AGENDA C-1(c)
DECEMBER 2012

MEMORANDUM

TO:	Council, AP, and SSC
FROM:	Chris Oliver Executive Director

ESTIMATED TIME
6 HOURS
(All C-1 items)

DATE: November 20, 2012

SUBJECT: BSAI Groundfish SAFE Report and 2013/2014 harvest specifications

ACTION REQUIRED

(c) Approve the Bering Sea/Aleutian Islands Stock Assessment and Fishery Evaluation Report and final BSAI groundfish harvest specifications for 2013 and 2014:

1. Overfishing Level, Acceptable Biological Catch, and Total Allowable Catch for all stocks.
2. Prohibited Species Catch (PSC) limits and seasonal apportionments of Pacific halibut, red king crab, Tanner crab, opilio crab, and herring to target fishery categories.
3. Pacific halibut discard mortality rates for 2013 – 2015.

BACKGROUND

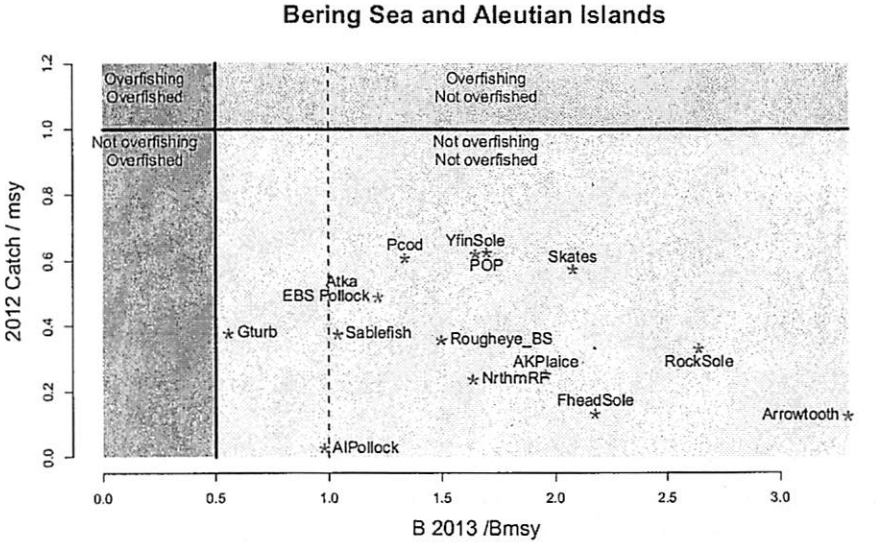
At this meeting, the Council will adopt the Bering Sea/Aleutian Islands (BSAI) Groundfish Stock Assessment and Fishery Evaluation (SAFE) Report and final recommendations on groundfish harvest specifications and PSC limits to manage the 2013 and 2014 BSAI groundfish fisheries. Upon publication in the *Federal Register*, the 2013/2014 final harvest specifications will replace harvest specifications adopted last year for the start of the 2013 fisheries.

BSAI SAFE Report The BSAI Groundfish Plan Team met in Seattle on November 13-16, 2012 to prepare the BSAI Groundfish SAFE report. The SAFE report forms the basis for BSAI groundfish harvest specifications for the next two fishing years. The introduction to the BSAI SAFE report was mailed to the Council and Advisory Panel on November 20, 2012; it summarizes the Plan Team recommendations for each stock/complex. The full report, including the Economic SAFE report and Ecosystems Considerations chapter, was distributed to the SSC and is available on the Council website. The Council will review and adopt the full report at this meeting.

The Plan Team's recommendations for final harvest specifications for 2013 and 2014 are attached as Item C-1(c)(1). In October, the Council adopted proposed harvest specifications of OFL and ABC that were based on last year's stock assessments (Item C-1(c)(2)). In this SAFE report, the Plan Team has revised those projections due to the development of new models; collection of new catch, survey, age composition, or size composition data; or use of new methodology for recommending OFLs and ABCs. The November 2012 Joint Team and BSAI Plan Team minutes are attached as Item C-1(c)(3). The SSC and AP recommendations will be provided to the Council during the meeting.

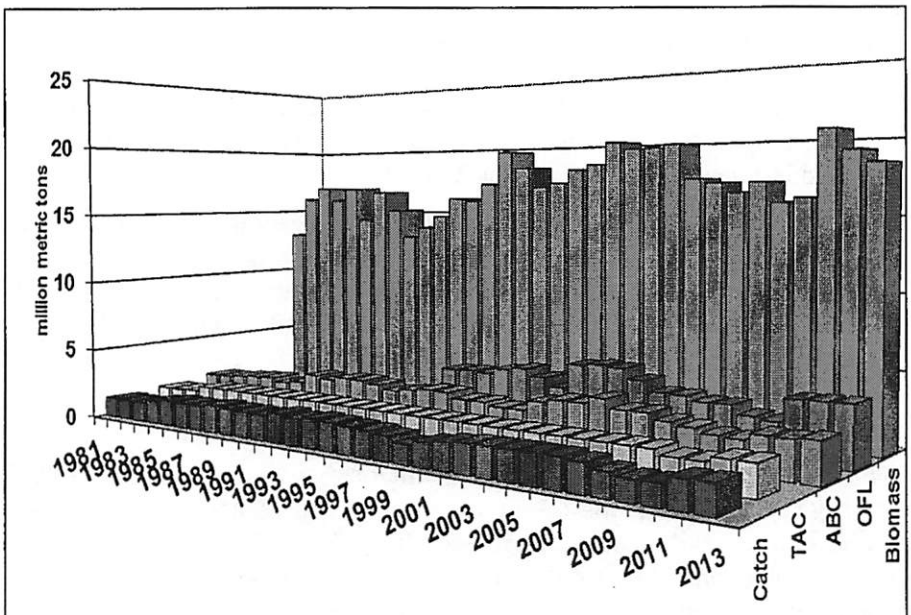
OFLs, ABCs, TACs, and Apportionments The sum of the recommended ABCs for 2013 and 2014 are 2.64 million t and 2.70 million t, respectively. These compare with the sums of the 2012 ABCs (2.51 million t) and 2011 ABCs (2.53 million t). BSAI catches through November 3, 2012 totaled 1,811,908 t (91 percent of total TACs).

Overall, the status of the stocks continues to appear favorable. Nearly all stocks are above B_{MSY} or the B_{MSY} proxy of $B_{35\%}$. The abundances of EBS pollock; Pacific cod; sablefish; all rockfishes managed under Tier 3; and all flatfishes managed under Tiers 1 or 3 are projected to be above the B_{MSY} or the B_{MSY} proxy of $B_{35\%}$ in 2013. The abundance of two stocks is projected to be below $B_{35\%}$ for 2013: AI pollock by about 2 percent, and Greenland turbot by about 44 percent. The abundance of two stocks is projected to be below $B_{40\%}$ for 2013: Sablefish, by about 9 percent and Atka mackerel, by about 7 percent.



Summary status of age-structured BSAI species as measured by 2012 catch level relative to OFL (vertical axis) and projected 2013 spawning biomass relative to B_{MSY}.

The sum of the biomasses for 2013 (18.4 million t) is 5 percent less than total biomasses reported for 2012 (19.3 million t), following a six percent decline in total biomasses as reported in 2012 and 2011 (20.6 million t). Pollock and Pacific cod biomasses were fairly flat at increased levels, after a period of decline. Pollock biomass was 8.34 million t for 2012, compared with 8.14 million t for 2013. Pacific cod biomass was 1.62 million t for 2012, compared with 1.51 million t for 2013. Flatfish are generally increasing. Due to recent high recruitments however biomass of Greenland turbot is increasing from 69,000 t in 2012 to 81,000 t in 2013, but is still much lower than its historic high of 494,000 t in 1972. Biomass of Atka mackerel for 2013 is estimated at 289,000 t, down 29 percent from 2012.



BSAI Groundfish Biomass, Overfishing Level, Acceptable Biological Catch, and Total Allowable Catch, 1981-2013, and Catch, 1981-2013.

Adopt prohibited species catch limits for Pacific halibut, crab, and herring

Since 2008, the head and gut trawl catcher/processor sector, which targets flatfish, Pacific cod, Pacific ocean perch, and Atka mackerel, have been allocated groundfish TACs and PSC limits and members of the "Amendment 80" sector have been allowed to join cooperatives to manage their allocations. Regulations require that crab and halibut trawl PSC limits be apportioned between the BSAI trawl limited access and Amendment 80 sectors after subtraction of prohibited species quota (PSQ) reserves. Crab and halibut trawl PSC limits assigned to the Amendment 80 sector is then sub-allocated to Amendment 80 cooperatives as PSC cooperative quota (CQ). PSC CQ assigned to Amendment 80 cooperative(s) is not allocated to specific fishery categories. Regulations require the apportionment of each trawl PSC limit not assigned to an Amendment 80 cooperative be assigned into PSC bycatch allowances for seven specified fishery categories.

Categories used for prohibited species catch limits

Trawl fisheries

1. Greenland turbot, arrowtooth flounder and sablefish
2. rock sole, flathead sole, and "other flatfish"
3. yellowfin sole
4. rockfish
5. Pacific cod
6. pollock, Atka mackerel and "other species"

Non-trawl fisheries

1. Pacific cod
2. other non-trawl (longline sablefish and rockfish, and jig gear)
3. groundfish pot (exempt in recent years)

Proposed PSC limits and their apportionments, as adopted in October 2012 for proposed harvest specifications for 2013 and 2014, are presented under Item C-1(c)(4); crab and herring PSC limits were rolled over from 2012. New biomass information is now available to revise those limits for the next two years. The Council may change PSC limits assigned to the 2013 and 2014 fishery category allocations for the BSAI trawl limited access sector.

Halibut Trawl Fisheries: The halibut PSC limit are apportioned to the trawl fishery categories as shown in the box at right. The overall PSC limit is fixed under Amendment 80 at 3,526 t, as of 2012. Additional reductions of 5 percent would occur if PSC limit amounts are transferred from the trawl limited access sector to the Amendment 80 trawl sector during a fishing year.

Halibut Trawl PSC Limits	
3,526 t	**Total Trawl Halibut Apportionment**
2,325 t	Amendment 80
875 t	Trawl Limited Access
326 t	CDQ

Halibut Fixed Gear Fisheries: A 900 t non-trawl gear halibut mortality limit can be apportioned to the fishery categories listed (see Table 10). Beginning in 2008, Amendment 85 divided the halibut PSC limit for the hook-and-line Pacific cod fishery between the hook-and-line CP and CV sectors (CVs ≥60 ft (18.3 m) LOA and CVs <60 ft (18.3 m) LOA combined). The Council can provide varying amounts of halibut PSC by season to each sector, tailoring PSC limits to suit the needs and timing of each sector.

Crab: Prescribed bottom trawl fisheries in specific areas are closed when PSC limits of Tanner crab *C. bairdi*, snow crab *C. opilio*, and red king crab are reached. A stair step procedure for determining PSC limits for red king crab taken in Zone 1 trawl fisheries is based on the abundance of mature Bristol Bay red king crab. Based on the 2012 estimate of effective spawning biomass of 44.156 million pounds, the PSC limit for 2013 remains unchanged at 97,000 red king crabs. Up to 25% of the red king crab PSC limit can be used in the 56° - 56°10'N strip of the Red King Crab Savings Area. The red king crab PSC limit has generally been allocated among the pollock/Atka mackerel/other species, Pacific cod, rock sole, and yellowfin sole fisheries.

PSC limits for *C. bairdi* in Zones 1 and 2 are based on a percentage of the total abundance minus an additional reduction implemented in 1999 of *C. bairdi* crab as indicated by the NMFS trawl survey. Based on the 2012 abundance (711 million crabs), the PSC limit in 2013 for *C. bairdi* is unchanged from last year: 980,000 crabs in Zone 1 and 2,970,000 crabs in Zone 2.

Snow crab (*C. opilio*) PSC limits are based on total abundance of *opilio* crab as indicated by the NMFS standard trawl survey. The limit is set at 0.1133% of the total snow crab survey abundance index, with a minimum limit of 4.5 million snow crabs and a maximum limit of 13 million snow crabs; the limit is further reduced by 150,000 crabs. The 2012 survey estimate of 9,401,000,000 crabs result in a 2013 PSC limit of 10,501,333 crabs. The 2012 PSC limit was 7,029,520 crabs, based on a 2011 survey estimate of 6,336,734,734 crabs. Snow crab taken within the "*C. opilio* Bycatch Limitation Zone" accrues toward the PSC limits established for the trawl sectors.

PSC limits for red king crab and *C. bairdi* Tanner crab

Species	Zone	Crab Abundance	PSC Limit
Red King Crab	Zone 1	≤ 8.4 million mature crab threshold or 14.5 million lb effective spawning biomass (ESB)	32,000
		> threshold, but < 55 million lb ESB	97,000
		≥ 55 million lb ESB	197,000
Tanner Crab	Zone 1	0-150 million crab	0.5% total abundance - 20,000
		150-270 million crab	730,000
		270-400 million crab	830,000
		> 400 million crab	980,000
Tanner Crab	Zone 2	0-175 million crab	1.2% total abundance - 30,000
		175-290 million crab	2,070,000
		290-400 million crab	2,520,000
		> 400 million crab	2,970,000

Herring: In 1991, an overall herring PSC limit of 1 percent of the EBS biomass of herring was implemented. This limit is apportioned to the seven PSC fishery categories. The ADF&G estimate of herring spawning biomass for the eastern Bering Sea in 2011 was 209,419 t, which is 8 percent lower than the 2010 estimate of 227,269 t. The corresponding herring PSC limit for 2012 at 1 percent of this amount is 2,094 t. ADF&G will provide the 2012 estimate prior to the meeting (will be handed out at meeting as Item C-1(c)(5)).

Seasonal apportionment of PSC limits The Council may also seasonally apportion the PSC limits. Regulations require that seasonal apportionments of bycatch allowances be based on information listed in the adjacent box.

Factors to be considered for seasonal apportionments of bycatch allowances.

1. Seasonal distribution of prohibited species;
2. Seasonal distribution of target groundfish species relative to prohibited species distribution;
3. Expected prohibited species bycatch needs on a seasonal basis relevant to change in prohibited species biomass and expected catches of target groundfish species;
4. Expected variations in bycatch rates throughout the fishing year;
5. Expected changes in directed groundfish fishing seasons;
6. Expected start of fishing efforts; and
7. Economic effects of establishing seasonal prohibited species apportionments on segments of the target groundfish industry.

Item C-1(c)(6) provides PSC use as of November 3, 2012 for trawl and non-trawl gear.

Adopt Pacific Halibut Discard Mortality Rates Halibut discard mortality rates (DMRs) are set by the Council on a 3-year cycle based on recommendations by International Pacific Halibut Commission staff and the Groundfish Plan Teams. The recommended rates are based on an average of annual DMRs from the previous 10 years. Current rates will expire at the end of 2012; new rates are needed for 2013 - 2015. This procedure will be repeated in 2015 for 2016-2018. The teams and SSC endorsed IPHC staff recommendations for DMRs for the BSAI and GOA groundfish fisheries for 2013 - 2015. The Council adopted the recommended rates for the purpose of proposed specifications (based on additional information provided in Item C-1(c)(7) and in the full IPHC report that is appended to the SAFE Reports). The Council stated its intent to review the rates again at this meeting.

Table 8. Recommended Pacific halibut discard mortality rates (DMRs) for 2013-2015 CDQ and non-CDQ groundfish fisheries off Alaska.

I. Non-CDQ

Bering Sea/Aleutians			Gulf of Alaska		
Gear/Target	Used in 2010-2012	2013-2015 Recommendation	Gear/Target	Used in 2010-2012	2013-2015 Recommendation
Trawl			*Trawl*		
Atka mack	76	77	Bottom poll	59	60
Bottom poll	73	77	Pacific cod	62	62
Pacific cod	71	71	Dpwtr flats	48	43
Other Flats	72	71	Shallwtr flats	71	67
Rockfish	81	79	Rockfish	67	66
Flathead sole	74	73	Flathead sole	65	65
Midwtr poll	89	88	Midwtr poll	76	71
Rock sole	82	85	Sablefish	65	71
Sablefish	75	75	Arr. fldr	72	73
Turbot	67	64	Rex sole	64	69
Arr. fldr	76	76			
YF sole	81	83			
Pot			*Pot*		
Pacific cod	8	8	Pacific cod	17	17
Longline			*Longline*		
Pacific cod	10	9	Pacific cod	12	11
Rockfish	9	4	Rockfish	9	9
Turbot	11	13			

II. Bering Sea/Aleutians CDQ

Gear/Target	Used in 2010-2012	2013-2015 Recommendation
Trawl		
Atka mackerel	85	86
Bottom pollock	85	83
Pacific cod	90	90
Rockfish	84	80
Flathead sole	84	79
Midwtr pollock	90	90
Rock sole	87	88
Turbot	88	89
Yellowfin sole	85	86
Pot		
Sablefish	32	34
Longline		
Pacific cod	10	10
Turbot	4	4

Table 1. BSAI Groundfish Plan Team Recommendations for Final OFLs and ABCs (mt) for 2013 and 2014.

Species	Area	2012 OFL	2012 ABC	2012 TAC	2012 Catch	2013 OFL	2013 ABC	2014 OFL	2014 ABC
Pollock	EBS	2,474,000	1,220,000	1,186,000	1,202,560	*2,550,000*	*1,375,000*	*2,730,000*	*1,430,000*
	AI	39,600	32,500	19,000	972	45,600	37,300	48,600	39,800
	Bogoslof	22,000	16,500	500	79	13,400	10,100	13,400	10,100
Pacific cod	BSAI	389,000	314,000	275,000	223,939	359,000	307,000	379,000	323,000
Sablefish	BS	2,640	2,230	2,230	717	1,870	1,580	1,760	1,480
	AI	2,430	2,050	2,050	1,180	2,530	2,140	2,370	2,010
Yellowfin sole	BSAI	222,000	203,000	202,000	137,716	220,000	206,000	219,000	208,000
Greenland turbot	*Total*	11,700	9,660	8,660	4,401	2,540	2,060	3,270	2,650
	EBS	n/a	7,230	6,230	2,744	n/a	1,610	n/a	2,070
	AI	n/a	2,430	2,430	1,657	n/a	450	n/a	580
Arrowtooth flounder	BSAI	181,000	150,000	25,000	22,227	*186,000*	*152,000*	*186,000*	*152,000*
Kamchatka flounder	BSAI	24,800	18,600	17,700	9,558	16,300	12,200	16,300	12,200
Northern rock sole	BSAI	231,000	208,000	87,000	75,806	241,000	214,000	229,000	204,000
Flathead sole	BSAI	84,500	70,400	34,134	11,011	81,500	67,900	80,100	66,700
Alaska plaice	BSAI	64,600	53,400	24,000	16,124	67,000	55,200	60,200	55,800
Other flatfish	BSAI	17,100	12,700	3,200	3,452	17,800	13,300	17,800	13,300
Pacific ocean perch	*Total*	35,000	24,700	24,700	21,837	41,900	35,100	39,500	33,100
	EBS	n/a	5,710	5,710	3,280	n/a	8,130	n/a	7,680
	EAI	n/a	5,620	5,620	5,519	n/a	9,790	n/a	9,240
	CAI	n/a	4,990	4,990	4,800	n/a	6,980	n/a	6,590
	WAI	n/a	8,380	8,380	8,238	n/a	10,200	n/a	9,590
Northern rockfish	BSAI	10,500	8,610	4,700	2,474	12,200	9,850	12,000	9,320
Blackspotted/Rougheye	*Total*	576	475	475	204	691	569	704	604
	EBS/EAI	n/a	231	231	74	n/a	241	n/a	254
	CAI/WAI	n/a	244	244	130	n/a	328	n/a	350
Shortraker rockfish	BSAI	524	393	393	305	493	370	493	370
Other rockfish	*Total*	1,700	1,280	1,070	924	1,540	1,160	1,540	1,160
	EBS	n/a	710	500	191	n/a	686	n/a	686
	AI	n/a	570	570	733	n/a	473	n/a	473
Atka mackerel	*Total*	98,500	81,400	50,763	47,755	57,700	50,000	56,500	48,900
	EAI/BS	n/a	38,500	38,500	37,237	n/a	16,900	n/a	16,500
	CAI	n/a	22,900	10,763	10,323	n/a	16,000	n/a	15,700
	WAI	n/a	20,000	1,500	195	n/a	17,100	n/a	16,700
Skate	BSAI	39,100	32,600	24,700	22,338	45,800	38,800	44,100	37,300
Sculpin	BSAI	58,300	43,700	5,200	5,469	56,400	42,300	56,400	42,300
Shark	BSAI	1,360	1,020	200	81	1,360	1,020	1,360	1,020
Squid	BSAI	2,620	1,970	425	678	2,620	1,970	2,620	1,970
Octopus	BSAI	3,450	2,590	900	132	3,450	2,590	3,450	2,590
Total	BSAI	3,996,000	2,511,778	2,000,000	1,811,939	4,028,694	2,639,508	4,205,467	2,697,673

Final 2012 OFLs, ABCs, and TACs from 2012-2013 final harvest specifications; total catch updated through November 3, 2012.

Italics indicate where the Team differed from the author's recommendation.

TABLE 1– PROPOSED 2013 AND 2014 OVERFISHING LEVEL (OFL), ACCEPTABLE BIOLOGICAL CATCH (ABC), TOTAL ALLOWABLE CATCH (TAC), INITIAL TAC (ITAC), AND CDQ RESERVE ALLOCATION OF GROUNDFISH IN THE BSAI[1]

[Amounts are in metric tons]

Species	Area	Proposed 2013 and 2014				
		OFL	ABC	TAC	ITAC[2]	CDQ[3,4,5]
Pollock	BS	2,840,000	1,360,000	1,201,900	1,081,710	120,190
	AI	42,900	35,200	19,000	17,100	1,900
	Bogoslof	22,000	16,500	500	500	n/a
Pacific cod[4]	BSAI	374,000	319,000	262,900	234,770	28,130
Sablefish[5]	BS	2,610	2,200	2,200	935	303
	AI	2,400	2,020	2,020	429	341
Atka mackerel	BSAI	78,300	67,100	42,083	37,580	4,503
	EAI/BS	n/a	31,700	31,700	28,308	3,392
	CAI	n/a	18,900	8,883	7,933	950
	WAI	n/a	16,500	1,500	1,340	161
Yellowfin sole	BSAI	226,000	207,000	203,900	182,083	21,817
Rock sole[6]	BSAI	217,000	196,000	87,000	77,691	9,309
Greenland turbot	BSAI	9,700	8,030	8,030	6,826	n/a
	BS	n/a	6,010	6,010	5,109	643
	AI	n/a	2,020	2,020	1,717	n/a
Arrowtooth flounder	BSAI	186,000	152,000	25,000	21,250	2,675
Kamchatka flounder	BSAI	24,800	18,600	17,700	15,045	n/a
Flathead sole[7]	BSAI	83,100	69,200	34,134	30,482	3,652
Other flatfish[8]	BSAI	17,100	12,700	3,200	2,720	n/a
Alaska plaice	BSAI	65,000	54,000	24,000	20,400	n/a
Pacific ocean perch	BSAI	33,700	28,300	28,300	24,991	n/a
	BS	n/a	6,540	6,540	5,559	n/a
	EAI	n/a	6,440	6,440	5,751	689
	CAI	n/a	5,710	5,710	5,099	611
	WAI	n/a	9,610	9,610	8,582	1,028
Northern rockfish	BSAI	10,400	8,490	4,700	3,995	n/a
Shortraker rockfish	BSAI	524	393	393	334	n/a
Rougheye rockfish[9]	BSAI	605	499	499	424	n/a
	EBS/EAI	n/a	241	241	205	n/a
	CAI/WAI	n/a	258	258	219	n/a
Other rockfish[10]	BSAI	1,700	1,280	1,070	910	n/a
	BS	n/a	710	500	425	n/a
	AI	n/a	570	570	485	n/a
Squids	BSAI	2,620	1,970	425	361	n/a
Sharks	BSAI	1,360	1,020	200	170	n/a
Skates	BSAI	38,300	32,000	24,746	21,034	n/a
Sculpins	BSAI	58,300	43,700	5,200	4,420	n/a
Octopuses	BSAI	3,450	2,590	900	765	n/a
TOTAL		4,341,869	2,639,792	2,000,000	1,786,923	195,792

[1] These amounts apply to the entire BSAI management area unless otherwise specified. With the exception of pollock, and for the purpose of these harvest specifications, the Bering Sea (BS) subarea includes the Bogoslof District.

[2] Except for pollock, the portion of the sablefish TAC allocated to hook-and-line and pot gear, and Amendment 80 species (Atka mackerel, Aleutian Islands Pacific ocean perch, yellowfin sole, rock sole, flathead sole, and Pacific cod), 15 percent of each TAC is put into a reserve. The ITAC for these species is the remainder of the TAC after the subtraction of these reserves.

[3] Under § 679.20(a)(5)(i)(A)(1), the annual Bering Sea subarea pollock TAC, after subtracting first for the CDQ directed fishing allowance (10 percent) and second for the incidental catch allowance 3 percent), is further allocated by sector for a directed pollock fishery as follows: inshore - 50 percent; catcher/processor - 40 percent; and motherships - 10 percent. Under § 679.20(a)(5)(iii)(B)(2)(i) and (ii), the annual Aleutian Islands subarea pollock TAC, after subtracting first for the CDQ directed fishing allowance (10 percent) and second for the incidental catch allowance (1,600 mt), is allocated to the Aleut Corporation for a directed pollock fishery.

[4] The Pacific cod TAC is reduced by 3 percent from the ABC to account for the State of Alaska guideline harvest level in state waters of the Aleutian Islands subarea.

[5] For the Amendment 80 species (Atka mackerel, Aleutian Islands Pacific ocean perch, yellowfin sole, rock sole, flathead sole, and Pacific cod), 10.7 percent of the TAC is reserved for use by CDQ participants (see §§ 679.20(b)(1)(ii)(C) and 679.31). Twenty percent of the sablefish TAC allocated to hook-and-line gear or pot gear, 7.5 percent of the sablefish TAC allocated to trawl gear. The 2014 hook-and-line and pot gear portion of the sablefish ITAC and CDQ reserve will not be specified until the fall of 2013. Ten point seven percent of the TACs for Bering Sea Greenland turbot and arrowtooth flounder are reserved for use by CDQ participants (see § 679.20(b)(1)(ii)(B) and (D)). Aleutian Islands Greenland turbot, "other flatfish," Alaska plaice, Bering Sea Pacific ocean perch, Kamchatka flounder, northern rockfish, shortraker rockfish, rougheye rockfish, "other rockfish," squids, octopuses, skates, sculpins, and sharks are not allocated to the CDQ program.

[6] "Rock sole" includes Lepidopsetta polyxystra (Northern rock sole) and Lepidopsetta bilineata (Southern rock sole).

[7] "Flathead sole" includes Hippoglossoides elassodon (flathead sole) and Hippoglossoides robustus (Bering flounder).

[8] "Other flatfish" includes all flatfish species, except for halibut (a prohibited species), flathead sole, Greenland turbot, rock sole, yellowfin sole, arrowtooth flounder, Kamchatka flounder, and Alaska plaice.

[9] "Rougheye rockfish" includes Sebastes aleutianus (rougheye) and Sebastes melanostictus (blackspotted).

[10] "Other rockfish" includes all Sebastes and Sebastolobus species except for Pacific ocean perch, northern, shortraker, and rougheye rockfish.

Minutes of the Joint Plan Teams for the Groundfish Fisheries of the Gulf of Alaska (GOA) and Bering Sea Aleutian Islands (BSAI)

November 13 - 16, 2012

North Pacific Fishery Management Council
605 W 4th Avenue, Suite 306
Anchorage, AK 99501

BSAI Team		GOA Team	
Mike Sigler	AFSC (BSAI co-chair)	Jim Ianelli	AFSC REFM (GOA co-chair)
Grant Thompson	AFSC REFM (BSAI co-chair)	Diana Stram	NPFMC (GOA co-chair)
Kerim Aydin	AFSC REFM	Sandra Lowe	AFSC REFM
Lowell Fritz	AFSC NMML	Chris Lunsford	AFSC ABL
Chris Siddon	ADF&G	Jon Heifetz	AFSC ABL
Alan Haynie	AFSC REFM	Mike Dalton	AFSC REFM
Jane DiCosimo	NPFMC (Coordinator)	Kristen Green	ADF&G
Bill Clark	IPHC (retired)	Obren Davis	NMFS AKRO
Brenda Norcross	UAF	Mark Stichert	ADF&G
Mary Furuness	NMFS AKRO Juneau	Paul Spencer	AFSC REFM
David Barnard	ADF&G	Nancy Friday	AFSC NMML
Leslie Slater	USFWS	Leslie Slater	USFWS
Dana Hanselman	AFSC ABL	Craig Faunce	AFSC FMA
		Elisa Russ	ADF&G
		Ian Stewart	IPHC

Introduction

The Joint meeting of the Gulf of Alaska (GOA) and Bering Sea Aleutian Islands (BSAI) Groundfish Plan Teams convened Tuesday November 13, 2012 at 9:00 am at the Alaska Fisheries Science Center in Seattle, Washington. Introductions were made. New Plan Team members were welcomed (Ian Stewart on the GOA Plan Team and Chris Siddon on the BSAI Team). The Joint Groundfish Plan Teams adopted a revised agenda.

Council update

Total Catch Accounting: The Teams discussed progress on accounting for catches other than those taken in the groundfish fisheries ("other" catches), as required for all assessments to comply with ACL requirements. In response to questions regarding why the 2012 information is, in some cases, more complete than the 2011 information, Mary Furuness noted that NMFS-AKRO staff are still working on compiling some of the 2011 data and most of the data from before 2010.

The Teams recommend that the whole time series of each category of "other" catches be made available on the NMFS "dashboard," so that they may be listed in all SAFE chapters.

The comment period for the Advance Notice of Proposed Rulemaking on potential adjustments to the National Standard 1 Guidelines ended September 15, 2012. NMFS AFSC and Alaska Region staff will participate in national work group meetings to discuss this proposed rulemaking. The Total Catch Accounting work group will reconvene in spring 2013 to assess any new information on total catch accounting that may result from those national discussions and report to the Plan Team in September 2013. A planned NMFS discussion paper on accounting for research catches also has been rescheduled to a future Council meeting, pending further development on these issues.

Stock structure template: In response to an October 2012 Council request, the Plan Teams discussed how to improve their consideration of management and policy implications of stock structure when the Teams consider area-specific OFLs and ABCs. The Council specifically requested that the Teams take a broader look at area-specific management. The Teams have not yet directly addressed the management implications of the stock structure templates, but recognized the need to do so in order to provide recommendations to the Council once there is some indication of stock structure. Examples of stocks for which the Teams have found evidence of stock structure include BSAI and GOA blackspotted/rougheye rockfishes, BSAI northern rockfish, GOA Pacific ocean perch, and BSAI Pacific cod.

Paul Spencer clarified that the 2010 Stock Structure Working Group report recognized the management implications of considering stock structure for recommending area-specific OFLs and ABCs. To date, most evaluations of stock structure have not included an examination of management and policy implications of various spatial management options. Jane DiCosimo suggested that one way to respond to the Council request would be to expand the work group membership (which currently includes SSC members, Team members, NMFS staff, and academics) and to reconvene to evaluate management implications of area-specific OFLs and ABCs. The work group would report to the joint Teams in September 2013 to allow the Teams to have a broader discussion on management implications. Mary Furuness suggested that management measures other than area-specific OFLs or ABCs could also be used by NMFS.

The Teams discussed the history of spatial management of harvest specifications in the GOA; regional quotas were established based on historical INPFC areas and maintained due to the relative location of many Alaskan communities, rather than specific biological concerns about the stocks. The Teams acknowledged the need to revisit their September 2010 recommendation regarding stock structure, which states, "The Teams concurred with the Working Group's recommendation to divide quotas as a default measure in general but modified the recommendation as follows: allocate the Acceptable Biological Catch (ABC) across subsets

of NMFS areas within the BSAI and GOA management areas as a precautionary measure to the extent practicable."

NPFMC member John Henderschedt commented that it will be important to consider both the in-season management implications as well as broader policy implications regarding the policy trade-offs in recommendations for area-specific management decisions.

The Teams recommended no change in this harvest specification cycle and recognized the need for future considerations that are broader than current considerations. There are two alternatives for moving forward. One is to broaden the membership of the work group. Team members were requested to communicate to Paul Spencer if they wish to participate. Alternatively, the AFSC could host a workshop to develop management and policy metrics for review by the Teams and SSC. Examples of different stock structure results could be presented and discussed (for example, GOA POP, BSAI rockfish stocks). Participants could include Team members, work group members, and fishery managers/Council members. The workshop would be more inclusive than the working group and would be open to the public. Perhaps some combination of a restructured working group and a workshop would best address Council concerns.

Through the Joint Plan Team report at the December 2012 Council meeting, the Teams will request the SSC and Council for more direction on specific task(s) for the work group.

Sablefish

Dana Hanselman presented the sablefish assessment. The 2012 assessment included relative abundance and length data from the 2012 longline survey, relative abundance and length data from the 2011 longline and trawl fisheries, age data from the 2011 longline survey and 2011 longline fixed gear fishery, and updated 2011 catch and estimated 2012 catch.

Catch over time is decreasing, especially in the Bering Sea in recent years. The longline survey index decreased 21% in 2012 following an 18% increase from 2008-2011. Survey RPNs were down in all areas in comparison to 2010 and 2011 except in the southern southeast where stations were similar. The gully index did not show nearly the increase in survey RPN as the slope stations in 2011, but is very similar to the slope RPNs in 2012. The IPHC survey saw a slight uptick in 2011 but not as high as the AFSC longline survey. The 2012 Aleutian Island bottom trawl survey and 2012 Bering Sea slope survey biomass estimates decreased slightly.

Factors contributing to reduced catches from the 2012 survey are uncertain. Possible causes could be bad bait, increased depredation, or increased fishing vessel interactions; but none of these factors were evident in 2012. Other causes could be environmentally driven such as fish moving out of survey areas, temperature changes, changes in prey density, etc. Some potential mechanisms were discussed.

A preliminary look at 2012 fishery data (from observer data) indicates the fishery CPUE was also lower in 2012. It appears the average depth fished in the fishery was greater, which differs from the survey trend. Heat maps were shown comparing sablefish by depth stratum in the survey from 1990-2012. The general pattern indicates the deep stratum in recent years did not have as high CPUE (numbers) as the shallower stratum in earlier years.

For 2012 there were no model changes. Model fit to longline survey RPN is below the high 2010 and 2011 surveys and is above the 2012 survey in response. The 2011 model fit to survey ages underestimates the 2008 year class which is expected as this is when it is first being observed in the age comps. Survey length model fits are also underestimating the 2008 year class but model fits will likely improve if this year class persists. Model fits to fishery data do not fit the recent low years of fishery CPUE.

The 2012 updated assessment model shows a slight decrease in recent recruitment and a slight decrease in spawning and total biomass from previous projections. Trends in total biomass show a slow decrease since 2003. Spawning biomass had an increase due to 2010 and 2011 surveys but is now trending down due to the 2012 survey. Retrospective analysis shows spawning biomass turning downward - the retrospective pattern dissipated in last few years and is disappearing. This pattern may be a result of data and unidentified processes that have been improved in recent years.

The authors' recommended model estimates the population at 37% of unfished spawning biomass. The 2013 ABC recommendation is 16,230 t which is about a 6% decrease from last year (17,240 t). This projection is expected to decrease in the future unless we start seeing average recruitment.

An effort is underway to improve the ecosystem considerations for sablefish by establishing a feedback loop between the ecosystem chapter and specific stock assessments. A suggested mechanism is to create species-specific report cards. The suggested example for the sablefish process is to identify spatial/temporal patterns in stock data which could have an effect on the ecosystem, develop a conceptual model to explain trends in time series, and also to consider habitat availability, climate, ecosystem, anthropogenic effects. It is anticipated that a draft document with a framework for an improved ecosystem consideration section could be presented at the 2013 Sept. Plan Team meeting.

The Team noted several concerns regarding the concept of an individual assessment report card. One, the approach is a good idea as it forces people to update this section each year and helps reviewers quickly focus on changes. However, SAFE guidelines have already been established and authors are already challenged just meeting all requests by November so asking authors to develop a conceptual model is asking a lot. Focusing on ecosystem concerns at some other time of the year, or asking authors to summarize any existing conceptual models rather than developing their own conceptual models would be more reasonable.

The Teams recommend establishment of an ecosystem/assessment committee to help set up an example report card that is designed to allow the authors to fill in the blanks as an update rather than develop new conceptual models and to have in-house discussion on this topic before future presentations to the Plan Teams.

The author presented future plans for the assessment which were to: 1) leave the assessment model as is; 2) work on a modeled survey index to incorporate whale depredation in the survey abundance index; 3) incorporate work a current post-doc is doing modeling fishery data; and 4) collaborate with a new doctoral project at UAF working on a spatially-explicit model. Also, a CIE review may occur in 2014. The author indicated they would like the Teams to review the new survey index model before the CIE review so it may be presented at the September 2013 Plan Team meeting.

A member of the public asked if tagged fish played a role in stock assessment because his vessel turns them in but gets little recognition for that. The author responded that tag information helps to understand movement and ultimately stock structure for informing management decisions on ABCs etc. The author also responded to a public question that the Alaska sablefish assessment does utilize tag information when fish tagged in Alaska are caught in other areas (British Columbia, West Coast) but that the authors do not have access to fish tagged in BC. Another member of the public inquired if enough otoliths are being collected and aged. The author responded that the age compositions as a whole are robust, but, if we moved to a spatially explicit analysis and separated out management areas then we may not have large enough sample sizes.

Team members suggested that, since fishery catch rates showed some patterns by depth, something should be done to account for changes in depth and fishing distribution, such as relating selectivity to depth fished. Since the age compositions indicated a greater number of the plus group being caught, this may be an argument for availability of bigger, old fish in the fishery. Another comment suggested that the price difference by size grades would affect what the fishery is targeting and that it may explain differences seen between the survey and the fishery. There was agreement among those commenting that depredation likely does not influence how deep the fishery operates since the difference in depths is such a short distance off the continental slope. A sablefish fisherman commented that size-based prices have a big influence on what size of fish he tries to catch.

The Teams recommend that the authors investigate time-varying selectivity in relation to some of the issues seen in the retrospective pattern.

The Teams concurred with the author's recommended ABC, OFL, and apportionment. The Teams discussed the moderate shifts in the apportionment by area. From a biological perspective these are not of concern because sablefish have relatively high movement rates.

The Teams commend the authors for responding to Team requests regarding total catch accounting and retrospective analysis.

Economic SAFE Report

The Economic SAFE report was presented by Ron Felthoven and Ben Fissel of the Economics and Social Sciences Research Program (ESSRP) of the AFSC in Seattle. This year the SAFE has gone through what Ron called a "rebuild." Terry Hiatt, who was in charge of the Economic SAFE report for many years, retired and the ESSRP has worked to replicate and extend what has been done previously. Starting this year, AKFIN is generating much of the information contained in the reports while economist Dr. Ben Fissel is responsible for updating the analytical content and format of the document. Having AKFIN automate the queries to fill in much of the tables in the report should improve reproducibility and transparency of the information provided in the Economic SAFE report. The "fishery evaluation" component of the SAFE continues to grow as Ben has continued to work on a group of indices which provides insight into how fishery revenue is impacted by changing prices, quantity, and product types.

The ESSRP held meetings and conducted a survey of some SAFE users this year to elicit feedback on ways the document could be improved. While some useful feedback was received, users seem to have particular parts of the SAFE that they utilize and there have not been any suggestions for major changes. The ESSRP always welcomes feedback on how to improve the document. Mike Sigler requested that information from Fisheries of the United States be

included that will make it easy to see the share of fisheries catch and revenue that comes from Alaska fisheries.

The overall format of the Economic SAFE document is similar to past years, but it is now being automated through R, Sweave, and LaTex. Please feel free to give feedback on any formatting issues, as the new system is being refined and the formatting is being done automatically for the first time.

Ron discussed new work that is planned for coming years. Funding is being pursued to update and expand the market profiles that are currently in the document. Price forecast and time-series analyses of trends are underway. New summary information of Amendment 80 cost data and Bering Sea pollock fuel and salmon trade data will be included. AFSC is participating in a nation-wide NMFS project to calculate "catch share performance metrics." There are several tiers of metrics, with Tier 1 metrics involving relatively straightforward calculations (e.g., active vessels, season length, discards) while the Tier 2 metrics require more analysis (e.g., productivity (how efficient vessels are at catching fish), net revenues, and quota lease prices). Julie Bonney commented that quantity is important and well as ex-vessel value – how much freighting or secondary processing a product has may have a larger impact on the processing labor force and the community. Ron agreed and noted that these tiers of metrics were established at the national level and additional metrics could potentially be developed for Alaska.

One member of the public (Jon Warrenchuk of Oceana) asked whether there is any info that would help us evaluate the OY for the fishery. Ron responded no, but Alan Haynie raised the question of at what point in the Council process should economic research be included that considers MEY, which might suggest that the greatest economic benefits could potentially come from a stock level below MSY. Ron mentioned that Mike Dalton is conducting research in this area for the crab fishery where the largest amount of economic data is currently available. There was some discussion of whether or not MEY information should be in the Plan Team process in a manner similar to what's included about the ecosystem. The Plan Teams are interested in seeing more of this work in the future, but did not make a recommendation as to where information should be presented.

Ben Fissel presented information from the value indices that he has developed that are contained in the SAFE. In general, the idea is that value=price*quantity and the index permits an examination of how revenues or value change with changes in product, prices, and quantities by species, sector, and region. Indices are broken down by region (BSAI vs. GOA) and sector (at-sea vs. shoreside). Ben discussed several changes observed this year, such as an increase in value of H&G products for the at-sea sectors, including Bering Sea pollock. On another note, Mary Furuness noted that the Council is considering use of pots for sablefish in the GOA.

Retrospective Analysis

Several retrospective analyses were presented during the Plan Team meetings as requested. This paragraph lists a subset as well as a brief statement of results for each. Dana Hanselman presented a retrospective analysis for sablefish. Jim Ianelli suggested examining time-varying fishery selectivity in the sablefish assessment model, which may reduce the retrospective effect found there. Grant Thompson presented retrospective analyses for Pacific cod in the EBS and AI. In both cases, Grant found that there were substantial differences in models with reduced data. The result was that ending year biomass tended to be overestimated in the EBS and

underestimated in the AI (it should be noted that the AI model is exploratory only, as no age-structured model has yet been accepted by the SSC for AI Pacific cod). Paul Spencer presented a retrospective analysis for the Aleutian rougheye/blackspotted rockfish model. Paul also presented a retrospective analysis for the Aleutian Pacific ocean perch model. Paul found that the ending biomass typically was underestimated in models with reduced data. Paul also presented a retrospective analysis for the Aleutian northern rockfish model. Paul found that the ending biomass typically was underestimated in models reduced by 5-10 years of data but were similar in models with more years of data. Jim Ianelli presented a retrospective analysis for Bering Sea pollock. Jim found no consistent pattern in the retrospective information (no consistent pattern above or below the full data run). Steve Barbeaux presented a retrospective analysis for Greenland turbot. Steve found that ending biomass typically was overestimated. Buck Stockhausen presented a retrospective analysis for Bering Sea flathead sole. Buck found that ending biomass typically was overestimated. Sandra Lowe presented a retrospective analysis for the Atka mackerel model. Sandra found that the ending biomass typically was underestimated in models reduced by 8-10 years of data but was overestimated in models with more years of data. The retrospective working group plans to compile the retrospective analyses and will examine them for patterns. Grant suggested considering comparisons not just to the terminal run, but to other runs as well (e.g., as in the 2011 Pacific cod assessments). The retrospective working group plans to present this examination at the September Plan Team meeting.

Next Meetings

September 10 - 13, 2013 and November 18 - 22, 2013.

Attendance

Approximately 30 people attended the Joint Team Meeting, including AFSC staff and members of the public.

Minutes of the
Bering Sea Aleutian Islands Groundfish Plan Team
North Pacific Fishery Management Council
605 W 4th Avenue, Suite 306
Anchorage, AK 99501

November 13-16, 2012

Mike Sigler	AFSC (Co-chair)	Grant Thompson	AFSC REFM (Co-chair)
Jane DiCosimo	NPFMC (Coordinator)	Lowell Fritz*	AFSC NMML
Kerim Aydin	AFSC REFM	Alan Haynie	AFSC REFM
Chris Siddon	ADF&G	Dana Hanselman	AFSC ABL
Brenda Norcross*	UAF	Mary Furuness	NMFS AKRO
David Barnard	ADF&G	Bill Clark	IPHC
Leslie Slater	USFWS		

*attended part of the meeting

The BSAI Groundfish Plan Team convened on Tuesday, November 13, 2012, at 2:00 pm, following completion of the Joint Groundfish Plan Team meeting.

Ecosystem Chapter: (Aydin) Stephani Zador presented a BSAI-focused report of the EBS and Aleutian Islands report cards, including hot topics, for discussion. The overall synthesis is reported in the introduction. Commentary by individual Plan Team members and members of the public included the following:

- It was noted that it should be made abundantly clear that seabird bycatch reported is extrapolated numbers, not actual numbers. Attempts have been made in the document to ensure that this is clear.
- Guild totals are useful, but future reports should include within-guild diversity. An expanded contribution on guild structure is planned for next year.
- For the Aleutian Islands, bottom temperature is a poor measure of habitat, due to the progression from east to west throughout the survey (timing).
- Considerable discussion focused on the 2012 survey results for the Aleutian Islands. Steve Barbeaux noted that pollock tend to move with temperature, while POP remain at constant depths regardless of temperature; so colder temperatures might make pollock less catchable. This is magnified by AI topography where pollock can move off the shelf break and decrease availability to the survey. Overall, there was insufficient information on the relative population versus catchability effects of temperature in the AI survey.

Eastern Bering Sea pollock: Jim Ianelli presented the assessment. Summaries of the assessment and recommendations for harvest specifications are given in the introductory chapter of the SAFE Report. In the interest of brevity, they are not repeated here.

Other points made during Team discussion included the following (note that these do not necessarily reflect Team consensus):

1. Regarding the decision table, last year's Team request was intended to address long-term probabilities, whereas Jim has focused on short-term. Although short-term metrics

may be easier for people to understand, we are trying to come up with a policy that will stand the test of time.

2. In order for the decision table to translate into a harvest policy, it will be necessary to assign an appropriate weight to each of the performance measures, which will not be an easy task.
3. Jim recently published a paper that looked at long-term forecasts for EBS pollock, which showed higher variability in catches and increased probability of falling below *B20%* (given anticipated changes in climate).
4. The "hole" in the age structure resulting from poor recruitment in 2002-2005 is still a concern.
5. Figure 1.23 seems to show that year class strengths are becoming more evenly distributed.
6. Figure 1.40 shows a sharp drop in age structure diversity, beginning in 2009 and continuing through the present.
7. Pollock harvests in the vicinity of 1.4 million t have been experienced previously only when biomass was above average.
8. The Tier 3 maximum permissible ABC (1.45 million t, for 2013) should be viewed as a limit, even though the SSC has determined that the stock qualifies for management under Tier 1.
9. The harvest control rules for Tier 1 should be revisited, with a view toward widening the buffer between OFL and maximum permissible ABC.
10. This stock should not qualify for management under Tier 1.
11. Setting ABC lower than the maximum permissible value gives a false perception of conservatism and "being precautionary."

The Team commends the authors for responding to the Team's request for a systematic evaluation of alternative harvest rates lower than the MSY level. The Team encourages the authors to continue development of this evaluation, which could be extended to other stocks as well.

The Team also commends the authors for responding to the Team's request regarding total catch accounting.

Aleutian Islands pollock: Steve Barbeaux presented the assessment. An Aleutian Islands trawl survey was conducted in 2012. The resultant biomass estimate was the lowest ever, but follows several surveys of relatively low values. Recruitment for the population has been lower than average since 1989. The authors completed a retrospective analysis and found little consistent pattern of overestimating or underestimating biomass. The Team concurred with the authors' recommendation to manage this stock under Tier 3b.

Long-standing practice is to use arithmetic mean recruitment for computation of reference points (e.g., B40%). However this stock has a single year class that is much stronger than the rest. The median value may be a more appropriate measure of the central tendency of these recruitments.

The Team recommends that the Recruitment Working Group examine use of median recruitment (or other measure(s) of central tendency) as an alternative to mean recruitment for calculation of reference points.

The Team commends the authors for responding to Team requests regarding total catch accounting and retrospective analysis.

Bogoslof pollock: Jim Ianelli presented the assessment. A survey for Bogoslof pollock was conducted this year (2012). Small amounts of pollock are caught as incidental catch. The stock is managed under Tier 5. The Team concurred with the author's recommendations for OFL and ABC.

The Team commends the authors for responding to the Team's request to include the random effects model as a procedure for smoothing the survey biomass estimates.

BS/AI Pacific cod: Grant Thompson presented the assessment. Following suggestions from Team/SSC meetings in May/June and September/October, he had fitted four models. The base model, used for making specifications in 2011 and designated Model 1, had the following features, many of long standing:

- M = 0.34
- Length-specific commercial selectivities for all fisheries, some forced to be asymptotic, estimated for blocks of years (as before).
- Age-specific survey selectivity with annually varying left limb.
- Survey catchability fixed at the value obtained in the 2009 assessment (0.77), where it resulted in the product of catchability and selectivity at 60-81 cm equal (on average) to the desired value of 0.47 in the EBS. The desired value was based on a small number (11) of archival tags.
- A single growth schedule for all years.
- Intercept and slope of age reading bias estimated internally.
- Standard deviation of length at age estimated internally.
- Mean length at age data left out of the fit.
- All length composition data included in fit.

Model 2 was the same as Model 1 but with survey catchability estimated freely. Model 3 was the same as Model 1 except that the age composition data were not used (i.e., left out of the log likelihood). Models 2 and 3 had been requested by the Team as checks on Model 1, not as candidates for setting specifications.

Model 4 was a simplification of the "author's preferred model" from 2011. It has many fewer parameters than the other models and it differs from Model 1 in many ways, among them:

- Improved modeling of weight at length.
- Initial numbers estimated at 10 ages rather than 3.
- The full Richards growth equation used rather than the von Bertalanffy.
- Survey selectivity estimated as a function of length rather than age.
- Fisheries defined (and selectivities estimated) for each of five seasons with gears combined.
- Age composition sample size multipliers tuned iteratively to make the standard deviation of the normalized residuals equal 1.

The fits of the four models were similar in most respects, including selectivity estimates, fit to age and size compositions, agreement with survey length frequency modes, agreement with survey abundance data, and (except for Model 2) estimates of present abundance. The dissimilarities were:

- Model 2 estimates survey catchability (freely) at about 1 and therefore estimates present abundance to be much less than the other models, where catchability is fixed at 0.77. Model 2 also fits the survey abundance data much better, with RMSE=0.16 compared with around 1 for the other models.

- Model 3 fits the age composition data poorly. (It doesn't try.)
- Model 4 fits the survey size composition data much better than the others, an indication that length-based survey selectivity (rather than age-based) is appropriate.

Grant reported jitter tests in which a (presumably) global minimum was first located by an exhaustive procedure of perturbing the minimizing parameter vector at a succession of local minima until no further improvement was possible. The final parameter vector was then perturbed and the model refitted to see how often each model fit could relocate the global minimum. All of the models performed more or less poorly, relocating the global minimum only around half the time. On the other hand, all of them except Model 2 produced a present biomass estimate very close to the correct number in almost every trial. The Team had some discussion of the relevance of jitter tests to model selection and eventually concluded that they were not relevant, so long as the author followed a procedure akin to Grant's for locating the global minimum.

The Team recommends that jitter tests continue to be conducted, but statistics related to jitter tests do not need to be reported in future assessments.

Grant stated that he wanted to do more work on Model 4 before proposing its use for setting ABC and OFL. The Team agreed to that, so Model 1 was left as the sole candidate and a solid performer in most ways but not in retrospective performance. In retrospective runs, successive estimates of abundance in a given year have been steadily revised downward as each new year of data is added. At the extreme, the estimate of 2008 spawning biomass from a fit to data through 2007 was 70% higher than the estimate of 2008 spawning biomass from a fit to data through 2012. The Team had a brief discussion of the implications of poor retrospective performance for setting ABC and OFL. Clearly the retrospective differences add to the uncertainty of the biomass estimates, but for the time being we continue to believe that the best estimate of present abundance is the one from the most recent assessment. (The Joint Teams have appointed a retrospective working group that is examining the retrospective behavior of all groundfish assessments.)

Having accepted Model 1, the Team had a lengthy discussion of whether the ABC/OFL recommendation should be lower than the standard Tier 3a value. The main issue was the survey catchability coefficient and whether it was prudent to discount the high catchability (and low biomass) estimated by Model 2. The low fixed value in the other models is based on data on the vertical distribution of 11 fish obtained from archival tags, which suggests that they were above the survey trawl headrope a good deal of the time. However other studies suggest that cod (and other species) tend to dive to the bottom when a trawl approaches. Bob Lauth reported (as he had in September) that comparative tows made with the low-opening Bering Sea survey trawl and the high-opening GOA survey trawl appeared to catch about the same quantity of cod. (A full report will be available next year.) He also related that the echo sounder showed few fish in midwater during the comparative tows when cod were plentiful on the bottom, and that midwater trawling during acoustic surveys for pollock in the summer encountered few cod. On the other hand, he reported that at least one exploratory tow in shallow water, inshore of the survey area, had brought up a very large catch of cod, so it may be true that in summer a sizable proportion of the stock is near shore and unavailable to the survey. In the end the Team decided to continue to rely on the lower fixed survey catchability both for fitting the model and setting ABC. The Team therefore agreed with the authors' recommended ABC/OFL.

The Team commends the authors for responding to every single Team request, of which (as is customary for Pacific cod) there were a large number during the past year.

Aleutian Islands cod assessment progress report: The Team has recommended, and the SSC has decided, that a separate age-structured assessment should be conducted for AI cod. Grant Thompson had reported on a first version in September and gave an update at this meeting. This report was for information and feedback. The Team had no decisions to make. There will be further discussion at the May meeting.

Grant reported on four models, all fitted to length composition and survey abundance data. (There are no age data for the AI.)

- Model 1 is broadly similar to the base EBS Model 1 but simpler, with only one fishing season, one gear, constant selectivity, and survey catchability tuned so that the product of catchability and survey selectivity at 60-81 cm equals the Nichol estimate of 0.92 for the AI survey trawl.
- Model 2 has time-varying growth parameters.
- Model 3 has input sample sizes multiplied by ⅓.
- Model 4 is much different from Model 1. Key differences: survey data before 1991 were left out, survey catchability was allowed to vary among years, survey selectivity was forced to be asymptotic, fishery selectivity was not and input sample sizes of length composition data were tuned iteratively to standardize residuals.

All of the models fit the fishery and survey size compositions reasonably well, but all of the fits have some undesirable features. Models 1-3 estimate steeply peaked survey selectivities that are not credible, and they overestimate survey abundance data in the 1990s by a wide margin while estimating biomass levels far in excess of B100%. Meanwhile Model 4 estimates biomass levels near zero in the early 1980s.

Illustrative fits of Model 3 produced estimates of ABC well below recent cod catches from the AI, suggesting that catches in the Aleutians may have to be severely curtailed when a separate AI assessment is adopted.

There was a long discussion of the pros and cons of using the survey data from the 1980s, when many stations were sampled by Japanese commercial trawlers. The main concerns were lack of standardization of nets on the Japanese vessels, selection of likely productive tow locations by Japanese fishing masters, and lack of net mensuration data on all vessels.

Grant identified a number of key questions: whether the possibly high biomass in the 1990s was a spillover from the EBS, whether survey catchability should be fixed or estimated freely, whether to use the 1980s survey data or not and whether to force survey selectivity to be asymptotic or not. Various opinions were offered by individual team members. A member of the public related that the occurrence of cod in the Aleutians is spotty and transient, so the survey is a hit-or-miss affair.

The Team commends the authors for responding to the Team's request for inclusion of specific alternative models in this exploratory assessment.

Sablefish: See Joint Plan Team minutes.

Yellowfin sole: Tom Wilderbuer presented the assessment. Model 1 was used for the assessment, but all 4 models that Tom presented gave similar trends. As in past assessments,

only year classes spawned after 1977 are used for the spawner-recruit relationship, which has a large effect on implied productivity. The Plan Team reaffirmed their support for Model 1.

Greenland turbot: Steve Barbeaux presented the assessment. There were many changes from the previous year, most notably changes in the weight at age and selectivities. These had the net effect of reducing the current biomass estimate while increasing the reference points for this species. In addition to changes to the assessment model and data, there was an input error in the 2009-2011 projection models that resulted in underestimates of all biomass reference points (for example, B100% went from 53,900 t last year to 119,000 t this year). As a result of all of the above, ABC dropped from roughly 10,000 to 2,000 t. This most likely will result in no directed fishery for the upcoming season. It was also noted that the TAC has not been reached over the past number of years. Members of the public cited difficulties due to weather issues and killer whale predation (it is not worth fishing if whales are present) as reasons for this. Steve also noted that recruitment has been good over the past few years and he is confident that things will improve over the next few years. Industry representatives agreed with this, based on what they saw on the grounds in terms of the size of turbot in their catches. There was also discussion about using mean vs. median recruitment to estimate biomass reference points for this stock (and others with large, "episodic" recruitment events; see Team recommendation under AI pollock).

The Team commends the authors for responding to the Team's request regarding retrospective analysis.

Arrowtooth flounder: Ingrid Spies presented the assessment. The assessment used the same model as last year with updated biomass estimates and size composition data from the 2012 EBS shelf, EBS slope, and AI surveys, 2010 and 2011 fishery size composition data, and estimates of catch and discard from the 2012 fishery. Updates to female maturity made using a different data set (Stark) resulted in significantly lower values of female spawning biomass. The author asked for comments from the Team for two issues: incorporating the Stark female maturity data in the model, and estimating M for males in the model while holding M for females fixed. The Plan Team suggested the author investigate ways of combining the new data with the maturity data used previously and present the results at the 2013 September meeting. If there is a notable change to the maturity schedule the assessment should be updated at the author's discretion. The Team also expressed concern about the author's method for estimating the parameters of the maturity schedule, which involved averaging parameter estimates obtained from two different collections: Because the maturity curve is nonlinear, it is not clear that averaging parameter values will result in a good estimate.

There was discussion of methods for selection of M. Specifically, where a likely value is chosen for inclusion in the model as a fixed parameter, then in a subsequent run M is estimated in the model, and if there is no improvement in the AIC the original assumed value is used. It was suggested that this is an inappropriate use of AIC; if fixed values are going to be compared to estimated values, a greater number of fixed values should be explored. In light of the significantly reduced biomass, OFL, and ABC estimates resulting from the new female maturity relationship and concerns over the method used to estimate the maturity parameters (which was not previewed in September), the Team decided to use the 2013 estimates obtained from the 2011 assessment and revisit the model in September of the next year in which the assessment is updated (it would be up to the author to decide whether the assessment needs to updated outside the normal two-year cycle).

The Team commends the authors for responding to the Team's request to explore internal estimation of the natural mortality rate.

Kamchatka flounder: Tom Wilderbuer presented the assessment. This is a tier 5 assessment. A tier 3 model has been reviewed by the Plan Team and the SSC; both suggested changes, and asked to see it again next year. It was pointed out by an industry representative that the tier 3 assessment is important for MSC certification of the fishery for this stock.

The assessment was updated with the latest survey data from the AI, BS slope, and BS shelf. Natural mortality was evaluated from four separate methods, arriving at a new value of M = 0.13. Biomass was determined using a running average of seven years. Kamchatka flounder were targeted in 2012, so catches for that year are much higher than years before or after.

The Team accepted the updated natural mortality estimate. The current assessment and estimates were reasonable and the Team accepted the estimated OFL and ABC.

The Team recommends that the authors provide a preliminary assessment next September that addresses the suggestions made by the Team/SSC in September/October of this year.

Northern rock sole: Tom Wilderbuer presented the assessment. There were no model changes in the author recommended model. The SSC had suggested constraining Q, so the author tested priors on Q and ran models 2 – 7. The author still chose model 1 because of lack of fit to the observed sex ratio for models 2 - 7. Temperature appears to have some effect on catchability of northern rock sole. In Model 7 the relationship of Q and bottom temperature was tested. In the future, the author might change from model 1 to model 7 which incorporates a temperature relationship, but further testing is needed.

Flathead sole: Buck Stockhausen presented the assessment. The flathead sole complex consists of flathead sole and Bering flounder. The assessment used the same model as last year, updated with the latest survey, fishery catch, size, and age data. The presentation included discussions of residual plots for model fits to the fishery and survey age and size composition data, and retrospective analyses of the spawning and total biomass estimates from the model. The recommended 2013 estimates of OFL (81,500 t) and ABC (67,900 t) are slightly lower than last year's estimates for 2013; there is no overfishing and the stock is not overfished. The Plan Team accepted the author's model and agrees with his recommended OFLs and ABCs.

Alaska plaice: Tom Wilderbuer presented the assessment. The model was unchanged. Catchability is fixed at 1.2 and does not vary with temperature. Numbers nearly match those forecast last year. The stock has low variation in recruitment and low exploitation rates (2.6%). In 2010, the northern Bering Sea also was surveyed and 38% of the surveyed biomass was found there. The authors are still trying to figure out how to incorporate that survey information into the model as it is important, but it also is unlikely that the northern survey will happen again anytime soon. It was noted that the author used data from the pre-1982 surveys, which is not done in any other assessment. Tom said that he plans to remove those data in next year's assessment. Mike Sigler requested that the author complete retrospective analyses for the flatfish species, which the PT retrospective working group will examine next year (along with several other groundfish species).

Other flatfish: Tom Wilderbuer presented the assessment. This is a non-target species complex for which starry flounder, rex sole, and butter sole are the major components; most are caught in BS and not in AI. Catch is very small compared to ABC. Sometimes butter sole catch exceeds survey biomass, but is not deemed a problem because this species is at northern periphery of its range. This group is Tier 5 and the Plan Team supports the author's recommendations.

Pacific ocean perch: Paul Spencer presented the assessment. The 2012 bottom trawl survey came in at a large value, similar to 2010. Much of the biomass in the AI was from several large tows in the Eastern AI. The EBS slope survey has increased about three-fold since 2002. The fishery age compositions are remarkably consistent in showing strong year classes. There is also a new maturity curve which lowers the age at 50% maturity. Model changes included changing the plus-age group and removing the biased ages from 1977-1980.

The new maturity curve is fitted to two sets of new maturity data inside the model. The previous Gulf of Alaska maturity data have been removed from the model. Paul analyzed the effect of the plus-age group of model fits and showed evidence supporting an increase to 40 years and older. The retrospective trend shows that the modeled perception of the biomass has increased over time. The recruitment estimates have changed little since the 2010 assessment, except that the 2000 year class looks larger. The increase in total biomass was mainly due to the decrease in catchability, while the increase in SSB and ABC was related to the lower maturity at age and the lowering of catchability.

Paul also explained how a stock like POP can rebound so quickly. It occurs when there are a group of very large year classes in the quickly ascending part of the growth curve. Bill Clark was surprised at the lack of fit to the plus group. Paul said that the model can't fill those plus groups fast enough to catch up to the observed plus groups. Dana asked about fishery selectivity being estimated for 2012 without 2012 fishery data and Paul said he would check on that.

Paul showed several model runs that explored fixing catchability and seeing the effects of adding age and length comps by themselves. Mike asked what amount each new input contributed to the increase in ABC. Paul attributed about half to the survey biomass and half to the new maturity curve. Dana pointed out that, if taken, this would be the highest POP catch since the 1960s and asked how much was due to the change in plus group. Paul showed that it was minor and only added about 20,000 t to total biomass.

The Team concurred with the use of the new maturity data and the minor model changes. Some questions were discussed about why the estimated catchability decreased so much. The Team agreed with the author's recommendation for maximum permissible ABC. The former concern about one large survey biomass estimate greatly increasing the ABC was alleviated by a second large survey biomass estimate.

Northern rockfish: Paul Spencer presented the assessment. Northern rockfish had the biggest change in model performance/results of the BSAI age-structured rockfish models because of re-estimating the ageing error matrix. Paul did an analysis to those done for the other rockfish stocks to look at the plus-age group and ageing error matrix.

Bill Clark pointed out that one tow in 2012 increased the biomass in WAI by 50%. The age at 50% maturity decreased by almost four years with the use of two new maturity studies. The old maturity data from the Gulf of Alaska are no longer being used. Like POP, the fishery age composition tracks year classes better than the survey.

The new ageing error matrix gave better fits to the age compositions near the plus group because the amount of fish in the plus group was so large in the previous model. The 2012 survey biomass estimate is not fit very well because of its imprecision.

Paul showed some work on area-specific exploitation rates. He noted that, with the new maturity curve, exploitation rates do not look as high as they did in September relative to reference point proxies. Dana asked why the stock did not increase as much as the change in the maturity curve like POP did. Paul said it was because the catchability value cannot move very much.

The Team concurred with the author's recommended maturity curve, ageing error matrix change, and the extension of the age bin structure. The Team agreed with the author's recommended ABC and OFL values.

Blackspotted/rougheye rockfish: Paul Spencer presented the assessment. The AI portion of the stock is assessed with a Tier 3 model and Bering Sea with Tier 5 methods. Paul discussed the modeling change that he made this year, which was to recompute the age error matrix to better account for aging error in the ages in the plus group. This had some impact, but not as much as for northern rockfish.

Paul presented 3 "items to consider:" 1) calculation of B40%, 2) recent harvest of immature fish, and 3) disproportionate harvesting in the W. Aleutians.

Calculation of B40%. The 1998 and 1999 year classes are very strong. In the last assessment update in 2010, the post-95 year classes were excluded because of high CVs *on average*. However, in both the 2010 and 2012 assessments the strong year classes, which had the largest effect on the computation of mean recruitment and B40%, had low CVs. The Team no longer feels that the 1998 and 1999 year classes can be called 'imprecise." However, the Team continues to feel that these year classes should be excluded from computation of B40% because B40% is based on spawning biomass for an equilibrium stock and the 1998 and 1999 year classes have not reached the age of 50% maturity (i.e., the Team feels that it is inappropriate to include them in the spawning biomass reference point when they are not yet part of the spawning biomass). Total biomass and spawning biomass are expected to increase over the next several years due to the growth and maturation of individual fish in the 1998 and 1999 year classes.

Recent harvest of immature fish. Blackspotted/rougheye rockfish live long and mature late -- maturity is 18 years and 44 cm. Recent catches include many immature fish, especially from the recent strong year classes. Because the strong year classes are also observed in the survey data, the recent harvest of immature fish is thought to reflect increased abundance rather than a temporal shift in fishing selectivity

Disproportionate harvesting in W. Aleutians. Analysis indicates there is spatial structure in the population, so the BSAI ABC has been partitioned between 2 areas (EAI+EBS and WAI+CAI). Paul extensively discussed area-specific exploitation rates, which were at or above U40% (the exploitation rate which would occur from fishing at F40%, reflecting numbers at age and fishery selectivity) in the WAI each year from 2004 to 2012 except 2011 (often by large amounts). Additionally, the 2012 survey biomass estimate for the WAI is the lowest observed, and the pattern of declining survey biomass estimates in the WAI is consistent with the estimated high exploitation rates.

In the written assessment, Paul noted that "the BSAI Plan Team may wish to consider not increasing the harvest specifications from the 2012 levels due the factors mentioned above..." but he recommended an increase in ABC and OFL based on his preferred model. In the presentation, Paul further emphasized the concerns that he raised and suggested that the most prudent course would be to rollover the current ABC and OFL. This recommendation was largely based upon the inconsistency between the rationale applied in 2010 for excluding large year classes (high CVs) from the computation of mean recruitment and B40% and the increased proportion of the biomass and catch comprised by the large 1998 and 1999 year classes, and the absence of a thoroughly investigated, long-term solution for addressing unusually high recruitment events that can substantially alter perception of stock status (see Team recommendation under AI pollock).

The Team acknowledged Paul's concerns, but accepted the model recommendation in the document for the values for ABC and OFL that were based on excluding the post-1998 year classes from the estimation of mean recruitment. The Plan Team also noted that rolling over the current harvest specifications would not address the issue of disproportionate harvesting, and the spatial management of this stock will likely be considered in further discussions on stock structure.

Shortraker rockfish: Paul Spencer presented the assessment. As in past years, this assessment uses a surplus production model to estimate current biomass, but not other reference points. No changes were made to the model, which was re-run with the most recent catch and the 2012 survey data. While the AI biomass has been decreasing, the Bering Sea slope survey biomass has been increasing, although it remains a small part of the stock. The survey biomass estimates are sometimes strongly influenced by a small number of large tows.

Paul noted that shortraker are mostly caught as bycatch in the POP fishery. He also noted that there are a number of large fish (>70-80 cm) caught in the fishery, although these are on average larger than what is caught in the survey. There is no overall trend in catch, but it is variable.

The Team commends the authors for responding to the Team's request related to total catch accounting.

Other rockfish: Ingrid Spies presented the assessment. There were new surveys in the AI, BS Slope, and S. Bering Sea. Shortspine thornyhead are increasing in the Aleutians. Dusky rockfish were caught in their usual range. The length frequencies are rough for dusky rockfish in the survey, but smooth for the fishery with a median size of around 45 cm in the fishery. Thornyheads were concentrated in the western Aleutians.

Ingrid also presented a random effects model for smoothing biomass estimates (not included in the SAFE chapter). The model estimates were close to the survey point estimates except when there were extreme values, but it was noted that the extreme values were typically associated with large variances. Henry Cheng asked what the parametric form of the model was; Grant said that documentation would be forthcoming from the working group on survey averaging.

The biomass estimates from only the EBS slope and AI are used for assessment purposes. Chris Siddon asked if we would expect to see such large changes in abundance for long-lived species. Ingrid responded that it was probably sampling error because they are rare and patchy.

The assessment is a straightforward update of the 2010 Tier 5 assessment. The Plan Team accepted the author's recommendations for ABC and OFL.

Atka mackerel: Sandra Lowe presented the assessment. There were two significant changes in assessment methodology: (1) Recruitment variance is now estimated; in past assessments, it was fixed at 0.6; (2) Prior penalty on degree of dome-shape in fishery selectivity is now fixed at 0.3; in recent past assessments it was fixed at 0.1. The following new data were included in this year's assessment: (1) updated fishery catch data; (2) 2011 fishery age composition data; (3) 2011 fishery weight-at-age values; (4) 2012 Aleutian Islands survey data (biomass data were used in the model; length and age compositions were presented but not included in the model due to time constraints); (5) 2012 selectivity vector (equivalent to the estimated vector for 1999-2011) was used for projections; (6) area apportionment of ABC was updated by adding the area biomass distribution from the 2012 survey and dropping the 2002 survey.

Allowing the log-scale recruitment standard deviation (sigma-R) to be estimated within the model made only a slight change in the value of sigma-R used in the model. In previous assessments, sigma-R was fixed at 0.6. Allowing it to be estimated within the model changed the value to 0.54.

The addition of the 2012 survey biomass (and other catch-at-age data) resulted in a higher value for age 4-10 catchability (q) in the survey (1.89) than had been estimated in 2011 (1.61) and in previous assessments (e.g., in 2004, q=1.4). The authors noted that plausible mechanisms for such a high (and increasing) q in this year's assessment are difficult to construct. The authors evaluated the model components affecting q, and determined that the primary factor was the penalty restricting the extent to which fishery selectivity was allowed to be dome-shaped (sigma-D). Increasing sigma-D (from 0.1 to 0.3 throughout the time series) allowed the fishery selectivity to be lower for fish older than 8 years than in recent assessments. This improved the fits to the fishery age composition and also reduced q to a more reasonable value (1.3). As noted in the Plan Team discussion, a dome-shaped fishery selectivity curve could be related to fish and fishery behavior, and changes in fishing regulations that reduced catches in near-shore areas (e.g., Steller sea lion critical habitat) in area 542 (and perhaps the closure of area 543), where larger fish have generally been caught by the fishery. A consequence of these changes to q and sigma-D, however, is that biomass is scaled higher throughout the time series. For instance, had changes to q, sigma-D, and sigma-R not been made (authors' Model 1), spawning biomass in 2013 was projected to be 219,000 t, or 31% lower than with the changes but with poorer fits to the fishery age composition and an unrealistic q. The Team agreed with the authors' recommendations for changes to the assessment methodology.

The Team commends the authors for responding to the Team's requests regarding total catch accounting and retrospective analysis.

Skates: Olav Ormseth presented the assessment. This year's assessment includes a revised model for Alaska skate. The following features stayed the same in the new model: (1) 3-year embryonic period, (2) M of 0.13, (3) fixed maturity, (4) fixed fecundity, and (5) survey catchability of 1.0. In particular, there is good evidence, including lab confirmation, of an extended embryo period for Alaska skate (viz., they spend 3.5 years in skate egg cases before hatching out). This feature is modeled as skates being unavailable to the fisheries and survey until age 3.5.

The new model differs from the old in the following respects: (1) uses an updated version of Stock Synthesis (version 3.23), (2) uses the 4-parameter Schnute growth function, which has

more flexibility than the 3-parameter von Bertalanffy function, (3) allows selectivity functions for both fisheries (longline and trawl) and the survey to be dome-shaped rather than forced to be asymptotic, with the beginning of the peak region forced to equal 90 cm, 49 cm, and 49 cm for the longline fishery, trawl fishery, and survey, respectively, (4) uses a new density-dependent survivorship-based function to model the stock-recruit relationship, (5) raises the maximum age from 25 to 30 years because the 25+ group had too many fish in it, and (6) the new model starts in 1980. There are no species-specific catch or survey data for the 1980-1991 period, so annual catch is assumed to equal the 1992 value in each of these years, and the 1980 age structure is assumed to be in equilibrium under that level of catch. The author compared several alternative models and selected a preferred model that estimates all growth parameters and variability within the model and relied on only the most recent length-at-age dataset (from the 2009 EBS shelf survey). The new model provides an improved fit to the length-at-age data, results in biomass estimates that are slightly higher than from last year's model, and tracks the survey biomass more closely.

The Plan Team approved the author's preferred model, despite some concern over the rationale for excluding older length-at-age data (i.e. 2003, 2005, and 2007) from the model.

The Team recommends that the authors address the following for September 2014: 1) due to concerns about dropping the earlier length-at-age datasets, the authors should include a more detailed analysis of the various length-at-age datasets and whether it is appropriate to exclude them; 2) the authors should revisit the selectivity patterns, to justify the existence and estimability of a descending limb for all selectivities and to determine whether there is any interaction between data length bins and population length bins that affect the estimated selectivity patterns.

The Team commends the authors for responding to the Team's request for inclusion of specific alternative models in this assessment.

Sculpins: Ingrid Spies presented the assessment. This is a straightforward update from the last full assessment. Ingrid also presented the results from the random effects model for estimating biomass (not included in the SAFE chapter).

The Team recommends that any future presentations of the random effects model for sculpins include confidence intervals for the survey estimates.

Sharks: Cindy Tribuzio presented the assessment. This is a straightforward update incorporating 2012 catch and survey data. She made a strenuous but ultimately unsuccessful effort to determine the species composition of the substantial number of unidentified sharks in observer data (44% in 2006, 16% overall). A major issue this year was whether to use the halibut fishery incidental catch estimates (HFICE) produced by a working group in estimates of total shark catches, as suggested by the SSC. The authors had examined this question in detail and concluded that it was impossible to determine the degree of overlap between the HFICE numbers and the catches recorded in the NMFS catch accounting system (CAS). For that reason, and because observer estimates of incidental shark catch in the halibut fishery will be available soon, they recommended against using the HFICE numbers for ABC and OFL determination. The Team agreed with the authors, and supports their recommended ABC and OFL. As in the past, the Tier 6 ABC and OFL were based on historical catches, in this case the maximum rather than the average.

The Team remains concerned about the steep decline of sleeper shark catch rates in surveys and bycatch fisheries. Despite their large size, all of the sleeper sharks in the bycatch are juveniles, so the catches may be having little immediate effect on the mature stock, but in the long run the effect could be serious.

The Team commends the authors for responding to the Team's request regarding total catch accounting.

Squid: Olav Ormseth presented the assessment. This is an unchanged Tier 6 assessment based on a fixed window of catch years. Olav is tracking length compositions and survey distribution. Directed fishing in the past (before 1985) was high; the high catches in those early years is what makes the ABC and OFL reasonably high. Back in 2005-2007, catches were close to the OFL but more recently the fisheries are trying to avoid squid; catches dropped abruptly between 2008 and 2009; geographically, it has come up in area 541 in the Aleutians. Multiple cohorts of *Berryteuthis* seem to be visible in the length composition within a year, and perhaps in the seasonal catch data also.

Octopus: Liz Conners presented the assessment. The Plan Team continued to support the authors' predation-based estimate of octopus mortality from 1984-2008 survey data of Pacific cod diets as an alternative Tier 6 estimate. The estimate has not been revised from last year. The 2012 assessment expanded the discussion of the methodology and uncertainty of the assessment. While Pacific cod diet appears to be a better sampling method for octopus than the trawl survey, the consumption estimate is slightly lower than at least one Tier 5 estimate (3,450 t versus 4,020 t, respectively), especially as other species eat octopus (in the Bering Sea, most other consumers of octopus are marine mammals for which quantitative estimates of consumption are not possible).

The 2011 catch was the highest recorded and exceeded 2011 OFL and ABC; therefore overfishing of octopus occurred that year; however the alternative Tier 6 approach that was adopted in 2012 and recommended for the future is less constraining on the fishery, while providing an improved basis for setting harvest specifications for this assemblage.

The Team recommends that the predation-based estimate of mortality be recalculated approximately every 4-6 years.

The Team recommends that, for the next assessment in 2014, the authors include a test for time trend of consumption and an analysis of the AI Pacific cod diets.

The Team commends the authors for responding to the Team's request for a discussion of the data needed for a discard mortality analysis.

Grenadier: Dana Hanselman presented the assessment, which was authored by Cara Rodgveller, Dave Clausen, and Pete Hulson. A preliminary assessment was presented to the Team in September. Giant grenadier is the indicator species for the group, which also includes popeye and Pacific grenadiers. The authors continue to present Tier 5 recommendations. In the BSAI, estimated biomass is over 1 M mt. A paper on including grenadiers in the FMP was discussed at the June Council meeting. The preferred option of the authors for both FMP areas is to classify grenadiers as "in the fishery," given its high biomass and ecological importance on the continental slope. A potential compromise is to put the GOA stock "in the fishery" because of higher catch and the BSAI as an "ecosystem component" because it is not a target species and

not subject to overfishing and is not overfished. In the past, the Plan Team has recommended that grenadiers be moved into the FMPs.

The Team commends the authors for responding to the Team's request to include the random effects model as a procedure for smoothing the survey biomass estimates.

Stock structure: Dana Hanselman presented the current status of completion of stock structure templates in the BSAI. So far, 7 stock structure templates have been completed, with 17 remaining. Dana recommended, for the September 2013 Plan Team meeting, that the stock structure template be applied to the following three stocks:

1. Aleutian Island pollock, as an example of a stock that is managed as an "AI only" stock, with a discussion of the rationale for this;
2. Shortraker rockfish, as an example of a long-lived Tier 5 stock that has moderate data availability; and
3. Flathead sole, as an example of a mixed-species stock complex that has both a dominant species and a much less abundant species (Bering flounder).

The Team concurred with Dana's recommendations, and expects that these three stocks will show good contrast from each other, thus aiding the stock structure working group in future work related to management units.

The Team recommends that the stock structure template be applied to AI pollock, shortraker rockfish, and flathead sole for the September 2013 meeting.

FOR NEXT YEAR:

Age+ biomass: Values listed in the stock-specific header tables in the introduction of the SAFE report will be based on the age+ range that the author(s) report in each assessment. In cases where the author's age+ range differs than the range that has historically been listed in the header table, the Team will work with each author to reconstruct a time series that is consistent with the author's range.

Significant Digits: The Team will use age+ biomasses, OFLs, and ABCs as reported by the authors (unless the Team is explicitly recommending different values on the basis of methodological or other issues); it will no longer apply its long-standing approach of rounding to 3 significant digits.

Off year cycle: The following table shows the assessments that the Team is expecting to see in 2013. The "off cycle" stocks include most Tier 5 and 6 stocks and some Tier 3 stocks that are either lightly exploited or whose assessments depend heavily on either the EBS slope or AI surveys (which will not be conducted in 2013). Assessments of stocks that are key prey of Steller sea lions (pollock, cod, and Atka mackerel) are among those that are expected annually.

On year cycle in 2013:	Off year cycle in 2013:
EBS pollock	all rockfishes
Bogoslof pollock	flathead sole
AI pollock	Alaska plaice
Pacific cod	Other flatfish
Sablefish	skates
Greenland turbot	sharks
Yellowfin sole	squids
Northern rock sole	octopus
Arrowtooth flounder	sculpins
Kamchatka flounder	
Atka mackerel	

OTHER BUSINESS:

Forage Fish: Olav Ormseth submitted a BSAI forage fish report in response to an SSC request. The Team did not review the report because most members were unaware that it had been submitted for review. It was not included in the SAFE report. The Team will review the report next year.

Attendance: Attendance fluctuated by assessment, but peaked at 50 (public and agency) during the EBS pollock assessment review.

Adjourn: The Team adjourned on Friday, November 16, 2012, at 4:30 pm.

Table 1. BSAI Groundfish Plan Team Recommendations for Final OFLs and ABCs (mt) for 2013 and 2014.

Species	Area	2012 OFL	2012 ABC	2012 TAC	2012 Catch	2013 OFL	2013 ABC	2014 OFL	2014 ABC
Pollock	EBS	2,474,000	1,220,000	1,186,000	1,202,560	*2,550,000*	*1,375,000*	*2,730,000*	*1,430,000*
	AI	39,600	32,500	19,000	972	45,600	37,300	48,600	39,800
	Bogoslof	22,000	16,500	500	79	13,400	10,100	13,400	10,100
Pacific cod	BSAI	369,000	314,000	275,000	223,939	359,000	307,000	379,000	323,000
Sablefish	BS	2,640	2,230	2,230	717	1,870	1,580	1,760	1,480
	AI	2,430	2,050	2,050	1,160	2,530	2,140	2,370	2,010
Yellowfin sole	BSAI	222,000	203,000	202,000	137,716	220,000	206,000	219,000	206,000
Greenland turbot	*Total*	11,700	9,660	8,660	4,401	2,540	2,060	3,270	2,650
	EBS	n/a	7,230	6,230	2,744	n/a	1,610	n/a	2,070
	AI	n/a	2,430	2,430	1,657	n/a	450	n/a	580
Arrowtooth flounder	BSAI	181,000	150,000	25,000	22,227	*186,000*	*152,000*	*186,000*	*152,000*
Kamchatka flounder	BSAI	24,800	18,600	17,700	9,558	16,300	12,200	16,300	12,200
Northern rock sole	BSAI	231,000	208,000	87,000	75,806	241,000	214,000	229,000	204,000
Flathead sole	BSAI	84,500	70,400	34,134	11,011	81,500	67,900	80,100	66,700
Alaska plaice	BSAI	64,600	53,400	24,000	16,124	67,000	55,200	60,200	55,800
Other flatfish	BSAI	17,100	12,700	3,200	3,452	17,800	13,300	17,800	13,300
Pacific ocean perch	*Total*	35,000	24,700	24,700	21,837	41,900	35,100	39,500	33,100
	EBS	n/a	5,710	5,710	3,280	n/a	8,130	n/a	7,680
	EAI	n/a	5,620	5,620	5,519	n/a	9,790	n/a	9,240
	CAI	n/a	4,990	4,990	4,800	n/a	6,980	n/a	6,590
	WAI	n/a	8,380	8,380	8,238	n/a	10,200	n/a	9,590
Northern rockfish	BSAI	10,500	8,610	4,700	2,474	12,200	9,850	12,000	9,320
Blackspotted/Rougheye	*Total*	576	475	475	204	691	569	704	604
	EBS/EAI	n/a	231	231	74	n/a	241	n/a	254
	CAI/WAI	n/a	244	244	130	n/a	328	n/a	350
Shortraker rockfish	BSAI	524	393	393	305	493	370	493	370
Other rockfish	*Total*	1,700	1,280	1,070	924	1,540	1,160	1,540	1,160
	EBS	n/a	710	500	191	n/a	686	n/a	686
	AI	n/a	570	570	733	n/a	473	n/a	473
Atka mackerel	*Total*	96,500	81,400	50,763	47,755	57,700	50,000	56,500	48,900
	EAI/BS	n/a	38,500	38,500	37,237	n/a	16,900	n/a	16,500
	CAI	n/a	22,900	10,763	10,323	n/a	16,000	n/a	15,700
	WAI	n/a	20,000	1,500	195	n/a	17,100	n/a	16,700
Skate	BSAI	39,100	32,600	24,700	22,338	45,800	38,800	44,100	37,300
Sculpin	BSAI	58,300	43,700	5,200	5,469	56,400	42,300	56,400	42,300
Shark	BSAI	1,360	1,020	200	81	1,360	1,020	1,360	1,020
Squid	BSAI	2,620	1,970	425	678	2,620	1,970	2,620	1,970
Octopus	BSAI	3,450	2,590	900	132	3,450	2,590	3,450	2,590
Total	BSAI	3,996,000	2,511,778	2,000,000	1,811,939	4,028,694	2,639,508	4,205,467	2,697,673

Final 2012 OFLs, ABCs, and TACs from 2012-2013 final harvest specifications; total catch updated through November 3, 2012.

Italics indicate where the Team differed from the author's recommendation.

Council recommendations are highlighted; all other values are prescribed by the BSAI Groundfish FMP and/or Federal regulations.

TABLE 7--PROPOSED 2013 AND 2014 APPORTIONMENT OF PROHIBITED SPECIES CATCH ALLOWANCES TO NON-TRAWL GEAR, THE CDQ PROGRAM, AMENDMENT 80, AND THE BSAI TRAWL LIMITED ACCESS SECTORS

PSC species and area[1]	Total non-trawl PSC	Non-trawl PSC remaining after CDQ PSQ[2]	Total trawl PSC	Trawl PSC remaining after CDQ PSQ[2]	CDQ PSQ reserve[2]	Amendment 80 sector[3]	BSAI trawl limited access fishery
Halibut mortality (mt) BSAI	900	832	3,675	3,349	393	2,325	875
Herring (mt) BSAI	n/a	n/a	2,094	n/a	n/a	n/a	n/a
Red king crab (animals) Zone 1	n/a	n/a	97,000	86,621	10,379	43,293	26,489
C. opilio (animals) COBLZ	n/a	n/a	7,029,520	6,277,361	752,159	3,085,323	2,017,544
C. bairdi crab (animals) Zone 1	n/a	n/a	980,000	875,140	104,860	368,521	411,228
C. bairdi crab (animals) Zone 2	n/a	n/a	2,970,000	2,652,210	317,790	627,778	1,241,500

[1] Refer to § 679.2 for definitions of zones.

[2] Section 679.21(e)(3)(i)(A)(2) allocates 326 mt of the trawl halibut mortality limit and § 679.21(e)(4)(i)(A) allocates 7.5 percent, or 67 mt, of the non-trawl halibut mortality limit as the PSQ reserve for use by the groundfish CDQ program. The PSQ reserve for crab species is 10.7 percent of each crab PSC limit.

[3] The Amendment 80 program reduced apportionment of the trawl PSC limits by 150 mt for halibut mortality and 20 percent for crab PSC. These reductions are not apportioned to other gear types or sectors.

TABLE 8-PROPOSED 2013 AND 2014 HERRING AND RED KING CRAB SAVINGS SUBAREA PROHIBITED SPECIES CATCH ALLOWANCES FOR ALL TRAWL SECTORS

Fishery categories	Herring (mt) BSAI	Red king crab (animals) Zone 1
Yellowfin sole	179	n/a
Rock sole/flathead sole/other flatfish[1]	31	n/a
Greenland turbot/arrowtooth/sablefish[2]	15	n/a
Rockfish	11	n/a
Pacific cod	31	n/a
Midwater trawl pollock	1,600	n/a
Pollock/Atka mackerel/other species[3,4]	227	n/a
Red king crab savings subarea non-pelagic trawl gear[5]	n/a	24,250
Total trawl PSC	2,094	97,000

[1] "Other flatfish" for PSC monitoring includes all flatfish species, except for halibut (a prohibited species), arrowtooth flounder, flathead sole, Greenland turbot, Kamchatka flounder, rock sole, and yellowfin sole.

[2] "Arrowtooth flounder" for PSC monitoring includes Kamchatka flounder.

[3] Pollock other than pelagic trawl pollock, Atka mackerel, and "other species" fishery category.

[4] "Other species" for PSC monitoring includes sculpins, sharks, skates, and octopuses.

[5] In October 2012 the Council recommended that the red king crab bycatch limit for non-pelagic trawl fisheries within the RKCSS be limited to 25 percent of the red king crab PSC allowance (see § 679.21(e)(3)(ii)(B)(2)).

Council recommendations are highlighted; all other values are prescribed by the BSAI Groundfish FMP and/or Federal regulations.

TABLE 9–PROPOSED 2013 AND 2014 PROHIBITED SPECIES BYCATCH ALLOWANCES FOR THE BSAI TRAWL LIMITED ACCESS SECTOR

BSAI trawl limited access fisheries	Prohibited species and area[1]				
	Halibut mortality (mt) BSAI	Red king crab (animals) Zone 1	C. opilio (animals) COBLZ	C. bairdi (animals)	
				Zone 1	Zone 2
Yellowfin sole	167	23,338	1,901,193	346,228	1,185,500
Rock sole/flathead sole/other flatfish[2]	0	0	0	0	0
Turbot/arrowtooth/sablefish[3]	0	0	0	0	0
Rockfish April 15-December 31	5	0	3,232	0	1,000
Pacific cod	453	2,954	80,799	60,000	50,000
Pollock/Atka mackerel/other species[4]	250	197	32,320	5,000	5,000
Total BSAI trawl limited access PSC	875	26,489	2,017,544	411,228	1,241,500

[1] Refer to § 679.2 for definitions of areas.

[2] "Other flatfish" for PSC monitoring includes all flatfish species, except for halibut (a prohibited species), arrowtooth flounder, flathead sole, Greenland turbot, Kamchatka flounder, rock sole, and yellowfin sole.

[3] "Arrowtooth flounder" for PSC monitoring includes Kamchatka flounder.

[4] "Other species" for PSC monitoring includes sculpins, sharks, skates, and octopuses.

TABLE 10–PROPOSED 2013 AND 2014 HALIBUT PROHIBITED SPECIES BYCATCH ALLOWANCES FOR NON-TRAWL FISHERIES

Halibut mortality (mt) BSAI		
Non-trawl fisheries	Catcher/processor	Catcher vessel
Pacific cod-Total	760	15
January 1-June 10	455	10
June 10-August 15	190	3
August 15-December 31	115	2
Other non-trawl-Total		58
May 1-December 31		58
Groundfish pot and jig		Exempt
Sablefish hook-and-line		Exempt
Total non-trawl PSC		833

TABLE 11–PROPOSED 2013 PROHIBITED SPECIES BYCATCH ALLOWANCE FOR THE BSAI AMENDMENT 80 COOPERATIVES

Cooperative	Prohibited species and zones[1]				
	Halibut mortality (mt) BSAI	Red king crab (animals) Zone 1	C. opilio (animals) COBLZ	C. bairdi (animals)	
				Zone 1	Zone 2
Alaska Seafood Cooperative	1,609	29,484	1,991,961	259,427	433,149
Alaska Groundfish Cooperative	716	13,809	1,093,362	109,094	194,629

[1] Refer to § 679.2 for definitions of zones.

2012 Apportionment of Prohibited Species Catch to the CDQ Program, Amendment 80 sector, and BSAI Trawl Limited Access Sector (through November 3, 2012)

PSC species	DQ PSQ reserve[1]	CDQ PSQ reserve[1] taken	Amendment 80 sector[2]	Amendment 80 sector[2] PSC	BSAI trawl limited access	BSAI trawl limited access	Trawl PSC limit	Trawl PSC
Halibut mortality (mt) BSAI	393	223	2,325	1,751	875	949	3,200	2,700
Herring (mt) BSAI	n/a	n/a	n/a	n/a	n/a	n/a	2,094	2,372
Red king crab (animals) Zone 1[1]	10,379	2,605	43,293	24,051	26,489	228	69,782	24,279
C. opilio (animals) COBLZ[2]	752,159	11,987	3,085,323	129,588	2,017,544	249,719	5,102,867	379,307
C. bairdi crab (animals) Zone 1[2]	104,860	13,940	368,521	140,823	411,228	8,697	779,750	149,520
C. bairdi crab (animals) Zone 2	317,790	8,419	627,778	60,279	1,241,500	40,469	1,869,278	100,748

[1]Section 679.21(e)(3)(i)(A)(2) allocates 326 mt of the trawl halibut mortality limit and § 679.21(e)(4)(i)(A) allocates 7.5 percent, or 67 mt, of the non-trawl halibut mortality limit as the PSQ reserve for use by the CDQ program. The PSQ reserve for crab species is 10.7 percent of each crab PSC limit.

[2] The Amendment 80 program reduced apportionment of the trawl PSC limits by 150 mt for halibut mortality and 20 percent for crab. These reductions are not apportioned to other gear types or sectors.

2012 Halibut Mortality Apportionment for Non-Trawl Gear (through November 3, 2012)

Non-trawl fisheries	Catcher Processor Limit	Catcher Processor PSC	Catcher vessel Limit	Catcher vessel PSC
Pacific cod-Total	760	391	15	2
January 1 - June 10	455	143	10	1
June 10 - August 15	190	100	3	0
August 15 - December 31	115	148	2	0

Halibut Discard Mortality Rates: Recommendations for 2013-2015

Summary Tables

G. Williams
International Pacific Halibut Commission
September 12, 2012

Background

1. Halibut bycatch mortality in the federal groundfish fisheries off Alaska is managed with Prohibited Species Catch (PSC) limits, also referred to as bycatch caps. The limits are specified in units of mortality.
2. Discard mortality rates (DMRs) are used by NMFS estimate halibut bycatch mortality in-season as they manage the groundfish fisheries progress to the TACs and the bycatch limits.
3. In 2000, the North Pacific Fishery Management Council adopted a plan in which the DMRs used to monitor halibut bycatch are an average of data from the most recent 10-year period. These 10-year mean DMRs for each fishery are used by NMFS for a 3-year period, with the justification being two-fold: 1) interannual variability of fishery DMRs is relatively small, and 2) to provide stability for the industry to better plan their operations. The following table outlines the range of data used for the specific years of application:

10-Year Basis Period	Years of application
1990-1999	2001 - 2003
1993-2002	2004 – 2006
1996-2005	2007 - 2009
1999-2008	2010 - 2012
2002-2011	2013 - 2015

4. Estimates of DMRs for 2009-2011 were recently completed based on observer data collected in those years and the same methodology used in previous analyses.
5. The attached tables provide information on fishery effort, sample sizes, and annual DMRs for 2009-2011. Recommendations for 2013-2015 are provided in Table 8.

Table 1. Groundfish target definitions and target determination criteria for observer sampled hauls.

BSA		GOA	
Target	**Definition**	**Target**	**Definition**
A	Atka mackerel	A	Atka mackerel
B	Bottom pollock	B	Bottom pollock
C	Pacific cod	C	Pacific cod
F	Other flatfish	D	Deep water flatfish
K	Rockfish	H	Shallow water flatfish
L	Flathead sole	K	Rockfish
O	Other spp.	L	Flathead sole
P	Midwater pollock	O	Other spp.
R	Rock sole	P	Midwater pollock
S	Sablefish	S	Sablefish
T	Greenland turbot	W	Arrowtooth flounder
W	Arrowtooth flounder	X	Rex sole
Y	Yellowfin sole		

CDQ and Non-CDQ TARGET FISHERY DETERMINATION

Bering Sea/Aleutians

P	if pollock ≥ 95% of total catch, or
W	if arrowtooth flounder ≥ 65% of total catch.
Y/R/L/F	if (rock sole + other flatfish + yellowfin sole + flathead) is the largest component of the retained catch using this rule:
Y	if yellowfin sole is ≥ 70% of (rock sole + other flatfish + yellowfin sole + flathead sole), or
R	if rock sole > other flatfish and rock sole > flathead sole, or
L	if flathead sole > other flatfish and flathead sole > rock sole, or
F	if none of the three conditions above are met.

Note: If target is not P, W, Y, R, L or F, then target is whichever species or species group (A, B, C, K, O, S, or T) forms the largest part of the total catch.

Gulf of Alaska

P	if pollock ≥ 95% of total catch, or
W	if arrowtooth flounder ≥ 65% of total catch.

Note: If target is not P or W, then target is whichever species or species group (A, B, C, D, H, K, L, O, S, or X) forms the largest part of the total catch.

Table 2. Summary information on fishery effort, observer sampling, and halibut bycatch size composition in nonCDQ fisheries.

	2009					
Area/Gear /Target	No. of vsls Sampled	No. of sampled hauls	No. of fish Measured	Mean length (cm)	Percent <65 cm	Percent < 82 cm
BSA Longline						
Pacific cod	37	5723	9372	66.3	50	88
Turbot	2	40	2	77.5	0	50
BSA Pot						
Pacific cod	22	434	57	69.1	0	13
BSA Trawl						
Atka mackerel	7	1149	190	118.7	8	33
Bottom pollock	103	3901	12286	46.7	93	98
Pacific cod	57	2306	3711	54.4	77	93
Other flatfish	0	0	0	--	--	--
Rockfish	10	407	245	65.2	52	80
Flathead sole	12	1165	1883	58.6	71	92
Midwtr pollock	84	5576	4237	69.1	47	78
Rock sole	23	2510	14449	40.5	95	98
Sablefish	0	0	0	--	--	--
Turbot	6	618	149	97.4	11	48
Arrowtooth flndr	3	225	214	67.3	45	92
Yellowfin sole	28	4132	11050	45.4	87	95
GOA Longline						
Pacific cod	21	509	1395	66.9	48	88
GOA Pot						
Pacific cod	15	140	78	71.6	27	76
GOA Trawl						
Bottom pollock	33	289	178	59.5	73	97
Pacific cod	33	293	1582	53.6	84	99
Dp wtr flatfish	0	0	0	--	--	--
Shall wtr flatfish	26	380	1677	54.7	75	93
Rockfish	41	1259	587	73.3	33	75
Flathead sole	11	86	254	54.2	77	94
Midwtr pollock	32	189	9	67.3	22	100
Sablefish	11	76	44	86.8	7	39
Arrowtooth flndr	16	94	281	61.1	70	90
Rex sole	8	352	1088	58.1	72	96

Table 2. (cont'd)

2010						
Area/Gear /Target	No. of vsls Sampled	No. of sampled hauls	No. of fish Measured	Mean length (cm)	Percent <65 cm	Percent < 82 cm
BSA Longline						
Pacific cod	35	5019	8737	66.7	51	90
Turbot	5	202	17	81.1	17	88
BSA Pot						
Pacific cod	34	571	453	67.2	38	95
BSA Trawl						
Atka mackerel	7	1209	172	99.1	23	51
Bottom pollock	73	1805	3301	54.2	84	96
Pacific cod	45	1042	3640	48.2	91	98
Other flatfish	1	18	187	54.9	82	95
Rockfish	9	428	365	70.1	49	75
Flathead sole	12	1137	1611	63.0	62	88
Midwtr pollock	85	6344	4231	64.4	58	85
Rock sole	19	4091	15310	45.9	90	98
Sablefish	0	0	0	--	0	0
Turbot	6	792	270	106.0	14	31
Arrowtooth flndr	1	32	11	81.3	9	55
Yellowfin sole	26	5089	7905	54.8	79	95
GOA Longline						
Pacific cod	19	781	2048	70.3	31	85
GOA Pot						
Pacific cod	10	143	215	78.9	5	68
GOA Trawl						
Bottom pollock	35	266	547	61.2	66	91
Pacific cod	37	421	1940	54.8	84	97
Dp wtr flatfish	1	13	29	51.9	83	100
Shall wtr flatfish	18	251	901	54.9	77	94
Rockfish	43	1194	751	71.7	30	78
Flathead sole	14	182	431	64.6	57	82
Midwtr pollock	31	202	49	62.8	65	94
Sablefish	9	47	27	69.7	26	89
Arrowtooth flndr	1	5	19	63.0	58	74
Rex sole	8	357	1744	60.5	66	95

Table 2. (cont'd)

2011						
Area/Gear /Target	No. of vsls Sampled	No. of sampled hauls	No. of fish Measured	Mean length (cm)	Percent <65 cm	Percent < 82 cm
BSA Longline						
Pacific cod	31	6094	11536	64.5	56	91
Turbot	7	212	21	71.3	38	81
BSA Pot						
Pacific cod	32	768	1087	64.6	49	97
BSA Trawl						
Atka mackerel	7	1045	521	74.0	39	72
Bottom pollock	101	4241	5881	50.8	85	97
Pacific cod	44	1373	4320	49.5	90	98
Other flatfish	0	0	0	--	--	--
Rockfish	15	646	465	71.7	48	78
Flathead sole	10	599	1009	65.8	55	84
Midwtr pollock	98	11555	5115	58.8	69	92
Rock sole	20	2681	8422	43.1	89	97
Sablefish	0	0	0	--	--	--
Turbot	9	435	245	90.7	17	45
Arrowtooth flndr	5	215	379	67.0	36	92
Yellowfin sole	29	6279	6608	58.3	70	92
GOA Longline						
Pacific cod	16	941	2379	69.5	37	84
GOA Pot						
Pacific cod	16	386	1343	76.0	6	80
GOA Trawl						
Bottom pollock	31	260	563	63.0	59	89
Pacific cod	40	518	2751	60.0	69	97
Dp wtr flatfish	2	19	5	55.8	100	100
Shall wtr flatfish	8	59	257	60.0	65	94
Rockfish	39	1126	825	72.0	34	73
Flathead sole	15	147	309	59.0	76	90
Midwtr pollock	39	328	5	76.2	40	80
Sablefish	12	65	42	74.8	31	74
Arrowtooth flndr	14	208	268	66.3	53	87
Rex sole	6	255	1008	61.7	64	95

Table 3. Distribution of halibut viability/injury data by target fishery.

2009								
	Sample totals			Projected fishery totals				
Target	Exc	Poor	Dead	Exc	Poor	Dead	DMR	SE
BSA Trawl								
Atka mackerel	0	0	15	0	0	1035	**0.900**	0.0000
Bottom pollock	29	54	10924	3229	2859	206254	**0.881**	0.0108
Pacific cod	252	166	986	8363	4724	39002	**0.764**	0.0134
Other flatfish	0	0	0	0	0	0	--	--
Rockfish	16	16	103	284	599	5333	**0.826**	0.0107
Flathead sole	77	62	249	1646	1539	5858	**0.753**	0.0317
Midwtr pollock	28	40	4078	844	113	17307	**0.842**	0.0183
Rock sole	48	280	4873	1839	12810	291328	**0.881**	0.0180
Arrowtooth flounder	0	0	0	0	0	0	--	--
Yellowfin sole	86	129	3991	2132	4345	314938	**0.874**	0.0131
BSA Pot								
Pacific cod	51	4	2	161	15	6	**0.113**	0.1283
GOA Trawl								
Bottom pollock	34	30	49	3493	679	1997	**0.574**	0.0690
Pacific cod	334	186	560	14418	6779	25036	**0.621**	0.0465
Shall wtr flatfish	226	310	462	5539	10740	17238	**0.635**	0.0478
Rockfish	93	88	138	1732	598	4101	**0.670**	0.0419
Flathead sole	20	4	10	529	121	319	**0.452**	0.0100
Midwtr pollock	0	0	0	0	0	0	--	--
Arrowtooth fldr	37	49	153	2785	2680	11634	**0.690**	0.0559
Rex sole	32	67	399	876	1680	21925	**0.841**	0.0396
GOA Pot								
Pacific cod	55	16	7	178	72	30	**0.306**	0.1552

	Sample totals				Projected fishery totals					
Target	Minor	Mod	Severe	Dead	Minor	Mod	Severe	Dead	DMR	SE
BSA Longline										
Pacific cod	8319	705	111	124	243517	20620	3353	3992	**0.084**	0.0181
Turbot	1	0	1	0	0	29	0	29	**0.349**	--
GOA Longline										
Pacific cod	1230	94	15	56	53024	4597	727	2634	**0.103**	0.0397

Table 3. (cont'd)

2010								
	Sample totals			Projected fishery totals				
Target	Exc	Poor	Dead	Exc	Poor	Dead	DMR	SE
BSA Trawl								
Atka mackerel	0	1	19	0	83	971	**0.871**	0.0265
Bottom pollock	45	78	2376	2220	2945	31493	**0.776**	0.0058
Pacific cod	540	507	1377	16693	16084	34176	**0.626**	0.0069
Other flatfish	0	0	0	0	0	0	--	--
Rockfish	1	0	3	103	0	366	**0.667**	0.0057
Flathead sole	3	18	173	49	568	4282	**0.822**	0.0010
Midwtr pollock	7	13	3772	487	117	17254	**0.867**	0.0030
Rock sole	49	135	5045	2048	5543	228545	**0.878**	0.0035
Arrowtooth flounder	0	0	0	0	0	0	--	--
Yellowfin sole	188	226	2083	5831	6276	94215	**0.847**	0.0062
BSA Pot								
Pacific cod	384	48	10	1158	113	36	**0.119**	0.0536
GOA Trawl								
Bottom pollock	137	130	140	4814	6285	4457	**0.535**	0.0188
Pacific cod	226	282	705	4852	7487	20411	**0.695**	0.0089
Shall wtr flatfish	193	194	254	7136	6925	9676	**0.555**	0.0377
Rockfish	51	90	79	850	1605	2527	**0.662**	0.0065
Flathead sole	30	68	137	754	1414	6284	**0.731**	0.0490
Midwtr pollock	0	0	0	0	0	0	--	--
Arrowtooth fldr	0	0	10	0	0	585	**0.900**	0.0000
Rex sole	49	23	378	1155	1001	22087	**0.803**	0.273
GOA Pot								
Pacific cod	194	9	9	704	39	54	**0.130**	0.0618

	Sample totals				Projected fishery totals					
Target	Minor	Mod	Severe	Dead	Minor	Mod	Severe	Dead	DMR	SE
BSA Longline										
Pacific cod	6753	736	99	186	219512	17264	2270	6453	**0.089**	0.0097
Turbot	16	1	0	0	376	17	0	0	**0.062**	0.0000
GOA Longline										
Pacific cod	1823	157	13	55	51683	5121	223	2152	**0.093**	0.0157

Table 3. (cont'd)

2011								
	Sample totals			Projected fishery totals				
Target	Exc	Poor	Dead	Exc	Poor	Dead	DMR	SE
BSA Trawl								
Atka mackerel	12	6	19	514	258	1455	**0.667**	0.0420
Bottom pollock	70	68	4501	3762	4233	95067	**0.848**	0.0087
Pacific cod	560	1062	1502	13653	24350	29397	**0.646**	0.0354
Other flatfish	0	0	0	0	0	0	---	---
Rockfish	14	15	60	381	206	3305	**0.874**	0.0120
Flathead sole	21	16	32	357	349	821	**0.551**	0.0142
Midwtr pollock	13	32	4297	819	1533	26690	**0.860**	0.0137
Rock sole	74	39	650	2281	1718	51253	**0.840**	0.0315
Arrowtooth fldr	0	0	0	0	0	0	---	---
Yellowfin sole	119	94	967	3871	4379	57537	**0.785**	0.0373
BSA Pot								
Pacific cod	997	37	50	3326	134	158	**0.128**	0.1670
GOA Trawl								
Bottom pollock	115	75	156	3753	3814	6399	**0.566**	0.0396
Pacific cod	416	371	382	19808	13203	16978	**0.515**	0.0324
Shall wtr flatfish	77	81	65	2486	1443	2856	**0.524**	0.0954
Rockfish	64	152	121	1547	4913	4220	**0.629**	0.0514
Flathead sole	33	31	195	713	724	5790	**0.691**	0.0913
Midwtr pollock	0	0	0	0	0	0	--	--
Sablefish	22	5	4	143	49	22	**0.370**	0.0086
Arrowtooth fldr	3	8	15	105	209	623	**0.807**	0.0152
Rex sole	35	102	257	1428	3243	10483	**0.818**	0.0205
GOA Pot								
Pacific cod	1015	84	104	3063	357	210	**0.103**	0.0721

	Sample totals				Projected fishery totals					
Target	Minor	Mod	Severe	Dead	Minor	Mod	Severe	Dead	DMR	SE
BSA Longline										
Pacific cod	9285	849	121	250	291669	23754	3877	10531	**0.089**	0.0259
Turbot	19	1	1	0	690	92	44	0	**0.090**	0.0087
GOA Longline										
Pacific cod	2010	205	31	53	62782	4753	682	1604	**0.082**	0.0324

Table 4. Summary of halibut discard mortality rates (DMRs) in the non-CDQ Bering Sea/Aleutian (BSA) groundfish fisheries during 1990-2011.

Gear/Target	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11
BSA Trawl																						
Atka mackerel	66	77	71	69	73	73	83	85	77	81	77	73	85	67	63	67	64	89	90	90	87	67
Bottom pollock	68	74	78	78	80	73	79	72	80	74	67	74	78	65	73	79	74	69	79	88	78	85
Pacific cod	68	64	69	67	64	71	70	67	66	69	69	69	69	67	70	81	77	78	61	76	63	65
Other Flatfish	80	75	76	69	61	68	67	71	78	63	76	81	77	79	80	65	82	-	41	-	-	-
Rockfish	65	67	69	69	75	68	72	71	56	81	89	85	73	84	68	79	90	87	73	83	67	87
Flathead sole	-	-	-	-	67	62	66	57	70	79	74	69	60	69	70	83	75	80	79	75	82	55
Midwtr pollock	85	82	85	85	80	79	83	87	86	87	88	89	90	89	88	90	90	90	85	84	87	86
Rock sole	64	79	78	76	76	73	74	77	79	81	75	77	83	82	85	84	83	83	86	88	88	84
Sablefish	46	66	-	26	20	-	-	-	-	90	60	-	-	-	-	-	-	-	-	-	-	-
Turbot	69	55	-	-	58	75	70	75	86	70	74	68	75	67	31	82	-	-	-	-	-	-
Arrowtooth fldr	-	-	-	-	-	-	-	-	-	-	-	-	-	67	67	90	-	-	78	-	-	-
Yellowfin sole	83	88	83	80	81	77	76	80	82	78	77	74	77	81	86	85	87	77	87	87	85	79
BSA Pot																						
Pacific cod	12	4	12	4	10	10	7	4	13	9	13	6	5	6	7	3	8	15	4	11	12	13
BSA Longline																						
Pacific cod	19	23	21	17	15	14	12	11	11	12	12	12	10	8	10	8	10	9	8	8	9	9
Rockfish	17	55	-	6	23	-	20	4	52	-	12	10	4	-	-	-	-	-	-	-	-	-
Sablefish	14	32	14	13	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbot	15	30	11	10	14	9	15	22	18	17	14	6	23	7	4	6	8	-	17	35	6	9

Table 5. Summary of halibut discard mortality rates (DMRs) in the Gulf of Alaska (GOA) groundfish fisheries during 1990-2011.

Gear/Target	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11
GOA Trawl																						
Atka mackerel	67	89	81	67	53	-	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bottom pollock	51	62	66	57	48	66	79	66	55	55	52	58	55	47	73	45	70	69	70	57	54	57
Pacific cod	60	62	66	59	53	64	70	62	64	54	57	67	59	69	63	66	56	61	63	62	70	52
Deep wtr flats	61	58	70	59	60	56	71	61	51	51	62	49	48	31	49	-	-	-	-	-	-	-
Shall wtr flats	66	71	69	65	62	70	71	71	67	81	67	62	66	80	71	77	70	71	66	64	56	52
Rockfish	65	75	79	75	58	71	65	63	68	74	71	61	64	65	73	66	48	77	75	67	66	63
Flathead sole	-	-	-	-	54	64	67	74	39	51	69	68	74	49	62	57	63	83	78	45	73	69
Midwtr pollock	71	82	72	63	61	51	81	70	80	86	80	89	90	34	88	62	66	87	-	-	-	-
Sablefish	70	60	68	59	67	58	80	61	-	68	38	66	62	-	79	-	89	52	-	-	-	-
Arrowtooth fldr	-	-	-	-	-	-	66	48	62	73	75	86	76	70	65	66	76	64	73	69	90	81
Rex sole	-	-	-	-	56	76	63	47	58	70	71	62	57	69	67	61	45	57	85	84	80	82
GOA Pot																						
Pacific cod	12	7	16	24	17	21	7	11	16	13	8	33	19	21	22	13	15	17	10	31	13	10
GOA Longline																						
Pacific cod	15	18	13	7	11	13	11	22	11	17	16	11	11	13	16	8	13	7	10	10	9	8
Rockfish	6	-	-	7	-	4	13	-	9	-	9	-	-	-	-	-	-	-	-	-	-	-
Sablefish	17	27	28	30	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 6. Summary of vessel sampling and halibut viability/injury data from the Bering Sea/Aleutian Community Development Quota (CDQ) fisheries.

Target	# of Vsls	# of Hauls	Sample totals E	P	D		Projected fishery totals E	P	D		DMR	SE
2009												
CDQ Trawl												
Atka m	3	195	0	0	0		0	0	0		--	--
B poll	16	116	8	4	249		763	454	3465		**0.738**	0.091
P cod	5	28	0	0	3		0	0	27		**0.900**	0.000
Rckfsh	3	41	0	0	0		0	0	0		--	--
M poll	14	897	0	0	955		0	0	4635		**0.900**	0.000
R sole	3	56	0	0	0		0	0	0		--	--
Turbot	2	114	0	0	31		0	0	417		**0.900**	0.000
YF sole	3	53	0	0	0		0	0	0		--	--
CDQ Pot												
Sable	3	95	15	8	6		46	26	20		**0.503**	0.3591
CDQ Longline			Mi	Mo	Sev	De	Mi	Mo	Sev	De	DMR	SE
P cod	17	2096	1740	154	43	32	46952	4818	1151	665	**0.080**	0.0348
2010												
CDQ Trawl												
Atka m	2	181	0	0	0		0	0	0		--	--
B poll	14	98	0	0	162		0	0	1202		**0.900**	0.000
P cod	4	31	0	0	0		0	0	0		--	--
Rckfsh	3	49	0	0	0		0	0	0		--	--
M poll	12	806	1	0	474		1	0	1653		**0.894**	0.0304
R sole	4	122	0	0	4		0	0	158		**0.900**	0.0000
Turbot	3	15	0	0	0		0	0	0		--	--
YF sole	5	183	0	0	0		0	0	0		--	--
CDQ Pot												
Sable		145	29	8	8		93	26	25		**0.499**	0.1633
CDQ Longline			Mi	Mo	Sev	De	Mi	Mo	Sev	De	DMR	SE
P cod		2209	1731	170	19	35	40409	5094	306		**0.183**	0.0448
2011												
CDQ Trawl												
Atka m	3	96	0	0	3		0	0	196		**0.900**	---
B poll	20	216	18	11	657		488	213	4824		**0.824**	0.0260
P cod	7	31	0	0	21		0	0	1290		**0.900**	0.0000
Rckfish	5	61	0	0	0		0	0	0		---	---
M poll	15	1138	1	0	1652		1	0	8052		**0.900**	0.0041
R sole	9	264	1	3	99		23	65	4136		**0.891**	0.0029
Turbot	4	14	0	0	0		0	0	0		---	---
YF sole	9	717	0	4	171		0	134	11248		**0.897**	0.0017
CDQ Pot												
Sable	2	99	60	8	14		171	17	37		**0.313**	0.3972
CDQ Longline			Mi	Mo	Sev	De	Mi	Mo	Sev	De	DMR	SE
P cod	14	1596	1524	210	32	41	40637	6967	1503	1145	**0.100**	0.0418

Table 7. Summary of halibut discard mortality rates (DMRs) in the Community Development Quota (CDQ) Bering Sea/Aleutian (BSA) groundfish fisheries during 1998-2011.

Gear/Target	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
CDQ Trawl														
Atka mackerel	-	82	89	80	90	86	87	89	80	79	90	-	-	90
Bottom pollock	90	88	90	90	66	-	84	90	88	83	90	74	90	82
Pac cod	-	-	-	-	-	-	-	-	-	-	90	90	-	90
Rockfish	-	88	-	90	-	-	-	-	69	82	89	-	-	-
Flathead sole	-	-	83	90	-	-	-	-	-	79	-	-	-	-
Midwtr pollock	90	90	88	89	89	90	90	90	90	90	89	90	89	90
Rock sole	-	-	-	-	-	-	-	-	86	89	86	-	90	89
Turbot	-	-	-	-	-	-	-	-	-	-	88	90	-	-
Yellowfin sole	-	83	-	-	81	89	88	88	73	87	89	-	-	90
CDQ Pot														
Sablefish	-	-	38	46	25	22	18	56	40	24	22	50	50	31
CDQ Longline														
Pacific cod	10	10	13	11	9	9	9	10	10	8	9	8	18	10
Turbot	-	-	4	-	-	-	-	-	-	-	-	-	-	-

Table 8. Recommended Pacific halibut discard mortality rates (DMRs) for 2013-2015 CDQ and non-CDQ groundfish fisheries off Alaska.

I. Non-CDQ

Bering Sea/Aleutians			Gulf of Alaska		
Gear/Target	Used in 2010-2012	2013-2015 Recommendation	Gear/Target	Used in 2010-2012	2013-2015 Recommendation
Trawl			***Trawl***		
Atka mack	76	77	Bottom poll	59	60
Bottom poll	73	77	Pacific cod	62	62
Pacific cod	71	71	Dpwtr flats	48	43
Other Flats	72	71	Shallwtr flats	71	67
Rockfish	81	79	Rockfish	67	66
Flathead sole	74	73	Flathead sole	65	65
Midwtr poll	89	88	Midwtr poll	76	71
Rock sole	82	85	Sablefish	65	71
Sablefish	75	75	Arr. fldr	72	73
Turbot	67	64	Rex sole	64	69
Arr. fldr	76	76			
YF sole	81	83			
Pot			***Pot***		
Pacific cod	8	8	Pacific cod	17	17
Longline			***Longline***		
Pacific cod	10	9	Pacific cod	12	11
Rockfish	9	4	Rockfish	9	9
Turbot	11	13			

II. Bering Sea/Aleutians CDQ

Gear/Target	Used in 2010-2012	2013-2015 Recommendation
Trawl		
Atka mackerel	85	86
Bottom pollock	85	83
Pacific cod	90	90
Rockfish	84	80
Flathead sole	84	79
Midwtr pollock	90	90
Rock sole	87	88
Turbot	88	89
Yellowfin sole	85	86
Pot		
Sablefish	32	34
Longline		
Pacific cod	10	10
Turbot	4	4

THE STATE of ALASKA
GOVERNOR SEAN PARNELL

Department of Fish and Game

DIVISION OF COMMERCIAL FISHERIES
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December 1, 2012

Mr. Chris Oliver, Executive Director
North Pacific Fishery Management Council
604 West 4th Avenue, Suite 306
Anchorage, AK 99501-2252

Dear Chris:

This letter provides an estimate of the 2012 spawning biomass of Pacific herring (*Clupea pallasii*) in the eastern Bering Sea for the purposes of establishing bycatch caps per Amendment 16A of the Bering Sea/Aleutians Islands Groundfish FMP. The department's estimate of the 2012 biomass is 291,894 short tons, equivalent to 264,802 metric tons. This estimate is the sum of the spawning location estimates contained in the attached table.

Sincerely,

Chris Siddon, Ph.D
Chief Scientist of Marine Fisheries

Table 1. Projections of Pacific herring spawning biomass for spawning aggregations in the eastern Bering Sea, Alaska in 2012.

Spawning area	**short tons**	**metric tons**
Norton Sound	52,949	48035
Cape Romanzof	4,794	4,349
Nunivak Island	2,879	2,612
Nelson Island	4,703	4,266
Cape Avinof	2,095	1,901
Goodnews Bay	33,008	29,944
Security Cove	20,000	18,144
Togiak	167,738	152,169
Port Moller/Port Heiden	3,728	3,382
	291,894	264,802

cc: Jane DiCosimo, NPFMC

Jeff Regnart, ADF&G

PUBLIC TESTIMONY SIGN-UP SHEET

Agenda Item: C-1(c) BSAI Groundfish Specifications

	NAME *(PLEASE PRINT)*	TESTIFYING ON BEHALF OF:
1	BRENT PAINE	UCB
2	DAVE LITTLE/CHAD SEE	FLC
3	Stephanie Madsen	APA
4	Todd Loomis	Groundfish Forum
5	Bill Orr	Alaska Seafood Cooperative
6	Mike Hyde	American Seafoods
7	Susan Robinson	Fishermen's Finest
8	GLENN REED	PSPA
9	Jackie Dragon	Greenpeace
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NOTE to persons providing oral or written testimony to the Council: Section 307(1)(I) of the Magnuson-Stevens Fishery Conservation and Management Act prohibits any person " to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited to, false information regarding the capacity and extent to which a United State fish processor, on an annual basis, will process a portion of the optimum yield of a fishery that will be harvested by fishing vessels of the United States) regarding any matter that the Council, Secretary, or Governor is considering in the course of carrying out this Act.

Brent Paine

BSAI 2013 and 2104 TAC Recommendations — FROM: UCB, APA, PSPA &

Species	Area	2012 ABC	TAC	Catch 11/24/12	2013 OFL	ABC	TAC	2014 OFL	ABC	TAC
Pollock	EBS	1,220,000	1,200,000	1,204,554	2,550,000	1,375,000	1,255,000	2,730,000	1,430,000	1,275,000
	AI	32,500	19,000	972	45,600	37,300	19,000	48,600	39,800	19,000
	Bogoslof	16,500	500	79	13,400	10,100	90	13,400	10,100	90
Pacific cod	BSAI	314,000	261,000	231,682	359,000	307,000	261,000	379,000	323,000	261,000
Sablefish	BSAI	4,280	4,280	1,940	4,400	3,720	3,720	4,130	3,490	3,490
	BS	2,230	2,230	738	1,870	1,580	1,580	1,760	1,480	1,480
	AI	2,050	2,050	1,202	2,530	2,140	2,140	2,370	2,010	2,010
Atka mackerel	Total	81,400	50,763	47,832	57,700	50,000	25,920	56,500	48,900	25,379
	EAI/BS	38,500	38,500	37,314		16,900	16,900		16,500	16,500
	CAI	22,900	10,763	10,323		16,000	7,520		15,700	7,379
	WAI	20,000	1,500	195		17,100	1,500		16,700	1,500
Yellowfin sole	BSAI	203,000	202,000	144,253	219,000	206,000	197,500	219,000	206,000	189,350
Rock sole	BSAI	208,000	87,000	75,896	241,000	214,000	89,000	229,000	204,000	80,000
Greenland turbot	Total	9,660	8,660	4,662	2,540	2,060	2,060	3,270	2,650	2,650
	BS	7,230	6,230	3,005		1,610	1,610		2,070	2,070
	AI	2,430	2,430	1,657		450	450		580	580
Arrowtooth flounder	BSAI	150,000	25,000	22,535	186,000	152,000	24,000	186,000	152,000	24,000
Kamchatka flounder	BSAI	18,600	17,700	9,629	16,300	12,200	12,000	16,300	12,200	12,200
Flathead sole	BSAI	70,400	34,134	11,281	81,500	67,900	17,000	80,100	66,700	17,000
Alaska plaice	BSAI	53,400	24,000	16,445	67,000	55,200	19,000	60,200	55,800	19,000
Other flatfish	BSAI	12,700	3,200	3,517	17,800	13,300	4,000	17,800	13,300	4,000
Pacific Ocean perch	BSAI	24,700	24,700	24,147	41,900	35,100	35,100	39,500	33,100	33,100
	BS	5,710	5,710	5,590		8,130	8,130		7,680	7,680
	EAI	5,620	5,620	5,519		9,790	9,790		9,240	9,240
	CAI	4,990	4,990	4,798		6,980	6,980		6,590	6,590
	WAI	8,380	8,380	8,240		10,200	10,200		9,590	9,590
Northern rockfish	BSAI	8,610	4,700	2,478	12,200	9,850	3,000	12,000	9,320	3,000
Blackspotted/Rough	BSAI	576	475	208	462	378	250	524	429	250
	EBS/EAI		231	77		169	100		189	100
	CAI/WAI		244	131		209	150		240	150
Shortraker rockfish	BSAI	393	393	342	493	370	370	493	370	370
Other rockfish	BSAI	1,280	1,070	942	1,540	1,160	698	1,540	1,160	698
	BS	710	500	208		686	225		686	225
	AI	570	570	734		473	473		473	473
Squid	BSAI	1,970	425	691	2,620	1,970	700	2,620	1,970	500
Other species										
Skate	BSAI	32,600	24,700	23,291	45,800	38,800	24,000	44,100	37,300	24,000
Shark	BSAI	1,020	200	91	1,360	1,020	112	1,360	1,020	123
Octopus	BSAI	2,590	900	133	3,450	2,590	880	3,450	2,590	200
Sculpin	BSAI	43,700	5,200	5,585	56,400	42,300	5,600	56,400	42,300	5,600
Total		2,511,303	2,000,000	1,833,185	4,027,465	2,639,317	2,000,000	4,205,287	2,697,498	2,000,000

Cross Section

NPFMC Motion 12/6/12

Species	Area	2012 ABC	2012 TAC	2012 Catch 11/24/12	2013 OFL	2013 ABC	2013 TAC	2014 OFL	2014 ABC	2014 TAC
Pollock	EBS	1,220,000	1,200,000	1,204,554	2,550,000	1,375,000	1,247,000	2,730,000	1,430,000	1,247,000
	AI	32,500	19,000	972	45,600	37,300	19,000	48,600	39,800	19,000
	Bogoslof	16,500	500	79	13,400	10,100	100	13,400	10,100	100
Pacific cod	BSAI	314,000	261,000	231,682	359,000	307,000	260,000	379,000	323,000	260,880
Sablefish	BSAI	4,280	4,280	1,940	4,400	3,720	3,720	4,130	3,490	3,490
	BS	2,230	2,230	738	1,870	1,580	1,580	1,760	1,480	1,480
	AI	2,050	2,050	1,202	2,530	2,140	2,140	2,370	2,010	2,010
Atka mackerel	Total	81,400	50,763	47,832	57,700	50,000	25,920	56,500	48,900	25,379
	EAI/BS	38,500	38,500	37,314		16,900	16,900		16,500	16,500
	CAI	22,900	10,763	10,323		16,000	7,520		15,700	7,379
	WAI	20,000	1,500	195		17,100	1,500		16,700	1,500
Yellowfin sole	BSAI	203,000	202,000	144,253	220,000	206,000	198,000	219,000	206,000	198,000
Rock sole	BSAI	208,000	87,000	75,896	241,000	214,000	92,380	229,000	204,000	92,000
Greenland turbot	Total	9,660	8,660	4,662	2,540	2,060	2,060	3,270	2,650	2,650
	BS	7,230	6,230	3,005		1,610	1,610		2,070	2,070
	AI	2,430	2,430	1,657		450	450		580	580
Arrowtooth flounder	BSAI	150,000	25,000	22,535	186,000	152,000	25,000	186,000	152,000	25,000
Kamchatka flounder	BSAI	18,600	17,700	9,629	16,300	12,200	10,000	16,300	12,200	10,000
Flathead sole	BSAI	70,400	34,134	11,281	81,500	67,900	22,699	80,100	66,700	22,543
Alaska plaice	BSAI	53,400	24,000	16,445	67,000	55,200	20,000	60,200	55,800	20,000
Other flatfish	BSAI	12,700	3,200	3,517	17,800	13,300	3,500	17,800	13,300	4,000
Pacific Ocean perch	BSAI	24,700	24,700	24,147	41,900	35,100	35,100	39,500	33,100	33,100
	BS	5,710	5,710	5,590		8,130	8,130		7,680	7,680
	EAI	5,620	5,620	5,519		9,790	9,790		9,240	9,240
	CAI	4,990	4,990	4,798		6,980	6,980		6,590	6,590
	WAI	8,380	8,380	8,240		10,200	10,200		9,590	9,590
Northern rockfish	BSAI	8,610	4,700	2,478	12,200	9,850	3,000	12,000	9,320	3,000
Blackspotted/Rough	BSAI	576	475	208	462	378	378	524	429	429
	EBS/EAI		231	77		169	169		189	189
	CAI/WAI		244	131		209	209		240	240
Shortraker rockfish	BSAI	393	393	342	493	370	370	493	370	370
Other rockfish	BSAI	1,280	1,070	942	1,540	1,160	873	1,540	1,160	1,159
	BS	710	500	208		686	400		686	686
	AI	570	570	734		473	473		473	473
Squid	BSAI	1,970	425	691	2,620	1,970	700	2,620	1,970	700
Other species										
Skate	BSAI	32,600	24,700	23,291	45,800	38,800	24,000	44,100	37,300	25,000
Shark	BSAI	1,020	200	91	1,360	1,020	100	1,360	1,020	100
Octopus	BSAI	2,590	900	133	3,450	2,590	500	3,450	2,590	500
Sculpin	BSAI	43,700	5,200	5,585	56,400	42,300	5,600	56,400	42,300	5,600
Total		2,511,303	2,000,000	1,833,185	4,028,465	2,639,317	2,000,000	4,205,287	2,697,498	2,000,000

BSAI rock sole:
AP recommended 95,000 tons and this motion 92,000 tons

BSAI flathead sole:
AP recommended 25,000 tons and this motion 22,543 tons

BSAI Alaska plaice:
AP recommended 20,773 tons and this motion 20,000 tons

BSAI Octopus:
AP recommended 880 tons and this motion 500 tons

NPFMC BSAI Specifications Motion — 12/6/12

Mr. Chairman, I want to point out that all TACs are at or below the SSC recommended ABCs, and the TACs for all non-target species are set at or above the anticipated catches for these species in 2012.

Mr. Chairman, I also want to note that the pollock ABC results from a high quality stock assessment process, and that although there has been some debate about the ABC, the Plan Team and the SSC have recommended the 1.375 million ton ABC, and both have commended the assessment author on the effort he and others at the AFSC have put into the pollock assessment. For all of the assessments, the work of the Plan Teams and the SSC provide a solid foundation on which to base the management of our marine resources.

Mr. Chairman, I also want to mention that the BSAI fisheries are managed tightly, and for those species where TAC is set equal to ABC, we can have confidence that the fishery catch will not exceed the ABC. And there do not appear to be any environmental factors that indicate the need to set the TAC below the ABCs. Also, the sum of the ABCs for 2013 and 2014 exceed the 2 million ton OY limit by more than 600,000 tons, and so the Council must set the TACs of many species below the SSC recommended ABCs, in order to bring the sum of the TACs down to match the two-million ton OY limit.

Mr. Chairman, based on the recommendation of the AP, and with a broad range of industry input, this motion contains a set of TACs that are fair and equitable between stakeholders. And so I believe the TACs in my motion provide the best opportunity to achieve OY while avoiding overfishing and remaining under the 2.0 million ton OY cap.

Mr. Chairman, I want to now move to the PSC allocations, and I have four PSC tables to include in the motion. The tables show PSC allocations for halibut mortality, herring, red king crab, opilio crab, and tanner crab. I want to note that only the herring and opilio crab total PSC amounts have changed from those from this year (2012). The total amounts and the target fishery allocations are noted in Tables 11, 12, and 13 that I have provided. The Table 14 includes the seasonal apportionments for halibut mortality for the non-trawl fisheries, and shows the same apportionments as for last year.

As noted in the briefing memo, the total opilio PSC allocation increased to 10,501,333 crabs from 7,029,520 crabs, and the herring PSC amount increased to 2,648 tons from 2,094 tons. The target fishery allocations of these higher PSC amounts are shown in Tables 12 and 13.

DONE DURING THE B2 PRESENTATION & DISCUSSION WITH COUNCIL MS. FUNK DESCRIBED THE EFFORT NMFS INTENDS WITH INDUSTRY TO MANAGE TO THESE TACS.

WE ALSO ~~AT EBY~~ ANY YEAR SPECIES CAN BE CONSTRAINED BY PSC LIMITS ON ATTAINED TACS. (ON BACK)

THE COUNCIL ALSO ADOPTS THE HALIBUT DISCARD MORTALITY RATES FOR COD AND NON-COD AS SHOWN IN TABLE 8 ON PAGE 14 OF THE ACTION MEMO AGENDA ITEM C-4(C)(7)

Table 2. SSC recommendations for BSAI Groundfish 2013 through 2014 OFLs and ABCs shown with the 2012 OFL, ABC, TAC, and Catch amounts in metric tons (2012 catches through November 3 from AKR Catch Accounting include CDQ). Recommendations are marked in **bold** where SSC recommendations differ from those of the BSAI Plan Team.

		2012				2013		2014	
Species	**Area**	**OFL**	**ABC**	**TAC**	**Catch**	**OFL**	**ABC**	**OFL**	**ABC**
Pollock	EBS	2,474,000	1,220,000	1,186,000	1,202,560	*2,550,000*	*1,375,000*	*2,730,000*	*1,430,000*
	AI	39,600	32,500	19,000	972	45,600	37,300	48,600	39,800
	Bogoslof	22,000	16,500	500	79	13,400	10,100	13,400	10,100
Pacific cod	BSAI	369,000	314,000	275,000	223,939	359,000	307,000	379,000	323,000
Sablefish	BS	2,640	2,230	2,230	717	1,870	1,580	1,760	1,480
	AI	2,430	2,050	2,050	1,180	2,530	2,140	2,370	2,010
Yellowfin sole	BSAI	222,000	203,000	202,000	137,716	220,000	206,000	219,000	206,000
Greenland turbot	*Total*	11,700	9,660	8,660	4,401	2,540	2,060	3,270	2,650
	EBS	n/a	7,230	6,230	2,744	n/a	1,610	n/a	2,070
	AI	n/a	2,430	2,430	1,657	n/a	450	n/a	580
Arrowtooth flounder	BSAI	181,000	150,000	25,000	22,227	*186,000*	*152,000*	*186,000*	*152,000*
Kamchatka flounder	BSAI	24,800	18,600	17,700	9,558	16,300	12,200	16,300	12,200
Northern rock sole	BSAI	231,000	208,000	87,000	75,806	241,000	214,000	229,000	204,000
Flathead sole	BSAI	84,500	70,400	34,134	11,011	81,500	67,900	80,100	66,700
Alaska plaice	BSAI	64,600	53,400	24,000	16,124	67,000	55,200	60,200	55,800
Other flatfish	BSAI	17,100	12,700	3,200	3,452	17,800	13,300	17,800	13,300
Pacific ocean perch	*Total*	35,000	24,700	24,700	21,837	41,900	35,100	39,500	33,100
	EBS	n/a	5,710	5,710	3,280	n/a	8,130	n/a	7,680
	EAI	n/a	5,620	5,620	5,519	n/a	9,790	n/a	9,240
	CAI	n/a	4,990	4,990	4,800	n/a	6,980	n/a	6,590
	WAI	n/a	8,380	8,380	8,238	n/a	10,200	n/a	9,590
Northern rockfish	BSAI	10,500	8,610	4,700	2,474	12,200	9,850	12,000	9,320
Blackspotted/Rougheye	*Total*	576	475	475	204	**462**	**378**	**524**	**429**
	EBS/EAI	n/a	231	231	74	n/a	**169**	n/a	**189**
	CAI/WAI	n/a	244	244	130	n/a	**209**	n/a	**240**
Shortraker rockfish	BSAI	524	393	393	305	493	370	493	370
Other rockfish	*Total*	1,700	1,280	1,070	924	1,540	1,160	1,540	1,160
	EBS	n/a	710	500	191	n/a	686	n/a	686
	AI	n/a	570	570	733	n/a	473	n/a	473
Atka mackerel	*Total*	96,500	81,400	50,763	47,755	57,700	50,000	56,500	48,900
	EAI/BS	n/a	38,500	38,500	37,237	n/a	16,900	n/a	16,500
	CAI	n/a	22,900	10,763	10,323	n/a	16,000	n/a	15,700
	WAI	n/a	20,000	1,500	195	n/a	17,100	n/a	16,700
Skate	BSAI	39,100	32,600	24,700	22,338	45,800	38,800	44,100	37,300
Sculpin	BSAI	58,300	43,700	5,200	5,469	56,400	42,300	56,400	42,300
Shark	BSAI	1,360	1,020	200	81	1,360	1,020	1,360	1,020
Squid	BSAI	2,620	1,970	425	678	2,620	1,970	2,620	1,970
Octopus	BSAI	3,450	2,590	900	132	3,450	2,590	3,450	2,590
Total	BSAI	3,996,000	2,511,778	2,000,000	1,811,939	4,028,465	2,639,317	4,205,287	2,697,498

Final 2012 OFLs, ABCs, and TACs from 2012-2013 final harvest specifications; total catch updated through November 3, 2012.

Italics indicate where the Team differed from the author's recommendation.