CHAPTER 14

Assessment of the Shortraker Rockfish Stock in the Eastern Bering Sea and Aleutian Islands

by

Paul D. Spencer and James N. Ianelli

Introduction

In 2005, Bering Sea/Aleutian Islands (BSAI) rockfish were moved to a biennial assessment schedule to coincide with the frequency of trawl surveys in the Aleutian Islands (AI) and the eastern Bering Sea (EBS) slope. These surveys occur in even years, and for these years a full assessment of shortraker rockfish in the BSAI area will be conducted. Additionally, in 2008 shortraker rockfish were assessed separately from blackspotted/rougheye rockfish due to the development of an age-structured model for blackspotted/rougheye rockfish. The 2008 full assessment can be found at http://www.afsc.noaa.gov/refm/docs/2008/BSAIshortraker.pdf. The shortraker assessment is conducted with Tier 5 methods, in which a non-age-structured model is applied to a time series of survey biomass estimates to obtain the current estimated biomass. An exploitation rate is then applied to estimated current biomass to obtain the ABC and OFL.

Updated catch

The BSAI catch of shortraker rockfish in 2008 was 166 t, with 107 t in the AI and 59 t in the EBS. The 2009 catch of shortraker rockfish, through October 17, was 183 t, with 106 t in the AI and 77 t in the EBS.

Because neither the time series of survey biomass estimates nor the proxy values for F_{abc} and F_{ofl} have changed since 2008, the estimated ABC and OFL values for 2010 and 2011 in this update are identical to the values for 2009 and 2010 produced in the 2008 assessment. Stock size, harvest, and fishing rate reference values are shown in the following table:

Assessment Year	2008		2009	
Projection Year	2009	2010	2010	2011
M	0.03	0.03	0.03	0.03
Tier	5	5	5	5
Total Biomass (mt)	17,187	17,187	17,187	17,187
Max F_{abc} (=0.75*M*)	0.0225	0.0225	0.0225	0.0225
Rec. F_{abc}	0.0225	0.0225	0.0225	0.0225
F_{ofl} (=*M*)	0.03	0.03	0.03	0.03
OFL (mt)	516	516	516	516
Max ABC (mt)	387	387	387	387
Recommended ABC	387	387	387	387

Responses to the comments of the Statistical and Scientific Committee

From the minutes of the December, 2008 meeting of the SSC:

"The BSAI Plan Team recommended that all authors of stocks managed in Tiers 1 through 3 should estimate the probability of the spawning stock biomass falling below $B_{20\%}$. The recommended time frame for this projection was 3-5 years. The SSC agrees with this recommendation and encourages authors to provide estimates of the probability of falling below biologically relevant thresholds such as $B_{20\%}$"

This issue will be addressed when an age-structured model is developed for shortraker rockfish.

Research Priorities

Little information is known regarding most aspects of the biology of shortraker rockfish, particularly in the Aleutian Islands. In particular, little is known regarding the distribution, duration, and habitat requirements of the various life-history stages of shortraker rockfish. Validating aging techniques of shortraker rockfish, and obtaining ages from archived samples remains a research priority.

Summary table for the Plan Team

Year	Biomass	OFL	ABC	TAC	Catch
2008	18,857	564	424	424	166
2009	17,187	516	387	539	183[2]
2010	17,187	516	387		
2011	17,187	516	387		

[2] Catch as of October 17, 2009.