


MEMORANDUM

TO: Council, AP and SSC
FROM: Chris Oliver 
Executive Director
DATE: November 25, 2010
SUBJECT: BSAI Groundfish SAFE Report and 2011/2012 harvest specifications

ESTIMATED TIME
6 HOURS
(All C-7 items)

ACTION REQUIRED

- (a) Approve the Bering Sea/Aleutian Islands (BSAI) Stock Assessment and Fishery Evaluation (SAFE) Report and final BSAI groundfish harvest specifications for 2011 and 2012:
1. Total Allowable Catch (TAC)
 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

BACKGROUND

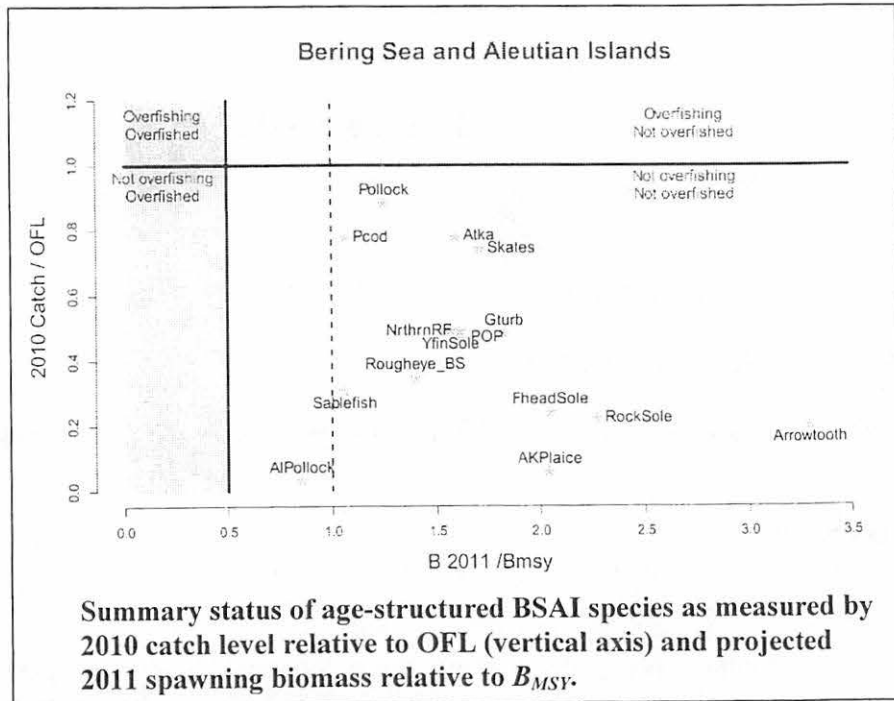
At this meeting, the Council will adopt the BSAI SAFE Report and final recommendations on groundfish harvest specifications and PSC limits to manage the 2011 and 2012 Bering Sea/Aleutian Islands (BSAI) groundfish fisheries. Upon publication in the *Federal Register*, these specifications will replace those that will start the groundfish fisheries on January 1, 2011.

BSAI SAFE Report. The BSAI Groundfish Plan Team met in Seattle on November 15-19, 2010, 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 24, 2010. The full report, including the Economic SAFE report and Ecosystems Considerations chapter, was mailed to the SSC and is available through the Council website. The Council will review and adopt the full report at this meeting.

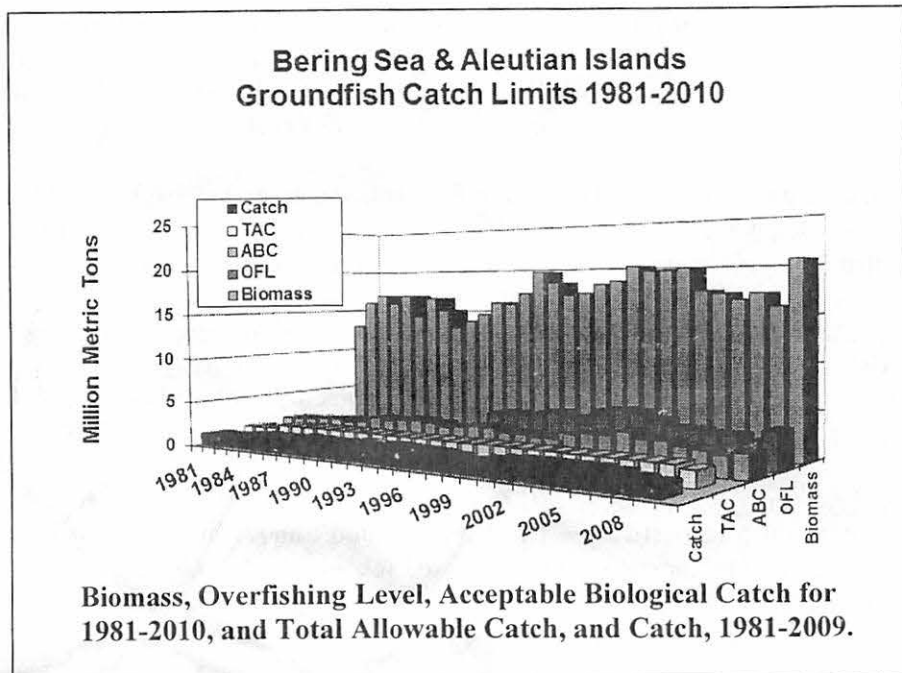
The Plan Team's recommendations for final specifications for 2011 and 2012 are attached as Item C-7(a)(1). In October, the Council adopted proposed harvest specifications of OFL and ABC for 2011 and 2012 that were based on last year's stock assessments (Item C-7(a)(2)). In this SAFE report, the Plan 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. November 2010 Plan Team minutes are attached as Item C-7(a)(3). Joint Team minutes are attached as Item C-7(a)(4). The SSC and AP recommendations will be provided to the Council during the meeting.

ABCs, TACs, and Apportionments The sum of the recommended ABCs for 2011 and 2012 are 2,530,000 t and 2,910,000 t, respectively. These are 410,000 t above and 790,000 t above the sum of the 2010 ABCs (2,120,000 t), indicating an anticipated rebound in overall stock status in 2011, after declines in 2009 and 2010.

The status of groundfish stocks continues to appear relatively favorable. No groundfish stocks are being subjected to overfishing, overfished (generally defined as a spawning biomass below $\frac{1}{2} B_{MSY}$) or experiencing overfishing, as shown in the lower right quadrant of the figure (below). In fact, nearly all stocks are above B_{MSY} or its proxy. Many stocks are rebounding due to increased recruitment in recent years. The abundances of EBS pollock, Pacific cod, sablefish, all rockfishes managed under tier 3, all flatfishes managed under tiers 1 or 3, and Atka mackerel are projected to be above B_{MSY} in 2011. The abundance of AI pollock is the one exception, as it is projected to be about 14 percent below B_{MSY} in 2011.



Total groundfish biomass for 2011 (20.5 million t) is up 30 percent compared to 2010 groundfish biomass (15.9 million t). Groundfish ABCs recently had trended down for gadoids, but generally up for flatfishes until an apparent rebound for many stocks in 2010. The 2010 bottom trawl survey biomass estimate for *pollock* was 3.75 million t, up 64 percent from the 2009 estimate, but still below average for the 1987-2010 time series. The estimate from the acoustic-trawl survey was 2.32 million t, up 151 percent from the 2009 estimate, but still below average for the 1979-2010 time series. Following the highest observation in 1994, the *Pacific cod* bottom trawl survey biomass estimate declined steadily through 1998, and remained around 600,000 t from 2002 through 2005. After all-time lows from 2006 through 2008 the 2009 Bering Sea survey biomass for Pacific cod was slightly higher than the 2008 estimate, and the 2010 biomass estimate was more than double the 2009 estimate. The 2006 and 2008 year classes



appear to be strong, and stock abundance is expected to increase substantially in the near term; however, these follow a string of five consecutive sub-par year classes spawned from 2001-2005. The 2010 Aleutian Islands biomass estimate of 68,200 t was down 26 percent from the 2006 estimate, and is the lowest point in the survey time series. Updating the standard approach for estimating biomass distribution for the two areas for the time series through 2010 indicates that the best estimate is 91 percent in the EBS and 9 percent in the AI, replacing the previous proportions of 84 percent and 16 percent, respectively.

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

Beginning in 2008, the head and gut trawl catcher/processor sector, which targets flatfish, Pacific cod, Pacific Ocean perch, and Atka mackerel, was allocated groundfish TACs and PSC limits and allow members of the “Amendment 80” sector to join a cooperative. 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, as presented in Table 7a for proposed 2011 and 2012 PSC limits under Item C-7(a)(5). 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) as presented in Table 7c. There is no Amendment 80 limited access sector in 2011. PSC CQ assigned to Amendment 80 cooperative 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. The Council may revise the proposed 2011 and 2012 fishery category allocations for the BSAI trawl limited access sector as shown in Tables 7b, and 7c.

Halibut Trawl Fisheries: The halibut PSC limit can be apportioned to the trawl fishery categories as shown in the box at right. While an overall PSC limit of 3,675 t has been established for trawl gear, Amendment 80 effectively will reduce the PSC limit by 150 mt between 2008 (3,675 t) and 2012 (3,526 t). The PSC limit apportionments for 2011 and 2012 are shown at right. 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.

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)

Schedule for Halibut Trawl PSC Limits for 2011-2012		
2011	3,576	Total Trawl Halibut Apportionment
	2,375	Amendment 80
	875	Trawl Limited Access
	326	CDQ Allocation
2012	3,526	Total Trawl Halibut Apportionment
	2,325	Amendment 80
	875	Trawl Limited Access
	326	CDQ Allocation

Halibut Fixed Gear Fisheries: A 900 t non-trawl gear halibut mortality limit can be apportioned to the fishery categories listed in the adjacent box. 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 (see Table 7c).

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 2010 estimate of effective spawning biomass of 67.4 million

PSC limits for red king crab and <i>C. bairdi</i> 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

pounds, the PSC limit for 2011 is 197,000 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 cap has generally been allocated among the pollock/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 2010 abundance (379 million crab), the PSC limit in 2011 for *C. bairdi* will be 830,000 *C. bairdi* crab in Zone 1 and 2,520,000 crab 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 cap is set at 0.1133% of the total snow crab survey abundance index, with a minimum cap of 4.5 million snow crab and a maximum cap of 13 million snow crab; the cap is further reduced by 150,000 crab. The 2010 survey estimate of 7,467,326,120 crabs result in a 2011 *opilio* crab PSC limit of 8,310,480 crabs. Snow crab taken within the "*C. opilio* Bycatch Limitation Zone" accrues toward the PSC limits established for the trawl sectors.

Herring: In 1991, an overall herring PSC bycatch limit of 1 percent of the EBS biomass of herring was implemented. This cap is apportioned to the seven PSC fishery categories. The ADF&G estimate of herring spawning biomass for the eastern Bering Sea in 2011 is 227,269 t, which is 34 percent higher than the 2010 estimate of 169,675 t (Item C-7(a)(6)). The corresponding herring PSC limit for 2011 at 1 percent of this amount is 2,273 t.

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

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| <p>Factors to be considered for seasonal apportionments of bycatch allowances.</p> <ol style="list-style-type: none"> 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. |
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