

16. Assessment of the Other Rockfish stock complex in the Gulf of Alaska

Cindy A. Tribuzio, David M. Clausen, and Katy B. Echave
November 2012

Executive Summary

Rockfish are assessed on a biennial stock assessment schedule to coincide with the availability of new trawl survey data. For Gulf of Alaska (GOA) rockfish in alternate (even) years we present an executive summary to recommend harvest levels for the next two years. Please refer to last year's full stock assessment report for further information regarding the assessment calculations (Clausen and Echave 2011, available online at <http://www.afsc.noaa.gov/refm/docs/2011/GOAorock.pdf>). A full stock assessment document with updated assessment results will be presented in next year's SAFE report.

We use the average of exploitable biomass from the three most recent trawl surveys for the other rockfish group to determine the recommended ABC for the other rockfish stock complex. This complex consists of 18 species of rockfish, defined in Clausen and Echave 2011 (Table 16-1). This group is classified as a Tier 5 stock, with the exception of sharpchin rockfish, which qualifies as a Tier 4 stock. For an off-cycle year, there is no new survey information for the other rockfish stock complex; therefore, the 2011 estimates are rolled over for the next two years.

Summary of changes in Assessment Inputs

Changes in the input data: There were no changes made to the assessment inputs since this was an off-cycle year.

Changes in assessment methodology: There were no changes in assessment methodology since this was an off-cycle year.

Summary of Results

For the 2013 fishery, we recommend the maximum allowable ABC of 4,045 t for the other rockfish stock complex. Reference values for the other rockfish stock complex are summarized in the following table, with the recommended ABC and OFL values in bold. The stock was not being subjected to overfishing last year.

Quantity	As estimated or <i>specified last year for:</i>		As estimated or <i>recommended this year for:</i>	
	2012	2013	2013	2014
M (natural mortality rate) ^a	0.05-0.10	0.05-0.10	0.05-0.10	0.05-0.10
Tier ^b	5 or 4	5 or 4	5 or 4	5 or 4
Biomass (t)	85,774	85,774	85,774	85,774
F_{OFL} ^a	0.05-0.10	0.05-0.10	0.05-0.10	0.05-0.10
$maxF_{ABC}$ ^a	0.0375-0.0750	0.0375-0.0750	0.0375-0.0750	0.0375-0.0750
F_{ABC} ^a	0.0375-0.0750	0.0375-0.0750	0.0375-0.0750	0.0375-0.0750
OFL (t)	5,305	5,305	5,305	5,305
maxABC (t)	4,045	4,045	4,045	4,045
ABC (t)	4,045	4,045	4,045	4,045
Status	As determined <i>last year for:</i>		As determined <i>this year for</i>	
	2010	2011	2011	2012
Overfishing	No	n/a	No	n/a

^aValues represent a range among species.

^bAll species are Tier 5 except sharpchin rockfish is Tier 4.

Updated catch data (t) for the other rockfish stock complex in the GOA are summarized in the following table. The ABC in the Western and Central GOA management areas was exceeded in 2012. Source: NMFS Alaska Regional Office Catch Accounting System accessed through the Alaska Fisheries Information Network (AKFIN) database, <http://www.akfin.org> as of October 1, 2012.

Year	Western	Central	Eastern GOA		Gulfwide	Gulfwide	Gulfwide
	GOA	GOA	West Yakutat	E. Yak/ Southeast	Total	ABC	TAC
2011 ¹	302	353	187	30	872	3,752	1,195
2012 ²	248	717	35	18	1,018	4,045	1,080

¹Other slope rockfish stock complex, does not include widow and yellowtail rockfish.

²Other rockfish stock complex, includes widow and yellowtail rockfish, formerly in the Pelagic Shelf Rockfish stock complex.

Area Apportionment

The apportionment percentages are the same as in the 2011 full assessment. The following table shows the recommended apportionment for 2013. Please refer to last year's full stock assessment report for information regarding the apportionment rationale for the other rockfish stock complex.

	Western	Central	Eastern GOA		Total
	GOA	GOA	West Yakutat	E Yakutat/ Southeast	
Area Apportionment	1.08%	14.98%	5.69%	78.24%	100%
Area ABC (t)	44	606	230	3,165	4,045
OFL (t)					5,305

¹Amendment 41 prohibited trawling in the eastern area east of 140° W longitude. To account for the portion of the other rockfish biomass in the West Yakutat area that is still open to trawling a ratio is calculated to apportion the eastern area into West Yakutat and East Yakutat/Southeast Outside. This ratio is the same as last year (0.18).

Summaries for Plan Team

Species	Year ¹	Biomass ²	OFL	ABC	TAC	Catch ³
Other Rockfish	2011	76,867	4,881	3,752	1,195	872
	2012	85,774	5,305	4,045	1,080	1,018
	2013	85,774	5,305	4,045		
	2014	85,774	5,305	4,045		

Stock/ Assemblage	Area	2012				2013		2014	
		OFL	ABC	TAC	Catch ³	OFL	ABC	OFL	ABC
Other Rockfish	WGOA		44	44	248		44		44
	CGOA		606	606	717		606		606
	WY		230	230	35		230		230
	EY/SE		3,165	200	18		3,165		3,165
	Total		5,305	4,045	1,080	1,018	5,305	4,045	5,305

¹Prior to 2012, Other Rockfish were called Other Slope Rockfish stock complex and did not include yellowtail and widow rockfish.

²Total biomass estimates from AFSC trawl surveys.

³Current as of October 1, 2012. Source: NMFS Alaska Regional Office Catch Accounting System via the Alaska Fisheries Information Network (AKFIN) database (<http://www.akfin.org>).

Note: all values include northern rockfish in the eastern Gulf of Alaska.

SSC and Plan Team Comments on Assessments in General

“The SSC concurs with the Plan Teams’ recommendation that the authors consider issues for sablefish where there may be overlap between the catch-in-areas and halibut fishery incidental catch estimation (HFICE) estimates. In general, for all species, it would be good to understand the unaccounted for catches and the degree of overlap between the CAS and HFICE estimates, and to discuss these at the Plan Team meetings next September.” (SSC, December 2011)

“The Teams recommend that authors continue to include other removals in an appendix for 2013. Authors may apply those removals in estimating ABC and OFL; however, if this is done, results based on the approach used in the previous assessment must also be presented. The Teams recommend that the “other” removals data set continue to be compiled, and expanded to include all sources of removal.” (Plan Team, September 2012)

“The Plan Teams recommend that assessment authors retain status quo assessment approaches for the November 2012 SAFE report but also apply the Kalman filter or random effects survey averaging methods for Tier 5 stocks and summarize the analytical results for comparison purposes only. ADMB code for implementing the random effects method will be made available.” (Plan Team, September 2012)

SSC and Plan Team Comments Specific to this Assessment

“The Team discussed a recommendation in the 2010 GOA Plan Team minutes to apply a productivity-susceptibility analysis, and clarified that this analysis is to be applied to the newly-formed other rockfish complex to evaluate the degree to which the species within the complex have similar life-history parameters and vulnerabilities to fishing pressure... As part of this analysis, the Team requests information on which target fisheries catch other rockfish, and how this may differ between GOA subareas.” (Plan Team, November 2011)

“The SSC supports the Plan Team request for a productivity-susceptibility analysis for the Other Rockfish complex. The SSC also encourages the authors to examine the relationship between environmental conditions and the distribution and abundance of silvergray rockfish and harlequin rockfish because the trawl survey data suggests that these stocks may move in and out of the GOA in response to changing conditions.” (SSC, December 2011)

Responses to comments and Research Priorities for Full Assessment

Responses to the previously listed SSC and Plan Team Comments will be provided in next year’s full stock assessment report. To address several of these comments, we plan to follow the recommendations listed in the various working group reports (e.g. the methods for averaging surveys report) submitted to the Plan Team in September 2012. In addition, we anticipate that many of the comments specific to the other rockfish stock complex assessment will be considered in the upcoming 2013 Center for Independent Experts (CIE) Alaska rockfish scientific peer review. Evaluation of assessment methods to estimate model parameters, uncertainty, and projections as well as recommendations or prioritizations for future research to improve the assessments will likely be part of this process.

Authors also are considering examining the catch of Demersal Shelf Rockfish species (primarily yelloweye rockfish) that occur outside of the East Yakutat/Southeast management area. These species are not accounted for in the DSR assessment, and are reported in the AKRO catch accounting system as Other Rockfish.

Literature Cited

Clausen, D.M. and K.B. Echave. 2011. Assessment of the “Other Rockfish” Stock Complex in the Gulf of Alaska. *In* Stock assessment and fishery evaluation report for the groundfish resources of the Gulf of Alaska for 2011. North Pacific Fishery Management Council, 605 W 4th Ave, Suite 306, Anchorage, AK 99501. Pgs. 1239 – 1280.