

Table 1. History of Council Actions

- The Council initiated development of the FMP for Northern anchovy in January of 1977. The FMP was submitted to the U.S. Secretary of Commerce (Secretary) in June of 1978. Regulations implementing the FMP for Northern anchovy were published in the *Federal Register* on September 13, 1978 (43FR40868). Subsequently, the Council has considered seven amendments.
- The first amendment changed the method of specifying the domestic annual harvest for Northern anchovy and added a requirement for an estimate of domestic processing capacity and expected annual level of domestic processing. Approval for this amendment was published in the *Federal Register* on July 18, 1979 (44FR41806).
- The second amendment, which became effective on February 5, 1982, was published in the *Federal Register* on January 6, 1982 (47FR629). The purpose of this amendment was to increase the domestic fishing fleet's opportunity to harvest the entire optimum yield (OY) of Northern anchovy from the U.S. EEZ by releasing, inseason, unutilized portions of the Northern quota.
- During the spring of 1982, the Council considered a third amendment that divided the quota for Northern anchovy into two halves and made release of the second half conditional on the results of a mid-season review of the status of the stock. The methods proposed for the mid-season assessment were considered too complex to implement, and the amendment was not approved.
- The fourth amendment, which had two parts, was published in the *Federal Register* on August 2, 1983 (48FR34963) and became effective on August 13, 1983. The first part abolished the five-inch size limit in the commercial fishery and established a minimum mesh size of 5/8 inch for Northern anchovy. The mesh size requirement did not become effective until April 1986 in order to give the fleet additional time to comply without undue economic hardship. The second part established a mid-season quota evaluation that was simpler in design than the method proposed in Amendment 3.
- The fifth amendment in 1983 incorporated advances in scientific information concerning the size and potential yield of the central subpopulation of Northern anchovy. In addition, the fifth amendment included changes to a variety of other management measures. Two or more alternative actions were considered in each of seven general categories; (1) OY and harvest quotas; (2) season closures; (3) area closures; (4) quota allocation between areas; (5) the reduction quota reserve; (6) minimum fish size or mesh size; and (7) foreign fishing and joint venture regulations. The alternatives for the fifth amendment were reviewed by the Council during 1983. The final rule was published in the *Federal Register* on March 14, 1984 (49FR9572).
- In 1990, the sixth amendment implemented a definition of overfishing for Northern anchovy consistent with National Standard 7, and addresses vessel safety (56FR15299, April 16, 1991).
- The Council began developing the seventh amendment as a new FMP for CPS on a motion from NMFS and California in 1990. A complete draft was available in November of 1993, but the Council suspended further work, because NMFS withdrew support due to budget constraints. In July of 1994, the Council decided to proceed with the plan through the public comment period. NMFS agreed with the decision on the condition that the Council also consider the options of dropping or amending the anchovy FMP. Thus, four principal options were considered for managing CPS (1) drop the anchovy FMP (no federal or Council involvement in CPS); (2) continue with the existing FMP for anchovy (status quo); (3) amend the FMP for Northern anchovy; and (4) implement an FMP for the entire CPS fishery. In March of 1995, after considering all four principal options, the Council decided to proceed with the FMP for CPS. Final action was postponed until June 1995 when the Council adopted a draft plan that had been revised to address comments provided by NMFS and the SSC. Amendment 7 was submitted to the US Secretary of Commerce, but rejected by NMFS, Southwest Region, as being inconsistent with National Standard 7. NMFS announced its intention to drop the FMP for Northern anchovy (in addition to FMP's other species) in the *Federal Register* on March 26, 1996 (61FR13148), but the action was never completed.

- Development of Amendment 8 began in June, 1997 when the Council directed the CPSPDT to amend the FMP for Northern anchovy to conform to the recently revised Magnuson-Stevens Fishery Conservation and Management Act and to expand the scope of the FMP to include the entire CPS fishery. Amendment 8 was partially approved by the U.S. Secretary of Commerce on June 10, 1999, and final regulations were published on December 15, 1999 (64FR69888). The FMP was implemented on January 1, 2000.
- At its meeting in June 1999, the Council directed its Coastal Pelagic Species Management Team (CPSMT) to recommend appropriate revisions to the FMP and report to the Council the following September. A public meeting of the CPSMT was held in La Jolla, CA, on August 3 and 4, 1999, and August 24, 1999, and a meeting was held between the CPSMT and the Coastal Pelagic Species Advisory Subpanel on August 24, 1999. At its September 1999 meeting, the Council gave further direction to the CPSMT regarding MSY for squid. At its March 2000 meeting, the Council asked the CPSMT for a more thorough analysis of the alternatives proposed for establishing MSY for squid and for bycatch. At a public meeting in La Jolla, CA, on April 20 and 21, 2000, the CPSMT reviewed comments from the Council, the Council's Scientific and Statistical Committee (SSC) and prepared additional material for establishing MSY for squid based on spawning area.
- The Council distributed Amendment 9 for public review on July 27, 2000. At its September 2000 meeting, the Council reviewed written comments, received comments from its advisory bodies, and heard public comments, and decided to submit only two provisions for Secretarial review. Based on testimony concerning MSY for squid, the Council decided to include in Amendment 9 only the bycatch provision and a provision providing a framework to ensure that Indian fishing rights are implemented according to treaties between the U.S. and the specific tribes. Since implementation of the FMP, the CPS fishery has expanded to Oregon and Washington. As a result, the FMP must discuss Indian fishing rights in these areas. These rights were not included in the FMP; and the Council decided to address this issue in Amendment 9. The Council decided to conduct further analysis of the squid resource and will prepare a separate amendment that addresses OY and MSY for squid.
- The Secretary of Commerce approved Amendment 9 on March 22, 2001.
- In April 2001, the Council adopted the capacity goal and transferability provisions recommended by the CPSMT for inclusion in Amendment 10. The Council directed the CPSMT to develop an amendment to the CPS FMP that will include the capacity goal, provisions for permit transferability, a process for monitoring fleet capacity relative to the goal, and a framework for modifying transferability provisions as warranted by increases or decreases in fleet capacity. The amendment will also address determination of OY and MSY for market squid.
- In November 2001, the Council reviewed the findings of the market squid stock assessment review (STAR) workshop and endorsed the egg escapement approach as a proxy for squid MSY, as recommended by the market squid STAR Panel and CPSMT.
- In March 2002, the Council adopted draft Amendment 10 to the CPS FMP for public review.
- In June 2002, the Council adopted Amendment 10 to the CPS FMP.
- December 30, 2002, the Secretary of Commerce approved Amendment 10. On January 27, 2003 NMFS issued the final rule and regulations for implementing Amendment 10.
- September 2002, the Council requested NMFS take emergency action to reallocate the unharvested portion of the harvest guideline prior to October 1. The Council believed this action would minimize negative economic impacts in the northern fishery without causing market disruptions in the southern fishery. On September 26, 2002, through an emergency rule, NMFS reallocated the remaining Pacific sardine harvest guideline and reopened the northern subarea fishery, which had been closed on September 14, 2002.

- September 2002, the CPSAS recommended the Council initiate a regulatory or FMP amendment and direct the CPSMT to prepare management alternatives for revising the sardine allocation framework. The Council directed the CPSMT to review CPSAS recommendations for revising the allocation framework. A public meeting of the CPSMT was held on October 8, 2002. The CPSMT discussed information needs and prospective analyses for developing allocation management alternatives.
- On October 30, 2002, the Council initiated a regulatory amendment to address allocation problems.
- The CPSMT met January 30-31, 2003 to analyze various alternatives for revising the allocation framework and developed recommendations for Council consideration.
- At the March 2003 Council meeting, the SSC and CPSAS reviewed analyses of the proposed management alternatives for sardine allocation. Based on the advisory body recommendations and public comment, the Council adopted five allocation management alternatives for public review.
- At the April 2003 Council meeting, the CPSAS reviewed the five management alternatives and developed recommendations for the Council. The Council took final action on the regulatory amendment. The proposed action adopted by the Council would (1) change the definition of subarea A and subarea B by moving the geographic boundary between the two areas from 35° 40' N latitude to 39° N latitude, (2) move the date when Pacific sardine that remains unharvested is reallocated to Subarea A and Subarea B from October 1 to September 1, (3) change the percentage of the unharvested sardine that is reallocated to Subarea A and Subarea B from 50 percent to both subareas to 20 percent to Subarea A and 80 percent to Subarea B, and (4) reallocate all unharvested sardine that remains on December 1 coast wide. The Council's intent is for this interim revision to the allocation framework be in effect for the 2003 and 2004 seasons. The allocation regime could be extended to 2005 if the 2005 harvest guideline were at least 90% of the 2003 harvest guideline.

## Table 2. Regulatory Actions

**January 25, 2000.** NMFS published harvest guidelines for Pacific sardine and Pacific mackerel for the fishing year beginning January 1, 2000. A harvest guideline of 186,791 mt was established for Pacific sardine, based on a biomass estimate of 1,581,346 mt. The harvest guideline was allocated for Subarea A, which is north of 35° 40' N latitude (Point Piedras Blancas) to the Canadian border, and for Subarea B, which is south of 35° 40' N latitude to the Mexican border. The northern allocation was 62,264 mt; the southern allocation was 124,527 mt. The sardine harvest guideline was in effect until December 31, 2000, or until it was reached and the fishery closed. A harvest guideline of 42,819 mt was established for Pacific mackerel based on a biomass estimate of 239,286 mt. The harvest guideline for Pacific mackerel was in effect until June 30, 2000, or until it was reached and the fishery closed. (65FR3890)

**September 11, 2000.** NMFS announced the annual harvest guideline for Pacific mackerel in the exclusive economic zone (EEZ) off the Pacific Coast. Based on the estimated biomass of 116,967 mt and the formula in the FMP, a harvest guideline of 20,740 mt was calculated for the fishery beginning on July 1, 2000. This harvest guideline is available for harvest for the fishing season July 1, 2000, through June 30, 2001. (65FR54817)

**November 1, 2000.** NMFS announced the closure of the directed fishery for Pacific mackerel in the EEZ off the Pacific Coast on October 27, 2000. The FMP and its implementing regulations require NMFS to set an annual harvest guideline for Pacific mackerel based on a formula in the FMP and to close the fishery when the harvest guideline is reached. The harvest guideline of 20,740 mt is projected to be reached before the end of the fishing season on June 30, 2001, which requires closing the directed fishery and setting an incidental harvest limit for Pacific mackerel so that the harvest of other coastal pelagic species will not be further restricted. The intended effect of this action is to ensure conservation of the Pacific mackerel resource. For the reasons stated here and in accordance with the FMP and its implementing regulations at 50 CFR 660.509, the directed fishery for Pacific mackerel will be closed October 27, 2000, after which time no more than 20% by weight of any landing of Pacific sardine may be Pacific mackerel. (65FR65272)

**November 17, 2000.** NMFS published a correction to the Pacific mackerel closure which was published on November 1, 2000. In 65FR65272, make the following correction: On page 65272, in the third column, under the heading SUPPLEMENTARY INFORMATION, the last sentence is corrected to read as follows: "For the reasons stated here and in accordance with the FMP and its implementing regulations at 50 CFR 660.509, the directed fishery for Pacific mackerel will be closed October 27, 2000, after which time no more than 20% by weight of a landing of Pacific sardine, northern anchovy, jack mackerel, or market squid may consist of Pacific mackerel." (65FR69483)

**December 27, 2000.** NMFS announced the annual harvest guideline for Pacific sardine in the EEZ off the Pacific Coast for the January 1, 2001, through December 31, 2001, fishing season. This harvest guideline has been calculated according to the regulations implementing the FMP. The intended effect of this action is to establish allowable harvest levels for Pacific sardine off the Pacific Coast. Based on the estimated biomass of 1,182,465 mt and the formula in the FMP, a harvest guideline of 134,737 mt was calculated for the fishery beginning January 1, 2001. The harvest guideline is allocated one-third for Subarea A, which is north of 35° 40' N latitude (Point Piedras Blancas) to the Canadian border, and two-thirds for Subarea B, which is south of 35° 40' N latitude to the Mexican border. Any unused resource in either area will be reallocated between areas to help ensure that the optimum yield will be achieved. The northern allocation is 44,912 mt; the southern allocation is 89,825 mt. (65FR81766)

**February 22, 2001.** NMFS announced changes to the restriction on landings of Pacific mackerel for individuals participating in the CPS fishery and for individuals involved in other fisheries who harvest small amounts of Pacific mackerel. The incidental limit on landings of 20% by weight of Pacific mackerel in landings of Pacific sardine, northern anchovy, jack mackerel, and market squid remains in effect; however, CPS fishermen may land up to 1 mt of Pacific mackerel even if they land no other species from the trip. Non-CPS fisherman may land no more than 1 mt of Pacific mackerel per trip. After the harvest guideline of 20,740 mt is reached, all landings of Pacific mackerel will be restricted to 1 mt per trip. This action is authorized by the FMP and is intended to ensure that the fishery achieves, but does not exceed, the harvest guideline while minimizing the economic impact on small businesses. For the reasons stated here, no fishing vessel may

land more than 1 mt of Pacific mackerel per fishing trip, except that fishing vessels with other CPS on board may land more than 1 mt of Pacific mackerel in a fishing trip if the total amount of Pacific mackerel on board the vessel does not exceed 20% by weight of the combined weight of all CPS on board the vessel. (66FR11119)

**March 30, 2001.** NMFS announced the closure of the fishery for Pacific mackerel in the EEZ off the Pacific Coast at 12:00 a.m. on March 27, 2001. The FMP and its implementing regulations require NMFS to set an annual harvest guideline for Pacific mackerel based on a formula in the FMP and to close the fishery when the harvest guideline is reached. The harvest guideline of 20,740 mt has been reached. Following this date no more than 1 mt of Pacific mackerel may be landed from any fishing trip. The effect of this action is to ensure conservation of the Pacific mackerel resource. (66FR17373)

**July 25, 2001.** NMFS announced a harvest guideline of 13,837 mt for Pacific mackerel for the fishing season July 1, 2001 through June 30, 2002. A directed fishery of 6,000 mt was established, which, when attained, would be followed by an incidental allowance of 45% of Pacific mackerel in a landing of any coastal pelagic species. If a significant amount of the harvest guideline remained unused before the end of the fishing season on June 30, 2002, the directed fishery would be reopened. This approach was taken because of concern about the low harvest guideline's potential negative effect on the harvest of Pacific sardine if the fishery for Pacific mackerel had to be closed. The two species occur together often and could present incidental catch problems. (66FR38571)

**November 27, 2001.** NMFS announced the closure of the directed fishery for Pacific mackerel in the EEZ off the Pacific Coast at 12:00 noon on November 21, 2001. For the fishing season beginning July 1, 2001, 6,000 mt of the 13,837 mt harvest guideline was established for a directed fishery. More than 6,000 mt has been landed. Therefore, the directed fishery for Pacific mackerel was closed on November 21, 2001, after which time no more than 45% by weight of a landing of Pacific sardine, northern anchovy, jack mackerel, or market squid could consist of Pacific mackerel. The intended effect of this action was to ensure that the harvest guideline was achieved, but not exceeded, and to minimize bycatch of Pacific mackerel while other CPS were being harvested. (66FR59173)

**December 27, 2001.** NMFS published the harvest guideline for Pacific sardine for the fishing season beginning January 1, 2002. A harvest guideline of 118,442 mt was established for Pacific sardine based on a biomass estimate of 1,057,599 mt. The harvest guideline is allocated for Subarea A, which is north of 35° 40' N latitude (Point Piedras Blancas) to the Canadian border, and for Subarea B, which is south of 35° 40' N latitude to the Mexican border. The northern allocation is 39,481 mt; the southern allocation is 78,961 mt. The sardine harvest guideline is in effect until December 31, 2002, or until it is reached and the fishery closed. (66FR66811)

**April 5, 2002.** NMFS announced the reopening of the directed fishery for Pacific mackerel in the U.S. EEZ off the Pacific Coast on April 1, 2002. A significant portion of the Pacific mackerel harvest guideline remains unharvested (6,585 mt). Therefore, the incidental catch allowance that has been in effect since November 21, 2001 is removed, and any landing of Pacific mackerel may consist of 100% Pacific mackerel. This action was taken to help ensure that the harvest guideline is attained. If the harvest guideline is projected to be reached before June 30, 2002, the directed fishery will be closed and an appropriate incidental landing restriction imposed. (67FR16322)

**July 11, 2002.** NMFS proposed a regulation to implement the annual harvest guideline for Pacific mackerel in the EEZ off the Pacific Coast. The CPS FMP and its implementing regulations require NMFS to set an annual harvest guideline for Pacific mackerel based on the formula in the FMP. This action proposes allowable harvest levels for Pacific mackerel off the Pacific Coast. Based on the estimated biomass of 77,516 mt and the formula in the FMP, a harvest guideline of 12,456 is proposed for the fishery beginning on July 1, 2002, and continue through June 30, 2003, unless the harvest guideline is attained and the fishery closed before June 30. (67FR45952)

**September 18, 2002.** NMFS announced the closure of the fishery for Pacific sardine in the U.S. EEZ off the Pacific Coast north of Point Piedras Blancas, CA, (35° 40' N latitude) at 0001 hrs local time on September 14, 2002. The closure will remain in effect until the reallocation of the remaining portion of the coast wide harvest guideline is required by the CPS FMP. That reallocation is expected to occur on or about October 1, 2002. The purpose of this action is to comply with the allocation procedures mandated by the FMP. (67FR58733)

**September 26, 2002.** Emergency rule. NMFS announced the reallocation of the remaining Pacific sardine harvest guideline in the U.S. EEZ off the Pacific Coast. The CPS FMP requires that NMFS conduct a review of the fishery 9 months after the beginning of the fishing season on January 1, and reallocate any unharvested portion of the harvest guideline, with 50% allocated north and south of Point Piedras Blancas, California. The allocation north of Point Piedras Blancas was reached on September 14, 2002, and the fishery was closed until the scheduled time for reallocation on October 1, 2002. This action reallocates the remainder of the harvest guideline earlier than the date specified in the FMP in order to minimize the negative economic effects on fishing and processing, primarily in the Pacific Northwest, that would result from delaying the reallocation. (67FR60601)

**October 3, 2002.** NMFS issued a regulation to implement the annual harvest guideline for Pacific mackerel in the EEZ off the Pacific Coast. The CPS FMP and its implementing regulations require NMFS to set an annual harvest guideline for Pacific mackerel based on the formula in the FMP. This action is to conserve Pacific mackerel off the Pacific Coast. Based on the estimated biomass of 77,516 mt and the formula in the FMP, a harvest guideline of 12,456 is proposed for the fishery beginning on July 1, 2002, and continue through June 30, 2003, unless the harvest guideline is attained and the fishery closed before June 30. There will be a directed fishery of at least 9,500 mt, and 3,035 mt of the harvest guideline will be utilized for incidental landings following the closure of the directed fishery. After closure of the directed fishery, no more than 40% by weight of a landing of Pacific sardine, northern anchovy, jack mackerel, or market squid may consist of Pacific mackerel, except that up to 1 mt of Pacific mackerel may be landed without landing any other CPS. The fishery will be monitored, and if a sufficient amount of the harvest guideline remains before June 30, 2003, the directed fishery will be reopened. The goal is to achieve the harvest guideline and minimize the impact on other coastal pelagic fisheries. 67FR61994)

**October 30, 2002.** NMFS proposed a regulation to implement Amendment 10 to the CPS FMP, which was submitted by the Council for review and approval by the Secretary of Commerce. Amendment 10 addresses the two unrelated subjects of the transferability of limited entry permits and maximum sustainable yield for market squid. Only the provisions regarding limited entry permits require regulatory action. The purpose of this proposed rule is to establish the procedures by which limited entry permits can be transferred to other vessels and/or individuals so that the holders of the permits have maximum flexibility in their fishing operations while the goals of the FMP are achieved. (67FR66103)

**November 25, 2002.** NMFS proposed a regulation to implement the annual harvest guideline for Pacific sardine in the U.S. EEZ off the Pacific Coast for the fishing season January 1, 2003, through December 31, 2003. This harvest guideline has been calculated according to the CPS FMP and establishes allowable harvest levels for Pacific sardine off the Pacific Coast. Based on the estimated biomass of 999,871 mt and the formula in the FMP, a harvest guideline of 110,908 mt was determined for the fishery beginning January 1, 2003. The harvest guideline is allocated one-third for Subarea A, which is north of 35° 40' N latitude (Point Piedras Blancas) to the Canadian border, and two-thirds for Subarea B, which is south of 35° 40' N latitude to the Mexican border. The northern allocation is 36,969 mt; the southern allocation is 73,939 mt. (67FR70573)

**December 31, 2002.** NMFS issued a regulation to implement the annual harvest guideline for Pacific sardine in the U.S. EEZ off the Pacific Coast for the fishing season January 1, 2003, through December 31, 2003. This harvest guideline has been calculated according to the CPS FMP and establishes allowable harvest levels for Pacific sardine off the Pacific Coast. Based on the estimated biomass of 999,871 mt and the formula in the FMP, a harvest guideline of 110,908 mt was determined for the fishery beginning January 1, 2003. The harvest guideline is allocated one-third for Subarea A, which is north of 35° 40' N latitude (Point Piedras Blancas, CA) to the Canadian border, and two-thirds for Subarea B, which is south of 35° 40' North

latitude to the Mexican border. The northern allocation is 36,969 mt; the southern allocation is 73,939 mt. If an allocation or the harvest guideline is reached, up to 45% by weight of Pacific sardine may be landed in any landing of Pacific mackerel, jack mackerel, northern anchovy, or market squid. (67FR79889).

**January 27, 2003.** NMFS issued a regulation to implement Amendment 10 to the CPS FMP, which was submitted by the Council for review and approval by the Secretary of Commerce. Amendment 10 addresses the two unrelated subjects of the transferability of limited entry permits and maximum sustainable yield for market squid. Only the provisions regarding limited entry permits require regulatory action. The primary purpose of this final rule is to establish the procedures by which limited entry permits can be transferred to other vessels and/or individuals so that the holders of the permits have maximum flexibility in their fishing operations while the goals of the FMP are achieved. (68FR3819)

Table 3. Vessel age and calculated gross tonnage (GT) for the initial and current limited entry fleet.

	Initial Fleet	Current Fleet
Number of Permitted Vessels	65	65
Average Vessel Age	35 yrs	32 yrs
Range of Ages	12 - 66 yrs	2 - 66 yrs
Average GT	71.3	88.8
Range of GT	12.8 - 206.9	23.8 - 340.2
Sum of Fleet GT	4,635.9	5,775.2
Capacity Goal (GT) <sup>1</sup>	---	5,650.9
Transferability Trigger (Goal+5%) <sup>1</sup>	---	5,933.5

1/ Established by Amendment 10 to the CPS FMP.



Table 4. Coastal pelagic species limited entry permit vessel listing, with U.S. Coast Guard registered measurements and calculated gross tonnage (GT) values for each vessel. (Page 1 of 2)

Vessel Name	CG Number	Permit Number	Year Built	Vessel Age	CG Measurements (ft.) <sup>1/</sup>			Calculated GT Endorsement <sup>2/</sup>	Max. Transfer Allowance <sup>3/</sup>
					Length	Breadth	Depth		
Misty Moon	D578511	1	1976	27	49.60	19.00	10.10	63.8	70.1
Paloma	D280452	2	1960	43	47.40	16.50	8.30	43.5	47.8
St. George II	D238969	3	1939	64	71.40	21.20	9.70	98.4	108.2
Barbara H	D643518	4	1981	22	64.90	24.00	11.60	121.1	133.2
San Antonio	D236947	5	1937	66	72.10	19.50	8.70	82.0	90.1
Annie D	D246533	6	1944	59	73.20	21.50	9.30	98.1	107.9
San Pedro Pride	D549506	7	1973	30	79.60	24.50	12.30	160.7	176.8
Ferrigno Boy	D602455	8	1978	25	69.60	23.70	12.60	139.3	153.2
King Philip	D1061827	9	1997	6	79.00	26.00	11.40	156.9	172.6
Sea Wave	D951443	10	1989	14	78.00	22.00	18.00	206.9	227.6
Mary Louise	D247128	11	1944	59	58.30	18.00	8.00	56.2	61.9
Bainbridge	D236505	12	1937	66	78.60	22.70	9.60	114.8	126.2
Pioneer	D246212	13	1944	59	77.80	24.30	11.20	141.9	156.1
Maria	D236760	14	1937	66	70.70	20.50	9.20	89.3	98.3
St. Joseph	D633570	15	1981	22	62.90	22.00	9.10	84.4	92.8
Sea Scout	D248454	16	1945	58	81.50	23.10	10.90	137.5	151.2
Retriever	D582022	17	1977	26	54.20	19.60	8.70	61.9	68.1
Atlantis	D649333	18	1982	21	49.60	19.00	10.10	63.8	70.1
G. Nazzareno	D246518	19	1944	59	78.00	22.70	10.50	124.6	137.0
Sea Queen	D582167	20	1974	29	68.40	22.00	11.10	111.9	123.1
Pacific Leader	D643138	21	1981	22	59.50	21.00	9.20	77.0	84.7
Chovie Clipper	D524626	22	1970	33	51.10	18.00	10.30	63.5	69.8
Pacific Journey <sup>4/</sup>	OR 661 ZK	23	2001	2	64.30	22.01	10.30	97.7	107.4
Ocean Angel I	D584336	24	1977	26	49.60	19.00	10.10	63.8	70.1
Maria T	D509632	25	1967	36	57.30	18.10	9.80	68.1	74.9
Manana	D253321	26	1947	56	40.10	13.20	6.70	23.8	26.1
Miss Juli	D548223	27	1973	30	49.50	17.80	9.40	55.5	61.0
Mineo Bros.	D939449	28	1989	14	58.00	21.00	9.00	73.4	80.8
Sea Queen	D583781	29	1977	26	49.00	16.00	8.00	42.0	46.2
Little Joe II	D531019	30	1971	32	50.10	16.00	7.60	40.8	44.9
Caitlin Ann	D960836	31	1990	13	98.00	33.00	15.70	340.2	374.2
Eldorado	D690849	32	1985	18	56.00	17.00	8.60	54.9	60.3
Kristen Gail	D618791	33	1980	23	87.00	26.00	12.80	194.0	213.4
Fiore D'Mare	D550564	34	1973	30	71.50	23.00	11.40	125.6	138.2
Endurance	D613302	35	1979	24	49.00	16.00	8.00	42.0	46.2
New Sunbeam	D284470	36	1961	42	50.30	20.00	4.00	27.0	29.7
Calogera A	D984694	37	1992	11	57.75	21.00	10.50	85.3	93.8
Eileen	D252749	38	1947	56	79.40	22.10	10.20	119.9	131.9
Pamela Rose	D693271	39	1985	18	54.00	19.00	9.00	61.9	68.1
New Stella	D598813	40	1978	25	58.00	22.00	8.40	71.8	79.0
Traveler	D661936	41	1983	20	56.00	17.00	6.90	44.0	48.4
Lucky Star	D295673	42	1964	39	49.90	17.00	7.30	41.5	45.6
Ocean Angel II	D622522	43	1980	23	74.50	28.00	10.70	149.5	164.5
Mello Boy	D1061917	44	1997	6	66.00	26.00	12.00	138.0	151.8
Trionfo	D625449	45	1980	23	63.80	19.30	9.60	79.2	87.1
Jenny Lynn	D541444	46	1972	31	66.00	21.60	8.90	85.0	93.5
Heavy Duty	D655523	47	1983	20	58.00	21.30	10.20	84.4	92.9
Aliotti Bros	D685870	48	1985	18	67.60	26.00	9.10	107.2	117.9
Lady J	D647528	49	1982	21	50.30	17.00	7.10	40.7	44.7
Anna S	D253402	50	1947	56	50.80	16.20	9.10	50.2	55.2
Endeavor	D971540	51	1990	13	57.40	19.00	9.90	72.3	79.6
Antoinette W	D606156	52	1978	25	45.40	16.00	7.60	37.0	40.7
Donna B	D648720	53	1982	21	73.20	25.00	12.90	158.2	174.0
Papa George	D549243	54	1973	30	72.00	22.80	11.50	126.5	139.1
Mercurio Bros	D650376	55	1982	21	42.00	16.70	8.60	40.4	44.5
Kathy Jeanne	D507798	56	1967	36	65.90	22.20	8.80	86.3	94.9

Vessel Name	CG Number	Permit Number	Year Built	Vessel Age	CG Measurements (ft.) <sup>1/</sup>			Calculated GT Endorsement <sup>2/</sup>	Max. Transfer Allowance <sup>3/</sup>
					Length	Breadth	Depth		
Merva W	D532023	57	1971	32	56.70	17.90	8.00	54.4	59.8
Santa Maria	D236806	58	1937	66	79.20	19.50	8.80	91.1	100.2
Buccaneer	D592177	59	1978	25	62.10	19.90	9.00	74.5	82.0
Midnight Hour	D276920	60	1958	45	61.10	18.00	8.60	63.4	69.7
Nancy B II	D542513	61	1972	31	56.40	18.00	8.80	59.9	65.8
Miss Kristina	D580843	62	1977	26	50.00	16.00	7.40	39.7	43.6
Emerald Sea	D626289	63	1980	23	62.70	26.00	7.90	86.3	94.9
Connie Marie	D624240	64	1980	23	49.90	17.90	9.10	54.5	59.9
Theresa Marie	D629721	65	1980	23	40.60	14.70	6.60	26.4	29.0

- 1/ Vessel dimension data were obtained from the U.S. Coast Guard web site <http://psix.uscg.mil>
- 2/ Vessel calculated gross tonnage is  $GT=0.67(\text{length}*\text{breadth}*\text{depth})/100$ . See 46 CFR 69.209.
- 3/ Maximum transfer allowance is based on vessel GT + 10%.
- 4/ Pacific Journey was built in Canada and is not currently registered with the U.S. Coast Guard. Measurements by marine surveyor Det Norske Veritas.

Table 5. Number of commercial landings sampled per year by the CDFG port sampling program, 1985-2002.

Year	Sardine Landings	Mackerel Landings	Total Landings
2002	137	94	231
2001	172	89	261
2000	110	85	195
1999	157	70	227
1998	97	97	194
1997	113	116	229
1996	96	85	181
1995	254	215	469
1994	119	167	286
1993	85	183	268
1992	231	113	344
1991	169	42	211
1990	99	233	332
1989	149	451	600
1988	190	385	575
1987	128	510	638
1986	105	440	545
1985	40	333	373

Table 6. Incidental catch from landings sampled by the CDFG port sampling program, 1992-1999. (Information represents **occurrence** of incidental catch, not numbers or weights of fish.)

Yr	Anchovy	Jacksmelt	Herring	White Croaker	M. Squid	Lingcod	Pac Mack	Y-tail	Jack Mackerel	Y-fin Tuna	Skipjack Tuna	Total
99	5	1	1									7
98	3		2	1	4							10
97	1		1		44							46
96	8			1	22	1		1	1			32
95	5		1		71		1	1	1			80
94			1									1
93												--
92					1					1	1	3

Table 7a. Incidental catch recorded by CDFG CPS port samplers in Los Angeles County, California, 2001.

Fishes	Incidents	Elasmobranchs	Incidents	Invertebrates, Vegetation and Garbage	Incidents
Halibut	8	Pacific electric ray	2	Kelp	50
Bonito	1	"Sand shark"	1	Crab	7
Sablefish	3	Spiny dogfish	1	Sea cucumber	2
Cusk eel	4	Smoothhound	1	"Debris"	1
Kelp bass	1	"Shark"	1	Kelp fronds	1
Sand bass	2	Sevengill shark	1	Lobster	3
Flyingfish	1	Bat ray	22	Plastic bottle	1
Lizardfish	6	"Skates"	4	Sea star	2
Tonguefish	3	Thornback	4	"Sea weed"	4
Sardine	13	Horn shark	4	Snail	1
"Flatfish"	33	Swell shark	1	Squid	16
Butterfish	5	Stingray	2	Squid eggs	1
Pompano	1				
Barracuda	5				
Midshipman	13				
Senorita	1				
"Bass"	1				
Anchovy	10				
Jacksmelt	4				
White croaker	19				
Pacific mackerel	21				
Jack mackerel	29				
California Scorpionfish	26				
Total	210	Total	44	Total	89

Table 7b. Incidental catch recorded by CDFG CPS port samplers in Los Angeles County, California, 2002.

Fishes	Incidents	Elasmobranchs	Incidents	Invertebrates, Vegetation and Garbage	Incidents
Anchovy, northern	13	Guitarfish, shovelnose	1	Crab, pelagic red	6
Barracuda, California	2	Ray, bat	20	Crab, shells	1
Bass, barred sand	5	Ray, CA butterfly	1	Crab, unsp. Rock	3
Bass, kelp	2	Ray, Pacific electric	3	Cucumber, sea	3
Bonito, Pacific	1	Ray, round stingray	1	Eelgrass	3
Butterfish	11	Shark, brown smoothhound	1	Gorgonians	1
Corbina, California	5	Shark, gray smoothhound	1	Jellyfish	1
Croaker, white	24	Shark, Pacific angel	1	Kelp	67
Croaker, yellowfin	1	Shark, unspecified	1	Lobster, California spiny	3
Cusk-eel	9	Skate, thornback	5	Octopus, unspecified	3
Eel, Yellow Snake	1	Skate, unspecified	2	Pleurobranch	1
Flatfish, unspecified	29			Prawn, spot	1
Flyingfish	2			Salps	19
Halibut, California	6			Sea stars	2
Herring, round	1			Squid egg cases	1
Jacksmelt	3			Squid, market	35
Lizardfish, California	9				
Midshipman, plainfin	13				
Sanddab	1				
Scorpionfish, California	26				
Seabass, giant (black)	1				
Senorita	1				
Sole, bigmouth	1				
Sole, fantail	1				
Surfperch, pink	2				
Surfperch, unspecified	1				
Tonguefish	3				
Topsmelt	1				
Turbot, curlfin	1				
Turbot, diamond	1				
Turbot, hornyhead	3				
Whitefish, ocean	1				
<b>Total incidents</b>	<b>181</b>	<b>Total incidents</b>	<b>37</b>	<b>Total incidents</b>	<b>150</b>

Table 8a. Observed market squid incidental catch for 2002. Incidental catch includes species landed with market squid and recorded on landing receipts.

Species Name	Number of Landings	Tons (mt)
Pacific sardine	162	2079.1
Northern anchovy	80	339.5
Pacific mackerel	56	66.3
Jack mackerel	47	15.0
Ridgeback prawn	39	13.8
Dover sole	29	4.7
Sea cucumber	20	2.2
Jacksnelt	15	1.7
Sablefish	12	0.9
Bank rockfish	8	0.7
Albacore	7	0.5
Spot prawn	7	0.5
California halibut	6	0.3
Pacific butterfish	6	0.3
Sole	4	0.2
Skate	3	0.2
Pacific ocean shrimp	3	0.1
California sheephead	3	0.1
Bluefin tuna	2	0.1
Sand sole	2	0.1
Rockfish	2	0.1
Surfperch	2	0.1
Gray smoothound shark	2	0.1
26 other species	61	4.2

Table 8b. Observed market squid bycatch by percent frequency of occurrence ( $n = 496$ ; January 2002 through December 2002). Bycatch is discriminated from incidental catch as catch landed but not recorded on landing receipts.

Species name	Percent frequency of occurrence
Pacific sardine	17.3
Colonial invertebrates	10.9
Kelp	9.5
Market squid eggs	6.7
Pacific mackerel	6
Northern anchovy	3.8
Jack mackerel	3
Pacific butterfish	3
Jacksmelt	2.6
Bat ray	2.4
Dungeness crab	2
Miscellaneous fish	2
Pacific electric ray	1.4
Pelagic red crab	1.4
Sanddab	1.2
King salmon	1
Rock crab	0.8
Sculpin	0.8
Sea star	0.8
White croaker	0.6
Bocaccio	0.4
Cabazon	0.4
Pacific herring	0.4
Pacific saury	0.4
Rockfish	0.4
Bigmouth sole	0.2
Curlfin turbot	0.2
Diamond turbot	0.2
English sole	0.2
Greenspotted rockfish	0.2
Horn shark	0.2
Hornyhead turbot	0.2
Midshipman	0.2
Mussel	0.2
Olive rockfish	0.2
Pacific sanddab	0.2
Pink surfperch	0.2
Queenfish	0.2
Ray	0.2
Sea urchins	0.2
Shovelnose guitarfish	0.2
Sole	0.2
Stingray	0.2
Surfperch	0.2
Trigger fish	0.2
Turbot	0.2

Table 9. Expanded salmonid bycatch in Pacific sardine fisheries in Oregon and Washington, 2000- 2002.

	Chinook (live)	Chinook (dead)	Coho (live)	Coho (dead)	Pink (live)	Unid Sal (live)	Unid Sal (dead)	Total (live)	Total (dead)	Grand Total
2002										
Oregon								199	81	280
Washington	150	356	61	765	0	200	0	411	1,121	1,532
2001										
Oregon	45	45	201	134	22	45	0	313	179	492
Washington	449	170	571	504	0	80	0	1100	674	1774
2000										
Oregon	43	72	159	43	0	303	43	505	158	663
Washington	38	3	276	116	0	7	0	321	119	440

Table 10. Observed and reported catches of non-target species caught in the Pacific sardine fishery off of Oregon, 2002.

Species	Logbook Data	Observer Data
	# Caught	# Caught
Blue shark	1	2
Thresher shark	1	
Unknown	450 lb	1
Salmon (unknown)	274	8
	(71% alive; 29%	(50% alive; 50%
Herring	55,000 lb	
Mackerel	133,430 lb	2,500 lb
Anchovy	22,550 lb	
Shad	200 lb	300 lb
Hake		15 lb
Cod		4 lb



Table 11. Observed and expanded total number of salmon caught in the Pacific sardine fishery off of Oregon, 2000 - 2002. (Expanded total is based on salmon per trip).

	Chinook		Coho		Pink	Unknown		Total		Grand Total
	alive	dead	alive	dead	alive	alive	dead	alive	dead	
2002 expanded total								199	81	280
2001 expanded total	45	45	201	134	22	45	0	313	179	492
2000 expanded total	43	72	159	43	0	303	43	504	159	663

Table 12a. Expanded observed bycatch data for the 2000 - 2002 Washington trial sardine fisheries. Expanded data based upon salmon and shark per mt sardines landed.

Year	Chinook (live)	Chinook (dead)	Coho (live)	Coho (dead)	Unkn. Salmon (live)	Shark (live)	Shark (dead)
2002	150	356	61	765	200	37	22
2001	449	170	571	504	80	150	50
2000	38	3	276	116	7	169	31

Table 12b. List of the observed and reported logbook catches of non-targeted species caught in the 2002 Washington sardine fishery (non-expanded numbers of individuals, unless otherwise noted).

Species	Observer Data		Logbook Data	
	# Released Alive	# Dead	# Released Alive	# Dead
Anchovy	1 lbs	0	4 mt	0
Blackcod	0	1	0	0
Blue Shark	9	10	4	0
Cabezon	1	0	0	0
Chinook salmon	17	42	65	56
Chum salmon	0	4	11	3
Coho salmon	13	55	73	75
Dogfish	353	172	3	0
Dungeness crab	0	9	0	0
Hake	0	216	351	0
Herring	1 mt	0	9 mt	0
Pink salmon	0	0	0	0
Pollock	0	0	100	0
Salmon species	23	11	24	11
Sanddab	236	100	0	0
Sea lion	0	0	0	0
Shad	45	3,360	50	0
Skate	4	5	0	0
Smelt	24	0	0	0
Southern shark	3	0	0	0

Species	Observer Data		Logbook Data	
	# Released Alive	# Dead	# Released Alive	# Dead
Squid	0	1	0	0
Starry flounder	3	15	0	0
Steelhead	0	0	0	0
Sunfish	2	0	0	0
Thresher shark	2	0	2	0
Wolf-eel	0	1	0	0
Yellowtail rockfish	0	1	0	0

Table 13. Species noted as encountered on CDFG Live Bait Logs, 1996-2002.

Year	Days Fished	Grunion	Smelts	Barracuda	Herring	Stickle-back	Shiner Surfperch	Sea Star	Queenfish
2002	1,073			1					1
2001	1,052	1		56					
2000	488	1		34					
1999	449		1	7	1				
1998	809			69	1		1		
1997	773			104			3	1	
1996	522		5	27	3	1			

Table 14. Estimates of Pacific sardine and Northern anchovy live bait harvest in California (mt). Data for 1939-1992 from Thomson et al. (1994), and 1993-2002 from CDFG logs.

Year	Anchovy	Sardine	Year	Anchovy	Sardine
1939	1,364	0	1970	5,543	0
1940	1,820	0	1971	5,794	0
1941	1,435	0	1972	5,307	0
1942	234	0	1973	5,639	0
1943	World War II	World War II	1974	5,126	0
1944	World War II	World War II	1975	5,577	0
1945	World War II	World War II	1976	6,202	0
1946	2,493	0	1977	6,410	0
1947	2,589	0	1978	6,013	107
1948	3,379	0	1979	5,364	0
1949	2,542	0	1980	4,921	12
1950	3,469	0	1981	4,698	6
1951	4,665	0	1982	6,978	38
1952	6,178	0	1983	4,187	193
1953	5,798	0	1984	4,397	53
1954	6,066	0	1985	3,775	11
1955	5,557	0	1986	3,956	17
1956	5,744	0	1987	3,572	216
1957	3,729	0	1988	4,189	50
1958	3,843	0	1989	4,594	100
1959	4,297	0	1990	4,842	543
1960	4,225	0	1991	5,039	272
1961	5,364	0	1992	2,572	1,807
1962	5,595	0	1993	669	176
1963	4,030	0	1994	2,076	1,506
1964	4,709	0	1995	1,278	2,055
1965	5,645	0	1996	703	1,801
1966	6,144	0	1997	1,077	2,344
1967	4,898	0	1998	304	2,037
1968	6,644	0	1999	453	2,411
1969	4,891	0	2000	834	1,270
1970	5,543	0	2001	1,238	1,245
			2002	965	1,701

Table 15. Ratio of N. anchovy to P. sardine in preliminary reported live bait catch in California, 1994-2002.

Year	Anchovy	Sardine	Total	% Anchovy	% Sardine
2002	965	1,701	2,666	0.36	0.64
2001	1,238	1,245	2,483	0.50	0.50
2000	834	1,270	2,104	0.40	0.60
1999	453	2,411	2,864	0.16	0.84
1998	304	2,037	2,341	0.13	0.87
1997	1,077	2,344	3,420	0.31	0.69
1996	703	1,801	2,504	0.28	0.72
1995	1,278	2,055	3,333	0.38	0.62
1994	2,076	1,506	3,582	0.58	0.42

Table 16. Commercial harvest (metric tons) of CPS finfish in Ensenada, Northern Baja California, Mexico, 1978-2001<sup>1/</sup>. Market squid are not commercially fished off Ensenada.

Year	Sardine	Anchovy	Pacific mackerel	Jack mackerel
1978	0	135,036	0	n/a
1979	0	192,476	0	n/a
1980	0	242,907	0	n/a
1981	0	258,745	0	n/a
1982	0	174,634	0	n/a
1983	274	87,429	135	n/a
1984	0	102,931	128	n/a
1985	3,722	117,192	2,582	n/a
1986	243	93,547	4,883	n/a
1987	2,432	124,482	2,082	n/a
1988	2,035	79,495	4,484	902
1989	6,224	81,811	13,687	0
1990	11,375	99	35,767	25
1991	31,392	831	17,500	30
1992	34,568	2,324	24,345	n/a
1993	32,045	284	7,741	n/a
1994	20,877	875	13,319	85
1995	35,396	17,772	4,821	0
1996	39,065	4,168	5,604	47
1997	68,439	1,823	12,477	78
1998	47,812	972	50,726	480
1999	58,569	3,482	10,168	781
2000	51,173	1,562	7,182	0
2001	22,246	76	4,078	0
2002	43,437	0	7,962	0

1/ Source: Data provided by Biol. Walterio Garcia-Franco, Instituto Nacional de la Pesca, Ensenada.

Table 17. 1983-2002, Pacific sardine time series of stock biomass (age-1 fish in mt) and recruitment (age-0 fish in 1,000s) estimated at the beginning of semester 2 of each year. Stock biomass estimates are presented for Area 1 (Inside) and the Total Area of the stock. The 95% confidence intervals (CI) for Total Area biomass and recruitment estimates are also presented. See Conser *et al.* (2002) for details regarding methods used to derive estimates.

Year	Area 1	Total Area	Lower CI	Upper CI	Total Area	Lower CI	Upper CI
1983	5,145	5,145	2,988	10,237	149,689	89,658	270,675
1984	13,409	13,473	9,132	23,233	224,302	147,543	392,307
1985	21,173	21,675	15,754	36,295	217,919	147,483	370,813
1986	29,917	31,546	24,369	49,475	866,710	623,621	1,366,185
1987	73,715	77,313	60,204	115,178	839,143	605,890	1,256,424
1988	107,013	116,721	95,152	162,348	1,465,991	1,032,887	2,389,804
1989	162,381	181,604	148,898	254,547	1,157,082	791,458	1,975,840
1990	176,794	210,440	173,500	301,142	4,792,851	3,130,855	8,333,861
1991	226,334	263,632	203,648	413,259	5,889,816	3,719,993	10,548,967
1992	353,005	421,519	323,045	659,025	4,170,058	2,597,005	7,521,409
1993	335,486	447,224	344,253	681,348	9,244,272	6,537,849	15,455,594
1994	494,524	654,337	535,996	955,097	10,755,601	7,664,169	17,160,261
1995	508,294	726,690	598,227	1,029,945	6,607,815	4,604,385	10,396,623
1996	531,651	791,496	667,663	1,094,850	5,550,420	4,069,965	8,823,371
1997	482,595	770,613	659,886	1,030,390	9,424,984	6,870,295	14,799,898
1998	457,126	775,882	668,011	1,056,753	15,082,296	10,943,898	23,682,041
1999	610,828	992,323	833,745	1,384,818	8,217,217	5,254,279	14,563,581
2000	586,710	1,000,871	827,203	1,404,431	9,386,310	5,567,436	17,800,084
2001	510,877	928,578	728,391	1,405,681	10,773,256	5,945,732	22,997,633
2002	570,306	999,871	704,161	1,668,985	8,362,928	3,677,163	21,765,966

Table 18. Annual U.S. West Coast Pacific sardine landings and harvest guidelines (metric tons) by state and management subarea, 1981-2002.

Year	So. Calif.			No. Calif.			Calif. Total			Oregon			Washington			Management Area Landings			Harvest Guidelines		
	So. Calif.	No. Calif.	Calif. Total	Oregon	Washington	Southern Subarea	Northern Subarea	WOC Total	Southern Subarea	Northern Subarea	WOC Total	Southern Subarea	Northern Subarea	Total HG	Southern Subarea	Northern Subarea	Total HG				
1981	34.4	0.0	34.4	0.0	0.0	34.4	0.0	0.0	0.0	0.0	34.4	0.0	0.0	34.4	n/a	n/a	n/a				
1982	1.8	0.0	1.8	0.0	0.0	1.8	0.0	0.0	0.0	0.0	1.8	0.0	0.0	1.8	n/a	n/a	n/a				
1983	0.6	0.0	0.6	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.6	n/a	n/a	n/a				
1984	0.9	0.3	1.2	0.0	0.0	1.2	0.0	0.0	0.0	0.0	1.2	0.3	0.3	1.2	n/a	n/a	n/a				
1985	3.7	2.2	5.8	0.0	0.0	5.8	0.0	0.0	0.0	0.0	5.8	2.2	2.2	5.8	n/a	n/a	n/a				
1986	304.0	84.4	388.5	0.0	0.0	388.5	0.0	0.0	0.0	0.0	388.5	84.4	84.4	388.5	n/a	n/a	n/a				
1987	391.6	47.8	439.4	0.0	0.0	439.4	0.0	0.0	0.0	0.0	439.4	47.8	47.8	439.4	n/a	n/a	n/a				
1988	1,185.4	3.0	1,188.4	0.0	0.0	1,188.4	0.0	0.0	0.0	0.0	1,188.4	3.0	3.0	1,188.4	n/a	n/a	n/a				
1989	598.7	238.0	836.7	0.0	0.0	836.7	0.0	0.0	0.0	0.0	836.7	238.0	238.0	836.7	n/a	n/a	n/a				
1990	1,537.1	127.1	1,664.2	0.0	0.0	1,664.2	0.0	0.0	0.0	0.0	1,664.2	127.1	127.1	1,664.2	n/a	n/a	n/a				
1991	6,601.4	985.9	7,587.3	0.0	0.0	7,587.3	0.0	0.0	0.0	0.0	7,587.3	985.9	985.9	7,587.3	n/a	n/a	n/a				
1992	14,821.9	3,127.6	17,949.5	0.0	0.0	17,949.5	0.0	0.0	0.0	0.0	17,949.5	3,127.6	3,127.6	17,949.5	n/a	n/a	n/a				
1993	14,669.6	675.6	15,345.2	0.2	0.0	15,345.2	0.2	0.0	0.0	0.0	15,345.4	675.8	675.8	15,345.4	n/a	n/a	n/a				
1994	9,348.5	2,295.0	11,643.5	0.0	0.0	11,643.5	0.0	0.0	0.0	0.0	11,643.5	2,295.0	2,295.0	11,643.5	n/a	n/a	n/a				
1995	34,645.7	5,681.2	40,326.9	0.0	0.0	40,326.9	0.0	0.0	0.0	0.0	40,326.9	5,681.2	5,681.2	40,326.9	n/a	n/a	n/a				
1996	24,565.0	7,988.1	32,553.1	0.0	0.0	32,553.1	0.0	0.0	0.0	0.0	32,553.1	7,988.1	7,988.1	32,553.1	n/a	n/a	n/a				
1997	29,885.4	13,359.7	43,245.1	0.0	0.0	43,245.1	0.0	0.0	0.0	0.0	43,245.1	13,359.7	13,359.7	43,245.1	n/a	n/a	n/a				
1998	32,462.1	10,493.3	42,955.4	1.0	0.0	42,955.4	1.0	0.0	0.0	0.0	42,956.4	10,494.3	10,494.3	42,956.4	n/a	n/a	n/a				
1999	42,017.2	17,246.3	59,263.5	775.5	0.0	59,263.5	775.5	0.0	0.0	0.0	60,039.0	18,021.8	18,021.8	60,039.0	n/a	n/a	n/a				
2000	42,296.9	11,367.4	53,664.2	9,527.9	0.0	53,664.2	9,527.9	0.0	0.0	0.0	67,983.6	25,686.7	25,686.7	67,983.6	124,527.3	62,263.7	186,791.0				
2001	44,708.9	7,102.5	51,811.4	12,780.3	11,127.1	51,811.4	12,780.3	11,127.1	11,127.1	11,127.1	75,718.8	31,009.9	31,009.9	75,718.8	89,824.7	44,912.3	134,737.0				
2002	49,366.7	14,078.1	63,444.8	23,125.8	15,832.4	63,444.8	23,125.8	15,832.4	15,832.4	15,832.4	102,403.0	53,036.3	53,036.3	102,403.0	78,961.3	39,480.7	118,442.0				

Table 19. West Coast Pacific sardine landings by country. Mexican landings are for Ensenada, Northern Baja California, 1981-2002.

Year	Mexico	United States	Canada	Total
1981	0.0	34.4	0.0	34.4
1982	0.0	1.8	0.0	1.8
1983	273.6	0.6	0.0	274.2
1984	0.2	1.2	0.0	1.4
1985	3,722.3	5.9	0.0	3,728.2
1986	242.6	388.5	0.0	631.1
1987	2,431.6	439.4	0.0	2,871.0
1988	2,034.9	1,188.4	0.0	3,223.3
1989	6,224.2	836.7	0.0	7,060.9
1990	11,375.3	1,664.2	0.0	13,039.5
1991	31,391.8	7,587.3	0.0	38,979.1
1992	34,568.2	17,949.5	0.0	52,517.7
1993	32,045.0	15,345.4	0.0	47,390.4
1994	20,876.9	11,643.5	0.0	32,520.4
1995	35,396.2	40,326.9	25.0	75,748.1
1996	39,064.7	32,553.1	88.0	71,705.8
1997	68,439.1	43,245.1	34.0	111,718.2
1998	47,812.2	42,965.4	745.0	91,513.6
1999	58,569.4	60,039.0	1,250.0	119,858.4
2000	51,172.9	67,983.6	1,718.0	120,874.5
2001	22,246.0	75,718.8	1,600.0	99,564.8
2002	43,436.4	102,403.0	703.0	146,542.4

Table 20. RecFIN estimated recreational harvest of Pacific (chub) mackerel in California by fishing mode (metric tons), 1980-2002.

Year	Man Made					Calif Total
	Structures	Beach/Bank	Shore Modes	Party/Charter	Private/Rental	
1980	349.9	74.9	-	1320.5	1,009.2	2,754.4
1981	224.6	63.4	-	590.7	515.7	1,394.5
1982	271.5	3.2	-	865.1	527.6	1,667.5
1983	358.5	3.4	-	702.6	404.3	1,468.9
1984	257.9	24.0	-	577.9	585.5	1,445.4
1985	141.4	0.6	-	544.7	389.9	1,076.6
1986	-	-	91.6	520.1	390.9	1,002.6
1987	-	-	450.8	244.6	575.8	1,271.2
1988	-	-	105.5	239.1	455.4	800.1
1989	-	-	256.7	134.8	219.1	610.6
1993	88.3	0.5	-	172.2	362.1	623.0
1994	200.9	5.0	-	245.1	496.3	947.3
1995	119.4	1.8	-	373.4	531.8	1,026.3
1996	92.5	0.9	-	319.4	281.1	693.9
1997	145.0	3.3	-	169.0	650.5	967.8
1998	96.4	0.4	-	131.3	221.4	449.4
1999	57.3	5.1	-	60.7	73.3	196.4
2000	34.4	16.9	-	76.9	121.9	250.1
2001	138.3	208.8	-	52.2	162.2	561.4
2002	71.8	20.2	-	24.4	159.5	276.0

Notes from RecFIN query:

1. No data in from 1990 to 1992.
2. No data in wave 1 1995.
3. Data in 2002 are preliminary and may be incomplete.
4. Northern California charter boats were not fully sampled due to refusals.
5. Northern California charter boat tuna trips were not fully sampled.
6. Year 2002 California Party Charter (PC) estimates from PC Phone Survey.



Table 21. RecFIN estimated recreational harvest of Pacific (chub) mackerel by subarea (metric tons), 1980-2002.

Year	Southern California	Northern California	Oregon	Washington	Total
1980	2,745.3	9.1	-	-	2,754.4
1981	1,225.6	168.8	-	-	1,394.5
1982	1,554.7	112.8	-	-	1,667.5
1983	1,341.3	126.0	1.5	-	1,468.9
1984	1,257.4	187.7	0.2	-	1,445.4
1985	1,028.0	48.6	0.0	-	1,076.6
1986	968.2	34.3	-	-	1,002.6
1987	1,257.7	13.5	-	-	1,271.2
1988	778.9	21.2	-	-	800.1
1989	605.6	5.0	-	-	610.6
1990	N/A	N/A	N/A	N/A	N/A
1991	N/A	N/A	N/A	N/A	N/A
1992	N/A	N/A	N/A	N/A	N/A
1993	591.0	30.9	1.1	-	623.0
1994	933.4	13.8	0.2	-	947.3
1995	1,022.9	3.4	0.0	-	1,026.3
1996	664.0	29.8	0.1	-	693.9
1997	568.6	398.4	0.8	-	967.8
1998	425.6	22.6	0.1	1.0	449.4
1999	193.0	3.0	-	0.3	196.4
2000	248.6	1.4	0.1	-	250.1
2001	557.5	3.9	-	-	561.4
2002	275.9	0.0	-	-	276.0

Notes from RecFIN query:

1. No data in from 1990 to 1992.
2. No data in wave 1 1995.
3. Data in 2001 are preliminary and may be incomplete.
4. Northern California charter boats were not fully sampled due to refusals.

Table 22. West coast landings (mt) and real<sup>1</sup> exvessel revenues (\$ 2002) for Pacific sardine, Pacific mackerel<sup>2</sup>, jack mackerel, anchovy and market squid, 1981-2002.

Year	Pacific		Pacific		Jack		Jack		Squid mt	Squid Rev
	Sardine mt	Sardine Rev	Mackerel mt	Mackerel Rev	Mackerel mt	Mackerel Rev	Anchovy mt	Anchovy Rev		
1981	15	\$5,355	35,388	\$12,920,673	17,778	\$6,482,366	52,309	\$5,808,068	23,510	\$9,012,896
1982	2	\$899	36,065	\$12,142,186	19,617	\$6,655,295	42,155	\$3,629,837	16,308	\$5,966,853
1983	1	\$281	41,479	\$12,939,111	9,829	\$2,883,549	4,430	\$674,171	1,824	\$1,217,719
1984	1	\$1,346	44,084	\$12,885,145	9,149	\$2,115,521	2,899	\$643,750	564	\$463,595
1985	6	\$2,123	37,772	\$9,958,375	6,876	\$1,937,405	1,638	\$347,575	10,276	\$5,625,463
1986	388	\$120,140	48,089	\$11,706,260	4,777	\$1,242,854	1,557	\$484,451	21,278	\$6,647,506
1987	439	\$89,183	46,725	\$9,545,117	8,020	\$1,688,696	1,467	\$442,002	19,984	\$5,647,446
1988	1,188	\$219,728	50,864	\$11,690,368	5,068	\$1,097,825	1,518	\$552,899	37,232	\$10,854,819
1989	837	\$243,796	47,713	\$9,508,221	10,745	\$2,082,516	2,511	\$1,321,197	40,893	\$9,241,830
1990	1,664	\$254,207	40,092	\$6,842,426	3,223	\$556,634	3,259	\$812,439	28,447	\$6,073,399
1991	7,587	\$1,105,183	32,019	\$6,594,127	1,712	\$307,124	4,068	\$819,737	37,389	\$7,512,415
1992	17,954	\$2,203,084	19,045	\$4,782,266	1,526	\$287,231	1,166	\$288,530	13,110	\$3,006,019
1993	15,347	\$1,811,677	12,129	\$1,777,597	1,950	\$336,908	2,003	\$577,955	42,830	\$11,956,914
1994	11,644	\$2,087,651	10,293	\$1,657,295	2,906	\$448,654	1,859	\$637,657	55,892	\$20,294,448
1995	40,256	\$4,157,745	8,823	\$1,280,169	1,877	\$314,754	2,016	\$489,760	70,252	\$25,460,763
1996	32,553	\$3,391,813	9,725	\$1,452,215	2,438	\$335,695	4,505	\$1,066,213	80,320	\$35,361,701
1997	42,839	\$4,420,752	20,162	\$3,019,192	1,534	\$305,930	5,778	\$897,852	70,247	\$23,721,838
1998	42,581	\$3,873,059	20,405	\$2,722,544	1,563	\$330,526	1,553	\$256,584	2,709	\$1,629,804
1999	60,130	\$5,448,175	9,094	\$1,154,812	1,579	\$212,488	5,311	\$1,013,305	91,519	\$35,146,611
2000	68,034	\$7,532,323	22,042	\$3,025,684	1,450	\$283,212	11,831	\$1,493,894	117,953	\$27,986,222
2001	75,720	\$9,221,652	7,618	\$1,314,806	3,839	\$621,322	19,256	\$1,436,955	85,829	\$17,756,115
2002	96,824	\$10,582,225	3,733	\$523,943	1,025	\$206,634	4,882	\$623,366	72,317	\$18,067,636

Source: PacFIN data extracted May, 2003.

<sup>1</sup>Real values are current values adjusted to eliminate the effects of inflation. This adjustment has been made by dividing current values by the current year GDP implicit price deflator, with a base year of 2002.

<sup>2</sup>Pacific mackerel landings and revenues also include landings and revenues of unspecified mackerel.