

White Seabass Fishery Management Plan 2008-2009 Annual Review



Prepared by

Department of Fish and Game
Marine Region
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Executive Summary

The California Fish and Game Commission (Commission) adopted the White Seabass Fishery Management Plan (WSFMP) in June 2002. The WSFMP includes a provision for annual monitoring and assessment of the white seabass fisheries. The White Seabass Scientific and Constituent Advisory Panel (WSSCAP) was established to assist the Department of Fish and Game (Department) and the Commission with the review of the fishery assessments, management proposals, and plan amendments. The annual review includes fishery-dependent data (e.g., commercial and recreational landings and length frequencies), and fishery-independent data (e.g., recruitment information) if available, as well as documented changes within the social and economic structure of the recreational and commercial industries that utilize the white seabass resource within California. The review also includes information on the harvest of white seabass from Mexican waters and other relevant data. Based on the results of the annual review, in cooperation with the WSSCAP, the Department will provide management recommendations, if needed, to the Commission.

To assist the Commission in determining if management measures need to be modified or added, the WSFMP framework includes points of concern criteria to help determine when management measures are needed to address resource issues. The points of concern are:

1. catch is expected to exceed the current harvest guideline or quota;
2. any adverse or significant change in the biological characteristics of white seabass (age composition, size composition, age at maturity or recruitment) is discovered;
3. an overfishing condition exists or is imminent;
4. any adverse or significant change in the availability of white seabass forage or in the status of a dependent species is discovered;
5. new information on the status of white seabass is discovered;
6. an error in data or stock assessment is detected that significantly changes estimates of impacts due to current management.

The Department and WSSCAP met on April 26, 2010 to review the 2008-2009 fishery season (September 1 to August 31), and together agreed that none of the points of concern were met. Additional social and economic information along with the catch information from Mexico support this conclusion. As a result, the Department does not recommend any changes to the management of white seabass or to the WSFMP at this time.

Background

The WSSCAP annually reviews current information to evaluate the status of the white seabass resource based on points of concern adopted to implement the WSFMP, and to consider whether current management measures provide adequate protection to the resource. If a resource conservation issue is found, based on the points of concern, the WSSCAP will provide its recommendation, rationale, and analysis to the Department, which will recommend to the Commission the appropriate management measure(s) to address the issue(s).

Results

Analysis of the points of concern (Table 1) showed that none of the criteria were met in 2008-2009.

Table 1. Analysis of the points of concern.		
Criteria	Analysis	Result
Catch is expected to exceed the current harvest guideline or quota.	2008-2009 total catch = 534,701 pounds; Optimum Yield = 1.2 million pounds; Total catch is below optimum yield.	No action necessary
Any adverse or significant change in the biological characteristics of white seabass (age composition, size composition, age at maturity or recruitment) is discovered.	Recreational and commercial fishery length-frequencies showed no significant change that would indicate a problem in the fishery. No new information on age composition, age at maturity, or age at recruitment.	No action necessary
An overfishing condition exists or is imminent.	See analysis in Table 2. No overall overfishing condition noted.	No action necessary
Any adverse or significant change in the availability of white seabass forage or in the status of a dependent species is discovered.	Forage species are fairly stable in the aggregate. Data indicate an increase in availability for two of the forage species, and a decrease in availability for three of the forage species.	No action necessary
New information on the status of white seabass is discovered.	No new information.	No action necessary
An error in data or stock assessment is detected that significantly changes estimates of impacts due to current management.	Minor adjustments to the recreational and commercial catch estimates were made to improve estimates. No significant errors detected.	No action necessary

Point of Concern: Expectation of optimum yield being exceeded.

The Commission established a fishing season of September 1 through August 31 of the following year. The Commission also adopted an optimum yield. The optimum yield is based on a maximum sustainable yield proxy of the unfished biomass, and is currently

set at 1.2 million pounds. In the 2008-2009 season, the total recreational and commercial harvest was 534,701 pounds, 45 percent of the allowable catch (Appendix A, Table 1).

Point of Concern: Changes in the biological characteristics of white seabass.

An analysis of the commercial and recreational fisheries length frequencies for the past 6 seasons (Appendix A, Figures 1 and 2) shows that a higher percentage of larger fish were caught in the 2008-2009 season when compared to the previous season. This trend was found to apply to both the commercial and recreational fisheries.

Sampling of the commercial fishery for length data was greatly improved for the 2007-2008 season due to the hiring of a dedicated person assigned to collect this data. Increased effort to sample a greater number of commercial white seabass continued in the 2008-2009 season.

In the recreational fishery the occurrence of landed white seabass under the minimum legal size of 28 inches continues to be a problem. The Department is currently developing a plan to increase public outreach to better educate anglers about correct identification of white seabass and the existence of the minimum legal size.

Point of Concern: An overfishing condition exists or is imminent.

Three criteria (Table 2), all of which must be met to establish a point of concern, determine if an overfishing condition exists or is imminent. For the commercial fishery, there must be a 20 percent decline in landings in each of two consecutive seasons compared to the prior five-season running average. Commercial landings of white seabass (Appendix A, Table 2) totaled 405,039 pounds in the 2008-2009 season; this is a two percent decrease when compared to the prior five-season running average (412,017 pounds). In the 2007-2008 season commercial landings totaled 653,163 pounds; this is a 73 percent increase compared to the prior five-season running average (378,066 pounds). The WSSCAP and the Department agreed that the overfishing criterion for the commercial fishery was not met.

For the recreational fishery, the overfishing criterion is defined as a 20 percent decline in each of two consecutive seasons for both the number of fish and the average weight (Appendix A, Table 3). In the recreational fishery, the number of fish caught in the 2008-2009 season decreased 16 percent when compared to the previous season. The average weight of fish caught in the 2008-2009 season increased 57 percent when compared to the previous season. The WSSCAP and the Department agreed that the overfishing criterion for the recreational fishery was not met.

The final criterion for determining if an overfishing condition exists is a 30 percent decline in the recruitment index for juvenile white seabass compared to the prior 5-season running average of recruitment. The Ocean Resources Enhancement and Hatchery Program (OREHP) had routinely conducted standardized field studies four

times a year (August, October, April and June) for juvenile recruitment. However, reductions in funding curtailed survey effort during the 2004-2005 through 2007-2008 seasons. In the 2008-2009 season, the Southern California Sport Fishing Enhancement Stamp fund was insufficient to cover all of the OREHP activities as well as the gill net recruitment surveys, and consequently there is currently a hiatus in gill net sampling. Because no white seabass recruitment surveys occurred in the 2008-2009 season, this part of the criterion could not be addressed in this report.

Based on the analysis of all three overfishing criteria, the WSSCAP and the Department agreed that the overall overfishing criterion for the fishery was not met.

Table 2. Analysis to determine if the white seabass resource is overfished (Criteria taken from California Code of Regulations, Title 14).		
Criteria	Analysis	Result
A 20 percent decline in the total annual commercial landings of white seabass for the past 2 consecutive seasons compared to the prior 5-season running average of landings, based on landing receipt data.	2008-2009 405,039 pounds = 2% decrease 5-season average = 412,017 pounds 2007-2008 653,163 pounds = 73% increase 5-season average = 378,066 pounds	Criterion not met
A 20 percent decline in both the number of fish and the average weight of white seabass caught in the recreational fishery for the same 2 consecutive seasons, as determined by the best available data.	2008-2009 5,929 fish = 16% decrease 20.8 pound average = 57% increase 2007-2008 7,036 fish = 1% decrease 13.2 pound average = 32% increase	Criterion not met
A 30 percent decline in recruitment indices for juvenile white seabass compared to prior 5-season running average of recruitment, as determined by the best available data.	Criterion not analyzed	N/A

Point of Concern: Any adverse or significant change in the availability of white seabass forage or in the status of a dependent species is discovered.

Prey species (northern anchovy, jack mackerel, market squid, Pacific mackerel, and Pacific sardine) are highly mobile and their distributions are affected by oceanographic conditions. Many of the same fishing vessels fish for all five species, depending on market factors and availability. A review of white seabass forage species (Appendix A, Figures 3, 4, and 5) revealed some changes in availability. Landings for northern anchovy and jack mackerel were reduced this season. The 2008-2009 fishing season for market squid was less productive than in 2007-2008, but very similar to the 2006-2007 season. However, based on landings compiled by the Department for calendar

year 2009, 2009-2010 will likely be a better season for market squid. Pacific mackerel and Pacific sardine landings in 2008-2009 and 2009-2010, respectively, were near average for the past six seasons. Both Pacific mackerel and Pacific sardine have annual stock assessments conducted by the National Marine Fisheries Service and these stock assessments include annual biomass estimates. Pacific mackerel biomass estimates have shown an increase for the last six years. Pacific sardine biomass estimates have shown a decrease for the last four years.

Based on annual biomass estimates, there is evidence of an increase in the availability of one of the primary forage species (Pacific mackerel) for this season. Based on landings in 2009-2010, there is also evidence of an increasing biomass of market squid. There was evidence of a decrease in the availability of three of the other forage species for white seabass (northern anchovy, jack mackerel and Pacific sardine).

Based on the analysis of all of the prey species, the WSSCAP and the Department agreed that this point of concern was not met.

Other Points of Concern:

The remaining two points of concern (Table 1) consider any new information on the status of white seabass, and any errors in data or stock assessment which were found.

There is no new information on stock status and there were no significant errors found in the data.

Additional Information

The Department summarized some basic social and economic information for the commercial fishery, and provided those summaries to the WSSCAP (Appendix A, Table 4). The number of commercial vessels landing white seabass has varied over time but has remained relatively stable during the past four seasons. In the 2008-2009 season, the number of vessels declined by two percent. The most common ex-vessel value (price per pound) for white seabass remained steady at \$2.25-\$2.50 per pound for the seven seasons ending in 2004-2005, then increased to \$3.00 per pound for two seasons and increased again to \$3.50 for the 2007-2008 and 2008-2009 seasons. No similar social or economic data are available for the recreational fleet.

Information about the take of white seabass in Mexican waters was considered by the WSSCAP. California commercial fishermen are prohibited by Mexican law to fish in the territorial seas of Mexico. Recreational anglers may fish in Mexico under the authority of a Mexican sport fishing license. During the 2008-2009 season, Commercial Passenger Fishing Vessel log book data reported 141 white seabass taken in Mexico, up from the 110 reported taken in the prior season. No additional information about either the recreational or commercial catch of white seabass in Mexico is available.

Appendix A – Data Analyses

Table 1. Total catch (pounds) of white seabass, 2003/04 - 2008/09			
Season	Recreational	Commercial	Total
2003/04	157,627	305,688	463,315
2004/05	130,560	288,547	419,107
2005/06	206,873	391,301	598,174
2006/07	245,493	421,388	666,881
2007/08	110,556	653,163	763,719
2008/09	129,662	405,039	534,701

Source: California Recreational Fisheries Survey extracted from the RecFIN database at <http://www.recfin.org/forms/est2004.html>, and California Department of Fish and Game Commercial Fisheries Information System (includes commercial landing receipt and Commercial Passenger Fishing Vessel logbook data).

Table 2. Commercial white seabass landings in pounds, 1999/00 - 2008/09			
Season	Pounds Landed	Prior 5-season average	Percent change from previous 5-season average
1999/00	218,841		
2000/01	215,692	155,567	39%
2001/02	402,538	178,581	125%
2002/03	483,410	246,967	96%
2003/04	305,688	316,788	-4%
2004/05	288,546	325,234	-11%
2005/06	391,300	339,175	15%
2006/07	421,388	374,296	13%
2007/08	653,163	378,066	73%
2008/09	405,039	412,017	-2

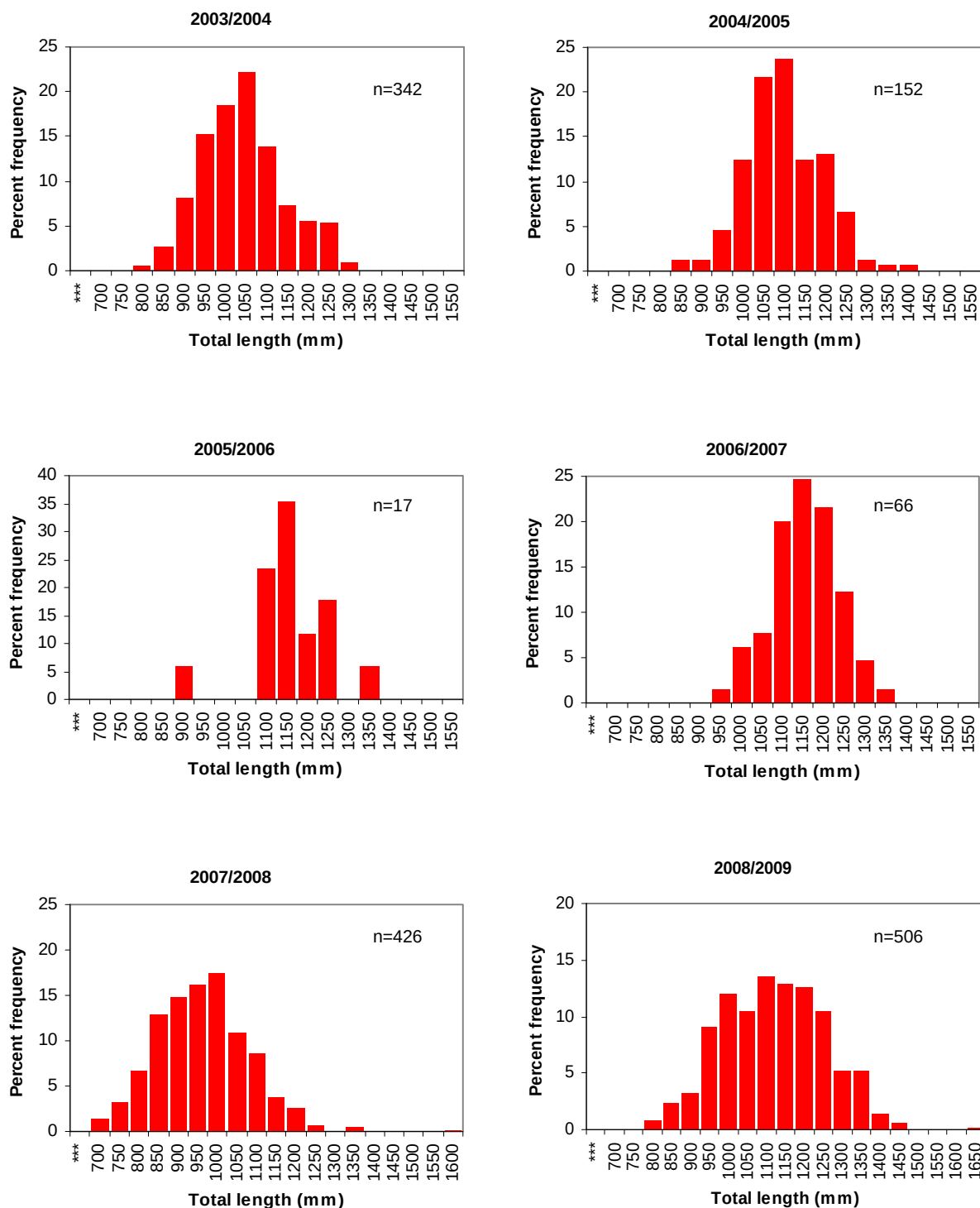
Source: California Department of Fish and Game Commercial Fisheries Information System (includes commercial landing receipt data).

Table 3. Recreational white seabass catch, 2003/04 - 2008/09				
Season	Total number of fish caught	Percent change in number of fish from prior season	Average weight in pounds	Percent change in weight from prior season
2003/04	8,617	N/A	9.5	N/A
2004/05	8,069	-6	10.5	11
2005/06	10,842	34	14.5	38
2006/07	7,130	-34	10.0	-31
2007/08	7,036	-1	13.2	32
2008/09	5,929	-16	20.8	57

Source: California Recreational Fisheries Survey extracted from the RecFIN database at <http://www.recfin.org/forms/est2004.html>, and California Department of Fish and Game Commercial Fisheries Information System (includes Commercial Passenger Fishing Vessel logbook data).

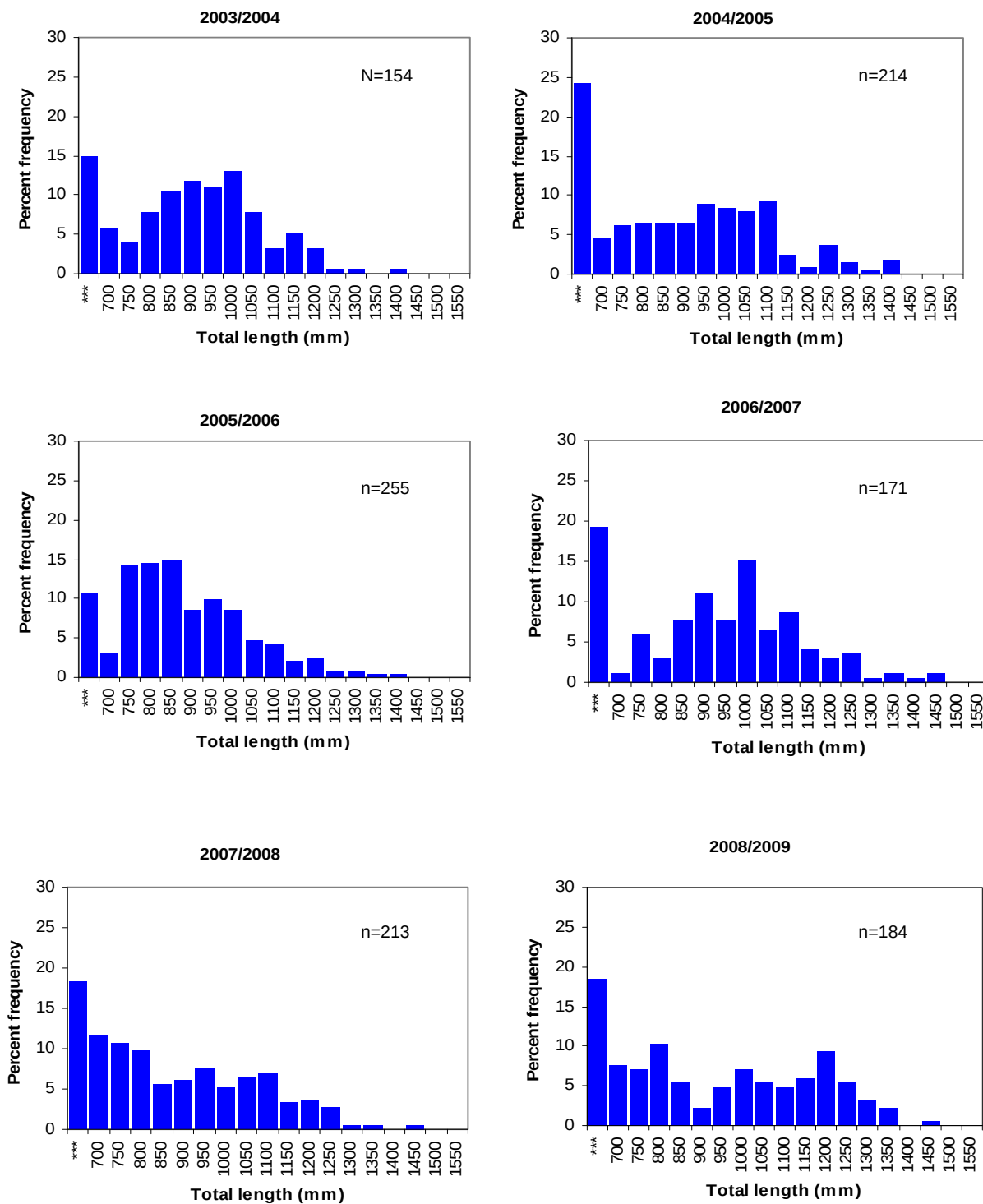
Table 4. Sociological and Economic Factors		
Season	Total number of vessels landing white seabass	Most common ex-vessel price per pound
1999/00	175	\$2.50
2000/01	190	\$2.50
2001/02	216	\$2.25
2002/03	157	\$2.50
2003/04	117	\$2.50
2004/05	80	\$2.50
2005/06	96	\$3.00
2006/07	98	\$3.00
2007/08	96	\$3.50
2008/08	94	\$3.50

Source: California Department of Fish and Game Commercial Fisheries Information System (includes commercial landing receipt).



***all sub-legal fish were grouped together
Source: Department of Fish and Game Market Sampling Program

Figure 1. Commercial white seabass sampled length frequencies, 2003/04 – 2008/09.



***all sub-legal fish were grouped together

Source: Sampler examined landed catch data from California Recreational Fisheries Survey extracted from the RecFIN database at <http://www.recfin.org/forms/est2004.html>.

Figure 2. Recreational white seabass sampled length frequencies, 2003/04 – 2008/09.

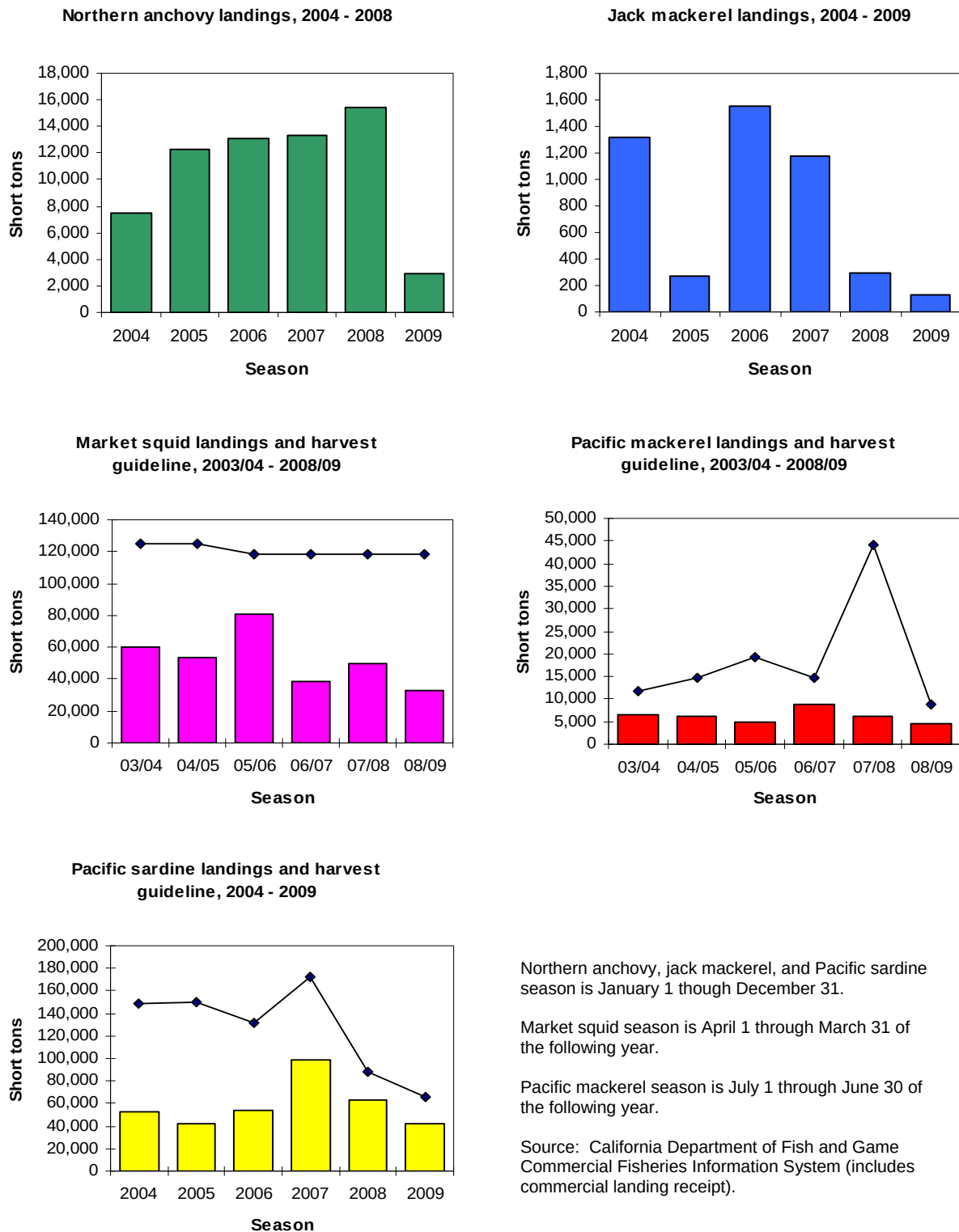
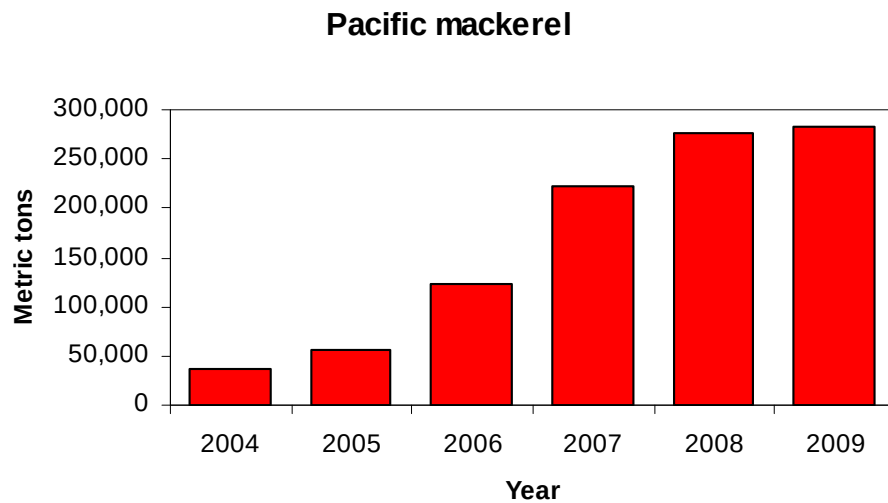
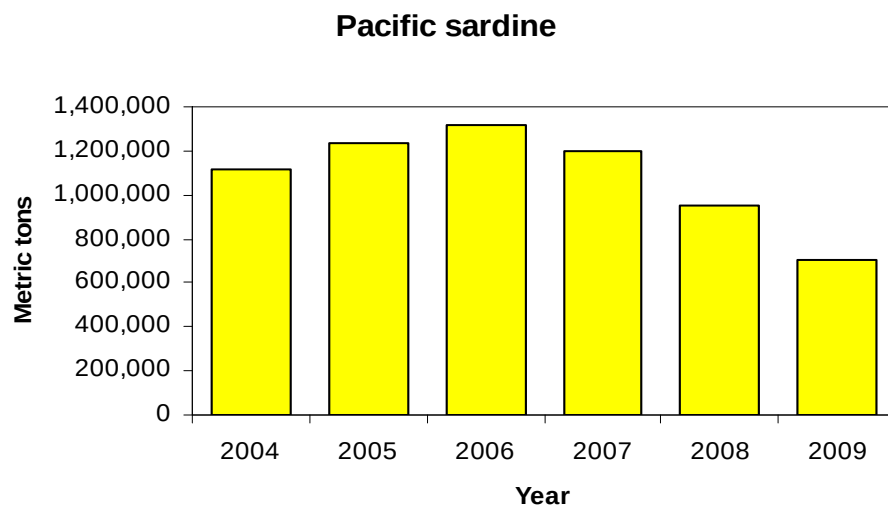


Figure 3. Harvest guidelines and commercial catch of white seabass forage species.



Source: Pacific Fishery Management Council. 2009. Status of the Pacific coast coastal pelagic species fishery and recommended acceptable biological catches. Stock assessment and fishery evaluation – 2009.

Figure 4. Biomass estimates for Pacific mackerel in metric tons, 2004 – 2008.



Source: Pacific Fishery Management Council. 2009. Status of the Pacific coast coastal pelagic species fishery and recommended acceptable biological catches. Stock assessment and fishery evaluation – 2009.

Figure 5. Biomass estimates for Pacific sardine in metric tons, 2004 – 2008.