

## Supplemental CDFG Report on Background Information for Selection of 2007/2008 Gopher Rockfish, California Scorpionfish, Lingcod and Minor Nearshore Rockfish Yields (OY)

Following the newly adopted 2005 assessments for gopher rockfish, California scorpionfish, and lingcod CDFG evaluated the OY alternatives for each species and possible impacts to management.

**Gopher Rockfish** Because gopher rockfish cannot be managed separately from other nearshore rockfish species without significantly increasing bycatch and because of uncertainty over the assessment surrounding data quality, gopher rockfish is recommended to not be removed from the southern minor nearshore rockfish species OY, but instead have a point of concern set at a level determined appropriate to the adopted OY.

Table 1. Gopher Rockfish OY Alternative Pros and Cons

OY Alternative	PROS	CONS
Status Quo ( 49 mt/yr)	<ul style="list-style-type: none"> <li>• Provides the least risk to the gopher rockfish stock by continuing to manage this species at 50% of recent landings</li> <li>• Results in no additional risk of increased catches for the other unassessed species in the minor nearshore rockfish south group</li> </ul>	<ul style="list-style-type: none"> <li>• Provides no additional fishing opportunities</li> <li>• Does not incorporate the results of the gopher rockfish stock assessment into management</li> </ul>
50% of ABC ( 151 mt/yr)	<ul style="list-style-type: none"> <li>• Allows some increased fishing opportunities for anglers and commercial fishermen targeting shallow nearshore rockfish in waters off central CA</li> <li>• Includes a contribution of gopher rockfish to the minor nearshore rockfish south group that is lower than the 212 mt landings observed in 1992, but slightly higher than the historical average</li> <li>• Of the three non-status quo alternatives, results in the</li> </ul>	<ul style="list-style-type: none"> <li>• Results in an increased risk of impacting gopher rockfish stock, particularly if recruitment continues to be sporadic (assessment relied on one major recruitment event from 2000)</li> <li>• Increased fishing opportunities may result in increased take of other unassessed species rather than gopher rockfish</li> </ul>

	least risk of increased catches for other unassessed species in this group	<ul style="list-style-type: none"> <li>• May also result in increased take of all nearshore species in the south below the assessed region; including unassessed species</li> </ul>
75% of ABC (227 mt/yr)	<ul style="list-style-type: none"> <li>• Affords additional fishing opportunities for anglers and commercial fishermen</li> <li>• Includes a contribution of gopher rockfish to the minor nearshore rockfish south that is slightly higher than the highest observed landings</li> </ul>	<ul style="list-style-type: none"> <li>• Greater risk of impacting gopher rockfish stock</li> <li>• Greater risk of increased catches for the other unassessed species in this group</li> </ul>
100% Of ABC (302 mt/yr)	<ul style="list-style-type: none"> <li>• Provides the greatest amount of additional fishing opportunities for anglers and commercial fishermen</li> </ul>	<ul style="list-style-type: none"> <li>• Allowable take is well above the historic landings</li> <li>• Greatest risk of impacting gopher rockfish stock</li> <li>• Greatest risk of increased catches for the other unassessed species in this group</li> </ul>

Historic combined recreational and commercial landings show landings relative to the proposed OYs (Figure 1.) For the graphic below, note that the highest landings of gopher rockfish (212 mt) occurred in 1992. The average take for the period from 1983 – 1999 was 127 mt (and for 1990-1993, the average was 131 mt). The 2006 expected take (48.5 mt) is the same as the 2007-2008 Option 1 (status quo).

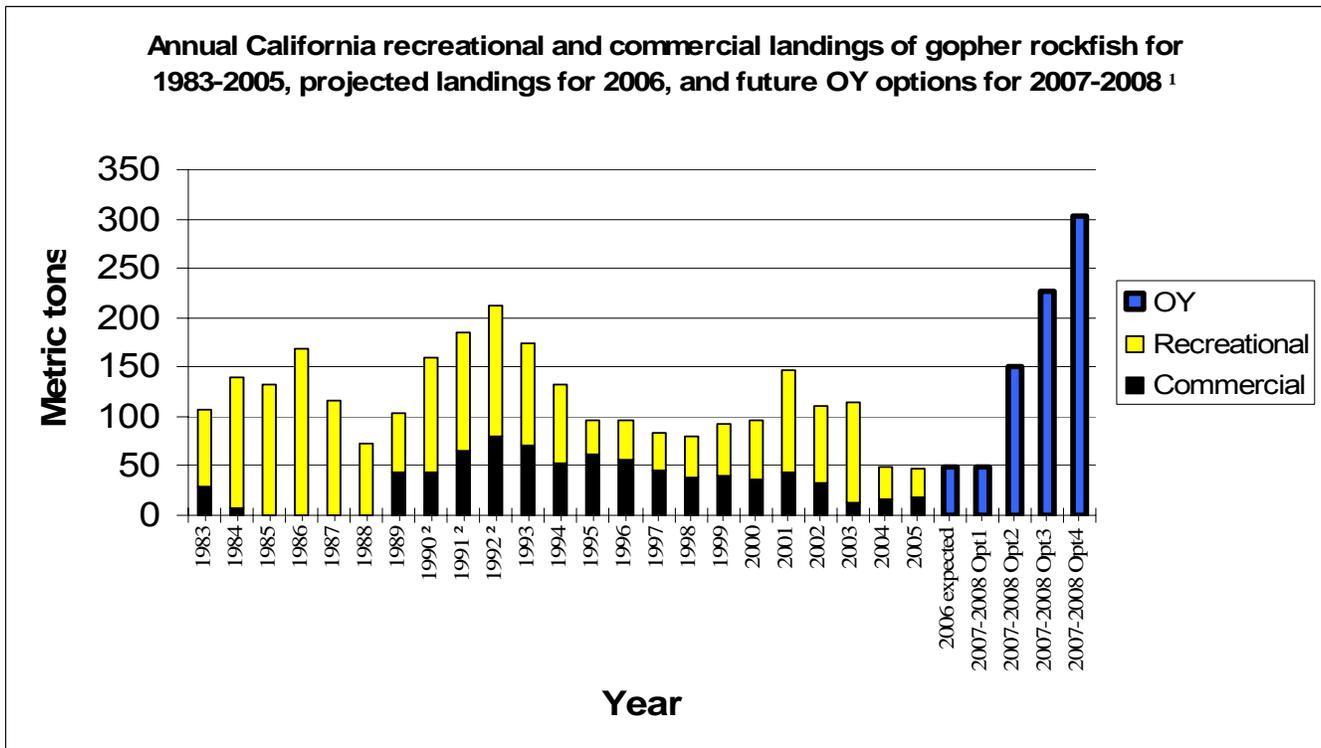


Figure 1. Combined landings of gopher rockfish and future OY options.

<sup>1</sup> 2007-2008 OY options are for the area from Cape Mendocino (40°10') to the CA-Mexico border and will be part of the "Minor Nearshore Rockfish South OY"; gopher rockfish landings from the Oregon border to Cape Mendocino (Humboldt County) have historically comprised less than 1% of the statewide total.

<sup>2</sup> Statewide recreational data from 1983–1989 and 1993–2003 from Marine Recreational Fisheries Statistical Survey (MRFSS); 1990-1992 recreational data from gopher stock assessment 2005 (no MRFSS sampling); 2004-2005 recreational data from California Recreational Fisheries Survey (CRFS); commercial data from 1983–2005 from CalCOM.

Gopher rockfish occurs throughout California but primarily within central California. The gopher rockfish stock assessment only covered the central portion of the stock - from the California/Oregon border (Del Norte County) to Point Conception (Santa Barbara County). Most gopher are taken in the central coast region. This is illustrated in Figure 2 which shows the regional distribution of gopher rockfish catches from 2004 and 2005 were compared by region. The central region contributed at least 95 percent of both the recreational and commercial landings. The North region from the California-Oregon border to Cape Mendocino has a negligible amount of landings in each sector and the Southern region, from Point Conception to the U.S. Mexico border, also contributes a minimal amount of landings to the total. When landings were compared by region for the years 1994 - 1999, before more restrictive groundfish regulations altered landings, and in 2002, prior to the recent decrease in deep water opportunities, the percentages were very similar, so the graphic below only shows the results of 2004-2005.

Comparison of recreational and commercial landings of gopher rockfish by region in Northern, Central and Southern California for combined years 2004-2005

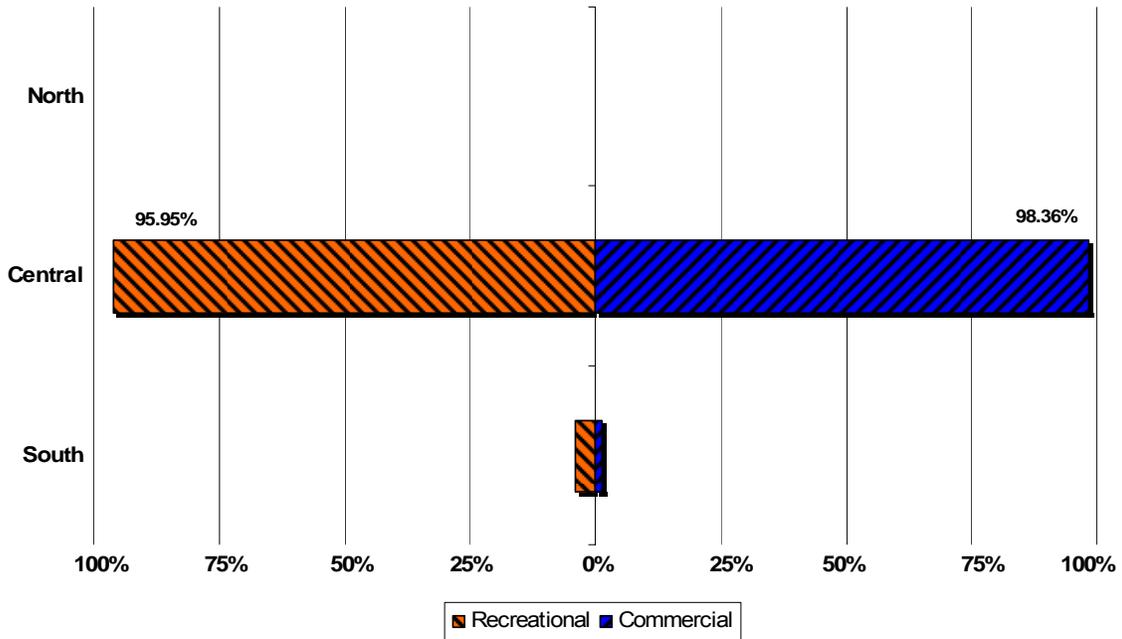
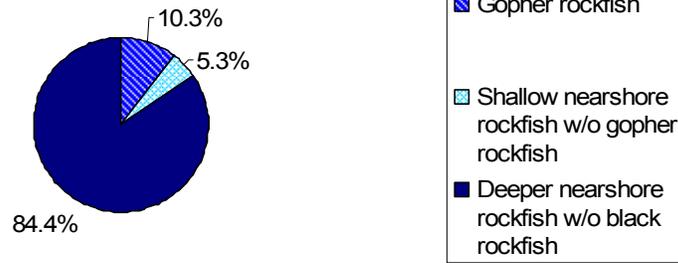


Figure 2. Relative Composition of Gopher Rockfish Within the Minor Nearshore Rockfish South Group\* (\*California scorpionfish removed)

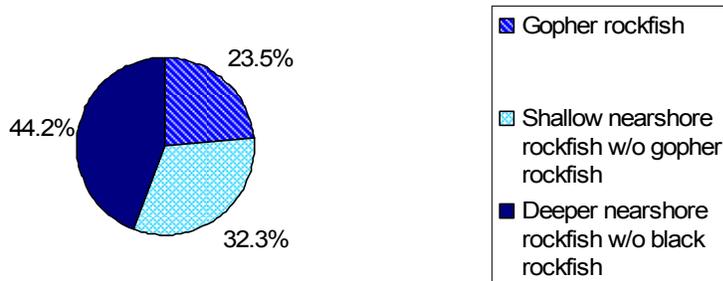
The following three pie charts (Figure 3) show the contribution of gopher rockfish in 2004-2005 to the minor nearshore rockfish group, with the first two charts showing the contribution for the recreational and commercial sectors within the central part of the state, and the last chart showing the combined recreational and commercial for the area south of Cape Mendocino. This last chart can be used as a representation of what the expected contribution of gopher would be to the minor nearshore rockfish south group under the status quo alternative.

Gopher rockfish are caught in depths that cover the range of both other shallow nearshore species as well as depths where deeper nearshore species are caught. As a result, there is a concern that raising the gopher rockfish portion of the minor nearshore south OY too high will result in additional harvests of the other data poor stocks rather than harvests of gopher rockfish.

Relative composition of **recreational** gopher rockfish landings within the minor nearshore rockfish south group in Central California for 2004-2005 combined



Relative composition of **commercial** gopher rockfish landings within the minor nearshore rockfish south group in Central California for 2004-2005 combined



Relative composition of **combined commercial and recreational** gopher rockfish landings within the minor nearshore rockfish groups south of Cape Mendocino, CA to the California/Mexico border

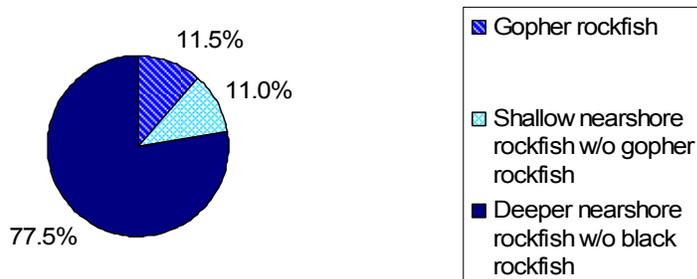
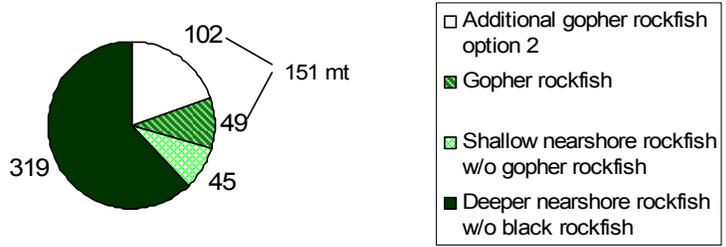


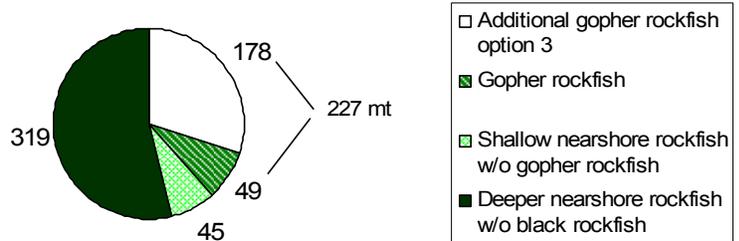
Figure 3. Relative composition of minor nearshore rockfish (w/o California scorpionfish).

The next three pie charts (Figure 4) provide a graphic picture of how much the additional gopher catch would impact the overall take of the deeper and shallow (without gopher) nearshore rockfish groups within the minor nearshore rockfish south OY. As the slice of the pie that represents the additional gopher grows larger, the risks of this catch being taken as other unassessed nearshore species also increases.

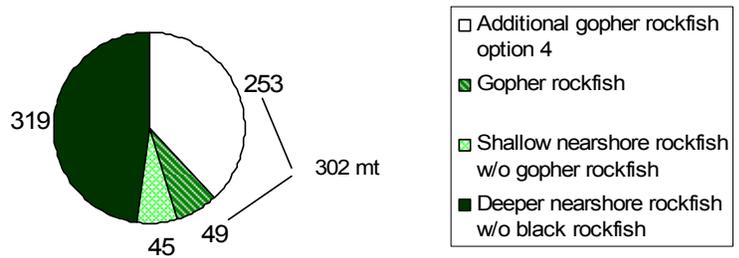
**Combined commercial and recreational estimated landings for 2007-2008, in metric tons, of minor nearshore rockfish south group (Cape Mendocino, California to the California/Mexico border) for OY option 2**



**Combined commercial and recreational landings estimate for 2007-2008, in metric tons, of minor nearshore rockfish south group for OY option 3**



**Combined commercial and recreational estimated landings for 2007-2008, in metric tons, of minor nearshore rockfish south group for OY option 4**

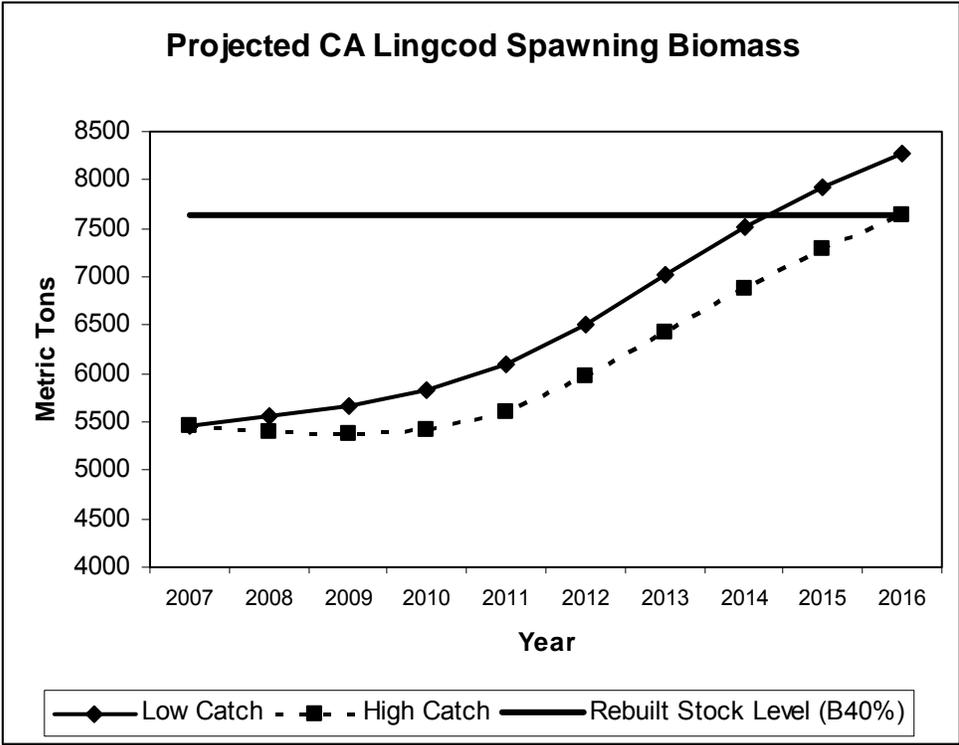
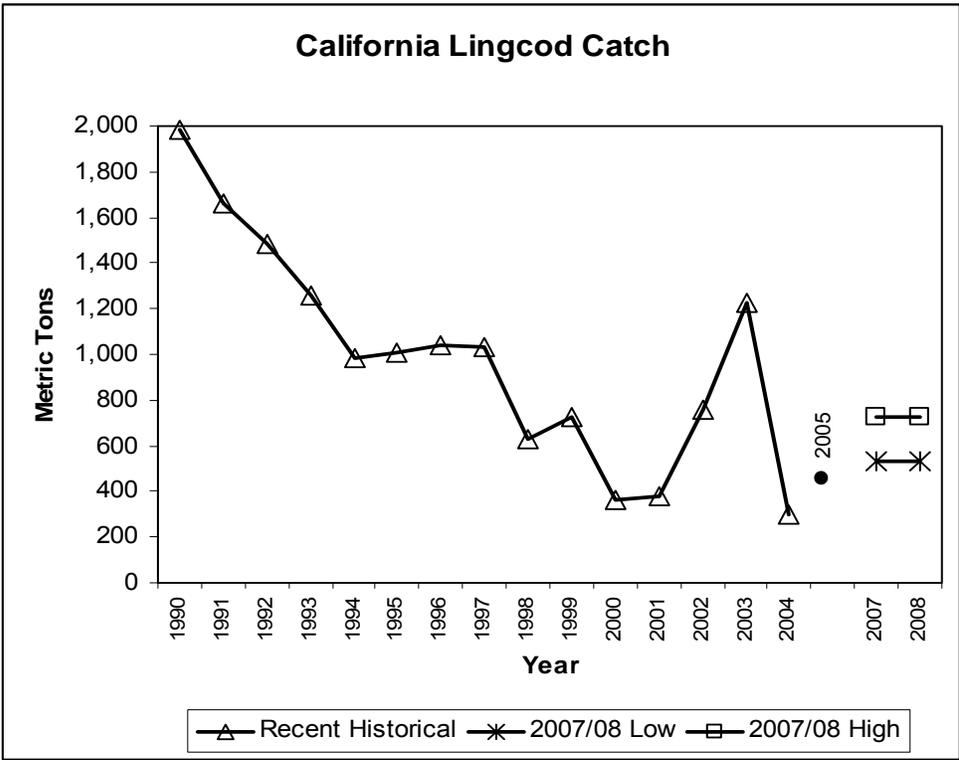


\*Minor Nearshore Rockfish South = South of Cape Mendocino to the California/Mexico border

Figure 4. Impact of Adding Increased Gopher Rockfish Catch to the Minor Nearshore Rockfish South\* OY (Note: Gopher rockfish comprises 12% of the OY under the Status quo option)

**Background Information for Selection of 2007/2008  
California Lingcod Optimum Yield (OY)**

<b>OY Alternative</b>	<b>PROS</b>	<b>CONS</b>
Low catch scenario (532 mt/yr)	<ul style="list-style-type: none"> <li>• Accounts for the “depressed” (locally depleted) condition of the California portion of the lingcod population [precedent setting approach]</li> <li>• Encourages faster recovery of that portion of the stock found in California waters</li> </ul>	<ul style="list-style-type: none"> <li>• Results in a catch reduction of approximately 13 percent from current OY levels</li> <li>• Economic cost of lower lingcod catches difficult to absorb under generally reduced groundfish fishing opportunities</li> <li>• Only rebuilds faster by two years under this approach</li> </ul>
High catch scenario (746 mt/yr)	<ul style="list-style-type: none"> <li>• Affords some increased fishing opportunities</li> <li>• Recognizes the coastwide (WA, OR, CA) recovery of lingcod</li> <li>• Provides some increased commercial income and/or recreational angling opportunities and associated industry-related income for a highly desirable species</li> </ul>	<ul style="list-style-type: none"> <li>• Does not consider the “depressed” condition of the California portion of the population and delays any projected recovery by four to five years</li> <li>• Increased lingcod fishing opportunity may result in increased bycatch of overfished rockfish species</li> <li>• Greater risk of further declines in CA abundance due to unforeseen recruitment failures</li> <li>• Greater uncertainty about the status of CA portion of the stock makes this a more risk prone strategy</li> </ul>
Status Quo Alternative	<ul style="list-style-type: none"> <li>• Considers the need for precaution since the southern portion of the stock is still depressed while other portions are recovered</li> <li>• Consistent with current management</li> <li>• “rebuilds” faster than w/o 40_10 adjustment</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>



**Background Information for Selection of 2007/2008  
California Scorpionfish Optimum Yield (OY)**

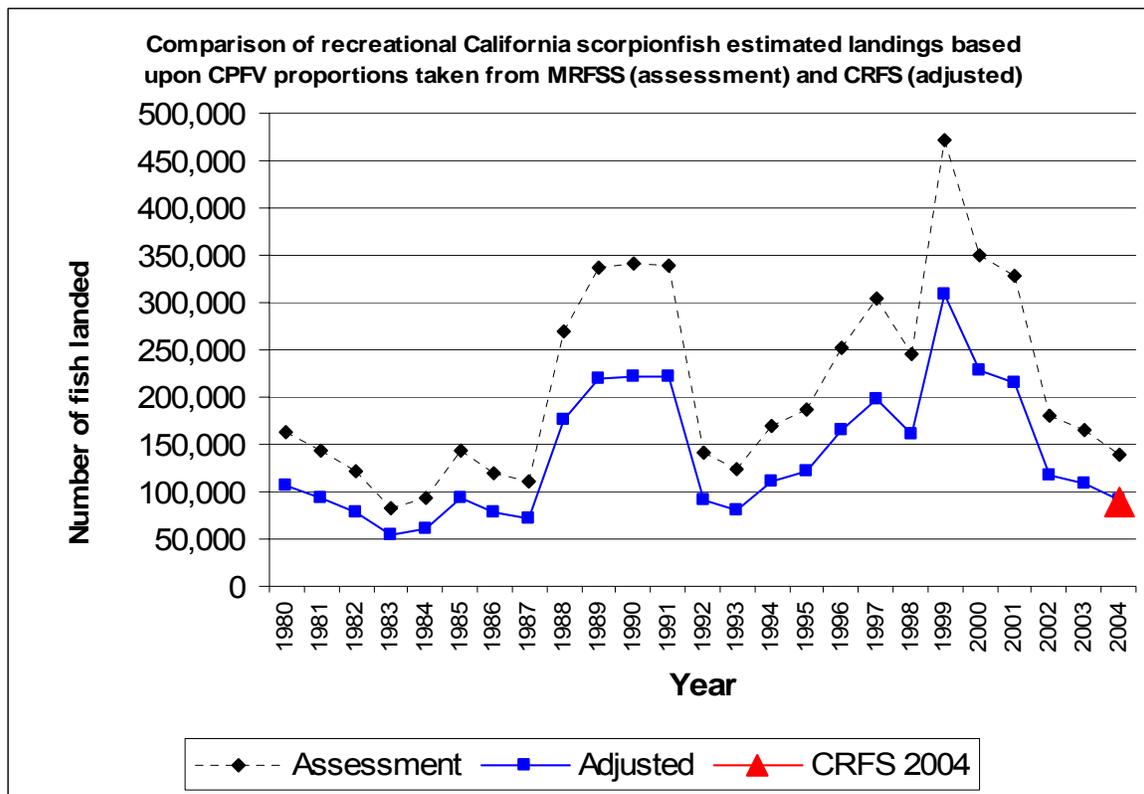
The California scorpionfish assessment used a recreational catch data stream based upon Commercial Passenger Fishing Vessel (CPFV) logbook data expanded to total recreational catch using a proportion of CPFV to total recreational catch (based upon Marine Recreational Fisheries Statistics Survey catch history). The Council's Scientific and Statistical Committee approved this assessment, with the caveat that the ABC/OY from this assessment could only be related to recreational catch calculated in the same manner as this catch stream. CPFV logbook data, while valuable for stock assessment analyses, are not collected in as timely a manner as needed for inseason monitoring. Consequently, a method was derived with the assistance of the primary stock assessment author, Mark Maunder, to modify the ABC/OY from the assessment so that it could be tracked using California Recreational Fisheries Survey (CRFS) catch estimates. This method takes the recreational portion of the stock assessment ABC/OY, multiplies it by the CPFV proportion calculated from the MRFSS data, and then divides it using the proportion of CPFV catch observed in the 2004 CRFS data.

Both the original stock assessment ABC/OY and the modified stock assessment ABC/OY are provided as alternatives for California scorpionfish. Both alternatives are based upon the assessment model that includes sanitation district data. The first alternative provides the modified ABC/OY. The second alternative provides an ABC/OY of 219 mt based on an average of the 2007 and 2008 ABC/OYs from the stock assessment (2007 = 236 mt, 2008 = 202 mt).

<b>OY Alternative</b>	<b>PROS</b>	<b>CONS</b>
Catch scenario based on California Recreational Fisheries Survey (CRFS) estimates (137 mt/yr)	<ul style="list-style-type: none"> <li>• Allows for inseason monitoring of this species using the CRFS program</li> <li>• By incorporating the ability to make inseason adjustments, results in reduced risk of either not achieving or overshooting the OY</li> </ul>	<ul style="list-style-type: none"> <li>• Can result in mid-year changes to regulations</li> </ul>
Catch scenario based on an expansion of Commercial Passenger Fishing Vessel (CPFV) logbooks (219 mt/yr)	<ul style="list-style-type: none"> <li>• Simplifies management and regulation process</li> </ul>	<ul style="list-style-type: none"> <li>• Does not allow for inseason monitoring of this species; catches can only be evaluated on an annual basis</li> <li>• Results in increased risk of either not achieving or overshooting the OY</li> </ul>

When examining the take of CA scorpionfish for the years used to calculate the 2003 minor nearshore rockfish south OY (based on 50% of recent landings), the recreational sector took about 75% of the fish while the commercial took around 25%. In more recent years (2000-2004), with both sectors being regulated to some extent, the recreational sector has taken a higher percent, ranging between 87.7% and 94.3%, with 93.7% of the 2004 take attributed to recreational anglers.

The graph below only shows the recreational take (in numbers), with one set of catch taken directly from the stock assessment (based on the historic proportion of CPFV to total catch observed in the MRFSS data) and the other adjusted to use the proportion of CPFV to total catch that was observed in the 2004 CRFS data. In addition, the 2004 CRFS estimate (in numbers) is provided as well.



The following graphic shows the combined recreational and commercial take in metric tons with recreational take calculated with the CPFV proportion from MRFSS (assessment) and from CRFS (adjusted). The two OY alternatives plus the status quo (50% of recent landings) are also provided. As can be seen from the graph, the lower OY is more in line with the catch history that uses the CRFS proportion.

