

# Stranded GOA Pacific Cod TAC in the Trawl B Season Discussion Paper December 2017

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In December 2016 the Council requested that staff draft a discussion paper describing the stranding of Pacific cod TAC in the B season of the GOA trawl fishery.<sup>1</sup> In this context, “stranding” refers to TAC that is allocated to a sector but is not caught and landed. The Council asked that the paper consider whether or how the stranding of Pacific cod TAC relates to regulatory allocations across gear and vessel size categories, season dates, and the apportionment of TAC to particular regulatory areas and seasons.

## 1 Allocation and catch of GOA Pacific cod

This section summarizes how the GOA Pacific cod TAC is allocated across seasons and gear sectors, and how much of the B season TAC has been harvested in recent years. The section also describes NMFS’s policy for reallocating Pacific cod TAC that would go unharvested in one sector to other sectors that could use it to cover additional directed fishing or incidental catch. Finally, two simple measures are included to describe cross-participation (or endorsements to participate) of GOA trawl vessels in other Pacific cod fisheries (i.e., state-waters pot gear or Federal fixed-gear).

### 1.1 TAC allocation

The GOA Pacific cod TAC is allocated across two seasons and multiple gear/operational-type sectors. The TACs that are allocated annually to the Western and Central GOA are divided into A seasons with 60% of the area’s annual TAC and B seasons with the other 40% of the TAC. For trawl vessels, the A season runs from January 20 to June 10 and the B season runs from September 1 to November 1. For fixed-gear vessels, the A season runs from January 1 to June 10 and the B season runs from September 1 to December 31. The basis for this seasonal apportionment scheme was established when the Council and NMFS implemented measures to prevent groundfish fisheries from jeopardizing or otherwise adversely affecting ESA-listed stocks of Steller sea lions.

NMFS issued a biological opinion (BiOp) on November 30, 2000 that evaluated all authorized federal groundfish fisheries and the overall management framework established by the GOA and BSAI FMPs. After analyzing the cumulative, direct, and indirect effects of the groundfish fisheries authorized by the

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<sup>1</sup> <http://npfmc.legistar.com/gateway.aspx?M=F&ID=d20acc3d-faa0-4c48-9cf1-95d3c39f9ed0.pdf>

GOA and BSAI FMPs on listed species, NMFS concluded in the Comprehensive BiOp that the Alaska groundfish fisheries, as currently prosecuted, jeopardize the continued existence of the western population of Steller sea lions and adversely modify its critical habitat. The Comprehensive BiOp included an RPA that would allow a modified fishery to occur in a manner that would avoid jeopardy to the continued existence of Steller sea lions and adverse modification to their critical habitat. The RPA provisions were implemented as management measures in the emergency rule January 22, 2001 (66 FR 7278) effective January 20, 2001, and established two fishing seasons for trawl gear fishing for Pacific cod in the Gulf of Alaska: January 1–June 10 (60 percent of the allocation) and June 11– December 31 (40 percent). This change is consistent with the conclusions in the Comprehensive biological opinion, which indicated that a greater proportion of essential prey should be made available to Steller sea lions during the winter season. The season dates were changed to their current range for trawl fisheries in 2003, following a subsequent BiOp issued by NMFS in 2001 as part of an ESA section 7 consultation.

Since the implementation of GOA Groundfish FMP Amendment 83 in 2012, the A and B season GOA Pacific cod TACs have been further divided between five sectors in the Western GOA and six sectors in the Central GOA. The Council established Pacific cod sector allocations after efforts to rationalize the GOA groundfish fisheries – in progress since 1999 – were halted in 2006. The sector allocations were part of a package of GOA actions intended to enhance stability in the fishery by reducing competition between sectors and preserving historical participation; those actions also included limiting entry by extinguishing latent LLP licenses. Regulations at Section 679.20 (a)(12)(i) show the allocations for each sector (Table 1 and Table 2). Sectors that receive a small percentage of the seasonal TAC tend to be those that encounter Pacific cod as incidental catch that must be retained (as an IR/IU species), but do not directed fish for cod. Note that the Western GOA trawl CVs receive a relatively greater proportion of their annual TAC allocation in the A season, as they do not target Pacific cod in the fall.<sup>2</sup>

Table 3 shows the seasonal apportionments and sector allocations (in metric tons) for 2017. These constitute the TACs for the Federally managed and parallel waters Pacific cod fisheries (noting that 27.1% of the ABC is apportioned to the State of Alaska’s Pacific cod GHL fisheries). As is further described in Section 3.1 of this paper, the GOA Groundfish Plan Team is recommending an 80% reduction in ABC for 2018, relative to 2017 levels. A final ABC recommendation will be determined by the SSC at the December Council meeting. Given the current recommendation, the Council will be considering TAC levels that are significantly lower next year.

**Table 1 Sector Allocations for Western GOA Pacific cod TAC**

Sector	Gear type	Operation Type	Seasonal allowances	
			A season (in percent)	B season (in percent)
(1)	Hook-and-Line	Catcher vessel	0.70	0.70
(2)	Hook-and-Line	Catcher/Processor	10.90	8.90
(3)	Trawl	Catcher vessel	27.70	10.70
(4)	Trawl	Catcher/Processor	0.90	1.50
(5)	Pot	Catcher Vessel and Catcher/Processor	19.80	18.20

<sup>2</sup> The 60/40 A-B season TAC split is applied across all of the Western GOA sectors, but seasonal apportionments to any specific sector may deviate from that.

**Table 2 Sector Allocations for Central GOA Pacific cod TAC**

Sector	Gear type	Operation Type	Length overall in feet	Seasonal allowances	
				A season (in percent)	B season (in percent)
(1)	Hook-and-Line	Catcher vessel	< 50	9.31552	5.28678
(2)	Hook-and-Line	Catcher vessel	≥ 50	5.60935	1.09726
(3)	Hook-and-Line	Catcher/Processor	Any	4.10684	0.99751
(4)	Trawl	Catcher vessel	Any	21.13523	20.44888
(5)	Trawl	Catcher/Processor	Any	2.00334	2.19451
(6)	Pot	Catcher Vessel and Catcher/Processor	Any	17.82972	9.97506

**Table 3 2017 seasonal apportionments and allocation of the GOA Pacific cod TAC**

Regulatory area and sector	Annual allocation (mt)	A season		B season	
		Sector percentage of annual non-jig TAC	Seasonal allowances (mt)	Sector percentage of annual non-jig TAC	Seasonal allowances (mt)
<b>Western GOA:</b>					
Jig (2.5% of TAC) .....	635	N/A	381	N/A	254
Hook-and-line CV .....	347	0.70	173	0.70	173
Hook-and-line C/P .....	4,904	10.90	2,700	8.90	2,204
Trawl CV .....	9,511	27.70	6,861	10.70	2,650
Trawl C/P .....	594	0.90	223	1.50	372
All Pot CV and Pot C/P .....	9,412	19.80	4,904	18.20	4,508
<b>Total .....</b>	<b>25,404</b>	<b>60.00</b>	<b>15,242</b>	<b>40.00</b>	<b>10,161</b>
<b>Central GOA:</b>					
Jig (1.0% of TAC) .....	331	N/A	199	N/A	133
Hook-and-line <50 CV .....	4,790	9.32	3,056	5.29	1,734
Hook-and-line ≥50 CV .....	2,200	5.61	1,840	1.10	360
Hook-and-line C/P .....	1,674	4.11	1,347	1.00	327
Trawl CV <sup>1</sup> .....	13,641	21.14	6,933	20.45	6,708
Trawl C/P .....	1,377	2.00	657	2.19	720
All Pot CV and Pot C/P .....	9,121	17.83	5,849	9.97	3,272
<b>Total .....</b>	<b>33,135</b>	<b>60.00</b>	<b>19,881</b>	<b>40.00</b>	<b>13,254</b>
<b>Eastern GOA .....</b>	<b>5,903</b>	<b>Inshore (90% of Annual TAC) 5,313</b>		<b>Offshore (10% of Annual TAC) 590</b>	

<sup>1</sup> Trawl vessels participating in Rockfish Program cooperatives receive 3.81 percent, or 1,262 mt, of the annual Central GOA TAC (see Table 28c to 50 CFR part 679), which is deducted from the Trawl CV B season allowance (see Table 12).

Source: GOA Harvest Specifications Table 5, available at [https://alaskafisheries.noaa.gov/sites/default/files/17\\_18goatable5.pdf](https://alaskafisheries.noaa.gov/sites/default/files/17_18goatable5.pdf)

## 1.2 B season harvested amounts

Table 4 and Table 5 show the amount of Pacific cod quota available for the B seasons in the various Western and Central GOA gear/operational-type sectors, and the amount of that quota that was harvested. (Data for 2017 is updated through November 11). Harvest rates in the Western GOA CV trawl sector are notably low compared to the Central GOA, as this sector only targets pollock during that time of year and encounters Pacific cod as incidental catch. In the Western GOA the pot sector accounts for the largest proportion of the total harvest. In the Central GOA both the CV trawl sector and the combined CV/CP pot sector receive sizable catch limits and often catch half or more of the quota. In both areas, the 2017 pot sector (to date) has caught an unusually low percentage of the available Pacific cod. In the Central GOA, the CV trawl sector's B season catch displays a notable drop-off from the preceding years in 2016 and 2017. No sector in either area consistently approached its full B season TAC allocation with regularity during the years considered.

**Table 4 Western GOA Pacific cod B season TAC (mt) and percent caught, 2013 through Nov. 11, 2017**

		Trawl CV	Trawl CP	Pot	HAL CV	HAL CP	Jig
2013	TAC	113	210	5,764	345	1,840	212
	% Taken	73%	0%	84%	21%	26%	111%
2014	TAC	1,491	335	4,617	206	1,989	529
	% Taken	53%	40%	95%	25%	75%	85%
2015	TAC	2,797	392	4,758	183	2,326	379
	% Taken	8%	12%	36%	14%	52%	0%
2016	TAC	2,927	410	4,979	191	2,435	397
	% Taken	1%	1%	22%	8%	51%	0%
2017	TAC	2,650	372	4,508	173	2,204	254
	% Taken	1%	0%	4%	63%	71%	0%

Source: NMFS Seasonal Catch Reports – Pacific cod; available at <https://alaskafisheries.noaa.gov/fisheries-catch-landings>

**Table 5 Central GOA Pacific cod B season TAC (mt) and percent caught, 2013 through Nov. 11, 2017**

		Trawl CV	Trawl CP	Pot	HAL CV <50	HAL CV ≥50	HAL CP	Jig
2013	TAC	6,408	1,795	3,614	1,915	398	361	296
	% Taken	52%	19%	42%	65%	82%	0%	1%
2014	TAC	7,981	856	4,212	2,063	428	389	0*
	% Taken	42%	40%	110%	102%	79%	51%	0%
2015	TAC	5,558	999	6,542	2,407	500	454	184
	% Taken	77%	15%	78%	48%	24%	33%	6%
2016	TAC	5,078	803	4,652	1,936	402	365	148
	% Taken	28%	15%	85%	1%	4%	30%	0%
2017	TAC	5,446	720	3,272	1,734	360	327	132
	% Taken	16%	22%	3%	5%	16%	0%	1%

\* 2014 Jig sector caught 28 mt in the B season, which was covered by 63 mt of remaining quota from the A season.

Source: NMFS Seasonal Catch Reports – Pacific cod; available at <https://alaskafisheries.noaa.gov/fisheries-catch-landings>

### 1.3 Reallocation policy

Regulations to implement sector apportionments of GOA Pacific cod TAC include language about the reallocation of TAC for underages and overages, and also for inseason reallocations “if [... NMFS] determines that a sector will be unable to harvest the entire amount of Pacific cod allocated to [a] sector.”<sup>3</sup> These inseason actions are noticed in the Federal Register and posted on the NMFS Alaska Region website as Information Bulletins (IB). Each such IB notes that “the action is necessary to allow the total allowable catch of Pacific cod to be harvested.” That consistent rationale across all inseason reallocation actions underlines the fact that NMFS has a tool, and is using it, to minimize the stranding of Pacific cod TAC.

Regulations state that NMFS should apply this tool in the form of a policy that takes into account “the capability of a sector [...] to harvest the remaining Pacific cod TAC.” There are no set dates upon which reallocations should occur; NMFS relies on its management expertise as well as communication with the

<sup>3</sup> Section 679.20(a)(12)(ii)

fleets about their expected levels of activity and/or encounter rates of Pacific cod that – as an IR/IU species – must be retained when the season is open, or up to an MRA if the season is closed. Setting specific dates for reallocation would reduce management flexibility, and in rare cases might prevent a sector from harvesting part of its TAC late in the season if fish aggregations or market conditions shift unexpectedly. In practice, NMFS reallocates TAC that will go unharvested either to sectors that have the ability and desire to catch additional Pacific cod, or to sectors that have small cod allocations that are meant to cover incidental catch and could use additional TAC as a precautionary measure to prevent an overage (e.g., trawl CPs or Western GOA HAL CVs).

The regulations provide a hierarchy that guides preference in reallocations if there are competing needs for additional TAC that would be going unharvested. That hierarchy states that NMFS should consider reallocation to CV sectors first, then reallocation to the combined CV and CP pot sector, and then to any of the other CP sectors (trawl and HAL).

Table 6 and Table 7 list all of the inseason cod reallocations that were executed in the Western and Central GOA from 2012 (when sector allocations were implemented) through 2016. Only one reallocation occurred in the A season (March 18, 2016, Central GOA HAL CV TAC was reallocated to the pot and jig sectors). Sectors tend to reach their A season allocations in most years, and sectors that use Pacific cod TAC to cover incidental catch often need their allocation to cover late spring fishing prior to June 10 when the B season TAC becomes available. Table 6 shows the record for the Western GOA. No inseason reallocations occurred in 2015 or 2016. The dates of reallocations in previous years ranged from August 30 to December 2. Four of the five reallocations moved TAC from the trawl CV sector to other sectors; those actions occurred on August 30, October 23, October 31, and December 2; the fifth was a reallocation from the trawl CP sector. No reallocations were made *to* the trawl CV sector. Seven reallocations have occurred in the Central GOA (Table 7). The dates of the six that were in the B season ranged from October 23 to December 27. Five of those reallocations took Pacific cod TAC out of the trawl CV sector.

**Table 6 Western GOA Pacific cod reallocations in metric tons (2012 – 2016)**

Year	Action	IB #	Jig	Pot Gear (CP and CV)	HAL CP	HAL CV	Trawl CP	Trawl CV	TOTAL TAC	ABC	OFL for entire GOA
2012	Initial Allocation		315	7,869	4,100	290	497	7,952	<b>21,024</b>	28,032	104,000
	Reallocation	12-67	150	0	0	0	0	-150			
	Reallocation	12-83	0	2,000	-600	0	0	-1,400			
	<b>Final Allocation</b>		<b>465</b>	<b>9,869</b>	<b>3,500</b>	<b>290</b>	<b>497</b>	<b>6,402</b>			
2013	Initial Allocation		530	7,859	4,094	290	496	7,941	<b>21,210</b>	28,280	97,200
	Reallocation	13-62	0	0	0	100	-100	0			
	Reallocation	13-81	0	2,000	0	100	0	-2,100			
	<b>Final Allocation</b>		<b>530</b>	<b>9,859</b>	<b>4,094</b>	<b>490</b>	<b>396</b>	<b>5,841</b>			
2014	Initial Allocation		573	8,492	4,425	313	536	8,582	<b>22,922</b>	32,745	107,300
	Reallocation	14-62	300	550	0	50	0	-900			
	<b>Final Allocation</b>		<b>873</b>	<b>9,042</b>	<b>4,425</b>	<b>363</b>	<b>536</b>	<b>7,682</b>			
2015	Initial Allocation		948	9,934	5,176	366	627	10,039	<b>27,091</b>	38,702	140,300
	Reallocation	none	0	0	0	0	0	0			
	<b>Final Allocation</b>		<b>948</b>	<b>9,934</b>	<b>5,176</b>	<b>366</b>	<b>627</b>	<b>10,039</b>			
2016	Initial Allocation		992	10,397	5,417	383	657	10,506	<b>28,352</b>	40,503	116,700
	Reallocation	none	0	0	0	0	0	0			
	<b>Final Allocation</b>		<b>992</b>	<b>10,397</b>	<b>5,417</b>	<b>383</b>	<b>657</b>	<b>10,506</b>			

Source: NMFS, available at [https://alaskafisheries.noaa.gov/sites/default/files/GOA\\_Pcod\\_reallocation\\_2012-2016.pdf](https://alaskafisheries.noaa.gov/sites/default/files/GOA_Pcod_reallocation_2012-2016.pdf).

**Table 7 Central GOA Pacific cod reallocations in metric tons (2012 – 2016)**

Year	Action	IB #	Jig	Pot Gear (CV and CP)	HAL CP	HAL CV ≥ 50	HAL CV < 50	Trawl CP	Trawl CV	Rockfish Program Cooperatives	TOTAL TAC	ABC	OFL for entire GOA
2012											42,705	56,940	104,000
	Initial Allocation		427	11,755	2,158	2,835	6,174	1,775	15,954	1,627			
	Reallocation	12-85	300	1,500	0	0	0	0	-1,800	0			
	Reallocation	12-90	0	750	0	0	200	0	-950	0			
	<b>Final Allocation</b>		<b>727</b>	<b>14,005</b>	<b>2,158</b>	<b>2,835</b>	<b>6,374</b>	<b>1,775</b>	<b>13,204</b>	<b>1,627</b>			
2013											36,966	49,288	97,200
	Initial Allocation		739	10,073	1,849	2,430	5,290	1,521	13,657	1,408			
	Reallocation	13-82	0	0	0	0	0	1,000	-1,000	0			
	<b>Final Allocation</b>		<b>739</b>	<b>10,073</b>	<b>1,849</b>	<b>2,430</b>	<b>5,290</b>	<b>2,521</b>	<b>12,657</b>	<b>1,408</b>			
2014											39,825	53,100	107,300
	Initial Allocation		797	10,852	1,992	2,617	5,699	1,638	14,713	1,517			
	Reallocation	14-61	-500	500	0	0	0	0	0	0			
	<b>Final Allocation</b>		<b>297</b>	<b>11,352</b>	<b>1,992</b>	<b>2,617</b>	<b>5,699</b>	<b>1,638</b>	<b>14,713</b>	<b>1,517</b>			
2015											45,990	61,320	140,300
	Initial Allocation		460	12,660	2,324	3,054	6,648	1,911	17,181	1,752			
	Reallocation	15-65	0	2,000	0	0	0	0	-2,000	0			
	<b>Final Allocation</b>		<b>460</b>	<b>14,660</b>	<b>2,324</b>	<b>3,054</b>	<b>6,648</b>	<b>1,911</b>	<b>15,181</b>	<b>1,752</b>			
2016											36,984	49,312	116,700
	Initial Allocation		370	10,180	1,869	2,456	5,347	1,537	13,817	1,409			
	Reallocation	16-31	200	1,500	0	-700	-1,000	0	0	0			
	Reallocation	16-93	0	1,000	0	0	0	0	-1,000	0			
	<b>Final Allocation</b>		<b>570</b>	<b>12,680</b>	<b>1,869</b>	<b>1,756</b>	<b>4,347</b>	<b>1,537</b>	<b>12,817</b>	<b>1,409</b>			

Source: NMFS, available at [https://alaskafisheries.noaa.gov/sites/default/files/GOA\\_Pcod\\_reallocation\\_2012-2016.pdf](https://alaskafisheries.noaa.gov/sites/default/files/GOA_Pcod_reallocation_2012-2016.pdf).

#### 1.4 Summary of endorsements on GOA trawl CV LLP licenses

While the discussion in this paper is not strictly limited to Pacific cod stranded in the trawl sector, the Council’s motion specifically referenced the trawl B season. If the Council were to consider sector or seasonal allocation changes that could affect participation or harvest opportunities in one fishery or another, it may be of use to understand the degree to which LLP license holders hold endorsements for multiple trawl areas or gear sectors for Pacific cod. Table 8 is a matrix of the endorsements associated with the 124 GOA CV trawl licenses. For example, the table shows that the 78 licenses with a Western GOA trawl endorsement also contain 51 Central GOA trawl endorsements, 31 Bering Sea trawl endorsements, and five Aleutian Islands trawl endorsements. Thirty of those 78 licenses also have a Western GOA Pacific cod pot endorsement, but only three are endorsed to fish Pacific cod with pot gear in the Central GOA. A relatively small number of GOA trawl-endorsed LLPs also have endorsements to fish Pacific cod with HAL or jig gear.

Note that not all fishing opportunities require an LLP license or endorsement – most notably of which is the state-waters Pacific cod pot fishery. Table 9 shows the number of vessels that trawled in each GOA area (WG/CG) and also participated in the state-waters pot fishery. The number of vessels that trawled in both GOA areas and fished state-waters pot cod ranged from zero to three, except for a spike to 10 such vessels in 2014.

**Table 8 Endorsements associated with the 124 CV trawl-endorsed LLP licenses**

	AI_TRW	BS_TRW	CG_TRW	WG_TRW	AI_CV_PCOD_HAL	AI_CV_PCOD_POT	BS_CV_PCOD_HAL	BS_CV_PCOD_POT	CG_CV_PCOD_HAL	CG_CV_PCOD_POT	CG_CV_PCOD_JIG	WG_CV_PCOD_HAL	WG_CV_PCOD_POT	WG_CV_PCOD_JIG
AI_TRW	8	7	4	5	1	0	0	0	1	0	0	0	0	0
BS_TRW	7	47	37	31	0	0	0	0	0	1	0	0	2	0
CG_TRW	4	37	97	51	0	0	0	0	0	6	0	0	17	0
WG_TRW	5	31	51	78	1	0	0	1	2	3	0	0	30	1
AI_CV_PCOD_HAL	1	0	0	1	1	0	0	0	1	0	0	0	0	0
AI_CV_PCOD_POT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BS_CV_PCOD_HAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BS_CV_PCOD_POT	0	0	0	1	0	0	0	1	0	0	0	0	1	0
CG_CV_PCOD_HAL	1	0	0	2	1	0	0	0	2	0	0	0	1	0
CG_CV_PCOD_POT	0	1	6	3	0	0	0	0	0	7	0	0	1	0
CG_CV_PCOD_JIG	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WG_CV_PCOD_HAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WG_CV_PCOD_POT	0	2	17	30	0	0	0	1	1	1	0	0	31	1
WG_CV_PCOD_JIG	0	0	0	1	0	0	0	0	0	0	0	0	1	1

Source: RAM LLP data

**Table 9 Vessels participating in both the GOA Pacific cod trawl fishery and state-waters Pacific cod pot fishery, 2011 through 2016**

	WG TRW & State POT	CG TRW & State POT
2011	14	5
2012	12	8
2013	10	5
2014	14	11
2015	11	3
2016	12	4

Source: CFEC Fish Ticket data provided by AKFIN.

## 2 Changing season dates or seasonal apportionment of Pacific cod TAC

If the Council wishes to address the issue of uncaught Pacific cod in the GOA trawl B season through changes to season dates or seasonal TAC apportionments, it should first consider whether such an action would trigger consultation under the Endangered Species Act (ESA) because of the potential effect on Steller sea lions. The Council should be aware that an ESA consultation is not necessarily limited to a particular management question, and would look at the full range of existing management measures that might affect listed Steller sea lion stocks. An appendix to this discussion paper provides an outline of the consultation process and potential outcomes. As part of the Magnuson-Stevens Act process, and in accordance with NEPA and Executive Order 12866, the Council would also need to evaluate the potential effects of those changes on the fisheries, their participants, and the environment. Below, this paper flags two elements of any future analysis: whether timing or TAC-apportionment changes would conflict with

other fisheries, and whether catching more of the annual Pacific cod TAC earlier in the year would have an obvious economic benefit in terms of the per unit value of harvested cod.

This paper does not analyze the costs and benefits of changing the annual apportionment of the GOA Pacific cod TAC between sectors (see Table 1 and Table 2). The need for, or potential benefit from, such an action might be analyzed in the allocation review that is scheduled for 2020, and is briefly described in Section 3.2 of this paper.

## 2.1 Timing of other fisheries

The NMFS Alaska Region website provides a useful graphic that depicts the general fishing seasons for groundfish in the GOA (Figure 1 and Figure 2).<sup>4</sup> The light-blue markers indicate when seasons are open for directed fishing, and the dark blue indicates when directed fishing tends to occur. Similar graphics that depict seasons in the BSAI are also available on the NMFS website.<sup>5</sup> Aside from the Central GOA Rockfish Program, few groundfish fisheries occur during the summer months. Smaller GOA groundfish vessels often fish for salmon in the summer, larger vessels might operate as salmon tenders or fish Bering Sea pollock and flatfish, and processing capacity is at a premium. Little GOA groundfish fishing occurs in the spring (April/May), aside from Central GOA flatfish trawling. While cross-over participation of Pacific cod trawl CVs in the halibut and sablefish IFQ fishery is minimal, fixed-gear vessels that fish B season Pacific cod are likely to be fishing IFQ in the spring after that fishery opens in March.

The NMFS General Timing figures below do not include the State of Alaska Pacific cod pot fisheries for the South Alaska Peninsula, Chignik, and Kodiak Areas. Table 9, above, noted that multiple vessels participate in both Federal Pacific cod trawl fishing and state-waters pot cod (as well as Federal pot cod) each year. Figure 3 shows the timing of participation in these fisheries, aggregated over 2008 through 2017. Under current regulation, the South Alaska Peninsula fishery opens on March 7 or seven days after the Western GOA Federal pot cod A season closes (whichever is later). The Chignik fishery opens on March 1 or seven days after the Central GOA Federal pot cod A season closes (whichever is later). The Kodiak fishery opens seven days after the Central GOA Federal pot cod A season closes. The South Alaska Peninsula and Chignik area fisheries are limited to vessels that are 58' LOA or less; larger vessels may participate in the Kodiak area, but the portion of the Kodiak area catch that they can take in aggregate is capped (25% of GHL). According to Figure 3, the GOA state-waters pot cod fisheries tend to have wound down by the 16<sup>th</sup> week of the calendar year, which would generally fall around mid-April. The percentage of the Pacific cod ABC that is allocated to the South Alaska Peninsula GHL was increased by 5% in 2013, which extended the season by one to two weeks relative to earlier years.

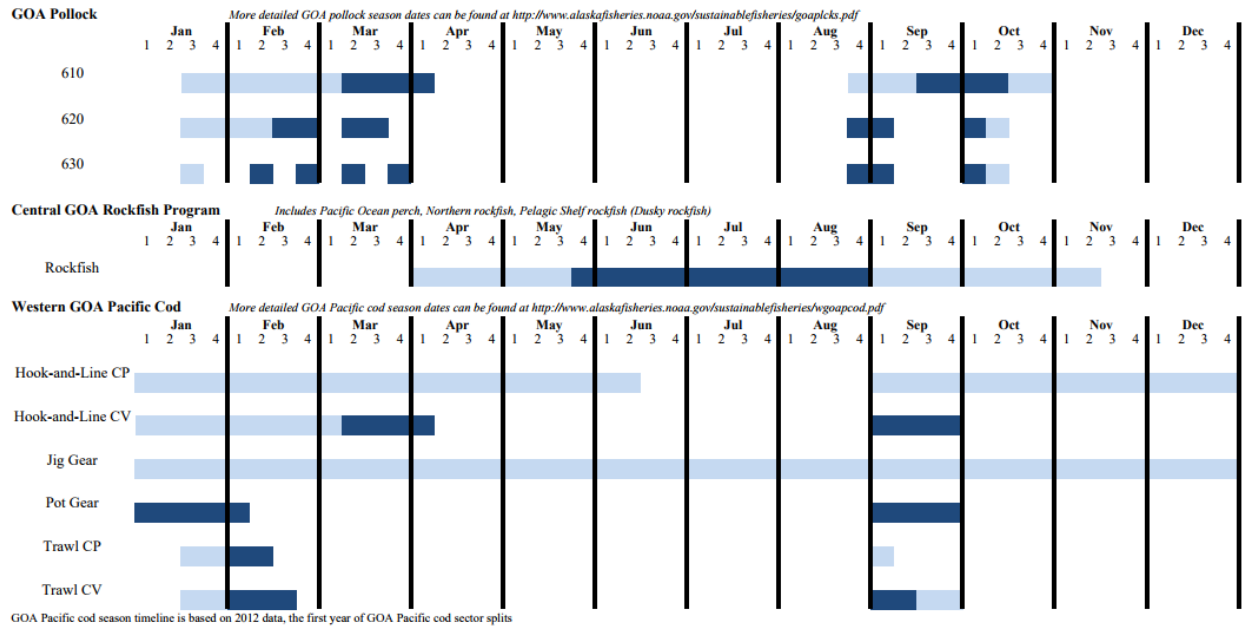
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<sup>4</sup> Higher resolution is available at [https://alaskafisheries.noaa.gov/sites/default/files/goa\\_fishing\\_seasons.pdf](https://alaskafisheries.noaa.gov/sites/default/files/goa_fishing_seasons.pdf).

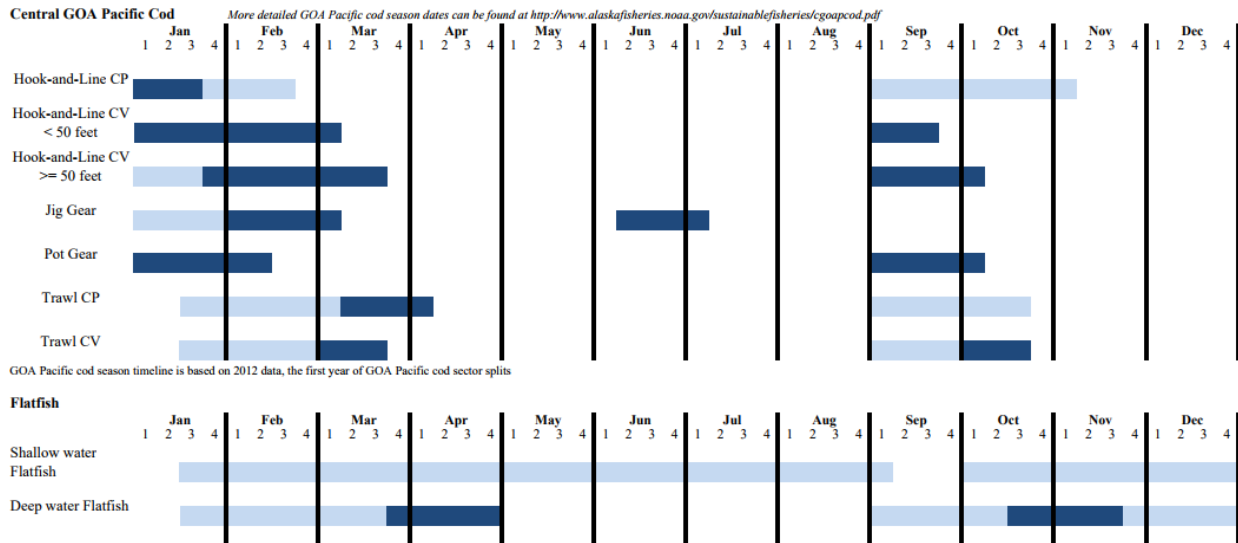
<sup>5</sup> [https://alaskafisheries.noaa.gov/sites/default/files/bsai\\_fishing\\_seasons.pdf](https://alaskafisheries.noaa.gov/sites/default/files/bsai_fishing_seasons.pdf)



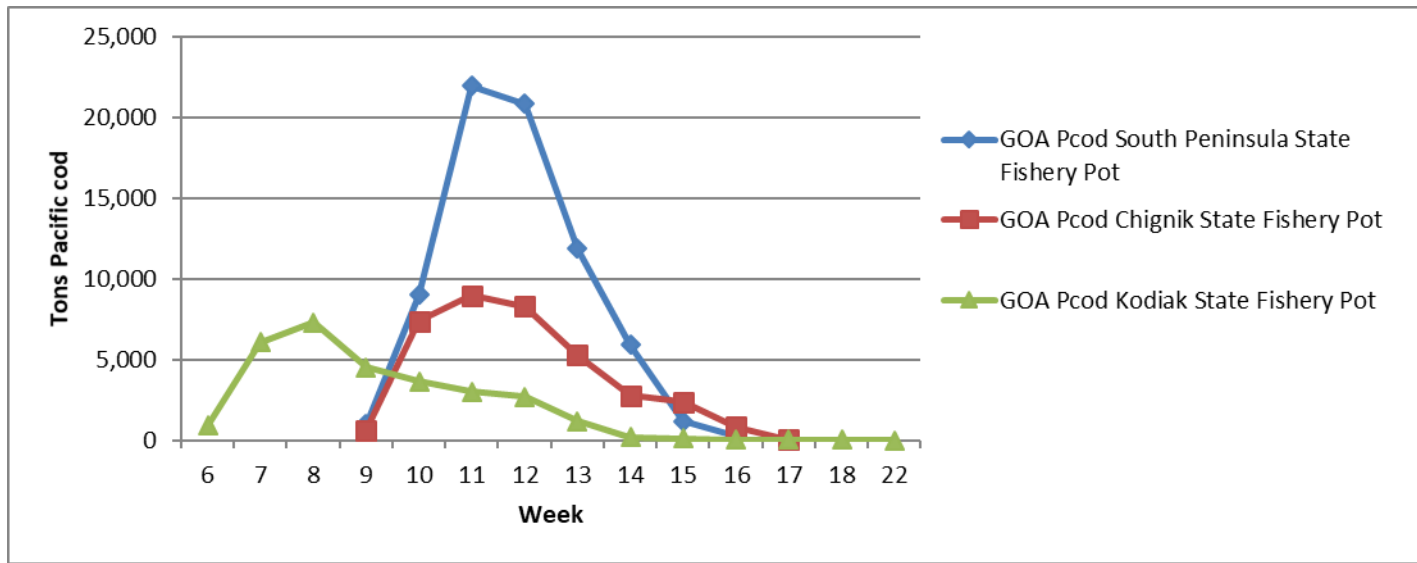
**Figure 1 General timing of GOA groundfish fisheries – pollock, CGOA Rockfish Program, and WGOA Pacific cod**



**Figure 2 General timing of GOA groundfish fisheries – CGOA Pacific cod and flatfish**



**Figure 3 Catch pattern of GOA state-waters Pacific cod pot fisheries, 2008 through 2017**



Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive\_BLEND\_CA.

## 2.2 Seasonal ex-vessel price trends

The following data on ex-vessel price trends are presented with regard to the consideration that – setting aside regulatory hurdles – Pacific cod TAC that is not being harvested in the B season might be reallocated to the A season. Were that to transpire, the Council would want to consider economic effects linked to different product values, in addition to the straight-forward benefit of bringing more tons of fish to market.

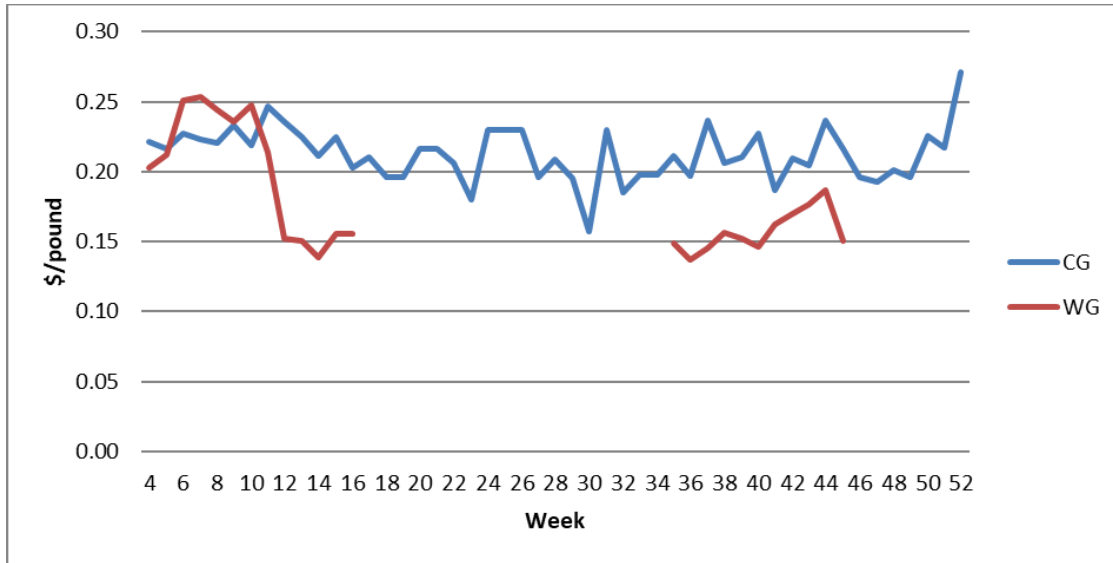
Figure 4 through Figure 7 show average nominal ex-vessel Pacific cod prices throughout the year, covering 2013 through 2016. The data show that prices for Western GOA trawl-caught Pacific cod tend to be higher in the A season relative to the B season, but that seasonal difference is not apparent in the Central GOA trawl sector or in other gear sectors. Fishery participants anecdotally stated that A season prices are higher due to fish quality and better fishing when aggregation is more likely to occur. The lower B season price for Western GOA trawl-caught Pacific cod might also be attributed to market demand, as all cod catch in that area is taken as incidental catch in other fisheries (primarily the pollock C/D seasons). If fish quality were the main driver of ex-vessel value relative to the mean, one would expect to observe the A/B season price trend across areas and gear sectors.

Figure 4 shows only trawl-caught Pacific cod, separated by Central and Western GOA areas. Figure 5 shows annual data for the Western GOA; no annual breakouts are provided for the Central GOA as annual variate was minimal. Figure 6 shows gulf-wide data by gear sector, illustrating that inter-seasonal price differences are not pronounced outside of the Western GOA trawl sector. For comparison to trawl, Figure 7 shows that average ex-vessel prices in the Central and Western GOA pot sectors do not obviously fall off in the B season in either area. For the period from 2013 through 2016, the annual average ex-vessel prices for each GOA gear sector (Figure 6) were: Trawl – 21 cents/lb.; Hook-and-Line – 25 cents/lb.; Pot – 26 cents/lb.; and Jig – 31 cents/lb.

The CFEC Fish Ticket data used in this section represents the best available information on weekly ex-vessel values, but should be read with a caveat. Not all vessel operators submit Fish Tickets with the price/lb. included. When pricing is not submitted, CFEC backfills those Fish Tickets with the annual

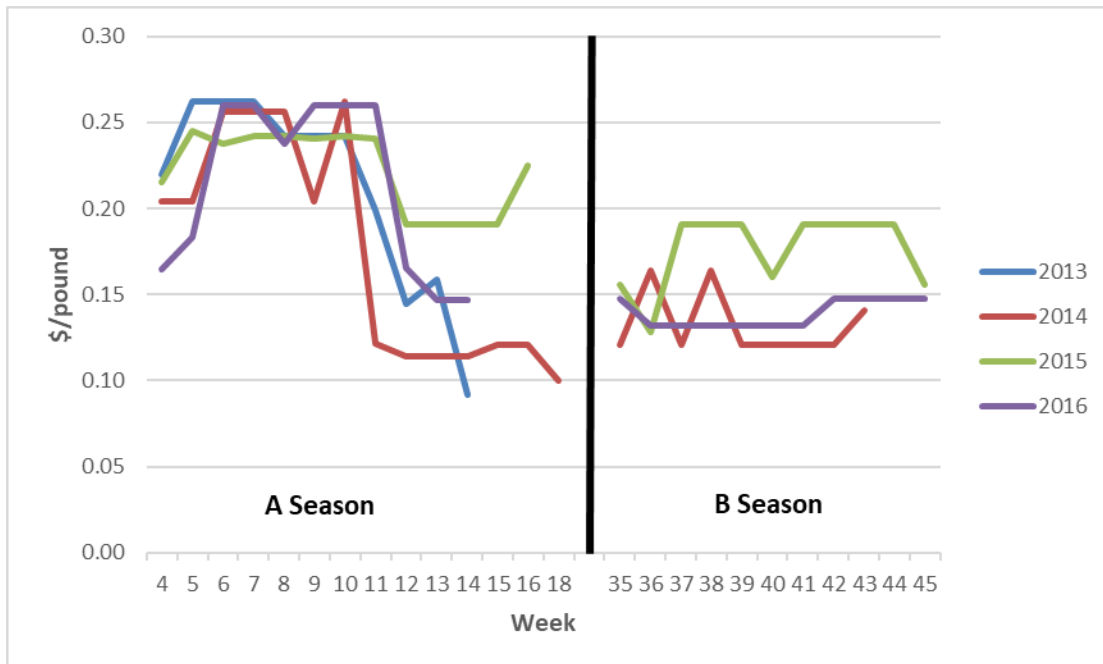
average FMP-area price<sup>6</sup> for each species (e.g. GOA Pacific cod) after the year concludes. That average price is taken from COAR data, submitted by processors. This data summary does not report what percentage of the Fish Tickets captured in the query included an actual price as opposed to an average annual price. One might suppose that if a high percentage of Fish Tickets include the average annual price, then seasonal differences would be somewhat muted.

**Figure 4 Average price per pound (nominal \$) for trawl-caught Pacific cod, by GOA area (2013 – 2016)**



Source: CFEC Fish Tickets, provided by AKFIN.

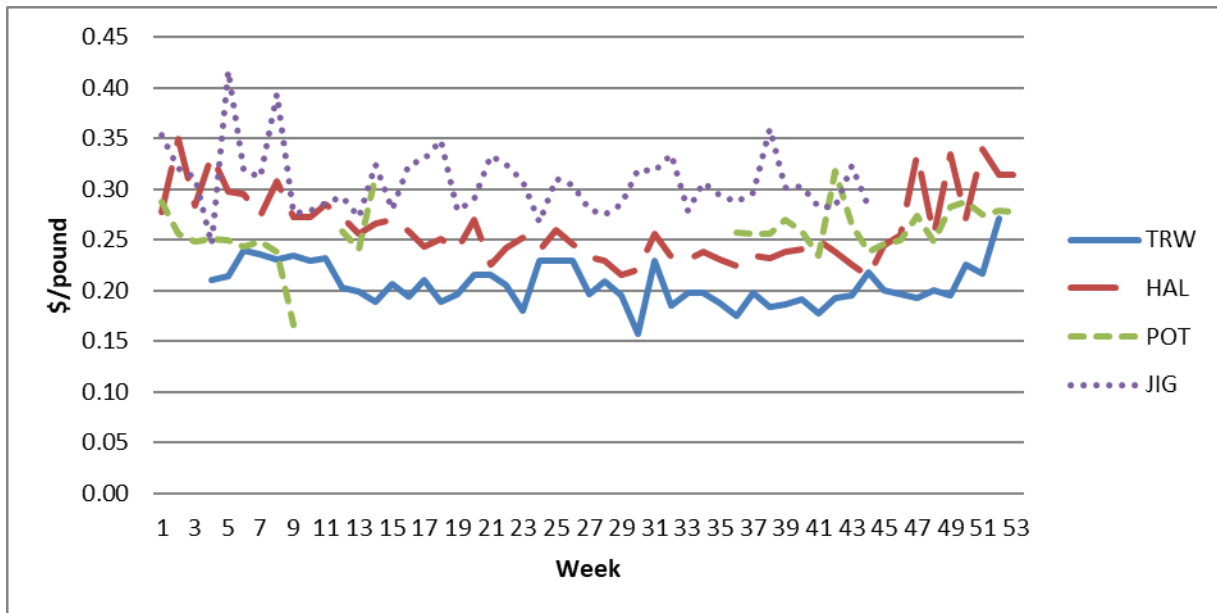
**Figure 5 Average price per pound (nominal \$) for trawl-caught Western GOA Pacific cod (2013 – 2016)**



Source: CFEC Fish Tickets, provided by AKFIN.  
 Note: B season data for 2013 is omitted for confidentiality.

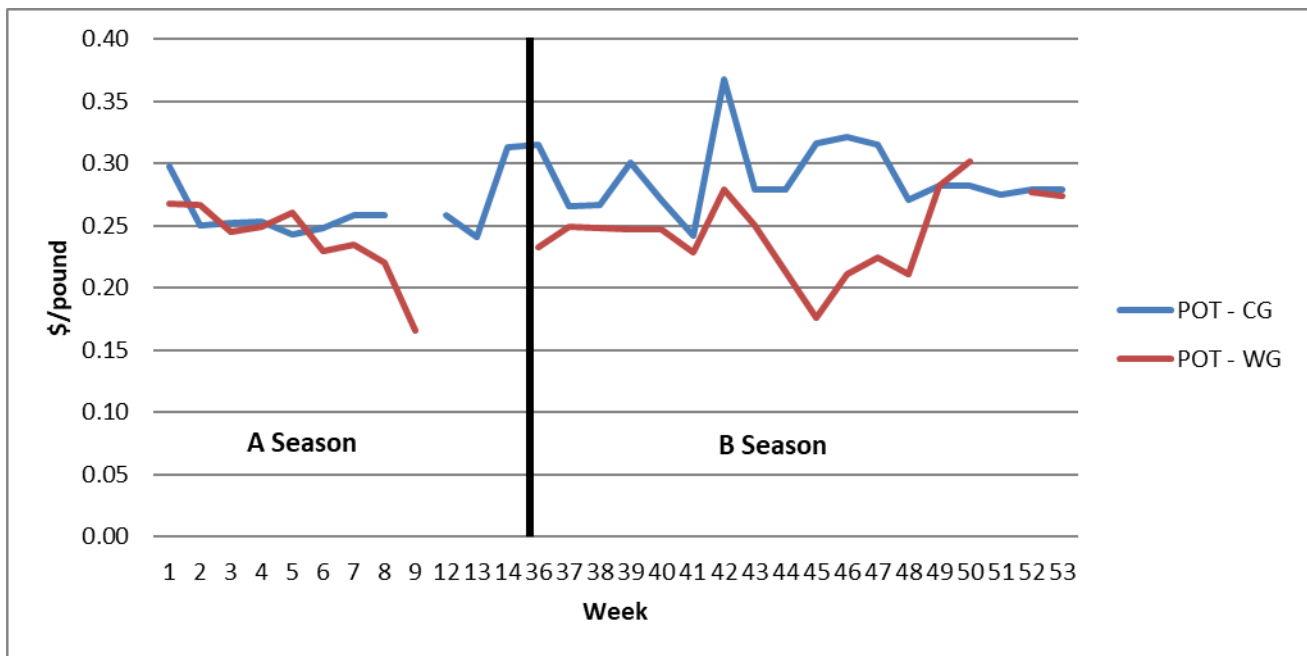
<sup>6</sup> Average species prices/lb. taken from COAR data do not reflect gear or area differences.

**Figure 6 Average price per pound (nominal \$) for GOA Pacific cod, by gear type (2013 – 2016)**



Source: CFEC Fish Tickets, provided by AKFIN.

**Figure 7 Average price per pound (nominal \$) for pot-caught Pacific cod, by GOA area (2013 – 2016)**



Source: CFEC Fish Tickets, provided by AKFIN.

### 3 Other considerations

This section includes several items that the Council and public might weigh when considering whether near-term action is necessary to change GOA Pacific cod sector allocations or the way that they are managed inseason by NMFS.

#### 3.1 Near-term outlook for GOA Pacific cod TAC

At its October 2017 meeting, the Council received preliminary indications that the 2018 Pacific cod fishery ABC/TAC would be dramatically reduced compared to the current year (2017 ABC/TAC = 88,342/64,442 mt). The basis for the reduction is a complex set of population and ecosystem interactions that dramatically reduced the biomass of Pacific cod in the GOA.

Since the October meeting, the 2017 stock assessment for Pacific cod (Barbeaux et al., 2017) has been finalized and reviewed by the GOA Groundfish Plan Team. The Plan Team's recommended ABC for 2018, based on the assessment, is 18,000 mt, which corresponds to a reduction in ABC of 80%. Because an obligatory transfer of 27.1% of the ABC goes to the State of Alaska for Pacific cod GHGs, this leaves a TAC for 2018 equal to 13,130 mt. The outlook for 2019 is much the same, with a preliminary ABC/TAC of 17,000, or 12,401 mt after accounting for the State GHG.

It is unclear how long the Pacific cod population will remain at this reduced level. According to Barbeaux et al., the 2017 year class of Pacific cod may be the largest year class since 2012. Additionally, ecosystem conditions favorable to Pacific cod growth and survival appear to have improved in 2017. Nevertheless, Pacific cod typically recruit to the fishery at around age 5, so the low ABCs may be in place for several years.

#### 3.2 Other Council actions related to GOA Pacific cod

##### Sector Allocation Review (2020)

The Council has scheduled a review of GOA Pacific cod sector allocations to occur in 2020. This activity is responsive to NOAA's July 2016 Allocation Policy; it is meant to provide a mechanism to ensure that fisheries allocations are periodically evaluated to remain relevant to current conditions. Allocation review mechanisms provide a transparent process for adequate reviews of allocations to ensure that U.S. fisheries are managed to achieve National Standard 1 (prevent overfishing and achieve optimum yield). The MSA defines optimum yield as "the amount of fish which will provide the greatest overall benefit to the Nation, particularly with respect to food production and recreational opportunities." The review will consider the FMP objectives along with other relevant factors that have changed and may be important to the fisheries allocation. Within this context, the Council will have an opportunity to assess whether the existing sector and seasonal allocations of GOA Pacific cod TAC are meeting the FMP objectives, or whether options for new allocations should be developed for analysis. NMFS has provided Procedural Directive 01-119-02, which outlines the factors to consider when reviewing existing allocations.<sup>7</sup> For reference, in June 2017 NPFMC staff prepared a discussion paper that summarizes the allocation review policy and the steps to conducting a review.<sup>8</sup>

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<sup>7</sup> <http://npfmc.legistar.com/gateway.aspx?M=F&ID=d58abe8d-6d7c-46db-be0c-77ef7d3b260d.pdf>

<sup>8</sup> <http://npfmc.legistar.com/gateway.aspx?M=F&ID=d4f2c89a-350b-462d-8578-ea94f8e56661.pdf>

## Other Pacific cod discussion papers

In October 2017 the Council requested a discussion paper on “obstacles to the complete harvest” of Pacific cod in the Bering Sea/Aleutian Islands and the GOA. The Council decided to address that request as a module within the respective BSAI and GOA Pacific cod sector allocation reviews. The Council’s motion<sup>9</sup> requests an outline of the process for reallocating Pacific cod. If that request can be understood as referring to the process for NMFS to make inseason reallocations of uncaught Pacific cod TAC, then that request is at least partially fulfilled in this discussion paper. The motion specifically requests a review of steps that NMFS could take to “rollover” (again understood as NMFS’s inseason reallocations) Pacific cod *earlier* from, among other fisheries, the Central GOA Rockfish Program and “ICAs in the GOA.” Staff presumes that incidental catch allowances (ICA) are in reference to allocations to GOA sectors that do not directed fish for Pacific cod but still receive a TAC allocation. An example of such a sector would be the Western GOA trawl sector’s B season Pacific cod allocation.

At its December 2017 meeting, the Council is also reviewing a paper summarizing trends in inshore and offshore participation in the processing of BSAI CV trawl-caught Pacific cod. This paper and any resultant analyses or action does not have a direct link to the harvest or stranding of GOA Pacific cod TAC, but might be of interest to readers who are tracking Pacific cod issues. That paper is available under Item C-7 on the Council’s electronic agenda.<sup>10</sup>

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Hunter Berns                Icicle Seafoods  
Brent Paine                United Catcher Boats  
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<sup>9</sup> <http://npfmc.legistar.com/gateway.aspx?M=F&ID=9b02a1fb-0ffa-4974-b9e8-ec51ca356f34.pdf>

<sup>10</sup> [http://legistar2.granicus.com/npfmc/meetings/2017/12/967\\_A\\_North\\_Pacific\\_Council\\_17-12-04\\_Meeting\\_Agenda.pdf](http://legistar2.granicus.com/npfmc/meetings/2017/12/967_A_North_Pacific_Council_17-12-04_Meeting_Agenda.pdf)

## Appendix: ESA Section 7 Consultation Process Outline

- Under the ESA Federal agencies have a mandate to conserve listed species and Federal actions, activities, and authorizations (Federal actions) must be in compliance with the provisions of the ESA. Section 7 of the ESA provides a mechanism for consultation by the Federal action agency with the appropriate consulting agency (NMFS or USFWS).
- NMFS would not initiate an ESA section 7 consultation on a suite of alternatives for a proposed action, but could initiate consultation once the Council has identified a preferred alternative and takes final action on an issue.
- Once the Council has taken final action on an issue, NMFS AKR Sustainable Fisheries Division would prepare a biological assessment to determine if the proposed action would adversely impact the listed species or adversely modify critical habitat. The biological assessment contains an analysis based on biological studies of the likely effects of the proposed action on the species or habitat.
- Informal consultations are conducted for Federal actions that are believed to have no adverse effects on the listed species, nor destroy or adversely modify its designated critical habitat.
- Formal consultations, resulting in biological opinions, are conducted for Federal actions that may have an adverse effect on the listed species.
- Through the biological opinion, a determination is made about whether the proposed action poses “jeopardy” or “no jeopardy” of extinction or adverse modification or destruction of designated critical habitat for the listed species.
- If the determination is that the proposed or on-going action will cause jeopardy or adverse modification of critical habitat, reasonable and prudent alternatives may be suggested that, if implemented, would modify the action to no longer pose the jeopardy of extinction or adverse modification to critical habitat for the listed species. These reasonable and prudent alternatives must be incorporated into the Federal action, if it is to proceed.
- A biological opinion with the conclusion of no jeopardy or adverse modification of critical habitat may contain conservation recommendations intended to further reduce the negative impacts to the listed species. These recommendations are advisory to the action agency (50 CFR 402.14(j)). If the likelihood exists of any take<sup>11</sup> occurring during promulgation of the action, an incidental take statement may be appended to a biological opinion to provide for the amount of take that is expected to occur from normal promulgation of the action. An incidental take statement is not the equivalent of a permit to take a listed species.

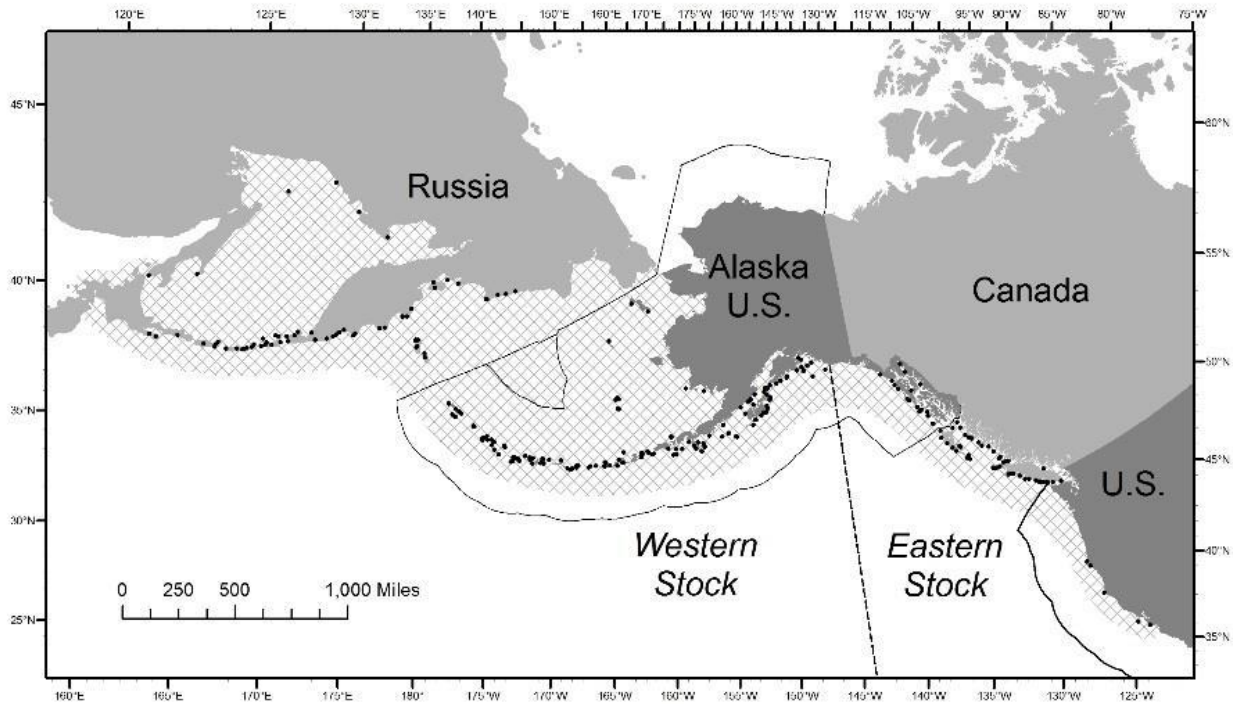
## Appendix: Description and status of Steller sea lion populations

Steller sea lions (*Eumetopias jubatus*) in Alaska are comprised of two populations, the endangered Western Distinct Population Segment (DPS) that occurs primarily west of 144° west longitude, and the Eastern DPS that occurs primarily east of 144° west longitude (Figure 8). Steller sea lions were listed as threatened under the U.S. Endangered Species Act in 1990, when only one DPS was recognized. In 1997, NOAA scientists recognized two distinct population segments and listed the western DPS as endangered, while the eastern DPS remained listed as threatened. In 2013, NOAA Fisheries concluded that the eastern DPS of Steller sea lions had recovered and the population was removed from the list of threatened species. The western DPS remains listed as endangered.

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<sup>11</sup> The term “take” under the ESA means “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct” (16 U.S.C. § 1532(19)).

**Figure 8 At-sea and breeding ranges (rookeries) of western and eastern DPS of Steller sea lions in the North Pacific Ocean. Source: Alaska Marine Mammal Stock Assessments, 2016, Muto et al. 2017.**



### Population estimates

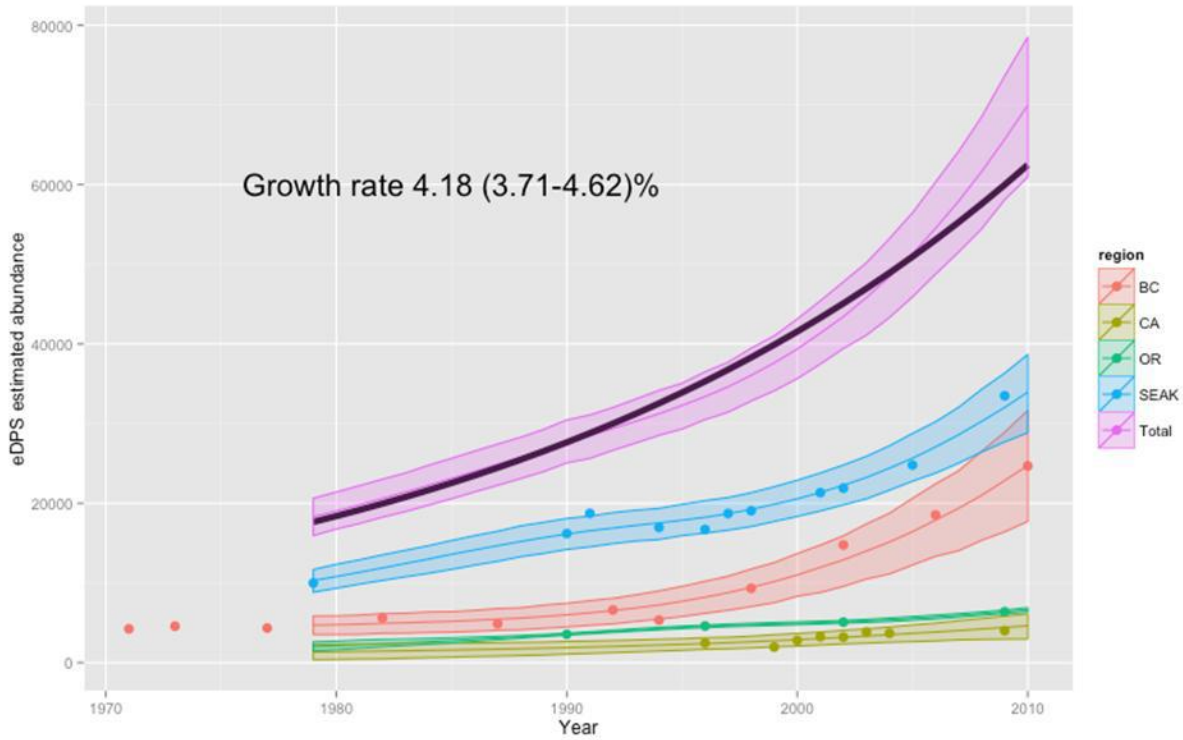
Two types of counts are used to study trends in Steller sea lion populations: counts of pups up to 1 month of age, and counts of non-pups (1+ year olds). NMFS monitors Steller sea lion status in Alaska by counting animals during the breeding season at trends sites in conjunction with the State of Alaska and other partners. Trend sites are a set of terrestrial rookeries and haulouts where surveys have been consistently undertaken for many years. The estimated ratio of pups to non-pups in Steller sea lion populations can be used to estimate population size. Population trend is calculated by plotting non-pup counts over time.

### Eastern DPS

The best available information indicates that the overall abundance of Steller sea lions in the eastern DPS increased for a sustained period of at least three decades, and pup production increased significantly, especially since the mid-1990s. Analysis of growth trends of the eastern DPS from 1979-2010 concluded that the eastern DPS increased from an estimated 18,313 animals in 1979 to an estimated 70,174 in 2010, which results in an estimated rate of growth of nearly 4.2% per year (Figure 9). Based on these rates of growth, and other criteria identified in the Steller sea lion Recovery Plan, the eastern DPS was delisted in 2013.



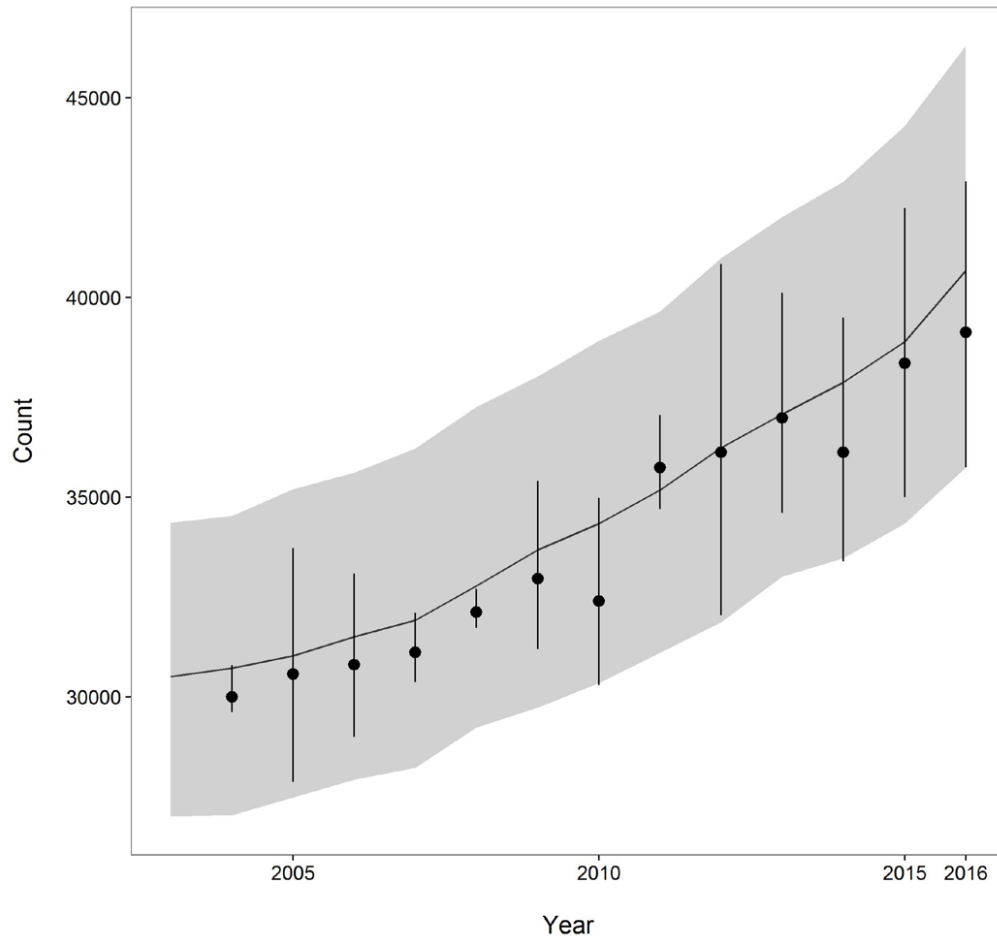
Figure 9 Estimated abundance of the eastern DPS of Steller sea lion, in subregions and in total, based on pup counts from 1979-2012



### Western DPS

The western DPS of Steller sea lions declined from an estimated 220,000 to 265,000 animals in the late 1970s to fewer than 50,000 in 2000. Since 2000, the abundance in the western DPS has increased, overall (Figure 10), but there is considerable regional variation in trend. The most recent estimate of total western DPS population comes from surveys in 2014 and 2015, which resulted in a minimum population estimate of 50,983.

Figure 10 Counts of western Steller sea lion non-pups in Alaska, 2003-2016



The most recent survey of the western DPS of Steller sea lions was conducted in late June through mid-July 2016. A total of 21,969 live non-pups were counted on 117 sites, a total of 587 non-pups were counted in the western Aleutians. For the western DPS in Alaska overall, non-pup counts increased at 2.24% per year between 2003 and 2016. However, the regional pattern of western DPS non-pup count trends is similar to previous years' assessments: generally decreasing west of Samalga Pass and increasing to the east (Figure 11). Steep declines continued in the western Aleutian Islands (-6.94% per year). Because of the steep, significant declines in the western Aleutian Islands, the western DPS is not meeting its recovery goals, and remains classified as endangered under the U.S. Endangered Species Act.

Figure 11 Trends of Steller sea lion counts west and east of Samalga Pass, Alaska, 2003-2016

