TABLE 2-1. HISTORY OF COUNCIL ACTIONS

- The Council initiated development of the FMP for northern anchovy in January of 1977. The FMP was submitted to the Secretary in June of 1978. Regulations implementing the FMP were published in the *Federal Register* on September 13, 1978 (43*FR*40868).

- 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, 197*9 (44*FR*41806).

- The second *a*mendment, which became effective on February 5, 1982, was published in the *Federal Register* on January 6, 1982 (47*FR*629). The purpose of this amendment was to increase the domestic fishing fleet's opportunity to harvest the entire 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 (48*FR*34963) 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. Additionally, 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 (49*FR*9572).

- In 1990, the sixth amendment implemented a definition of overfishing for northern anchovy consistent with National Standard 7, and addresses vessel safety (56*FR*15299, 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, 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 Secretary, but rejected by NMFS, SWR, 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 (61*FR*13148), but the action was never completed.

- Development of Amendment 8 began in June, 1997 when the Council directed the Coastal Pelagic Species Plan Development Team (CPSPDT) to amend the FMP for northern anchovy to conform to the recently revised Magnuson-Stevens Act and to expand the scope of the FMP to include the entire CPS fishery. Amendment 8 was partially approved by the Secretary on June 10, 1999, and final regulations were published on December 15, 1999 (64*FR*69888). The FMP was implemented on January 1, 2000.

- At its meeting in June 1999, the Council directed its 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, California, on August 3 and 4, 1999, and August 24, 1999, and a meeting was held between the CPSMT and the CPSAS 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, California, on April 20 and 21, 2000, the CPSMT reviewed comments from the Council, the Council's 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 prepared a separate amendment that addressed OY and MSY for squid.

- The Secretary 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 included 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 also addressed determination of OY and MSY for market squid.

- In November 2001, the Council reviewed the findings of the market squid 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 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 Pacific sardine HG 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 HG 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 issues.

- 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 coastwide. 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 HG were at least 90 percent of the 2003 HG.

- The regulatory amendment for allocation of the Pacific sardine HG was approved on August 29, 2003. The final rule implementing the regulatory amendment was published September 4, 2003 (68*FR*52523).

- At the November 2003 Council meeting, the Council adopted a HG of 122,747 metric tons (mt) for the 2004 Pacific sardine fishery, within an incidental catch allowance of up to 45 percent. This HG was based on a biomass estimate of 1,090,587 mt. Per the revised allocation framework, on January 1, the HG was allocated 33 percent to the northern subarea and 66 percent to the southern subarea, with a subarea dividing line at Point Arena, CA. The final rule implementing the HG was published December 3, 2003 (68*FR*67638).

- At the June 2004 Council meeting, the Council adopted the following management measures for the July 2004-June 2005 Pacific mackerel fishery: 1) total fishery HG of 13,268 mt; 2) directed fishery guideline of 9,100 mt; and 3) set-aside for incidental catches of 4,168 mt and an incidental catch rate limit of 40 percent when mackerel are landed with other CPS species, except that up to one mt of Pacific mackerel could be landed without landing any other CPS. The Council also requested NMFS track utilization of the directed fishery guideline and advise the Council at the March 2005 meeting if additional action (e.g., a mop-up fishery) was warranted. Additionally, the Council initiated an amendment to the CPS FMP with the primary purpose of allocating the coastwide Pacific sardine HG. The Council discussed a schedule that included final Council action on the FMP amendment by June 2005, which would enable implementation by January 2006. To facilitate development of the amendment, the Council directed the CPSAS to draft a range of alternative sardine allocation scenarios. The Council also directed the CPSMT to formally review the CPS FMP issues raised by NMFS to identify issues that could be addressed through amendment to the CPS FMP and if they could be addressed in the short-term or would require more extensive time to complete.

- At the September 2004 Council meeting, the Council adopted STAR Panel reports for Pacific mackerel and Pacific sardine. New assessment methodologies were used for management of the 2005 sardine fishery and the 2005-2006 Pacific mackerel fishery. Relative to the CPS FMP amendment process, the Council requested the CPSAS to narrow the current broad range of Pacific Sardine allocation alternatives for Council consideration at the November 2004 meeting. The Council received information from the CPSMT about their consideration of several FMP-related issues raised by NMFS, and directed Council staff to communicate to NMFS the Council plans for further review of CPS EFH.

- At the November 2004 Council meeting, the Council adopted a HG of 136,179 mt for the 2005 Pacific sardine fishery. This HG was based on a biomass estimate of 1.2 million mt. Per the FMP allocation framework, on January 1 the HG was allocated 33 percent to the northern subarea and 66 percent to the southern subarea with a subarea dividing line at Point Arena, California. Additionally, the Council directed the CPSMT and staff to begin development of Amendment 11 to the CPS FMP to include alternatives for sardine allocation, as recommended by the CPSAS as well as two additional alternatives The Council reviewed the draft analyses and considering formal adoption of allocation alternatives at the April 2005 Council meeting.

- At the March 2005 Council meeting, the Council reviewed a progress update from NMFS SWR on a proposed course of action for management of krill in the West Coast EEZ and National Marine Sanctuaries under the auspices of the CPS FMP. The Council approved a draft outline for an alternatives analysis.

- At the April 2005 Council meeting, the Council approved a range of alternatives for the allocation of Pacific sardine for further analysis and public review. After reviewing preliminary results on the range of alternatives approved for analysis in November 2004 and reports of the CPS advisory bodies, the Council eliminated two alternatives (Alternatives 2 and 5) from further consideration. The Council recommended that the CPSMT follow the advice of the SSC as they complete the analysis of allocation alternatives for public review.

- At the June 2005 Council meeting, the Council addressed three CPS matters, pacific mackerel HG and management measures, long-term Pacific sardine allocation, and CPS EFH.

  Regarding Pacific mackerel, the Council adopted the new assessment and the following management measures for the July 2005-June 2006 Pacific mackerel fishery: 1) total fishery HG of 17,419 mt; 2) directed fishery guideline of 13,419 mt; and 3) set-aside for incidental catches of 4,000 mt and an incidental catch rate limit of 40 percent, when mackerel are landed with other CPS, except that up to one mt of Pacific mackerel could be landed without landing any other CPS. The Council requested NMFS track utilization of the directed fishery guideline and advise the Council at the March 2006 meeting if release of the incidental set-aside was warranted.

  Regarding Pacific sardine allocation, the Council took final action on a long-term allocation of the annual Pacific sardine HG. The Council approved a modified version of Alternative 3, which provided the following allocation formula for the non-tribal share of the HG:

  1. A seasonal allocation structure with 35 percent of the HG to be allocated coastwide on January 1.
  2. 40 percent of the HG, plus any portion not harvested from the initial allocation, to be reallocated coastwide on July 1.
  3. On September 15 the remaining 25 percent of the HG, plus any portion not harvested from earlier allocations, to be reallocated coastwide.

  The Council also recommended a review of the allocation formula in 2008.

  The Council adopted the 2005 SAFE document as drafted by the CPSMT including the required review of CPS EFH. The Council recommended no changes to the existing definition of EFH because the CPSMT review identified no new information on which to base EFH modifications. The Council agreed with the research needs identified by the CPSMT in the 2005 SAFE and stressed the importance of coastwide sardine research and harvest policy review.

- At the November 2005 Council meeting, the Council adopted a Pacific sardine HG of 118,937 mt for the 2006 season to be managed under the terms of the allocation arrangements under Amendment 11.

  The Council also approved a range of krill fishing alternatives for public review and additional analysis, including a preliminary preferred alternative to identify krill as a prohibited species in the EEZ. The proposed krill management measures were implemented as Amendment 12 to the CPS FMP. At the June 2005 Council meeting, the Council addressed three CPS matters, pacific mackerel HG and management measures, long-term Pacific sardine allocation, and CPS EFH.

- At the March 2006 Council meeting, the Council took final action adopting CPS FMP Amendment 12 to prohibit harvest of all species of krill in the U.S. EEZ. Additionally, the Council adopted an EFH designation for all species of krill that extends the length of the West Coast from the shoreline to the 1,000 fm isobath and to a depth of 400 meters. No habitat areas of particular concern were identified.

- At the June 2006 meeting, the Council adopted the new assessment model and the following management measures for the July 2006-June 2007 Pacific mackerel fishery: a total fishery HG of 19,845 mt, a directed fishery guideline of 13,845 mt; and a set-aside for incidental catches of 6,000 mt and an incidental catch rate limit of 40 percent when mackerel are landed with other CPS, except that up to one mt of Pacific mackerel could be landed without landing any other CPS.

- At the November 2006 meeting, the Council adopted a HG of 152,654 mt for the 2007 Pacific sardine fishery. This HG was based on a biomass estimate of 1.32 million mt. Per the FMP allocation framework adopted under Amendment 11, the Pacific sardine HG was allocated seasonally with 35 percent of the HG allocated coastwide January 1, 40 percent of the HG, plus any portion not harvested from the initial allocation reallocated coastwide July 1; and the remaining 25 percent of the HG, plus any portion not harvested from earlier allocations, to be reallocated coastwide September 15. The Council also recommended a 45 percent incidental catch rate be allowed for other CPS fisheries in the event that a seasonal allocation be taken before the end of an allocation period or the HG was taken before the end of the year.

  Additionally, the Council reviewed the draft Terms of Reference for the CPS stock assessment process scheduled for 2007 and directed Council staff to revise the document as recommended by the CPSAS, the CPSMT, and the SSC and distribute it for public review. The Council approved a final document in March 2007 for use during the review of full assessments for Pacific mackerel and Pacific sardine in May and September, respectively.

- At the March 2007 Council meeting, the Council approved the final Terms of Reference for the 2007 CPS stock assessment process. The final document was posted on the Council website and distributed for use during the review of full assessments for Pacific mackerel and Pacific sardine May 1-3 and September 18-21 respectively.

- At the June 2007 Council meeting, he Council adopted the new assessment model and the following management measures for the July 2007-June 2008 Pacific mackerel fishery: an acceptable biological catch (ABC) for U.S. fisheries of 71,629 mt, a directed fishery HG of 40,000 mt, and in the event the directed fishery reaches 40,000 mt, the directed fishery will revert to an incidental-catch-only fishery with a 45 percent incidental catch allowance when

Pacific mackerel are landed with other CPS, except that up to 1 mt of Pacific mackerel could be landed without landing any other CPS. The Council and NMFS will track the 2007-08 Pacific mackerel fishery and will recommend an in-season review of the mackerel season for the March 2008 Council meeting, if needed, with the possibility of re-opening the directed fishery as a routine action. Additionally, the Council directed Council staff to send a letter to the U.S. State Department requesting increased coordination with Mexico on the exchange of data for the improvement of international management of CPS.

- In November 2007, the Council adopted an ABC or total harvest guideline (HG) of 89,093 mt for the 2008 Pacific sardine fishery. This ABC was based on a biomass estimate of 832,706 mt and the harvest control rule in the CPS FMP. The Council recommended 80,083 mt of the HG for the directed fishery to be allocated seasonally per the Amendment 11 framework. To allow for incidental landings of Pacific sardines in other CPS fisheries and to ensure the fishery did not exceed the ABC, the Council recommended a set aside of 8,910 mt allocated across seasonal periods as follows:

	Jan 1- June 30	July 1- Sept 14	Sept 15 - Dec 31	Total
Seasonal Allocation (mt)	31,183	35,637	22,273	89,093
Set Aside %	5.2%	1.2%	3.6%	10%
Set Aside (mt)	4,632	1,070	3,208	8,910
Adjusted Allocation (mt)	26,550	34,568	19,065	80,083

Regarding Pacific mackerel, the Council recommended no changes to Pacific mackerel assessment methodology for the 2008 assessment update and recommended the next CPS stock assessment review panel be convened in 2009 rather than 2010 to fully review the status of Pacific sardine and Pacific mackerel.

- In June 2008, the Council adopted an updated Pacific mackerel assessment and the following management measures for the July 2008-June 2009 Pacific mackerel fishery: 1) Establish a harvest guideline for the directed fishery at 40,000 mt, providing an 11,772 mt set-aside for incidental landings in other fisheries. 2) Close the directed fishery and revert to an incidental-catch-only fishery with a 45 percent incidental landing allowance when Pacific mackerel are landed with other coastal pelagic species (CPS), except that up to 1 mt of Pacific mackerel could be landed without landing any other CPS. If needed, conduct an in-season review of the 2008-2009 Pacific mackerel fishery at the nearest feasible Council meeting, with the possibility of either releasing a portion of the incidental set-aside to the directed fishery or further constraining incidental landings to ensure total harvest remains below the ABC.

- In November 2008, the Council adopted a harvest guideline (HG) of 66,932 mt for the 2009 Pacific sardine fishery. This HG was based on a biomass estimate of 662,886 mt and the harvest control rule in the CPS FMP. The Council recommended that 1,200 mt of the HG be set-aside prior to allocation for dedicated Pacific sardine research activities in period 2. The Council recommended an adjusted allocation of 59,232 mt as the HG for the directed fishery to be allocated seasonally per the Amendment 11 framework. To allow for incidental landings of

Pacific sardines in other CPS fisheries and to help to ensure the fishery does not exceed the total HG, the Council adopted a set aside of 6,500 mt allocated across seasonal periods as follows:

HG = 66,932 mt; Research set aside = 1,200 mt; Adjusted HG = 65,732 mt				
	Period 1	Period 2	Period 3	
	Jan 1- Jun 30	Jul 1- Sep 14	Sep 15 – Dec 31	Total
Seasonal Allocation (mt)	23,006	26,293	16,433	65,732
Incidental Set Aside (mt)	1,000	1,000	4,500	6,500
Adjusted Allocation (mt)	22,006	25,293	11,933	59,232

If a seasonal allocation to the directed fishery is reached or exceeded in any period NMFS would close the directed sardine fishery and the fishery would revert to an incidental fishery with an incidental landing allowance of no more that 20 percent Pacific sardine by weight.

Under this proposal, the Council recommends NMFS take the following inseason automatic actions:

- Any unused seasonal allocation to the directed fishery from Period 1 or Period 2 rolls into the next period's directed fishery.

- Any overage of a seasonal allocation to the directed fishery from Period 1 or Period 2 is deducted from the next Period's directed fishery.

- Any unused Seasonal Incidental Set-Aside from Period 1 or Period 2 rolls into the next period's directed fishery.

- If both the seasonal allocation to the directed fishery and the Seasonal Incidental Set-Aside are reached or exceeded in any period, the retention of Pacific sardine will be prohibited and the overage will be deducted from the next period's directed fishery.

- Any of the research set-aside that is not used in Period 2 rolls into the third seasonal period's directed fishery HG.

- In November 2008, the Council also adopted a public review draft of the Terms of Reference document for the 2009 STAR Panel process. The Council also tasked Council staff with scheduling two STAR Panels for 2009; one in May 2009 focused on a full Pacific mackerel assessment and Pacific sardine assessment methodology, and a second in September 2009 that focuses on the review of a full Pacific sardine assessment.

- At the March 2009 meeting, the Council adopted a final Terms of Reference as a guide for the 2009 coastal pelagic species STAR process. The Council approved minor changes to the document as recommended by the Scientific and Statistical Committee (SSC). A final document will be posted to the Council website in the near future. The Council also scheduled two STAR Panels, both to be held at the Southwest Fisheries Science Center in La Jolla, California. The first occurred May 4-8, 2009 and will review a full assessment of Pacific mackerel as well as the survey design

for a proposed Pacific sardine survey. The second occurred September 21-25, 2009 to review a full assessment of Pacific sardine.

The Council also approved for public review two EFP proposals for an industry-sponsored Pacific sardine research survey in 2009. The Council requested that Pacific sardine industry representatives work to provide a detailed single proposal that addresses the recommendations of the SSC and the Coastal Pelagic Species Management Team (CPSMT). The Council asked the proposal be submitted for publication on the Council website as soon as feasible, but no later than April 15, 2009 to allow for adequate review in advance of the May 4-8, 2009 STAR Panel meeting where survey methodology is scheduled for thorough evaluation. The Council also recommended National Marine Fisheries Service (NMFS) adjust the research set-aside for this effort from 1200 metric ton (mt) to 2400 mt.

The Council also reviewed the final NMFS guidelines for implementing National Standard 1 and held an initial scoping session on amending the coastal pelagic species FMP in accordance. In general, issues identified for further consideration include: updating the definition and implementation of the harvest control rules to comply with new management mechanisms such as ACLs, acceptable biological catch (ABC), and overfishing levels (OFLs), developing these mechanisms for monitored and prohibited harvest species, a listing of potential species to be categorized as ecosystem species, and revising measures for more efficient inseason monitoring and enhanced preseason and postseason accounting. Specifically, the Council was interested in advancing concepts brought forward by the SSC, CPSMT, CPS Advisory Subpanel, and public testimony. The Council reviewed initial analysis of potential alternatives at its November 2009 meeting in Costa Mesa, California, as the second stage of a four Council meeting process.

- In June 2009, the Council adopted the full Pacific mackerel assessment and the following harvest specifications and management measures for the July 2009-June 2010 Pacific mackerel fishery:
  1. Establish an acceptable biological catch of 55,408 metric ton (mt) and a harvest guideline for the directed fishery of 10,000 mt, which includes an incidental set-aside of 2,000 mt for incidental catch in non-divested fisheries.
  2. Should the directed fishery attain landings of 8,000 mt, the Council recommends that National Marine Fisheries Service (NMFS) close the directed fishery and revert to an incidental-catch-only fishery with a 45 percent incidental landing allowance when Pacific mackerel are landed with other coastal pelagic species (CPS), except that up to 1 mt of Pacific mackerel could be landed without landing any other CPS.

Additionally, to provide time to address research and data needs associated with the Pacific mackerel assessment, the Council recommended no assessment in 2010 and a full assessment in 2011.

- At the November 2009 meeting, the Council expressed support for further development and analyses of the alternatives proposed pursuant to National Standard 1 (NS1) of the Magnuson Act. The Council supported analysis of sector specific annual catch limits, but not for the live bait fishery and requested an analysis of annual catch targets to address management uncertainty and to buffer against overfishing. Additionally, the Council supports the proposed meetings between the CPS Management Team and the Scientific and Statistical Committee CPS Subcommittee to further review the CPS harvest control rules and their adequacy for addressing uncertainty and preventing overfishing. The Council put a lower priority on including additional forage species in the CPS

FMP and on development of mechanisms to streamline inseason management. The Council recommended work on these issues with a focus on meeting time-sensitive requirements of the MSA and guidelines for meeting National Standard 1.

The Council also adopted a harvest guideline (HG) of 72,039 metric tons (mt) for the 2010 Pacific sardine fishery. This HG is based on a biomass estimate of 702,024 mt and the harvest control rule in the Coastal Pelagic Species (CPS) Fishery Management Plan. The Council recommends that 5,000 mt of the HG be set-aside prior to allocation for dedicated Pacific sardine research activities in 2010. The Council recommends an adjusted allocation of 67,039 mt as the HG for the directed fishery to be allocated seasonally per the Amendment 11 framework. To allow for incidental landings of Pacific sardines in other CPS fisheries and to help to ensure the fishery does not exceed the total HG, the Council adopted a set aside of 7,000 mt allocated across seasonal periods as follows:

HG = 72,039 mt Research set aside = 5,000 mt Adjusted HG = 67,039 mt				
	Jan 1- Jun 30	Jul 1- Sep 14	Sep 15 – Dec 31	Total
Seasonal Allocation (mt)	23,463	26,816	16,760	67,039
Incidental Set Aside (mt)	1,000	1,000	1,000	3,000
Management Uncertainty			4,000	4,000
Adjusted Allocation (mt)	22,463	25,816	11,760	60,039

TABLE 2-2. REGULATORY ACTIONS

January 25, 2000. NMFS published HGs for Pacific sardine and Pacific mackerel for the fishing year beginning January 1, 2000. A HG of 186,791 mt was established for Pacific sardine, based on a biomass estimate of 1,581,346 mt. The HG was allocated for Subarea A, which was north of 35° 40' N latitude (Point Piedras Blancas) to the Canadian border, and for Subarea B, which was 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 HG was in effect until December 31, 2000, or until it was reached and the fishery closed. A HG of 42,819 mt was established for Pacific mackerel based on a biomass estimate of 239,286 mt. The HG for Pacific mackerel was in effect until June 30, 2000, or until it was reached and the fishery closed. (65*FR*3890)

September 11, 2000. NMFS announced the annual HG for Pacific mackerel in the EEZ off the Pacific coast. Based on the estimated biomass of 116,967 mt and the formula in the FMP, a HG of 20,740 mt was calculated for the fishery beginning on July 1, 2000. This HG is available for harvest for the fishing season July 1, 2000 through June 30, 2001. (65*FR*54817)

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 HG for Pacific mackerel based on a formula in the FMP and to close the fishery when the HG is reached. The HG of 20,740 mt was reached before the end of the fishing season on June 30, 2001, which required closing the directed fishery and setting an incidental harvest limit for Pacific mackerel so that the harvest of other CPS would be further restricted. The intended effect of this action was 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 was closed October 27, 2000, after which time no more than 20 percent by weight of any landing of Pacific sardine could be Pacific mackerel. (65*FR*65272)

November 17, 2000. NMFS published a correction to the Pacific mackerel closure, which was published on November 1, 2000. In 65*FR*65272, the following correction was included: 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 percent by weight of a landing of Pacific sardine, northern anchovy, jack mackerel, or market squid may consist of Pacific mackerel." (65*FR*69483)

December 27, 2000. NMFS announced the annual HG for Pacific sardine in the EEZ off the Pacific coast for the January 1, 2001, through December 31, 2001, fishing season. This HG was calculated according to the regulations implementing the FMP. The intended effect of this action was 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 HG of 134,737 mt was calculated for the fishery beginning January 1, 2001. The HG was allocated one third for Subarea A, which was north of 35° 40' N latitude (Point Piedras Blancas) to the Canadian border, and two thirds for Subarea B, which was south of 35° 40' N latitude to the Mexican border. Any unused resource in either area would be reallocated between areas to help ensure that the OY would be achieved. The northern allocation is 44,912 mt; the southern allocation was 89,825 mt. (65*FR*81766)

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 percent by weight of Pacific mackerel in landings of Pacific sardine, northern anchovy, jack mackerel, and market squid remained in effect; however, CPS fishermen could land up to one mt of Pacific mackerel even if they landed no other species from the trip. Non CPS fisherman could land no more than ome mt of Pacific mackerel per trip. After the HG of 20,740 mt was reached, all landings of Pacific mackerel would be restricted to one mt per trip. This action was authorized by the FMP and was intended to ensure that the fishery achieved, but did not exceed, the HG while minimizing the economic impact on small businesses. For the reasons stated here, no fishing vessel could land more than one mt of Pacific mackerel per fishing trip, except that fishing vessels with other CPS on board could land more

than one mt of Pacific mackerel in a fishing trip if the total amount of Pacific mackerel on board the vessel did not exceed 20 percent by weight of the combined weight of all CPS on board the vessel. (66*FR*11119)

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 HG for Pacific mackerel based on a formula in the FMP and to close the fishery when the HG is reached. The HG of 20,740 mt was reached. Following this date no more than one mt of Pacific mackerel could be landed from any fishing trip. The effect of this action was to ensure conservation of the Pacific mackerel resource. (66*FR*17373)

July 25, 2001. NMFS announced a HG 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 percent of Pacific mackerel in a landing of any CPS. If a significant amount of the HG 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 HG'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. (66*FR*38571)

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 HG 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 percent 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 HG was achieved, but not exceeded, and to minimize bycatch of Pacific mackerel while other CPS were being harvested. (66*FR*59173)

December 27, 2001. NMFS published the HG for Pacific sardine for the fishing season beginning January 1, 2002. A HG of 118,442 mt was established for Pacific sardine based on a biomass estimate of 1,057,599 mt. The HG was allocated for Subarea A, which was north of 35° 40' N latitude (Point Piedras Blancas) to the Canadian border, and for Subarea B, which was south of 35° 40' N latitude to the Mexican border. The northern allocation is 39,481 mt; the southern allocation is 78,961mt. The sardine HG is in effect until December 31, 2002, or until it is reached and the fishery closed. (66*FR*66811)

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 HG remained unharvested (6,585 mt). Therefore, the incidental catch allowance that has been in effect since November 21, 2001 was removed, and any landing of Pacific mackerel could consist of 100 percent Pacific mackerel. This action was taken to help ensure that the HG was attained. If the HG was projected to be reached before June 30, 2002, the directed fishery would be closed and an appropriate incidental landing restriction imposed. (67*FR*16322)

July 11, 2002. NMFS proposed a regulation to implement the annual HG for Pacific mackerel in the EEZ off the Pacific coast. The CPS FMP and its implementing regulations require NMFS to set an annual HG 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 HG of 12,456 was proposed for the fishery beginning on July 1, 2002, and continued through June 30, 2003, unless the HG was attained and the fishery closed before June 30. (67*FR*45952)

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, California, (35° 40' N latitude) at 0001 hrs local time on September 14, 2002. The closure remained in effect until the reallocation of the remaining portion of the coastwide HG was required by the CPS FMP. That reallocation was expected to occur on or about October 1, 2002. The purpose of this action was to comply with the allocation procedures mandated by the FMP. (67*FR*58733)

September 26, 2002. Emergency rule. NMFS announced the reallocation of the remaining Pacific sardine HG in the U.S. EEZ off the Pacific coast. The CPS FMP required 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 HG, with 50 percent 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 reallocated the remainder of the HG 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, which would result from delaying the reallocation. (67*FR*60601)

October 3, 2002. NMFS issued a regulation to implement the annual HG for Pacific mackerel in the EEZ off the Pacific coast. The CPS FMP and its implementing regulations required NMFS to set an annual HG for Pacific mackerel based on the formula in the FMP. This action was to conserve Pacific mackerel off the Pacific coast. Based on the estimated biomass of 77,516 mt and the formula in the FMP, a HG of 12,456 was proposed for the fishery beginning on July 1, 2002, and continued through June 30, 2003, unless the HG was attained and the fishery closed before June 30. There was a directed fishery of at least 9,500 mt, and 3,035 mt of the HG was utilized for incidental landings following the closure of the directed fishery. After closure of the directed fishery, no more than 40 percent by weight of a landing of Pacific sardine, northern anchovy, jack mackerel, or market squid could consist of Pacific mackerel, except that up to one mt of Pacific mackerel could be landed without landing any other CPS. The fishery was monitored, and if a sufficient amount of the HG remained before June 30, 2003, the directed fishery would be reopened. The goal was to achieve the HG and minimize the impact on other coastal pelagic fisheries. 67*FR*61994)

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 addressed 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 was to establish the procedures by which limited entry permits could 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 were achieved. (67*FR*66103)

November 25, 2002. NMFS proposed a regulation to implement the annual HG for Pacific sardine in the U.S. EEZ off the Pacific coast for the fishing season January 1, 2003, through December 31, 2003. This HG 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 HG of 110,908 mt was determined for the fishery beginning January 1, 2003. The HG 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. (67*FR*70573)

December 31, 2002. NMFS issued a regulation to implement the annual HG for Pacific sardine in the U.S. EEZ off the Pacific coast for the fishing season January 1, 2003, through December 31, 2003. This HG was calculated according to the CPS FMP and established 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 HG of 110,908 mt was determined for the fishery beginning January 1, 2003. The HG was allocated one third for Subarea A, which was north of 35° 40' N latitude (Point Piedras Blancas, California) to the Canadian border, and two thirds for Subarea B, which was south of 35° 40' North latitude to Mexican border. The northern allocation was 36,969 mt; the southern allocation was 73,939 mt. If an allocation or the HG was reached, up to 45 percent by weight of Pacific sardine could be landed in any landing of Pacific mackerel, jack mackerel, northern anchovy, or market squid. (67*FR*79889).

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. 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 was to establish the procedures by which limited entry permits could 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 were achieved. (68*FR*3819)

June 26, 2003. NMFS proposed a regulatory amendment to the CPS FMP. This amendment was submitted by the Council for review and approval by the Secretary. The proposed amendment would change the management

subareas and the allocation process for Pacific sardine. The purpose of this proposed amendment was to establish a more effective and efficient allocation process for Pacific sardine and increase the possibility of achieving OY. (68*FR*37995)

July 29, 2003. NMFS proposed a regulation to implement the annual HG for Pacific mackerel in the EEZ off the Pacific coast. The CPS FMP and its implementing regulations require NMFS to set an annual HG for Pacific mackerel based on the formula in the FMP. (68*FR*44518)

September 4, 2003. NMFS issued a final rule to implement a regulatory amendment to the CPS FMP that changed the management subareas and the allocation process for Pacific sardine. The purpose of this final rule was to establish a more effective and efficient allocation process for Pacific sardine and increase the possibility of achieving OY. (68*FR*52523)

September 9, 2003. NMFS announced the reallocation of the remaining Pacific sardine HG in the EEZ off the Pacific coast. On September 1, 2003, 59,508 mt of the 110,908 mt HG was expected to remain unharvested. The CPS FMP required that a review of the fishery be conducted and any uncaught portion of the HG remaining unharvested in Subarea A (north of Pt. Arena, California) and Subarea B (south of Pt. Arena, California) be added together and reallocated, with 20 percent allocated to Subarea A and 80 percent to Subarea B; therefore, 11,902 mt was allocated to Subarea A and 47,600 mt was allocated to Subarea B. The intended effect of this action was to ensure that a sufficient amount of the resource was available to all harvesters on the Pacific coast and to achieve OY. (68*FR*53053)

October 3, 2003. NMFS issued a final rule to implement the annual HG for the July 1, 2003 - June 30, 2004 Pacific mackerel fishery in the EEZ off the Pacific coast. The CPS FMP and its implementing regulations require NMFS to set an annual HG for Pacific mackerel based on the formula in the FMP. Based on this approach, the biomass for July 1, 2003, was 68,924 mt. Applying the formula in the FMP results in a HG of 10,652 mt, which was lower than last year but similar to low HGs of recent years. (68*FR*57379)

October 28, 2003. NMFS announced the closure of the fishery for Pacific sardine in the EEZ off the Pacific coast north of Pt. Arena, California (39° N latitude) at 12:01 a.m. local time on October 17, 2003. The purpose of this action was to comply with the allocation procedures mandated by the CPS FMP. (68*FR*61373)

December 3, 2003. NMFS proposed a regulation to implement the annual HG for Pacific sardine in the U.S. EEZ off the Pacific coast for the fishing season January 1, 2004 through December 31, 2004. This HG was calculated according to the regulations implementing the CPS FMP and established allowable harvest levels for Pacific sardine off the Pacific coast. (68*FR*67638)

February 25, 2004. NMFS issued a regulation to implement the annual HG for Pacific sardine in the U.S. EEZ off the Pacific coast for the fishing season January 1, 2004 through December 31, 2004. This action adopted a HG and initial subarea allocations for Pacific sardine off the Pacific coast that were calculated according to the regulations implementing the CPS FMP. Based on a biomass estimate of 1,090,587 mt (in U.S. and Mexican waters), using the FMP formula, the HG for Pacific sardine in U.S. waters for January 1, 2004 through December 31, 2004 was 122,747 mt. The biomass estimate was slightly higher than last year's estimate; however, the difference between this year's biomass was not statistically significant from the biomass estimates of recent years. Under the FMP, the HG was allocated one third for Subarea A, which was north of 39° N latitude (Pt. Arena, California) to the Canadian border, and two thirds for Subarea B, which was south of 39° N latitude to the Mexican border. Under this final rule, the northern allocation for 2004 would be 40,916 mt and the southern allocation would be 81,831 mt. (69*FR*8572). July 20, 2004. NMFS proposed a regulation to implement the annual HG for Pacific mackerel in the EEZ off the Pacific coast for the fishing season July 1, 2004 through June 30, 2005. The CPS FMP and its implementing regulations required NMFS to set an annual HG for Pacific mackerel based on the formula in the FMP. This action proposed allowable harvest levels for Pacific mackerel off the Pacific coast. (69 *FR* 43383)

September 14, 2004. Information memorandum. NMFS announced the reallocation of the remaining Pacific sardine HG in the U.S. EEZ off the Pacific coast. A regulatory amendment (69 *FR* 8572, February 25, 2003) required that NMFS conduct a review of the fishery 10 months after the beginning of the fishing season on

January 1, and reallocate any unharvested portion of the HG, with 20 percent allocated north of Point Area, California, and 80 percent allocated south of Point Arena, California. (69 *FR* 55360)

October 21, 2004. NMFS issued a final rule to implement the annual HG for the July 1, 2004 - June 30, 2005 Pacific mackerel fishery in the EEZ off the Pacific coast. The CPS FMP and its implementing regulations required NMFS to set an annual HG for Pacific mackerel based on the formula in the FMP. Based on this approach, the biomass for July 1, 2003, was 81,383 mt. Applying the formula in the FMP resulted in a HG of 13,268 mt. (69 *FR* 61768)

December 8, 2004. NMFS proposed a regulation to implement the annual HG for Pacific sardine in the U.S. EEZ off the Pacific coast for the fishing season January 1, 2005 through December 31, 2005. This HG was calculated according to the regulations implementing the CPS FMP and established allowable harvest levels for Pacific sardine off the Pacific coast. (69 *FR* 70973)

June 22, 2005. NMFS issued a regulation to implement the annual HG for Pacific sardine in the U.S. EEZ off the Pacific coast for the fishing season January 1, 2005 through December 31, 2005. This HG was calculated according to the regulations implementing the CPS FMP and established allowable harvest levels for Pacific sardine off the Pacific coast. Based on a biomass estimate of 1,193,515 mt (in U.S. and Mexican waters) and using the FMP formula, NMFS calculated a HG of 136,179 mt for Pacific sardine in U.S. waters. Under the FMP, the HG was allocated one-third for Subarea A, which was north of 39°00' N. lat. (Pt. Arena, California) to the Canadian border, and two-thirds for Subarea B, which was south of 39° 00' N. lat. to the Mexican border. Under this final rule, the northern allocation for 2005 would be 45,393 mt, and the southern allocation would be 90,786 mt. (70 *FR* 36053)

August 29, 2005. NMFS proposed a regulation to implement the annual HG for Pacific mackerel in the U.S. EEZ off the Pacific coast. For specific regulations, see final rule language from October 21, 2005 below. (70 *FR* 51005)

October 21, 2005. NMFS issued a final rule to implement the annual HG for Pacific mackerel in the U.S. EEZ off the Pacific coast. The biomass estimate for July 1, 2005, was 101,147 mt. Applying the formula in the FMP resulted in a HG of 17,419 mt, which was 32 percent greater than last year but similar to low HGs of recent years. For the last three years, the fishing industry has recommended dividing the HG into a directed fishery and an incidental fishery, reserving a portion of the HG for incidental harvest in the Pacific sardine fishery so that the Pacific sardine fishery was not hindered by a prohibition on the harvest of Pacific mackerel. At its meeting on June 15, 2005, the CPSAS recommended for the 2005–2006 fishing season that a directed fishery of 13,419 mt and an incidental fishery of 4,000 mt be implemented. An incidental allowance of 40 percent of Pacific mackerel in landings of any CPS would become effective if the 13,419 mt of the directed fishery was harvested. The CPSAS also recommended allowing up to 1 mt of Pacific mackerel to be landed during the incidental fishery without the requirement to land any other CPS. (70 *FR 61235*)

October 28, 2005. NMFS announced that the Council submitted Amendment 11 to the CPS FMP for Secretarial review. Amendment 11 would change the framework for the annual apportionment of the Pacific sardine HG along the U.S. Pacific coast. The purpose of Amendment 11 was to achieve optimal utilization of the Pacific sardine resource and equitable allocation of the harvest opportunity for Pacific sardine. The public comment period on Amendment 11 was open through December 27, 2005. (70 *FR* 62087)

January 17, 2006. NMFS proposed a regulation to implement the annual HG for Pacific sardine in the U.S. EEZ off the Pacific coast for the fishing season of January 1, 2006 through December 31, 2006. This HG was calculated according to the regulations implementing the CPS FMP and established allowable harvest levels for Pacific sardine off the Pacific coast. (71 *FR* 2510)

June 29, 2006. NMFS issued the final rule to implement Amendment 11 to the CPS FMP, which changed the framework for the annual apportionment of the Pacific sardine HG along the U.S. Pacific coast. The purpose of this final rule was to achieve optimal utilization of the Pacific sardine resource and equitable allocation of the harvest opportunity for Pacific sardine. (71 *FR* 36999)

July 5, 2006. NMFS issued a final rule to implement the annual HG for Pacific sardine in the U.S. EEZ off the Pacific coast for the fishing season of January 1, 2006, through December 31, 2006. This HG was calculated

according to the regulations implementing the CPS FMP and established allowable harvest levels for Pacific sardine off the Pacific coast. Based on the estimated biomass of 1,061,391 mt and the formula in the FMP, a HG of 118,937 mt was determined for the fishery beginning January 1, 2006. (71 *FR* 38111)

August 21, 2006. This notice retracted the Notice of Intent (NOI) to prepare an Environmental Impact Statementto analyze a range of alternatives for the annual allocation of the Pacific sardine HG proposed action published on July 19, 2004. Further scoping subsequent to the publication of the NOI revealed additional information indicating that it was unlikely the proposed action would result in significant environmental impacts. An EA was completed and a subsequent Finding of No Significant Impact was signed. (71 *FR* 48537)

October 20, 2006. NMFS proposed a regulation to implement the annual HG for Pacific mackerel in the U.S. EEZ off the Pacific coast. (71 *FR* 61944).

December 7, 2006. NMFS proposed a regulation to implement new reporting and conservation measures under the CPS FMP. These reporting requirements and prohibitive measures would require CPS fishermen/vessel operators to employ avoidance measures when southern sea otters are present in the area they are fishing and to report any interactions that may occur between their vessel and/or fishing gear and sea otters. The purpose of this proposed rule was to comply with the terms and conditions of an incidental take statement from a biological opinion issued by the U.S. Fish and Wildlife Service regarding the implementation of Amendment 11 to the CPS FMP. (71 *FR* 70941).

January 31, 2007. NMFS issued a final rule to implement the annual HG and management measure for the 2006-2007 Pacific Mackerel fishery. Based on the estimated biomass of 112,700 mt and the formula in the FMP, a HG of 19,845 mt was in effect for the fishery which began on July 1, 2006. This HG applied to Pacific mackerel harvested in the U.S. EEZ off the Pacific coast from July 1, 2006 through June 30, 2007, unless the HG was attained and the fishery was closed before June 30, 2007. All landings made after July 1, 2006, will be counted toward the 2006–2007 HG of 19,845 mt. There was a directed fishery of 13,845 mt, followed by an incidental fishery of 6,000 mt. An incidental allowance of 40 percent of Pacific mackerel in landings of any CPS would become effective after the date when 13,845 mt of Pacific mackerel was estimated to have been harvested. A landing of one mt of Pacific mackerel per trip was permitted during the incidental fishery for trips in which no other CPS is landed. (72 *FR* 4464).

May 30, 2007. This action implemented new reporting and conservation measures under the CPS FMP. The purpose of this action was to prevent interactions between CPS fisherman and southern sea otters, as well as establish methods for fishermen to report these occurrences. These reporting requirements and conservation measures require CPS fishermen/vessel operators to employ avoidance measures when southern sea otters are present in the area they are fishing and to report any interactions that may occur between their vessel and/or fishing gear and sea otters. (72 *FR* 29891).

September 28, 2007 NMFS proposed a regulation to implement the annual HG for Pacific mackerel in the U.S. EEZ Based on a total stock biomass estimate of 359,290 mt, the ABC for U.S. fisheries for the 2007-2008 management season was 71,629 mt. The estimated stock biomass for the 2006-2007 season was 112,700 mt, resulting in an ABC of 19,845 mt. off the Pacific coast for the fishing season of July 1, 2007 through June 30, 2008. (72 *FR* 55170).

October 25, 2007 NMFS issued the final rule to implement the annual HG for Pacific sardine in the U.S. EEZ off the Pacific coast (California, Oregon, and Washington) for the fishing season of January 1, 2007 through December 31,2007. The Pacific sardine HG was apportioned based on the following allocation scheme established by Amendment 11 to the CPS FMP: 35 percent (53,397 mt) was allocated coastwide on January 1; 40 percent (61,025 mt), plus any portion not harvested from the initial allocation was reallocated coastwide on July 1; and on September 15 the remaining 25 percent (38,141 mt), plus any portion not harvested from earlier allocations was released. (72 *FR* 60586).

January 31, 2008 NMFS issued the final rule to implement the annual HG for Pacific mackerel for the fishing season of July 1, 2007 through June 30, 2008. The HG for the 2007–2008 fishing season is 40,000 mt. If this total was reached, Pacific mackerel fishing would be closed to directed harvest and only incidental harvest would be allowed at a 45 percent by weight incidental catch rate when landed with other CPS, except that up to one mt of Pacific mackerel could be landed without landing any other CPS. (73 *FR* 5760).

August 20, 2008 NMFS proposed a regulation to implement the annual HG for Pacific mackerel in the EEZ off the Pacific coast for the fishing season of July 1, 2008 through June 30, 2009. (73 *FR* 49156).

August 20, 2008 NMFS issued a final rule that noticed effectiveness of reporting requirements of interactions that may occur between a CPS vessel and/or fishing gear and sea otters originally published on May 30, 2007 (see above). The May 30th final rule contained information collection requirements that at the time of publication had not yet been approved by OMB. The final rule stated that NMFS would publish a subsequent Federal Register notice announcing the effectiveness of those requirements. Therefore NMFS announces that OMB approved the collection of information requirements contained in the May 30, 2007, final rule under Control Number 0648-0566 with an expiration date of August 31, 2010. (73 *FR* 60191).

October 10, 2008 NMFS issued a final rule that notices effectiveness of reporting requirements of interactions that may occur between a CPS vessel and/or fishing gear and sea otters originally published on May 30, 2007 (see above). The May 30th final rule contained information collection requirements that at the time of publication had not yet been approved by OMB. The final rule stated that NMFS would publish a subsequent Federal Register notice announcing the effectiveness of those requirements. Therefore NMFS announces that OMB approved the collection of information requirements contained in the May 30, 2007, final rule under Control Number 0648-0566 with an expiration date of August 31, 2010. (73 *FR* 60191).

November 18, 2008 NMFS issued a final rule to implement the annual HG for Pacific mackerel in the EEZ off the Pacific coast for the fishing season of July 1, 2008, through June 30, 2009. The HG for the 2008–2009 fishing season is 40,000 mt. If this total is reached, Pacific mackerel fishing will be closed to directed harvest and only incidental harvest will be allowed at a 45 percent by weight incidental catch rate when landed with other CPS, except that up to one mt of Pacific mackerel can be landed without landing any other CPS. (73 *FR* 68362).

January 5, 2009. NMFS proposed a regulation to implement the annual harvest guideline (HG) for Pacific sardine in the U.S. exclusive economic zone (EEZ) off the Pacific coast for the fishing season of January 1, 2009, through December 31, 2009. This HG was proposed according to the regulations implementing the Coastal Pelagic Species (CPS) Fishery Management Plan (FMP) and established allowable harvest levels for Pacific sardine off the Pacific coast. The proposed initial HG for the 2009 fishing year was 65,732 mt and was proposed to be divided across the seasonal allocation periods in the following way: January 1-June 30, 22,006 mt was allocated for directed harvest with an incidental set-aside of 1,000 mt; July 1-September 14, 25,293 mt was allocated for directed harvest with an incidental set-aside of 1,000 mt; September 15-December 31, 11,933 mt was to be allocated for directed harvest with an incidental set-aside of 4,500 mt. If during any of the seasonal allocation periods the applicable adjusted directed harvest allocation was projected to be taken, fishing would be closed to directed harvest and only incidental harvest would be allowed. (74 FR 252).

May 6, 2009. NMFS proposed a regulation to adjust the harvest specifications for Pacific sardine in the U.S. exclusive economic zone (EEZ) off the Pacific coast for the fishing season of January 1, 2009, through December 31, 2009. The proposed action increased the tonnage of Pacific sardine allocated for industry conducted research from 1200 metric tons (mt) to 2400 mt and decreases the second and third period directed harvest allocations by 750 mt and 450 mt, respectively. (74 FR 20897).

June 30, 2009. NMFS issued a final rule to adjust the harvest specifications for Pacific sardine in the U.S. exclusive economic zone (EEZ) off the Pacific coast for the fishing season of January 1, 2009, through December 31, 2009. This final rule increased the tonnage of Pacific sardine allocated for industry-conducted research from 1200 metric tons (mt) to 2400 mt and decreases the second and third period directed harvest allocations by 750 mt and 450 mt, respectively. (74 FR 31199).

July 13, 2009. NMFS issued a final rule to implement Amendment 12 to the Coastal Pelagic Species (CPS) Fishery Management Plan (FMP) which would provide protection for all species of krill off the West Coast (i.e., California, Oregon and Washington). This rule would prohibit the harvest of all species of krill by any fishing vessel operating in the Exclusive Economic Zone (EEZ) off the West Coast, and would also deny the use of exempted fishing permits to allow krill fishing (74 FR 33372).

July 17, 2009. NMFS prohibited directed fishing for Pacific sardine off the coast of Washington, Oregon and California. This action was necessary because the directed harvest allocation total for the second seasonal period (July 1– September 14) was projected to be reached by the effective date of the rule. From the effective date of the rule until September 15, 2009, Pacific sardine could only be harvested as part of the live bait fishery or incidental to other fisheries; the incidental harvest of Pacific sardine is limited to 20–percent by weight of all fish per trip. Fishing vessels had to be at shore and in the process of offloading at 12:01 am Pacific Daylight Time on date of closure. (74 FR 34700).

September 23, 2009. NMFS issued a temporary rule prohibiting directed fishing for Pacific sardine off the coasts of Washington, Oregon and California. This action was necessary because the directed harvest allocation total for the third seasonal period (September 15–December 31) was projected to be reached by the effective date of the rule. From the effective date of this rule until December 31, 2009, Pacific sardine could only be harvested as part of the live bait fishery or incidental to other fisheries; the incidental harvest of Pacific sardine was limited to 20–percent by weight of all fish per trip. Fishing vessels had to be at shore and in the process of offloading at 12:01 am Pacific Daylight Time on date of closure. (74 FR 48421)

September 29, 2009. NMFS issued a proposed regulation to implement the annual harvest guideline (HG) for Pacific mackerel in the U.S. exclusive economic zone (EEZ) off the Pacific coast. This HG is proposed according to the regulations implementing the Coastal Pelagic Species (CPS) Fishery Management Plan (FMP) and establishes allowable harvest levels for Pacific mackerel off the Pacific coast. The proposed total HG for the 2009–2010 fishing year was 10,000 metric tons (mt) and was proposed to be divided into a directed fishery HG of 8,000 mt and an incidental fishery of 2,000 mt. (74 FR 49845).

December 22, 2009. NMFS issued a temporary rule prohibiting the incidental harvest of Pacific sardine off the coasts of Washington, Oregon and California. This action was necessary because the incidental set aside for the third allocation period of the 2009 Pacific sardine season was reached. From the effective date of this rule until January 1, 2010, Pacific sardine can only be harvested as part of the live bait fishery. (FR 74 67986).

TABLE 2-3. 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	Coast Guard Number	Year Built	Registered Measurements (ft)[1]			Calculated Vessel GT[2]	Permit No.	Permit GT Endorsement	Permit Transfer Allowance
			Length	Breadth	Depth				
PROVIDER	D572344	1976	49.60	19.00	10.10	63.8	1	63.8	70.2
PALOMA	D280452	1960	47.40	16.50	8.30	43.5	2	43.5	47.9
SEA VENTURE	D238969	1939	71.40	21.20	9.70	107.3	3	98.4	108.2
BARBARA H	D643518	1981	64.90	24.00	11.60	121.1	4	121.1	133.2
PACIFIC BULLY	D1186583	1937	72.10	19.50	8.70	82.0	5	82.0	90.2
MARY VINCENT	D632207	---	---	---	---	57.0	6	98.1	107.9
SAN PEDRO PRIDE	D549506	1973	79.60	24.50	12.30	160.7	7	160.7	176.8
FERRIGNO BOY	D602455	1978	69.60	23.70	12.60	139.3	8	139.3	153.2
KING PHILLIP	D1061827	1997	79.00	26.00	11.40	156.9	9	156.9	172.6
SEA WAVE	D951443	1989	78.00	22.00	18.00	206.9	10	206.9	227.6
UNASSOCIATED	---	---	---	---	---	---	11	56.2	61.8
BAINBRIDGE	D236505	1937	78.60	22.70	9.60	114.8	12	114.8	126.3
PIONEER	D246212	---	---	---	---	141.9	13	141.9	156.1
MARIA	D236760	1937	70.70	20.50	9.20	89.3	14	89.3	98.2
ST. JOSEPH	D633570	1981	62.90	22.00	9.10	84.4	15	84.4	92.8
UNASSOCIATED	---	---	---	---	---	---	16	137.5	---
RETRIEVER	D582022	1977	54.20	19.60	8.70	61.9	17	61.9	68.1
ATLANTIS	D649333	1982	49.60	19.00	10.10	63.8	18	63.8	70.2
G. NAZZARENO	D246518	1944	78.00	22.70	10.50	124.6	19	124.6	137.1
UNASSOCIATED	---	---	---	---	---	---	20	111.9	123.1
PACIFIC LEADER	D643138	1981	59.50	21.00	9.20	77.0	21	77.0	84.7
OCEAN ANGEL IV	OR868ADK	---	---	---	---	69.9	22	63.5	69.9
PACIFIC JOURNEY	OR661ZK	2001	64.30	22.01	10.30	97.7	23	97.7	107.5
OCEAN ANGLE I	D584336	1977	49.60	19.00	10.10	63.8	24	63.8	70.2
MARIA T	D509632	1967	57.30	18.10	9.80	68.1	25	68.1	74.9
MANANA	D253321	1947	40.10	13.20	6.70	23.8	26	23.8	26.2
NEW QUEEN	OR588ADB	---	---	---	---	112	27	55.5	61.1
MINEO BROS.	D939449	1989	58.00	21.00	9.00	73.4	28	73.4	80.7
LONG BEACH CARNAGE	D955501	1977	49.00	16.00	8.00	42.0	29	42.0	46.2
UNASSOCIATED	---	---	---	---	---	---	30	40.8	44.9
CAITLIN ANN	D960836	1990	98.00	33.00	15.70	340.2	31	340.2	374.2
ELDORADO	D690849	1985	56.00	17.00	8.60	54.9	32	54.9	60.4
SEA PRINCESS	D630024	1980	87.00	26.00	12.80	194.0	33	194.0	213.4
CAROL N ROSE	D1211776	2008	68.00	23.02	11.00	116.2	34	125.6	138.2
ENDURANCE	D613302	1979	49.00	16.00	8.00	42.0	35	42.0	46.2
NEW SUNBEAM	D284470	1961	50.30	20.00	4.00	27.0	36	27.0	29.7
CALOGERA A	D984694	1992	57.75	21.00	10.50	85.3	37	85.3	93.8
EILEEN	D252749	1947	79.40	22.10	10.20	119.9	38	119.9	131.9
PAMELA ROSE	D693271	1985	54.00	19.00	9.00	61.9	39	61.9	68.1
NEW STELLA	D598813	1978	58.00	22.00	8.40	71.8	40	71.8	79.0
TRAVELER	D661936	1983	56.00	17.00	6.90	44.0	41	44.0	48.4
LUCKY STAR	D295673	1964	49.90	17.00	7.30	41.5	42	41.5	45.7
OCEAN ANGEL II	D622522	1980	74.50	28.00	10.70	149.5	43	149.5	164.5
CRYSTAL SEA	D1061917	1997	66.00	26.00	12.00	137.0	44	137.0	151.8
TRIONFO	D625449	1980	63.80	19.30	9.60	79.2	45	79.2	87.1
UNASSOCIATED	---	---	---	---	---	---	46	85.0	93.5
HEAVY DUTY	D655523	1983	58.00	21.30	10.20	84.4	47	84.4	92.8
ALIOTTI BROS	D685870	1985	67.60	26.00	9.10	107.2	48	107.2	117.9
LADY J	D647528	1982	50.30	17.00	7.10	40.7	49	40.7	44.8
SEABOUND[4]	AK9671AF	---	---	---	---	67.8	50	50.2	55.2
ENDEAVOR	D971540	1990	57.40	19.00	9.90	72.3	51	72.3	79.5

TABLE 2-3. 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 2 of 2)

Vessel Name	Coast Guard Number	Year Built	Registered Measurements (ft)[1/]			Calculated Vessel GT[2/]	Permit No.	Permit GT Endorsement	Permit Transfer Allowance
			Length	Breadth	Depth				
ANTOINETTE W	D606156	1978	45.40	16.00	7.60	7.0	52	37.0	40.7
CAPE BLANCO	D648720	1982	73.20	25.00	12.90	158.2	53	158.2	174.0
OCEAN ANGEL III	OR108ADL	---	---	---	---	70.67	54	126.5	139.2
UNASSOCIATED	---	---	---	---	---	---	55	40.4	44.4
KATHY JEANNE	D507798	1967	65.90	22.20	8.80	86.3	56	86.3	94.4
MERVA W	D532023	1971	56.70	17.90	8.00	54.4	57	54.4	59.8
SANTA MARIA	D236806	1937	79.20	19.50	8.80	91.1	58	91.1	100.2
STIKINE	D602429	---	58.00	19.00	10.10	74.6	59	74.5	82.0
MIDNIGHT HOUR	D276920	1958	61.10	18.00	8.60	63.4	60	63.4	69.7
ST. KATHERINE	D542513	1972	56.40	18.00	8.80	59.9	61	59.9	65.9
SEABOUND	---	---	---	---	---	---	62	39.7	43.7
EMERALD SEA	D626289	1980	62.70	26.00	7.90	86.3	63	86.3	94.9
SEABOUND[/4]	AK9671AF	---	---	---	---	67.8	64	54.5	60.0
BOUNTY	D629721	1980	40.90	14.70	6.60	26.4	65	26.4	29.0

/1 Vessel dimension information was obtained from the Coast Guard Website at: http://psix.uscg.mil/.
/2 Vessel Gross Tonnage GT=0.67(Length*Breadth*Depth)/100. See 46 CFR 69.209.
/3 Maximum transfer allowance is based on permit GT + 10%.
/4 Vessel Seabound is associated with permits 50 and 64

TABLE 2-4. Vessel age and calculated gross tonnage (GT) for the initial and current Federal limited entry fleet.

	Initial Fleet	Current Fleet
Number of Vessels	65	58
Average Vessel Age	35 years	33 years
Range of Ages	12 to 66 years	2 to 68 years
Average GT	71.3	89.7
Range of GT	12.8 to 206.9	7.0 to 340.2
Sum of Fleet GT	4,635.9	5,162
Capacity Goal (GT)[1/]	---	5,650.9
Transferability Trigger	---	5,933.5

1/ Established in Amendment 10 to the CPS FMP.

TABLE 2-5. Oregon state limited entry sardine permit vessels landing sardine in 2009.

Vessel Name	Documentation Number	Year Built	Registered Measurements (ft)[1/]			Calculated Vessel GT [2/]
			Length	Breadth	Depth	
ANTHONY G	605599	1979	58	24	8	74.6
PACIFIC PURSUIT	OR873ABY	1993	63	---	---	---
D C COLE	566145	1975	49.6	19	10.1	63.8
DARLENE Z	611694	1979	49.6	19	10.1	63.8
PACIFIC JOURNEY[3/, 4/]	OR661ZK	1996	71	22	10	104.7
LAUREN L KAPP	OR072ACX	---	72	---	---	---
EVERMORE	248555	1944	76.3	22.2	11.4	129.4
PACIFIC RAIDER[4/]	972638	1991	57.7	22.7	11	96.5
PACIFIC KNIGHT	OR155ABZ	1978	62	19.6	7.6	61.9
OCEAN DREAM	621541	1980	58	19	10.2	94
CRYSTAL SEA[3/]	1061917	1997	66	26	12	138.0
SUNRISE	238918	1939	80.2	22.2	10.2	121.7
DELTA DAWN[4/]	647246	1982	49.6	19	10.1	63.8
SPARTAN[4/]	607367	1979	58	19	10.1	74.6
HARBOR GEM	974306	1982	58	19.5	10	75
PACIFIC LEADER[3/]	643138	1981	59.5	21	9.2	93
PACIFIC PREDATOR	OR018ADR	---	57	---	---	---
LADY LAW	1131965	2002	74.7	25	13.3	166.4
OCEAN ANGEL II[3/]	622522	1980	74.5	28	10.7	149.5
SEA VENTURE	WN4232NW	---	73	---	---	---

1/ Vessel dimension information was obtained from NOAA at www.st.nmfs.noaa.gov/st1/CoastGuard/VesselByName.html.
2/ Vessel Gross Tonnage GT=0.67(Length*Breadth*Depth)/100 (The CPSMT is working on discrepancies between Tables 2-3 through 2-6.).
3/ Vessel also held a federal CPS permit.
4/ Vessel also held a Washington sardine permit.

TABLE 2-6. Washington limited entry sardine licenses in 2009. [1/]

Vessel Name	Coast Guard Number	Year Built	Registered Measurements (ft)[2/]			Calculated Vessel GT [3/]
			Length	Breadth	Depth	
ATLANTIS [5/]	649333	1982	49.6	19.0	10.1	63.8
BAINBRIDGE [5/]	236505	1937	78.6	22.7	9.6	114.8
CAPE CAUTION	606699	1979	49.6	19.0	10.1	63.8
DELTA DAWN [4/]	647246	1982	49.6	19.0	10.1	63.8
HEAVY DUTY [5/]	655523	1983	58.0	21.3	10.2	84.4
HUSTLER	943301	1989	55.0	17.0	8.2	51.4
MARAUDER	975597	1991	58.0	22.8	10.5	93.0
	OR761ABL	2004	25.7			0.0
PACIFIC JOUNEY[4/ 5/]	OR661ZK	2001	64.3	22.0	10.3	97.7
PACIFIC LEADER [4/ 5/]	643138	1981	59.5	21.0	9.2	77.0
PACIFIC RAIDER[4/]	972638	1991	57.7	22.7	11.0	96.5
	OR108ADL	1980	68.0			
SPARTAN [4/]	607367	1979	58.0	19.0	10.1	74.6
ST. TERESA[4/]	623983	1980	49.0	18.5	8.5	51.6
ST. ZITA	648115	1982	49.6	21.5	10.5	75.0
VOYAGER	248217	1945	66.7	20.2	9.3	84.0

1/ WA legislation in 2009 converted Emerging Commercial Fishery Permits (non-transferable) to Limited Entry Licenses (transferable).
2/ Vessel dimension information was obtained from NOAA at www.st.nmfs.noaa.gov/st1/CoastGuard/VesselByName.html.
3/ Vessel Gross Tonnage GT=0.67(Length*Breadth*Depth)/100 (The CPSMT is working on discrepancies between Tables 2-3 through 2-6).
4/ Vessel also licensed in the Oregon limited entry sardine fishery.
5/ Vessel also held a federal CPS permit.

TABLE 6-1. Preliminary catch summary for vessels targeting Pacific sardine from NMFS-SWR coastal pelagic species pilot observer program, 2004-2008. (Page 1 of 2).

Target species - Pacific sardine					
Species	**Target Catch**	**Incidental Catch**	**Bycatch Returned**		
			Alive	**Dead**	**Unknown**
Sardine	1495 mt		80 mt	100 lbs	100 lbs
Anchovy		9 mt	82	1300 lbs	
Bat Ray		1	143	14	1
Bat Star			5		
CA Barracuda		2	1	3	
CA Halibut		9		4	
Giant Sea Bass			2		
Jacksmelt		1			
Jack Mackerel		2 mt			
Midshipman			1	13	1
Moon Jelly		1			
Pacific Bonito		10 lbs			
Pacific Butterfish		3			
Pacific Electric Ray			2		
Pacific Mackerel		1 mt	100 lbs		
Pacific Tomcod		1			
Pompano		167			
Queenfish		49			
Sanddab			25 lbs	10 lbs	
Scorpionfish		1			1
Sculpin				1	3
Shovelnose Guitarfish			1		
Spanish Mackerel		100 lbs			
Squid		1 mt	2 mt		
Starry Flounder			2		
Stingray		2			
Thornback Ray			2		
Unid. Crab			1		1
Unid. Croaker		40			
Unid. Flatfish		78	8	130	12
Unid. Jellyfish		3	3		
Unid. Mackerel		8 mt	12 mt		
Unid. Octopus					2
Unid. Ray					2
Unid. Rockfish		2	1		
Unid. Seastar			41	135	1
Unid. Scorpionfish/Sculpin					1
Unid. Shark				2	
Unid. Skate				3	

TABLE 6-1 (continued). Preliminary catch summary for vessels targeting Pacific sardine from NMFS-SWR coastal pelagic species pilot observer program, 2004-2008. (Page 2 of 2).

Target species - Pacific sardine					
Species	**Target Catch**	**Incidental Catch**	**Bycatch Returned**		
			Alive	**Dead**	**Unknown**
Unid. Smelt		2			
Unid. Surf Perch		1			
Unid. Turbot				60	
White Croaker		31 lbs	50 lbs		
Yellowfin Croaker		10 lbs			
CA Sea Lion			49		
Harbor Seal			1		
Unid. Gull			3	2	4

TABLE 6-2. Preliminary catch summary for vessels targeting market squid from NMFS-SWR coastal pelagic species pilot observer program, 2004-2008.

Target species - Squid					
Species	**Target Catch**	**Incidental Catch**	**Bycatch Returned**		
			Alive	**Dead**	**Unknown**
Squid	1274 mt		28 mt	350 lbs	2 mt
Anchovy		100 lbs	120 lbs		
Jack Mackerel		2 mt	18 lbs	2 lbs	
Pacific Mackerel		20 mt	20 mt	180 lbs	1 lb
Sardine		12 mt	13 mt	1077 lbs	3 lbs
Spanish Mackerel		20 lbs			
Bat Ray			53		1
Bat Star			1		
Blue Shark			2		
Common Mola			1		
Pelagic Stingray			60		
Pacific Butterfish		19			1
Sunstar		30	4		
Squid Eggs					505 lbs
Lobster			3		
Brittle Star				3000	
Unid. Batfish				2 lbs	
Unid. Crab		1	1		93
Unid. Croaker		3	2	16 lbs	
Unid. Flatfish		1	1	6	2
Unid. Jellyfish		4			
Unid. Mackerel		2 lbs	102 lbs		
Unid. Octopus		1			
Unid. Rockfish		1	1	4	
Unid. Ray			4		1
Unid. Sanddab		4	3		4
Unid. Seastar		1			
Unid. Seaslug					21
Unid. Scorpionfish		1			
Unid. Surfperch				3	
Unid. Skate		3		1	
Unid. Smelt		49			
Unid. Stingray		9	17		
Unid. Shark					1
Thresher Shark		1			
CA Sea Lion			98		
Harbor Seal			3		
Common Dolphin				1	
Unid. Gull			16	1	

TABLE 6-3. Preliminary catch summary for vessels targeting Pacific mackerel from NMFS-SWR coastal pelagic species pilot observer program, 2004-2008.

Target species - Pacific mackerel					
Species	**Target Catch**	**Incidental Catch**	**Bycatch Returned**		
			Alive	**Dead**	**Unknown**
Pacific Mackerel	40 mt				
Bat Ray			2		
CA Yellowtail			1		
Midshipman			1		
Sardine		16 mt			
Sea Cucumber		5			
Unid. Crab		1			
Unid. Flatfish			3		
Unid. Jellyfish			3		
Unid. Shark			1		

TABLE 6-4. Preliminary catch summary for vessels targeting northern anchovy and northern anchovy/Pacific sardine from NMFS-SWR coastal pelagic species pilot observer program, 2004-2008.

Target species - Anchovy and Anchovy/Sardine					
Species	**Target Catch**	**Incidental Catch**	**Bycatch Returned**		
			Alive	**Dead**	**Unknown**
Anchovy	373 mt		2 mt	1 mt	
Sardine		21 mt	2 mt		
Bat Ray			4		
CA Lizardfish			4		
Kelp Bass		1			
Midshipman					5
Pacific Bonito			20 lbs		
Pacific Mackerel		2			
Queenfish		50 lbs	11 lbs		
Round Stingray			1		
Sculpin		2			
Spiny Dogfish			1		
Unid. Croaker		20	45		
Unid. Flatfish		10			
Unid. Hake		4			
Unid. Seastar			1		
Unid. Smelt		2			
Unid. Turbot			1	1	20
White Croaker		50 lbs	35 lbs		
Yellowfin Croaker		50 lbs	10 lbs		
CA Sea Lion			5		
Sea Otter			1		

TABLE 6-5. Percent frequency of incidental catch in observed Pacific sardine and mackerel landings, by port, 2005-2009. (Page 1 of 4). *Includes Santa Barbara port complex. **Added to table beginning in 2007.

	All Ports Combined					San Pedro/Terminal Island					Monterey/Moss Landing				
Common Name	2005	2006	2007*	2008	2009	2005	2006	2007*	2008	2009	2005	2006	2007	2008	2009
Finfish															
Anchovy, northern	6.1	9.2	5.6	5.4	7.8	5.8	3.5	1.7	4.9	6.3	18.2	24	10.8	6.4	8.4
Barracuda, California	0.4	0.4	0.9	0.2	0.8	0.4	0.3	0.8	0.4	0.9		0.4	0.9		0.8
Bass, barred sand	1.1	0.6	0.6			1.2	0.9	1.0							
Bass, kelp	1.1	0.7		0.5	0.6	1.2	1		0.8	1.8					
Bass, striped				0.2					0.4						
Blacksmith		0.1	0.2				0.2	0.3							
Bonito, Pacific		2.1	0.7	0.5	1.4		2.9	1.3	0.8	4.5					
Butterfish, Pacific	5.5	6	2.8	1.2	0.8	5.2	6.4	3.2	1.9	1.8	18.2	4.9	2.2		0.4
Cabezon		0.1										0.4			
Combfish, longspine		0.7	0.3	1.0			1	0.1	1.5				0.6		
Corbina, California		0.5	0.6				0.7	1.0							
Croaker, unspecified				0.5	0.3				0.8	0.9					
Croaker, white	0.2	5.8	4.3	1.7	5.0	0.2	6.4	5.1	1.5	0.9		4.4	3.2	2.1	6.8
Croaker, yellowfin			0.2		0.3			0.4		0.9					
Cusk-eel, basketweave				0.2					0.4						
Cusk-eel, spotted		0.9	0.5				0.9	0.4				0.9	0.6		
Cusk-eel, unspecified	4.7	2.1	0.5			4.8	2.9	0.8							
Eel, unspecified				0.2					0.4						
Fish, unspecified			0.3	0.7	0.6			0.4	1.1				0.2		0.8
Flatfish, unspecified	0.2	0.6	2.2	1.7	1.1	0.2	0.7	3.4	2.7	2.7		0.4	0.7		0.4
Flounder, starry		0.5	0.6	1.0	0.8							1.8	1.5	2.8	1.2
Flounder, unidentified				0.2					0.4						
Flyingfish	0.6				0.6	0.6				1.8					
Greenling, kelp			0.1										0.2		
Grunion, California		0.1		0.2			0.2		0.4						
Hagfish			0.1					0.1							
Halfmoon		0.1										0.4			
Halibut, California	7.6	2.5	3.7	4.0	2.8	7.7	3.3	5.9	5.7	2.7		0.4	0.7	0.7	2.8
Herring, Pacific		0.1	0.2	0.5	0.8							0.4	0.6	1.4	1.2
Jacksmelt	1.5	1.9	2.2	0.7	3.9	1	0.9	2.4	0.4		27.3	4.4	2.0	1.4	5.6
Kelpfish, giant		0.1	0.2				0.2	0.3							
Lingcod			0.1	0.2	0.3								0.2	0.7	0.4
Lizardfish, California	5.7	2.1	1.5	1.5	0.3	5.8	2.9	2.7	2.3	0.9					
Mackerel, jack**			2.5	3.5	4.4			0.7	1.5	11.6			4.8	7.1	1.2
Midshipman, plainfin		1.6	1.8	1.5	0.3		1.7	2.0	0.8	0.9		1.3	1.7	2.8	
Midshipman, specklefin		1.6	0.6	1.2			2.2	1.1	1.9						
Midshipman, unspecified	0.6					0.6									
Opaleye				0.5					0.8						
Perch-like, unspecified				0.2					0.4						
Pipefish, bay			0.2					0.1					0.2		
Pipefish, kelp	0.6	0.1		0.2		0.6	0.2		0.4						
Poacher, unspecified		0.1					0.2								
Pollock, walleye				1.0					1.5						
Queenfish		3.1	0.8	2.2	0.6		4.3	1.4	3.4	1.8					
Rockfish, chilipepper		0.1										0.4			

TABLE 6-5. Percent frequency of incidental catch in observed Pacific sardine and mackerel landings, by port, 2005-2009. (Page 2 of 4). *Includes Santa Barbara port complex. **Added to table beginning in 2007.

	All Ports Combined					San Pedro/Terminal Island					Monterey/Moss Landing				
Common Name	2005	2006	2007*	2008	2009	2005	2006	2007*	2008	2009	2005	2006	2007	2008	2009
Finfish															
Rockfish, unspecified			0.5		0.6			0.8		1.8					
Salema		0.1			0.6		0.2			1.8					
Salmon, chinook			0.1										0.2		
Sanddab, longfin		0.2	0.1	0.2			0.3	0.1	0.4						
Sanddab, Pacific		1.4	3.4	2.2	6.1		1.9	1.1	0.8				6.3	5.0	8.8
Sanddab, speckled		0.1	0.7	1.2			0.2	0.4	0.0				1.1	3.5	
Sanddab, unspecified	2.1	2.6	0.9	0.2		1.9	1.4	1.0			9.1	5.8	0.7	0.7	
Scorpionfish, California	8.7	3.4	2.5	3.5	2.2	8.9	4.7	4.4	5.3	7.1					
Sculpin, pithead	0.2	0.1				0.2	0.2								
Sculpin, roughback			0.1										0.2		
Sculpin, staghorn		0.1	0.4		1.7			0.1				0.4	0.7		2.4
Sculpin, unspecified		0.2		1.2	0.3		0.3		1.9	0.9					
Sculpin, yellowchin					0.3					0.9					
Seabass, giant (black)		0.1					0.2								
Shad, American		0.9	0.8	0.2	0.3							3.1	1.9	0.7	0.4
Sheephead, California		0.1					0.2								
Silversides		0.5	0.1		0.3		0.7	0.1		0.9					
Smelt, surf			0.2										0.4		
Smelt, true			0.1	0.2	0.3			0.1		0.9				0.7	
Snapper, Mexican			0.1					0.1							
Sole, C-O		0.6	0.2				0.3	0.1				1.3	0.2		
Sole, English		0.2	1.3	0.7	1.7			0.3				0.9	2.6	2.1	2.4
Sole, fantail			0.2	0.5				0.3	0.8						
Sole, petrale			0.2										0.6		
Sole. Rock			0.1										0.2		
Sole, sand		0.5	0.2	1.0	2.5				0.0			1.8	0.4	2.8	3.6
Sole, slender		0.1					0.2								
Sole, unspecified		0.2	0.1									0.9	0.2		
Sunfish, ocean		0.1										0.4			
Surfperch, barred		0.1										0.4			
Surfperch, black		0.1	0.1				0.2						0.2		
Surfperch, kelp			0.1										0.2		
Surfperch, pink		1.1	0.5	1.0			0.9	0.4	0.8				0.6	1.4	
Surfperch, rainbow			0.1										0.2		
Surfperch, rubberlip		0.1			0.3		0.2					1.8			0.4
Surfperch, shiner		0.9	0.5	0.2			1	0.7	0.0			0.4	0.2	0.7	
Surfperch, unspecified		0.4	0.4	0.2			0.3	0.7	0.4			0.4			
Surfperch, walleye			0.2					0.3							
Surfperch, white		0.1					0.2								
Tonguefish	1.9	1.4	0.9	0.5		1.9	1.7	1.1	0.8			0.4	0.6		
Topsmelt			0.4	0.2	0.6			0.7	0.4	1.8					
Turbot, curlfin		0.1	0.2		0.3		0.2	0.1					0.2		0.4
Turbot, diamond		0.2	0.6	1.0			0.3	1.0	1.5						
Turbot, hornyhead	6.1	2.9	2.6	2.5	0.8	6.2	3.6	3.7	3.4	1.8			1.3	0.7	0.4

TABLE 6-5. Percent frequency of incidental catch in observed Pacific sardine and mackerel landings, by port, 2005-2009. (Page 3 of 4). *Includes Santa Barbara port complex. **Added to table beginning in 2007.

	All Ports Combined					San Pedro/Terminal Island					Monterey/Moss Landing				
2005	2006	2007*	2008	2009	2005	2006	2007*	2008	2009	2005	2006	2007	2008	2009	
Finfish															
Turbot, spotted		0.6	0.1					0.1							
Turbot, unspecified	1.1	1		0.2		1.2	1.4		0.4						
Whiting, Pacific		0.1	1.0	0.2								0.4	2.2	0.7	
Total % Freq. Incidents	56	64.4	53.8	50.7	51.8	55.6	64.7	54.9	54.0	58.0	72.8	62.9	52.3	44.7	49.0
Elasmobranchs															
Guitarfish, shovelnose	1.5	0.2	0.6	0.7		1.5	0.3	1.1	1.1						
Ratfish, spotted		0.1	0.3	0.7			0.2	0.1	0.8				0.6	0.7	
Ray, Bat	6.3	3	3.3	3.0	2.2	6.4	3.6	5.2	4.6	4.5		1.3	0.7		1.2
Ray, California butterfly	0.2					0.2									
Ray, Pacific electric		1.2	3.3	3.7	3.0		0.9	0.3	0.8	1.8		2.2	7.3	9.2	3.6
Ray, Unspecified			0.2	0.2	0.6			0.4	0.4	0.9					0.4
Shark, brown smoothhound		0.1	0.4	0.2			0.2	0.7	0.4						
Shark, gray smoothhound		0.2	0.3				0.3	0.6							
Shark, horn		0.6	0.2	0.2	0.3		0.9	0.4	0.4	0.9					
Shark, leopard			0.2					0.1					0.2		
Shark, Pacific angel		0.2	0.2				0.3	0.3							
Shark, pelagic thresher				0.2					0.4						
Shark, smooth hammerhead				0.2					0.4						
Shark, spiny dogfish		0.1	0.7	0.5					0.0			0.4	1.7	1.4	
Shark, Unspecified			0.1	0.2				0.1	0.4						
Skate, Big		0.6	0.8	0.7			0.2	0.3	0.4			1.8	1.5	1.4	
Skate, California		0.5	0.3	0.5	0.3		0.7	0.1	0.8	0.9			0.6	0.0	
Skate, longnose															
Skate, thornback	3.6	1.6	1.8	0.7	2.2	3.7	1.9	3.1	1.1	3.6			0.2		1.6
Skate, Unspecified		0.1					0.2								
Stingray, round	1.5	0.2	0.9	0.7	0.3	1.5	0.3	1.4	1.1	0.9			0.4		
Total % Freq. Incidents	13.1	8.7	13.8	12.9	8.9	13.3	10	14.4	12.9	13.4		5.7	13.1	12.8	6.8
Invertebrates and Plants															
Algae, marine		1.2	0.1	0.2	0.8				0.4			1.2	0.2		1.2
Bryozoans		0.1	0.1									0.1	0.2		
Crab shells		0.3					0.3					0.4			
Crab, box		0.1	0.3				0.2	0.6				0.1			
Crab, decorator		0.2		0.2					0.0			0.2		0.7	
Crab, Dungeness		0.1	0.2	0.2	4.7				0.4			0.1	0.4		6.8
Crab, globe			0.3					0.6							
Crab, rock unspecified	0.2	0.2	1.5		0.3	0.2	0.3	2.4		0.9		0.2	0.4		
Crab, sheep		0.1	0.2				0.2	0.3				0.1			
Crab, slender			0.2	0.7					0.4				0.6	1.4	
Crab, Spider					0.3					0.9					
Crab, swimming		0.3	0.2		0.3		0.5	0.3		0.9		0.4			
Crab, unspecified		0.5	0.3	0.2	0.3		0.7	0.4	0.4	0.9		0.5	0.2		
Eelgrass	1.5	2	0.6			1.5	1.4	0.7				2.1	0.4		

TABLE 6-5. Percent frequency of incidental catch in observed Pacific sardine and mackerel landings, by port, 2005-2009. (Page 4 of 4). *Includes Santa Barbara port complex. **Added to table beginning in 2007.

	All Ports Combined					San Pedro/Terminal Island					Monterey/Moss Landing				
2005	2006	2007*	2008	2009	2005	2006	2007*	2008	2009	2005	2006	2007	2008	2009	
Invertebrates and Plants															
Gorgonians		0.6					0.9					0.6			
Invertebrate, unspecified				0.2					0.4						
Jellies	2.3	0.2	3.5	6.7	6.6	2.3	0.3	0.1	0.4			0.2	7.8	18.4	9.6
Kelp	15	10.4	10.6	13.9	10.2	14.9	10.4	11.8	16.7	15.2	18.2	11.2	8.9	8.5	8.0
Kelp, feather boa		0.3	0.2	1.2	1.1			0.4	1.5	1.8		0.4		0.7	0.8
Lobster, California spiny			0.2		0.3			0.4		0.9		0.9			
Nudibranch			0.1										0.2		
Octopus, unspecified		0.8	0.5	0.5	0.3		1	0.8	0.8			0.1			0.4
Pleurobranch												0.5			
Prawn, ridgeback			0.2					0.3							
Prawn, spot		0.1		0.2	0.3		0.2		0.4			1.7			0.4
Salps	0.2		0.1			0.2	0.7	0.1				0.1			
Sea cucumber	0.6	0.5	0.6	0.7	0.3	0.6		1.1	1.1	0.9		0.1			
Sea pansies	0.2		0.1			0.2	1.2					4.2	0.2		
Sea star	0.8	1.6	1.6	1.7	4.4	0.8		1.6	1.5	0.9			1.7	2.1	6.0
Shrimp, black-spotted bay	0.2		0.6	0.5	2.8	0.2			0.0				1.5	1.4	4.0
Shrimp, unspecified		7.6	1.8	1.0			0.2	3.2	1.5						
Snail, top			0.1					0.1							
Snail, Unspecified			0.2	0.2				0.3	0.4						
Sponge, unspecified		0.1		0.2			0.2							0.7	
Squid, jumbo			0.1					0.1							
Squid, market	10.2	3.9	5.9	6.2	5.5	10.3	5.9	4.8	6.1	5.4	9.1		7.3	6.4	5.6
Squid, market (Egg Cases)			0.1										0.2		
Surfgrass			2.0	0.2									4.7	0.7	
Tunicates			0.2					0.1					0.2		
Turkish Towel				0.5	0.8									1.4	1.2
Total % Freq. Incidents	31.2	31.2	32.5	35.9	39.3	31.2	24.6	30.7	32.3	28.6	27.3	25.4	34.9	42.6	44.2
Total All Incidents	528	804	1,246	404	360	517	579	709	263	112	11	225	537	141	249
Total Observed Landings	199	266	253	148	97	199	172	142	106	55	25	94	111	42	42

TABLE 6-6. Market squid incidental catch for CPS finfish for 2005 - 2009. Incidental catch includes species landed with market squid and recorded on landing receipts (round haul gear).

	2005		2006		2007		2008		2009	
Species name	**Number of Landings**	**Metric Tons**	**Number of Landings**	**Metric Tons**	**Number of Landings**	**Metric Tons**	**Number of Landings**	**Metric Tons**	**Number of Landings**	**Metric Tons**
Anchovy, northern	31	1,042.9	19	122.3	38	89.7	28	84.4	12	20.4
Bonito	1	1.3	3	3.3			8	1.9	1	1.0
Mackerel, jack	19	21.0	28	45.6	36	47.1	64	68.0	57	76.7
Mackerel, Pacific	187	571.5	169	360.3	127	351.9	146	442.3	238	564.2
Sardine, Pacific	179	1,076.9	184	534.6	287	1,596.7	305	1,826.1	317	450.8

TABLE 6-7. Percent frequency of bycatch in observed loads of California market squid by port, 2005-2009 (Page 1 of 3).

	Total All Ports					San Pedro					Santa Barbara/Ventura					Monterey/Moss Landing				
Common Name	**2005**	**2006**	**2007**	**2008**	**2009**	**2005**	**2006**	**2007**	**2008**	**2009**	**2005**	**2006**	**2007**	**2008**	**2009**	**2005**	**2006**	**2007**	**2008**	**2009**
Finfish																				
Anchovy, northern	5.7	5.1	7.6	2.2	1.6	5.9	5.0	2.9	2.1	1.2	3.8	7.8	9.1	2.6		6.5	3.2	11.1		11.1
Baracuda, California	0.3	1.3		1.1			0.8		1.4			3.9				0.7				
Bass, kelp		0.4		0.6			0.8		0.7											
Blacksmith		0.4					0.8													
Bonito, Pacific		0.4	0.4	0.6					0.7			2.0	0.5							
Butterfish, Pacific	0.5	2.6				0.7	4.2					2.0				0.7				
Combfish, longspine																				
Croaker, white			0.4					1.5												
Eel, wolf																				
Fish, unspecified					0.5										4.8					
Flatfish, unspecified		0.4		1.1	0.5				1.4	0.6							1.6			
Flounder, starry				0.6					0.7											
Flyingfish				0.6	1.6				0.7	1.9										
Halibut, California				1.7					2.1											
Herring, Pacific	0.5															1.3				
Jacksmelt	3.1	0.4	0.4			0.7							0.5			7.2	1.6			
Lizardfish, California																				
Mackerel, jack	6.5	12.4	6.2	8.8	5.7	10.5	15.0	4.4	11.2	4.9		2.0	6.5		14.3	5.9	15.9	11.1		
Mackerel, Pacific	21.0	18.8	17.4	13.3	19.3	25.7	17.5	20.6	13.3	19.1	41.3	33.3	17.1	13.2	23.8	5.9	9.5			11.1
Mackerel, unspecified			1.5										2.0							
Midshipman, plainfin					0.5					0.6										
Midshipman, specklefin		0.4	1.1	0.6			0.8	2.9	0.7				0.5							
Midshipman, unspecified	0.5			0.6	0.5				0.7	0.6	1.3					0.7				
Poacher , unspecified			0.4					1.5												
Rockfish, blue	0.3		0.4			0.7							0.5							
Rockfish, chilipepper	0.3															0.7				
Rockfish, unspecified				0.6					0.7											
Salmon, Chinook		0.4															1.6			
Sanddab, longfin																				
Sanddab, Pacific	2.1	1.3	1.8			1.3	0.8	1.5			1.3		1.5			3.3	3.2	11.1		

TABLE 6-7. Percent frequency of bycatch in observed loads of California market squid by port, 2005-2009 (Page 2 of 3).

	Total All Ports					San Pedro					Santa Barbara/Ventura					Monterey/Moss Landing				
Common Name	**2005**	**2006**	**2007**	**2008**	**2009**	**2005**	**2006**	**2007**	**2008**	**2009**	**2005**	**2006**	**2007**	**2008**	**2009**	**2005**	**2006**	**2007**	**2008**	**2009**
Finfish																				
Sanddab, speckled				0.6					0.7											
Sanddab, unspecified	0.5		0.4	1.7					0.7				0.5	5.3		1.3				
Sardine, Pacific	21.6	22.2	26.8	23.2	29.7	23.7	26.7	27.9	18.2	30.2	25.0	33.3	27.1	42.1	38.1	17.6	4.8	11.1		
Scorpionfish, California	0.8		1.8	0.6	1.6	2.0		4.4	0.7	1.9			1.0							
Sculpin, pithead			0.4					1.5												
Sculpin, staghorn	0.3		0.4	0.6		0.7			0.7				0.5							
Sculpin, unspecified				0.6					0.7											
Silversides	0.3				0.5	0.7														11.1
Sunfish, ocean		0.4										2.0								
Surfperch, shiner		0.4					0.8													
Topsmelt	0.3				0.5					0.6	1.3									
Turbot, hornyhead	0.3		0.4	0.6				1.5	0.7							0.7		11.1		
Turbot, spotted				0.6					0.7											
Turbot, unspecified	0.3				0.5					0.6						0.7				
Whitefish, ocean			0.4										0.5							
Total % Freq. Incidents	**65.2**	**67.3**	**68.2**	**60.2**	**63.0**	**72.6**	**73.2**	**70.6**	**59.4**	**62.3**	**74.0**	**86.3**	**67.8**	**63.2**	**81.0**	**53.2**	**41.4**	**55.5**	**0.0**	**33.3**
Elasmobranchs																				
Ray, bat	2.1	1.3	1.8		1.0	3.3	0.8			1.2	3.8	3.9	2.5							
Ray, Pacific electric	3.9	0.4			0.5					0.6						9.8	1.6			
Ray, unspecified				1.1					1.4											
Shark, horn	0.3		0.7			0.7		1.5					0.5							
Shark, unspecified		0.4															1.6			
Skate, Long nosed				0.6					0.7											
Skate, unspecified	0.3															0.7				
Stingray, round					0.5					0.6										
Total % Freq. Incidents	**6.6**	**2.1**	**2.5**	**1.7**	**2.1**	**4.0**	**0.8**	**1.5**	**2.1**	**2.5**	**3.8**	**3.9**	**3.0**	**0.0**	**0.0**	**10.5**	**3.2**	**0.0**	**0.0**	**0.0**
Plants and Invertebrates																				
Algae, marine		0.9	0.4	0.6	0.5				0.7									11.1		11.1
Cnideria (Sea Anenomes)		0.4															1.6			

TABLE 6-7. Percent frequency of bycatch in observed loads of California market squid by port, 2005-2009 (Page 3 of 3).

	Total All Ports					San Pedro					Santa Barbara/Ventura					Monterey/Moss Landing				
Common Name	**2005**	**2006**	**2007**	**2008**	**2009**	**2005**	**2006**	**2007**	**2008**	**2009**	**2005**	**2006**	**2007**	**2008**	**2009**	**2005**	**2006**	**2007**	**2008**	**2009**
Plants and Invertebrates																				
Crab, box				0.6					0.7											
Crab, Dungeness					0.5															11.1
Crab, sheep	0.3		0.7			0.7							1.0							
Crab, slender			0.4	0.7									0.5							
Crab, swimming			0.4										0.5							
Crab, rock unspecified	0.3		1.1	1.1	0.5	0.7			0.7	0.6			1.5	2.6						
Crab, shore				1.1					0.7					2.6						
Crab, unidentified				0.6	0.5				0.7	0.6										
Eelgrass	0.8	0.9	0.7	1.1	3.1	2.0	1.7		1.4	3.7			0.5							
Gorgonians		0.4					0.8													
Grass, turtle			0.7		0.5					0.6			0.5					11.1		
Jellies	2.6	0.4			1.0						1.3					5.9	1.6			22.2
Kelp	17.4	16.7	20.7	18.8	18.8	18.4	15.0	22.1	18.2	19.8	13.8	7.8	20.1	21.1	14.3	18.3	27.0	22.2		11.1
Kelp, Feather boa				2.2	1.6				2.8	1.9										
Lobster, California spiny	0.3		0.4		0.5	0.7				0.6			0.5							
Salps																				
Sea cucumber			0.4	1.1					1.4				0.5							
Sea cucumber, warty			0.4					1.5												
Sea hare				0.6	0.5				0.7	0.6										
Sea slug				0.6										2.6						
Sea star	0.5	1.3	1.1	2.2	1.6	1.3	0.8	1.5	1.4	1.2			1.1	5.3			3.2			11.1
Squid, jumbo	4.9	0.4					0.8				7.5					8.5				
Squid, market, egg cases	1.6	8.5	1.1	7.2	5.2		5.8		8.4	5.6		2.0	1.5	2.6	4.8	3.9	19.0			
Urchin, purple			0.4										0.5							
Total % Freq. Incidents	**28.7**	**29.9**	**28.9**	**38.3**	**34.9**	**23.8**	**24.9**	**25.1**	**37.8**	**35.2**	**22.6**	**9.8**	**28.7**	**36.8**	**19.0**	**36.6**	**52.4**	**44.4**	**0.0**	**66.7**
Total All Incidents	**384**	**234**	**276**	**181**	**192**	**152**	**120**	**68**	**143**	**162**	**79**	**51**	**199**	**38**	**21**	**153**	**63**	**9**	**0**	**9**
Total Observed Landings	**178**	**136**	**114**	**86**	**130**	**100**	**73**	**61**	**67**	**104**	**42**	**37**	**51**	**19**	**22**	**36**	**26**	**2**	**0**	**4**

TABLE 6-8. Expanded salmonid bycatch in Pacific sardine fisheries in Oregon and Washington, 2000-2009.

	Chinook (live)	Chinook (dead)	Coho (live)	Coho (dead)	Pink (live)	Unid (live)	Unid (dead)	Total (live)	Total (dead)	Grand Total
2009								126	115	241
Oregon[2/]										
Washington[3/]	56	186	34	212						488
2008										
Oregon[2/]								123	75	198
Washington[3/]	45	149	27	170						391
2007										
Oregon[2/]								349	170	519
Washington[3/]	33	108	20	124				53	232	285
2006										
Oregon[2/]								164	93	257
Washington[3/]	31	101	19	116				50	217	267
2005										
Oregon[2/]								411	176	587
Washington[3/]	47	156	29	178				76	334	410
2004										
Oregon[2/]								518	305	823
Washington	35	225	19	105	0	39	0	93	330	423
2003										
Oregon[2/]								315	185	500
Washington	92	262	81	231	0	173	0	346	493	839
2002										
Oregon[2/]								199	81	280
Washington	150	356	61	765	0	200	0	411	1211	1532
2001										
Oregon[1/]	45	45	201	134	22	45	0	313	179	492
Washington	449	170	571	504	0	80	0	1100	674	1774
2000										
Oregon[1/]	43	72	159	43	0	303	43	505	158	663
Washington	38	3	276	116	0	7	0	321	119	440

1/ Oregon salmon bycatch data 2000-2001 are expanded from a bycatch rate of salmon/trip based on vessel observation program.
2/ Oregon salmon bycatch data 2002-2008 are from logbooks.
3/ 2005 Washington totals calculated from observed 2000-2004 observed bycatch rates.

TABLE 6-9. Reported logbook and observed catches of non-target species caught in Oregon sardine fishery, 2006-2009.

Species	2006 Logbook data	2007 Logbook data	2008 Logbook data	2009 Logbook data
Blue shark	3	0	1	
Thresher shark	2	3 (2 of 3 released alive)	0	
unknown shark	1	5	0	
Salmonids	257 (55% alive; 45% dead)	519 (67% alive; 33% dead)	198 (62% alive, 38% dead)	248 (53% alive, 47% dead)
Mackerel	292,150 lbs.	473,441 lbs.	59,205 lbs.	30,872 lbs.
Anchovy	1,000 lbs.	500 lbs.	8,300 lbs.	12,045 lbs.
Pacific Herring	0	0	52,200 lbs.	2,000 lbs.
Pacific Hake	250 lbs.	0	525 lbs.	0
Squid	150 lbs.	0	225 lbs.	0
Jelly fish	<100 lbs	0	0	0
Spiny Dogfish	-	-	-	200 lbs.

TABLE 6-10. Recorded incidental catch (mt) in Oregon sardine fishery, 2001-2009 (from fish ticket data).

	2001	2002	2003	2004	2005	2006	2007	2008	2009
Pacific mackerel	52.8	126.3	158.3	161.5	316.1	665	699.7	56.8	49.5
Jack mackerel	1.2	0.3	3.2	24.1	3.6	1.4	8	1.6	2.0
Pacific herring	-	3.3	-	10.3	0.1	1.2	-	55.8	-
Northern anchovy	-	0.2	-	1.0	68.4	8.6	<0.001	2.4	<0.001
American shad	-	0.3	-	1.2	-	0.44	-	0.3	0.003
Pacific hake	-	-	0.1	-	-	0.002	-	0.005	<0.001
Pacific sanddab	-	-	-	-	-	<0.001	0.002	-	-
Dover sole	-	-	-	-	-	-	0.002	-	-
Sablefish	-	-	-	-	-	0.01	-	-	-
Sharks	-	-	0.3	0.3	0.4	0.16	0.14	0.01	1.1
Squid	-	-	-	13.9	-	-	-	-	0.003
Jellyfish	-	-	-	5.5	-	-	-	-	<0.001

Table 6-11. Species noted as encountered on CDFG Live Bait Logs, 1996-2009.

Year	Days Fished	Jack Mackerel	Pacific Mackerel	Barracuda	Herring	Grunion	Smelts (Atherinids)	Shiner Surfperch	White Croaker	Queenfish	Market Squid	Pacific Bonito
2009	848	2	77	6						1		1
2008	891	2	92	7							2	6
2007	970	2	245	22				2	1	1	7	12
2006	940	7	169	3								2
2005	1,045	49	188	27							1	6
2004	1,059	87	214	13						1	1	8
2003	1,123	18	140	23							2	
2002	1,105	9	147	1						1		
2001	1,052	11	176	56		1						
2000	488	25	87	34		1						
1999	449	16	77	7	1		1					
1998	809	8	189	69	1			1				
1997	773	46	190	104				3				
1996	522	10	45	27	3		5					

TABLE 6-12. Estimates of Pacific sardine and Northern anchovy live bait harvest in California. Data for 1939-1992 from Thomson et al. (1994), and 1993-2009 from CDFG live bait logs. Values are in metric tons with the assumption that 1 scoop =12.5 lbs.

Year	Anchovy	Sardine	Year	Anchovy	Sardine
1939	1,364	0	1975	5,577	0
1940	1,820	0	1976	6,202	0
1941	1,435	0	1977	6,410	0
1942	234	0	1978	6,013	107
1943	WII	WII	1979	5,364	0
1944	WII	WII	1980	4,921	12
1945	WII	WII	1981	4,698	6
1946	2,493	0	1982	6,978	38
1947	2,589	0	1983	4,187	193
1948	3,379	0	1984	4,397	53
1949	2,542	0	1985	3,775	11
1950	3,469	0	1986	3,956	17
1951	4,665	0	1987	3,572	216
1952	6,178	0	1988	4,189	50
1953	5,798	0	1989	4,594	100
1954	6,066	0	1990	4,842	543
1955	5,557	0	1991	5,039	272
1956	5,744	0	1992	2,572	1,807
1957	3,729	0	1993	669	176
1958	3,843	0	1994	2,076	1,506
1959	4,297	0	1995	1,278	2,055
1960	4,225	0	1996	703	1,801
1961	5,364	0	1997	1,077	2,344
1962	5,595	0	1998	304	2,037
1963	4,030	0	1999	453	2,411
1964	4,709	0	2000	834	1,270
1965	5,645	0	2001	1,238	1,245
1966	6,144	0	2002	965	1,701
1967	4,898	0	2003	1,085	3,028
1968	6,644	0	2004	192	3,900
1969	4,891	0	2005	1,464	2,949
1970	5,543	0	2006	476	3,629
1971	5,794	0	2006	476	3,629
1972	5,307	0	2007	700	3,358
1973	5,639	0	2008	686	2,943
1974	5,126	0	2009	764	2,663

TABLE 6-13. Ratio of anchovy to sardine in reported live bait catch in California, 1994-2009. Values are in metric tons with the assumption that 1 scoop =12.5 lbs.

Year	Anchovy	Sardine	Total	Proportion Anchovy	Proportion Sardine
2009	764	2,663	3,427	0.22	0.78
2008	686	2,943	3,629	0.19	0.81
2007	700	3,358	4,058	0.17	0.83
2006	476	3,629	4,105	0.12	0.88
2005	1,464	2,949	4,413	0.33	0.67
2004	192	3,900	4,092	0.05	0.95
2003	1,085	3,028	4,113	0.26	0.74
2002	965	1,701	2,666	0.36	0.64
2001	1,238	1,245	2,483	0.5	0.5
2000	834	1,270	2,104	0.4	0.6
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 6-14. Recorded incidental catch (mt) in Washington sardine fishery, 2000-2009 (from fish ticket data).

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Mackerel	4.32	272.44	259.32	52.40	22.34	19.04	40.61	35.73	6.32	4.31
Pacific Herring			0.02						4.69	
Misc				0.34			1.37			2.34
Northern Anchovy						1.81				
American Shad			0.18						<0.01	
Sharks	0.10	0.01							<0.01	<0.01
Chinook		<0.01		<0.01						
Coho	<0.01									
Starry Flounder	<0.01									

Table 9-1. West coast landings (mt) and real[1] exvessel revenues (2009 $) for Pacific sardine, Pacific mackerel[2], jack mackerel, anchovy and market squid, 1981-2009.

Year	Pacific Sard mt	Pacific Sardine Rev	Pacific Mackerel mt	Pacific Mackerel Rev	Jack Mackerel mt	Jack Mackerel Rev	Anchovy mt	Anchovy Rev	Squid mt	Squid Rev
1981	15	$6,343	35,388	$15,305,719	17,778	$7,678,658	52,309	$6,879,773	23,510	$10,672,079
1982	2	$1,066	36,065	$14,388,145	19,617	$7,891,453	42,155	$4,288,223	16,308	$7,082,330
1983	1	$333	41,479	$15,310,646	9,829	$3,415,087	4,430	$795,142	1,824	$1,444,380
1984	1	$1,593	44,086	$15,206,086	9,154	$2,514,350	2,899	$762,323	564	$555,972
1985	6	$2,520	37,772	$11,699,372	6,876	$2,303,134	1,638	$425,291	10,276	$7,066,368
1986	388	$144,193	48,089	$13,574,029	4,777	$1,444,751	1,557	$408,989	21,278	$7,875,669
1987	439	$106,969	46,725	$11,314,091	8,020	$2,023,786	1,467	$524,487	19,984	$6,702,778
1988	1,188	$281,042	50,864	$13,457,965	5,068	$1,303,949	1,518	$683,394	37,316	$12,385,735
1989	837	$308,138	47,713	$11,137,895	10,745	$2,616,705	2,511	$1,101,446	40,974	$11,863,640
1990	1,664	$289,727	40,092	$8,144,903	3,254	$672,990	3,259	$950,480	28,447	$7,190,440
1991	7,587	$1,311,017	32,067	$7,841,611	1,712	$365,069	4,068	$956,239	37,389	$8,915,212
1992	18,056	$2,689,576	19,045	$5,746,398	1,526	$342,545	1,166	$320,876	13,112	$3,505,863
1993	15,347	$2,168,423	12,129	$2,114,733	1,950	$386,407	2,003	$670,623	42,830	$14,409,717
1994	11,644	$2,082,318	10,293	$1,974,549	2,906	$524,020	1,859	$756,526	55,383	$19,708,246
1995	40,256	$4,788,179	8,823	$1,548,471	1,877	$392,828	2,016	$496,276	70,252	$30,046,509
1996	32,553	$4,163,476	9,730	$1,740,080	2,437	$403,239	4,505	$925,283	80,561	$28,881,543
1997	43,290	$5,764,495	20,168	$3,610,507	1,533	$320,843	5,779	$1,053,514	70,329	$26,807,348
1998	43,312	$4,648,324	21,561	$3,259,229	1,777	$491,204	1,584	$314,649	2,895	$2,084,213
1999	60,476	$6,563,156	9,094	$1,383,115	1,557	$252,837	5,311	$1,213,626	92,101	$42,248,984
2000	67,982	$9,014,130	22,058	$3,632,234	1,451	$339,483	11,832	$1,790,143	118,903	$33,731,093
2001	75,801	$11,074,447	7,618	$1,459,726	3,839	$735,529	19,345	$1,735,781	86,203	$20,504,268
2002	96,897	$12,637,893	3,744	$625,684	1,026	$248,313	4,882	$742,757	72,895	$21,760,365
2003	71,923	$8,499,551	4,213	$768,510	231	$85,245	1,929	$398,818	45,056	$29,610,530
2004	89,339	$11,427,202	3,708	$652,136	1,160	$303,015	7,019	$929,177	40,068	$22,435,447
2005	86,464	$11,194,593	3,586	$635,845	294	$239,015	11,414	$1,237,056	55,755	$34,544,765
2006	86,608	$9,876,451	6,610	$936,511	1,174	$211,852	12,960	$1,419,102	49,180	$28,659,011
2007	127,789	$13,701,193	5,759	$877,690	646	$149,925	10,548	$1,176,908	49,475	$30,068,028
2008	87,190	$14,750,661	3,597	$705,195	323	$54,256	14,654	$1,676,640	38,101	$26,768,724
2009	67,050	$12,540,538	5,138	$1,094,679	121	$17,962	3,517	$511,802	92,372	$56,454,823

Source: PacFIN - 2007-2009 data extracted March 16, 2010.

[1]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 2009.
[2]Pacific mackerel landings and revenues also include landings and revenues of unspecified mackerel.

Table 9-2. West coast landings (mt) and real[1] exvessel revenues ($ 2009) for Pacific sardine, Pacific mackerel[2], jack mackerel, anchovy and market squid by fishery sector, 1981-2009.

	Landings (mt)					Exvessel Revenues (2009 $)				
Year	Sardine	P. Mackerel	J. Mackerel	Anchovy	Squid	Sardine	P. Mackerel	J. Mackerel	Anchovy	Squid
Southern California										
1981	14.7	33,971.0	17,558.3	47,269.7	10,684.7	$6,343	$14,807,448	$7,577,234	$6,091,556	$2,477,604
1982	1.8	33,955.4	19,326.2	38,955.4	5,696.4	$981	$13,625,124	$7,774,565	$3,708,983	$1,438,526
1983	0.6	37,826.4	7,345.3	3,629.0	858.2	$310	$14,271,402	$2,802,219	$494,230	$626,399
1984	0.8	36,868.2	3,618.6	345.8	73.5	$1,106	$13,721,121	$1,312,243	$232,750	$82,128
1985	3.7	35,001.6	6,647.4	200.4	6,055.9	$1,563	$11,086,544	$2,197,889	$113,857	$3,171,479
1986	304.1	46,086.2	4,586.0	313.0	14,533.7	$110,649	$13,143,864	$1,341,767	$117,694	$5,070,720
1987	391.6	45,751.5	7,810.0	251.4	13,831.2	$97,977	$11,111,384	$1,967,445	$98,252	$4,453,751
1988	1,185.4	50,793.8	4,945.6	252.7	31,526.8	$279,754	$13,416,639	$1,254,453	$110,316	$10,175,138
1989	598.4	47,633.9	10,703.7	733.6	33,317.4	$109,180	$11,101,503	$2,565,213	$537,307	$9,242,470
1990	1,536.8	37,554.1	3,060.3	352.5	20,399.7	$244,053	$7,650,268	$611,738	$175,815	$5,009,281
1991	6,601.5	31,753.3	1,648.9	1,004.1	29,210.1	$1,151,880	$7,754,341	$337,451	$311,175	$6,002,110
1992	14,924.3	18,181.7	1,096.8	347.3	4,526.3	$2,076,419	$5,612,175	$313,484	$109,740	$1,018,997
1993	14,669.7	11,765.8	1,272.1	421.6	32,293.0	$2,045,265	$2,078,098	$251,657	$143,899	$10,050,715
1994	9,348.8	9,902.8	2,512.2	506.1	33,909.1	$1,326,893	$1,903,936	$381,455	$228,497	$11,137,704
1995	34,496.8	8,144.3	1,597.1	682.3	59,780.7	$4,094,441	$1,441,629	$262,149	$257,637	$25,806,502
1996	24,384.9	8,857.7	2,065.1	758.2	61,647.8	$2,930,228	$1,559,028	$365,464	$319,128	$21,966,637
1997	29,893.7	15,178.6	830.0	1,666.8	52,392.3	$3,605,323	$3,015,162	$237,342	$261,159	$19,654,080
1998	32,816.9	19,507.9	1,012.4	579.5	2,405.3	$3,817,296	$3,051,728	$410,172	$150,363	$1,764,183
1999	42,221.6	8,781.4	927.5	3,655.3	80,423.6	$4,824,483	$1,362,827	$234,495	$686,176	$37,004,332
2000	42,195.5	21,877.8	1,218.8	4,832.7	93,621.7	$5,560,937	$3,613,684	$281,066	$669,206	$26,453,709
2001	44,720.5	6,751.8	3,623.9	7,572.0	71,137.3	$5,868,754	$1,302,010	$680,144	$938,519	$16,717,013
2002	44,564.9	3,368.3	1,003.6	1,943.1	40,307.2	$5,385,134	$582,165	$241,096	$341,260	$11,471,494
2003	25,276.7	3,981.5	135.9	847.7	21,608.8	$2,419,519	$731,130	$63,628	$210,639	$14,318,444
2004	28,432.8	3,085.9	1,027.1	2,869.4	26,821.2	$3,079,111	$575,686	$282,000	$505,475	$14,820,261
2005	26,026.2	3,242.8	210.9	4,959.1	45,525.5	$2,782,018	$591,834	$56,771	$761,258	$28,627,499
2006	28,728.8	5,840.7	1,025.8	5,071.5	43,112.0	$3,663,716	$873,737	$179,052	$766,063	$25,192,414
2007	46,147.0	4,891.1	459.9	2,668.5	31,132.3	$5,194,066	$796,039	$110,245	$307,944	$19,154,125
2008	31,013.4	3,249.0	214.7	2,027.3	27,969.3	$3,509,326	$643,932	$42,867	$250,271	$19,545,240
2009	12,485.2	5,028.7	97.7	1,663.0	60,504.0	$1,815,516	$1,085,299	$17,296	$244,775	$37,869,837

Northern California										
1981	<0.1	1,361.1	213.4	4,820.9	12,824.8	$1	$470,741	$96,777	$667,698	$8,194,372
1982	<0.1	2,060.6	281.6	3,003.7	10,611.3	$85	$738,205	$111,733	$489,038	$5,642,779
1983	<0.1	3,465.4	2,458.5	653.1	961.5	$24	$965,911	$585,800	$225,228	$813,182
1984	0.3	7,165.0	5,486.3	2,432.9	488.0	$487	$1,458,452	$1,186,101	$462,041	$471,107
1985	2.2	2,719.0	228.1	1,397.0	3,890.1	$957	$587,038	$105,034	$278,364	$3,573,185
1986	84.5	1,999.9	191.1	1,200.9	6,319.8	$33,543	$427,791	$102,877	$248,160	$2,691,203
1987	47.9	963.0	210.2	1,100.7	5,953.9	$8,970	$198,299	$56,342	$310,066	$2,196,660
1988	3.0	65.2	121.9	1,188.6	5,196.9	$1,255	$36,644	$49,430	$504,032	$2,002,064
1989	238.0	69.1	41.5	1,684.0	7,149.5	$198,664	$27,830	$51,428	$463,256	$2,488,302
1990	127.1	2,509.9	194.0	2,845.5	8,047.1	$45,523	$474,532	$61,242	$705,917	$2,180,843
1991	985.9	300.8	43.8	2,986.0	8,175.9	$159,138	$78,682	$23,927	$581,062	$2,911,504
1992	3,127.7	386.8	112.2	773.3	8,559.7	$613,139	$123,486	$27,647	$161,840	$2,480,153
1993	676.1	39.5	400.8	1,529.0	7,057.4	$122,258	$19,805	$130,972	$485,244	$3,325,895
1994	2,295.1	40.4	191.7	1,273.8	15,921.3	$755,424	$26,582	$131,915	$458,129	$7,071,751
1995	5,681.2	461.4	109.4	1,203.7	3,197.7	$681,574	$85,536	$104,687	$134,786	$1,395,995
1996	7,988.2	710.5	91.8	3,659.0	5,004.9	$1,172,895	$126,720	$18,159	$521,424	$1,960,347
1997	13,359.8	3,217.6	329.6	4,050.8	8,490.8	$2,068,553	$566,401	$82,424	$737,284	$3,886,533
1998	10,493.4	1,469.7	39.9	901.7	14.1	$829,944	$190,930	$20,368	$86,609	$19,947
1999	17,475.1	6.5	24.2	1,558.1	306.7	$1,627,571	$14,352	$2,263	$443,576	$103,034
2000	11,367.5	41.1	50.5	6,920.8	7,125.9	$1,200,157	$8,326	$34,320	$1,061,354	$2,375,194
2001	7,102.6	172.8		11,704.9	8,026.6	$1,736,636	$24,916		$713,072	$2,237,364
2002	13,779.2	0.3	1.9	2,706.7	25,953.3	$1,584,354	$657	$504	$315,255	$8,355,798
2003	7,920.9	1.0	19.8	705.7	16,729.1	$785,674	$5,087	$2,920	$95,606	$11,043,796
2004	15,837.5	490.0	<0.1	3,890.8	5,707.0	$1,408,028	$59,982	$18	$329,766	$3,338,330
2005	8,509.3	0.4	0.5	6,192.2	1,916.9	$659,663	$819	$356	$420,488	$1,082,041
2006	17,841.9	31.8	140.9	7,705.0	511.2	$1,755,988	$10,574	$32,385	$604,762	$270,394
2007	34,781.9	123.4	166.8	7,704.4	25.3	$3,299,450	$19,614	$37,463	$830,353	$16,800
2008	26,711.7	206.6	59.5	12,216.0	65.6	$4,148,611	$34,180	$10,969	$1,321,528	$45,471
2009	24,977.6	14.3		978.4	1,217.3	$3,767,909	$2,117		$107,850	$916,071
Pacific Northwest										
1981		<0.1		1.3			$3		$621	
1982		<0.1		5.2			$82		$18,975	
1983		8.3		2.9			$14,871		$10,241	
1984		3.1		10.1			$1,641		$18,377	
1985		<0.1	<0.1	11.7			$4	$2	$21,156	

1986		<0.1		22.1			$1		$34,572	
1987		1.5		77.6			$882		$99,542	
1988		0.6		40.4			$562		$53,446	
1989		4.9		61.8			$1,847		$85,432	
1990		10.4		50.3			$5,707		$63,540	
1991		0.7	19.3	54.5			$308	$3,560	$54,737	
1992		468.2	316.5	41.7			$4,193	$1,144	$47,282	
1993		310.1	276.6	19.9			$7,040	$3,732	$15,233	
1994		285.5	202.3	39.4			$17,244	$10,642	$37,631	
1995		197.0	148.6	130.0			$5,895	$9,679	$88,663	
1996		126.7	260.5	85.6			$31,333	$11,034	$83,740	
1997		1,763.5	373.7	59.1			$24,794	$1,077	$54,020	
1998	1.0	583.6	724.5	102.5		$995	$16,359	$60,663	$77,679	
1999	776.9	305.9	604.5	97.8		$110,736	$5,908	$15,488	$83,867	
2000	14,369.8	138.2	181.1	78.8		$2,244,039	$9,987	$24,095	$59,492	
2001	23,907.6	692.6	215.2	68.0		$3,460,625	$132,346	$55,270	$84,190	
2002	38,543.5	374.8	20.4	231.8		$5,667,118	$42,770	$6,704	$86,242	
2003	37,178.1	213.8	75.4	252.9		$5,145,044	$30,135	$18,698	$80,544	
2004	45,045.3	129.1	132.9	226.5		$6,935,793	$15,395	$20,981	$77,744	
2005	51,831.2	341.4	80.4	232.1	14.5	$7,737,017	$42,978	$181,096	$40,959	$8,113
2006	40,031.2	706.2	7.1	169.7	27.2	$4,455,114	$51,422	$415	$39,979	$16,621
2007	46,808.8	740.5	14.8	158.0	0.6	$5,206,383	$60,870	$1,208	$36,652	$305
2008	29,384.3	66.6	48.3	368.6		$7,085,813	$10,261	$420	$93,038	
2009	29,507.0	57.6	2.4	849.0	0.2	$6,955,534	$5,946		$142,078	
Other										
1981		55.9	6.3	217.1	0.2		$27,528	$4,647	$119,897	$104
1982		48.5	9.5	190.9	0.4		$24,734	$5,155	$71,228	$1,025
1983		179.1	25.5	144.7	3.9		$58,461	$27,068	$65,444	$4,799
1984		49.7	49.3	110.1	2.7		$24,873	$16,007	$49,154	$2,736
1985		51.8	0.2	28.5	330.3		$25,786	$209	$11,915	$321,704
1986		3.1	0.1	21.4	424.1		$2,375	$108	$8,563	$113,746
1987	<0.1	9.0		37.6	199.2	$21	$3,527		$16,627	$52,367
1988	0.1	4.0	<0.1	36.6	592.1	$33	$4,120	$68	$15,599	$208,534
1989	0.2	4.9	0.1	31.7	506.8	$294	$6,714	$64	$15,450	$132,869
1990	0.3	17.3	<0.1	10.5	0.3	$152	$14,398	$11	$5,207	$316
1991		11.8	0.1	23.8	2.6		$8,280	$131	$9,266	$1,598

1992	<0.1	8.1	0.3	3.3	26.5	$19	$6,544	$270	$2,015	$6,712
1993	0.7	13.4	<0.1	32.1	3,479.5	$900	$9,789	$47	$26,248	$1,033,107
1994		64.6	<0.1	40.2	5,553.0		$26,788	$8	$32,271	$1,498,790
1995	77.5	20.2	21.9	11.4	7,273.2	$12,165	$15,411	$16,313	$15,189	$2,844,010
1996	180.3	35.2	19.6	2.2	13,908.6	$60,353	$22,998	$8,583	$991	$4,954,557
1997	36.1	8.2		2.4	9,445.5	$90,620	$4,150		$1,051	$3,266,736
1998	0.9	0.3			475.0	$88	$213			$300,082
1999	3.0	0.2	0.8	0.1	11,370.7	$367	$27	$591	$8	$5,141,617
2000	49.0	0.6	<0.1	<0.1	18,154.9	$8,996	$237	$2	$90	$4,902,189
2001	70.4	0.5	0.1		7,038.8	$8,432	$454	$116		$1,549,891
2002	9.2	<0.1	<0.1		6,634.6	$1,288	$93	$8		$1,933,073
2003	1,547.2	16.8		122.9	6,717.8	$149,315	$2,156		$12,028	$4,248,290
2004	23.1	2.9	<0.1	32.4	7,540.0	$4,269	$1,074	$16	$16,192	$4,276,856
2005	97.4	1.1	1.9	30.7	8,297.7	$15,894	$214	$792	$14,352	$4,827,111
2006	6.3	30.9		14.2	5,530.1	$1,633	$777		$8,298	$3,179,584
2007	51.6	4.0	4.6	16.9	18,317.3	$1,295	$1,168	$1,011	$1,959	$10,896,799
2008	80.6	75.3		41.7	10,065.8	$6,912	$16,822		$11,803	$7,178,013
2009	80.2	37.1	20.9	26.7	30,650.6	$1,579	$1,317	$666	$17,100	$17,668,915

Source: PacFIN - 2007-2009 data extracted March 16, 2010.

[1]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 2009.

[2]Pacific mackerel landings and revenues also include landings and revenues of unspecified mackerel.

Table 9-3. Average annual real[1] exvessel prices ($ 2009) for Pacific sardine, Pacific mackerel[2], jack mackerel, anchovy and market squid, 1981-2009.

Year	Pacific Sardine $/lb	Pacific Mackerel $/lb	Jack Mackerel $/lb	Anchovy $/lb	Squid $/lb
1981	$0.19	$0.20	$0.20	$0.06	$0.21
1982	$0.24	$0.18	$0.18	$0.05	$0.20
1983	$0.15	$0.17	$0.16	$0.08	$0.36
1984	$0.72	$0.16	$0.12	$0.12	$0.45
1985	$0.19	$0.14	$0.15	$0.12	$0.31
1986	$0.17	$0.13	$0.14	$0.12	$0.17
1987	$0.11	$0.11	$0.11	$0.16	$0.15
1988	$0.11	$0.12	$0.12	$0.20	$0.15
1989	$0.17	$0.11	$0.11	$0.20	$0.13
1990	$0.08	$0.09	$0.09	$0.13	$0.11
1991	$0.08	$0.11	$0.10	$0.11	$0.11
1992	$0.07	$0.14	$0.10	$0.12	$0.12
1993	$0.06	$0.08	$0.09	$0.15	$0.15
1994	$0.08	$0.09	$0.08	$0.18	$0.16
1995	$0.05	$0.08	$0.09	$0.11	$0.19
1996	$0.06	$0.08	$0.07	$0.09	$0.16
1997	$0.06	$0.08	$0.09	$0.08	$0.17
1998	$0.05	$0.07	$0.13	$0.09	$0.33
1999	$0.05	$0.07	$0.07	$0.10	$0.21
2000	$0.06	$0.07	$0.11	$0.07	$0.13
2001	$0.07	$0.09	$0.09	$0.04	$0.11
2002	$0.06	$0.08	$0.11	$0.07	$0.14
2003	$0.05	$0.08	$0.17	$0.09	$0.30
2004	$0.06	$0.08	$0.12	$0.06	$0.25
2005	$0.06	$0.08	$0.37	$0.05	$0.28
2006	$0.05	$0.06	$0.08	$0.05	$0.26
2007	$0.05	$0.07	$0.11	$0.05	$0.28
2008	$0.08	$0.09	$0.08	$0.05	$0.32
2009	$0.08	$0.10	$0.07	$0.07	$0.28

Source: PacFIN - 2007-2009 data extracted March 16, 2010.

[1]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 2009.

[2]Pacific mackerel landings and revenues also include landings and revenues of unspecified mackerel

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Table 9-4. West coast landings (mt) and real[1] exvessel revenues ($ 2009) for Pacific sardine, Pacific mackerel[2], jack mackerel, anchovy and market squid by state, 1981-09.

Year	Pacific Sardine mt	Pacific Sardine Rev	Pacific Mackerel mt	Pacific Mackerel Rev	Jack Mackerel mt	Jack Mackerel Rev	Anchovy mt	Anchovy Rev	Squid mt	Squid Rev
California										
1981	15	$6,343	35,388	$15,305,716	17,778	$7,678,658	52,308	$6,879,152	23,510	$10,672,079
1982	2	$1,066	36,065	$14,388,063	19,617	$7,891,453	42,150	$4,269,249	16,308	$7,082,330
1983	1	$333	41,471	$15,295,775	9,829	$3,415,087	4,427	$784,901	1,824	$1,444,380
1984	1	$1,593	44,083	$15,204,445	9,154	$2,514,350	2,889	$743,946	564	$555,972
1985	6	$2,520	37,772	$11,699,369	6,876	$2,303,132	1,626	$404,135	10,276	$7,066,368
1986	388	$144,193	48,089	$13,574,028	4,777	$1,444,751	1,535	$374,417	21,278	$7,875,669
1987	439	$106,969	46,724	$11,313,209	8,020	$2,023,786	1,390	$424,945	19,984	$6,702,778
1988	1,188	$281,042	50,863	$13,457,402	5,068	$1,303,949	1,478	$629,948	37,316	$12,385,735
1989	837	$308,138	47,708	$11,136,047	10,745	$2,616,705	2,449	$1,016,014	40,974	$11,863,640
1990	1,664	$289,727	40,081	$8,139,183	3,254	$672,990	3,208	$886,940	28,447	$7,190,440
1991	7,587	$1,311,017	32,066	$7,841,303	1,693	$361,508	4,014	$901,503	37,389	$8,915,212
1992	18,052	$2,689,576	18,577	$5,742,205	1,209	$341,399	1,124	$273,594	13,112	$3,505,863
1993	15,346	$2,168,423	11,819	$2,107,692	1,673	$382,675	1,959	$632,638	42,830	$14,409,717
1994	11,644	$2,082,318	10,008	$1,957,305	2,704	$513,378	1,789	$690,127	55,383	$19,708,246
1995	40,256	$4,788,179	8,626	$1,542,576	1,728	$383,150	1,886	$392,508	70,252	$30,046,509
1996	32,553	$4,163,476	9,603	$1,708,746	2,177	$392,206	4,419	$841,543	80,561	$28,881,543
1997	43,290	$5,764,495	18,401	$3,585,026	1,160	$319,766	5,720	$999,494	70,329	$26,807,348
1998	43,311	$4,647,330	20,978	$3,242,862	1,052	$430,540	1,481	$236,970	2,895	$2,084,213
1999	59,700	$6,452,420	8,788	$1,377,206	952	$237,350	5,214	$1,129,760	92,101	$42,248,984
2000	53,612	$6,770,091	21,920	$3,622,247	1,269	$315,388	11,753	$1,730,651	118,903	$33,731,093
2001	51,893	$7,613,822	6,925	$1,327,364	3,624	$680,260	19,277	$1,651,591	86,203	$20,504,268
2002	58,353	$6,970,774	3,369	$582,914	1,005	$241,608	4,650	$656,515	72,895	$21,760,365
2003	34,745	$3,354,508	3,999	$738,375	156	$66,547	1,676	$318,273	45,056	$29,610,530
2004	44,293	$4,491,409	3,579	$636,741	1,027	$282,033	6,793	$851,433	40,068	$22,435,447
2005	34,633	$3,457,576	3,244	$592,867	213	$57,919	11,182	$1,196,098	55,740	$34,536,652
2006	46,577	$5,421,337	5,904	$885,088	1,167	$211,437	12,791	$1,379,123	49,153	$28,642,390
2007	80,980	$8,494,810	5,018	$816,820	631	$148,718	10,390	$1,140,256	49,475	$30,067,723
2008	57,806	$7,664,848	3,531	$694,934	274	$53,836	14,285	$1,583,602	38,101	$26,768,724
2009	37,543	$5,585,004	5,080	$1,088,733	119	$17,962	2,668	$369,725	92,372	$56,454,823

Oregon										
1981			<1	$3						
1982			<1	$82			<1	$198		
1983			8	$14,871						
1984			3	$1,483						
1985			<1	$4	<1	$2	<1	$69		
1986			<1	$1						
1987			1	$882						
1988			1	$562			<1	$2		
1989			5	$1,768			<1	$24		
1990			10	$5,484						
1991			<1	$250	19	$3,560				
1992			462	$222	317	$1,145				
1993			280	$1,203	277	$3,732				
1994			252	$13,205	202	$10,642	1	$275		
1995			189	$4,795	149	$9,679	<1	$653		
1996			61	$5,052	258	$10,129				
1997			1,611	$2,970	373	$974				
1998	1	$995	538	$11,085	686	$56,156				
1999	776	$108,649	259	$1,275	496	$5,875				
2000	9,528	$1,422,488	119	$7,570	161	$21,339	<1	$371		
2001	12,780	$1,959,980	322	$38,801	183	$48,670				
2002	22,711	$3,359,252	127	$7,704	9	$4,561	3	$2,118		
2003	25,258	$3,430,527	160	$21,738	74	$18,560	39	$3,629		
2004	36,111	$5,523,684	107	$12,754	126	$19,171	13	$5,254		
2005	45,110	$6,803,896	318	$39,041	70	$178,087	68	$1,730	14	$8,113
2006	35,668	$3,978,844	665	$37,070	5	$95	9	$18	27	$16,621
2007	42,144	$4,702,981	702	$51,326	14	$1,023	5	$2,294	1	$305
2008	22,949	$5,732,031	58	$7,903	46	$420	260	$57,342		
2009	21,481	$5,290,596	53	$4,766			39	$8,678		
Washington										
1981							1	$621		
1982							5	$18,777		
1983							3	$10,241		
1984			<1	$158			10	$18,377		
1985							12	$21,087		

1986							22	$34,572		
1987							78	$99,542		
1988							40	$53,444		
1989			<1	$79			62	$85,408		
1990			<1	$237			50	$63,540		
1991			<1	$58			54	$54,737		
1992			6	$3,971			42	$47,282		
1993			30	$5,837			44	$37,985		
1994			33	$4,039			70	$66,125		
1995			7	$1,100			130	$103,114		
1996			65	$26,281	3	$905	86	$83,740		
1997			156	$22,512	1	$103	59	$54,020		
1998			46	$5,281	39	$4,507	103	$77,679		
1999	1	$2,087	47	$4,633	108	$9,613	98	$83,867		
2000	4,842	$821,551	19	$2,417	20	$2,756	79	$59,121		
2001	11,127	$1,500,645	371	$93,561	32	$6,600	68	$84,190		
2002	15,833	$2,307,866	248	$35,066	12	$2,143	229	$84,124		
2003	11,920	$1,714,517	54	$8,397	2	$138	214	$76,915		
2004	8,934	$1,412,109	22	$2,641	7	$1,810	213	$72,490		
2005	6,721	$933,121	24	$3,937	11	$3,009	164	$39,229		
2006	4,363	$476,270	41	$14,352	2	$320	161	$39,961		
2007	4,665	$503,402	38	$9,544	1	$185	153	$34,358		
2008	6,435	$1,353,782	9	$2,358			109	$35,696		
2009	8,026	$1,664,938	4	$1,180			810	$133,400		

Source: PacFIN - 2007-2009 data extracted March 16, 2010.

[1]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 2009.

[2]Pacific mackerel landings and revenues also include landings and revenues of unspecified mackerel.

Table 9-5. West Coast CPS landings (mt) and real[1] exvessel revenues ($ 2009) by gear group, 1981-2009.

Year	Roundhaul Or Lampara	Dip Net	Pot or Trap	Trawl	Hook and Line	Gillnet	Other or Unknown
Landings (mt)							
1981	120,578	8,231	<1	11	9	80	
1982	110,254	3,693	1	13	27	82	
1983	56,944	490	<1	8	2	44	40
1984	56,285	64	<1	4	1	189	
1985	55,494	495	1	20	9	430	<1
1986	75,784	88	4	3	<1	135	
1987	75,048	213	1	6	7	1,314	<1
1988	94,190	140	1	39	1	1,395	<1
1989	102,026	248	<1	132	3	100	
1990	76,010	489	1	15	34	72	
1991	81,817	724	37	128	4	63	
1992	47,666	4,322	3	802	15	31	
1993	68,346	5,171	2	592	3	44	
1994	78,350	2,997	59	510	49	11	13
1995	120,940	1,410	1	386	121	9	42
1996	128,354	855	1	401	64	23	
1997	138,534	247	<1	2,157	90	14	
1998	69,660	37	<1	1,334	44	5	
1999	166,933	528	72	961	12	10	
2000	219,844	1,568	45	275	420	4	<1
2001	190,196	1,791	1	621	153	3	
2002	178,656	761	<1	10	10	2	
2003	123,128	133	<1	76	10	<1	<1
2004	140,277	790	<1	110	7	<1	63
2005	154,875	2,504	11	106	9	<1	
2006	154,731	1,582	97	33	84	<1	
2007	193,348	826	<1	15	25	<1	<1
2008	143,364	444		51	3	<1	
2009	166,327	1,831	<1	2	3	<1	
Revenues (2009 $)							
1981	$38,641,517	$1,759,886	$314	$8,150	$10,058	$60,467	
1982	$32,629,616	$897,683	$4,243	$8,233	$17,417	$48,461	
1983	$20,522,077	$365,739	$1,766	$5,189	$2,510	$25,298	$13,414
1984	$18,786,916	$63,763	$3,241	$3,572	$1,717	$89,426	
1985	$20,620,341	$554,983	$1,246	$16,325	$6,937	$234,924	$1,479
1986	$23,272,642	$46,343	$1,788	$3,161	$228	$72,099	
1987	$20,123,057	$68,841	$3,298	$4,033	$2,997	$414,540	$15
1988	$27,512,152	$53,306	$1,156	$47,663	$811	$414,058	$2
1989	$26,563,099	$67,665	$68	$47,168	$1,373	$39,580	
1990	$17,017,539	$69,880	$1,112	$10,164	$43,874	$44,991	
1991	$19,172,797	$78,938	$10,082	$34,861	$6,836	$27,290	
1992	$11,809,316	$684,742	$2,736	$10,183	$28,071	$16,090	
1993	$18,500,180	$1,100,822	$2,446	$12,807	$5,016	$26,600	
1994	$24,202,152	$645,031	$24,171	$38,343	$56,635	$7,629	$3,303
1995	$36,552,447	$486,177	$708	$23,380	$71,986	$6,174	$12,082
1996	$35,649,814	$251,199	$653	$53,261	$82,538	$14,605	

1997	$37,234,022	$110,759	$130	$39,341	$118,364	$8,733	
1998	$10,569,941	$31,654	$174	$99,185	$74,316	$3,778	
1999	$51,310,358	$237,974	$20,094	$42,587	$32,151	$7,494	
2000	$47,821,548	$488,908	$12,491	$32,918	$109,535	$2,466	$119
2001	$34,794,383	$464,191	$482	$161,887	$48,126	$1,971	
2002	$35,751,682	$221,939	$143	$6,553	$28,730	$1,562	
2003	$39,219,435	$86,864	$76	$19,802	$31,321	$141	$22
2004	$35,239,213	$422,053	$2	$17,318	$22,045	$116	$39,133
2005	$45,996,188	$1,631,741	$6,880	$191,114	$18,117	$171	
2006	$40,129,862	$915,092	$16,195	$16,540	$21,507	$183	
2007	$45,419,498	$518,791	$31	$3,563	$28,024	$69	$40
2008	$43,640,449	$299,634		$1,709	$10,824	$39	
2009	$69,532,870	$1,045,944	$22	$472	$18,293	$173	

Source: PacFIN - 2007-2009 data extracted March 16, 2010.

[1]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 2009.

TABLE 11-1. Commercial harvest (metric tons) of CPS finfish in Ensenada, Baja California, Mexico, for calendar years 1978-2009[1,2,3,4,5/]. Anchovy and mackerel data not yet available for 2009. Market squid are not commercially fished off Ensenada.

Year	Pacific sardine	Northern anchovy	Pacific mackerel	Jack mackerel
1978	0	135,036	0	---
1979	0	192,476	0	---
1980	0	242,907	0	---
1981	0	258,745	0	---
1982	0	174,634	0	---
1983	274	87,429	135	---
1984	0	102,931	128	---
1985	3,722	117,192	2,582	---
1986	243	93,547	4,883	---
1987	2,432	124,482	2,082	---
1988	2,035	79,495	4,484	902
1989	6,224	81,811	13,687	0
1990	11,375	99	35,767	25
1991	31,391	831	17,500	30
1992	34,568	2,324	24,345	---
1993	32,045	284	7,741	---
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
2003	30,540	1,287	2,678	0
2004	44,382	1,797	1,530	0
2005	55,323	4,873	2,343	0
2006	57,237	1,567	2,318	0
2007	36,847	4,058	3,057	0
2008	66,866	991	180	0
2009	52,064	nd	nd	nd

1/ Data for 1978 to 2002 from García and Sánchez (2003).
2/ Data for Jan-Nov 2003 provided by Dr. Celia Eva-Cotero, CRIP-INP Ensenada (pers. comm.).
3/ Sardine landings for 1989 through 2004 provided by Manuel Nevarrez, CRIP-INP Guaymas (pers. comm.).
4/ CPS landings from 2005 through 2008 from CONAPESCA: http://www.conapesca.sagarpa.gob.mx/wb/cona/cona_anuario_estadistico_de_pesca
5/ Preliminary sardine landings for 2009 provided by Dr. Manuel Nevarrez, CRIP-INP Guaymas (pers. comm.).

TABLE 11-2. Pacific sardine population numbers (millions) and biomass (mt), for the 1981 to 2009 biological years (July-June) (Hill et al. 2009). Recruitment is defined as number at age-0. Age 1+ biomass as of July 2009 (bold) served as the basis for setting a HG for the U.S. fishery in calendar year 2010.

Biological	---------- Population Numbers-at-age (millions) ----------									Spawning	Age 1+	Total
Year	0 (*R*)	1	2	3	4	5	6	7	8+	Biomass	Biomass	Biomass
1981	79	53	10.6	6.3	3.8	1.9	1.3	4.5	9.2	7,686	8,210	8,909
1982	113	53	35	7	4	2.5	1.3	0.9	9	9,935	10,554	11,557
1983	285	76	35	22	4	2.6	1.6	0.8	6.3	12,676	13,445	15,980
1984	234	191	50	23	15	2.9	1.7	1.0	4.5	21,621	21,966	24,047
1985	265	156	117	28	12	7.7	1.5	0.9	2.9	27,080	28,739	31,097
1986	670	178	102	73	17	7.4	4.7	0.9	2.3	34,074	36,120	42,081
1987	917	449	115	63	45	10	4.5	2.8	2.0	51,103	53,869	62,026
1988	1,349	614	287	68	36	25	5.9	2.5	2.7	79,974	82,885	94,889
1989	1,157	904	402	181	42	22	16	3.6	3.2	119,243	128,306	138,600
1990	2,453	775	577	236	102	24	12	8.7	3.8	148,677	160,842	182,662
1991	5,789	1,642	491	337	133	57	13	7	6.9	169,724	218,670	270,166
1992	4,309	3,878	1,053	271	173	67	29	7	6.9	217,118	306,559	344,887
1993	11,078	2,857	2,130	499	151	106	42	18	9	304,249	372,311	470,856
1994	11,629	7,391	1,792	1,286	313	98	70	28	18	482,157	605,536	708,982
1995	4,196	7,724	4,480	1,065	795	202	65	46	30	717,270	883,254	920,582
1996	5,882	2,800	4,879	2,749	670	514	133	43	51	851,698	1,007,780	1,060,110
1997	16,791	3,925	1,764	2,972	1,721	433	338	88	62	815,380	1,030,330	1,179,700
1998	22,012	11,160	2,293	931	1,670	1,048	276	220	99	937,483	1,178,340	1,374,150
1999	3,630	14,653	6,763	1,318	558	1,051	678	181	210	1,278,080	1,591,050	1,623,340
2000	2,875	2,380	8,815	4,131	849	369	700	453	261	1,423,630	1,686,190	1,711,760
2001	8,492	1,833	1,335	5,230	2,618	552	242	460	469	1,240,460	1,494,760	1,570,300
2002	739	5,332	912	703	3,166	1,674	358	157	606	1,027,600	1,312,620	1,319,190
2003	18,622	470	2,651	448	407	1,973	1,066	229	489	821,818	1,025,580	1,191,240
2004	10,226	12,094	256	1,392	261	251	1,243	675	456	814,095	1,112,660	1,203,630
2005	10,328	6,762	7,059	138	804	159	156	773	705	955,534	1,237,180	1,329,050
2006	2,943	6,798	4,046	4,041	82	494	99	97	922	1,030,540	1,317,350	1,343,540
2007	3,331	1,901	3,827	2,256	2,431	51	314	63	650	935,692	1,194,680	1,224,310
2008	1,737	2,075	905	1,892	1,311	1,503	32	198	450	728,737	955,948	971,399
2009	6,912	1,091	927	373	994	781	930	20	406	---	**702,024**	763,509

TABLE 11-3. Annual U.S. Pacific sardine landings and HGs (metric tons), 1981-2010.

Year	Southern California	Northern California	California Total	Oregon	Washington	U.S. Total	HG South	HG North	HG Total
1981	34.4	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	n/a	n/a	n/a
1983	0.6	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	n/a	n/a	n/a
1985	3.7	2.2	5.9	0.0	0.0	5.9	n/a	n/a	n/a
1986	304.0	84.4	388.4	0.0	0.0	388.4	n/a	n/a	n/a
1987	391.6	47.8	439.4	0.0	0.0	439.4	n/a	n/a	n/a
1988	1,185.4	3.0	1,188.4	0.0	0.0	1,188.4	n/a	n/a	n/a
1989	598.7	238.0	836.7	0.0	0.0	836.7	n/a	n/a	n/a
1990	1,537.1	127.1	1,664.2	0.0	0.0	1,664.2	n/a	n/a	n/a
1991	6,601.4	985.9	7,587.3	0.0	0.0	7,587.3	n/a	n/a	n/a
1992	14,821.9	3,127.6	17,949.5	4.0	0.0	17,953.5	n/a	n/a	n/a
1993	14,669.6	675.6	15,345.2	0.2	0.0	15,345.4	n/a	n/a	n/a
1994	9,348.5	2,300.0	11,648.5	0.0	0.0	11,648.5	n/a	n/a	n/a
1995	34,645.7	5,683.2	40,328.9	0.0	0.0	40,328.9	n/a	n/a	n/a
1996	24,565.0	7,988.6	32,553.6	0.0	0.0	32,553.6	n/a	n/a	n/a
1997	29,885.4	13,359.7	43,245.1	0.0	0.0	43,245.1	n/a	n/a	n/a
1998	32,462.1	10,514.3	42,976.4	1.0	0.0	42,977.4	n/a	n/a	n/a
1999	42,017.2	17,246.3	59,263.5	775.5	1.0	60,040.0	n/a	n/a	n/a
2000	42,248.0	11,367.5	53,615.5	9,527.9	4,842.0	67,985.4	124,527.3	62,263.7	186,791.0
2001	44,721.5	7,104.0	51,825.5	12,780.3	11,127.1	75,732.9	89,824.7	44,912.3	134,737.0
2002	44,464.0	13,881.0	58,345.0	22,710.8	15,820.0	96,875.8	78,961.3	39,480.7	118,442.0
2003	24,832.0	7,921.5	32,753.5	25,257.6	11,920.1	69,931.2	73,938.7	36,969.3	110,908.0
2004	32,393.4	15,308.3	47,701.8	36,110.7	8,911.0	92,723.5	81,831.3	40,915.7	122,747.0
2005	30,252.6	7,940.1	38,192.7	45,109.7	6,714.0	90,016.4	90,786.0	45,393.0	136,179.0
2006	33,285.8	17,743.1	51,028.9	35,648.2	4,362.3	91,039.4	n/a	n/a	118,937.0
2007	54,713.8	34,517.0	89,230.8	42,143.6	4,664.9	136,039.3	n/a	n/a	152,564.0
2008	31,024.8	26,711.4	57,736.2	22,948.8	6,435.2	87,120.2	n/a	n/a	89,093.0
2009	12,973.3	24,725.4	37,698.7	21,480.8	8,026.0	67,205.5	n/a	n/a	66,932.0
2010	---	---	---	---	---	---	n/a	n/a	72,039.0

1/ As of 2003, the 'Southern Subarea' comprises fisheries and landings from Pt. Arena, California (39°N latitude) to the Mexican border.
2/ As of 2006, the U.S. sardine HG was no longer managed by subarea. HG's are now allocated coastwide and released on a seasonal basis.

TABLE 11-4. West Coast Pacific sardine landings by country, 1981-2009. Landings made by commercial fisheries based in Southern Baja California and the Gulf of California are not included.

Year	Ensenada México	United States	Canada	Total
1981	0.0	34.4	0.0	34.4
1982	0.0	1.8	0.0	1.8
1983	274.0	0.6	0.0	274.6
1984	0.0	1.2	0.0	1.2
1985	3,722.0	5.9	0.0	3,727.9
1986	243.0	388.4	0.0	631.4
1987	2,432.0	439.4	0.0	2,871.4
1988	2,035.0	1,188.4	0.0	3,223.4
1989	6,224.0	836.7	0.0	7,060.7
1990	11,375.0	1,664.2	0.0	13,039.2
1991	31,391.0	7,587.3	0.0	38,978.3
1992	34,568.0	17,953.5	0.0	52,521.5
1993	32,045.0	15,345.4	0.0	47,390.4
1994	20,877.0	11,643.5	0.0	32,520.5
1995	35,396.0	40,326.9	25.0	75,747.9
1996	39,065.0	32,553.1	88.0	71,706.1
1997	68,439.0	43,245.1	34.0	111,718.1
1998	47,812.0	42,956.4	745.0	91,513.4
1999	58,569.0	60,040.0	1,250.0	119,859.0
2000	51,173.0	67,985.4	1,718.0	120,876.4
2001	22,246.0	75,732.4	1,600.0	99,578.4
2002	43,437.0	96,875.8	1,044.0	141,356.8
2003	30,540.0	69,917.2	954.0	101,411.2
2004	44,382.0	92,723.5	4,258.8	141,364.3
2005	55,322.5	90,016.4	3,200.0	148,539.0
2006	57,236.9	91,039.4	1,558.0	149,834.3
2007	36,846.8	136,039.3	1,520.0	174,406.1
2008	66,866.1	87,120.2	10,435.2	164,421.4
2009	52,063.6	67,205.5	15,000.0	134,269.1

TABLE 11-5. RecFIN estimated recreational harvest of Pacific (chub) mackerel by state (type 'A+B1' estimate in metric tons), 1980-2009.

Year	California	Oregon	Washington	Total
1980	2,754.44	0.00	0.00	2,754.44
1981	1,394.47	0.00	0.00	1,394.47
1982	1,667.49	0.00	0.00	1,667.49
1983	1,467.35	1.50	0.00	1,468.85
1984	1,445.11	0.24	0.00	1,445.36
1985	1,076.62	0.02	0.00	1,076.64
1986	1,002.60	0.00	0.00	1,002.60
1987	1,271.19	0.00	0.00	1,271.19
1988	800.08	0.00	0.00	800.08
1989	610.57	0.00	0.00	610.57
1990	---	---	---	---
1991	---	---	---	---
1992	---	---	---	---
1993	621.92	2.08	0.00	624.00
1994	947.13	0.21	0.00	947.34
1995	1,026.32	0.12	0.00	1,026.44
1996	693.85	0.10	0.00	693.95
1997	966.96	0.31	0.00	967.27
1998	448.23	0.04	1.00	449.26
1999	196.04	0.00	0.33	196.37
2000	250.00	0.07	0.00	250.07
2001	561.39	0.05	0.00	561.44
2002	279.11	0.11	0.00	279.22
2003	341.35	0.27	0.00	341.61
2004	546.44	0.10	0.00	546.53
2005	312.06	0.07	0.00	312.13
2006	463.22	0.11	0.00	463.33
2007	239.35	0.92	0.00	240.27
2008	291.21	0.02	0.00	291.23
2009	106.06	0.05	0.00	106.11

TABLE 11-6. RecFIN estimated recreational harvest of Pacific (chub) mackerel by fishing mode (type 'A+B1' estimate in metric tons), 1980-2009. Estimates for 'Man Made Structures' and 'Beach/Bank' were included in 'Shore Modes.'

Year	Shore Modes	Party/ Charter	Private/ Rental	Total
1980	424.8	1,320.5	1,009.2	2,754.4
1981	288.1	590.7	515.7	1,394.5
1982	274.7	865.1	527.6	1,667.5
1983	361.9	702.6	404.3	1,468.9
1984	281.9	577.9	585.5	1,445.4
1985	142.0	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
1990	---	---	---	---
1991	---	---	---	---
1992	---	---	---	---
1993	88.8	172.5	362.7	624.0
1994	205.9	245.1	496.3	947.3
1995	121.2	373.5	531.8	1,026.4
1996	93.4	319.4	281.1	694.0
1997	148.3	168.6	650.4	967.3
1998	96.7	131.2	221.4	449.3
1999	62.4	60.7	73.3	196.4
2000	51.3	76.8	121.9	250.1
2001	347.0	52.2	162.2	561.4
2002	92.9	25.7	160.6	279.2
2003	208.4	25.4	107.8	341.6
2004	406.3	20.3	119.9	546.5
2005	225.0	45.5	41.6	312.1
2006	406.2	14.7	42.4	463.3
2007	187.0	19.1	34.1	240.3
2008	253.7	19.9	17.6	291.2
2009	81.0	10.7	14.4	106.1

TABLE 11-7. Pacific mackerel HGs and landings (mt) by July-June fishing season.

Fishing Season	Quota or HG[/a]	Landings
1992-93	34,010	25,584
1993-94	23,147	10,787
1994-95	14,706	9,372
1995-96	9,798	7,615
1996-97	8,709	9,788
1997-98	22,045	23,413
1998-99	30,572	19,578
1999-00	42,819	6,732
2000-01	20,740	20,937
2001-02	13,837	8,436
2002-03	12,535	3,541
2003-04	10,652	5,972
2004-05	13,268	5,012
2005-06	17,419	4,572
2006-07	19,845	7,531
2007-08	40,000	6,291
2008-09	40,000	4,281
2009-10[/b]	10,000	*2,622*

[a/] California Quotas 1992-03 through 1998-99. PFMC HGs from 1999-00 onward.
[b/] 2009-10 landings through January, 2010.