
CHAPTER IV

SOCIOECONOMIC ASSESSMENT OF THE 2004 OCEAN SALMON FISHERIES

SUMMARY: Total 2004 exvessel value for the Council-managed non-Indian commercial salmon fishery was \$29.0 million. In inflation-adjusted dollars, exvessel value was 39% above its 2003 level, but was 7% below the 1979 through 2002 average. West Coast ocean harvest chinook prices averaged \$3.00 per pound in 2004, an increase of 57% from the 2003 price, and nearly double the 2002 inflation-adjusted price. The 2004 average chinook price was the highest recorded in more than 25 years, and the highest in inflation-adjusted terms since 1992. At \$1.19 per pound, average West Coast coho prices were 48% higher in inflation-adjusted terms than in 2003, and higher in inflation-adjusted and nominal terms than has been observed since the early 1990s. The number of vessel-based ocean salmon recreational angler trips taken on the West Coast in 2004 (470,900 angler trips) increased 18% from 2003, and was 20% below the 1979 through 1991 average. The total state-level income impact associated with recreational and commercial ocean salmon fisheries for all three states combined was \$90.4 million in 2004. This was 9% above the inflation-adjusted 2003 level. These numbers are also considerably above the 1996-2000 three-state inflation-adjusted average, and over two and a half times the 1998 historic low.

ALLOCATION OF THE SALMON RESOURCE

Salmon management by the Council involves numerous allocation issues including:

- C Determination of the amount of salmon available for ocean harvest after consideration of expected abundances, harvests by inside fisheries, and spawning escapement goals.
- C Allocation of harvest among broad management areas and among port areas within the management areas.
- C Allocation of harvest between Indian and non-Indian harvesters.
- C Allocation of the non-Indian harvest between commercial and recreational harvesters.

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

In general, the recreational fishery has tended to have a more stable harvest than the commercial fishery (in both absolute and relative terms) (Figures IV-1 and IV-2). The majority of the annual variation in available ocean harvest is usually taken up in the commercial fishery. However, both fisheries have suffered substantial declines relative to harvest levels of the 1980s, the effects of which are amplified when specific geographic areas are considered.

Decisions on allowable harvests for a particular stock often have implicit allocation effects on the geographic distribution of salmon harvest. Seasons may be more restrictive along a particular area of the coast to protect a depressed stock encountered in that area at a high rate. The geographic distribution of harvest opportunity along the coast involves balancing the often conflicting objectives of maximizing ocean harvest and fairly distributing the responsibility for resource conservation. A brief outline of the regulatory objectives which shaped the 2004 season is provided in Chapter I; an assessment of success in meeting the objectives is provided in Chapters II and III.

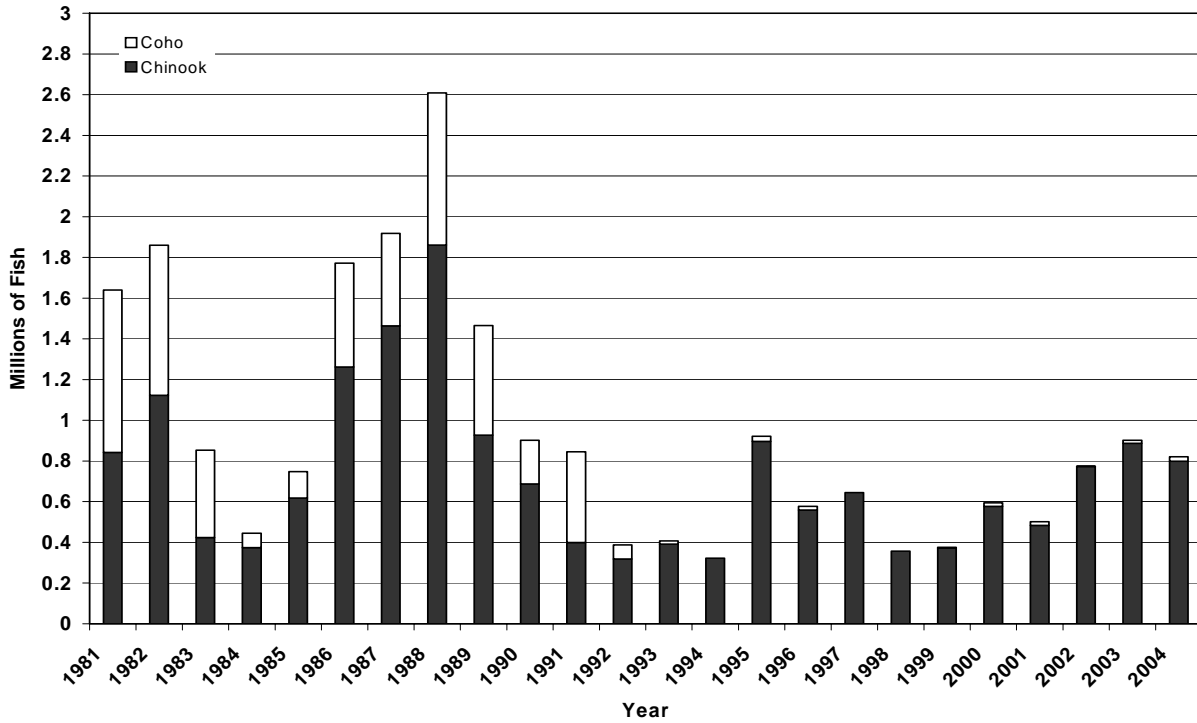


Figure IV-1. West Coast ocean non-Indian commercial chinook and coho harvest.

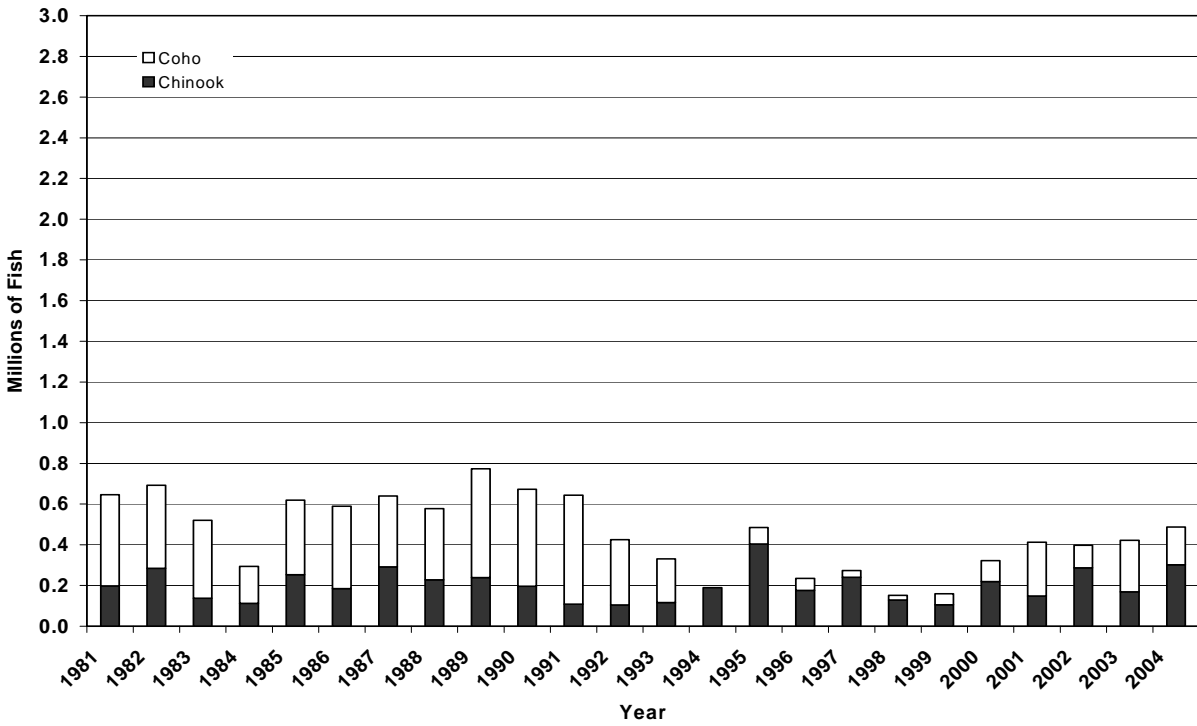


Figure IV-2. West Coast ocean recreational chinook and coho harvest.

COMMERCIAL SALMON FISHERIES

West Coast Non-Indian Commercial Ocean Fishery

Inseason Price Trends

Monthly exvessel price data provides information on seasonal price trends (Table IV-1). The absence of a price breakdown by size category for California salmon landings makes it difficult to tell whether observed price changes are a function of seasonal changes in market conditions or a shift in the size category of fish landed. In general, as in 2003, 2004 prices were lower mid-season than at the start or end of the season.

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

Available information on chinook and coho exvessel price and value by species, compiled from state fish receiving tickets and expressed both in nominal terms and inflation-adjusted 2004 dollars, is presented in Tables IV-2, IV-3, and IV-4. Data on pink salmon are provided in Table IV-5. The gross domestic product implicit price deflator, developed by the Bureau of Economic Analysis, is used to adjust nominal values for inflation (Appendix D, Table D-22). Weight of landings by species and port for chinook and coho is presented in Tables IV-6, IV-7, and IV-8. These tables and the following discussion refer to the non-Indian commercial fishery in Council management areas and associated state territorial ocean area waters.

Total 2004 exvessel value of the Council-managed non-Indian commercial salmon fishery was \$29.0 million. In real (inflation-adjusted) dollars, exvessel value was 39% above its 2003 level (\$20.9 million), and nearly double the 2002 value (\$14.5 million), but was 7% below the 1979 through 2002 inflation-adjusted average of \$31.3 million (including pinks).

The 2004 exvessel value of the California commercial ocean salmon catch (\$17.9 million) was 43% above the 2003 value, and 2% above the 1979 through 2002 average, in inflation-adjusted dollars. In recent years, a portion of the California harvest is believed to be subject to postseason settlements. Under a postseason settlement, fishers may be paid an additional amount for their fish after the season ends. Value accruing to the fishery from postseason settlements is not reflected on the fish receiving tickets from which estimates of exvessel value are derived. The 2004 exvessel value for the Oregon commercial catch (\$9.9 million) was up 34% from 2003, and 2% above the 1979 through 2002 average, in inflation-adjusted terms. The 2004 exvessel value for the Washington non-Indian ocean commercial catch (\$1.2 million) was 17% above the 2003 value (\$1.0 million). While recent exvessel value of Washington landings was highest since the 1992 inflation-adjusted value of \$1.6 million, it was still 71% below the 1979 through 2002 inflation-adjusted average of \$4.1 million.

The 2004 average West Coast ocean harvest chinook price was \$3.00 per pound. This was an increase of 57% from the 2003 inflation adjusted price, and nearly double the 2002 inflation-adjusted price (Figure IV-3). The 2004 average chinook price was the highest recorded in more than 25 years, and the highest in inflation-adjusted terms since 1992. At \$1.19 per pound, average West Coast coho prices were 48% higher in inflation-adjusted terms than in 2003, and higher in both inflation-adjusted and nominal terms than seen since the early 1990s.

In terms of number of fish, coastwide, non-Indian commercial chinook harvest (796,200 fish) declined by 10% compared to 2003, but up 3% compared to 2002 (Figure IV-1). Since 1989, the only years with a greater chinook harvest than 2004 were 1995 (895,900 fish) and 2003 (886,401 fish). Average weight per chinook decreased slightly compared to 2003 (Appendix D, Tables D-1, D-2, and D-3). Coho catch increased in 2004 to 22,600 fish, up from 15,700 fish recorded in 2003, and 1,700 in 2002. Coho average weight per fish increased 17% for Oregon landings and 13% for Washington landings. The 2004 coastwide inflation-

adjusted exvessel value of the Council-managed salmon harvest increased 39% over 2003 and was the highest since 1989 (Figure IV-4). In 2004, about 50% of the coastwide chinook harvest (by weight) was taken in California from the San Francisco area south, compared to 32% in 2003, 46% in 2002 and 72% in 2000 (Table IV-6, IV-7, and IV-8). Compared with 2003, chinook harvest (by weight) in 2004 was down 3% in California, 22% in Oregon and 39% in Washington.

Ocean Commercial Salmon Harvesters

Based on Pacific Coast Fisheries Information Network (PacFIN) data 1,295 vessels participated in the West Coast commercial salmon fishery in 2004, up 16% from the 2003 total of 1,113, and up 10% from a total of 1,177 vessels in 2002. The coastwide vessel counts from PacFIN are lower than the totals derived from Appendix D state-level tables because vessels may be counted in more than one state and because of differences in the degree of data completeness at the time the data are summarized. Summing the number of vessels shown landing salmon in the individual states (Tables D-4 through D-6) gives a count of 1,419 vessels in 2004, 1,160 in 2003, and 1,257 in 2002.

The active fleet in California increased by 154 vessels to 738 in 2004. This follows a reduction of 124 vessels to 584 in 2003, from a total of 708 vessels that landed salmon in California in 2002. The 584 vessels reported landing salmon in 2003 was the lowest participation since before 1960 (Table D-4). The active fleet in Oregon increased by 101 to 595 vessels landing salmon in 2004. This is the largest number of reported vessels in Oregon since 1993 (Table D-5). In Oregon, new salmon limited entry permits were issued in a lottery, as the number of permitted vessels had fallen below 1,200, the legislatively mandated minimum number of permits. The active fleet in Washington increased by four vessels to 86 vessels landing salmon in 2004 (Table D-6). Coastwide, the number of limited entry salmon permits issued in 2004 decreased by 10 to 2,849 after falling by 62 the previous year. Landings were made on 50% of all permits in 2004, an increase from the 40-43% observed in the previous three years. From 1982 to 1991, during which time there was a moratorium on the issuance of salmon permits in all three West Coast states, an average of 5,765 of 8,419 total permits (68%) were used on an annual basis.

Coastwide in 2004, average inflation-adjusted exvessel value of salmon landings increased 13% compared to 2003, to \$20,409 per vessel. This was the highest average per vessel revenue observed, in both nominal and inflation-adjusted terms, since the time series began in 1978. Compared to 2003, average per vessel exvessel value increased in all three states. California was up 13 %, and both Oregon and Washington were up 11%. Some caution needs to be exercised in interpreting the per vessel average. For example, the averages may be influenced as much by the entry or exit of a disproportionate number of small or large harvesters from one year to the next as by a change in the average revenues of those vessels remaining in the fishery.

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

TABLE IV-1. Average monthly **exvessel** troll salmon **price** in dollars per dressed pound for **California, Oregon, and Washington** in 2004. (Page 1 of 1)

Species/Grade	March	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Season
CALIFORNIA											
Chinook ^{a/}	-	4.90	3.69	2.62	2.27	3.30	3.56	4.28	-	-	2.87
Coho	-	-	-	-	-	-	-	-	-	-	-
OREGON											
Chinook											
Large (>11 Pounds)	4.88	4.84	3.64	3.32	2.57	2.90	3.32	4.34	4.63	4.97	3.49
Medium (7-11 Pounds)	4.69	4.69	3.39	3.10	2.35	2.74	3.30	4.04	4.37	4.83	3.41
Small (<7 Pounds)	4.65	4.52	3.07	2.82	2.28	2.66	3.56	4.11	4.29	-	3.81
Ungraded Chinook	4.80	4.99	3.55	3.27	2.59	2.87	3.05	3.51	4.80	4.77	3.39
Weighted Average	4.78	4.78	3.53	3.25	2.52	2.85	3.23	4.02	4.65	4.81	3.45
Mixed Coho	-	-	-	-	1.08	1.29	1.24	-	-	-	1.24
WASHINGTON^{b/}											
Chinook											
Large (>11 Pounds)	-	-	3.22	1.79	1.59	2.06	2.67	-	-	-	1.96
Medium (8-11 Pounds)	-	-	3.15	1.67	1.54	2.09	2.88	-	-	-	2.68
Small (<8 Pounds)	-	-	2.21	1.62	1.19	1.41	3.70	-	-	-	2.50
Ungraded Chinook	-	-	-	-	-	-	-	-	-	-	0.42
Weighted Average	-	-	3.19	1.77	1.57	2.05	2.63	-	-	-	2.14
Mixed Coho	-	-	-	-	0.78	0.96	1.29	-	-	-	1.16

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

b/ Non-Indian data only.

TABLE IV-2. **Troll chinook and coho landed in California**, estimates of **exvessel value, and average price** (dollars per dressed pound) in nominal and real (2004) dollars.^{a/} (Page 1 of 1)

Year or Ave.	Chinook				Coho				Total ^{b/}	
	Nominal Value (thousands of dollars)	Real Value (thousands of dollars)	Nominal Price Per Pound (dollars)	Real Price Per Pound (dollars)	Nominal Value (thousands of dollars)	Real Value (thousands of dollars)	Nominal Price Per Pound (dollars)	Real Price Per Pound (dollars)	Nominal Value (thousands of dollars)	Real Value (thousands of dollars)
1979	17,356	37,932	2.53	5.53	2,303	5,033	2.19	4.79	19,659	42,965
1980	12,741	25,530	2.27	4.55	408	818	1.36	2.73	13,149	26,347
1981-1985	13,417	18,555	2.25	4.05	905	950	1.94	2.72	14,322	19,504
1986-1990	18,754	30,396	2.55	3.65	735	693	1.36	2.57	19,489	31,089
1991	8,351	10,709	2.58	3.31	696	893	1.52	1.95	9,047	11,602
1992	4,487	5,625	2.74	3.43	18	23	1.63	2.04	4,505	5,647
1993	5,707	6,992	2.25	2.76	-	-	-	-	5,707	6,992
1994	6,437	7,723	2.07	2.48	-	-	-	-	6,437	7,723
1995	11,693	13,747	1.76	2.07	-	-	-	-	11,693	13,747
1996	5,984	6,904	1.44	1.66	-	-	-	-	5,984	6,904
1997	7,288	8,271	1.38	1.57	-	-	-	-	7,288	8,271
1998	3,060	3,435	1.66	1.86	-	-	-	-	3,060	3,435
1999	7,429	7,774	1.93	2.14	-	-	-	-	7,429	8,220
2000	10,303	11,157	2.01	2.18	-	-	-	-	10,303	11,157
2001	4,773	5,049	1.98	2.09	-	-	-	-	4,773	5,049
2002	7,776	8,100	1.55	1.62	-	-	-	-	7,776	8,100
2003	12,181	12,486	1.91	1.96	-	-	-	-	12,181	12,486
2004 ^{c/}	17,883	17,883	2.87	2.87	-	-	-	-	17,883	17,883

a/ These exvessel values do not include the postseason settlement payments some fishers may have received from buyers and therefore may underestimate the true payments received by fishers for their landings. Beginning circa 1999, these postseason settlements are believed to have grown for the California fishery. For 2002, the exvessel value reported here is believed to be under reported by roughly 5% to 10%.

b/ Does not include pink salmon landings.

c/ Preliminary.

TABLE IV-3. **Troll** chinook and coho landed in **Oregon**, estimates of **exvessel value, and average price** (dollars per dressed pound) in nominal and real (2004) dollars. (Page 1 of 1)

Year or Average	Chinook				Coho				Total ^{a/}	
	Nominal Value (thousands of dollars)	Real Value (thousands of dollars)	Nominal Price Per Pound (dollars)	Real Price Per Pound (dollars)	Nominal Value (thousands of dollars)	Real Value (thousands of dollars)	Nominal Price Per Pound (dollars)	Real Price Per Pound (dollars)	Nominal Value (thousands of dollars)	Real Value (thousands of dollars)
1971-1975	2,036	6,570	0.89	2.92	3,658	12,092	0.64	2.08	5,694	18,662
1976-1980	5,366	12,370	2.16	5.05	6,407	15,395	1.51	5.65	11,773	27,765
1981-1988	4,039	6,041	2.57	4.12	5,534	3,955	1.66	2.44	9,573	9,996
1986-1990	6,094	13,460	2.59	3.52	3,801	2,529	1.40	2.14	9,895	8,906
1991	1,721	2,207	2.47	3.17	1,399	1,794	0.99	1.27	3,120	4,001
1992	2,490	3,121	2.46	3.08	222	278	1.08	1.35	2,712	3,400
1993	1,661	2,035	2.18	2.67	10	12	1.13	1.38	1,671	2,047
1994	690	828	2.40	2.88	-	-	-	-	690	828
1995	3,294	3,873	1.70	2.00	-	-	-	-	3,294	3,873
1996	3,007	3,470	1.56	1.80	-	-	-	-	3,007	3,470
1997	2,469	2,802	1.60	1.82	-	-	-	-	2,469	2,802
1998	2,297	2,579	1.64	1.84	-	-	-	-	2,297	2,579
1999	1,400	1,549	1.94	2.15	1	1	1.03	1.14	1,401	1,550
2000	2,988	3,236	2.02	2.19	75	81	1.06	1.15	3,064	3,318
2001	4,680	4,950	1.61	1.70	41	44	0.79	0.84	4,721	4,994
2002 ^{b/}	5,383	5,608	1.54	1.60	8	8	0.75	0.78	5,391	5,616
2003 ^{b/}	7,186	7,366	1.97	2.02	36	37	0.85	0.87	7,222	7,403
2004 ^{b/}	9,806	9,806	3.45	3.45	86	86	1.24	1.24	9,893	9,893

a/ Does not include pink salmon landings.

b/ Preliminary.

TABLE IV-4. **Non-Indian troll** chinook and coho landed in **Washington**, estimates of **exvessel value, and average price** (dollars per dressed pound) in nominal and real (2004) dollars.^{a/} (Page 1 of 1)

Year or Average	Chinook				Coho				Total ^{b/}	
	Nominal Value (thousands of dollars)	Real Value (thousands of dollars)	Nominal Price Per Pound (dollars)	Real Price Per Pound (dollars)	Nominal Value (thousands of dollars)	Real Value (thousands of dollars)	Nominal Price Per Pound (dollars)	Real Price Per Pound (dollars)	Nominal Value (thousands of dollars)	Real Value (thousands of dollars)
1971-1975	2,714	8,871	0.89	2.93	3,060	10,026	0.66	2.17	5,775	18,898
1976-1980	5,313	12,686	2.39	5.53	6,086	14,497	1.67	3.88	11,399	27,183
1981-1985	3,279	3,392	2.66	4.12	2,642	2,216	1.52	2.21	5,921	5,608
1986-1990	4,246	1,875	2.57	3.73	2,484 ^{c/}	1,360	1.34	2.01	6,730	3,796
1991	783	1,004	2.54	3.26	343	440	1.13	1.44	1,126	1,444
1992	1,200	1,504	2.41	3.02	99	124	1.33	1.67	1,299	1,628
1993	728	892	2.21	2.70	67	82	1.01	1.24	795	974
1994	d/	d/	d/	d/	-	-	-	-	d/	d/
1995	d/	d/	d/	d/	91	107	0.83	0.98	91	107
1996	d/	d/	d/	d/	59	68	0.86	0.99	d/	d/
1997	125	142	1.55	1.76	-	-	-	0.00	125	142
1998	123	138	1.51	1.69	-	-	-	0.00	123	138
1999	377	417	1.90	2.10	19	21	0.88	0.97	396	438
2000	224	243	1.71	1.85	34	37	1.09	1.18	258	280
2001	349	369	1.44	1.52	34	36	0.69	0.73	383	405
2002	756	788	1.11	1.16	2	2	1.58	1.65	758	789
2003	951	975	1.15	1.18	40	41	0.74	0.76	991	1,016
2004 ^{e/}	1,079	1,079	2.14	2.14	106	106	1.16	1.16	1,185	1,185

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

b/ Does not include pink salmon landings.

c/ There was no legal coho fishery in 1988. The value used in this average for 1988 is for landings of fish caught south of Cape Falcon and seizures of illegal fish.

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

e/ Preliminary.

TABLE IV-5. **Non-Indian troll** caught **pink** salmon landed in **Oregon and Washington**, estimates of exvessel value, and average price (dollars per dressed pound) in nominal and real (2004) dollars. (Page 1 of 1)

Year or Average ^{a/}	Oregon				Washington				Total	
	Nominal Value (thousands of dollars)	Real Value (thousands of dollars)	Nominal Price Per Pound (dollars)	Real Price Per Pound (dollars)	Nominal Value (thousands of dollars)	Real Value (thousands of dollars)	Nominal Price Per Pound (dollars)	Real Price Per Pound (dollars)	Nominal Value (thousands of dollars)	Real Value (thousands of dollars)
1976-1980	167	398	0.75	1.70	1,200	2,700	0.54	1.24	1,367	3,098
1981-1985	129	215	0.74	1.21	287	485	0.41	0.68	416	700
1986-1990	41	59	0.77	1.07	57	77	0.66	0.92	98	136
1991	4	5	0.53	0.67	79	98	0.47	0.59	83	103
1993	b/	b/	0.62	0.74	5	6	0.54	0.64	5	6
1995	b/	b/	0.60	0.69	30	34	0.26	0.30	30	34
1997	b/	b/	0.56	0.62	b/	b/	0.20	0.22	b/	b/
1999	b/	b/	0.67	0.72	b/	b/	0.38	0.41	b/	b/
2001	1	1	0.58	0.60	b/	b/	0.22	0.23	1	1
2003	b/	b/	0.85	0.85	b/	b/	0.30	0.30	b/	b/

a/ Odd-year averages.

b/ Less than \$500.

TABLE IV-6. **Pounds of salmon landed** by the commercial troll ocean fishery for major California port areas.^{a/} (Page 1 of 1)

Year or Average	Crescent City	Eureka	Fort Bragg	San Francisco	Monterey	State Total
CHINOOK (thousands of dressed pounds)						
1976-1980	393	1,403	1,449	1,733	889	5,867
1981-1985	350	428	1,128	1,806	742	4,454
1986-1990	155	405	2,299	3,648	1,592	8,097
1991	4	79	467	1,685	1,004	3,238
1992	b/	1	21	996	613	1,632
1993	3	11	220	1,316	987	2,537
1994	b/	6	77	2,189	831	3,103
1995	5	26	130	3,277	3,197	6,633
1996	3	92	278	1,695	2,046	4,113
1997	b/	14	35	2,711	2,488	5,248
1998	1	22	35	1,081	709	1,847
1999	3	27	30	2,681	1,105	3,846
2000	3	20	354	2,607	2,148	5,131
2001	3	61	192	1,735	418	2,409
2002	54	108	872	3,060	912	5,008
2003	37	7	3,096	2,753	498	6,392
2004 ^{c/}	304	64	1,295	3,706	857	6,226
COHO (thousands of dressed pounds)						
1976-1980	360	391	277	109	48	1,184
1981-1985	89	104	89	54	9	345
1986-1990	22	43	136	53	9	262
1991	1	19	55	270	115	459
1992	-	b/	b/	10	1	11
1993	-	-	-	-	-	-
1994	-	-	-	-	-	-
1995	-	-	-	-	-	-
1996	-	-	-	-	-	-
1997	-	-	-	-	-	-
1998	-	-	-	-	-	-
1999	-	-	-	-	-	-
2000	-	-	-	-	-	-
2001	-	-	-	-	-	-
2002	-	-	-	-	-	-
2003	-	-	-	-	-	-
2004 ^{c/}	-	-	-	-	-	-

a/ The major port areas listed include the following ports: Crescent City includes minor catches made off Oregon and landed in Crescent City; Eureka includes Trinidad and Humboldt Bay; Fort Bragg includes Shelter Cove, Noyo Harbor, Mendocino, and Pt. Arena; San Francisco includes Bodega Bay, Sausalito, Berkeley, and Half Moon Bay; Monterey includes Santa Cruz, Moss Landing, Morro Bay, Avila, and all ports south of Pt. Conception.

b/ Fewer than 500 pounds.

c/ Preliminary.

TABLE IV-7. **Pounds of salmon landed** by the commercial troll ocean salmon fishery for major **Oregon** port areas.^{a/} (Page 1 of 1)

Year or Average	Astoria	Tillamook	Newport	Coos Bay	Brookings	State Total
CHINOOK (thousands of dressed pounds)						
1976-1980	171	118	530	908	700	2,427
1981-1985	92	45	271	638	386	1,432
1986-1990	52	264	829	2,118	468	3,731
1991	9	110	267	292	18	695
1992	17	108	676	206	7	1,013
1993	5 ^{b/}	86	460	182	28	761
1994		29	165	45	47	287
1995	6	96	1,330	453	55	1,941
1996	21	125	1,219	417	142	1,926
1997	3	32	1,053	381	73	1,542
1998	b/	66	953	326	52	1,398
1999	13	32	194	403	80	721
2000	89	97	532	648	114	1,481
2001	73	223	1,673	776	152	2,897
2002	330	275	1,442	1,223	218	3,488
2003	265	245	1,634	1,353	142	3,639
2004 ^{c/}	134	113	1,112	1,213	267	2,839
COHO (thousands of dressed pounds)						
1976-1980	385	660	1,190	1,661	357	4,252
1981-1985	133	293	451	550	111	1,537
1986-1990	73	473	693	648	69	1,957
1991	69	431	440	464	7	1,411
1992	6	33	112	55	b/	206
1993	8	1	-	-	-	9
1994	-	-	-	-	-	-
1995	-	-	-	-	-	-
1996	-	-	-	-	-	-
1997	-	-	-	-	-	-
1998	-	-	-	-	-	-
1999	1	-	-	-	-	1
2000	71	-	-	-	-	71
2001	50	b/	2	-	-	52
2002	6	5	-	-	-	11
2003	32	11	-	-	-	43
2004 ^{c/}	47	22	-	-	-	70

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

b/ Fewer than 500 pounds.

c/ Preliminary.

TABLE IV-8. **Pounds** of salmon landed by the **non-Indian commercial troll** ocean salmon fishery for major **Washington** port areas.^{a/b/} (Page 1 of 1)

Year	Neah Bay	La Push	Westport	Ilwaco	Coastal Community Total	Puget Sound	State Total ^{c/}
CHINOOK (thousands of dressed pounds)							
1976-1980	288	421	919	261	1,889	426	1,543
1981-1985	88	32	370	74	564	124	689
1986-1990	71	17	234	48	371	122	493
1991	128	7	127	14	276	32	308
1992	160	46	232	10	447	58	507
1993	122	35	132	2	291	41	332
1994 ^{d/}	-	-	-	-	-	7	7
1995 ^{d/}	-	-	3	-	3	12	15
1996 ^{d/}	-	-	4	1	5	13	19
1997	20	e/	45	0	66	15	80
1998	30	0	34	0	64	18	82
1999	62	2	66	3	134	65	199
2000	85	1	38	8	131	e/	131
2001	97	0	138	6	241	0	241
2002	262	53	322	61	678	0	678
2003	470	67	243	29	810	12	821
2004	250	74	158	15	497	7	504
COHO (thousands of dressed pounds)							
1976-1980	600	786	1,066	678	3,130	496	3,626
1981-1985	133	63	277	142	616	128	744
1986-1990	70	19	97	53	239	19	259
1991	87	16	126	45	274	31	304
1992	25	13	21	4	63	12	75
1993	11	7	43	2	63	3	66
1994	-	-	-	-	-	-	-
1995	84	18	7	-	109	2	111
1996	45	1	23	0	68	e/	68
1997	-	-	-	-	-	-	-
1998	-	-	-	-	-	-	-
1999	7	1	4	1	12	9	21
2000	0	0	15	16	31	e/	31
2001	2	0	39	9	49	0	49
2002	-	-	e/	1	1	0	1
2003	11	12	21	8	52	2	54
2004	12	20	53	4	89	1	91

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

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

c/ State total includes landings where port of landing is not specified.

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

e/ Fewer than 500.

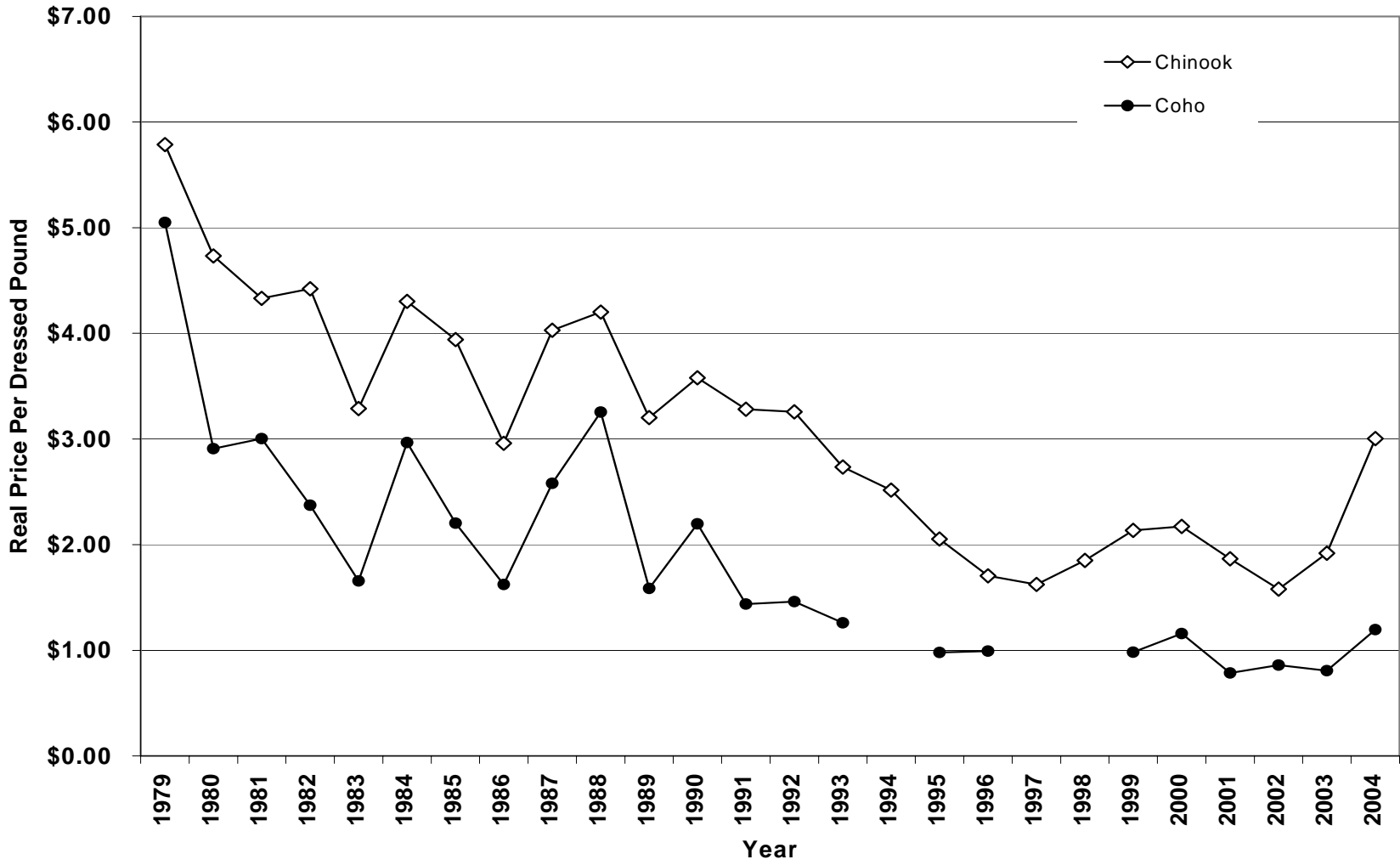


Figure IV-3. West Coast non-Indian ocean commercial salmon annual exvessel price trends (2004 dollars).

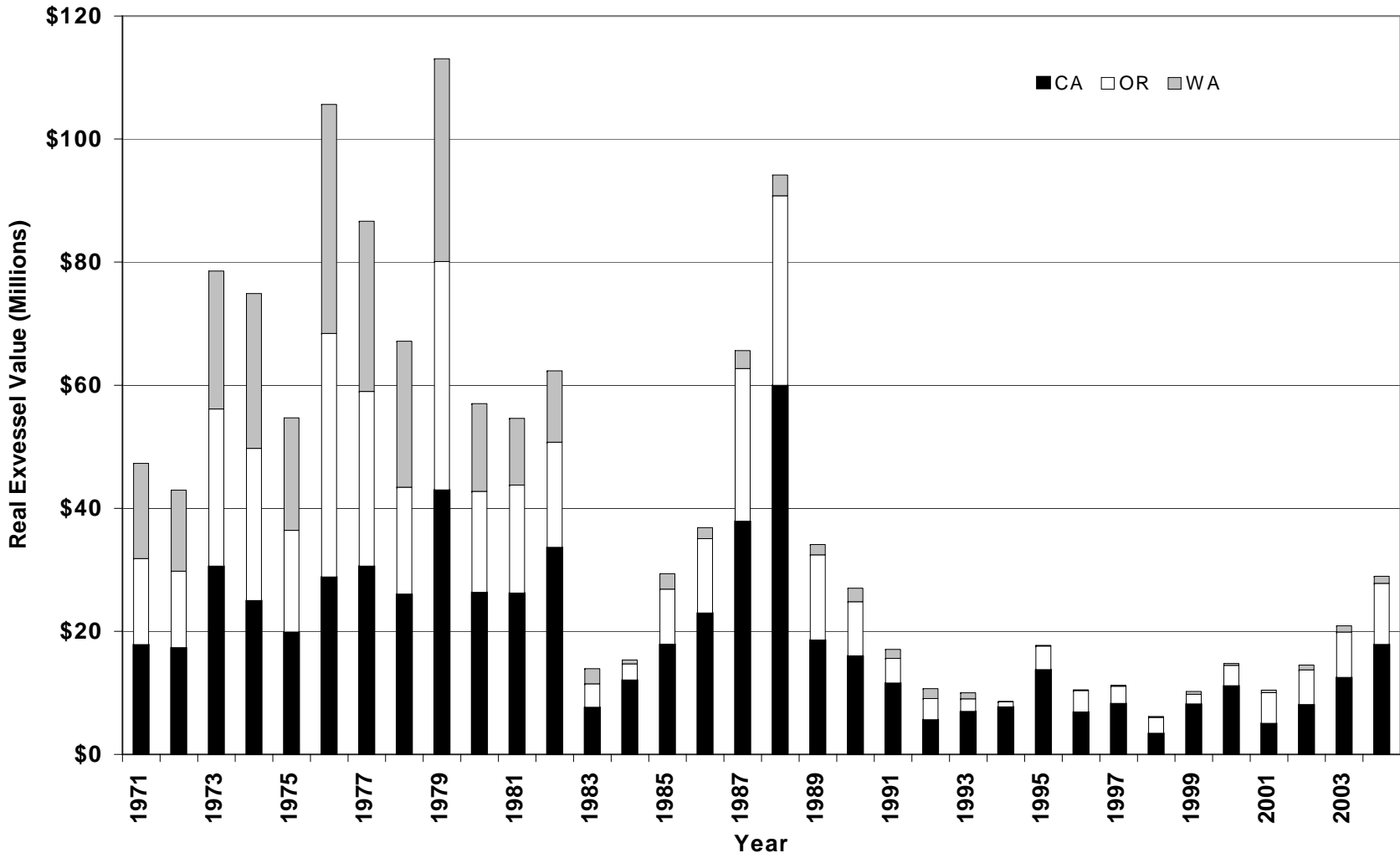


Figure IV-4. Exvessel value of West Coast non-Indian ocean commercial chinook and coho landings by state of landing (2004 dollars).

West Coast Treaty Indian Commercial Ocean Fishery

Treaty Indian commercial ocean fisheries off Washington are allocated a share of the total ocean salmon harvest. While some of the treaty Indian harvest is for ceremonial and subsistence purposes, the majority of the catch is commercial harvest. Commercial treaty Indian fisheries provide food to consumers and generate income in local and state economies through expenditures on harvesting, processing, and marketing of the catch. The treaty Indian commercial ocean fishery harvested 65,300 chinook (771,100 pounds) and 62,000 coho (384,100 pounds) in 2004, compared with 34,900 chinook (436,400 pounds) and 10,900 coho (62,200 pounds) in 2003 (Tables A-15 and D-3). The preliminary exvessel value of chinook and coho landed in 2004 is \$1,782,000 compared with an inflation-adjusted exvessel value of \$521,000 in 2003 (2004 values are projected based on PacFIN data).

Columbia River Commercial Fishery

Harvest in the ocean salmon fisheries affect inriver fisheries by affecting the number of fish available for inside treaty Indian and non-Indian harvest. Table IV-9 shows the exvessel value of Columbia River commercial harvest of chinook, coho and chum salmon. All prices and values in the table and the following discussion are reported in inflation-adjusted dollars. Exvessel prices for inriver gillnet catches of chinook vary considerably with race (spring versus fall chinook) and stock (tules versus brights). Spring chinook generally bring the highest prices and tule fall chinook and chum the lowest.

TABLE IV-9. **Exvessel values** (expressed in 2004 dollars) of inriver **commercial** harvest of **Columbia River** salmon.^{f/} (Page 1 of 1)

Fishery	Species	Average Price Per Landed Pound ^{g/} (dollars)						Exvessel Value (thousands of dollars)						Pounds (thousands)					
		1990- 1999	2000	2001	2002	2003 ^{c/}	2004 ^{h/}	1990- 1999	2000	2001	2002	2003 ^{c/}	2004 ^{c/}	1990- 1999	2000	2001	2002	2003 ^{c/}	2004 ^{c/}
OREGON																			
Non-Indian ^{i/}	Chinook																		
Gillnet	Spring	3.88	2.92	2.79	3.07	2.62	3.72	396	248	621	971	387	1,027	92	85	222	316	147	276
	Fall Brights	1.38	1.18	0.73	0.57	0.72	1.37	1,896	117	123	198	412	560	887	100	169	349	574	409
	Tules	0.41	0.21	0.14	0.11	0.10	0.22	110	3	14	28	18	50	162	16	104	255	174	224
	Coho	1.29	0.57	0.30	0.34	0.52	0.90	1,091	548	392	389	796	679	646	949	1,323	1,148	1,522	755
	Chum	0.41	0.32	0.31	0.36	0.00	0.25	0	1	e/	e/	0	e/	2	4	e/	e/	0	e/
	TOTAL							3,494	917	1,151	1,586	1,612	2,316	1,789	1,154	1,819	2,069	2,417	1,664
Treaty ^{j/}	Chinook																		
All Gears	Spring	2.88	3.05	1.45	1.26	4.10	1.85	2	2	36	18	5	148	f/	1	25	14	1	80
	Fall Brights	1.27	0.89	1.06	0.86	0.70	1.13	796	105	7	4	13	538	430	117	7	5	19	476
	Tules	0.31	0.12	0.42	0.22	0.00	0.10	20	6	e/	e/	0	30	78	49	1	1	0	299
	Coho	0.88	0.67	0.42	0.00	0.00	0.59	6	5	e/	0	0	17	5	8	1	0	0	29
	TOTAL							824	118	43	22	19	733	513	175	32	20	20	884
WASHINGTON^{k/}																			
Non-Indian	Chinook																		
Gillnet	Spring	4.11	5.25	4.02	4.41	4.19	3.94	216	17	142	307	82	272	47	3	35	70	20	69
	Fall ^{l/}	1.31	1.02	0.57	0.48	0.59	1.29	714	142	70	103	264	431	365	138	122	215	448	334
	Coho	1.30	0.54	0.28	0.34	0.58	0.93	432	277	257	183	460	314	270	504	934	538	799	334
	Chum	0.39	0.12	0.19	0.19	0.15	0.25	1	e/	e/	e/	e/	e/	1	3	1	e/	e/	e/
	TOTAL							1,363	435	468	594	806	1,018	683	648	1,093	823	1,267	737
Treaty	Chinook																		
All Gears ^{f/m/}	Spring	4.39	2.07	1.34	1.23	1.09	1.57	6	55	296	227	145	165	1	27	221	185	133	105
	Fall ^{h/}	0.98	0.63	0.25	0.18	0.19	0.55	1,139	322	332	293	300	443	810	509	1,306	1,587	1,607	806
	Coho	0.95	0.45	0.11	0.13	0.11	0.14	16	14	7	3	3	5	12	30	68	22	23	35
	TOTAL							1,160	391	635	523	448	613	823	566	1,594	1,794	1,762	945
Columbia River Total								6,841	1,861	2,297	2,725	2,885	4,680	3,808	2,543	4,538	4,706	5,466	4,230

f/ Excluding pink and sockeye salmon, and steelhead.

g/ Gillnet exvessel salmon prices are recorded in round weight and therefore are not strictly comparable to exvessel troll prices.

h/ Preliminary. (All Washington values in this table are based on preliminary information available when each year's Salmon Review is drafted.)

i/ Mainstem below Bonneville and Select Areas (Youngs Bay, Tongue Point, Blind Slough, and Deep River).

j/ Treaty Indian landings and values do not include direct sales to consumers.

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

l/ Washington prices for years prior to 2000 are based on a combination of Washington and Oregon value information.

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

Total 2004 exvessel value of commercial salmon harvested in the Columbia River was \$4.68 million. This was 62% above the inflation adjusted 2003 level. Total 2004 exvessel value for non-Indian commercial salmon harvested in the Columbia River was \$3.3 million. This value is 38% above the 2003 level, but still 31% below the average value of the 1987 through 1999 harvest. It is instructive to note that the 62% increase in inflation-adjusted revenues was achieved in spite of a 23% reduction in 2004 landings compared with the previous year. The increase in revenue is due to relatively higher average exvessel prices received for Columbia River salmon in 2004 (Table IV-9).

The total 2004 exvessel value of treaty Indian salmon harvested in the Columbia River and sold on fish tickets was \$1.3 million. This is nearly triple the 2003 value, but still 32% below the average value of the 1987 through 1999 harvest. Note that these values include only those sales made to licensed fish buyers. Treaty Indian fisher sales to the public are accounted for in harvest monitoring (Table B-20), but estimates of the pounds and value of such sales are not included in Table IV-9. Anecdotal evidence indicates the volume of direct sales to the public has increased substantially in recent years.

Other Inside Commercial Fisheries

Puget Sound and Washington Coastal Inside Fisheries

Information on 2004 Puget Sound and Washington coastal inside fisheries is currently incomplete. Based on PacFIN data, the 1981 through 2003 inflation adjusted average exvessel value reported for all salmon species taken in the commercial non-Indian fisheries in Puget Sound and Washington coastal inside fisheries (excluding the Columbia River) was \$17.6 million. Of this, an average of \$4.5 million was for chinook and coho. In 2003, the total inflation adjusted exvessel values for the commercial non-Indian salmon fisheries in these areas were \$2.9 million for all salmon species, and \$0.6 million for chinook and coho. The preliminary values for 2004 are \$4.4 million for all salmon species and \$0.7 million for chinook and coho.

The 1981 through 2003 inflation-adjusted average exvessel value reported for all salmon species taken in the commercial treaty Indian fisheries in these areas was \$21.3 million. Of this, an average of \$7.5 million was for chinook and coho. In 2003, the total inflation adjusted exvessel value for the commercial non-Indian fisheries in these areas was \$6.7 million for all salmon species and \$2.1 million for chinook and coho. The preliminary values for 2004 are \$7 million for all salmon species and \$4.7 million for chinook and coho.

Klamath River Fisheries

From 1987 through 1989, catch in the Yurok and Hoopa Valley Reservation commercial Indian gillnet fisheries in the Klamath River estuary averaged about 27,500 chinook a year (some spring chinook were included in the 1989 commercial harvest). From 1989 through 1998 there was no commercial harvest in the estuary, except in 1996. There has been commercial harvest in the estuary in every year since 1999. The 1989 harvest of 27,700 chinook was sold for \$852,000 (unadjusted for inflation, \$1.2 million adjusted to 2004 dollars) and had an average per fish weight of 15.4 pounds. For the 1996 harvest of 3,129 spring chinook and 40,147 fall chinook, the value at first sale was estimated at \$525,000 (unadjusted for inflation, \$606,00 adjusted to 2004 dollars). The average weight of fish landed in 1996 was 13.5 pounds. Records are not available for the weight and value of harvests after 1996 as each Indian fisher now markets their fish independently. The commercial chinook harvest was 2,100 fish in 1999, 4,100 in 2000, and more than 10,000 chinook each year since 2000 (Appendix B, Table B-5).

CEREMONIAL AND SUBSISTENCE SALMON FISHERIES

In addition to the commercial Indian fisheries discussed above, fish are taken in Indian fisheries each year for ceremonial and subsistence purposes. Estimates of the amount of salmon used for ceremonial and subsistence purposes are documented in Appendix B. Discussion of the importance of ceremonial and subsistence fish to Indian communities is presented in Appendix B to Amendment 14 of the salmon FMP.

RECREATIONAL SALMON FISHERIES

Ocean

The preliminary number of vessel-based ocean salmon recreational angler trips taken on the West Coast in 2004 was 470,900, an increase of 19% from 2003, and 20% less than the 1979 through 1991 average. Compared with 2003, preliminary estimates of the number of trips taken in 2004 increased by 60% in California, increased by 1% in Oregon, and decreased by 9% in Washington. Note that Washington and total effort estimates in Tables IV-10 and IV-13 differ from those in Tables I-4 and Appendix A Table A-17 because the former exclude bank effort from the Columbia River north jetty.

Recreational salmon fishing takes place primarily in two modes, (1) anglers fishing from privately owned pleasure crafts, and (2) anglers employing the services of the charter boat fleet. In general, success rates on charter vessels tend to be higher than success rates on private vessels. There are small amounts of shore-based effort directed toward ocean area salmon, primarily fishing occurring off jetties and piers. The proportion of angler trips taken on charter vessels in Washington, Oregon and California in 2004 was generally comparable to observations from recent years. Figure IV-5 and Tables IV-10, IV-11, IV-12, and IV-13 display details of effort and catch by port area and mode for each state.

California

The preliminary estimate of total 2004 ocean salmon angler effort in California (215,700 angler trips) increased 60% compared to 2003, (Table IV-11) and was 15% above the 1979 through 1991 average. Effort increased fairly dramatically in all areas. In 2004, the proportion of California trips occurring on charter vessels was 45%. This is at the high end of the range (41% to 45%) observed since 1997 (Figure IV-5).

Angler success rates in California, measured in retained salmon per angler trip, increased to 1.03 salmon per day in 2004, compared with 0.71 and 0.87 salmon per day in 2003 and 2002, respectively. In 2004 anglers on charter vessels landed about 0.46 more salmon per day than anglers fishing from private vessels, compared with a differential of about 0.19 fish per day in 2002 and 2003. Since 1976, the differential between charter and private boat angler success rates has ranged from a low of 0.2 in 1991 up to 0.64 salmon per day in 1994.

Oregon

Ocean recreational salmon trips in 2004 in Oregon were up slightly to 145,700 trips from an estimated 144,500 angler trips in 2003. Totals for both years were more than one third above 2002 levels. Increases were noted in Tillamook and Brookings, but decreases occurred in Astoria and Newport. The charter industry share of Oregon recreational salmon trips in 2004 was about 14%, a slight reduction from recent years (Figure IV-5 and Table IV-12).

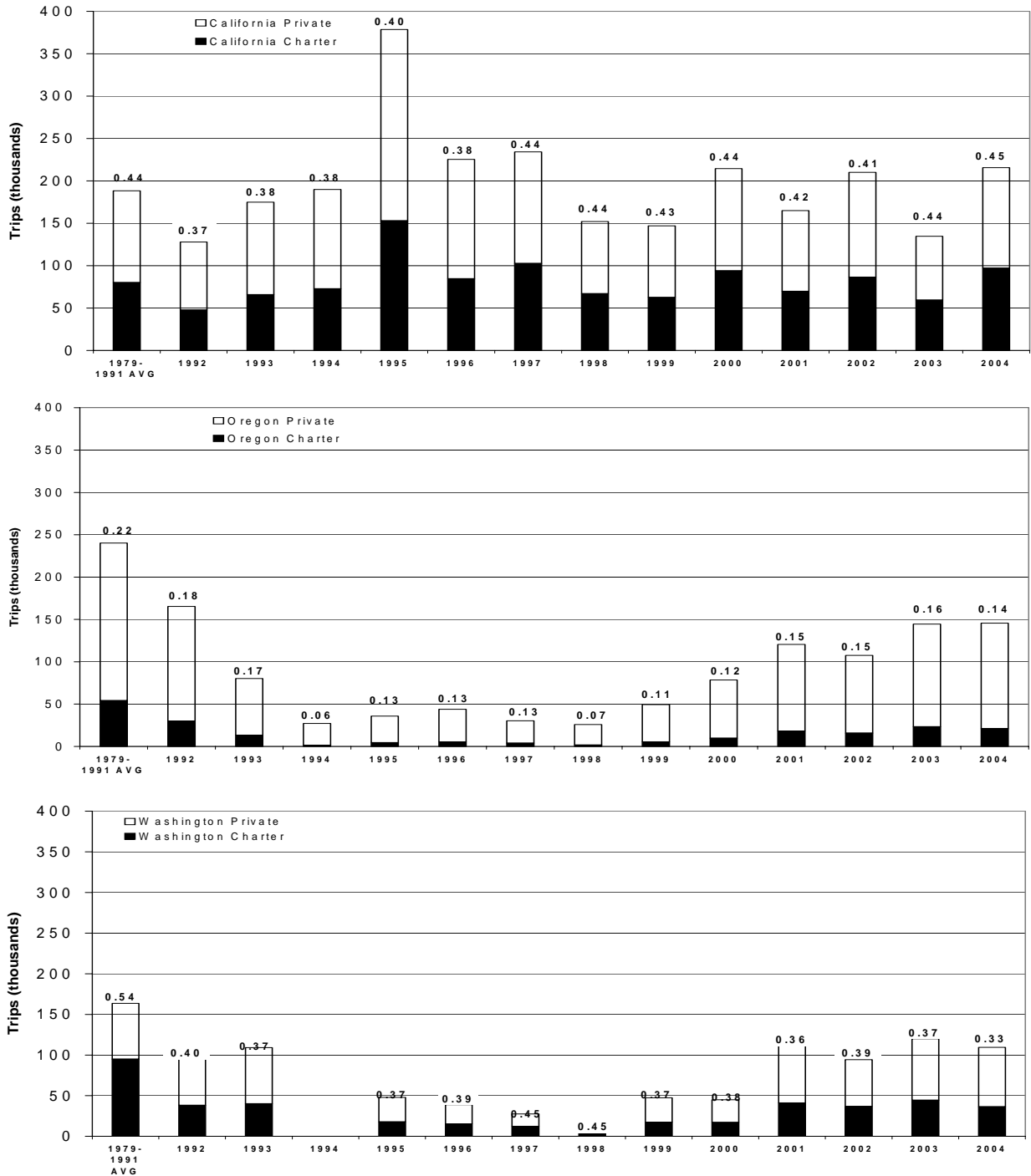


Figure IV-5. Total recreational ocean salmon trips for California, Oregon, and Washington, with proportion of charter trips shown above each bar.

TABLE IV-10. **California, Oregon, and Washington** ocean **recreational** salmon **effort** in thousands of angler trips and **catch** in thousands of fish by boat type. (Page 1 of 2)

Year or Average	Angler Trips		Chinook Catch ^{iv}		Coho Catch ^{av}	
	Charter	Private	Charter	Private	Charter	Private
CALIFORNIA						
1981-1985	68.9	78.1	74.6	34.4	1.5	18.3
1986-1990	95.9	144.8	100.1	66.3	5.3	35.1
1991	69.2	127.4	39.9	40.6	13.5	55.8
1992	47.7	80.2	42.4	31.1	1.0	10.5
1993	66.0	108.9	66.0	44.0	4.2 ^d	25.6
1994	72.8	117.1	99.1	84.1		0.5
1995	152.9	225.6	182.0	215.2	b/	0.9
1996	84.6	140.9	72.9	91.2	b/	0.6
1997	102.6	131.7	122.4	106.6	b/	0.5
1998	67.0	85.0	59.7	62.3	b/	0.1
1999	62.6	84.4	40.5	47.4	b/	0.6
2000	94.0	120.4	91.9	94.0	b/	0.4
2001	69.9	95.2	43.2	55.6	0.1	1.2
2002	86.6	123.4	85.1	96.9	b/	0.8
2003	59.4	75.3	48.3	46.4	0.1	0.6
2004 ^{pv}	97.2	118.5	124.3	96.0	b/	1.4
OREGON^{q/}						
1979	73.7	187.7	5.4	13.3	59.8	101.8
1980	79.1	218.9	5.1	11.9	98.3	207.5
1981-1985	45.7	187.9	6.2	26.9	48.0	117.6
1986-1990	56.5	184.6	7.0	28.8	71.6	148.4
1991	40.3	149.7	1.9	12.5	68.9	190.2
1992	30.0	135.4	2.7	9.9	46.2	139.6
1993	13.4	66.9	0.9	5.6	16.2	43.1
1994	1.4	25.5	0.5	5.5	-	b/
1995	4.6	31.2	0.3	6.4	4.0	7.9
1996	5.6	38.3	1.2	10.1	3.0	4.2
1997	3.9	26.4	1.5	6.2	2.4	3.6
1998	1.8	24.2	0.5	3.6	0.5	1.8
1999	5.5	43.9	0.9	6.9	3.4	10.3
2000	9.8	68.7	3.6	21.8	7.5	25.7
2001	18.2	102.3	6.4	20.8	19.3	75.0
2002	15.7	91.9	7.9	39.5	9.0	27.5
2003	23.4	121.1	8.8	31.8	23.7	90.0
2004 ^{cv}	21.1	124.6	14.6	41.8	13.1	58.8

TABLE IV-10. **California, Oregon, and Washington** ocean **recreational** salmon **effort** in thousands of angler trips and **catch** in thousands of fish by boat type. (Page 2 of 2)

Year or Average	Angler Trips		Chinook Catch ^{t/}		Coho Catch ^{a/}	
	Charter	Private	Charter	Private	Charter	Private
WASHINGTON^{s/t/}						
1979	220.8	89.8	61.1	15.7	227.9	62.4
1980	193.9	86.2	41.1	12.5	288.4	73.1
1981-1985	102.0	69.7	42.6	13.8	113.3	69.2
1986-1990	53.5	59.4	16.0	10.0	78.0	77.6
1991	43.7	69.6	5.0	7.3	80.2	111.6
1992	38.2	56.8	11.8	6.6	48.5	62.6
1993	40.2	68.9	5.8	6.9	52.8	62.3
1994	-	-	-	-	-	-
1995	17.9	30.0	b/	0.4	26.1	37.4
1996	15.3	23.5	b/	0.2	24.5	24.4
1997	12.5	15.1	1.7	2.3	12.5	12.8
1998	5.5	6.8	1.1	0.9	5.6	7.1
1999	17.5	29.9	5.7	4.1	16.3	23.7
2000	17.1	27.9	5.1	3.4	27.9	35.8
2001	41.2	72.4	11.9	10.8	66.2	98.2
2002	37.0	57.4	30.9	27.0	30.4	43.7
2003	44.5	75.5	16.0	18.1	53.4	84.9
2004 ^{c/}	36.4	73.1	10.3	14.6	37.6	75.1

n/ Catch numbers may include some illegal harvest.

o/ Fewer than 50 fish.

p/ Preliminary.

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

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

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

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

TABLE IV-11. Estimates of **California recreational** ocean salmon angler **trips** by port area and boat type. (Page 1 of 1)

Year or Average	Crescent City	Eureka	Fort Bragg	San Francisco	Monterey	State Total
CHARTER TRIPS (thousands)						
1976-1980	1.5	1.2	2.4	63.5	4.0	72.7
1981-1985	0.7	1.3	1.8	62.1	3.0	68.9
1986-1990	1.0	3.5	4.0	74.3	13.1	95.9
1991	1.0	2.1	5.4	43.7	17.0	69.2
1992	0.1	0.2	1.5	38.6	7.3	47.7
1993	0.4	1.0	2.0	53.2	9.4	66.0
1994	0.2	0.2	1.3	63.9	7.2	72.8
1995	0.1	0.7	3.8	79.2	68.9	152.9
1996	a/	0.6	5.0	57.6	21.4	84.6
1997	-	0.8	2.2	69.1	30.6	102.6
1998	-	0.3	2.7	44.2	19.7	67.0
1999	-	0.4	2.3	51.0	8.9	62.6
2000	0.1	1.6	8.6	53.9	29.9	94.0
2001	a/	1.4	9.7	43.4	15.4	69.9
2002	-	1.6	10.7	54.9	19.4	86.6
2003	-	1.1	8.2	38.7	11.4	59.4
2004 ^{b/}	a/	1.9	10.7	63.1	21.5	97.2
PRIVATE TRIPS (thousands)						
1976-1980	18.4	22.7	9.3	34.4	6.0	90.8
1981-1985	22.4	21.8	7.8	16.8	9.3	78.1
1986-1990	38.6	34.4	11.4	24.3	36.1	144.8
1991	24.5	25.3	17.2	26.5	33.8	127.4
1992	9.0	8.9	9.7	23.4	29.1	80.2
1993	15.0	17.3	17.4	29.6	29.7	108.9
1994	9.4	6.3	18.1	43.7	39.6	117.1
1995	11.8	12.0	25.4	62.2	114.2	225.6
1996	11.3	13.6	26.2	46.6	43.2	140.9
1997	6.6	11.6	18.0	42.1	53.5	131.7
1998	3.3	6.4	5.7	36.9	32.7	85.0
1999	5.8	11.6	7.9	38.8	20.3	84.4
2000	7.2	11.5	17.0	29.8	54.9	120.4
2001	8.6	14.7	21.1	28.1	22.7	95.2
2002	3.9	16.1	21.1	33.9	48.5	123.4
2003	2.2	12.5	15.5	27.9	17.1	75.3
2004 ^{b/}	3.1	20.5	19.8	42.7	32.3	118.5
TOTAL TRIPS (thousands)						
1976-1980	20.0	23.9	11.7	97.9	10.0	163.5
1981-1985	23.1	23.1	9.6	78.9	12.2	147.0
1986-1990	39.6	37.9	15.4	98.6	49.2	240.7
1991	25.6	27.4	22.6	70.2	50.8	196.6
1992	9.1	9.1	11.2	62.0	36.4	127.9
1993	15.4	18.3	19.3	82.8	39.1	174.9
1994	9.7	6.4	19.4	107.6	46.8	189.9
1995	11.9	12.8	29.3	141.5	183.1	378.5
1996	11.3	14.2	31.3	104.2	64.5	225.4
1997	6.6	12.4	20.2	111.2	84.0	234.4
1998	3.3	6.7	8.3	81.0	52.4	151.8
1999	5.8	12.0	10.2	89.8	29.2	147.1
2000	7.2	13.1	25.6	83.7	84.8	214.4
2001	8.6	16.0	30.8	71.5	38.2	165.1
2002	3.9	17.7	31.8	88.8	67.9	210.1
2003	2.2	13.6	23.7	66.6	28.5	134.6
2004 ^{b/}	3.1	22.4	30.5	105.8	53.8	215.7

a/ Fewer than 50 trips.

b/ Preliminary.

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

Year or Average	Astoria	Tillamook	Newport	Coos Bay	Brookings	State Total
CHARTER TRIPS (thousands)						
1979	18.5	2.8	26.7	22.7	3.0	73.7
1980	26.3	3.7	26.7	19.6	2.8	79.1
1981-1985	10.3	3.0	17.2	11.9	3.3	45.7
1986-1990	7.1	5.3	27.5	12.9	3.6	56.5
1991	8.1	2.5	19.2	8.4	2.1	40.3
1992	4.6	2.7	14.8	7.4	0.5	30.0
1993	5.8	0.5	4.7	1.8	0.6	13.4
1994	0.0 ^{a/}	1.2	b/	b/	0.2	1.4
1995	2.5	1.2	0.6	b/	0.3	4.6
1996	1.9	0.8	2.1	0.1	0.6	5.6
1997	1.3	0.3	1.8	0.0	0.5	3.9
1998	0.4	0.1	0.8	0.2	0.3	1.8
1999	1.7	0.3	2.3	0.5	0.7	5.5
2000	1.2	0.6	4.8	2.3	0.8	9.8
2001	4.3	1.4	8.8	3.0	0.7	18.2
2002	3.1	1.6	7.1	3.5	0.3	15.7
2003	3.9	2.0	13.0	4.0	0.5	23.4
2004 ^{c/}	3.0	2.5	11.1	3.8	0.6	21.1
PRIVATE TRIPS (thousands)						
1979	24.3	16.3	45.4	52.9	48.8	187.7
1980	20.1	29.3	56.6	65.2	47.7	218.9
1981-1985	15.6	27.0	40.3	51.8	52.9	187.8
1986-1990	10.5	23.7	47.1	48.3	54.8	184.5
1991	13.6	18.5	34.0	49.3	34.4	149.7
1992	8.3	23.4	38.3	48.2	17.2	135.4
1993	12.7	5.1	12.4	13.6	23.2	66.9
1994	0.0 ^{a/}	9.1	0.1	0.4	16.0	25.5
1995	7.2	3.9	0.4	0.7	19.1	31.2
1996	3.7	7.5	0.6	3.8	22.7	38.3
1997	2.3	3.4	0.6	3.9	16.1	26.4
1998	1.7	5.9	0.5	2.2	13.8	24.2
1999	5.7	10.9	5.0	7.1	15.1	43.8
2000	7.2	10.9	8.2	21.2	21.2	68.7
2001	19.0	15.1	14.8	28.1	25.4	102.3
2002	9.0	22.8	10.9	29.9	19.4	91.9
2003	15.4	26.0	26.5	38.9	14.3	121.1
2004 ^{c/}	15.7	26.7	27.9	36.7	17.7	124.6
TOTAL TRIPS (thousands)						
1979	43.3	31.0	72.4	94.7	60.0	301.3
1980	46.3	47.8	83.9	97.4	56.0	331.4
1981-1985	26.0	30.0	57.5	63.7	56.3	233.6
1986-1990	17.7	29.0	74.6	61.4	58.4	241.1
1991	21.7	21.0	53.3	57.7	36.4	190.1
1992	12.9	26.1	53.1	55.6	17.7	165.3
1993	17.8	5.6	17.1	15.3	23.8	79.6
1994	0.0 ^{a/}	10.3	0.1	0.4	16.2	26.9
1995	9.6	5.1	0.9	0.7	19.4	35.8
1996	5.6	8.3	2.8	3.9	23.3	44.0
1997	3.6	3.7	2.4	3.9	16.6	30.2
1998	2.1	6.0	1.3	2.4	14.1	26.0
1999	7.4	11.2	7.4	7.6	15.8	49.4
2000	8.4	11.5	13.0	23.6	22.0	78.6
2001	23.2	16.5	23.6	31.1	26.1	120.5
2002	12.1	24.4	18.1	33.4	19.7	107.6
2003	19.2	28.0	39.6	42.9	14.8	144.4
2004 ^{c/}	18.7	29.2	39.0	40.5	18.3	145.7

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

b/ Fewer than 50 trips.

c/ Preliminary.

TABLE IV-13. Estimates of **Washington recreational** ocean salmon angler **trips** by port area. (Page 1 of 1)

Year or Average	Neah Bay ^{a/}	La Push	Westport	Columbia River ^{b/}	Coastal Area Total
CHARTER TRIPS (thousands)					
1984 ^{c/}	0.3	0.0	11.6	18.0	29.9
1985 ^{c/}	2.0	0.0	42.2	20.7	64.9
1986-1990	2.0	0.0	35.7	15.9	53.5
1991	1.4	0.2	28.6	13.5	43.7
1992	0.7	0.2	28.1	9.2	38.2
1993	1.0	0.1	27.4	11.7	40.2
1994	-	-	-	-	-
1995	0.2	0.1	12.7	5.0	17.9
1996	0.2	d/	10.3	4.8	15.3
1997	0.1	0.1	10.0	2.4	12.5
1998	0.0	0.0	4.5	1.1	5.5
1999	0.5	0.1	11.5	5.5	17.5
2000	0.7	0.1	12.2	4.1	17.1
2001	1.4	0.3	25.6	13.9	41.2
2002	1.5	0.4	24.5	10.6	37.0
2003	2.0	0.9	27.3	14.3	44.5
2004 ^{e/}	1.9	0.6	22.5	11.4	36.5
PRIVATE TRIPS (thousands)					
1984 ^{c/}	8.3	0.2	2.3	36.0	46.8
1985 ^{c/}	15.2	1.5	13.7	19.4	49.8
1986-1990	16.9	2.5	16.6	23.4	59.4
1991	14.8	3.3	24.2	27.3	69.6
1992	11.0	2.3	25.6	17.9	56.8
1993	18.4	2.8	23.5	24.2	68.9
1994	-	-	-	-	-
1995	5.3	1.4	9.0	14.2	30.0
1996	9.1	1.3	5.2	7.9	23.5
1997	2.8	0.9	7.3	4.1	15.1
1998	0.0	0.6	3.5	2.6	6.8
1999	7.6	2.9	7.6	11.8	29.9
2000	7.2	1.8	7.7	11.1	27.9
2001	16.6	3.1	24.1	28.7	72.4
2002	12.2	3.0	16.9	25.3	57.4
2003	18.4	3.5	20.7	32.9	75.5
2004 ^{e/}	24.2	3.9	15.7	29.2	73.1
TOTAL TRIPS (thousands)					
1984 ^{c/}	8.6	0.2	13.9	54.0	76.7
1985 ^{c/}	17.2	1.5	55.9	40.1	114.7
1986-1990	18.9	2.5	52.3	39.3	113.0
1991	16.2	3.5	52.8	40.8	113.3
1992	11.7	2.5	53.7	27.1	95.0
1993	19.4	2.9	50.9	35.9	109.1
1994	-	-	-	-	-
1995	5.5	1.5	21.7	19.2	47.9
1996	9.3	1.3	15.5	12.7	38.8
1997	2.9	0.9	17.3	6.5	27.6
1998	0.0	0.6	8.0	3.7	12.3
1999	8.1	2.9	19.1	17.3	47.4
2000	7.9	2.0	19.8	15.2	45.0
2001	17.9	3.4	49.7	42.5	113.6
2002	13.7	3.4	41.4	35.9	94.4
2003	20.4	4.4	48.0	47.1	120.0
2004 ^{e/}	40.6	38.2	4.6	26.1	109.5

a/ Does not include effort from the late-season state water Area 4B fishery.

b/ Does not include effort from the Columbia River Jetty.

c/ Values for 1984 and 1985 include some Columbia River fishing after closure of the ocean fishery.

d/ Fewer than 50 trips.

e/ Preliminary.

From 1984 to 1993, coho comprised 87% of the recreational fishery catch. From 1994 through 1998 the lack of opportunity to retain coho south of Cape Falcon generally resulted in much lower angler success rates. With the opportunity to retain coho in mark-selective fisheries south of Cape Falcon beginning in 1999, salmon retention rates nearly doubled in 1999 to 0.43, from 0.25 in 1998. Between 2000 through 2003, retention rates ranged between 0.75 and 1.1 salmon per angler day. The retention rate for 2004 was near the middle of this range at 0.88.

Washington

In 2004, 109,500 ocean angler trips were taken on vessels on the Washington coast, a decrease of 9% from 120,000 trips taken in 2003, but still well above effort levels observed between 1994 and 2000. The relatively high level of activity observed in recent years is primarily due to management under mark-selective fishery regulations for coho. The proportion of Washington angler trips taken on charter vessels fell to 33% in 2004 from 37% in 2003 and 39% in 2002 (Figure IV-5 and Table IV-13). This is the lowest charter share for Washington shown in Figure IV-5.

Angler success rates (in terms of retained fish per angler trip) declined to 1.26 in 2004 from 1.44 in 2003 and 1.40 in 2002. The average retention rate between 1979 and 2000 was 1.41 salmon per trip. Note that these figures do not include angler effort that occurs from the ocean side of the Columbia River jetty, or angler effort in the state managed Area 4B add-on fishery (which has not opened since 2000).

In an effort to increase angler participation in non-salmon recreational fishing and to extend the length of the salmon season, partial-week closures were used in the recreational fishery north of Cape Falcon beginning in 1985. Sunday through Thursday openings were used beginning in 1996 in the Westport and Columbia River port areas, but the Neah Bay and La Push areas were generally open seven days a week. In 2004, Westport and Columbia River areas switched from partial-week openings to seven-day-a-week openings beginning on July 23rd. Compared with 2003, bottomfish trips in 2004 decreased on the Washington coast (Table IV-14). This shift may be partially due to increased restrictions on recreational bottom fishing. (Note that bottomfish trips are reported for Washington only).

Buoy 10 and Area 4B Add-On Fisheries

Angler retention rates in the Buoy 10 fishery fell from 0.80 salmon per day in 2003 to 0.46 salmon per day in 2004. However this is still higher than the 2002 average catch rate of 0.31 salmon per day. Effort in 2004 was down 22%, compared with 2003, to about 69,000 trips (Table IV-15).

In 2000, about 3,400 trips were made in the late-season Area 4B add-on fishery. Since that time there have been no late season fisheries because adequate opportunity was provided in the ocean fishery (Table IV-15).

There are numerous other inside recreational salmon fishing opportunities in Puget Sound and coastal streams and estuaries that are not discussed in this chapter of the review. See Appendix B for estimates of harvest in some of these other fisheries.

TABLE IV-14. Oregon and Washington recreational salmon, bottomfish, and sturgeon angler trips by ocean port area and boat type for the area north of Cape Falcon. (Page 1 of 3)

Year	Columbia River and Buoy 10					Westport			La Push			Neah Bay and Area 4B Add On		
	Charter	Private	Subtotal	Jetty	Total	Charter	Private	Total	Charter	Private	Total	Charter	Private	Total
SALMON EFFORT (thousands)														
1984	NA	NA	-	NA	54.0	11.6	2.3	13.9	0.0	0.2	0.2	0.3	8.3	8.6
1985	NA	NA	-	NA	90.3	42.2	13.7	55.9	0.0	1.5	1.5	2.0	15.2	17.2
1986	NA	NA	-	NA	144.3	36.6	14.8	51.4	0.0	1.7	1.7	2.4	17.4	19.8
1987	39.5	130.0	169.5	12.4	181.9	34.1	9.8	43.9	0.0	2.0	2.0	1.9	17.8	19.7
1988	34.5	154.4	188.9	16.9	205.8	23.5	13.9	37.4	0.0	2.8	2.8	2.0	14.8	16.8
1989	40.4	169.2	209.6	22.9	232.5	40.8	18.7	59.5	0.0	1.6	1.6	2.8	25.5	28.3
1990	32.8	128.7	161.5	5.7	167.2	43.4	25.9	69.3	0.0	4.2	4.2	3.0	30.8	33.8
1991	37.9	172.7	210.6	35.5	246.1	28.6	24.2	52.8	0.2	3.3	3.5	1.9	23.5	25.4
1992	22.3	116.6	138.9	28.4	167.3	28.1	25.6	53.7	0.2	2.3	2.5	1.1	18.6	19.7
1993	20.2	103.3	123.5	24.6	148.1	27.4	23.5	50.9	0.1	2.8	2.9	1.6	25.7	27.3
1994	0.5	6.3	6.8	3.6	10.4	-	-	-	-	-	-	-	-	-
1995	9.0	43.4	52.4	8.5	60.9	12.7	9.0	21.7	0.1	1.4	1.5	0.3	9.2	9.5
1996	7.3	26.8	34.1	7.5	41.6	10.3	5.2	15.5	//	1.3	1.3	0.3	10.6	10.9
1997	8.4	53.0	61.3	7.4	68.7	10.0	7.3	17.3	0.1	0.9	0.9	0.2	4.6	4.8
1998	3.2	30.7	33.9	3.6	37.5	4.5	3.5	8.0	0.0	0.6	0.6	0.1	6.3	6.4
1999	8.7	63.9	72.6	6.2	78.8	11.5	7.6	19.1	0.1	2.9	2.9	0.5	7.6	8.1
2000	9.8	82.2	92.0	7.0	99.0	12.2	7.7	19.8	0.1	1.8	2.0	1.1	10.3	11.4
2001	22.5	165.0	187.5	17.0	204.5	25.6	24.1	49.7	0.3	3.1	3.4	1.4	16.8	18.1
2002	15.2	115.1	130.3	2.8	133.1	44.5	16.9	41.4	0.4	3.0	3.4	1.5	12.2	13.7
2003	19.3	133.3	152.7	7.2	159.8	27.3	20.7	48.0	0.9	3.5	4.4	2.0	18.4	20.4
2004 ^{9/}	15.8	113.3	129.2	3.2	132.3	22.5	15.7	38.2	0.6	3.9	4.6	1.9	24.2	26.1

TABLE IV-14. Oregon and Washington recreational salmon, bottomfish, and sturgeon angler trips by ocean port area and boat type for the area north of Cape Falcon. (Page 2 of 3)

Year	Columbia River and Buoy 10					Westport			La Push			Neah Bay and Area 4B Add On		
	Charter	Private	Subtotal	Jetty	Total	Charter	Private	Total	Charter	Private	Total	Charter	Private	Total
BOTTOMFISH EFFORT (thousands)^{iv}														
1984	2.1	0.1	2.2	-	-	12.4	0.5	12.9	0.0	0.0	0.0	1.8	12.3	14.1
1985	1.9	0.2	2.1	-	-	15.3	1.0	16.3	0.0	0.1	0.1	3.0	10.6	13.6
1986	1.7	0.2	1.9	-	-	19.6	0.8	20.4	0.0	0.2	0.2	3.5	11.4	14.9
1987	1.7	0.3	2.0	0.5	2.5	21.1	1.2	22.3	0.0	0.5	0.5	5.6	16.0	21.6
1988	2.1	0.2	2.3	0.8	3.1	24.4	1.1	25.5	0.0	0.7	0.7	5.7	14.8	20.5
1989	1.2	0.6	1.8	1.5	3.3	19.3	1.0	20.3	0.0	0.6	0.6	6.8	16.3	23.1
1990	1.4	0.3	1.7	2.4	4.1	21.8	0.8	22.6	0.0	0.8	0.8	6.4	18.1	24.5
1991	1.3	0.4	1.7	1.8	3.5	23.5	1.1	24.6	0.0	0.9	0.9	5.9	18.2	24.1
1992	1.4	0.5	1.9	2.3	4.1	20.5	2.2	22.7	0.0	1.5	1.5	4.8	19.1	23.9
1993	2.2	0.6	2.8	2.6	5.4	21.5	1.8	23.0	0.1	1.1	1.2	5.1	19.2	24.3
1994	2.7	0.7	3.3	2.7	6.0	26.0	1.7	27.7	0.2	1.9	2.1	4.1	15.0	19.1
1995	1.3	0.9	2.3	2.2	4.4	21.1	1.6	22.7	<i>a/</i>	1.6	1.6	4.1	19.2	23.3
1996 ^{ij/}	1.2	0.5	1.7	1.7	3.4	21.4	1.2	22.6	0.0	1.6	1.6	4.8	21.0	25.8
1997	1.2	0.7	2.0	2.5	4.4	19.2	1.4	20.6	0.0	2.2	2.2	4.9	22.7	27.7
1998	1.8	0.5	2.3	0.9	3.2	21.5	1.3	22.8	0.0	1.2	1.2	5.1	23.9	29.0
1999	1.0	0.5	1.5	0.5	2.0	17.1	1.2	18.3	0.1	1.0	1.1	4.5	20.3	24.9
2000	1.2	0.6	1.8	0.5	2.3	16.7	0.9	17.6	0.2	1.3	1.5	4.5	20.1	24.6
2001	2.8	0.4	3.2	0.9	4.1	13.9	1.2	15.1	0.3	0.9	1.2	4.7	16.5	21.2
2002	14.3	0.5	1.9	0.8	2.8	14.9	1.2	16.1	0.3	1.2	1.6	4.0	15.7	19.7
2003	2.4	0.5	2.9	0.9	3.8	16.3	1.8	18.2	1.0	2.5	3.6	5.2	21.4	26.6
2004 ^{b/}	2.4	0.8	3.2	0.3	3.5	14.8	1.7	16.5	0.4	1.7	2.1	3.5	15.2	18.7

TABLE IV-14. Oregon and Washington recreational salmon, bottomfish, and sturgeon angler trips by ocean port area and boat type for the area north of Cape Falcon. (Page 3 of 3)

Year	Columbia River and Buoy 10					Westport			La Push			Neah Bay and Area 4B Add On			
	Charter	Private	Subtotal	Jetty	Total	Charter	Private	Total	Charter	Private	Total	Charter	Private	Total	
STURGEON EFFORT (thousands of trips)^{k/}															
1984	1.7	28.4	30.1	-	30.1	-	-	-	-	-	-	-	-	-	-
1985	5.0	32.9	37.9	-	37.9	-	-	-	-	-	-	-	-	-	-
1986	5.7	37.7	43.4	-	43.4	-	-	-	-	-	-	-	-	-	-
1987	6.0	45.9	51.9	-	51.9	-	-	-	-	-	-	-	-	-	-
1988	6.2	34.4	40.6	-	40.6	-	-	-	-	-	-	-	-	-	-
1989	4.3	24.3	28.6	-	28.6	-	-	-	-	-	-	-	-	-	-
1990	3.9	30.9	34.8	-	34.8	-	-	-	-	-	-	-	-	-	-
1991	3.7	28.7	32.4	-	32.4	-	-	-	-	-	-	-	-	-	-
1992	5.0	42.3	47.3	-	47.3	-	-	-	-	-	-	-	-	-	-
1993	6.1	53.2	59.3	-	59.3	-	-	-	-	-	-	-	-	-	-
1994	7.5	43.9	51.4	-	51.4	-	-	-	-	-	-	-	-	-	-
1995	7.7	59.5	67.2	-	67.2	-	-	-	-	-	-	-	-	-	-
1996	11.1	52.8	63.9	-	63.9	-	-	-	-	-	-	-	-	-	-
1997	12.2	48.4	60.7	-	60.7	-	-	-	-	-	-	-	-	-	-
1998	14.2	64.3	78.5	-	78.5	-	-	-	-	-	-	-	-	-	-
1999	13.2	57.1	70.3	-	70.3	-	-	-	-	-	-	-	-	-	-
2000	11.6	57.6	69.2	-	69.2	-	-	-	-	-	-	-	-	-	-
2001	10.8	45.1	55.9	-	55.9	-	-	-	-	-	-	-	-	-	-
2002	9.9	49.3	59.3	-	59.3	-	-	-	-	-	-	-	-	-	-
2003	6.6	38.1	44.7	-	44.7	-	-	-	-	-	-	-	-	-	-
2004 ^{b/}	7.4	32.2	39.6	-	39.6	-	-	-	-	-	-	-	-	-	-

f/ Fewer than 50 angler trips.

g/ Preliminary.

h/ Oregon data is a minimum estimate, as the jetty is not sampled, and bottomfish sampling of vessels only occurs when the ocean is open for salmon.

i/ No Oregon bottomfish trips are included.

j/ Includes tuna trips: Ilwaco - 9 charter, 14 private; Westport - 784 charter, 0 private.

k/ Annual sturgeon angler trips for the lower Columbia River from the western tip of Puget Island to mouth.

TABLE IV-15. Buoy 10 and Area 4B add-on recreational salmon angler trips and catch by boat type.^{a/} (Page 1 of 2)

Year or Average	Angler Trips			Chinook Catch			Coho Catch			Pink Catch	
	Charter	Private	Jetty	Charter	Private	Jetty	Charter	Private	Jetty	Charter	Private
OREGON BUOY 10											
1987-1990	4,002	38,619	4,029	793	6,415	29	3,292	18,348	690	0	0
1991	4,077	46,468	6,884	321	2,692	26	6,543	54,720	3,003	0	0
1992	2,496	29,610	6,055	246	2,530	33	1,219	10,716	1,842	0	0
1993	684	20,244	6,052	36	1,225	89	264	5,316	1,328	0	0
1994	210	2,732	1,244	-	-	-	34	481	211	0	0
1995	174	8,680	2,538	7	145	0	64	1,366	560	0	0
1996	179	6,122	2,285	59	419	0	66	1,361	532	0	0
1997	1,071	16,207	2,744	273	4,032	0	592	5,411	761	0	0
1998	588	9,949	631	145	2,191	0	59	1,169	31	0	0
1999	454	19,030	1,370	125	3,834	9	18	3,357	146	0	0
2000 ^{b/}	836	27,492	2,129	26	3,083	4	297	7,523	295	0	0
2001 ^{b/}	1,616	54,444	4,115	47	5,578	10	1,481	56,403	523	0	0
2002 ^{b/}	512	39,943	1,589	31	10,759	0	2	3,060	52	0	0
2003 ^{b/}	991	45,461	2,315	47	7,903	0	624	28,518	526	0	0
2004 ^{b/c/}	66	33,092	1,170	19	9,191	0	17	7,585	47	0	0
WASHINGTON BUOY 10											
1987-1990	10,678	71,927	6,567	1,907	14,398	68	8,353	40,415	1,627	1	11
1991	11,795	85,392	17,064	1,098	7,443	67	20,217	118,284	5,506	0	63
1992	6,147	60,827	10,346	907	6,796	143	4,415	23,489	1,401	0	0
1993	2,035	46,151	608	290	3,648	0	912	13,090	22	0	16
1994	316	3,561	1,126	-	-	-	101	826	96	0	0
1995	516	12,921	396	37	664	0	246	2,716	103	0	0
1996	352	9,096	0	37	894	0	123	2,455	0	0	0
1997	3,614	30,334	1,755	1,125	7,701	22	2,143	11,290	160	0	0
1998	1,080	16,388	1,362	333	3,075	40	188	1,584	44	0	0
1999	1,055	27,672	0	185	5,697	0	175	5,165	0	0	0
2000 ^{b/}	3,685	36,268	2,108	286	2,626	60	2,123	11,033	207	0	0
2001 ^{b/}	2,765	62,944	0	283	6,791	0	3,282	70,349	0	0	0
2002 ^{b/}	1,001	40,927	485	232	8,424	26	98	3,023	0	0	0
2003 ^{b/}	216	39,844	0	22	8,344	0	139	24,633	0	0	0
2004 ^{b/c/}	678	34,129	0	47	6,901	0	141	7,532	0	0	0

TABLE IV-15. Buoy 10 and Area 4B add-on recreational salmon angler trips and catch by boat type.^{a/} (Page 2 of 2)

Year or Average	Angler Trips			Chinook Catch			Coho Catch			Pink Catch	
	Charter	Private	Jetty	Charter	Private	Jetty	Charter	Private	Jetty	Charter	Private
TOTAL BUOY 10											
1987-1990	14,680	110,547	10,596	2,700	20,812	98	11,645	58,763	2,317	1	11
1991	15,872	131,860	23,948	1,419	10,135	93	26,760	173,004	8,509	0	63
1992	8,643	90,437	16,401	1,153	9,326	176	5,634	34,205	3,243	0	0
1993	2,719	66,395	6,660	326	4,873	89	1,176	18,406	1,350	0	16
1994	526	6,293	2,370	-	-	-	135	1,307	307	0	0
1995	690	21,601	2,934	42	809	0	310	4,082	663	0	0
1996	531	15,218	2,285	96	1,313	0	189	3,816	532	0	0
1997	4,685	46,541	4,499	1,398	11,733	22	2,735	16,701	921	0	0
1998	1,668	26,337	1,993	478	5,266	40	247	2,753	75	0	0
1999	1,509	46,702	1,370	310	9,531	9	193	8,522	146	0	0
2000 ^{b/}	4,521	63,760	4,237	312	5,709	64	2,420	18,556	502	0	0
2001 ^{b/}	4,381	117,388	4,115	330	12,369	10	4,763	126,752	523	0	0
2002 ^{b/}	1,513	80,870	2,074	263	19,152	26	100	6,081	52	0	0
2003 ^{b/}	1,207	85,305	2,315	69	16,247	0	763	53,151	526	0	0
2004 ^{b/c/}	744	67,221	1,170	66	16,092	0	158	15,117	47	0	0
TOTAL AREA 4B ADD-ON^{d/}											
1989	1,238	10,572	-	67	385	-	2,278	17,603	-	71	423
1990	962	11,283	-	57	359	-	1,974	18,312	-	0	0
1991	553	8,684	-	31	349	-	1,064	14,068	-	86	1,457
1992	406	7,589	-	0	33	-	757	10,954	-	0	0
1993	623	7,257	-	16	202	-	908	7,260	-	143	884
1994	-	-	-	-	-	-	-	-	-	0	0
1995	134	3,877	-	0	26	-	169	4,471	-	61	1,539
1996	36	1,511	-	0	5	-	61	2,266	-	0	0
1997	136	1,788	-	0	4	-	65	1,429	-	139	412
1998	71	6,296	-	5	98	-	125	7,937	-	0	3
1999 ^{e/}	-	-	-	-	-	-	-	-	-	-	-
2000 ^{c/}	373	3,046	-	0	8	-	614	3,796	-	0	0
2001 ^{f/}	-	-	-	-	-	-	-	-	-	-	-
2002 ^{f/}	-	-	-	-	-	-	-	-	-	-	-
2003 ^{f/}	-	-	-	-	-	-	-	-	-	-	-
2004 ^{f/}	-	-	-	-	-	-	-	-	-	-	-

a/ Prior to 1987, data on charter and private anglers were combined. Total Buoy 10 catch and effort data prior to 1987 are provided in Table B-21.
 b/ Includes catch upstream from the Astoria-Megler Bridge to the new boundary line from Tongue Point, Oregon to Rocky Point, Washington.
 c/ Preliminary.
 d/ There was no Area 4B add-on fishery prior to 1989.
 e/ There was no Area 4B add-on fishery opening in 1999 because the Area 4 ocean quota was not attained.
 f/ There was no Area 4B add-on fishery planned.

SALMON FISHERY INCOME IMPACTS AND COMMUNITY DEPENDENCE

Coastal community income impacts are presented to provide information on the effects of fluctuations in salmon harvest on local economies and small businesses. Income impacts are estimated per commercial pound and per recreational day, and were generated using the Fishery Economic Assessment Model (FEAM). Information on FEAM is available from the Council on request.

Estimated state and local community income impacts of commercial and recreational ocean salmon fisheries and selected state-managed fisheries are shown in Tables IV-16 through IV-20. These impacts represent estimates of total personal income associated with harvesting, processing and distribution activities in the commercial and recreational salmon fisheries at the local community (county) and state levels. Income impacts are estimated based on several components: reported landings by area, an inventory of area fleet and processors, estimates of fleet and processor expenditures, surveys of the expenditure patterns of recreational fishers, and local and state level total income coefficients generated by IMPLAN[®] models constructed for each area. Commercial ocean harvest not landed in the coastal areas (e.g., landed in Puget Sound ports) is not included in the estimates of coastal community impacts, but is included in the overall estimate of state impacts.

The impacts presented here are estimates of annual trends and are intended to indicate the possible redirection of activity between nonfishing-dependent and fishing-dependent sectors. As such they are likely upper bounds on the local community and state income impacts that were generated by West Coast salmon fisheries. All income impact estimates in this review are reported in inflation-adjusted 2004 dollars.

West Coast Ocean Fishery Income Impacts

The total West Coast income impact associated with recreational and commercial ocean salmon fisheries for all three states combined was \$90.4 million in 2004. In inflation-adjusted dollars this was 9% above the estimated 2003 level (\$82.9 million), 25% above the 2002 level, and well over two and a half times the inflation adjusted historic low of \$33.4 million in 1998. These numbers are also considerably above the 1996-2000 three-state inflation-adjusted average of \$51.9 million (Tables IV-16 through IV-18). West Coast income impacts associated with the 2004 non-Indian commercial ocean fishery were \$48.9 million, about the same as in 2003 (\$49.0 million), and substantially higher than in 2002 (\$35.7 mil) and the 1996-2000 average (\$26 million) in inflation-adjusted terms.^{1/} Income impacts related to the 2004 ocean recreational fishery were estimated to be 41.5 million, up 23% compared to 2003 (\$33.8 million), 13% compared with 2002 (\$36.8 million), and 60% above the 1996-2000 average in inflation-adjusted terms. These coastwide values do not reveal the reductions that have occurred in particular communities compared with averages during the 1980s. Tables IV-16 through IV-18 provide greater detail on the impacts in individual states and port areas along the West Coast.

Selected Inside Fisheries

Columbia River Commercial Fisheries

In the past, the non-Indian and treaty Indian Columbia River commercial fisheries generated a substantial amount of income for the Oregon and Washington communities on the Columbia River. For 2004, income impacts associated with the Columbia River commercial catch are estimated to be \$10.9 million, compared

1/ Income impact estimates for the commercial fishery do not include postseason settlement payments fishers may have received from buyers. These postseason settlements may be particularly significant for the California fishery.

with \$9.4 million in 2003, \$8.8 million in 2002, and a 1987 through 1999 average of \$13 million (all values in inflation adjusted 2004 dollars, Table IV-19). Most of the increase in income impacts is due to relatively high exvessel prices received for Columbia River salmon in 2004 (Table IV-9). In FEAM, most of the benefit of higher than average salmon prices is assumed to go to the harvesters.

Buoy 10 and Area 4B Add-On

Estimated local community income impact associated with the 2004 Buoy 10 recreational fishery was \$3.1 million, 22% below the inflation adjusted 2003 level of \$4.0 million, and 55% below the 1987-1990 inflation adjusted average of \$6.9 million (Table IV-20). There has not been a late season Area 4B add-on fishery since 2000. This is because there has been sufficient fishing opportunity in the ocean areas each year since that time. Between 1996 and 2000, the average annual inflation adjusted total state-level income impact associated with the Area 4B add-on fishery was \$149,000 (Table IV-20).

TABLE IV-16. Estimates of **California coastal community and state personal income** impacts in real (2004) dollars of the troll and recreational ocean salmon fishery for major port areas.^{a/} (Page 1 of 1)

Year or Average	Crescent City	Eureka	Fort Bragg	San Francisco	Monterey	Coastal Community Total ^{b/}	State Total
OCEAN TROLL (thousands of dollars)^{c/}							
1976-1980	5,731	14,556	14,273	18,724	8,036	61,321	78,835
1981-1985	2,903	3,503	8,198	15,474	5,273	35,350	44,012
1986-1990	1,093	2,707	14,399	27,960	10,455	56,614	69,480
1991-1995	9	129	905	10,529	5,999	17,570	21,173
1996-2000	10	149	639	11,035	6,690	18,522	19,602
2001	13	260	859	9,031	1,911	12,074	12,532
2002	227	436	3,103	12,907	3,476	20,149	21,404
2003	184	32	12,656	13,187	2,080	28,140	31,297
2004 ^{d/}	1,605	345	6,233	19,514	4,417	32,115	32,802
RECREATIONAL (thousands of dollars)							
1976-1980	1,114	1,292	752	11,305	757	15,221	17,073
1981-1985	1,220	1,258	603	10,012	799	13,892	15,637
1986-1990	2,068	2,155	1,051	12,236	3,288	20,797	24,237
1991-1995	750	807	1,219	10,350	4,957	18,083	21,233
1996-2000	349	639	1,246	10,377	4,558	17,169	19,969
2001	438	908	2,202	7,996	2,891	14,435	16,973
2002	196	1,001	2,319	10,034	4,627	18,177	21,389
2003	111	755	1,693	7,167	2,065	11,792	13,673
2004 ^{d/}	157	1,261	2,255	11,764	4,066	19,503	22,635

a/ Per pound and per day estimates of income impacts provided from output of the Fishery Economic Assessment Model (FEAM). These are the income impacts associated with expenditures in the troll or recreational sectors. There is no differentiation between money new to the area and money which would otherwise have been expended in other sectors. It is assumed that all fish landed at a port is processed in the port area. Values through 1995 are based on a 1992 run of the FEAM using 1989 U.S. Forest Service IMPLAN data. Beginning in 1996 values are based on a 1998 run of the FEAM using 1996 U.S. Forest Service IMPLAN data.

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

c/ Excluding pink salmon.

d/ Preliminary.

TABLE IV-17. Estimates of **Oregon coastal community and state personal income** impacts in real (2004) dollars of the troll and recreational ocean salmon fishery for major port areas.^{a/} (Page 1 of 1)

Year or Average	Astoria	Tillamook	Newport	Coos Bay	Brookings ^{b/}	Coastal Community Total ^{c/}	State Total
OCEAN TROLL (thousands of dollars)^{d/}							
1976-1980	3,679	4,735	11,110	17,092	7,109	43,725	59,290
1981-1985	1,191	1,535	3,597	6,338	2,753	15,414	20,948
1986-1990	551	3,215	7,155	13,838	2,613	27,373	36,893
1991-1995	77	600	2,458	1,193	122	4,450	6,001
1996-2000	125	251	2,602	1,490	356	4,824	5,905
2001	320	654	4,897	2,573	528	8,972	10,920
2002	917	768	4,193	3,706	670	10,255	12,430
2003	901	817	5,448	4,953	584	12,702	15,369
2004 ^{e/}	713	568	4,961	5,431	1,192	12,866	13,868
RECREATIONAL (thousands of dollars)							
1976-1980	3,134	2,389	4,432	5,876	3,870	19,701	25,503
1981-1985	1,822	1,469	3,508	3,578	2,490	12,867	16,706
1986-1990	1,247	1,560	4,855	3,536	2,592	13,790	17,955
1991-1995	847	682	1,544	1,378	973	5,424	7,034
1996-2000	328	376	370	409	785	2,268	2,990
2001	1,330	794	1,542	1,578	1,110	6,354	8,214
2002	740	1,149	1,203	1,714	828	5,634	7,296
2003	1,119	1,322	2,484	2,169	635	7,729	9,966
2004 ^{e/}	1,040	1,406	2,348	2,049	784	7,627	9,877

a/ Per pound and per day estimates of income impacts provided by the Fishery Economic Assessment Model (FEAM). These are the income impacts associated with expenditures in the troll or recreational sectors. There is no differentiation between money new to the area and money which would otherwise have been expended in other sectors. It is assumed that all fish landed at a port is processed in the port area. Values through 1995 are based on a 1992 run of the FEAM using 1989 U.S. Forest Service IMPLAN data. Beginning in 1996, values are based on a 1998 run of the FEAM using 1996 U.S. Forest Service IMPLAN data.

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

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

d/ Excludes pink salmon.

e/ Preliminary.

TABLE IV-18. Estimates of **Washington coastal community and state personal income** impacts of the non-Indian troll and recreational ocean salmon fishery for major port areas.^{a/} (Page 1 of 1)

Year or Average	Neah Bay	La Push	Westport	Columbia River ^{b/}	Coastal Community Total ^{c/d/}	Puget Sound	State Total
OCEAN TROLL (thousands of dollars)^{e/f/}							
1976-1980	5,312	7,253	16,007	5,150	33,722	7,149	51,203
1981-1985	1,044	423	4,398	943	6,808	1,526	9,984
1986-1990	579	152	2,025	394	3,150	885	4,815
1991-1995 ^{g/}	426	94	677	43	1,241	171	1,725
1996-2000	144	3	144	17	307	88	465
2001	250	0	453	37	739	0	914
2002	542	71	789	158	1,560	0	1,898
2003	989	167	677	120	1,952	38	2,424
2004 ^{h/}	730	231	808	84	1,852	23	2,261
RECREATIONAL (thousands of dollars)							
1976-1980	2,065	1,097	11,834	4,631	19,628	-	26,660
1981-1985	1,912	224	8,335	3,910	14,381	-	19,573
1986-1990	910	104	4,356	2,348	7,719	-	10,455
1991-1995 ^{g/}	483	95	2,689	1,364	4,630	-	6,260
1996-2000	256	69	1,259	616	2,200	-	2,967
2001	835	162	3,657	2,369	7,023	-	9,553
2002	662	167	3,233	1,942	6,004	-	8,153
2003	980	233	3,685	2,569	7,467	-	10,171
2004 ^{h/}	1,213	228	2,975	2,169	6,585	-	8,970

a/ Expressed in 2004 dollars. Per pound and per recreational day estimates of income impacts provided by the Fishery Economic Assessment Model (FEAM). These are the income impacts associated with expenditures in the troll or recreational sectors. There is no differentiation between money new to the area and money which would otherwise have been expended in other sectors. It is assumed that all fish landed at a port is processed in the port area. Values through 1995 are based on a 1992 run of the FEAM using 1989 U.S. Forest Service IMPLAN data. Beginning in 1996 values are based on a 1998 run of the FEAM using 1996 U.S. Forest Service IMPLAN data.

b/ Recreational values exclude recreational shorebased effort from the Columbia River north jetty.

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

d/ Commercial values include a very small amount of fish landed in other coastal Washington areas.

e/ Excludes pink salmon.

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

g/ The non-Indian commercial and recreational fisheries were closed north of Cape Falcon in 1994. Some commercial catch taken south of Cape Falcon was landed in the Puget Sound area.

h/ Preliminary.

TABLE IV-19. Local **personal income impacts** in real (2004) dollars of the **commercial** salmon gillnet fishery on **Oregon and Washington Columbia River** communities.^{a/} (Page 1 of 1)

Species ^{b/}		1990-1999	2000	2001	2002	2003	2004 ^{c/}
OREGON (Thousands of Dollars)							
Non-Indian	Chinook						
Gillnet	Spring	714	468	1,211	1,853	759	1,882
	Fall Brights	3,488	283	364	661	1,205	1,248
	Tules	207	20	118	275	184	267
	Coho	2,002	1,624	1,809	1,608	2,429	1,514
	Chum	1	6	d/	d/	0	1
	TOTAL	6,413	2,401	3,501	4,397	4,577	4,911
Treaty Indian	Chinook						
All Gears	Spring	2	6	83	43	9	314
	Fall Brights	1,465	282	16	11	40	1,282
	Tules	81	55	1	1	0	308
	Coho	13	15	1	0	0	48
	TOTAL	1,561	358	101	55	49	1,952
WASHINGTON (Thousands of Dollars)							
Non-Indian	Chinook						
Gillnet	Spring	387	30	253	553	148	495
	Fall	1,410	369	234	379	855	980
	Coho	791	844	1,254	754	1,324	694
	Chum	2	3	1	d/	d/	d/
	TOTAL	2,591	1,245	1,742	1,686	2,327	2,169
Treaty Indian	Chinook						
All Gears	Spring	10	116	706	556	362	367
	Fall	2,368	1,030	1,878	2,092	2,096	1,469
	Coho	31	47	78	26	25	39
	TOTAL	2,409	1,193	2,662	2,674	2,484	1,875
GRAND TOTAL							
Non-Indian		9,003	3,646	5,243	6,083	6,904	7,080
Treaty Indian		3,970	1,551	2,763	2,729	2,533	3,827
Columbia River		12,973	5,197	8,006	8,812	9,437	10,907

a/ Values through 1995 are based on a 1992 run of the FEAM using 1989 U.S. Forest Service IMPLAN data. Beginning in 1996 values are based on a 1998 run of the FEAM using 1996 U.S. Forest Service IMPLAN data.

b/ See Table IV-9 footnotes for explanation of species categories.

c/ Preliminary.

d/ Less than \$500.