

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 (CPSPDT) to amend the FMP for northern anchovy to conform to the recently revised Magnuson-Stevens Act and to expand the scope of the FMP to include the entire CPS fishery. Amendment 8 was partially approved by the Secretary on June 10, 1999, and final regulations were published on December 15, 1999 (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 that 20 percent Pacific sardine by weight.

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

- Any unused seasonal allocation to the directed fishery from Period 1 or Period 2 rolls into the next period’s directed fishery.
 - Any overage of a seasonal allocation to the directed fishery from Period 1 or Period 2 is deducted from the next Period’s directed fishery.
 - Any unused Seasonal Incidental Set-Aside from Period 1 or Period 2 rolls into the next period’s directed fishery.
 - If both the seasonal allocation to the directed fishery and the Seasonal Incidental Set-Aside are reached or exceeded in any period, the retention of Pacific sardine will be prohibited and the overage will be deducted from the next period’s directed fishery.
 - Any of the research set-aside that is not used in Period 2 rolls into the third seasonal period’s directed fishery HG.
- In November 2008, the Council also adopted a public review draft of the Terms of Reference document for the 2009 STAR Panel process. The Council also tasked Council staff with scheduling two STAR Panels for 2009; one in May 2009 focused on a full Pacific mackerel assessment and Pacific sardine assessment methodology, and a second in September 2009 that focuses on the review of a full Pacific sardine assessment.

- At the March 2009 meeting, the Council adopted a final Terms of Reference as a guide for the 2009 coastal pelagic species STAR process. The Council approved minor changes to the document as recommended by the Scientific and Statistical Committee (SSC). A final document will be posted to the Council website in the near future. The Council also scheduled two STAR Panels, both to be held at the Southwest Fisheries Science Center in La Jolla, California. The first occurred May 4-8, 2009 and will review a full assessment of Pacific mackerel as well as the survey design for a proposed Pacific sardine survey. The second occurred September 21-25, 2009 to review a full assessment of Pacific sardine.

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

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

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

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

- At the November 2009 meeting, the Council expressed support for further development and analyses of the alternatives proposed pursuant to National Standard 1 (NS1) of the Magnuson Act. The Council

supported analysis of sector specific annual catch limits, but not for the live bait fishery and requested an analysis of annual catch targets to address management uncertainty and to buffer against overfishing. Additionally, the Council supports the proposed meetings between the CPS Management Team and the Scientific and Statistical Committee CPS Subcommittee to further review the CPS harvest control rules and their adequacy for addressing uncertainty and preventing overfishing. The Council put a lower priority on including additional forage species in the CPS FMP and on development of mechanisms to streamline inseason management. The Council recommended work on these issues with a focus on meeting time-sensitive requirements of the MSA and guidelines for meeting National Standard 1.

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

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

- 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	BIOMASS * FMSY * DISTRIBUTION
ABC	BIOMASS * BUFFER * FMSY * DISTRIBUTION
ACL	LESS THAN OR EQUAL TO ABC
HG	(BIOMASS - CUTOFF) * FRACTION * 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 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. This change also incorporated a new temperature-productivity relationship.
- At its March 2015 meeting, the Council took final action to protect a suite of currently [unmanaged forage fish](#) species and prohibit the development of new directed commercial fisheries. Although incidental retention of these shared jacksmeltjack species is allowed, directed commercial take is not allowed. A Council process to develop an exempted fishing permit must be completed prior to allowing directed take on any of the shared EC species, which are: round herring, thread herring, mesopelagic fishes, Pacific sand lance, Pacific saury, silversides, smelts in the family *Osmeridae*, and pelagic squids (except Humboldt squid).
- At its April 2015 meeting, the Council adopted Pacific sardine harvest specifications and management measures for the 2015 – 2016 fishery. Because the estimated biomass fell below the Cutoff of 150,000 metric tons, a directed fishery was precluded. Therefore the Council adopted an HG of zero, with a 7,000 mt ACL to allow for tribal harvest, incidental landings, live bait, research, and other minor sources of mortality. For incidental catches, the Council adopted an incremental approach, with 40% mixed loads allowed until 1,500 mt are landed. Then the mixed load amount drops to 30% until 4,000 mt are landed, and dropped to 5% until the ACL is met.
- At that same meeting, the Council took emergency action to close the current (2014 – 2015) fishery as soon as possible, to stay within the remaining quota, and urged NMFS to immediately assess landings and catch rate, to determine a closure date associated with the remaining available quota.
- At its June 2015 meeting, the Council adopted the Pacific mackerel stock assessment for management in both the 2015-16 and the 2016-17 fishing years. A projection estimate of biomass was used to estimate the second year biomass, assuming the full HG would be taken. The Council adopted the following harvest specifications and management measures:

	2015-16 (mt)	2016-17 (mt)
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Biomass	120,425	118,968
OFL	25,291	24,983
ABC_{0.45}	23,104	22,822
ACL	23,104	22,822
HG	21,469	21,161
ACT	20,469	20,161

The Council also adopted a 45 percent incidental landing allowance once the directed fishery is closed, and up to three mt of Pacific mackerel per landing to be allowed in non-CPS fisheries.

- At its April 2016 meeting, the Council adopted Pacific sardine harvest specifications and management measures for the 2016 – 2017 fishery. Because the 106,137 mt estimated biomass again fell below the Cutoff of 150,000 metric tons, a directed fishery was precluded. Therefore the Council adopted an HG of zero, with a 8,000 mt ACL to allow for tribal harvest, incidental landings, live bait, research, and other minor sources of mortality. For incidental catches, the Council adopted an incremental approach, with 40% mixed loads allowed until 2,000 mt are landed. Then the mixed load amount drops to 20% until 5,000 mt are landed, and dropped to 10% until the ACL is met. The Council also adopted an OFL of 23,085 mt and an ABC of 19,236 mt.
- At its April 2017 meeting, the Council adopted Pacific sardine harvest specifications and management measures for the 2017 – 2018 fishery. The biomass estimate of again fell below the Cutoff value of 150,000 mt, thereby precluding a directed sardine fishery. The Council adopted an HG of zero and an ACL of 8,000 mt to allow for tribal harvest (up to 800 mt), incidental landings, live bait, small scale fishing, and other minor sources of mortality. For incidental catches, the Council adopted an incremental approach, with 40% mixed loads allowed until 2,000 mt are landed. Then the mixed load amount drops to 20% until 5,000 mt are landed, and dropped to 10% until the ACL is met. The Council also adopted an OFL of 16,957 mt and an ABC of 15,479 mt.
- Also at the April 2017 meeting, the Council adopted FMP Amendment 16, which allows for minor directed fishing on CPS stocks when the directed fishery is closed. A handful of operators along the west coast use beach seine nets, small purse seines, or hook and line gear to harvest small quantities of CPS, typically for bait or for the restaurant market. The landings in this sector are expected to be de minimis. The Council adopted a trip limit of one metric ton, and a limit of one trip per day.
- At its June 2017 meeting, the Council adopted Pacific mackerel harvest specifications and management measures, for two consecutive years. A projection estimate of biomass was used to estimate the second year biomass, assuming the full HG would be taken. The Council adopted the following harvest specifications and management measures:

	2017-18 (mt)	2018-19 (mt)
Biomass	143,403	131,724
OFL	30,115	27,662
ABC_{0.45}	27,510	25,269

ACL	27,510	25,269
HG	26,293	23,840
ACT	26,293	23,840
Incidental	1,000	1,000

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 78,961mt. 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).

February 6, 2015. NMFS issued a final rule on annual specifications and management measures for Pacific mackerel, under the CPS FMP. The final 2014-2015 HG for Pacific mackerel was 29,170 mt, with an ACT of 24,170 mt. The directed fishery would be closed if the ACT was attained, with the remaining 5,000 mt representing a set aside for incidental landings in other CPS fisheries and other sources of mortality. (80 FR 6662).

March 23, 2015. NMFS announced the approval of Amendment 14 to the CPS FMP, specifying an estimate of MSY for the NSNA. At its November 2013 meeting, the Council adopted an FMSY of 0.3 as the best MSY estimate for NSNA, and voted to include this reference point as part of Amendment 14 to the CPS FMP. This action was based on data compiled by the CPSMT and recommended by the Council's SSC.

June 29, 2015. NMFS issued a final rule to implement annual management measures and harvest specifications to establish the allowable catch levels of Pacific sardine in waters off the U.S. West Coast. The annual biomass estimate of 96,688 mt fell below the Cutoff value of 150,000, thereby precluding directed non-tribal harvest. NMFS set an ACL of 7,000 mt and an ACT of 4,000, to account for incidental harvest, tribal harvest, live bait, and other minor sources of mortality. NMFS implemented an OFL of 13,227 mt, and ABC of 12,074 mt, and the following conservation measures: incidental catch shall not exceed 40 percent by weight, until 1,500 mt of sardine are harvested, at which time the incidental allowance will become 30 percent. When 4000 mt has been harvested, the percent allowance will be reduced to five percent for the remainder of the fishing year. The Council also adopted a two mt incidental per landing allowance in non-CPS fisheries.

June 23, 2016. NMFS issued a proposed rule on annual specifications and management measures for Pacific mackerel under the CPS FMP. The proposed 2016-2017 HG for Pacific mackerel was 21,161 mt, with an ACT was 20,161 mt. The directed fishery would be closed if the ACT was attained, with the remaining 1,000 mt representing a set aside for incidental landings in other CPS fisheries and other sources of mortality (81FR40844).

June 24, 2016. NMFS issued a final rule to implement annual harvest specifications and management measures to establish the allowable catch levels of Pacific sardine in waters off the U.S. West Coast for the 2016-2017 fishing year. The annual biomass estimate of 106,137 mt fell below the Cutoff value of 150,000mt, thereby precluding directed non-tribal harvest. NMFS set an ACL of 8,000 mt to account for incidental harvest, tribal harvest, live bait, and other minor sources of mortality. NMFS implemented an OFL of 23,085 mt, an ABC of 19,236 mt and the following conservation measures: incidental catch shall not exceed 40 percent by weight until 2,000 mt of sardine are harvested, at which time the incidental allowance will become 30 percent. When 5,000

mt has been harvested, the percent allowance will be reduced to 10 percent for the remainder of the fishing year (81FR41251).

August 25, 2016. NMFS issued a final rule to implement annual specifications and management measures for Pacific mackerel under the CPS FMP. The 2016-2017 HG for Pacific mackerel was 21,161 mt, with an ACT was 20,161 mt. The directed fishery would be closed if the ACT was attained, with the remaining 1,000 mt representing a set aside for incidental landings in other CPS fisheries and other sources of mortality (81FR57489).

TABLE 2-3. Coastal pelagic species 2017 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	69.5	63.8	70.2
MERVA W	2	532023	82.9	43.5	47.9
SHEYMA	3	1104597	92.6	98.4	108.2
BARBARA H	4	643518	121.1	121.1	133.2
KAREN MARIE	5	593871	64.8	82.0	90.2
CACHALOT	6	654091	106.8	98.1	107.9
SAN PEDRO PRIDE	7	549506	182.5	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	115.0	206.9	227.6
UNASSOCIATED	11	---	---	56.2	61.8
ANGELETTE	12	608579	64.7	114.8	126.3
PIONEER	13	246212	141.9	141.9	156.1
TRITON	14	CF7218UH	92.2	89.3	98.2
SAINT JOSEPH	15	633570	84.4	84.4	92.8
----	16	---	---	137.5	151.3
RISING SPIRIT	17	WN0416RK	65.1	61.9	68.1
ST KATHERINE	18	542513	59.9	63.8	70.2
SEA PEARL	19	CF7336UH	97.3	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	74.1	63.5	69.9
PACIFIC JOURNEY	23	OR661ZK	107.8	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	26.7	23.8	26.2
INVINCIBLE	27	1244073	101.4	55.5	61.1
MINEO BROS. ^{/3}	28	CF0163TF	104.0	73.4	80.7
INVINCIBLE	29	1244073	101.4	42.0	46.2
MINEO BROS. ^{/3}	30	CF0163TF	104.0	40.8	44.9
SEA VENTURE	31	WN4232NW	118.2	340.2	374.2
ELDORADO	32	690849	79.1	54.9	60.4
SEA PRINCESS	33	630024	81.1	194.0	213.4
KAREN SUE	34	1211776	116.3	125.6	138.2
ENDURANCE	35	613302	42.0	42.0	46.2
EL DORADO	36	690849	79.1	27.0	29.7
CALOGERA A	37	984694	85.7	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	46.2	41.5	45.7
OCEAN ANGEL II	43	622522	176.6	149.5	164.5
CRYSTAL SEA	44	1061917	142.1	137.0	151.7
TRIONFO	45	625449	96.8	79.2	87.1
RELENTLESS	46	CF2009TK	78.3	85.0	93.5
HEAVY DUTY	47	655523	84.4	84.4	92.8
NATALIE ROSE	48	685870	107.2	107.2	117.9
LADY J	49	647528	60.2	40.7	44.8
SYDNEY MORGAN	50	1225596	50.1	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
ERIN CARROLL	54	WN8521SF	123.7	126.5	139.2
UNASSOCIATED	55	---	---	40.4	44.4
KATHY JEANNE	56	507798	86.3	86.3	95
MERVA W	57	532023	82.9	54.4	59.8
ALICE ANNE	58	WN3306SF	83.6	91.1	100.2
STELLAR	59	1190501	10.6	74.5	82.0
PACIFIC KNIGHT	60	OR155ABZ	67.3	63.4	69.7
ALEUTIAN SPIRIT	61	621542	63.8	59.9	65.9
UNASSOCIATED	62	---	---	39.7	43.7
EMERALD SEA	63	626289	86.7	86.3	94.9
ANGEL'S GATE	64	CF1927VH	53.7	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 71 years
Average GT	71.3	88
Range of GT	12.8 to 206.9	10.6 to 182.5
Sum of Fleet GT	4,635.9	5,528.6
Capacity Goal (GT) ^{1/}	---	5,650.9
Transferability Trigger	---	5,933.5

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

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

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 2016.

Vessel Name	Coast Guard Number	Year Built	Length	Breadth	Depth	Calculated Vessel GT ^{2/}	Federal Limited Entry	Oregon Limited Entry
ARTIC FOX	1187928	2006	57.3	26.0	12.6	125.8		X
ATLANTIS ^{1/}	649333	1982	49.6	19.0	10.1	63.8	X	
CAPE CAUTION	606699	1979	49.6	19.0	10.1	63.8		
EMERALD SEA	626289	1980	62.7	26.0	7.9	86.3	X	X
HOT SPUR	942575	1988	52.6	21.0	9.2	68.1		
JUNO	260614	1950	138	30	12	199		
KELSEY NICOLE	1210115	1982	58	19.5	10	75.8	X	
LADY LAW	1131965	2002	74.7	25	13.3	166.4		X

LISA MARIE	1038717	1996	78.0	25.3	13	171.9		X
MARAUDER	975597	1991	58.0	22.8	10.5	93.0		X
OCEAN STORM	986786	1992	57.9	22.3	11.3	97.8		
PACIFIC GRACE	625595	1980	58	22	9.7	107		
PACIFIC RAIDER	972638	1991	57.7	22.7	11	96.5		X
RISING SUN	1244677	2013	58.0	22.7	11.5	101.4		
ROBERT MAGNUS	1230071	2011	58	26	13	131.3		
VOYAGER	248217	1945	66.7	20.2	9.3	84.0		
WN7062SA		1977	68.4	22.0		100.0		
ZEALOT	986920	1992	57.9	22	10.5	89.6		

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

Target species - Pacific sardine					
Species	Target Catch	Incidental Catch	Bycatch Returned		
			Alive	Dead	Unknown
Sardine	1495 mt		80 mt	100 lbs	100 lbs
Anchovy		9 mt	82	1300 lbs	
Bat Ray		1	143	14	1
Bat Star			5		
CA Barracuda		2	1	3	
CA Halibut		9		4	
Giant Sea Bass			2		
Jacksmelt		1			
Jack Mackerel		2 mt			
Midshipman			1	13	1
Moon Jelly		1			
Pacific Bonito		10 lbs			
Pacific Butterfish		3			
Pacific Electric Ray			2		
Pacific Mackerel		1 mt	100 lbs		
Pacific Tomcod		1			
Pompano		167			
Queenfish		49			
Sanddab			25 lbs	10 lbs	
Scorpionfish		1			1
Sculpin				1	3
Shovelnose Guitarfish			1		
Spanish Mackerel		100 lbs			
Squid		1 mt	2 mt		
Starry Flounder			2		

TABLE 4-1 (continued). Preliminary catch summary for vessels targeting Pacific sardine from NMFS-SWR coastal pelagic species pilot observer program, 2004-2008.

Species	Target Catch	Incidental Catch	Bycatch Returned		
			Alive	Dead	Unknown
Stingray		2			
Thornback Ray			2		
Unid. Crab			1		1
Unid. Croaker		40			
Unid. Flatfish		78	8	130	12
Unid. Jellyfish		3	3		
Unid. Mackerel		8 mt	12 mt		
Unid. Octopus					2
Unid. Ray					2
Unid. Rockfish		2	1		

Unid. Seastar		41	135	1
Unid. Scorpionfish/Sculpin				1
Unid. Shark			2	
Unid. Skate			3	
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. Seaslug					21
Unid. Scorpionfish		1			
Unid. Surfperch				3	
Unid. Skate		3		1	
Unid. Smelt		49			
Unid. Stingray		9	17		
Unid. Shark					1
Thresher Shark		1			
CA Sea Lion			98		
Harbor Seal			3		
Common Dolphin				1	
Unid. Gull			16	1	

TABLE 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 4-4. 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			
Sardine			2 mt				
Bat Ray			4				
CA Lizardfish			4				
Kelp Bass			1				
Midshipman						5	
Pacific Bonito					20 lbs		
Pacific Mackerel			2				
Queenfish			50 lbs		11 lbs		
Round Stingray					1		
Sculpin			2				
Spiny Dogfish					1		
Unid. Croaker			20		45		
Unid. Flatfish			10				
Unid. Hake			4				
Unid. Seastar					1		
Unid. Smelt			2				
Unid. Turbot					1	1	20
White Croaker			50 lbs		35 lbs		
Yellowfin Croaker			50 lbs		10 lbs		
CA Sea Lion					5		
Sea Otter					1		

Table 4-5. Percent frequency by occurrence of incidental catch in sampled Pacific sardine, Pacific mackerel, and Northern anchovy landings, by port, 2012-2016. Table values represent proportion of each incidental species out of total incidental observed each year. (Collection of Northern anchovy samples began in 2014).

Common Name	All Ports Combined					Monterey/Moss Landing					Ventura/Port Hueneme/Terminal Island/San Pedro				
	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016
Finfish															
Anchovy, northern	1.9	0.9	7.9	0.2		4.0	3.6	12.1	0.3		0.5	0.4	1.1		0.5
Barracuda, California	0.4		0.6	0.7	0.3	0.4		0.2	0.9		0.5		1.1		1.1
Bass, barred sand	0.7	0.3	0.1	0.2	0.6						1.2	0.4	0.4	0.9	0.5
Bass, kelp	1.3	4.4	1.9	0.2	0.3						2.2	5.3	4.9	0.9	
Bass, striped	0.3					0.4					0.2				0.5
Blacksmith		0.3	0.1		0.3							0.4	0.4		1.6
Bonito, Pacific	0.1	3.8	0.4	1.3	1.0			0.5	0.3		0.2	4.6	0.4	4.3	4.4
Butterfish	1.8	1.5	3.2	6.7	4.3	3.6	3.6	4.8	8.2	4.3	0.5	1.1	0.8	2.6	
Cabezon	0.1					0.4									
Combfish, longspine	0.1										0.2				0.5
Corbina, California	0.1				0.3						0.2				
Croaker, unspecified		0.3										0.4			2.7
Croaker, white	3.1	0.9	1.2	0.4	2.3	6.9	5.4	1.4	0.3	1.7	0.5		0.8	0.9	2.2
Croaker, yellowfin	0.3		0.4	0.2	1.3	0.7		0.5					0.4	0.9	1.1
Cusk eel, basketweave	0.1		0.3	0.4	0.6				0.3		0.2		0.8	0.9	
Cusk-eel, spotted															
Eel, unspecified				0.2					0.3						
Eel, wolf (wolf-eel)	0.3										0.5				
Eel, yellow snake															
Fish, unspecified															
Flatfish, unspecified	1.9	0.6	0.6	0.4		0.7		1.0	0.6		2.7	0.7			0.5
Flounder, starry	0.9		0.1		0.3	2.2		0.2							
Flounder, unspecified															
Flyingfish	0.3	0.3	0.1								0.5	0.4	0.4		
Greenling, kelp			0.1										0.4		
Grunion, California															
Hagfish															
Halfmoon				0.4					0.3					0.9	3.8
Halibut, California	1.0	1.8	0.4	0.9	3.0	1.4	1.8		0.3	1.7	0.7	1.8	1.1	2.6	
Herring, Pacific	1.2				1.3	2.9				3.4					3.8
Jacksmelt	2.8	0.9	0.1	0.7	3.3	6.1	5.4	0.2	0.9	2.6	0.5				
Kelpfish, giant	0.3	0.6	0.1								0.5	0.7	0.4		0.5
Lingcod	0.1				1.0					1.7	0.2				4.4
Lizardfish, California	1.2	1.2	2.3	2.2	3.6	0.7	5.4	3.3	2.4	2.6	1.5	0.4	0.8	1.7	0.5
Mackerel, jack	5.7	13.5	4.5	9.4	2.0			0.2	12.7	4.3	9.7	16.1	11.3		6.6
Midshipman, plainfin	0.1	0.6	0.6	2.5	13.0			1.0	2.1	23.3	0.2	0.7		3.5	
Midshipman, specklefin	0.7	1.8	0.7	0.7	0.6					1.7	1.2	2.1	1.9	2.6	1.1
Midshipman, unspec					0.6										
Opaleye															

Perch-like, unspecified	0.3			0.2		0.7			0.3					
Pipefish, bay														0.5
Pipefish, kelp	0.1		0.1		0.3					0.2		0.4		
Poacher, unspecified														
Queenfish	0.1			0.7					0.6	0.2			0.9	
Rockfish, chilipepper			0.4	0.2			0.7	0.3						0.5
Rockfish, unspecified	0.6		0.1		0.3			0.2			1.0			
Salema														
Salmon, Chinook	0.6					1.1				0.2				
Sanddab, longfin			0.1		0.3					0.9		0.4		
Sanddab, Pacific	2.2	5.0	6.1	8.1	2.0	4.3	7.1	6.4	9.7	5.2	0.7	4.6	5.7	3.5
Sanddab, speckled	0.7	0.3	0.9				1.8	1.4			1.2			
Sanddab, unspecified	1.9			0.4		1.4			0.6		2.2			6.0
Scorpionfish, California	1.3	2.6	3.2	1.8	9.7					15.5	2.2	3.2	8.3	7.0
Sculpin, pithead					0.6									
Sculpin, roughback	0.3										0.5			
Sculpin, staghorn	1.0	0.6		0.9		2.5	3.6		1.2					
Sculpin, unidentified	0.3		0.1					0.2			0.5			
Sculpin, yellowchin														
Seabass, giant (black)														
Shad, American	1.5			0.2		3.6			0.3					
Sheephead, California			0.1									0.4		
Silversides														
Smelt, surf			0.3									0.8		
Smelt, true														
Snapper, Mexican														
Sole, C-O		0.9	0.7	0.2							1.1	1.9	0.9	
Sole, English	0.4		0.1	0.2		1.1		0.2	0.3					
Sole, fantail	1.0	1.8	0.4	0.2	0.3	0.4				0.9	1.5	2.1	1.1	0.9
Sole, petrale		0.3		0.2	0.6				0.3			0.4		
Sole, rock														
Sole, sand	1.5	1.5	0.4			2.9	8.9	0.7			0.5			
Sole, slender														
Sole, unspecified														
Sunfish, ocean			0.1					0.2						
Surfperch, barred					0.3					0.9				
Surfperch, black	0.1	0.6			0.3	0.4				0.9		0.7		
Surfperch, kelp														
Surfperch, pink	0.3										0.5			
Surfperch, rainbow														
Surfperch, rubberlip		0.3	0.1									0.4	0.4	
Surfperch, shiner	0.6	0.9	0.4	0.4		1.1		0.2	0.3		0.2	1.1	0.8	0.9
Surfperch, unspecified	0.1	0.6	0.1	0.2	0.3			0.2		0.9	0.2	0.7		0.9
Surfperch, walleye					0.6					1.7				
Tonguefish			0.3	0.2				0.5	0.3					3.3
Topsmelt	0.1					2.6				1.7	0.2			2.2

Turbot, curlfin	1.5	0.3	0.9	0.2	1.3	0.4	1.8	1.4	0.3		2.2				
Turbot, diamond	0.6				0.6					1.7	1.0				1.6
Turbot, hornyhead	2.2	4.4	2.2	1.3	1.0	0.4	1.8	0.2	0.3		3.5	4.9	5.3	4.3	2.2
Turbot, spotted	0.1	0.6			2.0					1.7	0.2	0.7			2.2
Turbot, unspecified		0.6	0.3	0.2	1.3			0.5	0.3			0.7			
Whiting, Pacific			0.7					1.2							
Total % Freq. Incidents	47.0	54.5	44.8	54.9	65.9	50.5	50.0	40.0	57.5	79.3	44.5	55.4	52.5	46.4	57.4
Elasmobranchs															
Guitarfish, shovelnose					0.3										0.5
Ratfish, spotted															
Ray, bat	3.1	1.2	0.1	1.8	4.6	3.2	1.8	0.2	1.2	3.4	3.0	1.1		3.5	5.5
Ray, California butterfly	0.1	0.3		0.4	1.0	0.4						0.4		1.7	1.6
Ray, Pacific electric	0.6	1.5	4.2	4.9	1.3	0.7	3.6	6.7	6.4	3.4	0.5	1.1	0.4	0.9	
Ray, unspecified	1.0		0.1	0.2		0.4		0.2	0.3		1.5				
Shark, brown smoothhound															
Shark, gray smoothhound															
Shark, horn	0.7	0.3	0.7	0.2	0.6						1.2	0.4	1.9	0.9	1.1
Shark, leopard	0.3		0.3		0.3			0.2			0.5		0.4		0.5
Shark, Pacific angel	1.6	1.5	0.6	0.7							2.7	1.8	1.5	2.6	
Shark, pelagic thresher															
Shark, smooth hammerhead															
Shark, spiny dogfish															
Shark, unspecified	0.1										0.2				
Skate, big	1.0	0.3				2.5	1.8								
Skate, California	0.3	0.9	0.1	0.4		0.4			0.3		0.2	1.1	0.4	0.9	
Skate, long-nosed	0.1				0.3	0.4									0.5
Skate, thornback	1.5	2.1	0.9	1.1	2.0	1.8	5.4		0.6	0.9	1.2	1.4	2.3	2.6	2.7
Skate, unspecified	0.1		0.1	0.2	0.3			0.2			0.2			0.9	0.5
Stingray, round	0.6		0.3	0.4	2.0						1.0		0.8	1.7	3.3
Total % Freq. Incidents	11.3	7.9	7.6	8.5	13.0	9.7	7	7.6	6.8	7.6	12.4	7.0	7.5	14.4	16.4
Invertebrates & Plants															
Algae, marine	0.6			1.6				0.5	2.1		1.0				
Bryozoan															
Crab shells	0.3	0.6		0.7	0.3	0.7	1.8		0.9	0.9		0.4			
Crab, box															
Crab, decorator	0.4		3.5		0.6	0.4					0.5				1.1
Crab, Dungeness	1.8	1.2		1.3	0.3	4.3	7.1	5.5	1.8	0.9			0.4		
Crab, globe	1.0	0.6									1.7	0.7			
Crab, rock unspecified	0.9	0.3	0.3		0.3		1.8				1.5				0.5
Crab, sheep	0.4	2.3			1.0	0.4				0.9	0.5	2.8	0.8		1.1
Crab, slender															
Crab, spider	0.7		1.9								1.2				
Crab, swimming	0.6	1.2	0.6	1.1	4.0			0.2			1.0	1.4	4.5	4.3	6.6
Crab, unspecified	1.3	0.9	1.0	2.2	0.3	0.4			1.2	0.9	2.0	1.1	1.5	5.2	

Eelgrass	1.5			1.6		1.1		1.0	0.3		1.7		1.1	5.2	
Gorgonians (sea fans)				0.4										1.7	
Invertebrate, unspecified	0.1		6.4								0.2				
Jellyfish	1.2	0.6	11.8	1.6	0.3	2.9	3.6	10.5	2.1	0.9					
Kelp	11.0	11.4	0.6	16.0	5.0	10.1	5.4	9.3	15.2	0.9	11.7	12.6	15.8	18.3	7.7
Kelp, feather boa	3.8		0.4	0.9	0.3	1.4		1.0	1.2	0.9	5.5				
Lobster, California spiny	1.5	1.2			0.3						2.5	1.4	1.1		0.5
Nudibranch			1.0												
Octopus, unspecified	2.4	3.8		0.4	1.0	2.9	8.9	0.7	0.3		2.0	2.8	1.5	0.9	1.6
Pleurobranch			0.3												
Prawn, ridgeback			0.4		2.6			0.5		0.9					3.8
Prawn, spot	0.1		1.6					0.5			0.2		0.4		
Salps	0.1		1.5	0.7					0.9		0.2		4.2		
Sea cucumber	0.9	0.6		0.4		0.4		1.7			1.2	0.7	1.1	1.7	
Sea pansy															
Sea stars	1.6	1.2		0.2	0.3	3.6	3.6		0.3		0.2	0.7			0.5
Shrimp, black-spotted bay	0.9		0.1	0.2	0.3	2.2			0.3	0.9					
Shrimp, unspecified	0.3	0.3		3.1	0.3				2.7		0.5	0.4	0.4	4.3	0.5
Snail, top															
Snail, unspecified			0.3												
Sponge, unspecified								0.5							
Squid, jumbo			15.0												
Squid, market	7.8	11.4		11.2	3.0	8.3	5.4	20.0	14.8	5.2	7.5	12.6	7.2	0.9	1.6
Squid, market (Egg Cases)															
Surfgrass			0.4												
Tunicates				1.3	0.3			0.7	1.8						0.55
Turkish Towel	0.3					0.7									
Total % Freq. Incidents	41.7	37.5	47.6	36.4	21.1	39.7	37.5	53.4	35.7	12.9	43.0	37.5	40.0	39.2	26.2
Total All Incidents	679	56	685	551	299	277	285	420	426	116	402	341	265	125	183
Total Observed Landings	186	7	100	162	72	34	110	24	108	25	146	118	76	54	47

Table 4-6. Incidental catch reported on landing receipts with greater than fifty percent market squid (by tonnage per landing) from the 2012-2013 through 2016-2017 season for round haul gear.

Common Name	2012 - 2013		2013 - 2014		2014 - 2015		2015 - 2016		2016 - 2017	
	Number of Landings	Metric Tons	Number of Landings	Metric Tons	Number of Landings	Metric Tons	Number of Landings	Metric Tons	Number of Landings	Metric Tons
Anchovy, northern	2	2	4	5	1	0	5	136	5	2
Bonito, Pacific	0	0	0	0	0	0	1	5	1	0
Mackerel, jack	13	19	29	27	33	21	45	61	43	58
Mackerel, Pacific	38	196	66	274	154	359	126	348	140	512
Sardine, Pacific	54	370	71	403	46	50	27	23	102	89

TABLE 4-7. Percent frequency by occurrence of bycatch in observed loads of California market squid by port, 2012-2016. Table values represent proportion of each incidental species out of total incidental observed each year.

Common Name	Total All Ports					San Pedro/Terminal Island					Ventura/Port Hueneme					Monterey/Moss Landing				
	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016
Finfish																				
Anchovy, northern	3.6	3.5	3.2	4.0	4.3	17.6	2.9	3.6		4.1	3	4.3	4.0	1.8	7.0	2.8	2.7	2.8	5.4	3.0
Barracuda, California	1.1	0.4	0.4	0.6	1.9			1.0		3.1	2	0.8			2.3				0.9	
Bass, kelp		0.3	0.5				1.0	1.5				0.3								
Blacksmith		0.1	0.2		0.5			0.5		1.0		0.3								
Bonito, Pacific		0.1	0.2	0.9	1.4		1.0		4.2	3.1			2.0	1.8						
Butterfish (Pacific pompano)	10.1	10	4.6	5.2	3.4	8.8	10.7	1.5	4.2		11.4	11.6	2.0	1.8	4.7	8.5	7.7	6.7	6.3	7.6
Combfish, longspine		0.1	0.2									0.3						0.3		
Croaker, white (kingfish)	1.5	1.0	0.4	0.6	1.4			0.5			0.3	0.5				3.2	2.0	0.3	0.9	4.5
Eel, wolf (wolf-eel)	0.5	0.5	0.2								0.3					0.9	1.3	0.3		
Fish, unspecified	0.1															0.3				
Flatfish, unspecified		0.3	0.9	1.5			1.0		2.1				2.0				0.3	1.2	1.8	
Flounder, starry	1.3	0.1	0.4		0.5											3.2	0.3	0.6		1.5
Flyingfish	0.5	0.6	0.2		0.5		1.0	0.5		1.0	1.0	1.1								

Halibut, California		0.1	0.2					1.0											0.3					
Herring, Pacific	1.1	1.3	0.5															2.5	3.4	0.9				
Jacksmelt	2.2	2.5	3.0	4.3	4.3			1.0	0.5	2.1	1.0		1.5	0.3			2.3		3.2	5.7	4.9	5.8	10.6	
Lizardfish, California	0.8	2.8	2.3	0.6	1.0		5.9	3.9		2.1			1.0	3.0						2.3	4.0	0.4	3.0	
Mackerel, jack	2.8	2.6	4.9	12.5	11.1		8.8	2.9	10.3	10.4	15.3		3.8	3.0	6.0	10.5	9.3		0.9	2.0	1.5	13.5	6.1	
Mackerel, Pacific	2.8	4.3	8.4	14.9	14.5		2.9	3.9	12.9	14.6	17.3		4.6	5.4	16.0	33.3	18.6		0.6	3.0	4.6	10.3	7.6	
Mackerel, unspecified	0.3																		0.6					
Midshipman, plainfin	1.2	1.7	1.8	1.2	0.5			1					2.3	1.9						1.7	3.1	1.8	1.5	
Midshipman, specklefin	0.1	0.8	0.2	0.6				2.9	0.5	2.1			0.3	0.8								0.4		
Midshipman, unspecified			0.2						0.5															
Poacher, unspecified																								
Rockfish, Blue		0.6	0.4	0.3																	1.7	0.6	0.4	
Rockfish, chilipepper		0.9	0.9																		2.3	1.5		
Rockfish, unspecified	0.1	0.5	0.2	0.3				1.0												0.3	1.0	0.3	0.4	
Salmon, Chinook	0.9	0.5																		2.2	1.3			
Sanddab, longfin	0.3	0.1	0.2					1.0	0.5											0.6				
Sanddab, Pacific	3	2.7	5.3	6.4	2.4			5.8	4.1	4.2					2.0					7	5.0	6.4	8.5	7.6
Sanddab, speckled	0.1	0.9	2.5	0.6	1.4										8.0	3.5	7.0			0.3	2.3	3.1		
Sanddab, unspecified	6.3	5.6	0.4		0.5		2.9		1.0				10.2	11.3						1.9	0.3			1.5
Sardine, Pacific	6.7	5.3	4.4	9.8	14.0		14.7	1.9	2.6	8.3	19.4		6.1	4	2.0	7.0	16.3		6.6	8.1	5.8	10.8	4.5	
Scorpionfish, California	0.1	0.6	0.2	0.3	2.4		2.9	2.9	0.5	2.1	5.1			0.5										
Sculpin, pithead																								
Sculpin, staghorn	1.2	0.5	0.2										0.3	0.5						2.5	0.7	0.3		
Sculpin, undentified	0.4	0.3	0.4										0.3	0.3						0.6	0.3	0.6		
Silversides																								
Sunfish, ocean	0.3	0.1	0.2										0.3	0.3						0.3		0.3		
Surfperch, shiner	0.9	1.2	0.4	0.3				1.9		2.1			1.8	1.9	2.0							0.3		
Topsmelt	0.1	0.4			0.5						1.0			0.8						0.3				
Turbot, hornyhead	1.7	3.4	1.4	0.6	0.5			4.9	1.5	2.1			2.5	3.5						0.9	2.7	1.5	0.4	1.5

Turbot, spotted																							
Turbot, unspecified	0.4	0.4	0.4										0.8					0.9		0.6			
Whiting, Pacific		0.4	0.2																1.0	0.3			
Total % Freq. Incidents	52.8	57.6	49.6	65.5	67.1		64.7	53.4	44.3	60.4	71.4		52.8	57.3	46.0	59.6	67.4		51.6	59.4	53.2	68.2	60.6
Elasmobranchs																							
Ray, bat	4.6	3.8	1.4	3.4	4.3		11.8	10.7	2.6	2.1	2.0		6.6	4.0	6.0	10.5	11.6		1.3	1.0		1.8	3.0
Ray, Pacific electric	1.3	1.9	1.8	0.6	1.4								1.0	0.8					1.9	4.0	3.1	0.9	4.5
Shark, horn	0.1	0.1											0.3	0.3									
Shark, unspecified																							
Skate, long-nosed	0.1																		0.3				
Skate, unspecified	0.3		0.2																0.6		0.3		
Stingray, round																							
Total % Freq. Incidents	6.5	5.8	3.3	3.9	5.8		11.8	10.7	2.6	2.1	2.0		7.9	5.1	6.0	10.5	11.6		4.1	5.0	3.4	2.7	7.6
Invertebrates & Plants																							
Algae, marine		0.3	0.4	1.2	0.5															0.7	0.6	1.8	1.5
Cnidaria (Sea Anemones)	0.1						2.9																
Crab, box	0.3												0.5										
Crab, Dungeness	3.4	0.9	3.5	1.8	1.0					2.1									7.9	2.3	6.1	2.2	3.0
Crab, rock unspecified	0.4	0.3	0.5	0.6			5.9		1.0	2.1			0.3	0.3	2.0	1.8				0.3			
Crab, sheep	0.3	0.1		0.3	0.5			1.0			1.0								0.6			0.4	
Crab, Shore																							
Crab, swimming			0.2	0.9	2.9					4.2	4.1					1.8	4.7				0.3		
Crab, unspecified		0.1	0.7	0.9				1.0	1.5	2.1					2.0							0.9	
Eelgrass	1.5	3.2	1.9	0.9	0.5		2.9	1.0	3.6	6.3			1.8	0.8					0.9	7.0	1.2		1.5
Gorgonians (sea fans)																							
Grass, Turtle																							
Jellyfish	4.8	1.9	5.4	3.0	2.9				0.5				0.5	0.3					10.8	4.7	9.2	4.5	9.1
Kelp	12	12.8	15.9	10.1	7.7		11.8	13.6	24.2	8.3	12.2		13.7	14.0	22.0	14.0	7.0		9.8	11.1	10.1	9.4	1.5
Kelp, feather boa	0.9	1.2	1.1	1.2															2.2	3.0	1.8	1.8	

Lobster, California spiny		0.1			1.0			1.0			2.0												
Salps	4.4	4.4	3.2						5.2			8.4	9.1	16.0									
Sea cucumber		0.4											0.8										
Sea Cucumber, warty					0.5					1.0													
Sea Hare	2.3	0.5		0.9						2.1		4.3	1.1		3.5								
Sea Slug																							
Sea stars	3.1	2.5	1.2	1.2					0.5	2.1		1.5	3.5		3.5			5.4	2.0	1.8	0.4		
Squid, jumbo	0.4																	0.9					
Squid, market (Egg Cases)	3.5	6.7	8.4	3.7	7.7			18.4	16.5	8.3	6.1	4.8	6.7	6.0	5.3	9.3		2.2	2.7	4.0	2.2	9.1	
Surfgrass	3.2	1.0	4.7	3.7	1.9							3.3	1.1					3.5	1.3	8.3	5.4	6.1	
Tunicates		0.1																	0.3				
Urchin, Purple	0.1											0.3											
Total % Freq. Incidents	40.7	36.6	47.1	30.5	27.1			23.5	35.9	53.1	37.5	26.5	39.3	37.6	48.0	29.8	20.9		44.3	35.6	43.4	29.1	31.8
Total All Incidents	744	773	571	328	207			316	103	194	48	98	394	372	50	57	43		316	298	327	223	66
Total Observed Landings	196	196	135	103	95			39	92	72	8	40	74	64	22	58	41		39	40	41	37	14

TABLE 4-8. Expanded salmonid bycatch in Pacific sardine fisheries in Oregon and Washington, 2000-2016/17^{4,5}

	Oregon ¹							Washington ²						
	Chinook		Coho		Total		Grand Total	Chinook		Coho		Total		Grand Total
	(live)	(dead)	(live)	(dead)	(live)	(dead)		(live)	(dead)	(live)	(dead)	(live)	(dead)	
2014/15					17	7	24	44	146	27	166	71	312	383
2014 ³					0	0	0	6	21	4	24	10	45	55
2013					117	81	198	207	683	125	779	332	1,462	1,794
2012					61	64	125	244	806	148	919	392	1,725	2,117
2011					35	37	72	56	186	34	212	90	398	488
2010					110	76	186	87	288	53	328	140	616	756
2009					126	115	241	56	186	34	212	90	398	488
2008					123	75	198	45	149	27	170	72	319	391
2007					349	170	519	33	108	20	124	53	232	285

2006				164	93	257	31	101	19	116	50	217	267
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1 Oregon salmon bycatch data for 2000-2001 are expanded from a bycatch rate of salmon/trip based on vessel observation program.

Oregon salmon bycatch data for 2002-2015 are from logbooks. No sardine fishery landings were made in Oregon during January 1-June 30, 2014.

2 Washington totals calculated from observed 2000-2004 observed bycatch rates.

3 January 1, 2014 – June 30, 2014.

4 The 2015/16 directed sardine fishery was closed.

5 The 2016/17 directed sardine fishery was closed.

TABLE 4-9. Reported logbook catches of non-target species caught in Oregon sardine fishery since 2007. There were no sardine fishery landings in Oregon during the 2014 Interim Fishery, January 1-June 30, 2014. The directed fishery for sardines was closed during the 2015-2016 and 2016-2017 fishery years.

Species	2007	2008	2009	2010	2011	2012	2013	2014 Interim Fishery	2014-2015	2015- 2016	2016- 2017
Blue Shark	0	1	0	0	0	0	0	0	0	0	0
Thresher Shark	3 (2 released alive)	0	0	0	0	0	0	0	0	0	0
Unknown Shark	5	0	0	0	0	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	0	24 71% alive; 29% dead	0	0
Mackerel	473,441 lbs	59,205 lbs	30,872 lbs	15,280 lbs	20 lbs	947,200 lbs	569,650 lbs	0	1,146,300 lbs	0	0
Anchovy	500 lbs	8,300 lbs	12,045 lbs	20,450 lbs	0	0	15,000 lbs	0	0	0	0
Herring	0	52,200 lbs	2,000 lbs	0	0	6,000 lbs	3,000 lbs	0	0	0	0
Hake	0	525 lbs	0	0	0	0	0	0	0	0	0
Squid	0	225 lbs	0	30 lbs	0	0	0	0	200 lbs	0	0
Jellyfish	0	0	0	0	0	0	0	0	0	0	0
Dogfish	-	-	200 lbs	0	0	0	0	0	0	0	0
Shad	0	0	0	0	0	0	2 lbs	0	0	0	0

TABLE 4-10. Recorded incidental catch (mt) in Oregon sardine fishery since 2010 (from fish ticket data). Excludes species landed under an Exempted Fishery Permit. There were no sardine fishery landings in Oregon during the 2014 Interim Fishery, January 1-June 30, 2014. The directed fishery for sardines was closed during the 2015-2016 and 2016-2017 fishing years.

Species	2010	2011	2012	2013	2014 Interim Fishery	2014-2015	2015-2016	2016-2017
Pacific mackerel	39.2	5.2	1,585.8	435.6	0	1,008.1	0	0
Jack mackerel	<0.01	0	70.9	60.1	0	245.0	0	0
Pacific herring	0	0	0.35	0	0	0	0	0
Northern anchovy	1.2	21.2	0	12.5	0	0	0	0
American shad	0	0	0.005	0.02	0	0.001	0	0
Sablefish	0	0	0	0.01	0	0	0	0

Table 4-11. Species noted as encountered on CDFW Live Bait Logs, 2007-2016, in units of day-encounters.

Year	Days Fished	Jack Mackerel	Pacific Mackerel	Barracuda	Herring	Grunion	Smelts (Atherinids)	Shiner Surfperch	White Croaker	Queenfish	Market Squid	Pacific Bonito
2016	630	10	48								1	
2015	833	20	99				4				3	6
2014	794	15	98			1	4				1	1
2013	752	2	43				1				47	
2012	762	1	27	7							41	
2011	896	4	34	2			1				31	
2010	673	1	69								9	1
2009	965	2	77	6						1		
2008	957		92	9							2	6
2007	954	2	88	27							6	12

TABLE 4-12. Estimates of Pacific sardine and Northern anchovy live bait harvest in California. Data from CDFW live bait logs. Values are in metric tons with the assumption that 1 scoop =12.5 lbs. Beginning in 2016, revised log forms include reported estimated catch in lbs.

Year	Anchovy	Sardine
2007	708	3,395
2008	723	2,989
2009	833	2,820
2010	704	2,249
2011	1,045	2,057
2012	350	2,497
2013	745	1,849
2014	1,142	1,562
2015	723	1,996
2016	266	1,208

TABLE 4-13. Ratio of anchovy to sardine in reported live bait catch in California, 2007-2016. Values are in metric tons with the assumption that 1 scoop =12.5 lbs. Beginning in 2016, revised log forms include reported estimated catch in lbs.

Year	Anchovy	Sardine	Total	Proportion Anchovy	Proportion Sardine
2016	266	1,208	1,475	0.18	0.82
2015	723	1,996	2,719	0.27	0.73
2014	1,157	1,567	2,742	0.42	0.58
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

TABLE 4-14. Directed Sardine Fishery Incidental Catch (metric tons) from fish tickets in Washington.

	2007	2008	2009	2010	2011	2012	2013	2014	2014-2015	2015-2016	2015-2016
Arrowtooth Flounder							0.02			Fishery closed	Fishery closed
American Shad		<0.01				0.01	0.02				
Chinook						0.03	0.12		<0.01		
Chum						<0.01					
Coho						0.29	0.08		0.01		
Mackerel	35.73	6.32	4.45	2.09	0.43	636.17	195.95				
Misc			2.34				0.01				
Northern Anchovy				5.44							
Pacific Herring		4.69				<0.01	<0.01				
Pink Salmon						<0.01	<0.01				
General Shark			0.01								
Sole Rex							<0.01				
Spiny Dogfish		<0.01				<0.01	<0.01				
Starry Flounder											

Table 6.1. West coast landings (mt) and real¹ exvessel revenues (2016 \$) for Pacific sardine, Pacific mackerel², jack mackerel, anchovy and market squid, 2007-2016³.

	Pacific	Pacific	Pacific	Pacific	Jack	Jack	Anchovy	Anchovy	Squid	Squid
Year	Sardine mt	Sardine Rev	Mackerel mt	Mackerel Rev	Mackerel mt	Mackerel Rev	mt	Rev	mt	Rev
2007	127,789	\$15,174,149	5,759	\$972,047	644	\$166,043	10,543 *	\$1,300,891 *	49,475	\$33,300,512
2008	87,190	\$16,378,961	3,597	\$783,040	322	\$60,245	14,654	\$1,861,721	38,101	\$29,723,678
2009	67,084	\$13,928,643	5,138	\$1,229,822	121	\$21,434	3,453 *	\$544,891 *	93,107	\$63,378,339
2010	66,892	\$13,544,288	2,107 *	\$456,796 *	314 *	\$68,983 *	1,281 *	\$619,427 *	130,864	\$78,347,582
2011	46,746	\$10,496,747	1,364 *	\$352,607 *	104 *	\$20,195 *	2,792 *	\$739,509 *	121,557	\$71,783,407
2012	101,555	\$22,440,315	6,070	\$1,318,824	271	\$41,334	2,705	\$482,444	97,734	\$67,845,125
2013	63,895	\$15,458,724	8,704	\$1,714,236	1,095 *	\$218,325 *	6,049 *	\$1,143,166 *	104,405	\$76,875,980
2014	23,344	\$9,079,852	7,157	\$1,756,921	1,837	\$364,915	10,625 *	\$1,719,108 *	104,093*	\$74,668,584 *
2015	3,864	\$1,183,883	5,731	\$1,244,667	1,538	\$254,272	17,429 *	\$2,115,152 *	36,772	\$24,773,587
2016	432	\$95,688	1,809	\$481,183	355 *	\$55,590 *	13,774	\$2,293,747	38,129	\$40,079,353
Source: PacFIN - 2007-2011 data extracted Oct. 22, 2013; 2012 data extracted Mar. 2, 2015; 2013-2016 data extracted Oct. 20, 2017.										
* Denotes that the reported figure in this cell is underreported due to confidentiality guidance.										
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 2016.										
² Pacific mackerel landings and revenues also include landings and revenues of unspecified mackerel.										
³ 2016 data are 90% complete.										

Table 6.2. West coast landings (mt) and real¹ exvessel revenues (2016 \$) for Pacific sardine, Pacific mackerel², jack mackerel, anchovy and market squid by fishery sector, 2007-2016³.

	Landings (mt)					Exvessel Revenues (2016 \$)				
Year	Sardine	P. Mackerel	J. Mackerel	Anchovy	Squid	Sardine	P. Mackerel	J. Mackerel	Anchovy	Squid
	Southern California									
2007	46,147	4,891	458	2,669	31,132	\$5,752,456	\$881,618	\$122,096	\$341,050	\$21,213,302
2008	31,013	3,249	214	2,027	27,969	\$3,896,714	\$715,015	\$47,599	\$277,898	\$21,702,806
2009	12,485	5,029	98	1,663	60,640	\$1,988,481	\$1,218,483	\$20,318	\$273,263	\$42,284,779
2010	28,269	2,053	295	306	80,455	\$4,028,983	\$452,913	\$68,265	\$148,696	\$48,601,352
2011	17,628	1,341	80	779	77,678	\$2,589,311	\$350,624	\$11,090	\$354,081	\$46,460,231
2012	18,637	3,475	138	214	67,834	\$3,467,707	\$934,669	\$28,769	\$75,423	\$47,430,779
2013	6,135	8,072	892	384	54,410	\$1,369,528	\$1,585,448	\$186,217	\$239,367	\$40,195,127

2014	1,449	5,076	701	133	33,293	\$318,982	\$1,170,413	\$137,715	\$104,206	\$23,675,593
2015	885	4,040	358	104	8,253	\$199,170	\$923,906	\$69,096	\$76,550	\$5,730,988
2016	157	1,685	185	4,546	16,434	\$30,961	\$451,095	\$42,471	\$548,358	\$18,117,913
	Northern California									
2007	34,782	123	167	7,704	25	\$3,654,160	\$21,723	\$41,490	\$919,620	\$18,606
2008	26,712	207	59	12,216	66	\$4,606,569	\$37,953	\$12,180	\$1,467,409	\$50,490
2009	25,012	14	0	978	1,183	\$4,185,152	\$2,359	\$0	\$120,185	\$1,014,948
2010	4,305	Conf	Conf	718	20,137	\$630,399	Conf	Conf	\$360,698	\$12,170,897
2011	10,072	15	0	1,822	14,487	\$2,151,183	\$1,566	\$0	\$311,961	\$8,570,692
2012	4,241	100	0	2,274	16,851	\$1,001,711	\$29,405	\$0	\$319,593	\$11,813,425
2013	896	Conf	0	5,549	20,964	\$184,898	Conf	\$0	\$854,338	\$15,655,305
2014	6,234	243	89	10,379	54,246	\$1,710,859	\$77,911	\$16,338	\$1,556,477	\$39,797,228
2015	736	545	897	17,180	19,777	\$137,968	\$96,043	\$144,006	\$1,955,361	\$13,446,881
2016	239	2	3	3,752	12,449	\$55,776	\$5,143	\$4,348	\$531,133	\$12,315,636
	Pacific Northwest									
2007	46,809	740	15	153 *	<1	\$5,766,099	\$67,414	\$1,337	\$38,051 *	\$338
2008	29,384	67	48	369	<1	\$7,868,004	\$11,394	\$466	\$103,308	<\$1
2009	29,507	58	2	812 *	<1	\$7,751,055	\$6,931	\$0	\$151,443 *	\$0
2010	33,233	51	4	258	8	\$8,737,191	\$3,855	\$13	\$110,033	\$0
2011	19,032	7 *	24	191 *	<1	\$5,753,724	\$401 *	\$9,104	\$73,467 *	\$1
2012	78,511	2,471	126	217	<1	\$17,938,053	\$350,397	\$11,441	\$87,428	\$0
2013	56,750	632	203	116 *	<1	\$13,876,866	\$128,703	\$32,108	\$49,461 *	\$0
2014	15,573	1,718	1,043	112	Conf	\$7,026,928	\$491,811	\$210,764	\$58,425	Conf
2015	2,163	46	253	144 *	0	\$836,444	\$12,580	\$36,156	\$83,241 *	\$0
2016	6	8	166	5,476	1,260	\$2,568	\$1,548	\$8,771	\$1,214,255	\$1,121,239
	Other									
2007	52	4	5	17	18,317	\$1,434	\$1,293	\$1,120	\$2,170	\$12,068,266
2008	81	75	0	42	10,066	\$7,675	\$18,679	\$0	\$13,106	\$7,970,382
2009	80	37	21	Conf	31,284	\$3,956	\$2,050	\$1,116	Conf	\$20,078,612
2010	1,084	3	14	Conf	30,265	\$147,715	\$28	\$706	Conf	\$17,575,333
2011	14	2	Conf	0	29,392	\$2,528	\$17	Conf	\$0	\$16,752,483
2012	165	24	7	0	13,048	\$32,843	\$4,353	\$1,125	\$0	\$8,600,921
2013	116	Conf	Conf	Conf	29,031	\$27,432	Conf	Conf	Conf	\$21,025,548
2014	88	120	3	Conf	16,555	\$23,084	\$16,785	\$98	Conf	\$11,195,764
2015	81	1,100	29	Conf	8,742	\$10,300	\$212,138	\$5,014	Conf	\$5,595,718

2016	30	114	Conf	0	7,986	\$6,383	\$23,397	Conf	\$0	\$8,524,566
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 2016.										
² Pacific mackerel landings and revenues also include landings and revenues of unspecified mackerel.										
³ 2016 data are 90% complete.										
Source: PacFIN - 2007-2011 data extracted Oct. 22, 2013; 2012 data extracted Mar. 2, 2015; 2013-2016 data extracted Oct. 20, 2017.										
"Conf" denotes that the cell figures are not reported due to 2 or fewer vessels.										
* Denotes that the reported figure in this cell is underreported due to confidentiality guidance.										
"0" indicates no landings/revenues were reported.										
"<1" indicates that non-zero and less than \$1 of revenues and/or 1 metric ton of landings were reported.										

Table 6.3. Average annual real¹ exvessel prices (2016 \$) for Pacific sardine, Pacific mackerel, jack mackerel², anchovy and market squid, 2007-2016³.

	Pacific	Pacific	Jack		
	Sardine	Mackerel	Mackerel	Anchovy	Squid
Year	\$/lb	\$/lb	\$/lb	\$/lb	\$/lb
2007	\$0.05	\$0.08	\$0.12	\$0.06 *	\$0.31
2008	\$0.09	\$0.10	\$0.08	\$0.06	\$0.35
2009	\$0.09	\$0.11	\$0.08	\$0.07 *	\$0.31
2010	\$0.09	\$0.10 *	\$0.10 *	\$0.22 *	\$0.27
2011	\$0.10	\$0.12 *	\$0.09 *	\$0.12 *	\$0.27
2012	\$0.10	\$0.10	\$0.07	\$0.08	\$0.31
2013	\$0.11	\$0.09	\$0.09 *	\$0.09 *	\$0.33
2014	\$0.18	\$0.11	\$0.09	\$0.07 *	\$0.33 *
2015	\$0.14	\$0.10	\$0.08	\$0.06 *	\$0.31
2016	\$0.10	\$0.12	\$0.07 *	\$0.08	\$0.48

Source: PacFIN - 2007-2011 data extracted Oct. 22, 2013; 2012 data extracted Mar. 2, 2015; 2013-2016 data extracted Oct. 20, 2017.

* Denotes that the reported figure in this cell is underreported due to confidentiality guidance.

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 2016.
²Pacific mackerel landings and revenues also include landings and revenues of unspecified mackerel.

³2016 data are 90% complete.

Table 6.4.Cont. West coast landings (mt) and real¹ exvessel revenues (2016 \$) for Pacific sardine, Pacific mackerel², jack mackerel, anchovy and market squid by state, 2001-2016³

	Pacific	Pacific	Pacific	Pacific	Jack	Jack	Anchovy	Anchovy	Squid	Squid
Year	Sardine mt	Sardine Rev	Mackerel mt	Mackerel Rev	Mackerel mt	Mackerel Rev	mt	Rev	mt	Rev
	California									
2007	80,980	\$9,408,050	5,018	\$904,633	630	\$164,706	10,390	\$1,262,840	49,475	\$33,300,174
2008	57,806	\$8,510,958	3,531	\$771,646	274	\$59,779	14,285	\$1,758,413	38,101	\$29,723,678
2009	37,577	\$6,177,588	5,080	\$1,222,892	119	\$21,434	2,641 *	\$393,447 *	93,107	\$63,378,339
2010	33,659	\$4,807,097	2,056 *	\$452,941 *	310 *	\$68,970 *	1,023 *	\$509,393 *	130,857	\$78,347,582
2011	27,714	\$4,743,023	1,357	\$352,206	80 *	\$11,090 *	2,601	\$666,042	121,557	\$71,783,406
2012	23,044	\$4,502,262	3,599	\$968,427	145	\$29,894	2,488	\$395,016	97,733	\$67,845,125
2013	7,146	\$1,581,858	8,073	\$1,585,533	892 *	\$186,217 *	5,933 *	\$1,093,705 *	104,405	\$76,875,980
2014	7,771	\$2,052,925	5,439	\$1,265,110	794	\$154,151	10,512 *	\$1,660,683 *	104,093	\$74,668,584
2015	1,701	\$347,438	5,685	\$1,232,088	1,285	\$218,116	17,285 *	\$2,031,910 *	36,772	\$24,773,587
2016	426	\$93,120	1,801	\$479,635	189 *	\$46,818 *	8,298	\$1,079,492	36,868	\$38,958,114
	Oregon									
2007	42,144	\$5,208,578	702	\$56,844	14	\$1,133	Conf	Conf	<1	\$338
2008	22,949	\$6,364,780	58	\$8,775	46	\$466	260	\$63,672	<1	<\$1
2009	21,481	\$5,895,694	53	\$5,311	2	\$0	Conf	Conf	<1	\$0
2010	20,852	\$5,782,800	49	\$3,162	3	\$0	138	\$31,785	8	\$0
2011	11,023	\$3,441,668	7	\$401	14	\$3,060	Conf	Conf	<1	\$1
2012	42,619	\$9,512,489	1,779	\$181,393	95	\$5,704	0	\$0	<1	\$0
2013	26,289	\$6,567,760	439	\$83,233	123	\$12,885	Conf	Conf	<1	\$0
2014	7,789	\$3,606,936	1,172	\$332,476	800	\$150,122	0	\$0	Conf	Conf
2015	2,131	\$823,153	45	\$12,351	117	\$4,745	Conf	Conf	0	\$0
2016	4	\$318	8	\$1,491	116	\$2,010	5,313	\$1,152,765	1,260	\$1,121,239
	Washington									
2007	4,665	\$557,521	38	\$10,570	1	\$204	153	\$38,051	0	\$0
2008	6,435	\$1,503,223	9	\$2,619	3	\$0	109	\$39,636	0	\$0
2009	8,026	\$1,855,361	4	\$1,620	<1	\$0	812	\$151,443	0	\$0

2010	12,381	\$2,954,391	2	\$693	1	\$13	120	\$78,248	0	\$0
2011	8,009	\$2,312,056	Conf	Conf	10	\$6,044	191	\$73,467	0	\$0
2012	35,892	\$8,425,564	692	\$169,004	31	\$5,737	217	\$87,428	0	\$0
2013	30,461	\$7,309,106	193	\$45,470	80	\$19,223	116	\$49,461	0	\$0
2014	7,784	\$3,419,992	545	\$159,335	243	\$60,642	112	\$58,425	0	\$0
2015	31	\$13,291	1	\$229	136	\$31,411	144	\$83,241	0	\$0
2016	2	\$2,250	<1	\$56	50	\$6,761	163	\$61,490	0	\$0

Source: PacFIN - 2007-2011 data extracted Oct. 22, 2013; 2012 data extracted Mar. 2, 2015; 2013-2016 data extracted Oct. 20, 2017.

"Conf" denotes that the cell figures are not reported due to 2 or fewer vessels.

* Denotes that the reported figure in this cell is underreported due to confidentiality guidance.

"0" indicates no landings/revenues were reported.

"<1" indicates that non-zero and less than \$1 of revenues and/or 1 metric ton of landings were reported.

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 2016.

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

³2016 data are 90% complete.

Table 6.5. West coast CPS landings and real¹ exvessel revenues (2016 \$) by gear group², 2007-2016³.

Year	Roundhaul or Lampara	Dip Net	Port or Trap	Trawl	Hook and Line	Gillnet
	Landings (metric tons)					
2007	193,346 *	826	Conf	15	25	<1
2008	143,364	444	Conf	51	3	<1
2009	167,133 *	1,831	Conf	2	3	<1
2010	198,085 *	3,304	Conf	12	2 *	2
2011	168,258 *	4,301	0	25 *	<1	Conf
2012	202,889	5,318	<1	47	7	<1
2013	180,745 *	3,223	43	126 *	22	<1
2014	146,339 *	303	<1	316 *	56 *	Conf
2015	65,164 *	70	98	257	17	Conf
2016	53,602 *	673	<1	172	65	<1
	Revenues (2016 \$)					
2007	\$50,302,352 *	\$574,564	Conf	\$3,946	\$31,037	\$76

2008	\$48,457,844	\$332,710	Conf	\$1,898	\$12,019	\$43
2009	\$77,942,283 *	\$1,165,571	Conf	\$525	\$20,385	\$204
2010	\$91,009,699 *	\$1,977,398	Conf	\$1,068	\$13,013 *	\$1,152
2011	\$80,484,305 *	\$2,902,385	\$0	\$9,772 *	\$33	Conf
2012	\$88,175,977	\$3,869,047	\$255	\$6,279	\$20,443	\$3,643
2013	\$92,952,219 *	\$2,388,397	\$31,761	\$19,976 *	\$18,230	\$402
2014	\$87,239,504 *	\$227,868	\$676	\$43,222 *	\$41,701 *	Conf
2015	\$29,455,131 *	\$62,247	\$34,965	\$37,398	\$12,167	Conf
2016	\$42,198,774 *	\$733,667	\$112	\$12,351	\$55,457	\$305
Source: PacFIN - 2007-2011 data extracted Oct. 22, 2013; 2012 data extracted Mar. 2, 2015;						
2013-2016 data extracted Oct. 20, 2017.						
"Conf" denotes that the cell figures are not reported due to 2 or fewer vessels.						
* Denotes that the reported figure in this cell is underreported due to confidentiality guidance.						
"0" indicates no landings/revenues were reported.						
"<1" indicates that non-zero and less than \$1 of revenues and/or 1 metric ton of landings were reported.						
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 2016.						
² A column for other or unknown gears is not included.						
³ 2016 data are 90% complete.						

TABLE 8-1. Commercial landings (metric tons) of CPS in Ensenada, Baja California, Mexico since 2000^{1/2/3/4/5}. Sardine landings include both southern and northern subpopulations.

Year	Pacific sardine	Northern anchovy	Pacific mackerel	Jack mackerel	Market squid
2007	36,847	4,058	3,057	0	415
2008	66,866	991	180	0	5,378
2009	55,911	2,444	8	0	3,685
2010	56,821	3,139	85	0	10,991
2011	70,336	1,760	2,601	0	15,091
2012	59,069	1,809	186	0	4,802
2013	51,413	2,428	327	0	16,707
2014	90,396	539	975	0	2,978
2015	32,832	22,472	1,123	0	63
2016	45,740	10,351	6,551	0	n/a

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 provided by Dr. Manuel O. Nevarrez, INAPESCA-Guaymas (pers. comm.).

4/ Data for 2005-2014 from CONAPESCA

(http://www.conapesca.sagarpa.gob.mx/wb/cona/cona_anuario_estadistico_de_pesca).

5/ Landings for 2015 and 2016 from Concepcion Enciso-Enciso (pers. comm.)

TABLE 8-2. Pacific sardine northern subpopulation biomass-at-age and summary biomass (Hill et al. 2017).

Model year (July-1)	POPULATION BIOMASS-AT-AGE (metric tons)									SUMMARY BIOMASS	
	0	1	2	3	4	5	6	7	8+	Ages 0+	Ages 1+
2007	52,061	195,058	534,317	390,055	337,057	23,729	5,283	2,572	4,303	1,544,434	1,492,373
2008	25,788	168,707	150,754	350,996	240,903	184,720	12,194	2,644	3,348	1,140,054	1,114,265
2009	50,029	82,652	126,951	97,224	218,014	135,613	98,101	6,319	3,017	817,920	767,891
2010	57,198	159,878	62,507	83,492	59,830	119,094	69,199	48,795	4,499	664,492	607,294
2011	4,509	188,695	128,588	41,930	50,424	30,467	56,027	31,591	23,654	555,885	551,375
2012	1,056	14,787	148,143	83,372	24,706	24,508	13,600	24,259	23,275	357,706	356,650
2013	1,394	3,317	11,078	98,429	40,836	7,579	6,189	3,296	11,203	183,322	181,928
2014	7,284	4,307	2,398	7,282	51,607	15,075	2,390	1,885	4,320	96,548	89,264
2015	4,977	24,547	3,548	1,571	4,364	25,756	6,977	1,072	2,703	75,518	70,540
2016	11,256	17,033	21,850	2,641	1,054	2,738	15,472	4,076	2,120	78,240	66,983
2017	7,754	38,537	15,174	16,265	1,771	660	1,642	9,024	3,512	94,339	86,586

TABLE 8-3. U.S. Pacific sardine landings (PacFIN) and harvest guidelines (HG) in metric tons since onset of management under the federal CPS-FMP. Landings include both the southern and northern subpopulations. The fishery year was January 1 – December 31, until 2014 when it was changed to a July 1 – June 30 fishing year.

Management year	HARVEST LIMITS							
	CA	OR	WA	U.S. Total	OFL	ABC	HG/ACL	
2007	80,980	42,144	4,665	127,789	n/a	n/a	152,564	
2008	57,805	22,949	6,435	87,189	n/a	n/a	89,093	
2009	37,577	21,482	8,026	67,085	n/a	n/a	66,932	
2010	33,658	20,853	12,392	66,903	n/a	n/a	72,039	
2011	27,715	11,023	8,009	46,747	92,767	84,681	50,526	
2012	23,044	42,666	35,739	101,448	154,781	141,289	109,409	
2013	7,146	26,288	30,461	63,895	103,284	94,281	66,495	
2014 (Jan-Jun)	5,647	0	908	6,555	59,214	54,052	6,966	
2014-15	3,754	9,920	6,907	20,581	39,210	35,792	23,293	
2015-16	164	1	0	165	13,227	12,074	7,000	
2016-17	368	3	85	456	23,085	19,236	8,000	
2017-18	---	---	---	---	16,957	15,479	8,000	

TABLE 8-4. West Coast Pacific sardine landings (metric tons) by country. Landings include both the southern and northern subpopulations.

Year	Ensenada	United	B.C.	Total
	México	States	Canada	
2007	36,847	127,780	1,522	166,149
2008	66,866	87,186	10,425	164,477
2009	55,911	67,083	15,334	138,328
2010	56,821	66,892	22,223	145,936
2011	70,336	46,746	20,719	137,802
2012	59,069	101,148	19,172	179,389
2013	51,413	63,892	0	115,304
2014	90,396	22,744	0	113,140
2015	32,832	3,833	0	36,665
2016	45,740	522	0	46,262

TABLE 8-5. RecFIN estimated recreational harvest of Pacific (chub) mackerel by state (type ‘A+B1’ estimate in metric tons), 2008-2017.

Calendar year	CA	OR	WA	Total
2008	312.40	0.01	0	312.41
2009	237.41	0.04	0	237.45
2010	233.56	0.00	0	233.56
2011	163.81	0.00	0	163.81

2012	138.11	0.21	0	138.32
2013	108.49	0.27	0	108.76
2014	170.92	0.14	0	171.05
2015	302.65	0.59	0	303.24
2016	175.92	0.10	0	176.02
2017	93.85	0.03	0	93.89

TABLE 8-6. RecFIN estimated recreational harvest of Pacific (chub) mackerel by fishing mode (type 'A+B1' estimate in metric tons), 2008-2017.

Calendar year	Shore Modes	Party/ Charter	Private/ Rental	Total
2008	272.19	19.68	20.53	312.41
2009	183.92	13.35	40.18	237.45
2010	199.78	9.08	24.70	233.56
2011	139.02	6.51	18.28	163.81
2012	119.41	7.07	11.83	138.32
2013	79.31	16.53	12.92	108.76
2014	101.23	35.98	33.84	171.05
2015	208.65	32.37	62.21	303.24
2016	138.56	13.30	24.17	176.02
2017	85.27	2.04	6.61	93.92

TABLE 8-7. Pacific mackerel harvest specifications and commercial and recreational landings in the U.S. (metric tons) by July-June management years since the onset of the federal CPS-FMP.

Mgmt year	HARVEST LIMITS				U.S. Landings
	OFL	ABC	HG/ACL	Directed/ACT	
2008-09	n/a	n/a	51,772	40,000	4,567
2009-10	n/a	n/a	55,408	8,000	3,281
2010-11	n/a	n/a	55,408	11,000	2,304
2011-12	44,336	42,375	40,514	30,386	2,003
2012-13	44,336	42,375	40,514	30,386	5,514
2013-14	57,316	52,358	52,538	39,269	12,007
2014-15	32,992	30,138	29,170	24,170	5,579
2015-16	25,291	23,104	21,469	20,469	4,675
2016-17	24,983	22,822	21,161	20,161	2,474
2017-18	30,115	27,510	26,293	26,293	---

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