Appendix 1A
Executive Summary
2007 GOA Sculpins

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Executive Summary

The following appendix summarizes the information currently known about sculpins (Families: Cottidae, Hemitripteridae, Psychrolutdiae, and Rhamphocottidae) in the Gulf of Alaska (GOA). It should be noted that the catch of sculpins has increased about 54% from last year's catch. This is not a concern to the authors due to this amount being lower than the historical maximum catch of 940 mt in 2000.

Summary of Major Changes

1. Sculpin catch within the GOA fisheries is updated for with 2006 and 2007 data as of October 6th, 2007 (Table 1).
2. Biomass estimates from the GOA are presented for selected sculpin species from triennial and biennial Alaska Fisheries Science Center (AFSC) bottom trawl surveys (Table 2).

ABC and OFL recommendations for 2008-2009

The sculpin assemblage represents 40 species of which 16-20 regularly occur in the AFSC surveys. Because their life history is so different from sharks, squid and octopi, we recommend a sculpin level ABC and OFL. There is a reliable biomass time series for the sculpin complex, and in recent years, reliable estimates of biomass for each species within the complex. We feel that our conservative estimate of M is the best available for managing this species complex until further information is available.

Currently, we recommend a Tier 5 approach be applied to the sculpin complex within the GOA as long as the catch remains incidental and no target fishery develops. We further recommend using an average of the 6 most recent survey biomass estimates to capture recent biomass trends. Applying the M estimate of 0.19 to the average survey biomass estimates, we calculate an ABC of 0.75 * 0.19 * (30,836) = 4,394 mt for the GOA. Using the same method to calculate OFL, 0.19 * (30,836) = 5,859 mt for the GOA. Tier 6 options for sculpin management are not recommended.

Region	M	Exploitable biomass (mt)	F_{ABC}	ABC (mt)	F_{OFL}	OFL (mt)
GOA	0.19	30,836	0.1425	4,394	0.19	5,859

Table 1. GOA total catch of other species (including skates) and sculpin complex 1997-2007*. Source: Catch Accounting system, AKRO.

Year	Other species total catch	Sculpin complex total catch	Percent of other species catch
1997	4,823	898	19%
1998	7,422	526	7%
1999	3,788	544	14%
2000	5,455	940	17%
2001	3,383	587	17%
2002	8,162	919	11%
2003	5,132	632	12%
2004	3,399	697	21%
2005*	2,313	612	26%
2006	3,526	573	16%
2007**	2,463	880	36%

*Skates removed from Other species complex
**2007 data as of October 6th 2007

Table 2. Sculpin complex biomass (mt) from the 1996-2007 GOA trawl survey.

Species	**Common Name**	**Biomass**						**CV**
		1996	**1999**	**2001**	**2003**	**2005**	**2007**	**2007**
Blepsias bilobus	Crested sculpin	-	-	6	-	-	-	-
Dasycottus setiger	Spinyhead sculpin	278	271	690	608	463	422	0.15
Enophrys diceraus	Antlered sculpin	-	-	1	-	-	-	-
Gymnocanthus galeatus	Armorhead sculpin	13	15	60	78	28	58	0.28
Gymnocanthus pistilliger	Threaded sculpin	3	-	21	<1	2	-	-
Hemilepidotus jordani	Yellow Irish lord	17,804	20,255	20,945	12,064	15,952	15,720	0.15
Hemilepidotus papilio	Butterfly sculpin	<1	1	-	-	-	-	-
Hemitripterus bolini	Bigmouth sculpin	4,246	3,983	3,471	5,767	5,543	3,126	0.22
Icelus spiniger	Thorny sculpin	1	-	1	<1	<1	<1	0.98
Leptocottus armatus	Pacific staghorn sculpin	-	1	2	-	14	-	-
Malacocottus zonurus	Darkfin sculpin	477	371	335	607	944	790	0.19
Myoxocephalus jaok	Plain sculpin	1,015	1,692	932	1,220	3,912	4,456	0.50
Myoxocephalus polyacanthocephalus	Great sculpin	7,326	3,913	3,540	6,037	6,574	7,734	0.19
Myoxocephalus verrucosus	Warty sculpin	-	-	339	-	-	33	1.00
Triglops forficata	Scissortail sculpin	60	47	62	94	23	30	0.27
Triglops scepticus	Spectacled sculpin	90	233	12	40	105	96	0.58
	Total	31,313	30,782	30,417	26,515	33,560	32,468	0.11