8. Assessment of the Flathead Sole Stock in the Gulf of Alaska (Executive Summary)

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8.1 Introduction

In 2006, flathead sole was moved to a biennial stock assessment schedule to coincide with new survey data. A discussion at the September 2006 Groundfish Plan Team meetings concluded the following two important points for updating information in off-year assessments:

1) Anytime the assessment model is re-run and presented in the SAFE Report, a full assessment document **must** be produced.
2) The single-species projection model **may** be re-run using new catch data without re-running the assessment model.

Thus, on alternate (even) years, parameter values from the previous year's assessment model and total catch information for the current and previous year are used to make projections via the single species projection model for the following two years and to recommend ABC levels for those years.

Because no new survey data was available this year, option 2 above was followed to update information for 2008. Thus, the single species projection model was run using parameter values from the accepted 2007 assessment model (Stockhausen et al. 2007[1]), together with updated catch information for 2007 and 2008, to predict stock status for flathead sole in 2009 and 2010 and to make ABC recommendations for those years.

8.2 Updated catch and projection

Flathead sole is in Tier 3a. New information available to update the projection model consists of the total catch for 2007 (3,159 t) and the current catch for 2008 (2,825 as of Sept. 20, 2008). To run the projection model to predict ABC's for 2009 and 2010, estimates are required for the total catches in 2008 and 2009. Because it is likely that more flathead sole will be caught this year, and because the 2007 catch was the largest over the previous 5 years, the 2007 catch was used as a "best" estimate of the total catches taken in 2008 and 2009. Based on the updated projection model results, the recommended ABC's for 2009 and 2010 are 46,464 t and 47,652 t, respectively. The new ABC recommendation for 2009 is similar to that recommended for 2009 using last year's full assessment model (46,505 t). The principal reference values are shown in the following table, with the recommended values in bold:

	Last year's projection (not updated)		This year's projection (updated)	
	2008	2009	**2009***	2010
$B_{40\%}$ (t)	45,329	45,329	45,329	45,329
Female Spawning Biomass (t)	106,566	109,533	109,441	111,463
F_{ABC} (maximum allowable= $F_{40\%}$)	0.380	0.380	**0.380**	0.380
F_{OFL} ($F_{35\%}$)	0.494	0.494	**0.494**	0.494
ABC (t)	44,735	46,505	**46,464**	**47,652**
OFL(t)	55,787	57,962	**57,911**	**59,349**

[1]Stockhausen, W., M. Wilkins and M. Martin. 2007. 8. Gulf of Alaska Flathead Sole Stock Assessment. In: Stock assessment and fishery evaluation report for the groundfish resources of the Gulf of Alaska. North Pacific Fishery Management Council, PO Box 103136, Anchorage, AK. http://www.afsc.noaa.gov/REFM/docs/2007/GOAflathead.pdf.

8.3 Area Apportionment

The recommended area apportionment percentages are identical to last year because there is no new survey information. The following table shows the recommended area apportionments for 2009 and 2010:

	Western	Central	West Yakutat	Southeast Outside	Total
Area Apportionment	28.0%	63.0%	7.6%	1.4%	100.0%
2009 ABC (t)	13,010	29,273	3,531	650	46,464
2010 ABC (t)	13,342	30,021	3,622	667	47,652

8.4 Research Priorities

The assessment model is being revised to incorporate length-based approaches to fishery and survey selectivity, as well as alternative forms for the selectivity function in addition to the standard logistic function. The utility of potential environmental predictors of recruitment or catchability (e.g., temperature) are also being investigated.

8.5 Summaries for Plan Team

Species	Year	Biomass[1]	OFL[2]	ABC[2]	TAC[2]	Catch[3]
Flathead sole	2007	322,000	48,658	39,110	9,148	3,159
	2008	324,197	55,787	44,735	11,054	2,825
	2009	323,937	57,911	46,464		
	2010	322,714	59,349	47,652		

[1]Age 3+ biomass from the full assessment model (2007-2008) or the updated projection model (2009-2010). [2]As published in the Federal Register or as recommended based on the projection model (2009, 2010). [3]As of Sept. 20, 2008.

Stock/ Assemblage	Area	2008 OFL[1]	ABC[1]	TAC[1]	Catch[2]	2009 OFL	ABC	2010 OFL	ABC
Flathead sole	W	--	12,507	2,000	264	--	13,010	--	13,342
	C	--	28,174	5,000	2,561	--	29,273	--	30,021
	WYAK	--	3,420	3,420	0	--	3,531	--	3,622
	SEO	--	634	634	0	--	650	--	667
	Total	55,787	44,735	11,054	2,825	57,911	46,464	59,349	47,652

[1]As published in the Federal Register. [2]As of Sept. 20, 2008.

Values published in the Federal Register are available through the following links:
2007: http://www.fakr.noaa.gov/sustainablefisheries/specs07_08/goatable1.pdf
2008: http://www.fakr.noaa.gov/sustainablefisheries/specs08_09/goatable1.pdf
2009: http://www.fakr.noaa.gov/sustainablefisheries/specs08_09/goatable2.pdf