

4. Gulf of Alaska Shallow water Flatfish (Executive Summary)

Benjamin J. Turnock, William T. Stockhausen, Thomas K. Wilderbuer and Mark E. Wilkins
NMFS Alaska Fisheries Science Center
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4.1 Introduction

Assessment for the shallow water flatfish complex has been moved to a biennial schedule to coincide with the expected receipt of new survey data. On alternate (even) years we will present an executive summary with last year's key assessment parameters and projections for this year. 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.

The shallow water complex is comprised of northern rock sole, southern rock sole, yellowfin sole, butter sole, starry flounder, English sole, sand sole and Alaska plaice. Northern and southern rock sole are in Tier 3a while the other species in the complex are in Tier 5. For further information regarding the shallow water flatfish complex, please see last year's full stock assessment (Turnock et al. 2011, <http://www.afsc.noaa.gov/refm/docs/2011/GOAshallowflat.pdf>).

4.2 Updated catch

The new information available concerning the shallow water flatfish complex are the updated 2011 catch of 3,993 t and the partial 2012 catch of 2,261 t through October 6, 2012 as well as the new output from the northern and southern rock sole assessment (A'mar et al. 2012). The 2011 and 2012 catches by species are presented in the following table:

Species	2011 Catch	2012 Catch ¹
Shallow-water flatfish		
Northern rock sole	1,029	958
Southern rock sole	2,066	963
Yellowfin sole	1	0
Butter sole	769	183
Starry flounder	62	68
English sole	52	85
Sand sole	0	0
Alaska plaice	14	3
Total shallow-water	3,993	2,261

¹Through Oct. 6, 2012.

4.3 Area Apportionment

The recommended apportionment percentages are identical to last year using the 2011 survey biomass, because there is no new survey information.

4.4 Research Priorities

More aging data is needed to improve estimates of natural mortality for Tier 5 species.

4.5 Summaries for Plan Team

Species/Assemblage	Year	Biomass	OFL ¹	ABC ¹	TAC ¹	Catch ²
Shallow water flatfish	2007	365,766	62,418	51,450	19,972	8,788
	2008	436,591	74,364	60,989	22,256	7,390
	2009	436,591	74,364	60,989	22,256	8,483
	2010	398,961	67,768	56,242	20,062	5,534
	2011	398,961	67,768	56,242	20,062	3,974
	2012	329,217	55,943	45,802	37,029	2,261
	2013	433,869	55,680	45,484		
	2014	408,469	51,580	42,084		

The recommended 2013 and 2014 shallow-water flatfish ABC and OFL levels with tier 3a estimates for northern and southern rock sole (see A'mar et al 2012):

Stock/ Assemblage	Area	2012 OFL ¹	2012 ABC ¹	2012 TAC ¹	2012 Catch ²	2013 OFL	2013 ABC	2014 OFL	2014 ABC
Shallow water flatfish	W	--	19,625	13,250	148	--	19,488	--	18,032
	C	--	20,309	18,000	2,113	--	20,168	--	18,660
	WYAK	--	4,679	4,307	0	--	4,647	--	4,299
	SEO	--	1,189	1,472	0	--	1,180	--	1,092
	Total		55,943	45,802	37,029	2,261	55,680	45,484	51,580

¹As published in the Federal Register. ²As of Oct. 6, 2012.

Note: Tables of ABCs, OFLs, and TACs published in the Federal Register are available for:

2011: http://www.fakr.noaa.gov/sustainablefisheries/specs11_12/goatable1.pdf

2012: http://www.fakr.noaa.gov/sustainablefisheries/specs11_12/goatable1.pdf

The summary table is:

Quantity/Status	Last year		This year	
	2012	2013	2013	2014
<i>M</i> (natural mortality)	0.2 ¹	0.2 ¹	0.2 ¹	0.2 ¹
Specified/recommended Tier	4 and 5	4 and 5	3a and 5	3a and 5
Biomass (t)	329,217	329,217	433,869	408,469
F_{OFL} (F=M)	*	*	*	*
$maxF_{ABC}$ (maximum allowable = $0.75x F_{OFL}$)	*	*	*	*
Specified/recommended F_{ABC}	*	*	*	*
Specified/recommended OFL (t)	55,943	55,943	55,680	51,580
Specified/recommended ABC (t)	45,802	45,802	45,484	42,084
Status	As determined <i>last</i> year		As determined <i>this</i> year	
	2010	2011	2011	2012
Is the stock being subjected to overfishing?	No	No	No	N/A
(for Tier 5 stocks, data are not available to determine whether the stock is in an overfished condition)				

* See following table and A'mar et al 2012 for values by species

¹ Northern rock sole male $M=0.275$, southern rock sole male $M=0.267$, all other $M=0.2$.

The recommended 2012 and 2013 shallow-water flatfish ABC and OFL levels by species including values for Tier 3a for northern and southern rock sole (See A'mar et al 2012) are:

Species					Previous Assessment				Current Assessment			
					2012		2013		2013		2014	
Shallow-water flatfish	Tier	FABC	FOFL	Biomass	ABC	OFL	ABC	OFL	ABC	OFL	ABC	OFL
Northern rock sole	3a	0.152	0.180	*	12,230	14,411	12,230	14,411	9,700	11,400	8,500	9,900
Southern rock sole	3a	0.193	0.230	*	16,388	19,152	16,388	19,152	18,600	21,900	16,400	19,300
Yellowfin sole	5	0.15	0.2	46,576	5,895	7,678	5,895	7,678	5,895	7,678	5,895	7,678
Butter sole	5	0.15	0.2	19,695	2,493	3,247	2,493	3,247	2,493	3,246	2,493	3,246
Starry flounder	5	0.15	0.2	39,757	5,032	6,554	5,032	6,554	5,032	6,554	5,032	6,554
English sole	5	0.15	0.2	16,720	2,116	2,756	2,116	2,756	2,116	2,756	2,116	2,756
Sand sole	5	0.15	0.2	755	96	124	96	124	96	124	96	124
Alaska plaice	5	0.15	0.2	12,266	1,552	2,022	1,552	2,022	1,552	2,022	1,552	2,022
Total shallow-water					45,802	55,943	45,802	55,943	45,484	55,680	42,084	51,580

* See A'mar et al. 2012

4.6 Literature Cited

A'mar, Z.T., M. Martin, W. Palsson. 2012. Assessment of the northern and southern rock sole (*Lepidopsetta polyxystra and bilineata*) stocks in the Gulf of Alaska for 2013. In: Stock Assessment and Fishery Evaluation Report for Groundfish Resources in the Gulf of Alaska. North Pacific Fishery Management Council, Anchorage, AK, USA.