)



11,007 boat trips or 84% of the 13,154 total charterboat trips targeted for salmon. Also, only 73,718 angler trips or 82% of the anglers on charterboats actually went salmon fishing. All 18,511 angler trips on Astoria charterboats in 1979 fished for salmon, compared to Newport's charterboat effort, where 12,144 angler trips or only 68% of the 17,786 trips targeted for salmon.

The 1979 private boat fishery effort was an estimated 77,654 boat trips and 212,038 angler trips (Table 20). This effort represented 70% of the total ocean recreational fishery, similar to 1978 and slightly above the 1973-78 average of 69% (Figure 3). The number of private boat angler trips in 1979, however, was 12% below the 239,601 angler trips in 1978 and 8% below the 1973-78 average of 230,234 trips. Brookings and Newport were the busiest ports in 1979 with 22,814 and 14,342 private boat trips, respectively. Depoe Bay and Gold Beach had the lowest effort by private boats with 3,012 and 3,376 boat trips, respectively.

Private boat anglers landed 101,825 coho and 13,335 chinook in the 1979 survey. The salmon catch by the private boat fishery this year was 31% below the 1978 catch of 167,767 fish, and 34% below the 1973-78 average catch of 175,589 salmon. Anglers on private boats, ranging in size from small skiffs to large yachts, caught 64% of the total recreational landings during the 1979 survey. This compares to 65% on the total catch in 1978, and the 1973-78 average of 61% of the salmon catch. Private boat anglers landed 30,562 salmon at Winchester Bay compared to 1,599 salmon landed at Gold Beach. The average angling success on private boats in 1979 was 0.5 salmon per angler, which is below the 1973-78 average for Oregon's private boat fishery of 0.8 salmon per angler trip.

Catch and effort estimates for private boats were also calculated by trip-type in 1979 (Tables 21). Effort data by trip-type (salmon or bottomfish) was collected through interviews during the ocean survey for each boat sampled. This data was applied proportionately to the total effort estimates for private boats by port and time period. These statistics show 68,711 or 88% of the 77,654 total boat trips targeted for salmon. This effort accounted for 187,670 angler trips or 89% of the total ocean effort by the private boat fishery. At Astoria, 24,267 trips or over 99% of the 24,358 private boat anglers fished for salmon. This compares to the private boat effort at Brookings where 42,995 angler trips or 76% of the total effort was for salmon, and 13,721 angler trips or 24% of the effort targeted for bottomfish only.

#### Recreational Ocean Salmon Mark Sampling

Samplers at eight ports observed 35% of the chinook and 37% of the coho landed during the sampling survey. This survey resulted in mark sampling rates for the whole coast of 31% for chinook and 33% for coho landed in the Oregon recreational ocean fishery.

The samplers examined 6,493 chinook and found 379 or 5.8% had an adipose fin clip (Table 22). They collected 358 heads from these marked fish for coded-wire tag recovery. An additional 14 chinook heads were collected from marked fish that were not sampled in the survey.

Technicians found tags in 346 of the 372 chinook heads. This is a 93% tag recovery ratio. The major contributing agencies of the chinook tags were:

Table 22. Oregon Ocean Recreational Chinook Mark Sampling, 1979.

	May	June	July	August	September	Total
<u>Astoria</u>						
No. Sampled	31	648	413	1,336	39	2,467
No. Landed	149	1,593	1,291	3,920	119	7,072
% Sampled	21	41	32	34	33	35
No. Ad Marks	4	121	49	132	1	307
<u>Garibaldi</u>						
No. Sampled		5	92	120	2	219
No. Landed		10	352	338	11	711
% Sampled		50	26	36	18	31
No. Ad Marks		0	1	6	0	7
<u>Depoe Bay</u>						
No. Sampled	9	17	45	65	0	136
No. Landed	17	58	100	152	0	327
% Sampled	53	29	45	43	0	42
No. Ad Marks	0	0	2	2	0	4
<u>Newport</u>						
No. Sampled	48	108	71	108	2	337
No. Landed	153	274	233	417	4	1,081
% Sampled	31	39	30	26	50	31
No. Ad Marks	0	2	2	2	0	6
<u>Winchester Bay</u>						
No. Sampled	66	696	186	70	0	1,018
No. Landed	119	1,754	645	239	0	2,757
% Sampled	55	40	29	29	0	37
No. Ad Marks	2	9	8	0	0	19
<u>Coos Bay</u>						
No. Sampled	31	197	125	135	1	489
No. Landed	53	342	336	291	1	1,022
% Sampled	58	58	37	46	100	48
No. Ad Marks	0	4	5	0	0	9
<u>Gold Beach</u>						
No. Sampled	0	12	56	370	0	438
No. Landed	0	36	104	988	0	1,128
% Sampled	0	33	54	37	0	39
No. Ad Marks	0	0	0	0	0	0
<u>Brookings</u>						
No. Sampled	2	97	463	819	8	1,389
No. Landed	3	216	1,727	2,645	15	4,606
% Sampled	67	45	27	31	53	30
No. Ad Marks	0	6	13	8	0	27
<u>Total</u>						
No. Sampled	187	1,780	1,451	3,023	52	6,493 <sup>1/</sup>
No. Landed	494	4,283	4,788	8,990	150	18,704
% Sampled	38	42	30	34	35	35
No. Ad Marks	6	142	80	150	1	379 <sup>1/</sup>

<sup>1/</sup> In addition 14 snouts were taken from Ad-clipped fish not sampled in survey.

Washington Department of Fisheries	-	78%
Oregon Department of Fish and Wildlife	-	10%
U.S. Fish & Wildlife Service	-	6%
California Department of Fish and Game	-	5%

Samplers examined 59,340 coho and found 1,308 or 2.2% had an adipose fin clip (Table 23). They collected 1,244 heads from these marked fish for coded-wire tag recovery. An additional 10 coho heads were collected from marked fish that were not sampled in the survey.

Technicians found 1,088 tags in the 1,254 coho heads. This is an 82% tag recovery ratio. The major contributing agencies and hatcheries of coho tags were:

Oregon Department of Fish and Wildlife	-	61%
Washington Department of Fisheries	-	13%
National Marine Fisheries Service	-	10%
California Department of Fish and Game	-	5%
Oregon Aqua-Foods	-	5%
U.S. Fish and Wildlife Service	-	2%

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Table 23. Oregon Ocean Recreational Coho Mark Sampling, 1979.

	May	June	July	August	September	Total
<u>Astoria</u>						
No. Sampled	53	3,200	3,563	6,034	484	13,334
No. Landed	263	6,475	10,162	19,449	1,545	37,894
% Sampled	20	49	35	31	31	35
No. Ad Marks	0	52	75	159	3	289
<u>Garibaldi</u>						
No. Sampled		313	492	1,814	0	2,619
No. Landed		417	995	4,556	0	5,968
% Sampled		75	49	40	0	44
No. Ad Marks		2	16	48	0	66
<u>Depoe Bay</u>						
No. Sampled	133	711	2,358	2,590	0	5,792
No. Landed	196	1,560	4,507	6,039	0	12,302
% Sampled	68	46	52	43	0	47
No. Ad Marks	4	9	75	62	0	150
<u>Newport</u>						
No. Sampled	19	859	3,101	3,435	0	7,414
No. Landed	52	2,103	10,202	11,468	0	23,825
% Sampled	37	41	30	30	0	31
No. Ad Marks	1	13	66	75	0	155
<u>Winchester Bay</u>						
No. Sampled	1,563	5,944	5,581	2,375	0	15,463
No. Landed	4,462	13,061	18,562	7,773	0	43,858
% Sampled	35	46	30	31	0	35
No. Ad Marks	28	104	125	31	0	288
<u>Coos Bay</u>						
No. Sampled	213	4,305	2,737	2,030	2	9,287
No. Landed	397	7,390	7,980	3,904	4	19,675
% Sampled	54	58	34	52	50	47
No. Ad Marks	4	87	81	62	1	235
<u>Gold Beach</u>						
No. Sampled	0	16	176	194	0	386
No. Landed	0	22	275	529	0	826
% Sampled	0	73	64	37	0	47
No. Ad Marks	0	0	2	7	0	9
<u>Brookings</u>						
No. Sampled	10	693	3,528	814	0	5,045
No. Landed	26	1,546	13,376	2,360	0	17,308
% Sampled	38	45	26	34	0	29
No. Ad Marks	0	25	64	27	0	116
<u>Total</u>						
No. Sampled	1,991	16,041	21,536	19,286	486	59,340 <sup>1/</sup>
No. Landed	5,396	32,574	66,059	56,078	1,549	161,656
% Sampled	37	49	33	34	31	37
No. Ad Marks	37	292	504	471	4	1,308 <sup>1/</sup>

<sup>1/</sup> In addition 10 snouts were taken from Ad-clipped fish not sampled in survey.