

APPENDIX A:

SAFE TABLES

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 (43FR40868).
- The first amendment changed the method of specifying the domestic annual harvest for Northern anchovy and added a requirement for an estimate of domestic processing capacity and expected annual level of domestic processing. Approval for this amendment was published in the *Federal Register* on July 18, 1979 (44FR41806).
- The second amendment, which became effective on February 5, 1982, was published in the *Federal Register* on January 6, 1982 (47FR629). The purpose of this amendment was to increase the domestic fishing fleet's opportunity to harvest the entire OY of northern anchovy from the U.S. EEZ by releasing, inseason, unutilized portions of the northern quota.
- During the spring of 1982, the Council considered a third amendment that divided the quota for northern anchovy into two halves and made release of the second half conditional on the results of a mid-season review of the status of the stock. The methods proposed for the mid-season assessment were considered too complex to implement, and the amendment was not approved.
- The fourth amendment, which had two parts, was published in the *Federal Register* on August 2, 1983 (48FR34963) and became effective on August 13, 1983. The first part abolished the five inch size limit in the commercial fishery and established a minimum mesh size of 5/8 inch for northern anchovy. The mesh size requirement did not become effective until April 1986 in order to give the fleet additional time to comply without undue economic hardship. The second part established a mid-season quota evaluation that was simpler in design than the method proposed in Amendment 3.
- The fifth amendment in 1983 incorporated advances in scientific information concerning the size and potential yield of the central subpopulation of northern anchovy. 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 (49FR9572).
- In 1990, the sixth amendment implemented a definition of overfishing for northern anchovy consistent with National Standard 7, and addresses vessel safety (56FR15299, April 16, 1991).
- The Council began developing the seventh amendment as a new FMP for CPS on a motion from NMFS and California in 1990. A complete draft was available in November of 1993, but the Council suspended further work, because NMFS withdrew support due to budget constraints. In July of 1994, the Council decided to proceed with the plan through the public comment period. NMFS agreed with the decision on the condition that the Council also consider the options of

dropping or amending the anchovy FMP. Thus, four principal options were considered for managing CPS (1) drop the anchovy FMP (no Federal or Council involvement in CPS); (2) continue with the existing FMP for anchovy (status quo); (3) amend the FMP for northern anchovy; and (4) implement an FMP for the entire CPS fishery. In March of 1995, 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 (61FR13148), 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 (CPS PDT) 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 (64FR69888). 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 (68FR52523).
- 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 (68FR67638).
- 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, the 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 than 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

- At the March, 2010 meeting, the Council considered a proposed EFP for the industry-sponsored aerial sardine survey. This would be the third year of the aerial survey, which was reviewed by a STAR panel in May 2009. The proposed research survey would utilize the 5,000 mt EFP set-aside that the Council approved at the November 2009 meeting. 2,100 mt each would be allocated to the northwest and the southwest, respectively, with an additional 800 mt set aside for a fall pilot LIDAR survey in the Southern California Bight.

Also at the March meeting, the Council considered and adopted Amendment 13 preliminary preferred alternatives for public review. These included:

- All actively managed and monitored CPS species remain in the fishery, and krill are moved to a new Ecosystem Component species category.

- Maintain existing Status Determination Criteria (SDC) for CPS FMP stocks, and develop MSY proxy for the northern subpopulation of northern Anchovy.
 - No preferred alternative for overfishing levels (OFLs), acceptable biological catches (ABCs) and annual catch limits (ACLs), pending additional analyses.
 - Maintain the default harvest control rule for monitored stocks.
 - Further analyze the use of accountability measures such as ACTs, set-asides, and management uncertainty buffers to address research, live bait, management uncertainty, and incidental fishery mortality.
 - Maintain all current species in the current CPS FMP and transfer no species to state management.
- At the April 2010 meeting, the Council approved the EFP proposal, as modified in response to SSC and CPSMT suggestions. The Council voted to transmit a letter to NMFS Southwest Region, recommending approval of the EFP. The EFP was ultimately approved and issued by NMFS.
 - At the June 2010 meeting, the Council adopted management measures for Pacific mackerel, for the fishing season beginning July 1, 2010 through June 30, 2011. Because there was no new assessment for 2010, the Council based management measures on the previous year's assessment. The following measures were adopted:
 - Establish an acceptable biological catch of 55,408 metric ton (mt) and a harvest guideline for the directed fishery of 11,000 mt, which includes an incidental set-aside of 3,000 mt for incidental catch in non-directed CPS fisheries.
 - 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.

Also in June 2010, the Council took final action on Amendment 13 to the CPS FMP, Annual Catch Limits and Accountability Measures. In adopting the final FMP amendment, the Council selected the following alternatives:

- All actively managed, monitored species, and prohibited harvest species (krill) in the FMP are to be categorized as “in the fishery.”
- Jacksmelt and Pacific herring are to be added to the FMP as ecosystem component (EC) species and monitor incidental catch in CPS fisheries.
- Modify the existing harvest control rules for actively managed species to include a buffer or reduction in acceptable biological catch (ABC) relative to overfishing limit (OFL) to account for scientific uncertainty. This buffer will be determined through the annual management cycle through a combination of scientific advice from the SSC and a policy determination of the Council.

Control Rules for Actively Managed Species:

OFL	$\text{BIOMASS} * \text{FMSY} * \text{DISTRIBUTION}$
ABC	$\text{BIOMASS} * \text{BUFFER} * \text{FMSY} * \text{DISTRIBUTION}$
ACL	LESS THAN OR EQUAL TO ABC
HG	$(\text{BIOMASS} - \text{CUTOFF}) * \text{FRACTION} * \text{DISTRIBUTION}$
ACT	EQUAL TO HG OR ACL, WHICHEVER VALUE IS LESS

OFL = overfishing limit

ABC = acceptable biological catch

FMSY = fishing mortality rate that maximizes catch biomass in the long term.

ACL = annual catch limit

HG = harvest guideline

ACT = annual catch target

- Maintain the default harvest control rules for monitored stocks as modified to specify the new management reference points. ACLs would be specified for multiple years until such time as the species becomes actively managed or new scientific information becomes available. The value of 0.25 in the ABC control rule (a 75 % buffer) will remain in use until recommended for modification by the Scientific and Statistical Committee and approved by the Council.

Control Rules for Monitored Species:

OFL STOCK SPECIFIC MSY PROXY

ABC $\text{OFL} * 0.25$

ACL Equal to ABC or reduced by OY considerations

- Add sector-specific ACLs, ACTs, and AMs, to the CPS FMP management framework for use in the annual harvest and management specification process.
- Add language to specify that the Council will include ecological considerations when reviewing and/or adopting SDCs, OFLs, ABCs, and ACLs.

While not a change to the FMP, the Council confirmed that status determination criteria for CPS FMP are to remain as currently specified with the exception of the Northern subpopulation of Northern anchovy (for which no criteria existed at the time). The Council anticipated adopting a maximum sustained yield (MSY) proxy for this subpopulation through the annual management cycle at its November 2010 meeting.

- At the November 2010 meeting, the Council approved the sardine stock assessment and adopted management measures for the 2011 sardine fishery. Management measures were based on a biomass estimate of 537,173 metric tons (mt). The Council adopted an Overfishing Limit (OFL) of 92,767 mt, a P^* value of 0.40, and a corresponding Acceptable Biological Catch (ABC) of 84,681 mt. The Council set an Annual Catch Limit (ACL) equal to the ABC of 84,681 mt. The Council adopted a harvest guideline (HG) of 50,526 mt, with a 4,200 mt set-aside for dedicated Pacific sardine research activities in 2011. (*Only 2,700 mt was subsequently proposed for EFP research, thereby adding 1,500 mt to the 2011 third period directed fishery*). The Council also adopted a set aside of 5,000 mt allocated across seasonal periods as in the following table. Incidental catch limits during closed periods and rollover provisions for quota overages and underages remain the same as prior years.

HG = 50,526 mt; EFP set aside = 4,200 mt; Adjusted HG = 46,326 mt				
	Jan 1- Jun 30	Jul 1- Sep 14	Sep 15 – Dec 31	Total
Seasonal Allocation (mt)	16,214	18,530	11,582	46,326

Incidental Set Aside (mt)	1,000	1,000	1,000	3,000
Management Uncertainty (mt)			2,000	2,000
Adjusted Allocation	15,214	17,530	8,582	41,326

The Council also adopted catch limits for monitored CPS stocks, under the Amendment 13 provisions approved at the June 2010 meeting:

Stock	OFL	ABC	ACL	ACT
Jack mackerel	126,000 mt	31,000 mt	Equal to ABC	
Northern anchovy, Northern subpop	39,000 mt	9,750 mt	Equal to ABC	1,500 mt
Northern anchovy, central subpop	100,000 mt	25,000 mt	Equal to ABC	
Market squid	Fmsy proxy resulting in Egg Esc \geq 30%	Fmsy proxy resulting in Egg Esc \geq 30%	Exempt	

The Council approved new Terms of Reference (TOR) documents for the CPS STAR panel process and a Methodology Review process. The methodology review process TOR was developed as a way to provide independent review of new stock survey and assessment methods for use in CPS fisheries management. As of November 2010, the egg production and aerial survey methods were used in the sardine stock assessment. At the November meeting, the Council considered three other methods to be reviewed for potential use in the sardine stock assessment. These were the SWFSC's Acoustic-Trawl survey, LIDAR imagery, and satellite imagery. *(Note: subsequently, only the Acoustic-Trawl method was reviewed – and approved – for use in CPS stock assessments. The proponents of the other two methods withdrew from consideration prior to panel review).*

- At the March 2011 meeting, the Council considered a preliminary proposal to conduct stock survey research under a NMFS-issued Exempted Fishing Permit (EFP). Unlike the previous two years, the only proposal was aimed at conducting industry-sponsored aerial survey research off the Pacific Northwest. Northwest Sardine Survey (NWSS), LLC submitted the preliminary proposal. The California Wetfish Producers Association (CWPA) participated in the aerial survey during 2009 and 2010, but did not choose to pursue the research again in 2011. The NWSS proposal identified 2,100 mt to utilize for the aerial survey, representing half of the EFP set-aside from the November Council meeting. However, because the CWPA did not propose to use any of the EFP set-aside, the Northwest and California industry members agreed that it would be reasonable for the NWSS to increase its request, to 2,700 mt. The Council approved the proposal for public review, offering several suggestions, including adopting most of the CPSMT's requests in its supplemental report

- At the April 2011 meeting, the Council considered the revised EFP proposal, and voted to recommend that NMFS approve the EFP, subject to minor revisions. The Council Executive Director subsequently transmitted a letter of support to the NMFS Southwest Region, expressing support for the EFP proposal.

Also at the April 2011 meeting, the Council considered a report of the CPS Methodology Review Panel, which provided guidance on potential for use of acoustic-trawl surveys in stock assessments for CPS fisheries. Acknowledging that there are concerns about whether the methodology should be used to develop absolute abundance estimates for Pacific sardine, the Council approved the methodology for potential contributory use in future stock assessments for Pacific Coast CPS fisheries.

- At the June 2011 meeting, the Council approved Pacific mackerel stock assessment and management measures for the 2011-2012 fishery, beginning July 1, 2011 and ending June 30, 2012. Because Amendment 13 was not yet in place, the Council adopted management benchmarks that would apply under both a pre- and post-Amendment 13 fishery. Therefore, management measures included OFL, ABC, HG, ACL, and ACT:

Biomass	211,126 mt
Overfishing Limit (OFL)	44,336 mt
P* (risk of overfishing)	0.45
Acceptable Biological Catch (ABC)	42,375 mt
Annual Catch Limit (ACL)	40,514 mt
Harvest Guideline (HG)	40,514 mt
Annual Catch Target (ACT)	30,386 mt

The ACT of 30,336 mt is 75% of the HG/ACL, and reflects a defacto incidental set-aside of 10,128 mt. After attaining the ACT, the fishery will revert to management similar to recent past years: Other CPS fisheries harvest may include up to 45% Pacific mackerel by weight, and directed harvest of Pacific mackerel up to 1 mt would be allowed). Upon attainment of the ACL (40,514 mt), no retention of Pacific mackerel would be allowed in CPS fisheries. The Council also adopted a provision to consider in April 2012 the possibility of re-allocating the incidental set-aside to the directed fishery. This provision was included in case mackerel become available and in demand. The set aside is relatively large compared with prior years. Therefore, the Council agreed that near the end of the fishing year (spring/summer 2012), if there is a large amount of set aside remaining, it has the option to allocate some of the set aside for directed harvest.

- At the November 2011 meeting, the Council approved the full stock assessment for Pacific sardine, which produced a biomass estimate of 988,385 mt. The Council considered the Quinault Tribal Nation's intention to harvest up to 9,000 mt, and a 3,000 mt EFP set aside, and adopted an allocation plan as indicated in the table below. The Council also approved a recommendation to conduct a methodology review for the Canadian DFO trawl survey off Vancouver Island, which was subsequently scheduled for the spring of 2012.

Harvest Specifications for the 2012 Pacific sardine fishery.

ACT = 109,409 mt; Tribal Set Aside = 9,000 mt; EFP set aside = 3,000 mt;

Adjusted ACT = 97,409 mt

	Jan 1- Jun 30	Jul 1- Sep 14	Sep 15 – Dec 31	Total
Seasonal Allocation (mt)	34,093 (35%)	38,964 (40%)	24,352 (25%)	97,409
Incidental Set Aside (mt)	1,000	1,000	1,000	3,000
Adjusted Allocation (mt)	33,093	37,964	23,352	94,409

- At the March 2012 meeting, the Council recommended that the National Marine Fisheries Service approve and issue the EFP proposed by the Northwest Aerial Sardine Survey. Any of the 3000 mt set-aside that not utilized was to be re-allocated to the third period directed fishery. The Council also asked the CPSMT to explore ways to streamline the CPS EFP process, and report back at the June Council meeting.
- The Council adopted management measures and harvest specifications for the upcoming fishing year, including an Annual Catch Limit of 40,514 metric tons (mt), an Annual Catch Target of 30,386 mt, and incidental set-aside of 10,128 mt. The Council also adopted a provision to consider in April 2013 the possibility of re-allocating the incidental set-aside to the directed fishery. These measures were based on the 2011 Pacific mackerel stock assessment, which was approved at the June 2011 Council meeting.
- At the November 2012 meeting, the Council approved COP 23, which describes an EFP process for CPS fisheries. The Council also approved a workshop designed to review Pacific sardine harvest parameters, to be held in spring, 2013, and directed staff to develop a terms of reference and begin plans to implement the workshop.

The Council also approved the stock assessment update, and established harvest specifications and management measures in the table below. In setting harvest for the 2013 fishing year, the Council recognized the Quinault Tribe's intent to harvest up to 9,000 mt, and an EFP set aside of 3,000 mt.

2013 Pacific sardine harvest specifications and allocation plan HG = 66,495 mt; Tribal set-aside = 9,000 mt; potential EFP set-aside = 3,000 mt Adjusted HG = 54,495 mt				
	Jan 1- Jun 30	Jul 1- Sep 14	Sep 15 – Dec 31	Total
Seasonal Allocation (mt)	19,073 (35%)	21,798 (40%)	13,624 (25%)	54,495
Incidental Set-Aside (mt)	1,000	1,000	1,000	3,000
Adjusted (Directed) Allocation (mt)	18,073	20,798	12,624	51,495

- At the March 2013 meeting, the Council recommended that NMFS approve the 3,000 mt EFP research set-aside, as requested by the Northwest Aerial Sardine Survey, LLC.
- At its April 2013 meeting, the Council considered a report on the sardine harvest parameters workshop, and scheduled potential action for the June 2013 meeting. (That was subsequently shifted to final action at the November 2013 meeting). The Council also indicated support for changing the sardine fishery start date from January 1 to July 1, and scheduled final action for the June 2013 meeting.
- At the June 2013 meeting, the Council adopted Pacific mackerel management measures and harvest specifications for the 2013-2014 fishing year. These included an overfishing limit of 57,316 mt, a P* choice of 0.45, acceptable biological catch and annual catch limit (ACL) set equal to 52,358 mt, and an annual catch target (ACT) equal to 39,268 mt. The 13,089 mt difference between the ACL and ACT is an incidental catch buffer. The Council also approved a “check in” at the subsequent April meeting, to consider re-allocating some of the incidental catch to the directed fishery, in the case that landings are significantly up, and approaching the initial directed allocation.

The Council also voted to amend the management and assessment schedule for Pacific mackerel. The new schedule calls for full stock assessments every four years starting in 2015, alternating with catch-only projection estimates every four years, in off-science years. Biennial harvest specifications will be made for two years at a time.

Also at the June meeting, the Council voted to change the fishery start date for Pacific sardine to July 1, starting in 2014. A biomass projection estimate was to be used to set harvest specifications for the January 1-June 30 period during the 2014 transition year, and the Council anticipated a full stock assessment would be available to inform annual harvest specifications for the fishing year beginning July 1, 2014.

- At the November 2013 meeting, the Council adopted Pacific sardine management measures for the six-month period January 1-June 30, 2014. This includes approving a biomass estimate of 378,120 metric tons (mt) and an Overfishing Limit of 59,214 mt. Based on a P* choice of 0.4, the

Acceptable Biological Catch and Annual Catch Limit were set at 54,052 mt. The annual Harvest Guideline was set at 29,770 mt, with an Annual Catch Target set at 19,846 mt. Accounting for a 1,000 mt Tribal allocation and a 500 mt incidental set-aside, the January 1-June 30 allocation was set at 5,446 mt. Other management measures were to be consistent with the 2012 fishery, with the exception of (1) the incidental landing allowance that was set at 45 percent for mixed loads, after the directed fishery closes, and (2) there would be no rollover of uncaught fish from the first six-month period into the following fishing period.

The Council considered a letter of intent from the Northwest Aerial Sardine Survey, LLC to conduct survey research during summer 2014. The Council adopted the request for public review and scheduled a final determination, including the final tonnage amount, at the April 2014 Council meeting. (The request for an EFP set-aside was subsequently withdrawn).

The Council established a Maximum Sustainable Yield (MSY) reference point for the northern subpopulation of northern anchovy. Based on information that northern anchovy are subject to large population fluctuations and have relatively high productivity, the Council selected annual fishing rate: $F_{msy} = 0.3$ as the appropriate MSY reference point.

The Council also endorsed methodology reviews of the California Department of Fish and Wildlife/California Wetfish Producers Association aerial survey methodology for the Southern California Bight, of the Northwest Aerial Sardine Survey, and the NMFS acoustic sardine survey. The methodology review was to be coordinated with the Southwest Fisheries Science Center to optimize logistical and financial contingencies. The Council also tasked the Coastal Pelagic Species (CPS) Management Team and CPS Advisory Subpanel with reviewing the draft Council Operating Procedure for a CPS methodology review process and with providing their recommendations at a future Council meeting.

- At the March 2014 meeting, the Council adopted the technical change of using the CalCOFI temperature index, rather than the Scripps Pier temperature recordings, in calculating the annual overfishing limit (OFL) for Pacific Sardine. The new temperature index and new temperature-productivity relationship was to be used for establishing the OFL starting with the April 2014 meeting, when the Council established annual harvest specifications and management measures for the fishing year beginning July 1, 2014. The Council directed the CPSMT and NMFS to further evaluate alternatives for applying the new temperature index and F_{msy} relationship to annual harvest specifications, and to report back to the Council at the September 2014 meeting.
- At the April 2014 meeting, the Council adopted harvest specifications and management measures for Pacific sardine, for the fishing year running July 1, 2014 through June 30, 2015. This included an OFL of 39,210 mt and an ABC of 35,792 mt, based on a P^* value of 0.40. The Council set the ACL and the ACT both to 23,293 mt, and adopted a 500 mt incidental set aside for each of the three fishing periods. Accounting for a Quinault Indian Nation allotment of 4,000 mt and a total of 1,500 mt incidental set aside, the period allocations were set to 7,218 mt in Period 1 (July 1 – September 14), 4,323 mt for Period 2 (September 15 – December 31), and 6,252 mt for Period 3 (January 1 – June 30, 2015). The Council approved rollovers from Periods 1 and 2 into the subsequent Period, with no rollover from Period 3 into the next fishing year. The Council also

adopted a mixed load allowance of up to 45 percent sardines caught in other CPS fisheries, after directed Pacific sardine fishing closes.

- At the June 2014 meeting, the Council adopted harvest specifications and management measures for Pacific mackerel. Based on a catch-only projection estimate of 157,106 mt, the Council adopted an OFL of 32,992 mt, an ABC and ACL both equal to 30,138 mt, an HG of 29,170 mt, and an ACT of 24,170 mt. The difference between the HG and the ACT is a 5,000 mt incidental set aside. Should the directed fishery realize the ACT (24,170 mt), the directed fishery will close, and shift to an incidental only fishery, with a 45 percent incidental landing allowance when Pacific mackerel are landed with other CPS, with the exception that up to 1 (one) mt of Pacific mackerel may be landed without landing any other CPS. The Council also adopted a check in provision, to consider reallocating a portion of the set aside to the directed fishery, should the directed fishery attain the ACT.
- At the November 2014 meeting, the Council adopted the technical change of using the CalCOFI temperature index, rather than the Scripps Pier temperature recordings, in calculating annual harvest specifications for Pacific Sardine; and adopted an accompanying harvest FRACTION term ranging between five and 20 percent. This replaces the current range of five and fifteen percent.

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. (65FR3890)

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. (65FR54817)

November 1, 2000. NMFS announced the closure of the directed fishery for Pacific mackerel in the EEZ off the Pacific coast on October 27, 2000. The FMP and its implementing regulations require NMFS to set an annual 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. (65FR65272)

November 17, 2000. NMFS published a correction to the Pacific mackerel closure, which was published on November 1, 2000. In 65FR65272, 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." (65FR69483)

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. (65FR81766)

February 22, 2001. NMFS announced changes to the restriction on landings of Pacific mackerel for individuals participating in the CPS fishery and for individuals involved in other fisheries who harvest small amounts of Pacific mackerel. The incidental limit on landings of 20 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 one 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. (66FR11119)

March 30, 2001. NMFS announced the closure of the fishery for Pacific mackerel in the EEZ off the Pacific coast at 12:00 a.m. on March 27, 2001. The FMP and its implementing regulations require NMFS to set an annual 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. (66FR17373)

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. (66FR38571)

November 27, 2001. NMFS announced the closure of the directed fishery for Pacific mackerel in the EEZ off the Pacific coast at 12:00 noon on November 21, 2001. For the fishing season beginning July 1, 2001, 6,000 mt of the 13,837 mt 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. (66FR59173)

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 78,961 mt. The sardine HG is in effect until December 31, 2002, or until it is reached and the fishery closed. (66FR66811)

April 5, 2002. NMFS announced the reopening of the directed fishery for Pacific mackerel in the U.S. EEZ off the Pacific coast on April 1, 2002. A significant portion of the Pacific mackerel 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. (67FR16322)

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. (67FR45952)

September 18, 2002. NMFS announced the closure of the fishery for Pacific sardine in the U.S. EEZ off the Pacific coast north of Point Piedras Blancas, 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. (67FR58733)

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. (67FR60601)

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. (67FR61994)

October 30, 2002. NMFS proposed a regulation to implement Amendment 10 to the CPS FMP, which was submitted by the Council for review and approval by the Secretary of Commerce. Amendment 10 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. (67FR66103)

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. (67FR70573)

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. (67FR79889).

January 27, 2003. NMFS issued a regulation to implement Amendment 10 to the CPS FMP, which was submitted by the Council for review and approval by the Secretary. 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. (68FR3819)

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. (68FR37995)

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. (68FR44518)

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. (68FR52523)

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. (68FR53053)

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. (68FR57379)

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. (68FR61373)

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. (68FR67638)

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. (69FR8572). 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 Statement to 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).

January 13, 2010. NMFS issued a proposed rule to implement annual harvest specifications for the 2010 sardine fishery off the U.S. West Coast. NMFS proposed a regulation to implement the annual harvest guideline (HG) and seasonal allocations for Pacific sardine in the U.S. exclusive economic zone (EEZ) off the Pacific coast for the fishing season of January 1, 2010, through December 31, 2010. This rule is proposed according to the Coastal Pelagic Species (CPS) Fishery Management Plan (FMP). The proposed 2010 acceptable biological catch (ABC) or maximum HG is 72,039 mt. 5,000 mt of this 72,039 mt would initially be set aside for use under an Exempted Fishing Permit (EFP), if issued, leaving the remaining 65,732 mt as the initial commercial fishing HG. That HG would be divided across the seasonal allocation periods in the following way: January 1–June 30, 22,463 mt would be allocated for directed harvest with an incidental set-aside of 1,000 mt; July 1–September 14, 25,861 mt would be allocated for directed harvest with an incidental set-aside of 1,000 mt; September 15–December 31, 11,760 mt would be allocated for directed harvest with an incidental set-aside of 1,000 mt with an additional 4,000 mt set aside to buffer against reaching the ABC. (75 FR 1744).

March 10, 2010. NMFS issued the sardine Final Rule to implement the annual harvest specifications for the 2010 sardine fishery off the U.S. West Coast. The proposed allocation of the overall HG over three fishing periods, were identical to those proposed on January 13, 2010 (above). (75 FR 11068).

June 15, 2010. NMFS issued a temporary rule announcing the closure of the first period sardine fishery, effective at 12:01am Pacific Daylight Time June 12. From 12:01 am on the date of closure through June 30, 2010, Pacific sardine may be harvested only as part of the live bait fishery or incidental to other fisheries, with the incidental harvest of Pacific sardine limited to 30 percent by weight of all fish caught during a trip. (75 FR 33733).

July 22, 2010. NMFS issued a temporary rule announcing the closure of the second period sardine fishery, effective at 12:01am Pacific Daylight Time July 22. From 12:01 am on the date of closure through September 14, 2010, Pacific sardine may be harvested only as part of the live bait fishery or incidental to other fisheries, with the incidental harvest of Pacific sardine limited to 30 percent by weight of all fish caught during a trip. (75 FR 42610).

September 27, 2010. NMFS issued a temporary rule announcing the closure of the third period sardine fishery, effective at 12:01am Pacific Daylight Time September 24. From 12:01 am on the date of closure through December 31, 2010, Pacific sardine may be harvested only as part of the live bait fishery or incidental to other fisheries, with the incidental harvest of Pacific sardine limited to 30 percent by weight of all fish caught during a trip. (75 FR 59156).

January 27, 2011. NMFS issued a proposed rule on annual specifications and management measures for Pacific sardine, under the CPS FMP. The proposed 2011 maximum HG for Pacific sardine was 50,526 metric tons (mt), of which 4,200 mt was initially set aside for potential use under an Exempted Fishing Permit (EFP). The remaining 46,326 mt, constituting the initial commercial fishing HG, would be divided across the seasonal allocation periods in the following way: January 1–June 30: 16,214 mt would be allocated for directed harvest with an incidental set-aside of 1,000 mt; July 1–September 14: 18,530 mt would be allocated for directed harvest with an incidental set-aside of 1,000 mt; September 15– December 31: 11,582 mt would be allocated for directed harvest with an incidental set-aside of 1,000 mt, plus an additional 2,000 mt set aside to buffer against reaching the total HG. (76 FR 4854).

March 4, 2011. NMFS issued a temporary emergency rule to close first period directed sardine fishery, anticipating that the first period allocation of 15,214 metric tons would have been harvested by then. Under this rule, Pacific sardine could have been harvested only as part of the live bait fishery or incidental to other fisheries; and the incidental harvest of Pacific sardine was limited to 30-percent by weight of all fish caught per trip. The effective date was 12:01 a.m. March 5, 2011. (76 FR 11969).

May 25, 2011. The Final Rule implementing the closure of the first period directed sardine fishery (see above) was issued. (76 FR 30276).

June 28, 2011. NMFS issued a Proposed Rule to implement parts of proposed Amendment 13 to the CPS FMP, which is intended to ensure the FMP is consistent with advisory guidelines published in Federal regulations. NMFS also issued a request for comments, which were due by July 28, 2011. Amendment 13 revises the framework process that was in place to set and adjust fishery specifications and management measures and modifies this framework to include the specification new reference points such as annual catch limit (ACL).

November 14, 2011. NMFS issued a final rule to implement parts of Amendment 13 to the CPS FMP, which is intended to ensure the FMP is consistent with advisory guidelines published in Federal regulations. Amendment 13 revised the framework process that was in place to set and adjust fishery specifications and management measures and modified this framework to include the specification new reference points such as annual catch limit (ACL). (76 FR 70362).

April 3, 2012. NMFS issued a proposed rule on annual specifications and management measures for Pacific sardine, under the CPS FMP. The proposed 2012 maximum HG for Pacific sardine was 109,409 metric tons (mt), of which 3,000 mt was initially set aside for potential use under an Exempted Fishing Permit (EFP) and 9,000 mt for potential harvest by the Quinault Indian Nation. The remaining 97,409 mt, constituting the initial commercial fishing HG, would be divided across the seasonal allocation periods in the following way: January 1–June 30: 34,093 mt would be allocated for directed harvest with an incidental set-aside of 1,000 mt; July 1–September 14: 38,964 mt would be allocated for directed harvest with an incidental set-aside of 1,000 mt; September 15– December 31: 24,352 mt would be allocated for directed harvest with an incidental set-aside of 1,000 mt. (77 FR 19991).

April 12, 2012. NMFS issued a proposed rule on annual specifications and management measures for Pacific mackerel, under the CPS FMP. The proposed 2011-2012 maximum HG for Pacific mackerel was 40,514 metric tons (mt), and the ACT was 30,386 mt. If the ACT was attained, the directed fishery would close, and the difference between the ACL and the ACT (10,128 mt) would be reserved as a set aside for incidental landings in other CPS fisheries and other sources of mortalities. (77 FR 21958).

August 8, 2012. NMFS issued a final rule on annual specifications and management measures for Pacific sardine, under the CPS FMP. The final 2012 maximum HG for Pacific sardine was 109,409 metric tons

(mt), of which 3,000 mt was initially set aside for potential use under an Exempted Fishing Permit (EFP) and 9,000 mt for potential harvest by the Quinault Indian Nation. The remaining 97,409 mt, constituting the initial commercial fishing HG, would be divided across the seasonal allocation periods in the following way: January 1–June 30: 34,093 mt would be allocated for directed harvest with an incidental set-aside of 1,000 mt; July 1–September 14: 38,964 mt would be allocated for directed harvest with an incidental set-aside of 1,000 mt; September 15– December 31: 24,352 mt would be allocated for directed harvest with an incidental set-aside of 1,000 mt. (77 FR 47318).

June 18, 2012. NMFS issued a final rule on annual specifications and management measures for Pacific mackerel, under the CPS FMP. The final 2011-2012 maximum HG for Pacific mackerel was 40,514 metric tons (mt), and the ACT was 30,386 mt. If the ACT is attained, the directed fishery would close, and the difference between the ACL and the ACT (10,128 mt) would be reserved as a set aside for incidental landings in other CPS fisheries and other sources of mortalities. (77 FR 36192).

August 23, 2012. NMFS issued a temporary rule announcing the closure of the second period sardine fishery, effective at 12:01am Pacific Daylight Time August 23. From 12:01 am on the date of closure through September 14, 2012, Pacific sardine may be harvested only as part of the live bait fishery or incidental to other fisheries, with the incidental harvest of Pacific sardine limited to 30 percent by weight of all fish caught during a trip. (77 FR 50952).

December 7, 2012. NMFS issued a proposed rule on annual specifications and management measures for Pacific mackerel, under the CPS FMP. The proposed 2012-2013 maximum HG for Pacific mackerel was 40,514 metric tons (mt), and the ACT was 30,386 mt. If the ACT was attained, the directed fishery would close, and the difference between the ACL and the ACT (10,128 mt) would be reserved as a set aside for incidental landings in other CPS fisheries and other sources of mortalities. (77 FR 73005).

January 31, 2013. NMFS issued a proposed rule on annual specifications and management measures for Pacific sardine, under the CPS FMP. The proposed 2013 maximum HG for Pacific sardine was 66,495 metric tons (mt), of which 3,000 mt was initially set aside for potential use under an Exempted Fishing Permit (EFP) and 6,000 mt for potential harvest by the Quinault Indian Nation. The remaining 57,495 mt, constituting the initial commercial fishing HG, would be divided across the seasonal allocation periods in the following way: January 1–June 30: 19,123 mt would be allocated for directed harvest with an incidental set-aside of 1,000 mt; July 1–September 14: 22,998 mt would be allocated for directed harvest with an incidental set-aside of 1,000 mt; September 15– December 31: 12,374 mt would be allocated for directed harvest with an incidental set-aside of 1,000 mt. (78 FR 6794).

March 26, 2013. NMFS issued a final rule on annual specifications and management measures for Pacific mackerel, under the CPS FMP. The final 2012-2013 maximum HG for Pacific mackerel was 40,514 metric tons (mt), and the ACT was 30,386 mt. If the ACT was attained, the directed fishery would close, and the difference between the ACL and the ACT (10,128 mt) would be reserved as a set aside for incidental landings in other CPS fisheries and other sources of mortalities. (78 FR 18249).

June 17, 2013. NMFS issued a final rule on annual specifications and management measures for Pacific sardine, under the CPS FMP. The final 2013 maximum HG for Pacific sardine was 66,495 metric tons (mt), of which 3,000 mt was initially set aside for potential use under an Exempted Fishing Permit (EFP) and 6,000 mt for potential harvest by the Quinault Indian Nation. The remaining 57,495 mt, constituting the initial commercial fishing HG, would be divided across the seasonal allocation periods in the following way: January 1–June 30: 19,123 mt would be allocated for directed harvest with an incidental set-aside of 1,000 mt; July 1–September 14: 22,998 mt would be allocated for directed harvest with an incidental set-aside of 1,000 mt; September 15– December 31: 12,374 mt would be allocated for directed harvest with an incidental set-aside of 1,000 mt. (78 FR 36117).

August 20, 2012. NMFS issued a temporary rule announcing the closure of the second period sardine fishery, effective at 12:01am Pacific Daylight Time August 22. From 12:01 am on the date of closure through September 14, 2012, Pacific sardine may be harvested only as part of the live bait fishery or incidental to other fisheries, with the incidental harvest of Pacific sardine limited to 40 percent by weight of all fish caught during a trip. (78 FR 51097).

December 23, 2013. NMFS issued a proposed rule to change the starting date of the annual Pacific sardine fishery from January 1 to July 1. This would change the fishing season from one based on the calendar year to one based on a July 1 through the following June 30th schedule. No other changes to the annual allocation structure are proposed and the existing seasonal allocation percentages would remain as specified in the FMP; as would the current quota roll-over provisions. (78 FR 77413).

February 28, 2014. NMFS issued a final rule to change the starting date of the annual Pacific sardine fishery from January 1 to July 1. This changed the fishing season from one based on the calendar year to one based on a July 1 through the following June 30th schedule. No other changes to the annual allocation structure were made and the existing seasonal allocation percentages remain as specified in the FMP; as do the current quota roll-over provisions. (78 FR 11343).

TABLE 2-3. Coastal pelagic species 2013 limited entry permit vessel listing⁴ with calculated gross tonnage (GT) values for each vessel. (Page 1 of 2)

Vessel Name	Permit No.	Coast Guard Number/ Vessel ID	Calculated Vessel GT ¹	Permit GT Endorsement	Permit Transfer Allowance ²
PROVIDER	1	572344	63.8	63.8	70.2
UNASSOCIATED	2	----	---	43.5	47.9
SEA VENTURE	3	WN4232NW	98.4	98.4	108.2
BARBARA H	4	643518	121.1	121.1	133.2
KAREN MARIE	5	593871	82.0	82.0	90.2
CACHALOT	6	654091	98.1	98.1	107.9
SAN PEDRO PRIDE	7	549506	160.7	160.7	176.8
FERRIGNO BOY	8	602455	139.3	139.3	153.2
KING PHILIP	9	1061827	156.9	156.9	172.6
SEA WAVE	10	951443	206.9	206.9	227.6
UNASSOCIATED	11	---	---	56.2	61.8
ANGELETTE	12	608579	114.8	114.8	126.3
PIONEER	13	246212	141.9	141.9	156.1
TRITON	14	CF7218UH	89.3	89.3	98.2
SAINT JOSEPH	15	633570	84.4	84.4	92.8
-----	16	---	---	137.5	151.3
RISING SPIRIT	17	WN0416RK	61.9	61.9	68.1
ATLANTIS	18	649333	63.8	63.8	70.2
SEA PEARL	19	CF7336UH	124.6	124.6	137.1
UNASSOCIATED	20	---	---	111.9	123.1
SPERANZA MARIE	21	643138	77.0	77.0	84.7
OCEAN ANGEL IV	22	OR868ADK	63.5	63.5	69.9
PACIFIC PREDATOR	23	OR018ADR	97.7	97.7	107.5
OCEAN ANGEL I	24	584336	63.8	63.8	70.2
SEA DIAMOND	25	509632	68.1	68.1	74.9
MANANA	26	253321	23.8	23.8	26.2
NEW QUEEN	27	OR588ADB	55.5	55.5	61.1
MINEO BROS. ^{/3}	28	CF0163TF	73.4	73.4	80.7
UNASSOCIATED	29	---	---	42.0	46.2
MINEO BROS. ^{/3}	30	CF0163TF	40.8	40.8	44.9
SHELLFISH	31	506989	340.2	340.2	374.2
ELDORADO	32	690849	54.9	54.9	60.4
KELSEY NICOLE	33	1210115	194.0	194.0	213.4
CAROL N ROSE	34	1211776	125.6	125.6	138.2
ENDURANCE	35	613302	42.0	42.0	46.2
NEW SUNBEAM	36	284470	27.0	27.0	29.7
CALOGERA A	37	984694	85.3	85.3	93.8
EILEEN	38	252749	119.9	119.9	131.9
PAMELA ROSE	39	693271	61.9	61.9	68.1
NEW STELLA	40	598813	71.8	71.8	79.0
TRAVELER	41	661936	44.0	44.0	48.4
LUCKY STAR	42	295673	41.5	41.5	45.7
OCEAN ANGEL II	43	622522	149.5	149.5	164.5
CRYSTAL SEA	44	1061917	137.0	137.0	151.8
TRIONFO	45	625449	79.2	79.2	87.1
RELENTLESS	46	CF2009TK	85.0	85.0	93.5
HEAVY DUTY	47	655523	84.4	84.4	92.8
ALIOTTI BROS	48	685870	107.2	107.2	117.9
LADY J	49	647528	40.7	40.7	44.8
INVINCIBLE	50	1225596	50.2	50.2	55.2
ENDEAVOR	51	971540	72.3	72.3	79.5

TABLE 2-3. Coastal pelagic species 2013 limited entry permit vessel listing⁴ with calculated gross tonnage (GT) values for each vessel. (Page 2 of 2)

Vessel Name	Permit No.	Coast Guard Number/ Vessel ID	Calculated Vessel GT ¹	Permit GT Endorsement	Permit Transfer Allowance ²
ANTOINETTE W	52	606156	37.0	37.0	40.7
CAPE BLANCO	53	648720	158.2	158.2	174.0
OCEAN ANGEL III	54	OR108ADL	82	126.5	139.2
UNASSOCIATED	55	---	---	40.4	44.4
KATHY JEANNE	56	507798	86.3	86.3	94.4
MERVA W	57	532023	54.4	54.4	59.8
SANTA MARIA	58	236806	91.1	91.1	100.2
STELLAR	59	1190501	73.3	74.5	82.0
PACIFIC KNIGHT	60	OR155ABZ	63.4	63.4	69.7
ALEUTIAN SPIRIT	61	621542	59.9	59.9	65.9
SEABOUND	62	AK9671AF	67.8	39.7	43.7
EMERALD SEA	63	626289	86.3	86.3	94.9
LUCKY MARIE	64	602150	35.1	54.5	60.0
BOUNTY	65	629721	26.4	26.4	29.0

¹ Vessel Gross Tonnage GT=0.67(Length*Breadth*Depth)/100. See 46 CFR 69.209.

² Maximum transfer allowance is based on permit GT + 10%.

³ Vessel Mineo Bros is associated with permits 28 and 30

⁴ Several CPS permit transfers occurred in 2013. The above list includes vessels with permits at the end of December 2013 that received renewal permit applications. Vessels that had permits earlier in the year but transferred their permit to other vessels were not included

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	56
Average Vessel Age	35 years	34 years
Range of Ages	12 to 66 years	4 to 70 years
Average GT	71.3	88
Range of GT	12.8 to 206.9	23.4 to 206.9
Sum of Fleet GT	4,635.9	4,753
Capacity Goal (GT) ^{1/}	---	5,650.9
Transferability Trigger	---	5,933.5

^{1/} Established in Amendment 10 to the CPS FMP.

TABLE 2-5 (a). Oregon state limited entry sardine permit vessels landing sardine in 2011.

Vessel Name	Coast Guard Number	Year Built	Length	Breadth	Depth	Calculated Vessel GT ^{2/}	Federal Limited Entry	WA Limited Entry
ANTHONY G	605599	1979	58	24	8	74.6		
CAROL N ROSE	1211776	2008	68	23	11	115.3	X	
CRYSTAL SEA	1061917	1997	66	26	12	138	X	
DELTA DAWN	647246	1982	49.6	19	10.1	63.8		X
EVERMORE	248555	1944	76.3	22.2	11.4	129.4		
HARBOR GEM	974306	1982	58	19.5	10	75.8		
LAUREN L KAPP	OR072ACX	----	72	---	---	---		
OCEAN ANGEL II	622522	1980	74.5	28	10.7	149.5	X	
OCEAN DREAM	621541	1980	58	19	10.2	75.3		
PACIFIC JOURNEY	OR661ZK	1996	71	22	10	104.7	X	
PACIFIC KNIGHT	OR155ABZ	1978	62	19.6	7.6	61.9	X	
PACIFIC PURSUIT	OR873ABY	1993	63	---	---	---		
PACIFIC RAIDER	972638	1991	57.7	22.7	11	96.5		X
ST. ZITA	648115	1982	49.6	21.5	10.5	75		
SUNRISE	238918	1939	80.2	22.2	10.2	121.7		
WESTERN WARRIOR	625471	1980	36.3	15	8.8	32.1		

1/ Vessel dimension information was obtained from NOAA at www.st.nmfs.noaa.gov/st1/CoastGuard/VesselByName.html.

2/ Vessel Gross Tonnage $GT=0.67(\text{Length} \times \text{Breadth} \times \text{Depth})/100$ (The CPSMT is working on discrepancies between Tables 2-3 through 2-6.).

TABLE 2-5(b). Oregon state limited entry sardine permit vessels landing sardine in 2012.

Vessel Name	Coast Guard Number	Year Built	Length	Breadth	Depth	Calculated Vessel GT ^{2/}	Federal Limited Entry	WA Limited Entry
ANTHONY G	605599	1979	58	24	8	74.6		
CRYSTAL SEA	1061917	1997	66	26	12	138	X	
D C COLE	556145	1975	49.6	19	10.1	63.8		
DELTA DAWN	647246	1982	49.6	19	10.1	63.8		X
EMERALD SEA	626289	1980	62.7	26	7.9	86.3	X	X
EVERMORE	248555	1944	76.3	22.2	11.4	129.4		
HARBOR GEM	974306	1982	58	19.5	10	75.8		
LADY LAW	1131965	2002	74.7	25	13.3	166.4		
LAUREN L KAPP	OR072ACX	----	72	---	---	---		
OCEAN ANGEL II	622522	1980	74.5	28	10.7	149.5	X	
OCEAN DREAM	621541	1980	58	19	10.2	75.3		
PACIFIC JOURNEY	OR661ZK	1996	71	22	10	104.7	X	
PACIFIC PREDATOR	OR018ADR	---	57	20	---	---	X	
PACIFIC PURSUIT	OR873ABY	1993	63	---	---	---		
PACIFIC RAIDER	972638	1991	57.7	22.7	11	96.5		X
ROYAL PACIFIC	OR873ABY	---	73	---	---	---		
SEA VENTURE	WN4232NW	---	66	---	---	---	X	
SEQUEL	1240646	2012	57.8	22.7	11.5	101.1		
SHELTER COVE	1239174	2012	58	25	11	106.9		
SUNRISE	238918	1939	80.2	22.2	10.2	121.7		

WESTWIND	246530	1944	72.5	20.2	8.4	82.4		
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1/ Vessel dimension information was obtained from NOAA at www.st.nmfs.noaa.gov/st1/CoastGuard/VesselByName.html.

2/ Vessel Gross Tonnage $GT=0.67(\text{Length}*\text{Breadth}*\text{Depth})/100$

TABLE 2-5 (c). Oregon state limited entry sardine permit vessels landing sardine in 2013.

Vessel Name	Coast Guard Number	Year Built	Length	Breadth	Depth	Calculated Vessel GT ^{2/}	Federal Limited Entry	WA Limited Entry
ANTHONY G	605599	1979	58	24	8	74.6		
ARCTIC FOX	1187928	2006	57.3	26	12.6	125.8		X
DELTA DAWN	647246	1982	49.6	19	10.1	63.8		X
JOHNNY A	625595	1980	49.6	22	9.7	70.9		
LAUREN L KAPP	OR072ACX	----	72	---	---	---		
MISS ROXANNE	976542	1991	58	19.5	10	75.8		
OCEAN DREAM	621541	1980	58	19	10.2	75.3		
PACIFIC JOURNEY	OR661ZK	1996	71	22	10	104.7		
PACIFIC PURSUIT	OR873ABY	1993	63	---	---	---		
PACIFIC RAIDER	972638	1991	57.7	22.7	11	96.5		X
PACIFIC VENTURE	WN7995RP	---	59	19	---	45 ³		
SEQUEL	1240646	2012	57.8	22.7	11.5	101.1		
ST. TERESA	623983	1980	49	18.5	8.5	51.6		
WESTWIND	246530	1944	72.5	20.2	8.4	82.4		

1/ Vessel dimension information was obtained from NOAA at www.st.nmfs.noaa.gov/st1/CoastGuard/VesselByName.html.

2/ Vessel Gross Tonnage $GT=0.67(\text{Length}*\text{Breadth}*\text{Depth})/100$

3/ Vessel Gross Tonnage provided by WDFW.

TABLE 2-6. Washington limited entry sardine licenses in 2010.

Vessel Name	Coast Guard Number	Year Built	Registered Measurements (ft) ^{1/}			Calculated Vessel GT ^{2/}	Other Permits/Licenses	
			Length	Breadth	Depth		Federal Limited Entry	Oregon Limited Entry
ATLANTIS	649333	1982	49.6	19.0	10.1	63.8	x	
BAINBRIDGE	236505	1937	78.6	22.7	9.6	114.8	x	
CAPE CAUTION	606699	1979	49.6	19.0	10.1	63.8		
DELTA DAWN	647246	1982	49.6	19.0	10.1	63.8		x
HEAVY DUTY	655523	1983	58.0	21.3	10.2	84.4	x	
HUSTLER	943301	1989	55.0	17.0	8.2	51.4		
JUNO	260614	1950	131.3	30.1	12	317.8		
LISA MARIE	1038717	1996	78.0	25.3	13	171.9		
MARAUDER	975597	1991	58.0	22.8	10.5	93.0		
	OR761ABL	2004	25.7			0.0		
PACIFIC JOURNEY	OR661ZK	2001	64.3	22.0	10.3	97.7	x	x
PACIFIC LEADER	643138	1981	59.5	21.0	9.2	77.0	x	x
PACIFIC RAIDER	972638	1991	57.7	22.7	11.0	96.5		x
	OR108ADL	1980	68.0					
SPARTAN	607367	1979	58.0	19.0	10.1	74.6		x
ST. TERESA	623983	1980	49.0	18.5	8.5	51.6		x

VOYAGER	248217	1945	66.7	20.2	9.3	84.0		
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1/Vessel dimension information was obtained from NOAA at www.st.nmfs.noaa.gov/st1/CoastGuard/VesselByName.html.

2/ Vessel Gross Tonnage $GT=0.67(\text{Length}*\text{Breadth}*\text{Depth})/100$ (The CPSMT is working on discrepancies between Tables 2-3 through 2-6).

TABLE 4-1 (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 4-2. 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. Seaslugs					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 4-3. 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	16 mt			
Bat Ray			2		
CA Yellowtail			1		
Midshipman			1		
Sardine					
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	21 mt	2 mt	1 mt	5	
Sardine			2 mt			
Bat Ray			4			
CA Lizardfish			4			
Kelp Bass		1				
Midshipman						

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 4-5. Percent frequency of incidental catch in observed Pacific sardine and mackerel landings, by port, 2009-2013.
(Page 1 of 5).

	All Ports Combined						Monterey/Moss Landing						Ventura/Port Hueneme/ Terminal Island/ San Pedro				
Common Name	2009	2010	2011	2012	2013		2009	2010	2011	2012	2013		2009	2010	2011	2012	2013
Finfish																	
Anchovy, northern	7.8	3.4	7.4	1.9	0.9		8.3	3.5	8.9	4.0	3.6		6.5	3.2	3.0	0.5	0.4
Barracuda, California	0.8	0.2	0.5	0.4			0.8		0.3	0.4			0.9	0.4	1.0	0.5	
Bass, barred sand		0.2	0.2	0.7	0.3									0.4	1.0	1.2	0.4
Bass, kelp	0.6	0.4		1.3	4.4								1.9	0.7		2.2	5.3
Bass, striped				0.3						0.4						0.2	
Blacksmith					0.3												0.4
Bonito, Pacific	1.4	0.6		0.1	3.8								4.6	1.1		0.2	4.6
Butterfish	0.8	3.4	4.4	1.8	1.5		0.4	3.5	4.3	3.6	3.6		1.9	3.2	5.0	0.5	1.1
Cabazon				0.1						0.4							
Combfish, longspine		0.2	0.2	0.1					0.3					0.4		0.2	
Corbina, California				0.1												0.2	
Croaker, unspecified	0.3				0.3								0.9				0.4
Croaker, white	4.7	5.0	5.7	3.1	0.9		6.7	7.8	6.2	6.9	5.4			2.5	4.0	0.5	
Croaker, yellowfin	0.3			0.3						0.7			0.9				
Cusk eel, basketweave		0.7	0.5	0.1										1.4	2.0	0.2	
Cusk-eel, spotted																	
Eel, unspecified																	
Eel, wolf (wolf-eel)			0.2	0.3					0.3							0.5	
Eel, yellow snake																	
Fish, unspecified	0.6	0.4					0.8							0.7			
Flatfish, unspecified	1.1	0.9	1.0	1.9	0.6		0.4		0.3	0.7			2.8	1.8	3.0	2.7	0.7
Flounder, starry	0.8	0.7	1.2	0.9			1.2	1.6	1.6	2.2							
Flounder, unspecified																	
Flyingfish	0.6	0.2	0.2	0.3	0.3								1.9	0.4	1.0	0.5	0.4
Greenling, kelp		0.2	0.2					0.4	0.3								
Grunion, California																	
Hagfish																	
Halfmoon																	
Halibut, California	2.8	2.1	2.5	1.0	1.8		2.8	1.2	2.3	1.4	1.8		2.8	2.9	3.0	0.7	1.8
Herring, Pacific	0.8	2.2	0.7	1.2			1.2	4.7	1.0	2.9							
Jacksmelt	3.9	3.0	2.0	2.8	0.9		5.6	6.2	2.0	6.1	5.4				2.0	0.5	
Kelpfish, giant		0.2		0.3	0.6									0.4		0.5	0.7
Lingcod	0.3		2.2	0.1			0.4		3.0							0.2	
Lizardfish, California	0.3	0.7	0.5	1.2	1.2					0.7	5.4		0.9	1.4	2.0	1.5	0.4
Mackerel, jack	4.7	3.4	1.0	5.7	13.5		2.4		0.3				10.2	6.5	3.0	9.7	16.1
Midshipman, plainfin	0.3	0.7	3.2	0.1	0.6			0.8	3.9				0.9	0.7	1.0	0.2	0.7
Midshipman, specklefin		0.6		0.7	1.8									1.1		1.2	2.1
Midshipman, unspec																	
Opaleye																	
Perch-like, unspecified				0.3						0.7							
Pipefish, bay																	
Pipefish, kelp		0.2		0.1										0.4		0.2	
Poacher, unspecified																	
Queenfish	0.6	0.2	0.2	0.1									1.9	0.4	1.0	0.2	
Rockfish, chilipepper																	
Rockfish, unspecified	0.6	0.2		0.6									1.9	0.4		1.0	
Salema	0.6												1.9				

Salmon, Chinook				0.6						1.1						0.2	
Sanddab, longfin																	
Sanddab, Pacific	6.1	3.4	5.2	2.2	5.0		8.7	6.2	6.6	4.3	7.1		0.7	1.0	0.7	4.6	
Sanddab, speckled		0.2		0.7	0.3						1.8		0.4		1.2		
Sanddab, unspecified		1.5	0.2	1.9			1.2			1.4			1.8	1.0	2.2		
Scorpionfish, California	2.2	3.0	2.0	1.3	2.6							7.4	5.7	7.9	2.2	3.2	
Sculpin, pithead																	
Sculpin, roughback				0.3											0.5		
Sculpin, staghorn	1.7	2.1	1.7	1.0	0.6		2.4	3.1	2.3	2.5	3.6		1.1				
Sculpin, undentified	0.3			0.3								0.9			0.5		
Sculpin, yellowchin	0.3											0.9					
Seabass, giant (black)																	
Shad, American	0.3			1.5			0.4			3.6							
Sheephead, California																	
Silversides	0.3		0.2									0.9		1.0			
Smelt, surf		0.7					1.6										
Smelt, true	0.3											0.9					
Snapper, Mexican																	
Sole, C-O					0.9											1.1	
Sole, English	1.7	1.1	1.2	0.4			2.4	2.3	1.6	1.1							
Sole, fantail		0.4		1.0	1.8					0.4			0.7		1.5	2.1	
Sole, petrale					0.3											0.4	
Sole, rock																	
Sole, sand	2.5	2.8	3.7	1.5	1.5		3.6	5.8	4.9	2.9	8.9				0.5		
Sole, slender																	
Sole, unspecified																	
Sunfish, ocean																	
Surfperch, barred																	
Surfperch, black		0.2		0.1	0.6					0.4			0.4			0.7	
Surfperch, kelp																	
Surfperch, pink		0.2		0.3									0.4		0.5		
Surfperch, rainbow			0.2						0.3								
Surfperch, rubberlip	0.3		0.2		0.3		0.4		0.3							0.4	
Surfperch, shiner		0.4		0.6	0.9					1.1			0.7		0.2	1.1	
Surfperch, unspecified				0.1	0.6										0.2	0.7	
Surfperch, walleye																	
Tonguefish		0.9	0.2										1.8	1.0			
Topsmelt	0.6	0.7	0.5	0.1								1.9	1.4	2.0	0.2		
Turbot, curlfin	0.3		0.7	1.5	0.3		0.4		1.0	0.4	1.8				2.2		
Turbot, diamond		0.6	0.5	0.6									1.1	2.0	1.0		
Turbot, hornyhead	0.8	0.7	0.7	2.2	4.4		0.4	0.4	0.3	0.4	1.8	1.9	1.1	2.0	3.5	4.9	
Turbot, spotted		0.2		0.1	0.6								0.4		0.2	0.7	
Turbot, unspecified		0.4	0.5		0.6								0.7	2.0		0.7	
Whiting, Pacific																	
Total % Freq. Incidents	51.9	49.3	52.2	47.0	54.5		49.6	50.2	52.5	50.5	50.0		57.4	48.4	51.5	44.5	55.4
Elasmobranchs																	
Guitarfish, shovelnose		0.6	0.2						0.3				1.1				
Ratfish, spotted		0.2					0.4										
Ray, bat	2.2	5.2	2.7	3.1	1.2		1.2	3.1	2.0	3.2	1.8	4.6	7.2	5.0	3.0	1.1	
Ray, California butterfly		0.2		0.1	0.3					0.4			0.4			0.4	
Ray, Pacific electric	3.1	1.5	3.9	0.6	1.5		3.6	1.9	4.6	0.7	3.6	1.9	1.1	2.0	0.5	1.1	
Ray, unspecified	0.6			1.0			0.4			0.4		0.9			1.5		
Shark, brown smoothhound		0.7						1.2					0.4				

Shark, gray smoothhound																	
Shark, horn	0.3	0.2		0.7	0.3							0.9	0.4			1.2	0.4
Shark, leopard		0.6		0.3				0.4					0.7			0.5	
Shark, Pacific angel		0.2		1.6	1.5								0.4			2.7	1.8
Shark, pelagic thresher																	
Shark, smooth hammerhead																	
Shark, spiny dogfish		1.1						1.6					0.7				
Shark, unspecified		0.2		0.1				0.4								0.2	
Skate, big		0.7	1.2	1.0	0.3			1.6	1.6	2.5	1.8						
Skate, California	0.3		0.2	0.3	0.9					0.4		0.9			1.0	0.2	1.1
Skate, long-nosed				0.1						0.4							
Skate, thornback	2.2	2.8	1.2	1.5	2.1		1.6	1.6	0.3	1.8	5.4	3.7	3.9	4.0	1.2	1.4	
Skate, unspecified				0.1												0.2	
Stingray, round	0.3	0.7		0.6								0.9	1.4			1.0	
Total % Freq. Incidents	8.9	14.9	9.6	11.3	7.9		6.7	12.1	8.9	9.7	7.0	13.9	17.6	11.9	12.4	7.0	
Invertebrates & Plants																	
Algae, marine	0.8	0.2		0.6												1.0	
Bryozoan			0.2											1.0			
Crab shells				0.3	0.6		1.2			0.7	1.8		0.4				0.4
Crab, box																	
Crab, decorator				0.4						0.4						0.5	
Crab, Dungeness	4.7	3.9	3.4	1.8	1.2			8.2	4.6	4.3	7.1						
Crab, globe		0.4	0.2	1.0	0.6									1.0	1.7	0.7	
Crab, rock unspecified	0.3	0.2		0.9	0.3		6.7				1.8	0.9				1.5	
Crab, sheep		0.6		0.4	2.3					0.4				0.7		0.5	2.8
Crab, slender													0.4				
Crab, spider	0.3	0.2		0.7								0.9	1.1			1.2	
Crab, swimming	0.3	1.3	0.5	0.6	1.2							0.9		2.0	1.0	1.4	
Crab, unspecified	0.3	0.2	0.7	1.3	0.9					0.4		0.9	0.4	3.0	2.0	1.1	
Eelgrass		0.6	0.5	1.5						1.1				2.5	2.0	1.7	
Gorgonians (sea fans)													0.4				
Invertebrate, unspecified				0.1									1.1			0.2	
Jellyfish	6.7	0.9	4.9	1.2	0.6			1.9	6.6	2.9	3.6						
Kelp	10.0	7.8	8.9	11.0	11.4			5.1	8.2	10.1	5.4	14.8		10.9	11.7	12.6	
Kelp, feather boa	1.1	1.5	0.2	3.8			9.5			1.4		1.9		1.0	5.5		
Lobster, California spiny	0.3	0.6		1.5	1.2		7.9					0.9	10.4			2.5	1.4
Nudibranch							0.8						2.9				
Octopus, unspecified	0.3	0.7	1.2	2.4	3.8			0.4	1.3	2.9	8.9		1.1	1.0	2.0	2.8	
Pleurobranch																	
Prawn, ridgeback		1.1					0.4	1.9					1.1				
Prawn, spot	0.3	0.9		0.1												0.2	
Salps			0.5	0.1									0.4	2.0	0.2		
Sea cucumber	0.3	0.2	0.2	0.9	0.6		0.4			0.4		0.9	1.8	1.0	1.2	0.7	
Sea pansy																	
Sea stars	4.4	2.8	3.0	1.6	1.2			4.3	3.6	3.6	3.6	0.9	0.4	1.0	0.2	0.7	
Shrimp, black-spotted bay	2.8	1.9	2.7	0.9				2.7	3.3	2.2				1.0			
Shrimp, unspecified		1.3	0.5	0.3	0.3		6.0	0.4					1.4	2.0	0.5	0.4	
Snail, top							4.0						1.1				
Snail, unspecified													2.2				
Sponge, unspecified			0.2						0.3								
Squid, jumbo																	
Squid, market	5.6	8.6	10.1	7.8	11.4			12.8	10.8	8.3	5.4	5.6		7.9	7.5	12.6	
Squid, market (Egg Cases)																	

Surfgrass							5.6							4.7			
Tunicates							1.2										
Turkish Towel	0.8			0.3						0.7							
Total % Freq. Incidents	39.2	35.8	38.2	41.7	37.5		43.7	37.7	38.7	39.7	37.5		28.7	34.1	36.6	43.0	37.5
Total All Incidents	364	536	406	679	56		252	257	305	277	285		112	279	101	402	341
Total Observed Landings	166	159	89	186	7		42	50	33	34	110		55	109	56	146	118

Table 4-6. Incidental catch reported on landing receipts with greater than fifty percent market squid (by tonnage per landing) from 2008 – 2013 for round haul gear.

Common Name	2008		2009		2010		2011		2012		2013	
	Number of Landings	Metric Tons	Number of Landings	Metric Tons	Number of Landings	Number of Landings	Metric Tons	Metric Tons	Number of Landings	Metric Tons	Number of Landings	Metric Tons
Anchovy, northern	22	34	11	10	8	2	2	6	2	1	4	5
Bonito, Pacific	7	2	1	1	0	0	0	0	0	0	0	0
Mackerel, jack	53	46	54	73	66	11	16	74	51	70	23	19
Mackerel, Pacific	119	199	209	240	239	29	79	330	114	128	52	92
Sardine, Pacific	257	497	303	328	206	41	94	279	150	190	55	113

TABLE 4-7. Percent frequency of bycatch in observed loads of California market squid by port, 2009-2013.

CommonName	Total All Ports					San Pedro/Terminal Island					Ventura/Port Hueneme					Monterey/Moss Landing				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Finfish																				
Anchovy, northern	1.4	4.2	2.8	3.6	3.5	1.1		1.7	17.6	2.9		10.0	1.3	3.0	4.3	11.1	5.3	3.6	2.8	2.7
Barracuda, California			0.6	1.1	0.4			0.9					2.7	2.0	0.8					
Bass, kelp		0.4			0.3		1.8			1.0					0.3					
Blacksmith					0.1										0.3					
Bonito, Pacific					0.1					1.0										
Butterfish (Pacific pompano)		3.0	3.8	10.1	10.0		1.8	1.7	8.8	10.7		10.0	4.0	11.4	11.6		2.9	4.6	8.5	7.7
Combfish, longspine			0.4		0.1								1.3		0.3			0.3		
Croaker, white (kingfish)		0.8	1.6	1.5	1.0								1.3	0.3	0.5		1.2	2.3	3.2	2.0
Eel, wolf (wolf-eel)			0.2	0.5	0.5									0.3				0.3	0.9	1.3
Fish, unspecified	0.5			0.1							4.5								0.3	
Flatfish, unspecified	0.5	2.1	0.6		0.3	0.6	1.8	2.6		1.0		20.0					1.2			0.3
Flounder, starry		0.4		1.3	0.1												0.6		3.2	0.3
Flyingfish	1.4	0.4		0.5	0.6	1.7	1.8			1.0				1.0	1.1					

Halibut, California			0.2		0.1			0.9		1.0													
Herring, Pacific		0.4	0.2	1.1	1.3													0.6	0.3	2.5	3.4		
Jacksmelt		3.4	1.4	2.2	2.5					1.0					1.5	0.3		4.7	2.3	3.2	5.7		
Lizardfish, California		0.4	0.4	0.8	2.8		1.8	0.9	5.9	3.9			1.3	1.0	3.0						2.3		
Mackerel, jack	5.3	1.7	2.8	2.8	2.6		4.5	7.1	11.1	8.8	2.9		13.6		1.3	3.8	3.0			0.9	2.0		
Mackerel, Pacific	17.7	6.3	14.5	2.8	4.3		17.4	23.2	17.9	2.9	3.9		22.7	10.0	13.3	4.6	5.4		11.1	0.6	13.4	0.6	3.0
Mackerel, unspecified				0.3																	0.6		
Midshipman, plainfin	0.5	0.8	0.6	1.2	1.7		0.6		0.9		1.0			1.3	2.3	1.9			1.2	0.3		1.7	
Midshipman, specklefin		0.4	0.2	0.1	0.8			1.8			2.9			1.3	0.3	0.8							
Midshipman, unspecified	0.5		0.4				0.6		1.7														
Poacher, unspecified																							
Rockfish, Blue		0.4			0.6													0.6				1.7	
Rockfish, chilipepper					0.9																	2.3	
Rockfish, unspecified				0.1	0.5						1.0										0.3	1.0	
Salmon, Chinook			0.4	0.9	0.5														0.7	2.2	1.3		
Sanddab, longfin			0.4	0.3	0.1				0.9		1.0			1.3							0.6		
Sanddab, Pacific		4.6	8.2	3.0	2.7					5.8			16.0					6.4	9.5	7.0	5.0		
Sanddab, speckled			0.6	0.1	0.9				1.7										0.3	0.3	2.3		
Sanddab, unspecified		0.8		6.3	5.6			3.6		2.9					10.2	11.3					1.9	0.3	
Sardine, Pacific	27.3	12.7	10.6	6.7	5.3		27.5	19.6	20.5	14.7	1.9		36.4	30.0	8.0	6.1	4.0		9.4	7.5	6.6	8.1	
Scorpionfish, California	1.4		1.4	0.1	0.6		1.7		4.3	2.9	2.9			2.7		0.5							
Sculpin, pithead																							
Sculpin, staghorn		0.8	2.0	1.2	0.5									1.3	0.3	0.5			1.2	2.9	2.5	0.7	
Sculpin, undentiified				0.4	0.3										0.3	0.3					0.6	0.3	
Silversides	0.5																	11.1					
Sunfish, ocean			0.4	0.3	0.1										0.3	0.3				0.7	0.3		
Surfperch, shiner			0.2	0.9	1.2						1.9					1.8	1.9			0.3			

Topsmelt	0.5			0.1	0.4	0.6									0.8				0.3	
Turbot, hornyhead		0.4	3.2	1.7	3.4					4.9			2.7	2.5	3.5		0.6	4.6	0.9	2.7
Turbot, spotted																				
Turbot, unspecified	0.5	0.4		0.4	0.4	0.6	1.8								0.8				0.9	
Whiting, Pacific					0.4															1.0
Total % Freq. Incidents	57.9	45.1	58.2	52.8	57.6	56.7	66.1	67.5	64.7	53.4	77.3	80.0	61.3	52.8	57.3	33.3	36.3	53.9	51.6	59.4
Elasmobranchs																				
Ray, bat	1.0	1.7	1.4	4.6	3.8	1.1	5.4	3.4	11.8	10.7			4.0	6.6	4.0		0.6		1.3	1.0
Ray, Pacific electric	0.5	2.1	2.0	1.3	1.9	0.6							1.3	1.0	0.8		2.9	2.9	1.9	4.0
Shark, horn				0.1	0.1									0.3	0.3					
Shark, unspecified																				
Skate, long- nosed				0.1															0.3	
Skate, unspecified				0.3															0.6	
Stingray, round	0.5					0.6														
Total % Freq. Incidents	1.9	3.8	3.4	6.5	5.8	2.2	5.4	3.4	11.8	10.7	0.0	0.0	5.3	7.9	5.1	0.0	3.5	2.9	4.1	5.0
Invertebrates & Plants																				
Algae, marine	0.5		0.2		0.3			0.9								11.1				0.7
Cnidaria (Sea Anemones)			0.4	0.1				1.7	2.9											
Crab, box				0.3										0.5						
Crab, Dungeness	0.5	5.1	4.0	3.4	0.9											11.1	7.0	6.5	7.9	2.3
Crab, rock unspecified	0.5		0.4	0.4	0.3	0.6		0.9	5.9				1.3	0.3	0.3					0.3
Crab, sheep				0.3	0.1					1.0									0.6	
Crab, Shore																				
Crab, swimming			0.4					0.9					1.3							
Crab, unspecified	0.5		0.2		0.1	0.6		0.9		1.0										
Eelgrass	2.9	0.4		1.5	3.2	3.4	1.8		2.9	1.0				1.8	0.8				0.9	7.0
Gorgonians (sea fans)		0.4															0.6			
Grass, Turtle	0.5					0.6														

Jellyfish	1.0	16.0	7.4	4.8	1.9							10.0		0.5	0.3		22.2	21.6	12.1	10.8	4.7		
Kelp	17.2	15.6	15.5	12.0	12.8		18.0	19.6	13.7	11.8	13.6		13.6		17.3	13.7	14.0		11.1	15.2	15.7	9.8	11.1
Kelp, feather boa	1.4	0.8	0.4	0.9	1.2		1.7		1.7									1.2		2.2	3.0		
Lobster, California spiny	0.5				0.1		0.6				1.0												
Salps				4.4	4.4									8.4	9.1								
Sea cucumber			1.2		0.4				0.9					2.7		0.8				1.0			
Sea Cucumber, warty																							
Sea Hare	0.5			2.3	0.5		0.6							4.3	1.1								
Sea Slug																							
Sea stars	1.4	3.4	2.6	3.1	2.5		1.1		0.9					1.3	1.5	3.5		11.1	4.7	3.6	5.4	2.0	
Squid, jumbo			0.2	0.4					0.9												0.9		
Squid, market (Egg Cases)	12.9	8.4	5.2	3.5	6.7		14.0	7.1	5.1		18.4		9.1	10.0	9.3	4.8	6.7			8.8	4.2	2.2	2.7
Surfgrass		0.4		3.2	1.0										3.3	1.1			0.6		3.5	1.3	
Tunicates		0.4	0.2		0.1				0.9										0.6			0.3	
Urchin, Purple				0.1											0.3								
Total % Freq. Incidents	40.2	51.1	38.4	40.7	36.6		41.0	28.6	29.1	23.5	35.9		22.7	20.0	33.3	39.3	37.6		66.7	60.2	43.1	44.3	35.6
Total All Incidents	209	237	498	744	773		178	56	117	316	103		22	10	75	394	372		9	171	306	316	298
Total Observed Landings	130	130	143	196	196		104	72	77	39	92		22	11	14	74	64		4	50	52	39	40

TABLE 4-8. Expanded salmonid bycatch in Pacific sardine fisheries in Oregon and Washington, 2000-2013.

	Chinook (live)	Chinook (dead)	Coho (live)	Coho (dead)	Pink (live)	Unid (live)	Unid (dead)	Total (live)	Total (dead)	Grand Total
2013										
Oregon ^{2/}								117	81	198
Washington ^{3/}	207	683	125	779				332	1,462	1,794
2012										
Oregon ^{2/}								61	64	125
Washington ^{3/}	244	806	148	919				392	1724	2116
2011										
Oregon ^{2/}								35	37	72
Washington ^{3/}	56	186	34	212				90	398	488

2010										
Oregon ^{2/}								110	76	186
Washington ^{3/}	87	288	53	328				140	616	756
2009										
Oregon ^{2/}								126	115	241
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 2002-2013 are from logbooks.

3/ Washington totals calculated from observed 2000-2004 observed bycatch rates.

TABLE 4-9. Reported logbook and observed catches of non-target species caught in Oregon sardine fishery, 2007-2013.

Species	2007 Logbook Data	2008 Logbook Data	2009 Logbook Data	2010 Logbook Data	2011 Logbook Data	2012 Logbook Data	2013 Logbook Data
Blue Shark	0	1	0	0	0	0	0
Thresher Shark	3 (2 released alive)	0	0	0	0	0	0
Unknown Shark	5	0	0	0	0	0	0
Salmonids	519 67% alive; 33% dead	198 62% alive; 38% dead	248 53% alive; 47% dead	186 59% alive; 41% dead	72 49% alive; 51% dead	125 49% alive; 51% dead	198 59% alive; 41% dead
Mackerel	473,441 lbs	59,205 lbs	30,872 lbs	15,280 lbs	20 lbs	947,200 lbs	569,650 lbs
Anchovy	500 lbs	8,300 lbs	12,045 lbs	20,450 lbs	0	0	15,000 lbs
Pacific Herring	0	52,200 lbs	2,000 lbs	0	0	6,000 lbs	3,000 lbs
Pacific Hake	0	525 lbs	0	0	0	0	0
Squid	0	225 lbs	0	30 lbs	0	0	0
Jellyfish	0	0	0	0	0	0	0
Spiny Dogfish	-	-	200 lbs	0	0	0	0
Shad	0	0	0	0	0	0	2 lbs

TABLE 4-10. Recorded incidental catch (mt) in Oregon sardine fishery, 2001-2013 (from fish ticket data). Excludes species landed under an Exempted Fishery Permit.

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Pacific mackerel	52.8	126.3	158.3	161.5	316.1	665	699.7	56.8	49.5	39.2	5.2	1,585.8	435.6
Jack mackerel	1.2	0.3	3.2	24.1	3.6	1.4	8	1.6	2.0	<0.01	-	70.9	60.1
Pacific herring	-	3.3	-	10.3	0.1	1.2	-	55.8	-	-	-	0.35	-
Northern anchovy	-	0.2	-	1.0	68.4	8.6	<0.001	2.4	<0.001	1.2	-	-	12.5
Jacksmelt										-	-	-	-
American shad	-	0.3	-	1.2	-	0.44	-	0.3	0.003	-	-	0.005	0.02
Pacific hake	-	-	0.1	-	-	0.002	-	0.005	<0.001	-	-	-	-
Pacific sanddab	-	-	-	-	-	<0.001	0.002	-	-	-	-	-	-
Dover sole	-	-	-	-	-	-	0.002	-	-	-	-	-	-
Sablefish	-	-	-	-	-	0.01	-	-	-	-	-	-	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 4-11. Species noted as encountered on CDFW Live Bait Logs, 1996-2012.

Year	Days Fished	Jack Mackerel	Pacific Mackerel	Barracuda	Herring	Grunion	Smelts (Atherinids)	Shiner Surperch	White Croaker	Queenfish	Market Squid	Pacific Bonito
2013	210	4	51	6			2				8	
2012	865	2	26								39	
2011	909	4	18				1				31	
2010	632	1	47								11	1
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 4-12. Estimates of Pacific sardine and Northern anchovy live bait harvest in California. Data for 1939-1992 from Thomson et al. (1994), and 1993-2013 from CDFW 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	1977	6,410	0
1940	1,820	0	1978	6,013	107
1941	1,435	0	1979	5,364	0
1942	234	0	1980	4,921	12
1943	WII	WII	1981	4,698	6
1944	WII	WII	1982	6,978	38
1945	WII	WII	1983	4,187	193
1946	2,493	0	1984	4,397	53
1947	2,589	0	1985	3,775	11
1948	3,379	0	1986	3,956	17
1949	2,542	0	1987	3,572	216
1950	3,469	0	1988	4,189	50
1951	4,665	0	1989	4,594	100
1952	6,178	0	1990	4,842	543
1953	5,798	0	1991	5,039	272
1954	6,066	0	1992	2,572	1,807
1955	5,557	0	1993	669	176
1956	5,744	0	1994	2,076	1,506
1957	3,729	0	1995	1,278	2,055
1958	3,843	0	1996	703	1,801
1959	4,297	0	1997	1,077	2,344
1960	4,225	0	1998	304	2,037
1961	5,364	0	1999	453	2,411
1962	5,595	0	2000	834	1,270
1963	4,030	0	2001	1,347	1,226
1964	4,709	0	2002	1,010	1,759
1965	5,645	0	2003	978	3,124
1966	6,144	0	2004	192	3,900
1967	4,898	0	2005	1,464	2,817
1968	6,644	0	2006	476	3,601
1969	4,891	0	2007	699	3,352
1970	5,543	0	2008	719	2,968
1971	5,794	0	2009	774	2,702
1972	5,307	0	2010	504	1,860
1973	5,639	0	2011	1,053	2,073

1974	5,126	0	2012	356	2,594
1975	5,577	0	2013	739	1,847
1976	6,202	0			

TABLE 4-13. Ratio of anchovy to sardine in reported live bait catch in California, 1994-20013. Values are in metric tons with the assumption that 1 scoop =12.5 lbs.

Year	Anchovy	Sardine	Total	Proportion Anchovy	Proportion Sardine
2013	739	1,847	2,586	0.29	0.71
2012	356	2,594	2,950	0.12	0.88
2011	1,053	2,073	3,126	0.34	0.66
2010	504	1,860	2,364	0.21	0.79
2009	774	2,702	3,476	0.22	0.78
2008	719	2,968	3,687	0.20	0.80
2007	699	3,352	4,051	0.17	0.83
2006	476	3,601	4,077	0.12	0.88
2005	1,464	2,817	4,281	0.34	0.66
2004	192	3,900	4,092	0.05	0.95
2003	978	3,124	4,102	0.24	0.76
2002	1,010	1,759	2,769	0.36	0.64
2001	1,347	1,226	2,573	0.52	0.48
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	3,421	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 4-14. Directed Sardine Fishery By-Catch from Fish Tickets (metric tons) in Washington.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Arrowtooth Flounder														0.02

American Shad			0.18						<0.01				0.01	0.02
Chinook		<0.01		<0.01									0.03	0.12
Chum													<0.01	
Coho	<0.01												0.29	0.08
Mackerel	4.32	272.44	259.32	52.40	22.34	19.04	40.61	35.73	6.32	4.45	2.09	0.43	636.17	195.95
Misc				0.34			1.37			2.34				0.01
Northern Anchovy						1.81					5.44			
Pacific Herring			0.02						4.69				<0.01	<0.01
Pink Salmon													<0.01	<0.01
General Shark	0.10	0.01								0.01				
Sole Rex														<0.01
Spiny Dogfish									<0.01				<0.01	<0.01
Starry Flounder	<0.01													

Table 6-1. West coast landings (mt) and real¹ exvessel revenues (2013 \$) for Pacific sardine, Pacific mackerel², jack mackerel, anchovy and market squid, 1981-2013.

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
1981	15	\$6,605	35,388	\$15,935,943	17,778	\$7,994,832	52,309	\$7,163,053	23,510	\$11,111,509
1982	2	\$1,110	36,065	\$14,981,351	19,617	\$8,216,808	42,155	\$4,465,021	16,308	\$7,374,326
1983	1	\$347	41,479	\$15,944,100	9,829	\$3,556,381	4,430	\$828,040	1,824	\$1,504,139
1984	1	\$1,662	44,086	\$15,866,301	9,154	\$2,623,518	2,899	\$795,422	564	\$580,111

1985	6	\$2,626	37,772	\$12,187,308	6,876	\$2,399,189	1,638	\$443,029	10,276	\$7,361,079
1986	388	\$150,475	48,089	\$14,165,411	4,777	\$1,507,694	1,557	\$426,807	21,278	\$8,218,789
1987	439	\$112,127	46,725	\$11,859,703	8,020	\$2,121,381	1,467	\$549,780	19,984	\$7,026,013
1988	1,188	\$294,393	50,864	\$14,097,272	5,068	\$1,365,892	1,518	\$715,858	37,316	\$12,974,107
1989	837	\$322,427	47,713	\$11,654,354	10,745	\$2,738,041	2,511	\$1,152,519	40,974	\$12,413,753
1990	1,664	\$303,590	40,092	\$8,534,640	3,254	\$705,193	3,259	\$995,961	28,447	\$7,534,504
1991	7,587	\$1,376,819	32,067	\$8,235,190	1,712	\$383,392	4,068	\$1,004,234	37,389	\$9,362,676
1992	18,056	\$2,827,043	19,045	\$6,040,103	1,526	\$360,052	1,166	\$337,276	13,112	\$3,685,052
1993	15,347	\$2,275,402	12,129	\$2,219,062	1,950	\$405,470	2,003	\$703,708	42,830	\$15,120,616
1994	11,644	\$2,184,654	10,293	\$2,071,589	2,906	\$549,773	1,859	\$793,706	55,383	\$20,676,812
1995	40,256	\$5,023,211	8,823	\$1,624,479	1,877	\$412,110	2,016	\$520,636	70,252	\$31,521,364
1996	32,553	\$4,371,327	9,730	\$1,826,949	2,437	\$423,370	4,505	\$971,475	80,561	\$30,323,384
1997	43,290	\$6,054,951	20,168	\$3,792,430	1,533	\$337,010	5,779	\$1,106,597	70,329	\$28,158,094
1998	43,312	\$4,884,766	21,561	\$3,425,012	1,777	\$516,190	1,584	\$330,654	2,895	\$2,190,229
1999	60,476	\$6,899,880	9,094	\$1,454,076	1,557	\$265,809	5,311	\$1,275,891	92,101	\$44,416,575
2000	67,982	\$9,466,300	22,058	\$3,814,435	1,451	\$356,513	11,832	\$1,879,940	118,903	\$35,423,122
2001	75,801	\$11,626,831	7,618	\$1,532,536	3,839	\$772,217	19,345	\$1,822,360	86,203	\$21,527,003
2002	96,897	\$13,278,952	3,744	\$657,422	1,026	\$260,908	4,882	\$780,433	72,895	\$22,864,162
2003	71,923	\$8,944,181	4,213	\$808,712	231	\$89,705	1,929	\$419,681	45,056	\$31,159,519
2004	89,339	\$12,036,527	3,708	\$686,909	1,160	\$319,173	7,019	\$978,723	40,068	\$23,631,758
2005	86,464	\$11,806,383	3,586	\$670,594	294	\$252,077	11,414	\$1,304,661	55,755	\$36,432,654
2006	86,608	\$10,434,779	6,610	\$989,453	1,174	\$223,828	12,960	\$1,499,325	49,180	\$30,279,140
2007	127,789	\$14,504,481	5,759	\$929,148	646	\$158,715	10,548	\$1,245,908	49,475	\$31,830,888
2008	87,190	\$15,648,436	3,597	\$748,115	323	\$57,558	14,654	\$1,778,686	38,101	\$28,397,959
2009	67,084	\$13,309,783	5,138	\$1,175,180	121	\$20,481	3,519	\$548,396	93,107	\$60,562,388
2010	66,892	\$12,942,450	2,107	\$436,503	314	\$65,930	1,284	\$591,902	130,864	\$74,866,221
2011	46,746	\$10,043,691	1,365	\$337,501	104	\$19,323	2,814	\$714,357	121,557	\$68,685,124
2012	101,555	\$21,474,710	6,070	\$1,262,075	272	\$39,556	2,705	\$461,685	97,734	\$64,925,754
2013	63,183	\$14,484,115	8,679	\$1,638,506	1,097	\$210,062	6,061	\$1,121,823	104,405	\$73,725,321

Source: PacFIN - 2011 data extracted Oct. 22, 2013, and 2012-13 data extracted May 15, 2014.

¹Real 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 2013.

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

Table 6-2. West coast landings (mt) and real¹ exvessel revenues (2013 \$) for Pacific sardine, Pacific mackerel², jack mackerel, anchovy and market squid by fishery sector, 1981-2013.

	Landings (mt)					Exvessel Revenues (2013 \$)		
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Year	Sardine	P. Mackerel	J. Mackerel	Anchovy	Squid	Sardine	P. Mackerel	J. Mackerel	Anchovy	Squid
	SoCal (San Diego - Ventura/Santa Barbara landing areas)									
1981	14.8	33,971.0	17,558.4	47,269.6	10,684.8	\$6,604	\$15,417,155	\$7,889,232	\$6,342,381	\$2,579,621
1982	1.8	33,955.5	19,326.3	38,955.4	5,696.4	\$1,021	\$14,186,871	\$8,095,100	\$3,861,900	\$1,497,835
1983	0.6	37,826.4	7,345.3	3,629.0	858.2	\$322	\$14,861,861	\$2,918,156	\$514,678	\$652,315
1984	0.9	36,868.2	3,618.7	345.8	73.5	\$1,154	\$14,316,861	\$1,369,217	\$242,856	\$85,695
1985	3.7	35,001.6	6,647.3	200.4	6,055.8	\$1,629	\$11,548,921	\$2,289,555	\$118,605	\$3,303,749
1986	304.0	46,086.3	4,586.1	313.0	14,533.7	\$115,470	\$13,716,504	\$1,400,223	\$122,821	\$5,291,637
1987	391.6	45,751.6	7,810.0	251.3	13,831.2	\$102,702	\$11,647,220	\$2,062,323	\$102,991	\$4,668,529
1988	1,185.4	50,793.9	4,945.6	252.6	31,526.8	\$293,043	\$14,053,982	\$1,314,043	\$115,558	\$10,658,498
1989	598.5	47,633.8	10,703.7	733.7	33,317.4	\$114,242	\$11,616,275	\$2,684,160	\$562,222	\$9,671,039
1990	1,536.8	37,554.2	3,060.4	352.5	20,399.6	\$255,731	\$8,016,335	\$641,009	\$184,228	\$5,248,976
1991	6,601.4	31,753.3	1,649.0	1,004.1	29,210.1	\$1,209,693	\$8,143,540	\$354,388	\$326,793	\$6,303,362
1992	14,924.3	18,181.7	1,096.8	347.3	4,526.3	\$2,182,546	\$5,899,019	\$329,507	\$115,349	\$1,071,080
1993	14,669.6	11,765.8	1,272.1	421.6	32,292.8	\$2,146,167	\$2,180,621	\$264,072	\$150,998	\$10,546,565
1994	9,348.7	9,902.7	2,512.2	506.0	33,909.1	\$1,392,104	\$1,997,504	\$400,202	\$239,726	\$11,685,069
1995	34,496.9	8,144.4	1,597.1	682.2	59,780.6	\$4,295,420	\$1,512,391	\$275,017	\$270,284	\$27,073,235
1996	24,385.0	8,857.7	2,065.2	758.2	61,647.8	\$3,076,512	\$1,636,859	\$383,709	\$335,060	\$23,063,270
1997	29,893.8	15,178.7	830.0	1,666.7	52,392.3	\$3,786,984	\$3,167,087	\$249,301	\$274,318	\$20,644,393
1998	32,816.9	19,507.9	1,012.4	579.5	2,405.3	\$4,011,467	\$3,206,957	\$431,036	\$158,010	\$1,853,920
1999	42,221.5	8,781.4	927.4	3,655.3	80,423.5	\$5,072,004	\$1,432,747	\$246,526	\$721,381	\$38,902,846
2000	42,195.5	21,877.8	1,218.9	4,832.7	93,621.8	\$5,839,887	\$3,794,954	\$295,165	\$702,774	\$27,780,688
2001	44,720.4	6,751.8	3,623.9	7,572.0	71,137.2	\$6,161,482	\$1,366,952	\$714,069	\$985,332	\$17,550,843
2002	44,564.9	3,368.3	1,003.6	1,943.1	40,307.2	\$5,658,295	\$611,695	\$253,325	\$358,570	\$12,053,387
2003	25,276.6	3,981.6	135.9	847.7	21,608.9	\$2,546,089	\$769,378	\$66,956	\$221,659	\$15,067,472
2004	28,432.8	3,085.9	1,027.1	2,869.4	26,821.3	\$3,243,296	\$606,381	\$297,037	\$532,428	\$15,610,512
2005	26,026.2	3,242.7	211.0	4,959.0	45,525.5	\$2,934,057	\$624,178	\$59,873	\$802,861	\$30,192,006
2006	28,728.8	5,840.8	1,025.8	5,071.5	43,111.9	\$3,870,831	\$923,130	\$189,174	\$809,370	\$26,616,571
2007	46,147.0	4,891.0	459.8	2,668.6	31,132.3	\$5,498,588	\$842,710	\$116,708	\$325,998	\$20,277,113
2008	31,013.3	3,249.0	214.7	2,027.3	27,969.3	\$3,722,915	\$683,124	\$45,476	\$265,503	\$20,734,829
2009	12,485.2	5,028.7	97.7	1,662.9	60,640.2	\$1,900,131	\$1,164,345	\$19,415	\$261,121	\$40,406,031
2010	28,268.9	2,053.2	295.5	305.6	80,454.5	\$3,849,956	\$432,788	\$65,231	\$142,088	\$46,441,760
2011	17,628.2	1,341.1	79.8	779.1	77,678.1	\$2,477,553	\$335,490	\$10,612	\$338,798	\$44,454,935

2012	18,637.3	3,475.1	138.2	214.0	67,834.2	\$3,318,492	\$894,450	\$27,531	\$72,178	\$45,389,836
2013	6,134.7	8,066.8	892.0	383.6	54,409.8	\$1,324,127	\$1,519,769	\$178,606	\$250,851	\$38,548,994
	Northern California (North of Ventura/Santa Barbara landing areas)									
1981	<0.1	1,361.2	213.5	4,820.9	12,824.8	\$1	\$490,124	\$100,761	\$695,191	\$8,531,780
1982	<0.1	2,060.6	281.6	3,003.8	10,611.3	\$89	\$768,641	\$116,340	\$509,201	\$5,875,424
1983	<0.1	3,465.4	2,458.5	653.0	961.5	\$25	\$1,005,874	\$610,037	\$234,546	\$846,827
1984	0.3	7,164.9	5,486.2	2,432.9	487.9	\$508	\$1,521,775	\$1,237,598	\$482,102	\$491,562
1985	2.2	2,719.0	228.1	1,397.0	3,890.1	\$997	\$611,522	\$109,415	\$289,973	\$3,722,209
1986	84.5	1,999.9	191.1	1,200.9	6,319.8	\$35,005	\$446,428	\$107,359	\$258,972	\$2,808,450
1987	47.8	963.0	210.2	1,100.7	5,953.8	\$9,403	\$207,861	\$59,058	\$325,018	\$2,302,592
1988	3.0	65.3	121.9	1,188.6	5,196.9	\$1,315	\$38,385	\$51,778	\$527,976	\$2,097,169
1989	238.0	69.0	41.6	1,684.0	7,149.5	\$207,876	\$29,121	\$53,813	\$484,737	\$2,603,683
1990	127.1	2,510.0	194.0	2,845.4	8,047.2	\$47,701	\$497,238	\$64,173	\$739,696	\$2,285,197
1991	985.9	300.8	43.8	2,985.9	8,175.9	\$167,125	\$82,631	\$25,128	\$610,226	\$3,057,636
1992	3,127.7	386.9	112.3	773.3	8,559.7	\$644,477	\$129,798	\$29,059	\$170,112	\$2,606,917
1993	676.1	39.6	400.8	1,529.1	7,057.4	\$128,290	\$20,782	\$137,432	\$509,182	\$3,489,977
1994	2,295.0	40.4	191.7	1,273.8	15,921.3	\$792,550	\$27,888	\$138,399	\$480,643	\$7,419,294
1995	5,681.3	461.4	109.4	1,203.7	3,197.7	\$715,029	\$89,735	\$109,826	\$141,403	\$1,464,519
1996	7,988.2	710.6	91.8	3,659.0	5,004.9	\$1,231,448	\$133,046	\$19,065	\$547,455	\$2,058,213
1997	13,359.8	3,217.6	329.7	4,050.8	8,490.8	\$2,172,781	\$594,940	\$86,577	\$774,433	\$4,082,364
1998	10,493.5	1,469.7	39.9	901.6	14.2	\$872,160	\$200,641	\$21,404	\$91,014	\$20,962
1999	17,475.0	6.5	24.3	1,558.1	306.6	\$1,711,073	\$15,088	\$2,380	\$466,333	\$108,321
2000	11,367.5	41.1	50.5	6,920.8	7,125.9	\$1,260,359	\$8,744	\$36,042	\$1,114,595	\$2,494,339
2001	7,102.5	172.8		11,704.9	8,026.6	\$1,823,258	\$26,159		\$748,639	\$2,348,962
2002	13,779.2	0.3	1.9	2,706.7	25,953.3	\$1,664,720	\$690	\$530	\$331,247	\$8,779,646
2003	7,920.9	1.0	19.8	705.7	16,729.1	\$826,774	\$5,354	\$3,072	\$100,607	\$11,621,521
2004	15,837.5	489.9	<0.1	3,890.8	5,707.0	\$1,483,108	\$63,181	\$18	\$347,350	\$3,516,338
2005	8,509.3	0.5	0.6	6,192.2	1,916.9	\$695,715	\$864	\$376	\$443,468	\$1,141,175
2006	17,841.9	31.8	141.0	7,705.0	511.2	\$1,855,257	\$11,173	\$34,216	\$638,950	\$285,679
2007	34,781.8	123.4	166.8	7,704.4	25.3	\$3,492,894	\$20,764	\$39,659	\$879,035	\$17,785
2008	26,711.7	206.6	59.5	12,216.0	65.6	\$4,401,109	\$36,260	\$11,637	\$1,401,961	\$48,238
2009	25,011.9	14.3		978.4	1,183.0	\$3,999,202	\$2,254		\$114,845	\$969,853
2010	4,305.5	<0.1	<0.1	717.5	20,137.4	\$602,387	\$4	\$13	\$344,670	\$11,630,086
2011	10,071.9	14.6		1,822.2	14,487.3	\$2,058,335	\$1,498		\$298,497	\$8,200,768
2012	4,241.4	100.3		2,273.5	16,851.3	\$958,607	\$28,140		\$305,841	\$11,305,094
2013	895.5	0.1		5,549.2	20,964.2	\$177,845	\$8		\$819,409	\$15,015,452
	Pacific Northwest (Oregon and Washington)									

1981		<0.1		1.3			\$3		\$646	
1982		<0.1		5.1			\$85		\$19,757	
1983		8.3		2.9			\$15,486		\$10,665	
1984		3.2		10.1			\$1,712		\$19,175	
1985		<0.1	<0.1	11.7			\$4	\$2	\$22,039	
1986		<0.1		22.1			\$1		\$36,078	
1987		1.5		77.6			\$925		\$104,343	
1988		0.6		40.4			\$589		\$55,985	
1989		5.0		61.9			\$1,933		\$89,393	
1990		10.4		50.3			\$5,980		\$66,581	
1991		0.7	19.3	54.5			\$324	\$3,739	\$57,484	
1992		468.1	316.5	41.7			\$4,407	\$1,202	\$49,698	
1993		310.2	276.6	44.2			\$7,388	\$3,916	\$39,859	
1994		285.6	202.3	70.4			\$18,091	\$11,165	\$69,663	
1995		196.9	148.6	129.8			\$6,185	\$10,154	\$108,861	
1996		126.7	260.5	85.6			\$32,898	\$11,584	\$87,921	
1997		1,766.9	373.7	59.1			\$26,765	\$1,132	\$56,742	
1998	1.0	583.7	724.5	102.5		\$1,045	\$17,199	\$63,749	\$81,630	
1999	776.9	305.9	604.5	97.8		\$116,417	\$6,212	\$16,282	\$88,169	
2000	14,369.9	138.2	181.1	78.8		\$2,356,606	\$10,488	\$25,304	\$62,476	
2001	23,907.6	692.8	215.1	68.0		\$3,633,238	\$138,964	\$58,027	\$88,389	
2002	38,543.5	374.9	20.5	231.9		\$5,954,584	\$44,940	\$7,045	\$90,616	
2003	37,178.1	213.8	75.4	252.9		\$5,414,192	\$31,712	\$19,676	\$84,758	
2004	45,045.4	129.1	132.9	226.5		\$7,305,626	\$16,216	\$22,100	\$81,890	
2005	51,831.2	341.4	80.4	232.1	14.5	\$8,159,849	\$45,326	\$190,993	\$43,197	\$8,557
2006	40,031.1	706.3	7.0	169.7	27.2	\$4,706,967	\$54,330	\$439	\$42,239	\$17,560
2007	46,808.9	740.5	14.9	158.0	0.6	\$5,511,628	\$64,439	\$1,278	\$38,801	\$323
2008	29,384.2	66.6	48.4	368.6		\$7,517,079	\$10,886	\$445	\$98,700	
2009	29,507.1	57.6		851.2		\$7,406,669	\$6,623		\$153,955	
2010	33,232.9	51.1	4.0	258.1		\$8,348,955	\$3,684	\$12	\$105,144	
2011	19,032.0	7.4	24.2	212.3	<0.1	\$5,505,384	\$497	\$8,711	\$77,063	\$1
2012	78,510.6	2,470.8	126.1	217.5		\$17,166,180	\$335,319	\$10,948	\$83,666	
2013	56,036.6	611.8	204.7	128.4		\$12,955,832	\$118,656	\$31,449	\$51,547	
	Other									
1981		55.9	6.3	217.1	0.2		\$28,662	\$4,838	\$124,834	\$108
1982		48.5	9.5	190.9	0.4		\$25,754	\$5,368	\$74,165	\$1,067
1983		179.1	25.5	144.7	3.9		\$60,879	\$28,188	\$68,151	\$4,997

1984		49.8	49.3	110.1	2.7		\$25,953	\$16,702	\$51,288	\$2,855
1985		51.8	0.2	28.5	330.3		\$26,862	\$217	\$12,412	\$335,122
1986		3.0	0.1	21.4	424.1		\$2,478	\$112	\$8,936	\$118,702
1987	<0.1	9.0		37.6	199.2	\$22	\$3,697		\$17,429	\$54,893
1988	0.1	4.0	<0.1	36.6	592.1	\$35	\$4,316	\$71	\$16,340	\$218,440
1989	0.2	4.9	0.1	31.7	506.8	\$308	\$7,026	\$67	\$16,167	\$139,031
1990	0.3	17.3	<0.1	10.5	0.3	\$159	\$15,087	\$11	\$5,456	\$331
1991		11.8	0.1	23.8	2.6		\$8,695	\$137	\$9,731	\$1,678
1992	<0.1	8.1	0.3	3.3	26.5	\$20	\$6,879	\$284	\$2,118	\$7,055
1993	0.7	13.4	<0.1	7.9	3,479.5	\$945	\$10,271	\$49	\$3,668	\$1,084,075
1994		64.6	<0.1	9.1	5,552.9		\$28,105	\$8	\$3,674	\$1,572,449
1995	77.5	20.2	21.9	0.1	7,273.2	\$12,762	\$16,167	\$17,113	\$88	\$2,983,611
1996	180.3	35.2	19.6	2.2	13,908.6	\$63,366	\$24,146	\$9,011	\$1,040	\$5,201,901
1997	36.1	4.8		2.4	9,445.5	\$95,186	\$3,638		\$1,104	\$3,431,338
1998	0.9	0.1			475.0	\$93	\$216			\$315,346
1999	3.0	0.2	0.8	0.1	11,370.7	\$386	\$29	\$621	\$8	\$5,405,408
2000	49.0	0.6	<0.1	<0.1	18,154.9	\$9,447	\$249	\$2	\$95	\$5,148,094
2001	70.4	0.4	0.1		7,038.8	\$8,852	\$461	\$121		\$1,627,198
2002	9.2	<0.1	<0.1		6,634.6	\$1,353	\$98	\$8		\$2,031,128
2003	1,547.2	16.8		122.9	6,717.8	\$157,126	\$2,269		\$12,657	\$4,470,527
2004	23.1	2.9	<0.1	32.4	7,540.0	\$4,497	\$1,131	\$17	\$17,056	\$4,504,908
2005	97.4	1.1	1.9	30.7	8,297.7	\$16,763	\$226	\$835	\$15,136	\$5,090,915
2006	6.3	30.9		14.2	5,530.1	\$1,725	\$821		\$8,767	\$3,359,329
2007	51.5	4.0	4.6	16.9	18,317.3	\$1,370	\$1,235	\$1,070	\$2,074	\$11,535,668
2008	80.6	75.3		41.7	10,065.8	\$7,332	\$17,845		\$12,521	\$7,614,891
2009	80.2	37.1	20.9	26.7	31,283.7	\$3,780	\$1,959	\$1,066	\$18,475	\$19,186,503
2010	1,084.2	3.0	14.2		30,264.8	\$141,152	\$27	\$674		\$16,794,376
2011	13.8	1.5			29,392.0	\$2,419	\$16			\$16,029,419
2012	165.2	23.9	7.3		13,048.0	\$31,430	\$4,166	\$1,076		\$8,230,824
2013	115.7	0.4	<0.1	<0.1	29,031.0	\$26,311	\$73	\$8	\$15	\$20,160,875
Source: PacFIN - 2011 data extracted Oct. 22, 2013, and 2012-13 data extracted May 15, 2014.										
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 2013.										
² Pacific mackerel landings and revenues also include landings and revenues of unspecified mackerel.										

Table 6-3. Average annual real¹ exvessel prices (2013 \$) for Pacific sardine, Pacific mackerel², jack mackerel, anchovy and market squid, 1981-2013.

Year	Pacific Sardine \$/lb	Pacific Mackerel \$/lb	Jack Mackerel \$/lb	Anchovy \$/lb	Squid \$/lb
1981	\$0.20	\$0.20	\$0.20	\$0.06	\$0.21
1982	\$0.25	\$0.19	\$0.19	\$0.05	\$0.20
1983	\$0.16	\$0.17	\$0.16	\$0.08	\$0.37
1984	\$0.75	\$0.16	\$0.13	\$0.12	\$0.47
1985	\$0.20	\$0.15	\$0.16	\$0.12	\$0.32
1986	\$0.18	\$0.13	\$0.14	\$0.12	\$0.18
1987	\$0.12	\$0.12	\$0.12	\$0.17	\$0.16
1988	\$0.11	\$0.13	\$0.12	\$0.21	\$0.16
1989	\$0.17	\$0.11	\$0.12	\$0.21	\$0.14
1990	\$0.08	\$0.10	\$0.10	\$0.14	\$0.12
1991	\$0.08	\$0.12	\$0.10	\$0.11	\$0.11
1992	\$0.07	\$0.14	\$0.11	\$0.13	\$0.13
1993	\$0.07	\$0.08	\$0.09	\$0.16	\$0.16
1994	\$0.09	\$0.09	\$0.09	\$0.19	\$0.17
1995	\$0.06	\$0.08	\$0.10	\$0.12	\$0.20
1996	\$0.06	\$0.09	\$0.08	\$0.10	\$0.17
1997	\$0.06	\$0.09	\$0.10	\$0.09	\$0.18
1998	\$0.05	\$0.07	\$0.13	\$0.09	\$0.34
1999	\$0.05	\$0.07	\$0.08	\$0.11	\$0.22
2000	\$0.06	\$0.08	\$0.11	\$0.07	\$0.14
2001	\$0.07	\$0.09	\$0.09	\$0.04	\$0.11
2002	\$0.06	\$0.08	\$0.12	\$0.07	\$0.14
2003	\$0.06	\$0.09	\$0.18	\$0.10	\$0.31
2004	\$0.06	\$0.08	\$0.12	\$0.06	\$0.27
2005	\$0.06	\$0.08	\$0.39	\$0.05	\$0.30
2006	\$0.05	\$0.07	\$0.09	\$0.05	\$0.28
2007	\$0.05	\$0.07	\$0.11	\$0.05	\$0.29
2008	\$0.08	\$0.09	\$0.08	\$0.06	\$0.34
2009	\$0.09	\$0.10	\$0.08	\$0.07	\$0.29
2010	\$0.09	\$0.09	\$0.10	\$0.21	\$0.26
2011	\$0.10	\$0.11	\$0.08	\$0.12	\$0.26
2012	\$0.10	\$0.09	\$0.07	\$0.08	\$0.30
2013	\$0.10	\$0.09	\$0.09	\$0.08	\$0.32

Source: PacFIN - 2011 data extracted Oct. 22, 2013, and 2012-13 data extracted May 15, 2014.

¹Real 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 2013.

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

Table 6-4. West coast landings (mt) and real¹ exvessel revenues (2013 \$) for Pacific sardine, Pacific mackerel², jack mackerel, anchovy and market squid by state, 1981-13.

Year	Pac. Sardine mt	Pac. Sardine Rev	Pac. Mackerel mt	Mack. Rev	Mack. mt	Mack. Rev	Anchovy mt	Anchovy Rev	Squid mt	Squid Rev
	California									
1981	15	\$6,605	35,388	\$15,935,940	17,778	\$7,994,832	52,308	\$7,162,406	23,510	\$11,111,509
1982	2	\$1,110	36,065	\$14,981,265	19,617	\$8,216,808	42,150	\$4,445,265	16,308	\$7,374,326
1983	1	\$347	41,471	\$15,928,614	9,829	\$3,556,381	4,427	\$817,375	1,824	\$1,504,139
1984	1	\$1,662	44,083	\$15,864,589	9,154	\$2,623,518	2,889	\$776,246	564	\$580,111
1985	6	\$2,626	37,772	\$12,187,304	6,876	\$2,399,187	1,626	\$420,990	10,276	\$7,361,079
1986	388	\$150,475	48,089	\$14,165,410	4,777	\$1,507,694	1,535	\$390,729	21,278	\$8,218,789
1987	439	\$112,127	46,724	\$11,858,778	8,020	\$2,121,381	1,390	\$445,438	19,984	\$7,026,013
1988	1,188	\$294,393	50,863	\$14,096,682	5,068	\$1,365,892	1,478	\$659,873	37,316	\$12,974,107
1989	837	\$322,427	47,708	\$11,652,421	10,745	\$2,738,041	2,449	\$1,063,126	40,974	\$12,413,753
1990	1,664	\$303,590	40,081	\$8,528,645	3,254	\$705,193	3,208	\$929,381	28,447	\$7,534,504
1991	7,587	\$1,376,819	32,066	\$8,234,866	1,693	\$379,653	4,014	\$946,750	37,389	\$9,362,676
1992	18,052	\$2,827,043	18,577	\$6,035,696	1,209	\$358,848	1,124	\$287,578	13,112	\$3,685,052
1993	15,346	\$2,275,402	11,819	\$2,211,674	1,673	\$401,554	1,959	\$663,849	42,830	\$15,120,616
1994	11,644	\$2,184,654	10,008	\$2,053,497	2,704	\$538,609	1,789	\$724,043	55,383	\$20,676,812
1995	40,256	\$5,023,211	8,626	\$1,618,294	1,728	\$401,957	1,886	\$411,775	70,252	\$31,521,364
1996	32,553	\$4,371,327	9,603	\$1,794,051	2,177	\$411,786	4,419	\$883,555	80,561	\$30,323,384
1997	43,290	\$6,054,951	18,401	\$3,765,665	1,160	\$335,878	5,720	\$1,049,856	70,329	\$28,158,094
1998	43,311	\$4,883,720	20,978	\$3,407,814	1,052	\$452,440	1,481	\$249,024	2,895	\$2,190,229
1999	59,700	\$6,783,463	8,788	\$1,447,864	952	\$249,527	5,214	\$1,187,722	92,101	\$44,416,575
2000	53,612	\$7,109,694	21,920	\$3,803,947	1,269	\$331,208	11,753	\$1,817,464	118,903	\$35,423,122
2001	51,893	\$7,993,592	6,925	\$1,393,572	3,624	\$714,190	19,277	\$1,733,971	86,203	\$21,527,003
2002	58,353	\$7,324,368	3,369	\$612,482	1,005	\$253,863	4,650	\$689,817	72,895	\$22,864,162

2003	34,745	\$3,529,989	3,999	\$777,001	156	\$70,028	1,676	\$334,923	45,056	\$31,159,519
2004	44,293	\$4,730,901	3,579	\$670,694	1,027	\$297,072	6,793	\$896,834	40,068	\$23,631,758
2005	34,633	\$3,646,534	3,244	\$625,267	213	\$61,084	11,182	\$1,261,465	55,740	\$36,424,097
2006	46,577	\$5,727,812	5,904	\$935,124	1,167	\$223,390	12,791	\$1,457,087	49,153	\$30,261,579
2007	80,980	\$8,992,852	5,018	\$864,709	631	\$157,437	10,390	\$1,207,108	49,475	\$31,830,565
2008	57,806	\$8,131,357	3,531	\$737,230	274	\$57,113	14,285	\$1,679,986	38,101	\$28,397,959
2009	37,577	\$5,903,113	5,080	\$1,168,557	119	\$20,481	2,668	\$394,441	93,107	\$60,562,388
2010	33,659	\$4,593,495	2,056	\$432,819	310	\$65,918	1,026	\$486,758	130,857	\$74,866,221
2011	27,714	\$4,538,306	1,357	\$337,004	80	\$10,612	2,601	\$637,295	121,557	\$68,685,122
2012	23,044	\$4,308,530	3,599	\$926,756	145	\$28,607	2,488	\$378,019	97,733	\$64,925,754
2013	7,146	\$1,528,283	8,067	\$1,519,850	892	\$178,614	5,933	\$1,070,275	104,405	\$73,725,321
	Oregon									
1981			<1	\$3						
1982			<1	\$85			<1	\$206		
1983			8	\$15,486						
1984			3	\$1,548						
1985			<1	\$4	<1	\$2	<1	\$72		
1986			<1	\$1						
1987			1	\$925						
1988			1	\$589			<1	\$2		
1989			5	\$1,850			<1	\$25		
1990			10	\$5,746						
1991			<1	\$263	19	\$3,739				
1992			462	\$233	317	\$1,204				
1993			280	\$1,263	277	\$3,916				
1994			252	\$13,853	202	\$11,165	1	\$288		
1995			189	\$5,031	149	\$10,154	<1	\$685		
1996			61	\$5,304	258	\$10,634				
1997			1,611	\$3,119	373	\$1,023				
1998	1	\$1,045	538	\$11,649	686	\$59,013				
1999	776	\$114,223	259	\$1,341	496	\$6,176				
2000	9,528	\$1,493,844	119	\$7,950	161	\$22,410	<1	\$390		
2001	12,780	\$2,057,742	322	\$40,737	183	\$51,098				
2002	22,711	\$3,529,651	127	\$8,095	9	\$4,793	3	\$2,225		
2003	25,258	\$3,609,985	160	\$22,875	74	\$19,531	39	\$3,819		
2004	36,111	\$5,818,220	107	\$13,434	126	\$20,194	13	\$5,535		

2005	45,110	\$7,175,733	318	\$41,175	70	\$187,820	68	\$1,824	14	\$8,557
2006	35,668	\$4,203,773	665	\$39,166	5	\$101	9	\$19	27	\$17,560
2007	42,144	\$4,978,712	702	\$54,336	14	\$1,083	5	\$2,429	1	\$323
2008	22,949	\$6,080,902	58	\$8,383	46	\$445	260	\$60,832		
2009	21,481	\$5,633,744	53	\$5,075			39	\$9,240		
2010	20,852	\$5,525,842	49	\$3,022			138	\$30,373		
2011	11,023	\$3,293,120	7	\$383	14	\$2,928	21	\$6,766	<1	\$1
2012	42,619	\$9,103,167	1,779	\$173,587	95	\$5,458				
2013	26,289	\$6,299,323	439	\$79,831	123	\$12,358	13	\$4,108		
	Washington									
1981							1	\$646		
1982							5	\$19,551		
1983							3	\$10,665		
1984			<1	\$164			10	\$19,175		
1985							12	\$21,967		
1986							22	\$36,078		
1987							78	\$104,343		
1988							40	\$55,982		
1989			<1	\$83			62	\$89,368		
1990			<1	\$248			50	\$66,581		
1991			<1	\$61			54	\$57,484		
1992			6	\$4,174			42	\$49,698		
1993			30	\$6,125			44	\$39,859		
1994			33	\$4,238			70	\$69,375		
1995			7	\$1,154			130	\$108,176		
1996			65	\$27,593	3	\$950	86	\$87,921		
1997			156	\$23,646	1	\$109	59	\$56,742		
1998			46	\$5,550	39	\$4,737	103	\$81,630		
1999	1	\$2,194	47	\$4,871	108	\$10,106	98	\$88,169		
2000	4,842	\$862,762	19	\$2,538	20	\$2,894	79	\$62,086		
2001	11,127	\$1,575,496	371	\$98,228	32	\$6,929	68	\$88,389		
2002	15,833	\$2,424,933	248	\$36,845	12	\$2,252	229	\$88,391		
2003	11,920	\$1,804,207	54	\$8,837	2	\$146	214	\$80,939		
2004	8,934	\$1,487,406	22	\$2,782	7	\$1,907	213	\$76,355		
2005	6,721	\$984,116	24	\$4,152	11	\$3,173	164	\$41,372		
2006	4,363	\$503,194	41	\$15,164	2	\$338	161	\$42,220		

2007	4,665	\$532,916	38	\$10,103	1	\$195	153	\$36,372		
2008	6,435	\$1,436,177	9	\$2,502			109	\$37,868		
2009	8,026	\$1,772,926	4	\$1,548			812	\$144,715		
2010	12,381	\$2,823,113	2	\$662	1	\$12	120	\$74,771		
2011	8,009	\$2,212,264	<1	\$114	10	\$5,783	191	\$70,296		
2012	35,892	\$8,063,013	692	\$161,732	31	\$5,490	217	\$83,666		
2013	29,748	\$6,656,509	173	\$38,824	82	\$19,091	116	\$47,439		
Source: PacFIN - 2011 data extracted Oct. 22, 2013, and 2012-13 data extracted May 15, 2014.										
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 2013.										
² Pacific mackerel landings and revenues also include landings and revenues of unspecified mackerel.										

Table 6-5. West coast CPS landings (mt) and real¹ exvessel revenues (2013 \$) by gear group, 1981-2013.

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	167,133	1,831	<1	2	3	<1	
2010	198,085	3,304	31	12	2	2	
2011	168,258	4,301		25	<1	<1	<1
2012	202,889	5,319	<1	47	7	1	<1
2013	179,764	3,217	43	126	273	1	<1
	\$/lb (2013 \$)						
1981	\$0.15	\$0.10	N/A	\$0.35	\$0.53	\$0.36	
1982	\$0.14	\$0.11	\$2.00	\$0.30	\$0.30	\$0.28	
1983	\$0.17	\$0.35	N/A	\$0.31	\$0.59	\$0.27	\$0.16
1984	\$0.16	\$0.47	N/A	\$0.42	\$0.81	\$0.22	
1985	\$0.18	\$0.53	\$0.59	\$0.39	\$0.36	\$0.26	N/A
1986	\$0.15	\$0.25	\$0.21	\$0.50	N/A	\$0.25	
1987	\$0.13	\$0.15	\$1.57	\$0.32	\$0.20	\$0.15	N/A
1988	\$0.14	\$0.18	\$0.55	\$0.58	\$0.39	\$0.14	N/A
1989	\$0.12	\$0.13	N/A	\$0.17	\$0.22	\$0.19	
1990	\$0.11	\$0.07	\$0.53	\$0.32	\$0.61	\$0.30	
1991	\$0.11	\$0.05	\$0.13	\$0.13	\$0.81	\$0.21	
1992	\$0.12	\$0.08	\$0.43	\$0.01	\$0.89	\$0.25	
1993	\$0.13	\$0.10	\$0.58	\$0.01	\$0.80	\$0.29	
1994	\$0.15	\$0.10	\$0.19	\$0.04	\$0.55	\$0.33	\$0.12
1995	\$0.14	\$0.16	\$0.34	\$0.03	\$0.28	\$0.33	\$0.14
1996	\$0.13	\$0.14	\$0.31	\$0.06	\$0.61	\$0.30	
1997	\$0.13	\$0.21	N/A	\$0.01	\$0.63	\$0.30	
1998	\$0.07	\$0.41	N/A	\$0.04	\$0.81	\$0.36	
1999	\$0.15	\$0.21	\$0.13	\$0.02	\$1.28	\$0.36	
2000	\$0.10	\$0.15	\$0.13	\$0.06	\$0.12	\$0.29	N/A

2001	\$0.09	\$0.12	\$0.23	\$0.12	\$0.15	\$0.31	
2002	\$0.10	\$0.14	N/A	\$0.31	\$1.37	\$0.37	
2003	\$0.15	\$0.31	N/A	\$0.12	\$1.50	N/A	N/A
2004	\$0.12	\$0.26	N/A	\$0.08	\$1.50	N/A	\$0.30
2005	\$0.14	\$0.31	\$0.30	\$0.86	\$0.96	N/A	
2006	\$0.12	\$0.28	\$0.08	\$0.24	\$0.12	N/A	
2007	\$0.11	\$0.30	N/A	\$0.11	\$0.54	N/A	N/A
2008	\$0.15	\$0.32		\$0.02	\$1.74	N/A	
2009	\$0.20	\$0.28	N/A	\$0.11	\$2.95	N/A	
2010	\$0.20	\$0.26	\$0.26	\$0.04	\$2.82	\$0.25	
2011	\$0.21	\$0.29		\$0.17	N/A	N/A	N/A
2012	\$0.19	\$0.32	N/A	\$0.06	\$1.27	\$1.58	N/A
2013	\$0.22	\$0.32	\$0.32	\$0.07	\$0.23	\$0.17	N/A
N/A indicates that the corresponding landings (mt) are unknown but assumed to be "<1".							
Source: PacFIN - 2011 data extracted Oct. 22, 2013, and 2012-13 data extracted May 15, 2014.							
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 2013.							

TABLE 8-1. Commercial harvest (metric tons) of CPS finfish in Ensenada, Baja California, Mexico, for calendar years 2000-2013^{1/2/3/4/}.

Year	Pacific sardine	Northern anchovy	Pacific mackerel	Jack mackerel
2000	67,845	1,562	7,182	0
2001	46,071	76	4,078	0
2002	46,845	0	7,962	0
2003	41,342	1,287	2,678	0
2004	41,897	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	55,911	2,444	8	0
2010	56,821	3,139	85	0
2011	70,336	1,760	2,601	0
2012	49,810	1,809	186	0
2013	50,289	---	---	---

1/ Data for 2000 to 2002 from García and Sánchez (2003).

2/ Data for 2003 provided by Dr. Celia Eva-Cotero, INAPESCA-Ensenada (pers. comm.).

3/ Data for 2004, 2012, and 2013 provided by Dr. Manuel O. Nevarrez, INAPESCA-Guaymas (pers. comm.).

4/ Data for 2005-2011 from CONAPESCA

TABLE 8-2. Pacific sardine population numbers (millions) and biomass (mt) by season for 2000 to 2014 (Hill et al. 2014). Age 1+ biomass as of July 2014 (bold) served as the basis for setting a HG for the U.S. fishery in 2014-15.

Calendar Yr-Sem	Model Yr-Seas	BIOMASS (mt)			POPULATION NUMBERS-AT-AGE (millions)								
		Total (0+)	Age 1+	SSB	0 (R)	1	2	3	4	5	6	7	8+
2000-2	2000-1	1,073,400	1,060,020	---	1,707	948	3,211	3,283	765	314	610	483	564
2001-1	2000-2	971,030	938,722	889,929	1,396	744	2,472	2,580	608	250	485	385	448
2001-2	2001-1	877,893	850,859	---	3,450	1,032	526	1,874	2,037	487	201	392	673
2002-1	2001-2	798,441	733,127	709,131	2,823	812	405	1,464	1,601	383	158	308	529
2002-2	2002-1	696,224	692,564	---	467	1,979	532	295	1,134	1,268	306	127	671
2003-1	2002-2	587,714	578,877	538,750	382	1,512	392	222	858	959	231	96	507
2003-2	2003-1	653,179	489,455	---	20,895	258	939	278	170	677	765	185	484
2004-1	2003-2	783,437	388,039	416,424	17,089	198	691	205	125	498	562	136	355
2004-2	2004-1	922,633	853,213	---	8,860	13,542	155	550	165	101	403	455	397
2005-1	2004-2	1,011,770	844,007	616,788	7,251	10,796	118	401	117	71	280	315	275
2005-2	2005-1	1,179,690	1,053,120	---	16,154	5,800	8,548	95	325	95	58	228	481
2006-1	2005-2	1,313,250	1,007,320	868,822	13,222	4,672	6,637	70	235	68	41	162	342
2006-2	2006-1	1,400,650	1,364,200	---	4,652	10,553	3,688	5,332	57	191	55	33	411
2007-1	2006-2	1,410,470	1,322,380	1,098,180	3,807	8,469	2,896	4,130	44	146	42	25	313
2007-2	2007-1	1,420,150	1,360,980	---	7,551	3,003	6,574	2,306	3,340	36	119	34	277
2008-1	2007-2	1,356,660	1,213,750	1,117,080	6,177	2,335	4,959	1,758	2,554	27	91	26	211
2008-2	2008-1	1,300,960	1,278,360	---	2,884	4,781	1,765	3,895	1,412	2,070	22	74	193
2009-1	2008-2	1,198,010	1,143,420	1,037,970	2,359	3,739	1,345	3,005	1,095	1,603	17	57	149
2009-2	2009-1	1,149,770	1,085,930	---	8,147	1,798	2,765	1,045	2,402	885	1,301	14	168
2010-1	2009-2	1,098,530	944,273	900,161	6,667	1,430	2,149	809	1,854	681	999	11	129
2010-2	2010-1	1,042,180	1,029,270	---	1,648	5,157	1,080	1,686	649	1,500	552	812	114
2011-1	2010-2	942,246	911,047	806,697	1,348	4,125	841	1,292	492	1,130	415	610	85
2011-2	2011-1	861,722	855,648	---	775	1,044	3,118	661	1,038	399	918	338	566
2012-1	2011-2	738,011	723,342	680,004	634	806	2,325	499	788	302	695	256	428
2012-2	2012-1	647,185	643,160	---	514	480	589	1,787	395	630	242	558	550
2013-1	2012-2	501,138	491,408	473,374	421	388	454	1,285	272	426	163	375	369
2013-2	2013-1	465,228	437,821	---	3,498	326	294	356	1,030	220	345	132	603
2014-1	2013-2	403,335	337,081	333,268	---	264	229	263	735	154	242	92	421
2014-2	2014-1	404,433	369,506	---	---	2,160	192	176	209	590	124	195	415

TABLE 8-3. Annual U.S. Pacific sardine landings (PacFIN) and harvest guidelines (HG) in metric tons since onset of management under the federal CPS-FMP.

Year	SCA	CCA	CA Total	OR	WA	U.S. Total	HG South	HG North	HG Total
2000	46,835	11,367	58,202	9,529	4,765	72,496	124,527	62,264	186,791
2001	47,662	7,241	54,903	12,780	10,837	78,520	89,825	44,912	134,737
2002	49,366	14,078	63,444	22,711	15,212	101,367	78,961	39,481	118,442
2003	30,289	7,448	37,737	25,258	11,604	74,599	73,939	36,969	110,908
2004	32,393	15,308	47,702	36,112	8,799	92,613	81,831	40,916	122,747
2005	30,253	7,940	38,193	45,008	6,929	90,130	90,786	45,393	136,179
2006	33,286	17,743	51,029	35,648	4,099	90,776	n/a	n/a	118,937
2007	46,199	34,782	80,981	42,052	4,663	127,695	n/a	n/a	152,564
2008	31,089	26,711	57,800	22,940	6,435	87,175	n/a	n/a	89,093
2009	12,561	25,015	37,576	21,482	8,025	67,083	n/a	n/a	66,932
2010	29,352	4,306	33,658	20,852	12,381	66,891	n/a	n/a	72,039
2011	17,642	10,072	27,714	11,023	8,008	46,745	n/a	n/a	50,526
2012	18,802	4,241	23,044	42,618	35,441	101,103	n/a	n/a	109,409
2013	6,291	823	7,114	27,685	26,847	61,646	n/a	n/a	66,495

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 8-4. West Coast Pacific sardine landings (metric tons) by country, 2000-2013.

Year	Ensenada México	United States	B.C. Canada	Total
2000	67,845	72,496	1,721	142,063
2001	46,071	78,520	1,266	125,857
2002	46,845	101,367	739	148,952
2003	41,342	74,599	978	116,919
2004	41,897	92,613	4,438	138,948
2005	55,323	90,130	3,232	148,684
2006	57,237	90,776	1,575	149,588
2007	36,847	127,695	1,522	166,065
2008	66,866	87,175	10,425	164,466
2009	55,911	67,083	15,334	138,328
2010	56,821	66,891	22,223	145,935
2011	70,336	46,745	20,719	137,801
2012	49,810	101,103	19,172	170,085
2013	50,289	61,646	0	111,935

TABLE 8-5. RecFIN estimated recreational harvest of Pacific (chub) mackerel by state (type ‘A+B1’ estimate in metric tons), 2000-2013. Estimates from 2000-2003 are based on MRFSS sampling. Estimates from 2004-2013 are based on CRFS and ORBS sampling programs, and are not directly comparable to MRFSS.

Year	CA	OR	WA	Total
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	0.91	0.00	240.26
2008	321.54	0.02	0.00	321.56
2009	237.30	0.06	0.00	237.36
2010	235.48	0.00	0.00	235.48
2011	165.54	0.01	0.00	165.55
2012	143.69	0.20	0.00	143.89
2013	109.67	0.27	0.00	109.94

TABLE 8-6. RecFIN estimated recreational harvest of Pacific (chub) mackerel by fishing mode (type ‘A+B1’ estimate in metric tons), 2000-2013. Estimates from 2000-2003 are based on MRFSS sampling. Estimates from 2004-2013 are based on CRFS and ORBS sampling programs and are not directly comparable to MRFSS.

Year	Shore Modes	Party/ Charter	Private/ Rental	Total
2000	51.30	76.85	121.92	250.07
2001	347.05	52.23	162.17	561.44
2002	92.88	25.74	160.59	279.22
2003	208.40	25.39	107.82	341.61
2004	405.18	21.45	119.91	546.53
2005	223.51	46.98	41.65	312.13
2006	405.84	15.05	42.44	463.33
2007	187.02	19.14	34.10	240.26
2008	275.35	20.89	25.32	321.56
2009	183.89	13.29	40.17	237.36
2010	201.25	9.36	24.87	235.48
2011	124.70	21.21	19.64	165.55
2012	121.05	9.20	13.64	143.89
2013	77.23	18.83	13.88	109.94

TABLE 8-7. Pacific mackerel harvest guidelines and commercial landings (mt) by July-June fishing season since the onset of management under the federal CPS-FMP.

Fishing Season	Harvest Guideline	Landings
1999-00	42,819	6,732
2000-01	20,740	19,510
2001-02	13,837	7,814
2002-03	12,535	2,679
2003-04	10,652	4,452
2004-05	13,268	3,938
2005-06	17,419	3,784
2006-07	19,845	6,890
2007-08	40,000	6,286
2008-09	40,000	4,278
2009-10	10,000	3,010
2010-11	11,000	2,086
2011-12	40,514	1,855
2012-13	40,514	4,753
2013-14 ^{/a}	52,538	8,495

^{/a} Landings for the 2013-14 season represent data through March 2014.

Table 9-1. Total landings (mt) of sardines and other species, and number of vessels and processors that participated under Exempted Fishery Permits during 2009-2013. (Source: ODFW and WDFW fish ticket records).

Species	2009	2010	2011	2012	2013	5-Year Total
Sardines	1,178.0	2,013.9	2,699.7	2,914.4	1,526.9	10,333.0
Pacific Mackerel	3.8	9.3	1.2	200.6	13.6	228.4
Jack Mackerel	0.0	0.0	0.0	1.5	0.0	1.5
Jellyfish	2.0	0.0	0.0	0.0	0.0	2.0
Number Vessels	2	3	4	5	2	7
Number Processors	1	1	1	3	1	3

Table 9-2. EFP landings in California. Total landings (mt) of sardines and other species, and number of vessels and processors that participated under Exempted Fishing Permits during 2009-2012. (Sources: Northwest Aerial Sardine Survey, LLC; * NMFS WCR; **CWPA).

Species	2009	2010
Sardines	1685mt*	1,218.2mt
Pacific Mackerel	756.0mt	9.8mt
Jacksmelt	40.00mt	
Kingfish	412.0mt	
Other spp		0.0
Number Vessels **	2	3
Number Processors **	2	2