
CHAPTER IV

SOCIOECONOMIC ASSESSMENT OF THE 2003 OCEAN SALMON FISHERIES

Total 2003 exvessel value for the Council-managed non-Indian commercial salmon fishery was \$20.3 million. In real (inflation-adjusted) 2003 dollars, exvessel value was 43% above its 2002 level, but was 45% below the 1976 through 2002 average (including pinks). The number of vessel-based ocean salmon recreational angler trips taken on the West Coast in 2003 (396,800 angler trips) decreased 4% from 2002 and was 27% less than the 1976 through 2002 average. The total state level income impact associated with the recreational and commercial ocean salmon fisheries for all three states combined was \$80.5 million in 2003. These impacts were 14% above the 2002 level and well over twice the 1998 historic low of \$32.5 million, but 36% below the 1976 through 2002 average in real dollars.

ALLOCATION OF THE SALMON RESOURCE

Salmon management by the Council involves numerous allocation issues including:

- % Determination of the amount of salmon available for ocean harvest after consideration of expected abundances, harvests by inside fisheries, and spawning escapement goals.
- % Allocation of harvest among broad management areas and among port areas within the management areas.
- % Allocation of harvest between Indian and non-Indian harvesters.
- % 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 stock conservation objectives which shaped the 2003 season is provided in Chapter I; assessments of success in meeting the objectives are provided in Chapters II and III.

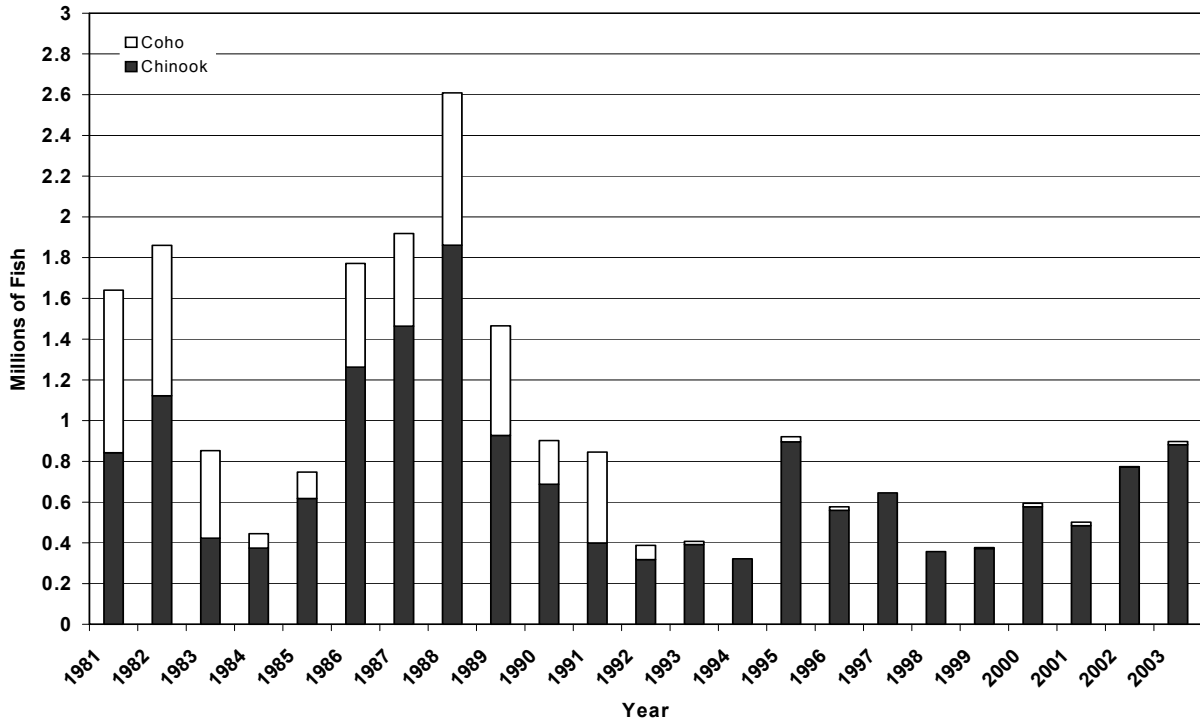


Figure IV-1. West Coast ocean non-Indian commercial chinook and coho harvest.

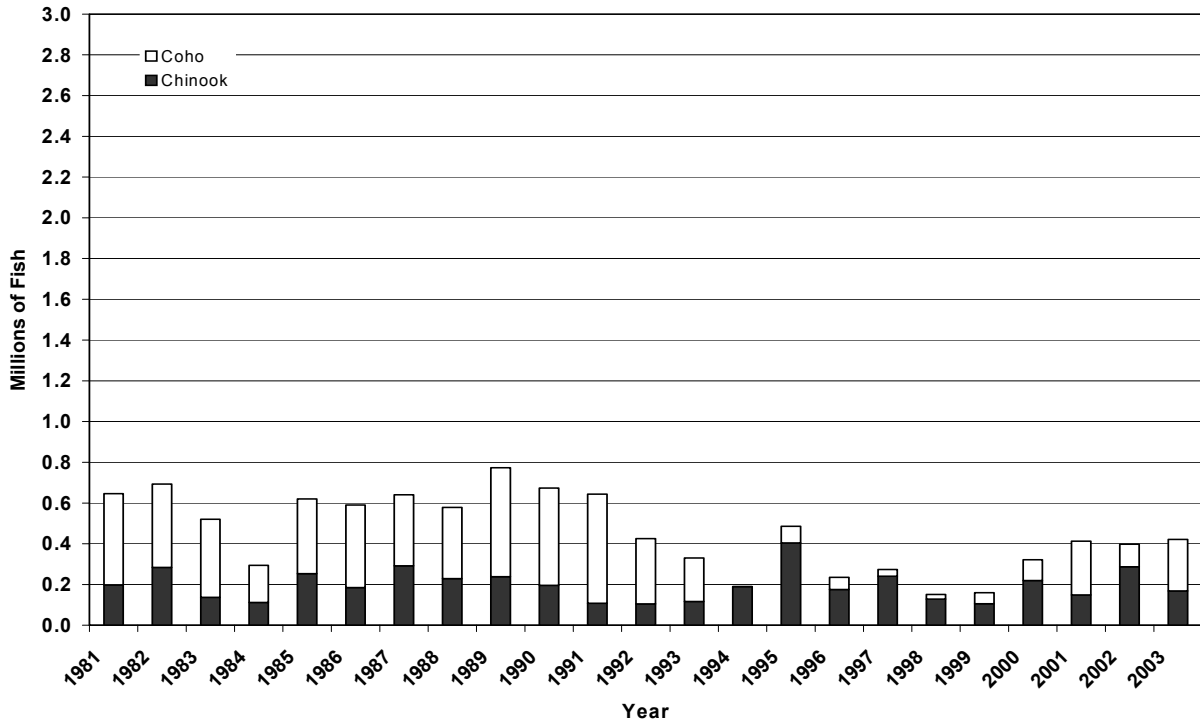


Figure IV-2. West Coast ocean recreational chinook and coho harvest.

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 breakdown of price by size category for California salmon landings makes it difficult to tell whether price changes are a function of seasonal changes in market conditions or a shift in the size category of fish landed. In general, 2003 prices were lower mid-season than at the start or end of the season.

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

Total 2003 exvessel value for the Council-managed non-Indian commercial salmon fishery was \$20.3 million. In real (inflation-adjusted) dollars, exvessel value was 43% above its 2002 level, but was 45% below the 1976 through 2002 average (including pinks). 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 real (inflation adjusted) 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 to real values (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.

The 2003 exvessel value of the California commercial ocean salmon catch (\$12.1 million) was 53% above the 2002 value, but 34% below the 1976 through 2001 average, in real 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 2003 exvessel value for the Oregon commercial catch (\$7.2 million) was up 32% from 2002, but still 37% below the 1976 through 2002 average, in real dollars. The 2003 exvessel value for the Washington non-Indian ocean commercial catch (\$991,000) was 29% above the 2002 value. While the exvessel value of Washington landings was highest since the 1992 value of \$1.5 million, it was still 85% below the 1976 through 2002 average, in real dollars.

In 2003, average West Coast ocean harvest chinook price (\$1.87 per pound) increased by \$0.33 per pound (21%) from the 2002 price and was \$0.05 per pound above the 2001 price (inflation adjusted, Figure IV-3). If an estimate of postseason settlement payments for some California fishers is included, the average prices would be higher. Coho prices declined to \$0.79 per pound in 2003 from \$0.89 per pound (16%) compared to 2002.

Coastwide, the non-Indian commercial chinook harvest (881,500 fish) increased by 14% in terms of number of fish compared to 2002 (Figure IV-1). Compared to 2001, coastwide non-Indian chinook harvest was up 82%. Since 1989, the only year with a greater chinook harvest was 1995 (895,900 fish). Average weight per chinook also increased by 3% compared to 2002 (Appendix D, Tables D-1, D-2, and D-3). Coho catch in 2003 was nine times that observed in 2002, increasing from about 1,700 fish in 2002 to 15,700 fish in 2003 while average weights declined 10%. Overall, the 2003 exvessel value of the Council-managed salmon harvest was the highest since 1990 (Figure IV-4). In 2003, about 30% of the coastwide chinook harvest (by weight) was taken in California from the San Francisco area south, compared to 43% in 2002 and 72% in 2000 (Table IV-6, IV-7, and IV-8). Overall, 2003 chinook harvest (in weight) in California was up 27% compared to 2002, while weight of the chinook harvest was up 4% in Oregon and 21% in Washington.

TABLE IV-1. Average monthly **exvessel** troll salmon **price** in dollars per dressed pound for **California, Oregon, and Washington** in 2003. (Page 1 of 1)

Species/Grade	March	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Season
CALIFORNIA											
Chinook ^{a/}	-	-	1.90	1.77	1.60	1.93	2.60	3.54	-	-	1.90
Coho	-	-	-	-	-	-	-	-	-	-	-
OREGON											
Chinook											
Large (>11 Pounds)	3.47	2.50	1.81	2.04	1.58	1.85	2.09	2.89	3.64	4.14	2.10
Medium (7-11 Pounds)	3.02	2.06	1.40	1.76	1.38	1.60	1.88	2.62	3.37	3.96	1.85
Small (<7 Pounds)	2.20	1.63	1.18	1.58	1.40	1.44	1.61	2.53	3.00	3.50	1.58
Ungraded Chinook	3.32	2.55	1.67	2.07	1.81	1.81	1.70	1.98	3.42	-	1.94
Weighted Average	3.18	2.24	1.66	1.97	1.59	1.76	1.93	2.61	3.60	4.13	1.98
Mixed Coho	-	-	-	0.79	0.87	0.85	-	-	-	-	0.85
WASHINGTON^{b/}											
Chinook											
Large (>11 Pounds)	-	-	1.38	1.47	1.00	1.05	1.26	-	-	-	1.18
Medium (8-11 Pounds)	-	-	1.09	1.10	1.05	1.12	1.11	-	-	-	1.09
Small (<8 Pounds)	-	-	0.94	0.64	0.59	0.79	1.79	-	-	-	0.94
Ungraded Chinook	-	-	1.78	-	0.59	1.27	1.31	-	-	-	1.10
Weighted Average	-	-	1.29	1.35	1.00	1.06	1.24	-	-	-	1.15
Mixed Coho	-	-	-	-	0.67	0.74	0.91	-	-	-	0.74

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).^{a/} (Page 1 of 1)

Year or Ave.	Chinook				Coho				Total ^{b/}	
	Nominal Value (thousands of dollars)	Real Value ^{c/} (thousands of dollars)	Nominal Price Per Pound (dollars)	Real Price Per Pound ^{c/} (dollars)	Nominal Value (thousands of dollars)	Real Value ^{c/} (thousands of dollars)	Nominal Price Per Pound (dollars)	Real Price Per Pound ^{c/} (dollars)	Nominal Value (thousands of dollars)	Real Value ^{c/} (thousands of dollars)
1979	17,356	37,004	2.53	5.39	2,303	4,910	2.19	4.67	19,659	41,914
1980	12,741	24,905	2.27	4.44	408	798	1.36	2.66	13,149	25,703
1981-1985	13,417	18,101	2.25	4.00	905	926	1.94	3.00	14,322	19,027
1986-1990	18,754	29,653	2.55	4.00	735	676	1.36	3.00	19,489	30,329
1991	8,351	10,447	2.58	3.23	696	871	1.52	1.90	9,047	11,318
1992	4,487	5,487	2.74	3.35	18	22	1.63	1.99	4,505	5,509
1993	5,707	6,821	2.25	2.69	-	-	-	-	5,707	6,821
1994	6,437	7,534	2.07	2.42	-	-	-	-	6,437	7,534
1995	11,693	13,411	1.76	2.02	-	-	-	-	11,693	13,411
1996	5,984	6,736	1.44	1.62	-	-	-	-	5,984	6,736
1997	7,288	8,069	1.38	1.53	-	-	-	-	7,288	8,069
1998	3,060	3,351	1.66	1.82	-	-	-	-	3,060	3,351
1999	7,429	7,774	1.93	2.08	-	-	-	-	7,429	8,019
2000	10,303	10,884	2.01	2.12	-	-	-	-	10,303	10,884
2001	4,761	4,913	1.98	2.04	-	-	-	-	4,761	4,913
2002	7,776	7,902	1.55	1.58	-	-	-	-	7,776	7,902
2003 ^{d/}	12,089	12,089	1.90	1.90	-	-	-	-	12,089	12,089

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/ Expressed in 2003 dollars.

d/ Preliminary.

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

Year or Average	Chinook				Coho				Total ^{a/}	
	Nominal Value (thousands of dollars)	Real Value ^{b/} (thousands of dollars)	Nominal Price Per Pound (dollars)	Real Price Per Pound ^{b/} (dollars)	Nominal Value (thousands of dollars)	Real Value ^{b/} (thousands of dollars)	Nominal Price Per Pound (dollars)	Real Price Per Pound ^{b/} (dollars)	Nominal Value (thousands of dollars)	Real Value ^{b/} (thousands of dollars)
1971-1975	2,036	6,409	0.89	2.85	3,658	11,797	0.64	2.03	5,694	18,206
1976-1980	5,366	12,067	2.16	4.93	6,407	15,019	1.51	5.51	11,773	27,086
1981-1988	4,039	5,893	2.57	4.02	5,534	3,858	1.66	2.38	9,573	9,751
1986-1990	6,094	13,130	2.59	3.43	3,801	2,467	1.40	2.09	9,895	8,689
1991	1,721	2,153	2.47	3.09	1,399	1,750	0.99	1.24	3,120	3,903
1992	2,490	3,045	2.46	3.01	222	271	1.08	1.32	2,712	3,316
1993	1,661	1,985	2.18	2.61	10	12	1.13	1.35	1,671	1,997
1994	690	808	2.40	2.81	-	-	-	-	690	808
1995	3,294	3,778	1.70	1.95	-	-	-	-	3,294	3,778
1996	3,007	3,385	1.56	1.76	-	-	-	-	3,007	3,385
1997	2,469	2,734	1.60	1.77	-	-	-	-	2,469	2,734
1998	2,297	2,516	1.64	1.80	-	-	-	-	2,297	2,516
1999	1,400	1,511	1.94	2.09	1	1	1.03	1.11	1,401	1,512
2000	2,988	3,156	2.02	2.13	75	79	1.06	1.12	3,064	3,237
2001	4,680	4,829	1.61	1.66	41	43	0.79	0.82	4,721	4,872
2002 ^{c/}	5,377	5,465	1.54	1.57	8	8	0.75	0.76	5,385	5,473
2003 ^{c/}	7,173	7,173	1.98	1.98	36	36	0.85	0.85	7,209	7,209

a/ Does not include pink salmon landings.

b/ Expressed in 2003 dollars.

c/ Preliminary.

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

Year or Average	Chinook				Coho				Total ^{b/}	
	Nominal Value (thousands of dollars)	Real Value ^{c/} (thousands of dollars)	Nominal Price Per Pound (dollars)	Real Price Per Pound ^{c/} (dollars)	Nominal Value (thousands of dollars)	Real Value ^{c/} (thousands of dollars)	Nominal Price Per Pound (dollars)	Real Price Per Pound ^{c/} (dollars)	Nominal Value (thousands of dollars)	Real Value ^{c/} (thousands of dollars)
1971-1975	2,714	8,654	0.89	2.86	3,060	9,781	0.66	2.12	5,775	18,436
1976-1980	5,313	12,376	2.39	5.40	6,086	14,142	1.67	3.78	11,399	26,518
1981-1985	3,279	3,309	2.66	4.02	2,642	2,162	1.52	2.16	5,921	5,471
1986-1990	4,246	1,829	2.57	3.64	2,484 ^{d/}	1,327	1.34	1.96	6,730	3,703
1991	783	980	2.54	3.18	343	429	1.13	1.41	1,126	1,409
1992	1,200	1,467	2.41	2.95	99	121	1.33	1.62	1,299	1,589
1993	728	870	2.21	2.64	67	80	1.01	1.21	795	950
1994	e/	e/	e/	e/	-	-	-	-	e/	e/
1995	e/	e/	e/	e/	91	104	0.83	0.95	91	104
1996	e/	e/	e/	e/	59	66	0.86	0.97	e/	94
1997	125	138	1.55	1.72	-	-	-	-	125	138
1998	123	135	1.51	1.65	-	-	-	-	123	135
1999	377	407	1.90	2.05	19	21	0.88	0.95	396	427
2000	224	237	1.71	1.81	34	36	1.09	1.15	258	273
2001	349	360	1.44	1.49	34	35	0.69	0.71	383	395
2002	756	768	1.11	1.13	2	2	1.58	1.61	758	770
2003 ^{f/}	951	951	1.15	1.15	40	40	0.74	0.74	991	991

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/ Expressed in 2003 dollars.

d/ 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.

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

f/ 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). (Page 1 of 1)

Year or Ave. ^{a/}	Oregon				Washington				Total	
	Nominal Value (thousands of dollars)	Real Value ^{b/} (thousands of dollars)	Nominal Price Per Pound (dollars)	Real Price Per Pound ^{b/} (dollars)	Nominal Value (thousands of dollars)	Real Value ^{b/} (thousands of dollars)	Nominal Price Per Pound (dollars)	Real Price Per Pound ^{b/} (dollars)	Nominal Value (thousands of dollars)	Real Value ^{b/} (thousands of dollars)
1976-1980	167	3,982	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	c/	c/	0.62	0.74	5	6	0.54	0.64	5	6
1995	c/	c/	0.60	0.69	30	34	0.26	0.30	30	34
1997	c/	c/	0.56	0.62	c/	c/	0.20	0.22	c/	c/
1999	c/	c/	0.67	0.72	c/	c/	0.38	0.41	c/	c/
2001	1	1	0.58	0.60	c/	c/	0.22	0.23	1	1
2003 ^{d/}	c/	c/	0.85	0.85	c/	c/	0.30	0.30	c/	c/

a/ Odd-year averages.

b/ Expressed in 2003 dollars.

c/ Less than \$500.

d/ Preliminary.

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	417	2,408
2002	54	108	872	3,060	912	5,008
2003 ^{c/}	39	7	3,057	2,754	499	6,356
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 ^{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	86	460	182	28	761
1994	b/	29	165	45	47	287
1995	6	96	1,330	453	55	1,941
1996	21	125	1,219	417	142	1,926
1997	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 ^{c/}	265	154	1,618	1,353	142	3,623
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 ^{c/}	32	11	-	-	-	43

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 ^{e/}	199
2000	85	1	38	8	131		131
2001	97	0	138	6	241	0	241
2002	262	53	322	61	678	0	678
2003 ^{f/}	470	67	243	29	810	12	821
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 ^{f/}	11	12	21	8	52	2	54

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.

f/ Preliminary

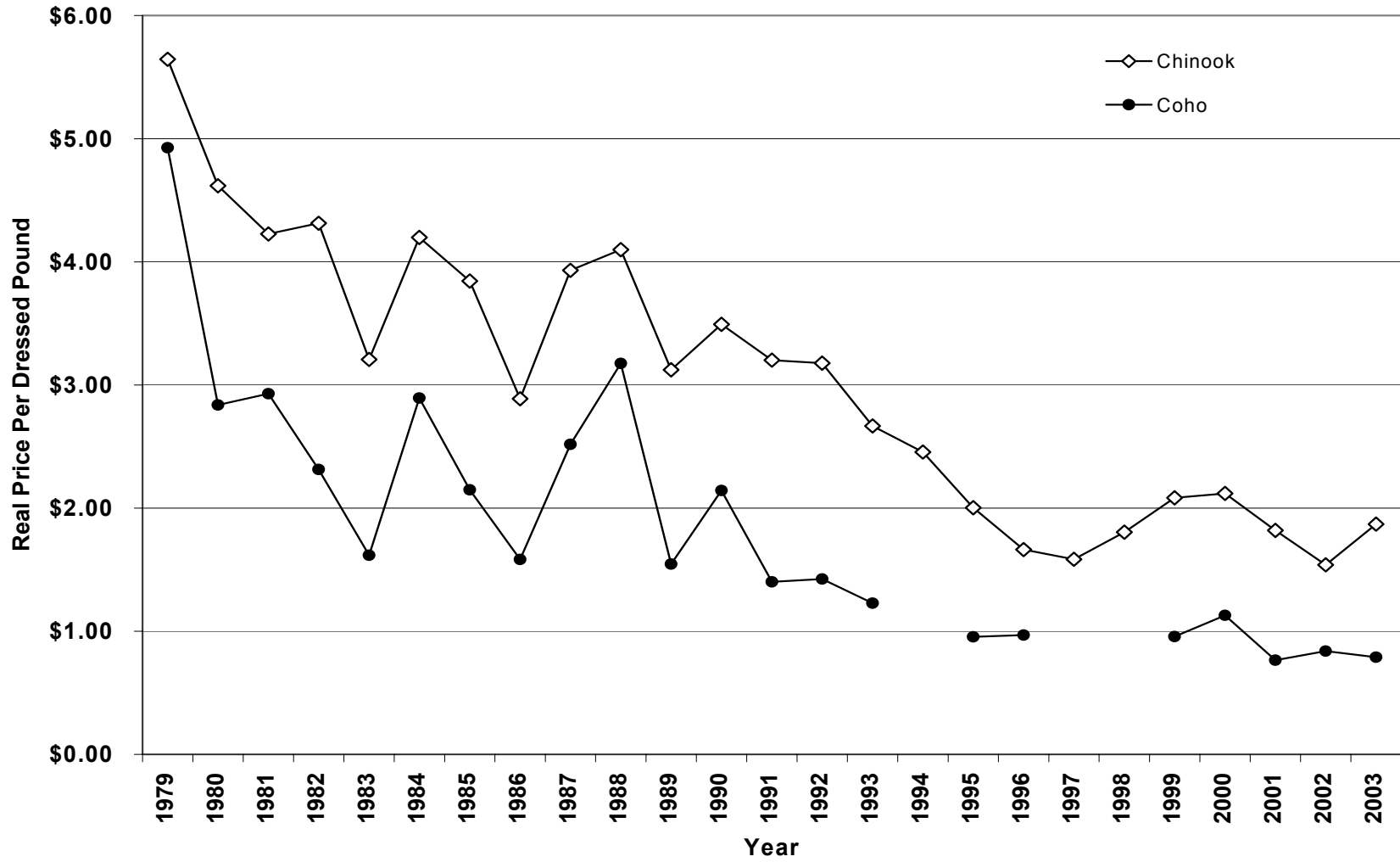


Figure IV-3. West Coast non-Indian ocean commercial salmon annual exvessel price trends (2003 dollars).

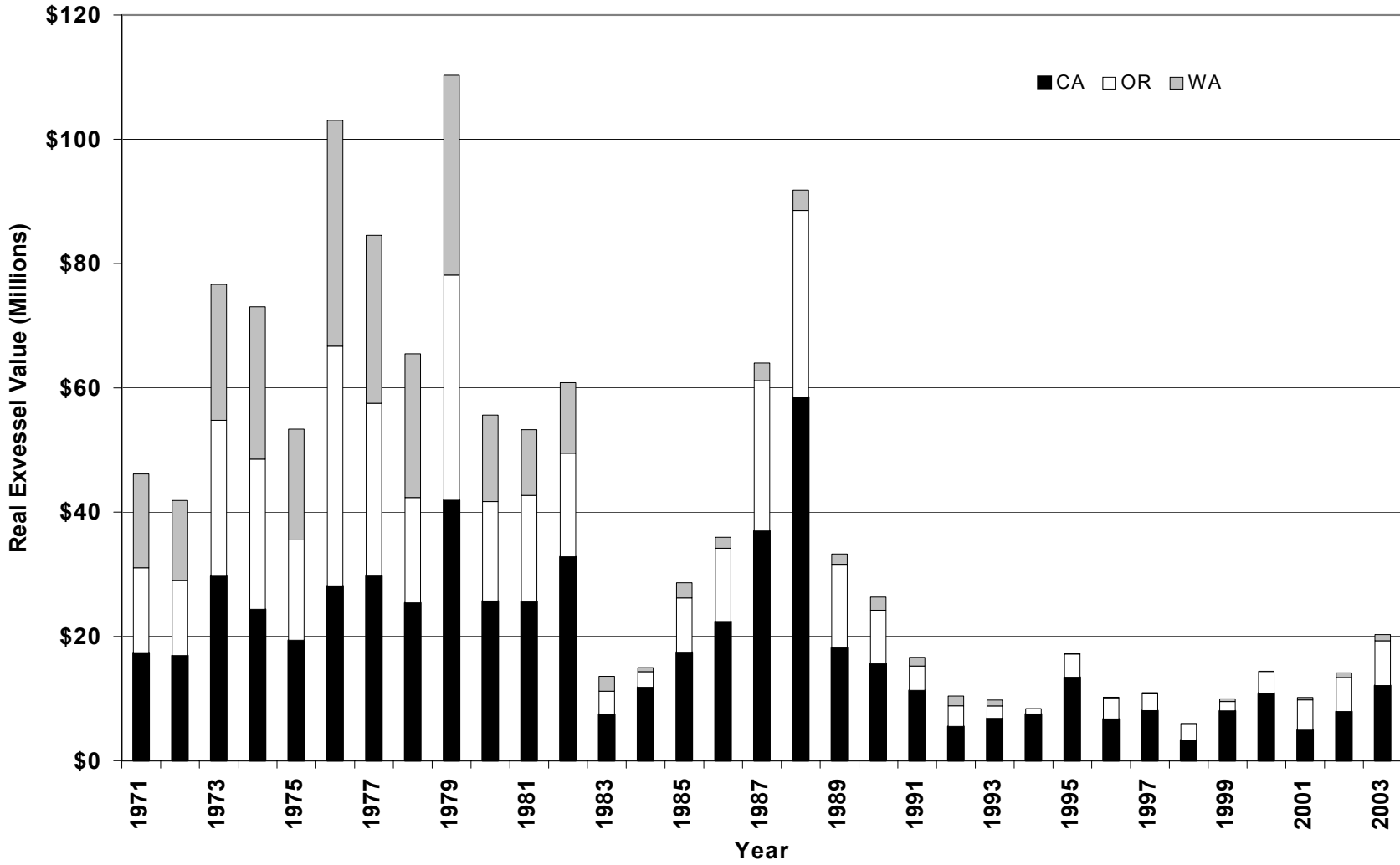


Figure IV-4. Exvessel value of West Coast non-Indian ocean commercial chinook and coho landings by state of landing (2003 dollars).

Ocean Commercial Salmon Harvesters

Based on Pacific Coast Fisheries Information Network (PacFIN) data 1,120 vessels participated in the West Coast commercial salmon fishery in 2003, down 6% from the 2002 count of 1,187 vessels. The coastwide vessel counts from PacFIN are less than the totals derived from summing 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 catching salmon from the individual state tables in Appendix D results in counts of vessels of 1,155 for 2003 and 1,250 for 2002. The following information is based on the state specific data reported in Appendix D. Compared to 2002, the active fleet in California decreased by 126 vessels (18%) to 582 vessels (Table D-4). The active fleet in Oregon increased by 24 vessels (5%) to 491 vessels (Table D-5). The active fleet in Washington increased by 7 vessels (9%) to 82 vessels (Table D-6).

Coastwide, the number of limited entry salmon permits issued decreased by 64 (3%), to 2,840 permits. Landings were made on 41% of all permits in 2003, approximately the same proportion as in the previous three years. 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. During the first ten years in which there was a moratorium on the issuance of salmon permits in all three West Coast states (1982 through 1991) there was an average of 8,419 permits of which an average of 5,765 (68%) were used on an annual basis.

Coastwide in 2003, average per vessel exvessel value of salmon landings increased 55% compared to 2002 (adjusted for inflation), to \$17,567 per vessel. This was the highest average per vessel for the time series, which begins in 1978 (adjusted for inflation). Compared to 2002, per vessel, average exvessel values per vessel increased in all three states, California (up 86%), Oregon (up 25%), and Washington (up 18%). 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 as by change in the average revenues of those remaining in the fishery from one year to the next.

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.

West Coast Treaty Indian Commercial Ocean Fishery

Treaty Indian commercial ocean fisheries off Washington are allocated a share of the total ocean salmon harvest. Some of the treaty Indian harvest is for ceremonial and subsistence purposes; however, there is also a 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 34,800 chinook (435,500 pounds) and 11,100 coho (63,400 pounds) in 2003, compared to 39,400 chinook (445,100 pounds) and 17,700 coho (101,700 pounds) in 2002 (Tables A-15 and D-3). In PacFIN, the preliminary exvessel value for chinook and coho in 2003 is \$508,500 and the real (inflation adjusted) exvessel value for 2002 is \$443,000.

Columbia River Commercial Fishery

Harvest in the ocean salmon fisheries impact inriver fisheries by its effect on the amount of fish available for inside treaty Indian and non-Indian harvest. Information is presented in Table IV-9 on the exvessel value of Columbia River commercial harvest of chinook, coho, and chum. All prices and values in the table and the

TABLE IV-9. **Exvessel values** (expressed in 2003 dollars) of inriver **commercial** harvest of **Columbia River** salmon.^{g/} (Page 1 of 1)

Fishery	Species	Average Price Per Landed Pound ^{h/} (dollars)						Exvessel Value (thousands of dollars)						Pounds (thousands)					
		1988- 1998	1999	2000	2001	2002 ^{cl}	2003 ^{cl}	1988- 1998	1999	2000	2001	2002 ^{cl}	2003 ^{cl}	1988- 1998	1999	2000	2001	2002 ^{cl}	2003 ^{cl}
OREGON																			
Non-Indian ^{j/}	Chinook																		
Gillnet	Spring	3.84	3.03	2.85	2.72	3.00	2.56	411	86	241	606	948	378	97	28	85	222	316	147
	Fall	1.35	1.33	1.15	0.71	0.55	0.70	1,996	95	114	120	193	402	955	72	100	169	349	574
	Tules	0.41	0.21	0.20	0.13	0.11	0.10	117	3	3	14	27	17	174	17	16	104	255	174
	Coho	1.29	0.91	0.56	0.29	0.33	0.51	1,118	425	534	382	379	776	661	469	949	1,323	1,148	1,522
	Chum	0.42	0.25	0.32	0.30	0.35	0.00	0	^{k/}	1	^{e/}	^{e/}	0	2	^{e/}	4	^{e/}	^{e/}	0
	TOTAL							3,642	609	894	1,122	1,547	1,573	1,889	586	1,154	1,819	2,069	2,417
Treaty ^{l/}	Chinook																		
All Gears	Spring	3.09	0.00	2.98	1.41	1.23	4.00	2	0	2	35	17	5	^{e/}	0	1	25	14	1
	Fall	1.27	0.91	0.87	1.03	0.84	0.68	835	69	102	7	4	13	459	76	117	7	5	19
	Tules	0.32	0.11	0.12	0.41	0.21	0.00	21	6	6	^{e/}	^{e/}	0	80	51	49	1	1	0
	Coho	0.86	0.77	0.65	0.41	0.00	0.00	6	3	5	^{e/}	0	0	5	4	8	1	0	0
	TOTAL							865	77	115	42	21	18	545	131	175	32	20	20
WASHINGTON^{m/}																			
Non-Indian	Chinook																		
Gillnet	Spring	4.09	3.04	5.12	3.92	4.30	4.09	228	^{e/}	16	138	300	80	51	^{e/}	3	35	70	20
	Fall ^{n/}	1.29	1.11	0.99	0.56	0.47	0.58	747	91	138	68	101	258	388	82	138	122	215	448
	Coho	1.30	0.91	0.53	0.27	0.33	0.56	440	195	270	251	179	449	274	215	504	934	538	799
	Chum	0.39	0.25	0.12	0.19	0.19	0.15	1	^{e/}	^{e/}	^{e/}	^{e/}	^{e/}	1	1	3	1	^{e/}	^{e/}
	TOTAL							1,416	287	424	457	579	787	715	298	648	1,093	823	1,267
Treaty Indian	Chinook																		
All Gears ^{f/o/}	Spring	4.28	4.32	2.02	1.31	1.20	1.07	6	^{e/}	54	289	222	142	2	^{e/}	27	221	185	133
	Fall ^{h/}	0.98	0.58	0.61	0.25	0.18	0.18	1,174	357	314	323	286	292	826	613	509	1,306	1,587	1,607
	Coho	0.94	0.77	0.44	0.10	0.13	0.11	16	8	13	7	3	2	12	11	30	68	22	23
	TOTAL							1,196	365	381	620	511	437	840	623	566	1,594	1,794	1,762
Columbia River Total								7,119	1,338	1,814	2,242	2,658	2,815	3,989	1,638	2,543	4,538	4,706	5,466

g/ Excluding pink and sockeye salmon, and steelhead.

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

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

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

k/ Less than \$500 or 500 pounds.

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

m/ 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.

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

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

following discussion are in real (inflation adjusted) dollars. Exvessel prices for inriver gillnet catches of chinook vary considerably with race (spring versus fall chinook) and stock (tules versus brights). Spring chinook generally bring the highest prices and tule fall chinook and chum the lowest.

The total 2003 exvessel value for commercial salmon harvested in the Columbia River was \$2.8 million, 6% above the 2002 level. The total 2003 exvessel value for non-Indian commercial salmon harvested in the Columbia River was \$2.4 million. This value is 11% above the 2002 level, but was still 53% below the value of the 1987 through 1998 average harvest. The total 2003 exvessel value for treaty Indian salmon harvested in the Columbia River and sold on fish tickets was \$455,000. This value is 14% below the 2002 value, and 78% below the value of the 1987 through 1998 average harvest. These values represent 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. The volume of sales to the public has increased substantially in recent years.

Other Inside Commercial Fisheries

Puget Sound and Washington Coastal Inside Fisheries

Information on 2003 values for Puget Sound and Washington coastal inside fisheries is incomplete. Based on PacFIN data, the 1981 through 2002 real (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 \$17.8 million. Of this, an average of \$4.6 million was for chinook and coho. For 2002, the total real exvessel values for the commercial non-Indian salmon fisheries in these areas were \$3.3 million for all salmon species and \$0.5 million for chinook and coho. The preliminary values for 2003 are: \$2.0 million for all salmon species and \$0.6 million for chinook and coho.

The 1981 through 2002 real (inflation adjusted) average exvessel value reported for all salmon species taken in the commercial treaty Indian fisheries in these areas was \$21.4 million. Of this, an average of \$7.6 million was for chinook and coho. For 2002, the total real exvessel values for the commercial non-Indian fisheries in these areas were \$7.4 million for all salmon species and \$2.3 million for chinook and coho. The preliminary values for 2003 are \$4.7 million for all salmon species and \$1.8 million for chinook and coho.

Klamath River Fisheries

From 1987 through 1989, 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, Table B-5). 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, \$1.1 million adjusted to 2003 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, \$590,900 adjusted to 2003 dollars). The average per fish weight 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 on their own. The commercial harvest was 2,100 chinook in 1999, 4,100 chinook in 2000 and over 10,000 chinook in 2001 and 2002.

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. The amounts 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 number of vessel-based ocean salmon recreational angler trips taken on the West Coast in 2003 (396,800 angler trips) decreased 4% from 2002, and was 27% less than the 1976 through 2002 average. The preliminary estimate of the number of 2003 trips decreased by 37% in California, increased by 34% in Oregon, and increased by 27% in Washington compared to 2002 (Figure IV-5).

Recreational salmon fishing takes place primarily in one of two modes, (1) anglers fishing from privately owned pleasure crafts, and (2) anglers employing the services of the charter boat fleet. In general, success rates on charter vessels tend to be higher than success rates on private vessels. There are small amounts of shore-based effort directed toward ocean area salmon, primarily fishing occurring off jetties and piers. In 2003, the proportion of angler trips taken on charter vessels was generally stable and comparable to recent years with slight increases in California and Oregon and a slight decrease in Washington compared to 2002 (Figure IV-5 and Table IV-10). Tables IV-11, IV-12, and IV-13 break out effort by port area and mode for each state.

California

The preliminary estimate of ocean salmon angler effort in California (132,300 angler trips) decreased 37% in 2003 compared to 2002 (Table IV-10) and was 31% below the 1976 through 2002 average. Effort decreased in all areas and most dramatically in Monterey where effort was down 59%. From 1997 through 2003, the share of trips on charter vessels ranged between 40% and 44%.

Angler success rates, measured in retained salmon per angler trip, decreased 19% to 0.70 salmon per day in 2003, compared to 0.87 salmon per day in 2002. In 2002 and 2003, anglers on charter vessels landed about 0.20 salmon more per day than anglers fishing from private vessels (the difference in 2001 was 0.03 fish). The average differential between charter and private boat angler success rates from 1976 through 2000 was 0.46 salmon per day.

Oregon

Ocean recreational salmon based angler trips in Oregon (144,500 angler trips) was up 34% in 2003, as compared to 2002 levels. Increases occurred in all ports areas except Brookings. The charter industry share of the Oregon recreational fishery increased slightly to 16% (Figure IV-5 and Table IV-12).

Over the ten years 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 lower-than-average angler success rates. With the opportunity to retain coho in mark-selective fisheries south of Cape Falcon starting in 1999, retained salmon per angler day increased to 0.43 (in 1999), up from 0.25 in 1998. From 2000 through 2003, retained salmon per angler day ran between 0.75 and 1.1 salmon per angler day. Retained chinook per angler day declined in 2003 compared to 2002; however, there was an increase in the retained coho rate bringing the overall success rate up from 0.77 retained salmon per angler day in 2002 to 1.07 retained salmon per angler day in 2003 (1.39 salmon per day in the charter sector, and 1.01 salmon per day in the private vessel sector).

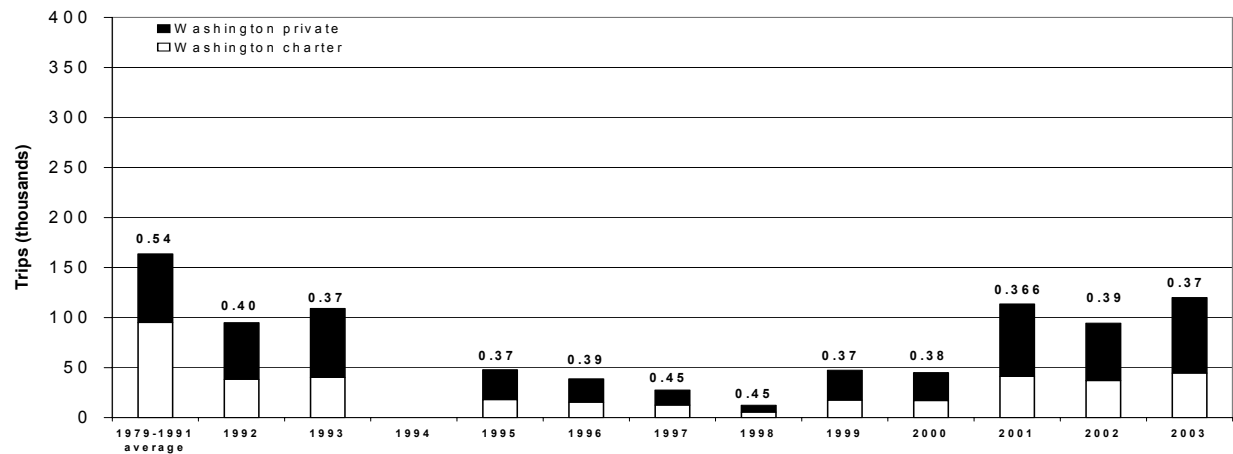
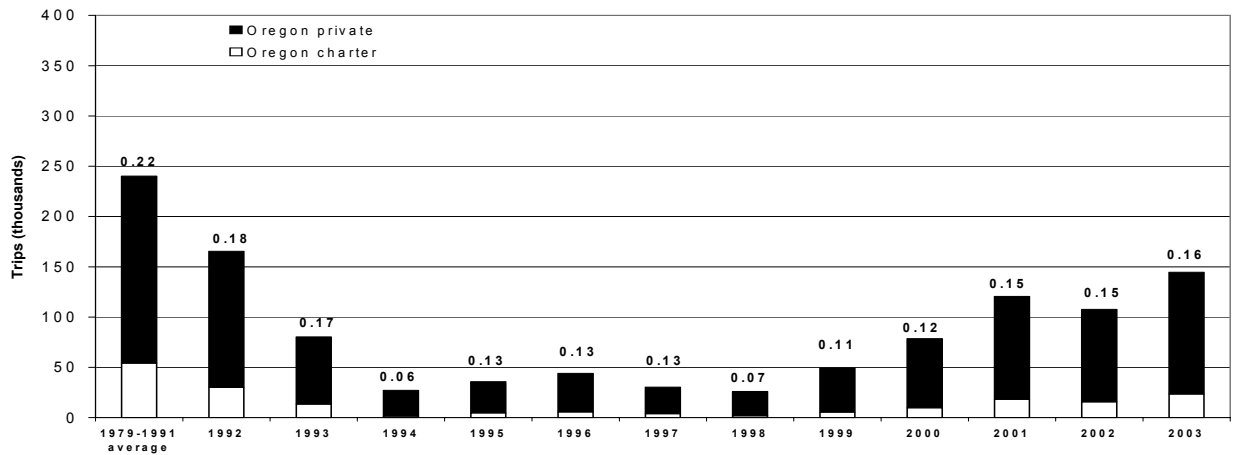
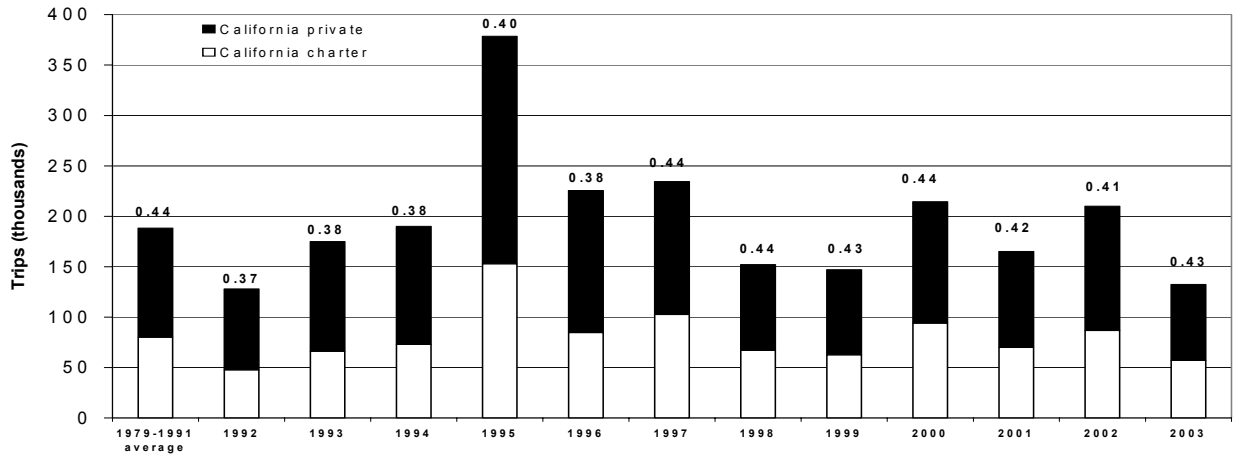


Figure IV-5. Total recreational ocean salmon trips for California, Oregon, and Washington, with proportion of charter trips shown above each bar.

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 ^{d/}	57.0	75.3	46.7	46.4	b/	0.6
OREGON^{a/r/}						
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	8.0	39.0	9.0	27.0
2003 ^{c/}	23.4	121.1	8.8	31.8	23.7	90.0

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 ^{n/}		Coho Catch ^{o/}	
	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 ^{c/}	44.5	75.5	16.0	18.1	53.4	84.9

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	43.3	15.4	69.9
2002	-	1.6	10.7	54.9	19.4	86.6
2003 ^{b/}	-	1.0	7.8	37.6	10.6	57.0
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 ^{b/}	2.2	12.5	15.5	27.9	17.1	75.3
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 ^{b/}	2.2	13.6	23.3	65.5	27.7	132.3

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 ^{c/}	3.9	2.0	13.0	4.0	0.5	23.4
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 ^{c/}	15.4	26.0	26.5	38.9	14.3	121.1
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 ^{c/}	19.3	28.0	39.6	42.9	14.8	144.5

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 ^{e/}	2.0	0.9	27.3	14.3	44.5
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 ^{e/}	18.4	3.5	20.7	32.9	75.5
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 ^{e/}	20.4	4.4	48.0	47.1	120.0

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.

Washington

In 2003, 120,000 ocean angler trips were taken on vessels on the Washington coast, an increase of 27% from 2002, and well above effort levels generally observed since 1990. The high level of activity over the last five years, as compared to the mid-1990s, is primarily related to management under mark-selective fishery regulations for coho. The proportion of angler trips made from charter vessels was relatively stable, decreasing slightly from 39% in 2002 to 37% in 2003 (Figure IV-5 and Table IV-13).

The angler success rates (in terms of retained fish per angler trip) increased to 1.44 retained salmon per angler day, compared to 1.40 retained salmon per angler day in 2002. The 1979 through 2002 average is 1.42 salmon per trip. Not included in these figures is angler effort which occurs from the ocean side of the Columbia River jetty and angler effort in the state managed Area 4B add-on fishery (which has not occurred since 2000).

Partial week closures were used in the recreational fishery north of Cape Falcon beginning in 1985 in an attempt to encourage increased angler participation in non-salmon recreational fishing and to extend the salmon season. Beginning in 1996, the Sunday through Thursday openings were used only in the Westport and Columbia River port areas, and the fishery has been open seven days a week in the Neah Bay and La Push areas. Bottomfish effort in the Neah Bay and La Push area did not drop when the salmon fishery for these port areas switched from partial week openings to seven-day-a-week openings (Table IV-14). In 2003, Westport and Columbia River areas switched from partial week openings to seven-day-a-week openings beginning on July 24th. Relative to 2002, bottomfish trips in 2003 increased in these ports as well as other port areas on the Washington coast (bottomfish trips are reported for Washington only).

Buoy 10 and Area 4B Add-On Fisheries

Angler retention rates in the Buoy 10 fishery increased from 0.31 salmon per day in 2002 to 0.80 salmon per day in 2003. Effort in 2003 was up 5%, compared to 2002, to 88,800 trips (including trips made from the jetty by bank anglers when the ocean fishery was closed, Table IV-15).

In 2000, 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 which are not addressed in this chapter of the review; see Appendix B for some indication of harvest in these other fisheries.

SALMON FISHERY INCOME IMPACTS AND COMMUNITY DEPENDENCE

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

Interpretation of State and Coastal Community Income Impacts

Estimated state and community income impacts of commercial and recreational ocean salmon fisheries and selected state-managed fisheries are shown in Tables IV-16 through IV-20. The impacts presented are estimates of total personal income associated with activity in the commercial and recreational salmon fisheries in counties and states. Income impact estimates are based on the landings in the area, an inventory of the fleet

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 ^{9/}	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

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)^{h/}														
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	a/	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 ^{b/}	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

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 ^{b/}	6.6	38.1	44.7	-	44.7	-	-	-	-	-	-	-	-	-

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 ^{c/}	991	45,461	2,315	47	7,903	0	624	28,518	526	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/c/}	216	39,844	0	22	8,322	0	139	8,466	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/c/}	1,207	85,305	2,315	69	16,225	0	763	36,984	526	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 ^{c/}	-	-	-	-	-	-	-	-	-	-	-

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.

TABLE IV-16. Estimates of **California coastal community and state personal income** impacts 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	5,590	14,200	13,924	18,266	7,840	59,821	76,907
1981-1985	2,832	3,417	7,997	15,095	5,144	34,485	42,935
1986-1990	1,067	2,640	14,047	27,276	10,199	55,229	67,781
1991-1995	9	125	883	10,271	5,852	17,140	20,655
1996-2000	8	143	393	10,328	6,510	17,382	18,371
2001	12	255	838	8,639	1,866	11,611	12,060
2002	222	425	3,027	12,591	3,391	19,656	20,881
2003 ^{d/}	185	31	12,151	12,840	2,029	27,236	30,272
RECREATIONAL (thousands of dollars)							
1976-1980	1,087	1,260	734	11,029	739	14,848	16,655
1981-1985	1,191	1,227	588	9,767	780	13,553	15,255
1996-1990	2,017	2,102	1,025	11,937	3,207	20,288	23,644
1991-1995	731	788	1,189	10,097	4,835	17,640	20,713
1996-2000	340	624	1,215	10,123	4,447	16,749	19,480
2001	428	886	2,148	7,800	2,820	14,082	16,557
2002	191	976	2,263	9,788	4,514	17,732	20,865
2003 ^{d/}	108	737	1,652	6,992	2,015	11,503	13,338

a/ Expressed in 2003 dollars. 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 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	3,589	4,620	10,839	16,674	6,935	42,656	57,839
1981-1985	1,162	1,498	3,509	6,183	2,686	15,037	20,436
1986-1990	538	3,137	6,980	13,499	2,549	26,704	35,990
1991-1995	75	585	2,398	1,164	119	4,341	5,854
1996-2000	122	244	2,538	1,454	347	4,706	5,761
2001	312	638	4,777	2,510	515	8,752	10,653
2002	894	750	4,090	3,616	654	10,004	12,126
2003 ^{e/}	879	797	5,263	4,832	569	12,340	14,927
RECREATIONAL (thousands of dollars)							
1976-1980	3,057	2,277	4,225	5,599	3,689	18,846	24,932
1981-1985	1,777	1,397	3,336	3,402	3,689	12,279	16,297
1986-1990	1,216	1,483	4,616	3,362	3,689	13,143	17,515
1991-1995	826	648	1,468	1,310	3,689	5,178	6,862
1996-2000	320	364	359	397	3,689	2,197	2,917
2001	1,298	774	1,504	1,540	1,083	6,198	8,013
2002	722	1,120	1,174	1,672	807	5,496	7,118
2003 ^{e/}	1,092	1,290	2,423	2,116	620	7,540	9,722

a/ Expressed in 2003 dollars. 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	5,182	7,076	15,615	5,024	32,897	6,974	49,950
1981-1985	1,019	413	4,290	920	6,641	1,488	9,740
1986-1990	564	148	1,975	385	3,073	863	4,697
1991-1995 ^{g/}	416	92	660	42	1,211	167	1,683
1996-2000	140	3	140	16	299	86	453
2001	244	0	442	36	721	0	892
2002	529	69	770	155	1,522	0	1,852
2003 ^{h/}	964	163	661	117	1,904	37	2,365
RECREATIONAL (thousands of dollars)							
1976-1980	2,068	1,097	11,853	4,649	19,667	-	26,712
1981-1985	1,908	224	8,316	3,893	14,341	-	19,517
1986-1990	888	101	4,250	2,291	7,530	-	10,199
1991-1995	472	92	2,623	1,330	4,517	-	6,107
1996-2000	250	68	1,228	601	2,147	-	2,894
2001	814	158	3,567	2,311	6,851	-	9,319
2002	646	163	3,154	1,895	5,857	-	7,953
2003 ^{h/}	956	228	3,595	2,506	7,285	-	9,922

a/ Expressed in 2003 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 fishery was closed north of Cape Falcon. Some commercial catch taken south of Cape Falcon was landed in the Puget Sound area.

h/ Preliminary.

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

Species ^{b/}		1988-1998	1999	2000	2001	2002	2003 ^{c/}
OREGON							
Non-Indian	Chinook						
Gillnet	Spring	741	165	457	1,181	1,835	753
	Fall Brights	3,668	219	277	263	481	887
	Tules	217	21	19	115	273	182
	Coho	2,034	980	1,584	1,765	1,592	2,408
	Chum	1	d/	5	d/	d/	0
	TOTAL	6,662	1,386	2,342	3,324	4,181	4,230
Treaty Indian	Chinook						
All Gears	Spring	3	0	6	81	42	9
	Fall Brights	1,533	185	275	10	7	29
	Tules	81	57	54	1	1	0
	Coho	13	8	14	1	0	0
	TOTAL	1,630	250	349	93	51	38
WASHINGTON							
Non-Indian	Chinook						
Gillnet	Spring	409	d/	29	247	547	147
	Fall	1,472	216	360	168	247	624
	Coho	799	449	823	1,223	747	1,313
	Chum	2	1	3	1	d/	d/
	TOTAL	2,682	667	1,215	1,639	1,568	2,084
Treaty Indian	Chinook						
All Gears	Spring	10	d/	113	689	551	359
	Fall	2,403	1,196	1,005	1,305	1,462	1,467
	Coho	31	21	46	76	26	25
	TOTAL	2,444	1,217	1,164	2,069	2,038	1,852
GRAND TOTAL							
Non-Indian		9,344	2,053	3,557	4,963	5,749	6,314
Treaty Indian		4,074	1,467	1,513	2,162	2,089	1,890
Columbia River		13,418	3,520	5,070	7,125	7,838	8,204

a/ Expressed in 2003 dollars. 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.

TABLE IV-20. Local personal income impacts of the **Buoy 10 recreational** fishery in **Oregon and Washington** and the **Area 4B add-on** fishery in Washington. (Page 1 of 1)

Year	Total Angler Trips (thousands)	Income Impacts (thousands of dollars) ^{e/}		
		Oregon	Washington	Total
BUOY 10 (including bank fishing)				
1987-1990	136	2,248	4,488	6,736
1991-1995	79	1,279	2,481	3,759
1996-2000	45	819	1,277	2,096
2001	126	2,677	2,986	5,664
2002	84	1,832	1,878	3,710
2003 ^{f/}	89	2,150	1,728	3,878
AREA 4B ADD-ON^{g/}				
1989-1990	12		555	555
1991-1995 ^{d/}	6		259	259
1996-2000	3		116	116
2001 ^{h/}	-		-	-
2002 ^{d/}	-		-	-
2003 ^{b/d/}	-		-	-

e/ Expressed in 2003 dollars.

f/ Preliminary.

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

h/ There was no Area 4B add-on fishery in 1994, 2001, 2002, or 2003.

and processors, estimates of fleet and processor expenditures, surveys of the expenditure patterns of recreational fishers, and income coefficients from the U.S. Forest Service IMPLAN model. Commercial ocean harvest not landed in the coastal areas (e.g., landed in Puget Sound ports) is not included in the estimates of coastal community impacts, but is included in the estimate of state impacts.

The numbers presented here are estimates of annual trends and the possible redirection of money between nonfishing-dependent and fishing-dependent sectors; they are likely an upper bounds on the local community and state income impacts which may have been generated by West Coast ocean salmon fisheries. Income impact estimates for some inside fisheries are also presented. All income impact estimates in this review are reported in real (inflation adjusted) 2003 dollars.

West Coast Ocean Fishery Income Impacts

The total state level income impact associated with the recreational and commercial ocean salmon fisheries for all three states combined was \$80.5 million in 2003. These impacts were 14% above the 2002 level and well over twice the 1998 historic low of \$32.5 million, but 36% below the 1976 through 2002 average in real dollars (Tables IV-16 through IV-20). State level income impacts related to the 2003 non-Indian commercial ocean fishery (\$47.6 million) were up 36% compared to 2002, but were 40% below the 1976 through 2002 average.^{1/} Impacts related to the 2003 ocean recreational fishery (\$33.0 million) were down 8% compared to 2002, and were 27% below the 1976 through 2002 average (all comparisons are adjusted for inflation). These coastwide values, while low compared to historic averages, do not reveal the greater reductions that have occurred in particular communities.

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 2003, income impacts associated with the Columbia River commercial catch are estimated to be \$8.2 million, compared to \$7.8 million in 2002, and a 1987 through 1998 average of \$13.4 million (inflation adjusted, Table IV-19).

Buoy 10 and Area 4B Add-On

Estimated local community income impacts associated with the 2003 Buoy 10 fishery (\$3.9 million) were 5% above 2002 levels and 5% below the 1987 through 2002 real (inflation adjusted) average of \$4.1 million (Table IV-20). There has not been a late season Area 4B add-on fishery since after 2000 because there was substantial fishing opportunity in the ocean areas. In 2000, the state level income impacts associated with the Area 4B add-on fishery was \$161,000, adjusted for inflation (Table IV-20).

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.

(Page Left Intentionally Blank)