7. Assessment of the Arrowtooth flounder Stock in the Gulf of Alaska (Executive Summary)

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6.1 Introduction

In 2006, the arrowtooth flounder (*Atheresthes stomias*) stock was moved to a biennial stock assessment schedule to coincide with the expected receipt of 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, together with updated catch information for 2007 and 2008, to predict stock status for arrowtooth flounder in 2009 and 2010 and to make ABC recommendations for those years. The 2007 assessment model is documented in Turnock et al. 2007[1].

6.2 Updated catch and projection

New information available to update the projection model consists of the updated total catch for 2007 (25,364 t) and the current catch for 2008 (27,938 t as of October 11, 2008). The recommended ABC and OFL in last year's assessment were based on Tier 3, using F40% and F35%, respectively. The projection model was run to generate estimates of biomass for 2008-2010. The 2009 catch was estimated as the average catch over the last 3 three years (2006 to 2008, 26,985 t) for use in the projections. The recommended ABC's for 2009 and 2010 are 221,512 t and 258,397 t, respectively. The new ABC recommendation for 2009 is slightly lower than that recommended for 2009 using last year's full assessment model (269,237 t). The principal reference values are shown in the following table, with the recommended values in bold for 2009:

	Last year's projection-not updated		This year's projection-updated	
	2008	2009	**2009***	2010
Female spawning biomass (t)	1,275,310	1,306,870	**1,295,050**	1,293,640
F_{ABC} (F40%)	0.186	0.186	**0.186**	0.186
F_{OFL} (F35%)	0.222	0.222	**0.222**	0.222
ABC (t)	226,470	228,405	**221,512**	219,273
OFL (t)	266,914	269,237	**261,022**	258,397

[1]Turnock, B., and T. Wilderbuer. 2007. 7. Gulf of Alaska Arrowtooth Flounder 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/GOAatf.pdf

6.3 Area Apportionment

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

Area:	Western	Central	West Yakutat	Southeast Outside	Total
Apportionment (%)	13.61%	74.15%	6.73%	5.51%	100.0%
2009 Area ABC (t)	30,148	164,251	14,908	12,205	221,512
2010 Area ABC (t)	29,843	162,591	14,757	12,082	219,273

6.4 Research Priorities

Analysis of the herding and escapement studies for arrowtooth, would result in improved estimates of survey selectivities and catchability. Otoliths have been aged through the 2005 survey; continued aging will allow monitoring of growth trends.

6.5 Summaries for Plan Team

Species	Year	FSB[1]	OFL	ABC	TAC	Catch[2]
Arrowtooth Flounder	2006	1,111,220	207,700	177,800	38,000	27,653
	2007	1,208,120	216,500	184,008	43,000	25,364
	2008	1,275,310	266,914	226,470	43,000	27,938
	2009	1,295,050	261,022	221,512	-	-
	2010	1,293,640	258,397	219,273	-	-

[1]Female spawning biomass from the age-structured model (2007) or projection model (2008-2010). [2]As of October 11, 2008. Catch in 2009 was estimated as the average of 2006-8 catch (26,985 t) for projections.

Stock/ Assemblage	Area	2008 OFL[1]	ABC[1]	TAC[1]	Catch[2]	2009 OFL	ABC	2010 OFL	ABC
Arrowtooth Flounder	W	--	30,817	8,000	3,036	--	30,148	--	29,843
	C	--	167,936	30,000	24,779	--	164,251	--	162,591
	WYAK	--	15,245	2,500	33	--	14,908	--	14,757
	SEO	--	12,472	2,500	90	--	12,205	--	12,082
	Total	266,914	226,470	43,000	27,938	261,022	221,512	258,397	219,273

[1]As published in the Federal Register. [2]As of October 11, 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