

# 11 Gulf of Alaska Shortraker Rockfish and Other Slope Rockfish

## (Executive Summary)

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November 2006

### 11.1 Introduction

Rockfish have been moved to a biennial stock assessment schedule to coincide with new survey data. Thus, for Gulf of Alaska rockfish in alternate (even-numbered) years when no trawl survey is conducted, only an executive summary will be presented. In these summaries, rockfish species such as shortraker rockfish and “other slope rockfish” without an age-structured assessment or projection model will use information from last year’s detailed stock assessment to determine this year’s estimates. For information about last year’s full stock assessment see Clausen (2005) or <http://www.afsc.noaa.gov/refm/docs/2005/GOAsloperock.pdf>.

### 11.2 Updated ABCs, OFL, and Catch

In the December 2005 full stock assessment, the average of exploitable biomass (biomass in depths >100 m) from the three most recent trawl surveys was used to determine the recommended ABC for shortraker rockfish and for “other slope rockfish”. Therefore, for both shortraker rockfish and the other slope rockfish group, last year’s stock assessment estimates will be rolled over for this year. This results in recommended 2007 ABCs for the Gulf of Alaska of 843 mt for shortraker rockfish and 4,152 mt for other slope rockfish, the same values that were recommended for 2006. A summary of the computations for these values, along with computations and yields for OFLs is listed as follows (biomass and yields in mt):

Species	Tier	Exploit. biomass	ABC		Overfishing	
			F	Yield	F	Yield
Shortraker rockfish	5	37,461	F=0.75M=0.023	843	F=M=0.030	1,124
Sharpchin rockfish	4	20,815	F <sub>40%</sub> =0.053	1,103	F <sub>35%</sub> =0.064	1,332
Redstripe rockfish	5	11,717	F=0.75M=0.075	879	F=M=0.100	1,172
Harlequin rockfish	5	15,321	F=0.75M=0.045	689	F=M=0.060	919
Silvergrey rockfish	5	38,463	F=0.75M=0.030	1,154	F=M=0.040	1,539
Redbanded rockfish	5	5,138	F=0.75M=0.045	231	F=M=0.060	308
Minor species	5	2,067	F=0.75M=0.045	93	F=M=0.060	124
Total, other slope rockfish		93,552		4,152		5,394

Updated catch data (mt) for shortraker rockfish and other slope rockfish in the Gulf of Alaska, as of October 13, 2006 are:

Year	Area of Gulf			Gulfwide total	Gulfwide ABC	Gulfwide TAC
	Western	Central	Eastern			
<u>Shortraker Rockfish</u>						
2005	70	223	205	498	753	753
2006	81	289	245	615	843	843
<u>Other Slope Rockfish</u>						
2005	92	514	109	715	3,900	670
2006	226	507	110	843	4,152	1,480

### 11.3 Area Apportionment of ABC

The apportionment percentages for management areas are identical to last year, because there is no new survey information. The apportionments are based on a 4:6:9 weighted average of the area biomasses for the three most recent trawl surveys, with each successive survey given a heavier weighting. The following table shows the recommended apportionment for 2007:

	Western	Central	Eastern	West Yakutat	E. Yakutat/Southeast	Total
<u>Shortraker Rockfish</u>						
Apportionment	18.1%	41.9%	39.9%	-	-	100.0%
ABC (mt)	153	353	337	-	-	843
<u>Other Slope Rockfish</u>						
Apportionment	13.9%	9.3%	-	7.6%	69.2%	100.0%
ABC (mt)	577	386	-	317	2,872	4,152

### 11.4 Responses to Council, SSC, and Plan Team Comments

The SSC December 2005 minutes included the following comments (in italics). A response is provided for each:

1. *“Exploitable biomass for shortraker rockfish is estimated by the average biomass of the most recent trawl surveys (2001, 2003, 2005) where the 1-100 M depth stratum was removed, because most rockfish in this stratum were “juvenile” fish younger than age of recruitment and not considered “exploitable”. The SSC recommends that the authors evaluate this assumption to better define segregation of juvenile and adults with depth”.* I examined this briefly by looking at results of the four Gulf of Alaska trawl surveys that were conducted in the 1990’s. Biomass of shortraker rockfish and other slope rockfish in the 1-100 m stratum was virtually nil in all the

surveys, so the issue of whether or not to include this stratum in the estimates of exploitable biomass is essentially moot. For example, biomass of shortraker rockfish was zero in this stratum in three of the surveys, and was very small (132 mt) in the other survey. Similarly, biomass of sharpchin rockfish was zero in the 1-100 stratum in two surveys, and was only 33 mt and 61 mt in the others. Excluding the 1-100 m stratum in the computations of exploitable biomass is a holdover from older assessments when northern rockfish and rougheye rockfish were included along with shortraker and other slope rockfish in a larger assemblage. Relatively large biomasses of small-sized northern and rougheye rockfish sometimes occur in the 1-100 m stratum; thus, it makes some sense to not include these estimates as “exploitable”. However, because so few shortraker and “other slope rockfish” occur in this shallow stratum, for simplicity sake it may be best to include the 1-100 m fish in the exploitable biomass totals in future assessments.

2. *“Trawl surveys do a relatively poor job assessing abundance of shortraker rockfish because much of their habitat is located in the 300-500 m untrawlable zone, whereas the longline survey routinely fishes this area. Given this, the SSC would like to see an evaluation of the longline survey data to determine whether this information may provide a better understanding of shortraker rockfish distribution and abundance”.* Please note that longline survey results for shortraker rockfish are presented by area in Table 11-7 of last year’s assessment and also discussed in section 11.3.2.1, so this topic has not been ignored. Scientists at the Auke Bay Laboratory are in the process of examining the longline survey catches to determine associations between species and to analyze catch by depth for various species, including shortraker rockfish. These analyses will likely be available for inclusion in next year’s SAFE report and should provide additional information as to how the longline survey results can be used in the assessment.
3. *Silvergray and several of the other slope rockfish comprise a significant portion of the biomass in the Gulf of Alaska, and the SSC requests that the authors more closely evaluate SAFE report statements indicating that the center of abundances for these species, other than harlequin rockfish, are to the south. On the other hand, the SSC concurs with removal of aurora and shortbelly rockfish from the other slope group, because, as the SAFE authors note, published information indicates that these two species do not occur north of Vancouver Island.* I generally stand by my statement that the centers of abundance for the species (except harlequin) lie to the south of Alaska. I think part of the problem here may be semantics. When I use the term “center of abundance”, I refer to that area where the fish are most abundant or where the majority of the population resides. This does not mean that a species outside the center of abundance could not be relatively abundant; it just means that the abundance is higher in the area that is the center of abundance. However, I agree with the SSC that in the particular case of silvergray rockfish, the biomass has increased so much in recent years that the center of abundance could now be considered to be the eastern Gulf of Alaska and British Columbia. Therefore, in next year’s SAFE I will revise my statement about the “centers of abundance” to reflect this.

## **11.5 Research Priorities**

This year was a busy year for rockfish stock assessment with a rockfish modeling workshop held at Auke Bay Laboratory and a Center for Independent Experts (CIE) review of rockfish assessment. The formal CIE review report will soon be available at (<http://www.afsc.noaa.gov>). The priorities for next year’s full assessment are to consider incorporating many of the useful recommendations produced by the review.

## 11.6 Summaries for Plan Team

Species/species group	Year	Biomass	OFL	ABC	TAC	Catch
Shortraker rockfish	2005	32,723	982	753	753	498
	2006	37,461	1,124	843	843	615
	2007	37,461	1,124	843	-	-
Other slope rockfish	2005	89,455	5,150	3,900	670	715
	2006	93,552	5,394	4,152	1,480	843
	2007	93,552	5,394	4,152	-	-

Area apportionments:

Species/species group	Area	2006			2007		
		OFL	ABC	TAC	Catch	OFL	ABC
Shortraker rockfish	W	-	153	153	81	-	153
	C	-	353	353	289	-	353
	E	-	337	337	245	-	337
	Total	1,124	843	843	615	1,124	843
Other slope rockfish	W	-	577	577	226	-	577
	C	-	386	386	507	-	386
	WYak	-	317	317	94	-	317
	EYak/SEO	-	2,872	200	16	-	2,872
	Total	5,394	4,152	1,480	843	5,394	4,152

Catch updated as of Oct. 13, 2006

W = Western area

C = Central area

E = Eastern area

WYak = West Yakutat area

EYak/SEO = East Yakutat/Southeast Outside area

## 11.7 Reference

Clausen, D. M. 2005. Shortraker and other slope rockfish. In Stock assessment and fishery evaluation report for the groundfish resources of the Gulf of Alaska, p. 685–725. North Pacific Fishery Management Council, 605 W 4<sup>th</sup> Ave, Suite 306, Anchorage AK 99501.