CHAPTER 12

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

by

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Introduction

In 2005, 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 northern rockfish in the BSAI area will be conducted. The 2008 full assessment can be found at http://www.afsc.noaa.gov/refm/docs/2008/BSAInorthern.pdf. In years without a scheduled Aleutian Islands survey, an "update" is produced by revising the recent catch data and re-running the projection model using the results from the previous full assessment as a starting point. Therefore, this update was produced by running the projection model with a revised catch estimate for 2008 and a new catch estimate for 2009.

Updated ABC, OFL, Catch and Projection

The new information for this update is the final estimate of 2008 catch and a revised estimate of the 2009 catch. The 2008 catch was 3,287 t, smaller than the estimate of 4,500 t that was used in the 2008 projection. The 2009 catch through October 17th, 2009 was 2,402 t, with catches still occurring in the fall of 2009. Thus, as in the 2008 projection, the estimated 2009 catch is set to 4,500 t, which is close to the total annual catch in recent years. For 2010, we recommend a maximum permissible ABC of 7,242 t based upon the updated projection. This value is nearly equivalent to the 2008 projection for 2010 (7,193 t). The stock is not overfished nor approaching an overfishing status. Stock size, harvest, and fishing rate reference values are shown in the following table:

	2008 Projection		2009 Projection	
	2009	2010	2010	2011
M	0.041	--	0.041	--
Tier	3a	--	3a	--
$B_{100\%}$ (mt)	138,283	--	138,283	--
$B_{40\%}$ (mt)	55,313	--	55,313	--
$B_{35\%}$ (mt)	48,399	--	48,399	--
SSB (mt)	68,223	67,459	69,290	69,364
Total Biomass (mt)	200,179	201,064	202,267	203,410
Max F_{abc} (=$F_{40\%}$)	0.0426	0.0426	0.0426	0.0426
F_{ofl} ($F_{35\%}$)	0.0511	0.0511	0.0511	0.0511
Max ABC (mt, yield at $F_{40\%}$)	7,160	7,193	7,242	7,291
Recommended ABC	7,160	7,193	7,242	7,291
OFL (mt, yield at $F_{35\%}$)	8,544	8,584	8,642	8,701

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 in the full assessment of northern rockfish in 2010.

Research Priorities

Little information is known regarding most aspects of the biology of northern rockfish, particularly in the Aleutian Islands. Recent genetic data suggests that the spatial movement of northern rockfish, per generation, may be much smaller that the currently used BSAI management area. The evaluation of spatial management units can be conducted with a template developed by the Plan Team-SSC working group on stock structure. More generally, little is known regarding the distribution, duration, and habitat requirements of the various life-history stages of northern rockfish. Such information would improve the quality of the northern rockfish assessment.

Summary table for the Plan Team

Year	Biomass[1]	OFL	ABC	TAC	Catch
2008	212,009	9,740	8,180	8,180	3,287
2009	200,179	8,540	7,160	7,160	2,402[2]
2010	202,267	8,642	7,242		
2011	203,410	8,701	7,291		

[1] Total biomass from age-structured projection model.
[2] Catch as of October 17, 2009.