Discussion Paper:
Participation and Effort in the BS Trawl CV Pacific Cod Fishery

December 2017[1]

1 Introduction

In April 2017, the Council tasked staff to prepare a discussion paper that examines participation and effort in the Bering Sea (BS) trawl catcher vessel (CV) Pacific cod fishery in response to a potential need to limit entry and participation in the trawl CV sector and the sector's delivery of BS Pacific cod to Amendment 80 catcher/processor (C/P) vessels acting as motherships. Starting in 2016, the number of Amendment 80 vessels acting as a mothership in the BS Pacific cod fishery and the number of trawl CVs delivering BS Pacific cod to those Amendment 80 C/Ps has increased. Some historical Pacific cod participants are concerned about the increased participation by Amendment 80 C/Ps and the potential to negatively impact the distribution of historical harvest.

Given the Council's motion is focused on the fishing activity of BS trawl CV sector and Amendment 80 C/P sector in the BS CV trawl Pacific cod fishery in recent years, this document addresses the Council's request by providing a general description of the different vessel sectors that participate in the BS trawl Pacific cod fishery and their historical participation in that fishery. Information concerning AI trawl Pacific cod fishery was not a primary focus in this paper, but background information on the AI Pacific cod fishery and some historical AI catch data was included in the paper. The discussion paper also includes sections that examine management of the BS Pacific cod fishery, License Limitation Program (LLP) management and activity, halibut mortality in the BS trawl CV Pacific cod fishery, Pacific cod ex-vessel prices and products, and State of Alaska and Alaska community fish taxes.

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2 Background

2.1 Management of BS Pacific cod fishery

For Pacific cod, harvest specifications establish an over fishing level (OFL), acceptable biological catch (ABC), and total allowable catch (TAC) for the BS subarea of the BSAI, and a separate OFL, ABC, and TAC for the Aleutian Islands (AI) subarea of the BSAI. Before the Pacific cod TACs are established, the Council and NMFS consider social and economic factors, and management uncertainty, as well as two factors that are particularly relevant to BSAI Pacific cod: Pacific cod GHL fisheries that occur in the State waters of the BSAI, and an overall limit on the maximum amount of TAC that can be specified for BSAI groundfish.

Currently, the State manages two GHL fisheries for Pacific cod, one that occurs within State waters in the BS and one that occurs within State waters in the AI. Under current State regulations, each year the BS GHL fishery is limited to no more than 6 percent of the ABC specified for Pacific cod in the BS. The AI GHL fishery is limited to no more than 27 percent of the ABC specified for Pacific cod in the AI beginning in 2016, with annual "step-up" provisions that increase the amount of the GHL fishery if it was fully harvested in the previous year. The AI GHL fishery can increase to a maximum of 39 percent of the AI ABC or to a maximum of 15 million pounds (6,804 mt), whichever is less. Pacific cod TACs are specified at reduced levels that take into account the GHL fisheries so that the combined harvest limits from GHL fisheries and the TACs do not exceed the ABCs specified for the BS or AI. Section 2.3 of the discussion paper provides additional description of the GHL fisheries in the BSAI.

Once the TACs are established, regulations at § 679.20(a)(7)(i) allocate 10.7 percent of the Bering Sea Pacific cod TAC and 10.7 percent of the Aleutian Islands Pacific cod TAC to the Community Development Quota (CDQ) Program for the exclusive harvest by Western Alaska CDQ groups. The remaining portion of TAC after deducting the 10.7 percent allocation for CDQ Program is the initial total allowable catch (ITAC).

After subtraction of the CDQ allocation from each TAC, NMFS combines the remaining BS and AI TACs into one BSAI non-CDQ TAC, which is available for harvest by nine non-CDQ fishery sectors. Regulations at § 679.20(a)(7)(ii)(A) define the nine Pacific cod non-CDQ fishery sectors in the BSAI and specify the percentage allocated to each. The non-CDQ fishery sectors are defined by a combination of gear type (e.g., trawl, hook-and-line), operation type (i.e., CV or C/P), and vessel size categories (e.g., vessels greater than or equal to 60 ft in length overall). Through the annual harvest specifications process, NMFS allocates an amount of the combined BSAI non-CDQ TAC to each of these nine non-CDQ fishery sectors. The nine non-CDQ fishery sectors and the percentage of the combined BSAI non-CDQ TAC allocated to each sector are shown in the table below.

- Hook-and-line C/Ps – 48.7 percent
- Trawl CVs – 22.1 percent
- Amendment 80 trawl C/Ps – 13.4 percent
- Pot CVs greater than or equal to 60 feet LOA – 8.4 percent
- American Fisheries Act (AFA) trawl C/Ps – 2.3 percent
- Hook-and-line and pot CVs less than 60 feet LOA – 2 percent
- Pot C/Ps – 1.5 percent
- Jig vessels – 1.4 percent
- Hook-and-line CVs greater than or equal 60 feet LOA - 0.2 percent

NMFS manages each of the non-CDQ fishery sectors to ensure harvest of Pacific cod does not exceed the overall annual allocation made to each of the non-CDQ fishery sectors. NMFS monitors harvests that occur while vessels are directed fishing for Pacific cod (specifically targeting and retaining Pacific cod above specific threshold levels) and harvests that occur while vessels are directed fishing in other fisheries and incidentally catching Pacific cod (e.g., the incidental catch of Pacific cod in the directed pollock fishery). For the non-AFA trawl C/P sector, also known as the Amendment 80 sector, NMFS allocates exclusive harvest privileges to non-CDQ fishery participants that cannot be exceeded. For other non-CDQ fishery sectors, NMFS carefully tracks both directed and incidental catch of Pacific cod. NMFS takes appropriate management measures, such as closing directed fishing for a non-CDQ fishery sector, to ensure that total directed fishing and incidental fishing harvests do not exceed that sector's allocation.

An allocation to a non-CDQ fishery sector may be harvested in either the BS or the AI, subject to the non-CDQ Pacific cod TAC specified for the BS or the AI. If the non-CDQ Pacific cod TAC is or will be reached in either the BS or AI, NMFS will prohibit directed fishing for Pacific cod in that subarea for all non-CDQ fishery sectors.

Allocations of Pacific cod to the CDQ Program and to the non-CDQ fishery sectors are further apportioned by seasons. In general, regulations apportion CDQ and non-CDQ fishery sector allocations among three seasons that correspond to the early (A-season), middle (B-season), and late (C-season) portions of the year. Depending on the specific CDQ Program or non-CDQ fishery sector allocation, between 40 percent and 70 percent of the Pacific cod allocation is apportioned to the A-season, historically the most lucrative fishing season due to the presence of valuable roe in the fish and the good quality of the flesh during that time of year. See Section 2.4 for more detailed information on seasonal allowances.

The allocation of Pacific cod among the CDQ Program and the nine non-CDQ fishery sectors, as well as the seasonal apportionment of those allocations, create a large number of separate sectoral-seasonal allocations. To help ensure the efficient management of these allocations, regulations allow NMFS to reallocate (rollover) any unused portion of a seasonal apportionment from any non-CDQ fishery sector (except the jig sector) to that sector's next season during the current fishing year, unless the Regional Administrator determines a non-CDQ fishery sector will not be able to harvest its allocation.

Table 1 provides ABCs, TACs, and ITACs of BSAI Pacific cod from 2003 through 2013, and ABCs, TACs, and ITACs for BS Pacific cod and AI Pacific cod for 2014 and 2017.

Table 1 BSAI Pacific cod ABC, TAC, and ITAC 2003 to 2013 and BS and AI Pacific cod ABC, TAC, and ITAC 2014 and 2017 (amounts in metric tons)

Year	BSAI			BS			AI		
	ABC	TAC	ITAC	ABC	TAC	ITAC	ABC	TAC	ITAC
2003	223,000	207,500	191,938						
2004	223,000	215,500	199,338						
2005	206,000	206,000	190,550						
2006	194,000	194,000	174,067						
2007	176,000	170,720	157,916						
2008	176,000	170,720	152,453			N/A			
2009	182,000	176,540	157,650						
2010	174,000	168,780	150,721						
2011	235,000	227,950	203,559						
2012	314,000	261,000	233,073						
2013	307,000	260,000	232,180						
2014	N/A			255,000	246,897	220,479	15,100	6,997	6,248
2015				255,000	240,000	214,320	17,600	9,422	8,414
2016				255,000	238,680	213,141	17,600	12,839	11,465
2017				239,000	223,704	199,768	21,500	15,695	14,016

Source: NMFS Final Specifications

The BS and AI SAFE documents provide projections of future Pacific cod ABCs (Thompson, 2017). All projections indicate that the catch is expected to decline in the future. Depending on size of the TAC reductions, it could shorten the fishing seasons. The amount of time the season is shortened will depend on the catch per unit effort, and the amount of effort in the fishery, in addition to the TAC.

2.2 Catch accounting

Accounting for harvest in the BSAI Pacific cod trawl fishery requires that catch is attributed to the appropriate sector. In the case of trawl CVs, all Pacific cod catch throughout the year, regardless of the target fishery, is counted against the sector's 22.1 percent of the TAC allocation. In other words, any targeted or incidental catch of BS and AI Pacific cod by trawl CVs accrues to that sector's allocation.

2.3 State of Alaska AI and BS GHL fishery

The State of Alaska has managed a guideline harvest (GHL) fishery for Pacific cod in State waters in the AI subarea since 2006 and in the BS since 2014. For the AI, the GHL was 3 percent of the Federal BSAI Pacific cod ABC from 2006 through the 2015 fishing season. Starting in 2016, the AI GHL changed to 27 percent of the AI ABC, with annual step up provisions if the AI GHL is fully harvested to a maximum of 39 percent of the AI ABC. In addition, the Alaska Board of Fisheries capped the AI GHL at a maximum of 15 million pounds (6,804 metric tons). While trawl, longline, pot, and jig gear are allowed at various times during the GHL fishery, overall, the majority of the AI GHL has been harvested by vessels using trawl and pot gear. Harvest information from the AI Pacific cod GHL fishery is confidential due to the small number of participants.

Beginning with the 2014 fishery, the Board of Fisheries for the State of Alaska has established GHLs in State waters between 164 and 167 degrees west longitude in the BS subarea. State regulations provided

for a GHL of 3 percent of the BSAI Pacific cod ABC, which is accounted for from the BS ABC when calculating the BS TAC. Starting in 2016, the Alaska Board of Fisheries changed the BS GHL calculations to better align with the split of the Federal BSAI Pacific cod stock into separate BS and AI stocks. Starting in 2016, the BS GHL changed to 6.4 percent of the BS ABC, which is accounted for from the BS ABC when calculating the BS TAC. This fishery is limited to pot gear only, so other than the direct allocation to the GHL fishery, this fishery likely does not have a direct impact on the BS trawl CV Pacific cod fishery. The GHL and harvest for that fishery is reported in Table 2.

Table 2 Pacific cod harvest (lbs.) with pot gear in the State of Alaska Bering Sea Guideline Harvest Level Pacific cod fishery, 2014 through 2017

Year	GHL	Harvest	% Harvested
2014	17,863,874	17,666,510	98.90%
2015	18,029,404	17,636,103	97.82%
2016	35,979,072	35,519,920	98.72%
2017	33,721,562	33,247,414	98.59%

Source: Personal communication Trent Hartill September 5, 2017

2.4 Seasonal allowance

BSAI non-CDQ Pacific cod allocations are managed at the BSAI level. Because there are no non-CDQ sector allocations specific to each area, there are no gear specific seasonal allowances by area. While the overall guideline for the BSAI Pacific cod fishery continues to be a 70:30 percent seasonal split, the seasonal allowances vary by gear type taking into account changes to the season dates from the 2014 Steller sea lion protection measures. As background information, Table 3 provides a summary of the pot, hook-and-line, jig, and trawl gear season dates and the percentage of the available TAC allocated to each season.

Table 3 BSAI non-CDQ Pacific cod seasonal allowances

Pot	Jan 1 – June 10 (51%), Sept 1 – Dec 31 (49%) Pot CVs <60' do not have seasonal allowances.	Trawl CV	Jan 20 – April 1 (74%), April 1 – June 10 (11%); June 10 – Nov 1 (15%)
Hook and Line	Jan 1 – June 10 (51%), June 10 – Dec 31 (49%) Hook-and-line CVs <60' do not have seasonal allowances.	Trawl C/P	Jan 20 – April 1 (75%), April 1 – June 10 (25%); June 10 – Nov 1 (0%)
Jig	Jan 1 – Apr 30 (60%) Apr 30 – Aug 31 (20%) Aug 31 – Dec 31 (20%)		

Table 4 provides the BSAI Pacific cod sector apportionment and BSAI Pacific cod seasonal allowance for the 2017 fishing year. The bottom row of the table shows the seasonal allocation for the trawl CV sector. Any portions of the seasonal allowance that are not harvested in a season may be rolled over to the following fishing season.

Table 4 BSAI non-CDQ Pacific cod sector apportionment and BSAI non-CDQ Pacific cod seasonal allowance for 2017

Sector	BSAI Sector Apportionment (mt)	BSAI Season allowance (mt)		
		A	B	C
H&L/pot < 60'	4,259	No seasonal allowance		
H&L CV≥ 60'	426	217	209	n/a
H&L CP	103,712	52,893	50,819	n/a
Pot CV ≥ 60'	17,889	9,123	8,765	n/a
Pot CP	3,194	1,629	1,565	n/a
Jig vessels	2,993	1,796	599	599
AFA trawl CP	4,917	3,688	1,229	0
Amendment 80	28,647	21,485	7,162	0
Trawl CV	47,246	34,962	5,197	7,087

Source: NMFS Final Specifications

Table 5 reports the most recent 10 years of the BSAI trawl CV Pacific cod allocation. Since 2008, the trawl CV sector has been allocated between 33,309 (mt) and 51,509 (mt) of BSAI Pacific cod. The smallest allocations were during the early part of the time period. The allocations then increased with increasing TACs, but have declined in recent years. These declines may continue into the future. The percentage of the TAC allocated to the "A" season has been 74 percent of the available TAC. The remaining TAC was divided such that 11 percent was initially allocated to the B season and 15 percent to the C season.

Table 5 BSAI Pacific cod trawl CV allocations (mt) by season 2008 through 2017

	CV trawl	Metric tons			Season Percentage		
Year	allocation	A	B	C	A	B	C
2008	33,692	24,932	3,706	5,054	74.0%	11.0%	15.0%
2009	34,841	25,782	3,832	5,226	74.0%	11.0%	15.0%
2010	33,309	24,649	3,664	4,996	74.0%	11.0%	15.0%
2011	44,987	33,290	4,949	6,748	74.0%	11.0%	15.0%
2012	51,509	38,117	5,666	7,726	74.0%	11.0%	15.0%
2013	51,312	37,971	5,644	7,697	74.0%	11.0%	15.0%
2014	50,107	37,079	5,512	7,516	74.0%	11.0%	15.0%
2015	49,224	36,426	5,415	7,384	74.0%	11.0%	15.0%
2016	49,638	36,732	5,460	7,446	74.0%	11.0%	15.0%
2017	47,246	34,962	5,197	7,087	74.0%	11.0%	15.0%

Note: Seasonal allocations are reported in metric tons and as a percentage of the trawl CV allocation

Source: NMFS harvest specification tables (e.g. https://alaskafisheries.noaa.gov/sites/default/files/17_18bsaitable8.pdf)

2.5 BSAI Pacific cod trawl CV closures

Table 6 provides a summary of the closure and opening dates for the BSAI Pacific cod trawl CV fishery. The BSAI trawl fishery is opened to fishing on January 20 and closes by regulation on November 1. With the exception of 2014 and 2015, the trawl CV sector has been restricted to bycatch-only retention status (directed fishing closures) at some point during their A season BSAI Pacific cod fishery every year from 2004 through 2017. In 2014 and 2015, the fishery closed only in the AI prior to the end of the A-season. The last two years (2016 and 2017) the fishery has closed on March 9th and February 23rd. The earliest closure for the trawl CV sector was February 23, 2017, while the latest initial closure, prior the normal

end of the A season, was March 26 in 2011. The B season, is typically only open for about one week. The B season sometimes reopened during the B season if sufficient TAC was available. The C season has not closed since 2007, and closures were generally due to halibut PSC limits being reached.

Table 6 Closure and opening dates for the BSAI Pacific cod trawl CV sector, 2003 through 2017

Year	A-Season: 20 Jan - Apr 1		B-Season: 1 Apr - 10 Jun				C-Season: 10 Jun - Nov 1
2003							Cl 25-Sep, HAL
2004	Cl 23-May		Cl 4-April	Op 10-Apr	Cl 13-Apr		
2005	Cl 13-Mar	Op 29-Mar					Cl 18-Aug, HAL
2006	Cl 8-Mar		Cl 6-Apr				Op 19-Jul, HAL; Cl 31-Aug
2007	Cl 12-Mar		Cl 9-Apr				Cl 29-Sep, HAL
2008	Cl 6-Mar		Cl 4-Apr				
2009	Cl 21-Mar		Cl 5-Apr				
2010	Cl 12-Mar		Cl 1-Apr				
2011	Cl 26-Mar		Cl 4-Apr	Op 9-Apr	Cl 12-Apr	Op 15-Apr	
2012	Cl 29-Feb	Op 29-Mar	Cl 15-Apr				
2013	Cl 11-Mar						
2014	Cl 16-Mar - AI only						
2015	Cl 18-Feb - WAI & Cl 27-Feb - CAI & EAI - only						
2016	Cl 9-Mar		Cl 4-Apr	Op 11-Apr	Cl 4-May		
2017	Cl 23-Feb		Cl 3-Apr				

Notes: Cl = closed, Op = Opened, HAL = closed because halibut PSC limits reached, CAI = Central Aleutian Islands, EAI = Eastern Aleutian Islands, WAI = Western Aleutian Islands

All openings and closures are because of TAC unless otherwise noted

2.6 Amendment 113 (AI Pacific Cod Harvest Set-aside)

Effective November 23, 2016, regulations associated with Amendment 113 set aside a portion of the AI Pacific cod TAC for harvest by vessels directed fishing for AI Pacific cod and delivering their catch to a shoreside processor located on land west of 170º W. longitude in the AI. The harvest set-aside applies only if specific notification and performance requirements are met, and only during the first few months of the fishing year. This harvest set-aside provides the opportunity for vessels, AI shoreplants, and the communities where AI shoreplants are located to receive benefits from a portion of the AI Pacific cod fishery. The notification and performance requirements preserve an opportunity for the complete harvest of the BSAI Pacific cod resource if the set-aside is not fully harvested.

The new regulations require that some or all of the AI Pacific cod Directed Fishing Allowance (DFA)[2] is set aside for harvest by vessels directed fishing for AI Pacific cod for delivery to an AI shoreplant. This AI CV Harvest Set-Aside will be available for harvest by vessels using any authorized gear type.

The amount of the AI CV Harvest Set-Aside will be an amount equal to the lesser of either the AI DFA or 5,000 mt. When the AI CV Harvest Set-Side is equal to the AI DFA and the set-aside is in effect, directed fishing for Pacific cod in the AI may only be conducted by vessels that deliver their catch of AI Pacific cod to AI shoreplants for processing. Vessels not directing fishing for Pacific cod in the AI while the AI Harvest Set-Aside is in effect will be permitted to conduct directed fishing for groundfish (other than Pacific cod) in the AI and their incidental Pacific cod harvests will accrue toward the AI incidental catch allowance (ICA).

[2] DFA = TAC - ICA and CDQ allowance

When the AI DFA is greater than 5,000 mt, and therefore the AI CV Harvest Set-Aside is set equal to 5,000 mt, the difference between the DFA and the AI CV Harvest Set-Aside, called the AI Unrestricted Fishery, will be available for directed fishing by all non-CDQ fishery sectors with sufficient A-season allocations and may be processed by any eligible processor. In years when there is both an AI CV Harvest Set-Aside and an AI Unrestricted Fishery, vessels may conduct directed fishing for AI Pacific cod and deliver their catch to AI shoreplants or to any eligible processor as long as the AI Unrestricted Fishery is open to directed fishing. C/Ps can also conduct directed fishing for AI Pacific cod and process that catch as long as the AI Unrestricted Fishery is open for directed fishing.

In addition, the regulations establish the BS Trawl CV A-Season Sector Limitation to restrict the amount of the trawl CV sector's A-season allocation that can be harvested in the BS prior to March 21. The BS Trawl CV A-Season Sector Limitation ensures that some of the trawl CV sector's A-season allocation remains available for harvest in the AI by trawl CVs that deliver their catch of AI Pacific cod to AI shoreplants for processing. On March 21, the restriction on BS harvest by the trawl CV sector will be lifted and the remainder, if any, of the BSAI trawl CV sector's A-season allocation can be harvested in either the BS or the AI (if still open to directed fishing for Pacific cod) for delivery to any eligible processor for processing. The BS Trawl CV A-Season Sector Limitation will equal the lesser of either the AI DFA or 5,000 mt. The amount of the trawl CV sector's A-season allocation that may be harvested in the BS prior to March 21 will be the amount of Pacific cod that remains after deducting the BS Trawl CV A-Season Sector Limitation from the BSAI trawl CV sector A-season allocation listed in the annual harvest specifications.

As an example, applying these AI Pacific cod limits for 2017 (Table 7), based on the AI Pacific cod ITAC of 14,016 mt and an AI ICA of 2,500 mt, if there would have been an AI CV Harvest Set-Aside in 2017, the AI CV Harvest Set-Aside would have been 5,000 mt, the AI Unrestricted Fishery would have been 6,516 mt, and the BS Trawl CV A-Season Sector Limitation would have been 5,000 mt, which would have restricted the sector to 29,962 mt (34,962 mt – 5,000 mt) until March 21 or sooner if the AI CV Harvest Set-Aside had been lifted for the year.

Table 7 Example of 2017 BSAI A-Season Pacific Cod limits if AI shoreplants intend to process AI Pacific cod

Allocations/Limitations	2017
AI TAC	15,695
CDQ	1,679
AI ITAC	14,016
ICA	2,500
AI DFA	11,516
AI CV Harvest Set-Aside	5,000
AI Unrestricted Fishery	6,516
BSAI Trawl CV A-Season Allocation	34,962
BSAI Trawl CV A-Season Sector Limitation	5,000
BSAI Trawl CV A-Season Allocation - Sector Limitation	29,962

Source: NMFS Final Specifications

NMFS will account for harvest and processing of AI Pacific cod under the AI CV Harvest Set-Aside separately from, and in addition to its accounting of AI Pacific cod catch by the nine non-CDQ fishery sectors. Because of this separate accounting, the AI CV Harvest Set-Aside will not increase or decrease the amount of BSAI Pacific cod allocated to any of the non-CDQ fishery sectors.

The AI CV Harvest Set-Aside will apply from January 1 until March 21 of each year if certain notification and performance measures are satisfied. If the entire set-aside is harvested and delivered prior

to March 15, NMFS will lift the BS Trawl CV A-season sector limitation and AI CV Harvest Set-Aside as soon as possible. The AI CV Harvest Set-Aside will end at noon on March 15 even if the entire set-aside has not been harvested and delivered to AI shoreplants. Any amount of remaining AI DFA may be harvested by any non-CDQ fishery sector with remaining A-season allocation, and the harvest may be delivered to any eligible processors.

Amendment 113 includes performance measures intended to prevent the stranding of AI non-CDQ Pacific cod TAC. The first measure is if the set-aside is not requested. If, prior to November 1, neither the City of Adak nor the City of Atka have notified NMFS of its intent to process non-CDQ directed AI Pacific cod in the upcoming year, the harvest set-aside and restriction on the trawl CV sector BS A-season allocation are suspended for the upcoming year. Adak or Atka can voluntarily provide notice prior to the selected date if they do not intend to process AI Pacific cod.

The second measure to prevent stranding of available AI non-CDQ Pacific cod harvest is the lifting of the AI CV Harvest Set-Aside if limited processing of AI Pacific cod occurs at AI shoreplants. If less than 1,000 mt of the AI Pacific cod non-CDQ TAC has been landed at AI shoreplants by February 28, the harvest set-aside and the restriction on the trawl CV sector BS A season allocation are suspended for the remainder of the year.

2.7 Halibut mortality in the BS trawl CV Pacific cod fishery

The 2017 BSAI halibut PSC limits total 3,515 mt, of which 745 mt are assigned to the BSAI trawl limited access sector. As shown in Table 6 halibut PSC limits have not closed the A season trawl Pacific cod directed fishery in the BSAI from 2003 to the present. The B season was only closed once because the halibut PSC limit was projected to be reached in 2006. The C season has been closed more frequently, but it has not been closed since 2007. It is possible that increased effort in the BS Pacific cod fishery could increase both halibut PSC rates and usage, but this discussion paper does not attempt to estimate those changes. This discussion paper also does not consider potential changes in the overall PSC limit that could be impacted by an abundance based management approach to BSAI halibut PSC. Both of these issues would need to be considered in much greater detail if the Council moves forward with the development of an EA/RIR that would limit participation in the BS Pacific cod fishery.

2.8 Participating vessel sectors in BS trawl CV Pacific cod fishery

Vessels that participate in the BS trawl CV Pacific cod fishery include trawl CVs, trawl C/Ps, and motherships. Trawl CVs consist of AFA and non-AFA vessels, while trawl C/Ps consist of AFA and Amendment 80 vessels. Trawl CVs participate in the fishery by delivering BS Pacific cod to shoreplants, C/Ps acting as motherships, and floating processors. Trawl C/Ps participate in the fishery by receiving and processing deliveries of BS Pacific cod from trawl CVs. Floating processors participate in the fishery by receiving and processing deliveries of BS Pacific cod from CVs (See more information in Section 3).

Trawl CVs fish against the 22.1 percent BSAI trawl CV allocation of Pacific cod. CVs fish in federally managed fisheries under the authority of licenses issued under an LLP. Vessel licenses carry endorsements, authorizing fishing in different areas with trawl and non-trawl gears.

CVs deliver their products to several outlets. These include C/Ps acting as motherships, shoreplant processors, or floating processors. C/Ps acting as motherships include an AFA C/P and a few Amendment 80 C/Ps. There are also several processing plants located in Dutch Harbor, King Cove, Akutan, and Sand Point that receive a significant portion of the harvested BS trawl CV Pacific cod. Floating processors are vessels that anchor within state waters and accept deliveries from this sector.

2.9 Regulatory history of Amendment 80 vessels as motherships

Amendment 80 vessels are allocated 13.4 percent of the combined BSAI ITAC. The sector allocation effectively limits the amount of BSAI Pacific cod that Amendment 80 C/Ps may harvest during a calendar year, in aggregate. Amendment 80 vessels can process BSAI Pacific cod from the trawl CV sector, however, without limitation.

During the proposed rule for Amendment 80, published May 30, 2007, (72 FR 30052), mothership activity by the sector included prohibitions limiting them from catching, receiving, and processing fish assigned to the BSAI trawl limited access sector (TLAS), which is the portion of ITAC allocated to all other trawl sectors after deducting the Amendment 80 allocation. Although it was clear the Council intended to prohibit Amendment 80 vessels from catching Amendment 80 species in the BSAI TLAS, it was unclear if the Council considered or intended that Amendment 80 vessels should serve as processing platform for the BSAI TLAS.

Recognizing the Council's intent concerning Amendment 80 vessels as harvesters in the BSAI TLAS and the Council's silence on Amendment 80 vessels serving as a processing platform for harvesters in the TLAS, NMFS proposed rules to prohibit any Amendment 80 vessel from catching, receiving, or processing fish assigned to the BSAI TLAS. NMFS, as noted in the proposed rule, determined that this prohibition would best meet the Council's recommendation to provide an allocation of ITAC to the Amendment 80 sector, but not encourage the consolidation of fishing or processing operations in the BSAI TLAS. Additionally, allowing Amendment 80 vessels to receive and process fish caught by vessels in the BSAI TLAS could allow Amendment 80 vessels to serve as motherships (i.e., a processing platform that is not fixed to a single geographic location), or stationary floating processors, for the BSAI TLAS fleet. This could increase the potential that catch formerly delivered and processed onshore could be delivered and processed offshore. This change in processing operations could have economic effects. It was noted by NMFS that the Council did not specifically address these issues at the time of final Council action for Amendment 80. NMFS also noted that combining Amendment 80 and BSAI TLAS catch on the same vessel could increase the potential complexity of recordkeeping and reporting, and monitoring and enforcement.

As noted in the Final Regulatory Flexibility Analysis from the July 20, 2007, Secretarial Review, during the comment period for the Amendment 80 regulations that were published in the *Federal Register* on May 30, 2007, (72 FR 30052), several commenters expressed concern about § 679.7(o)(1)(ii) which would have prohibited an Amendment 80 vessel from catching, processing, or receiving Amendment 80 species, crab PSC, or halibut PSC assigned to the BSAI TLAS. The commenters indicated that this prohibition would limit the existing use of Amendment 80 vessels to receive and process unsorted catch delivered from other vessels. It was also noted by the commenters that the prohibition was not analyzed in the EA/RIR/IRFA at time of final action and could have an adverse impact on small entities, and therefore should be removed.

To address the comments, NMFS analyzed the effects of limiting the receipt of catch from the BSAI TLAS by non-Amendment 80 vessels (NPFMC, 2007). NMFS analyzed observer data from 2003-2006, a period chosen for analysis because it represented recent processing patterns during that period. The analysis indicates that the practice of delivering unsorted catch from non-Amendment 80 vessels to Amendment 80 vessels during the 2003-2006 period was not widespread. During that time period only one Amendment 80 vessel received unsorted catch from a non-Amendment 80 vessel in each year analyzed. The non-Amendment 80 vessel was owned by the same company that owns that Amendment 80

vessel. NMFS determined that proposed prohibition would limit the ability of this one entity to continue to deliver unsorted catch from its non-Amendment 80 CV to its Amendment 80 vessel.

Further, as noted in the final rule, Council intent was not clear regarding the regulation of catch assigned to the BSAI TLAS to be received and processed by Amendment 80 vessels. However, the Council did not expressly indicate its intent to limit the delivery of unsorted catch from the BSAI TLAS to Amendment 80 vessels. This lack of intent was noted in the preamble to the proposed rule and again at two public workshops on May 23, 2007 (72 FR 27798), and on June 18, 2007 (72 FR 31548), both of which were attended by numerous participants in the Amendment 80 and BSAI TLAS, and a member of the Council participated in the workshops. In addition, NMFS provided a review of the proposed rule to the Council at its June 2007 meeting, specifically highlighting the issue of Amendment 80 vessels receiving unsorted catch from BSAI TLAS vessels and requesting that the Council provide comments if the proposed rule contravened Council intent. During that meeting, the Council did not indicate that it either intended or did not intend to allow catch from the BSAI TLAS to be delivered to Amendment 80 sector vessels. The Council did not provide any comments during the public comment period to indicate that limitations on the receipt and processing of unsorted catch from the BSAI TLAS by Amendment 80 vessels contravened Council intent.

As noted in the final rule published September 14, 2007, based on the additional analysis NMFS conducted and the lack of Council intent to the contrary, NMFS substantially modified the prohibition to allow the delivery and processing of unsorted catch from the BSAI TLAS to Amendment 80 vessels as currently practiced. This revision accommodated the one entity that NMFS identified as currently receiving unsorted catch from a CV in the BSAI TLAS to continue to do so. It was also noted in the final rule, that this revision would accommodate potential future growth in the use of Amendment 80 vessels as mothership vessels for vessels in the BSAI TLAS.

2.10 AFA Pacific cod sideboards and halibut PSC sideboards

AFA trawl CVs however, are limited to harvesting up to 86.09 percent of the trawl CVs sector's BSAI Pacific cod allocation. Two classes of AFA CVs are exempt from BSAI Pacific cod sideboard limits:

- AFA CVs less than 125' LOA that were determined to have harvested a combined total of less than 5,100 mt of BSAI pollock, and to have made 30 or more legal landings of Pacific cod in the BSAI directed fishery for Pacific cod from 1995 through 1997 are exempt from sideboard closures for BSAI Pacific cod. A total of nine AFA CVs are exempt from the BSAI Pacific cod sideboard limit because of this exemption.
- AFA CVs with mothership endorsements are exempt from BSAI Pacific cod CV sideboard directed fishing closures after March 1 of each fishing year. A total of 19 AFA CVs have a mothership endorsement for delivery of BSAI pollock to AFA authorized motherships.

Because of the relatively large sideboard limits and the exemptions for specific vessels, the AFA CV Pacific cod sideboard limits have a minor impact on which CVs may harvest the BS trawl Pacific cod CV allocation.

AFA C/Ps are not subject to harvest sideboard limits or processing sideboard limits for Pacific cod. The amount of BAI Pacific cod they may harvest is limited by their 2.3 percent Pacific cod allocation.

3 LLP Management

The License Limitation Program (LLP) limits the number of vessels that may participate in harvesting the BSAI Pacific cod fishery. LLP licenses include endorsements that define the attributes of the vessel that may use a particular license (e.g., CV or C/P and AFA or Am 80) as well as where and how that LLP licensed vessel may fish. In the BSAI Pacific cod trawl fishery, a vessel must be associated with an LLP license with a trawl endorsement for the area fished (BS or AI). Fixed gear vessels are required to have a Pacific cod endorsement for the BS or AI, but Pacific cod endorsements on LLP licenses have not been established for vessels using trawl gear.

Information presented in Table 8 shows that there are currently 116 trawl CV and 59 C/P LLP licenses (24 are Amendment 80) issued for the BS or AI. AFA derived LLP licenses account for 99 of the 116 CV LLP licenses and 27 of the 59 C/P licenses. All 99 AFA derived CV LLP licenses are endorsed to fish with trawl gear in the BS; over half of those LLP licenses (57) are not endorsed to fish with trawl gear in the AI. Of the 17 non-AFA derived trawl CV LLP licenses, 16 are endorsed to fish only in the BS and one is endorsed to fish only in the AI.

Table 8 LLP licenses with a trawl endorsement for the BS or AI by sector

Aleutian Islands Endorsements	Bering Sea Endorsements								Total
	C/P				CV				
	None	Non-trawl & trawl	Trawl	Total	None	Non-trawl & trawl	Trawl	Total	
AM 80 Derived LLP Licenses									
None		1	6	7					7
Non-trawl & trawl		2		2					2
Trawl			15	15					15
AM 80 total		***3***	***21***	***24***					***24***
AFA Derived LLP licenses									
None		1	1	2		18	39	57	59
Non-trawl & trawl		4		4		11		11	15
Trawl			21	21			31	31	52
AFA Total		***5***	***22***	***27***		***29***	***70***	***99***	***126***
LLP Licenses (excluding AFA and AM80 Derived LLP Licenses)									
None						6	10	16	16
Non-trawl & trawl	1	2		3	1				4
Trawl			5	5					5
Total	***1***	***2***	***5***	***8***	***1***	***6***	***10***	***17***	***25***
Total BSAI Trawl LLP licenses									
None		2	7	9		24	49	73	82
Non-trawl & trawl	1	8		9	1	11		12	21
Trawl			41	41			31	31	72
Grand Total	***1***	***10***	***48***	***59***	***1***	***35***	***80***	***116***	***175***

Source: RAM LLP license file (September 15, 2017)

There are eight C/P licenses with a trawl endorsement that were not derived with the AFA or Amendment 80 vessel's catch history. These LLP licenses could be used on CVs, since C/P LLP licenses authorize a vessel to act as a CV; such licenses do not require a vessel to operate as a C/P. If these licenses were assigned to a CV, the catch of that CV would be deducted from the CV Pacific cod allocation.

3.1 BSAI trawl LLP activity

Information in Table 9 provides the number of BSAI trawl CV LLP licenses that are active in the BS trawl Pacific cod target fishery, BSAI trawl groundfish fishery, and GOA trawl groundfish fishery on annual basis from 2009 through 2017. As seen in the table, the total number of BSAI trawl CV LLP licenses is 116. Of those 116 licenses, slightly less than half were active in the BS trawl Pacific cod target fishery in 2017. Since 2009, the number of licenses active in the BS trawl Pacific cod fishery has

increased. In 2009, there were 31 licenses active in the BS trawl Pacific cod target fishery, while in 2017 there were 54 licenses active. Also seen in the table are the number of BSAI trawl CV LLP licenses that were not active in either the BSAI or GOA trawl groundfish fisheries. Also included in the table are the number of BSAI trawl CV LLP licenses that were stacked on the same vessel.

Table 9 Number of active BSAI trawl CV LLP licenses based on activity in the BS trawl Pacific cod target fishery, BSAI trawl groundfish fishery, and GOA trawl fishery from 2009 through 2017

LLP license grouping by activity in BS trawl Pcod target fishery	BS trawl Pcod target activity	BSAI trawl groundfish activity	GOA trawl groundfish activity	Number of BSAI trawl CV LLP licenses by trawl activity								
				2009	2010	2011	2012	2013	2014	2015	2016	2017
BSAI trawl CV LLP licenses active in the BS trawl Pcod target fishery	X	X	X	6	7	9	17	12	10	12	14	13
	X	X		20	17	20	24	26	27	25	29	32
	X			2	2	3	2	2	3	4	2	4
	X		X	3	2	9	3	6	3	3	4	5
	Total BSAI trawl CV LLP licenses active in the BS trawl Pcod target fishery			**31**	**28**	**41**	**46**	**46**	**43**	**44**	**49**	**54**
BSAI trawl CV LLP licenses not active in the BS trawl Pcod target fishery		X		48	47	42	41	40	38	36	34	32
		X	X	18	18	14	11	9	13	12	11	9
			X	5	6	1	3	4	8	7	7	5
				14	17	18	15	17	14	17	15	16
	Total BSAI trawl CV licenses not active in the BS trawl Pcod target fishery			**85**	**88**	**75**	**70**	**70**	**73**	**72**	**67**	**62**
Total BSAI trawl CV LLP licenses				116	116	116	116	116	116	116	116	116
Number of BSAI trawl CV LLP licenses stacked on the same vessel*				2	2	2	2	4	6	5	6	6

Source: BSAI_TRW_LLP(10-31-17)

* Applied vessels' catch history to stack licenses

4 BS Trawl CV Pacific Cod Fishery

4.1 BS Pacific cod catch

Table 10 provides a summary of the reported catch of all species in the BS Pacific cod trawl target fishery by processing and harvest sector. The first section of the table is the catch by C/Ps. That section also provides a count of the number of C/Ps that were active in each year from 2009 through 2017 (as of October 13th). The second section shows the CV catch by delivery to a C/P acting as a mothership or a shoreplant. Since only one AFA C/P acting as a mothership received deliveries from a CV on annual basis nearly every year since 2012 (see Table 14), reporting catch data for CVs deliveries to only the Amendment 80 C/Ps acting as a mothership was not possible since that catch data would reveal confidential catch data for the AFA C/P acting as a mothership. Information reported at the bottom of the table is a summary of all the sectors. In addition to catch data, the table also reports the number of processors and harvester vessels that were active in the sector. For the C/P sector, the counts of processors and harvesters are equal because they processed their own catch.

Table 11 is structured like Table 10 but reports only the catch of BS Pacific cod in the trawl Pacific cod target fishery. One difference in the tables is that Table 11 includes a section at the bottom showing the catch for the entire BSAI. The difference between values reported in the corresponding sections of the tables are the bycatch amounts of other species in the Pacific cod target fishery.

Table 12 is structured like Table 11 except it reports the catch of Pacific cod in all BS target fisheries[3]. Because the CV sector is allocated a percentage of the BSAI Pacific cod TAC and all their catch comes off that allocation, this table most closely represents the amount of Pacific cod that sector is allowed to harvest on an annual basis. Also, while the fishery does not include a pre-season ICA, Inseason

[3] The catch in this table exclude AI Pacific cod catch in all but the bottom section.

Management staff monitor the fishery and close the Pacific cod directed fishing so that sufficient Pacific cod is available to prosecute other target fisheries later in the year.

Looking first at Table 10, this table shows that the CVs have a higher proportion of all species in the BS Pacific cod trawl target fishery relative to the C/Ps. In total, the C/Ps harvested 11% the catch of all species in the BS Pacific cod trawl target fishery from 2009 through October 13, 2017. During that same period, CVs deliveries of all species in the BS Pacific cod trawl target fishery was 89%, of which 7% was delivered to motherships and 82% was delivered to shoreside processors. The table also shows an increase in deliveries by CVs to motherships relative to shoreside processors between 2015 and 2017. In 2015, there were 2 motherships and 5 CVs active in the BS Pacific cod trawl target fishery, while in 2017 there were 8 motherships and 17 CVs active in the fishery. In 2016, 1,469 mt (4%) of all species in the BS Pacific cod trawl target fishery was delivered to motherships, while in 2017, 4,896 mt (13%) was delivered to motherships. During that same period, the proportion of all species in the BS pacific cod trawl target fishery delivered to the shoreside processors by CVs declined from 35,138 mt (84%) to 30,683 mt (83%).

Table 11 shows that when looking only at BS Pacific cod in the BS Pacific cod trawl target fishery, the relative portions between the C/Ps and CVs increased for the CVs. The C/Ps harvested 6% of the BS Pacific cod in the BS Pacific cod trawl target fishery from 2009 through October 13, 2017, while the CVs harvested 94%, of which 6% was delivered to motherships and 88% was delivered to shoreside processors. Similar to Table 10, this table shows an increase in CV deliveries of BS Pacific cod in the BS Pacific cod trawl target fishery to motherships as well as the increase in the number of motherships and CVs active in the fishery. In 2016, 1,181 mt (3%) of the BS Pacific cod in the BS Pacific cod trawl target fishery was delivered to motherships, while in 2017, the amount of Pacific cod deliveries increased to 4,429 mt (12%). During that same period, the proportion of BS Pacific cod in the BS pacific cod trawl target fishery delivered to the shoreside processors by CVs declined from 34,684 mt (90%) to 30,479 mt (86%). Relative to the total CV deliveries of BS Pacific cod in the BS Pacific cod trawl target fishery between motherships and shoreside processors, the portion delivered to motherships increased from 3.3% in 2016 to 12.7% in 2017, while the shoreside processors had a reciprocal decline in deliveries.

Table 12 shows catch of BS Pacific cod in all BS trawl target fisheries. The C/Ps caught 35% of the BS Pacific cod when factoring in all BS target fisheries from 2009 through October 13, 2017, while the CVs caught 54%. The increase proportion of BS Pacific cod catch for the C/Ps in this table relative to Table 11 is likely due to Amendment 80 C/Ps incidental catch of BS Pacific cod while targeting their Amendment 80 allocations. In addition, like the previous two tables, this table also shows the increasing trend of CV deliveries of BS Pacific cod to motherships, but the table also includes increased mothership activity in the BSAI trawl limited access sector yellowfin sole target fishery through incidental catch of Pacific cod. Looking just at the total BS CV portion of all BS Pacific cod from all BS trawl target fisheries, the motherships deliveries has ranged from a low of 5.4% in 2009 to high of 17.6% in 2017.

Table 10 Catch (mt) of all species in the non-CDQ trawl Bering Sea Pacific cod target fisheries, 2009 through 2017

	2009	2010	2011	2012	2013	2014	2015	2016	2017*	Total
CPs (Bering Sea)										
Vessels	14	15	18	17	17	14	15	17	12	29
LLP Licenses	14	15	18	17	17	14	15	17	12	29
Weight (mt)	3,014	2,863	3,568	2,245	5,732	5,296	3,838	5,149	1,341	33,046
Weight (Percent of total BS CVs & CPs)	21%	18%	11%	6%	14%	12%	11%	12%	4%	11%
CVs (Bering Sea)										
Mothership deliveries										
Processors			1	2	1	2	2	8	8	9
Vessels			2	7	3	5	5	10	17	22
LLP Licenses			2	9	3	7	6	11	18	25
Weight (mt)			cf	cf	cf	cf	cf	1,469	4,896	20,695
Weight (Percent of total BS CVs & CPs)	0%	0%	cf	cf	cf	cf	cf	4%	13%	7%
Shoreside deliveies										
Processors	7	5	10	7	9	7	9	9	8	14
Vessels	32	29	46	46	48	42	45	47	49	71
LLP Licenses	33	30	47	48	50	46	50	51	53	78
Weight (mt)	11,538	13,324	cf	cf	cf	cf	cf	35,138	30,683	245,175
Weight (Percent of total BS CVs & CPs)	79%	82%	cf	cf	cf	cf	cf	84%	83%	82%
Total CVs (Bering Sea)										
Total processors accepting CV deliveries	7	5	11	9	10	9	11	17	16	23
Total CVs	32	29	47	51	50	46	48	52	59	79
Total CV LLP licenses	33	30	48	55	52	52	54	57	63	86
Total CV reported catch (mt)	11,538	13,324	29,050	36,002	36,390	37,484	29,895	36,607	35,580	265,870
Weight (Percent of total BS CVs & CPs)	79%	82%	89%	94%	86%	88%	89%	88%	96%	89%
Total CVs and CPs (Bering Sea)										
All Processors	21	20	28	24	26	21	24	28	22	44
All harvest vessels	46	44	65	68	67	60	63	69	71	108
All LLP licenses	47	45	66	72	69	66	69	74	75	114
All weight (mt)	14,551	16,188	32,618	38,247	42,122	42,780	33,734	41,756	36,920	298,916

* 2017 data through October 13th.

cf: indicates the data are considered confidential and cannot be reported

Source: AKFIN summary of CAS data

Table 11 Catch (mt) of non-CDQ Pacific cod in Bering Sea Pacific cod trawl target fisheries, 2009 through 2017

	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
CPs (Bering Sea)										
Vessels	14	15	18	17	17	14	15	17	12	29
LLP Licenses	14	15	18	17	17	14	15	17	12	29
Weight (mt)	1,404	1,443	1,768	1,265	3,033	2,710	2,065	2,590	729	17,006
Weight (Percent of total BS CVs & CPs)	11%	10%	6%	4%	8%	7%	7%	7%	2%	6%
CVs (Bering Sea)										
Mothership deliveries										
Processors			1	2	1	2	2	8	8	9
Vessels			2	7	3	5	5	10	17	22
LLP Licenses			2	9	3	7	6	11	18	25
Weight (mt)			cf	cf	cf	cf	cf	1,181	4,429	15,416
Weight (Percent of total BS CVs & CPs)			cf	cf	cf	cf	cf	3%	12%	6%
Shoreside delvieries										
Processors	7	5	10	7	9	7	9	9	8	14
Vessels	32	29	46	46	48	42	45	47	49	71
LLP Licenses	33	30	47	48	50	46	50	51	53	78
Weight (mt)	10,847	12,561	cf	cf	cf	cf	cf	34,684	30,479	236,833
Weight (Percent of total BS CVs & CPs)	89%	90%	cf	cf	cf	cf	cf	90%	86%	88%
Total CVs (Bering Sea)										
Total processors accepting CV deliveries	7	5	11	9	10	9	11	17	16	23
Total CVs	32	29	47	51	50	46	48	52	59	79
Total CV LLP licenses	33	30	48	55	52	52	54	57	63	86
Total reported catch (CVs)	10,847	12,561	27,051	33,788	33,727	34,523	28,980	35,865	34,908	252,250
Weight (Percent of total BS CVs & CPs)	89%	90%	94%	96%	92%	93%	93%	93%	98%	94%
Weight (Mothership percent of total BS CVs)	0.0%	0.0%	cf	cf	cf	cf	cf	3.3%	12.7%	6.1%
Total CVs and CPs (Bering Sea)										
BS Processors	21	20	28	24	26	21	24	28	22	44
BS harvest vessels	46	44	65	68	67	60	63	69	71	108
BS LLP licenses	47	45	66	72	69	66	69	74	75	114
BS weight (mt)	12,251	14,004	28,819	35,053	36,760	37,233	31,045	38,454	35,637	269,256
Total CVs and CPs (Bering Sea & Aleutian Islands)										
BSAI Processors	24	25	30	26	27	22	24	28	22	48
BSAI harvest vessels	70	66	68	77	71	64	63	73	73	117
BSAI LLP licenses	64	64	69	77	74	69	69	79	77	115
BSAI weight (mt)	30,931	31,100	36,463	44,580	43,229	42,703	34,314	46,095	39,319	348,735

* 2017 data through October 13th.

cf: indicates the data are considered confidential and cannot be reported

Source: AKFIN summary of CAS data

Table 12 Catch (mt) of non-CDQ Pacific cod in all Bering Sea trawl target fisheries, 2009 through 2017

	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
CPs (Bering Sea)										
Vessels	36	34	36	35	34	34	34	35	35	39
LLP Licenses	36	34	36	35	34	34	34	35	35	38
Weight (mt)	21,188	23,233	29,354	31,608	36,656	30,463	27,463	27,857	22,087	249,910
Weight (Percent of total BS CVs & CPs)	60%	60%	48%	44%	49%	45%	44%	41%	35%	46%
CVs (Bering Sea)										
Mothership deliveries										
Processors	4	2	4	5	4	5	9	10	10	11
Vessels	18	14	16	21	17	19	21	24	28	34
LLP Licenses	20	16	18	24	19	22	23	26	30	38
Weight (mt)	778	cf	2,530	3,895	3,645	4,509	3,768	2,754	7,113	cf
Weight (Percent of total BS CVs & CPs)	2%	cf	4%	5%	5%	7%	6%	4%	11%	cf
Shoreside delvieries										
Processors	9	7	11	9	10	9	10	11	9	15
Vessels	92	89	96	93	93	88	90	90	89	106
LLP Licenses	95	93	99	96	98	93	97	97	95	113
Weight (mt)	13,620	cf	29,411	36,190	34,648	33,097	30,968	36,864	33,381	cf
Weight (Percent of total BS CVs & CPs)	38%	cf	48%	50%	46%	49%	50%	55%	53%	cf
Total CVs (Bering Sea)										
Total processors accepting CV deliveries	13	9	15	14	14	14	19	21	19	26
Total CVs	100	95	103	105	101	98	99	100	102	116
Total CV LLP licenses	104	100	107	110	107	105	107	108	108	123
Total reported catch (CVs)	14,398	15,281	31,941	40,086	38,292	37,606	34,736	39,618	40,494	292,452
Weight (Percent of total BS CVs & CPs)	40%	40%	52%	56%	51%	55%	56%	59%	65%	54%
Weight (Mothership percent of total BS CVs)	5.4%	cf	7.9%	9.7%	9.5%	12.0%	10.8%	7.0%	17.6%	cf
Total CVs and CPs (Bering Sea)										
BS Processors	48	43	50	47	47	46	47	49	46	57
BS harvest vessels	135	128	138	139	134	131	132	134	136	154
BS LLP licenses	140	134	143	145	141	139	141	143	143	160
BS weight (mt)	35,586	38,514	61,295	71,694	74,948	68,069	62,199	67,476	62,581	542,363
Total CVs and CPs (Bering Sea & Aleutian Islands)										
BSAI Processors	49	46	50	48	48	47	47	49	46	61
BSAI harvest vessels	145	136	139	144	135	133	132	134	136	162
BSAI LLP licenses	144	140	144	146	143	140	141	144	143	161
BSAI weight (mt)	56,047	57,075	70,493	82,372	82,304	74,673	68,101	77,891	69,915	638,871

* 2017 data through October 13th.

cf: indicates the data are considered confidential and cannot be reported

Source: AKFIN summary of CAS data

4.2 Active catcher vessels in BS Pacific cod target fishery

Table 13 provides a summary of the CVs that participated in the BS Pacific cod target fishery, by year and delivery mode. Each row in the table represents a unique vessel. The cells are color and numerically coded to show the mode of operation for the year:

- If the CV did not deliver Pacific cod from the trawl Pacific cod target fishery to any processor, the cell is blank for that vessel in that year.
- If the CV only delivered Pacific cod from the trawl Pacific cod target fishery to a shorebased processor, the cell is red, and labeled with a "1".
- If the CV only delivered Pacific cod from the trawl Pacific cod target fishery to a mothership, the cell is yellow, and labeled with a "2".
- If the CV delivered Pacific cod from the trawl Pacific cod target fishery both to a mothership and a shoreplant, the cell is green, and labeled with a "3".

The table is sorted so that CVs that delivered Pacific cod from the trawl Pacific cod target fishery both to a mothership and a shoreplant in 2017 are at the top of the table, CVs that delivered only to motherships are next, CVs that delivered only to shorebased processors are next, and CVs that did not fish in the BS Pacific cod target fishery are at the bottom (on the second page). The total number of vessels in each delivery category during the year is reported at the bottom of the table.

Five of the seven CVs that delivered to both motherships and shorebased seafood processors in 2017 had delivered exclusively to shorebased plants the previous years; the other two vessels had delivered exclusively to shorebased processors until 2016. Five of the seven CVs had fished for BS Pacific cod in at least 12 of the 15 years considered in the table.

The 10 CVs that delivered targeted BS Pacific cod only to motherships in 2017, in general, have had fewer years of participation than the vessels that deliver to both sectors. These vessels had primarily delivered only to motherships in the past.

The remaining 42 vessels that were active in 2017 delivered only to shorebased plants that year. Only three of those 42 vessels had ever delivered to a mothership, one in 2012, and all three of the vessels delivered to a mothership in either 2015 or 2016.

Table 13 Participation by year of all trawl catcher vessels in the non-CDQ BS Pacific cod target fishery. 2003 through 2017

Catcher Vessel	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Years Active
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	15
2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	15
3		1	1	1	1	1	1			1	1	1	1	1	3	12
4	1	1	1	1	1	1	1							1	3	9
5	1	1	1	1	1	1	1		1	1	1	1	1	2	3	14
6	1	1	1	1	1	1		1		1	1	1	1	3	3	13
7	1								1	1					3	4
8	1	1	1		1	1								1	2	7
9						1			1	1			1	2	2	6
10						2			2	2	2	2	2	2	2	8
11										2		2	2	2	2	5
12														2	2	2
13		1	1						1				1	3	2	6
14						1		1	3	3	3	3	3	3	2	9
15										2	2	2	2		2	5
16				1											2	2
17			1												2	2
18	1	1				1		1	1	1	1	1	1	1	1	11
19	1			1	1	1	1		1	1	1	1	1	1	1	12
20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
22	1	1	1	1		1	1	1	1	1	1	1	1	1	1	14
23	1	1	1	1	1	1	1	1		1	1	1	1	1	1	14
24	1		1	1	1				1	1	1	1	1	1	1	11
25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
26	1			1	1	1	1	1	1	1	1	1	1	1	1	13
27	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
29	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
30	1		1	1	1	1	1	1	1	1	1	1	1	1	1	14
31	1	1		1	1	1	1		1	1	1	1	1	1	1	13
32	1	1	1	1	1	1		1	1	1	1	1	1	1	1	14
33	1	1	1			1			1	1	1	1	1	1	1	11
34	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
35	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
36	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
37	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
38	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
39			1		1				1	1	1	1	1	1	1	9
40		1	1	1					1	1	1	1	1	1	1	10
41	1	1	1	1	1	1	1				1	1	1	1	1	12
42	1	1	1	1							1	1	1	1	1	9
43	1	1	1	1	1	1						1	1	1	1	10
44		1		1	1	1						1	1	1	1	8
45			1	1					1	1	1		1	1	1	8
46	1		1		1		1		1	3	1	1	3	1	1	11
47				1	1	1	1	1	1	1	1	1		1	1	11
48												1		1	1	3
49	1	1							1	1	1			1	1	7
50		1	1	1	1	1			1	1	1			1	1	10
51	1	1									1			1	1	5
52														1	1	2
53	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1	15
54													1	3	1	3
55	1	1	1	1	1	1	1	1	1	1	1	1	1		1	14
56		1		1					1		1	1	1		1	7
57			1						1	1	1				1	5
58			1							1	1				1	4
59															1	1

Source: AKFIN summary of CAS data

Table 13 **(continued) Participation by year of all trawl catcher vessels in the non-CDQ BS Pacific cod target fishery. 2003 through 2017.**

Catcher Vessel	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Years Active
60		1	1		1	1							1	1		6
61	1	1	1			1		1						1		6
62			1		1	1	1		1	1	1		1			8
63	1	1											1			3
64													1			1
65	1	1						1	1	1	1	1				7
66												1				1
67		1										1				2
68	3	1	2	2						2		2				6
69	1	1	1	1	1	1	1	1	1	1	1					11
70	1		1		1	1				1	1					6
71	1	1	1	1		1					1					6
72	1								1		1					3
73	1		1	1	1	1		1	1	1						8
74	1	1	1	1	1	1	1		1	1						9
75										2						1
76	2															1
77	1	1														2
78	1	1	1	1	1	1	1									7
79	1															1
80	1	1														2
81	1	1														2
82	1	1		1												3
83	1															1
84	1															1
85	1	1														2
86	1	1	1		1											4
87	1	1														2
88	1															1
89	1	1														2
90	1	1														2
91	1															1
92	1															1
93	1															1
94	1															1
95	1															1
96	1															1
97	1	1	1	1	1	1	1	1								8
98		1	1	1	1											4
99			1													1
100					1											1
101			1	1	1											3
102		1														1
103		1														1
104				1					1							2
105			1	1	1				1							4
106					1											1
107		1	1													2
108		1	1	1	1											4

Total number of participating vessels by year

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Shoreside = "1"	66	61	55	49	49	46	32	29	45	44	47	41	43	42	42
Mothership = "2"	1	0	1	1	0	1	0	0	1	5	2	4	3	5	10
Mothership & Shoreside = "3"	1	0	0	0	0	0	0	0	1	2	1	1	2	5	7
Total	68	61	56	50	49	47	32	29	47	51	50	46	48	52	59

Source: AKFIN summary of CAS data

4.3 C/Ps that acted as motherships

There are three sectors that are reported to have acted as motherships for CVs that target BS Pacific cod. The first is the three motherships that were defined in the AFA. These three motherships do not catch fish, but only process fish delivered by CVs. AFA motherships typically take Pacific cod deliveries as bycatch in the pollock target fisheries from vessels they work with in their pollock cooperative. Only one of the three AFA motherships was reported to have taken BS Pacific cod target fishery deliveries since 2001 and

that was only one year and a relatively small amount. That target may have been classified as a Pacific cod target when the CV was actually fishing for pollock. Because these AFA motherships are not active participants in the BS Pacific cod target fishery, they are not discussed further in this section.

The second mothership group is the AFA C/P(s). Only one AFA C/P has taken Pacific cod target deliveries as a mothership since 2012. As shown in Table 14, that vessel took CV deliveries in five of the six years from 2012 through 2017. The vessel did not take BS Pacific cod target CV deliveries from the 2009 to 2012.

The third group is the Amendment 80 C/Ps. Three companies are operating seven C/Ps that acted as motherships in the BS Pacific cod target fishery during 2017. One company has been active in seven of the nine years from 2009 through 2017. The other two companies began operating motherships for targeted BS Pacific cod deliveries in 2016 and have been active both years since. Two of the three companies tend to rely on CVs they own to deliver Pacific cod. The third company did not own any CVs and had to contract with CVs to deliver fish to their C/P. The addition of this company is one of the reasons the delivery patterns of CVs delivering to both shoreplants and motherships or just motherships, described earlier in this section, have changed in recent years.

Table 14 Years that C/Ps acting as motherships (MS) in the BS Pacific cod fishery were active, 2012 through 2017

CPs acting as MS	2012	2013	2014	2015	2016	2017
AFA	1		1	1	1	1
AM 80 (Vessel 1)	1	1	1	1	1	1
AM 80 (Vessel 2)					1	1
AM 80 (Vessel 3)						1
AM 80 (Vessel 4)					1	1
AM 80 (Vessel 5)					1	1
AM 80 (Vessel 6)					1	1
AM 80 (Vessel 7)					1	1

Source: AKFIN summary of CAS data

4.4 BSAI Pacific cod and pollock trawl gear ex-vessel prices

In April, when the Council considered requesting this discussion paper, there was discussion during deliberation on price information. Testimony indicated that changes in 2017 ex-vessel prices might have been influenced by different business models; the change in business models being the delivery of Pacific cod by CVs to motherships by whom they are not owned or controlled.

There are confidentiality limitations associated with reporting those data. Only one Amendment 80 company takes the majority of their CV Pacific cod deliveries from unaffiliated CVs. Confidentiality limitations prohibit reporting prices paid by fewer than three companies. As a result, that price data is not reported in this paper and releasing those data in the future would require the company granting a waiver to release that information.

If the authors of this paper reported prices for mothership deliveries of Pacific cod to Amendment 80 C/Ps, the data would have been confidential until 2016. From 2016 until the present, the data for two of the three firms may not represent an arms-length transaction, because the CV is owned by the same firm as the vessel that is are delivering the fish. Because the "sale" of fish is within the same firm, it may not represent a true market price.

For this paper, staff has included a time series of data for BSAI pollock and Pacific trawl ex-vessel prices. Those data are reported in Table 15 and are derived from the data used to generate the Economic SAFE document. Economic SAFE data are derived from the annual Commercial Operators Annual Reports (COAR). Data for 2016 and 2017 were not available when the time series used for this paper was developed.

Table 15 Nominal ex-vessel Pacific cod and pollock prices, 1992 through 2015

Year	Pacific cod	Pollock	Pacific cod to pollock ex-vessel price ratio
1992	$0.187	$0.125	1.5
1993	$0.138	$0.069	2.0
1994	$0.134	$0.076	1.8
1995	$0.167	$0.093	1.8
1996	$0.133	$0.081	1.6
1997	$0.145	$0.096	1.5
1998	$0.151	$0.070	2.2
1999	$0.236	$0.097	2.4
2000	$0.290	$0.108	2.7
2001	$0.232	$0.100	2.3
2002	$0.190	$0.115	1.7
2003	$0.268	$0.102	2.6
2004	$0.219	$0.103	2.1
2005	$0.232	$0.125	1.9
2006	$0.346	$0.126	2.7
2007	$0.427	$0.128	3.3
2008	$0.543	$0.203	2.7
2009	$0.221	$0.185	1.2
2010	$0.209	$0.153	1.4
2011	$0.249	$0.165	1.5
2012	$0.313	$0.173	1.8
2013	$0.240	$0.150	1.6
2014	$0.262	$0.154	1.7
2015	$0.234	$0.150	1.6

Source: https://www.afsc.noaa.gov/refm/Socioeconomics/SAFE/CSV_groundfish/table18_data.csv

4.5 Production and products by sector

Table 16 is provided to show how the various product forms reported in the data were aggregated. Product forms were aggregated to reduce the need to conceal data for confidentiality reasons and to make information presented more concise. It is worth noting that the "other" category of products is very broad and contains both products that are relatively high (i.e., roe and salted/split) and relatively low (i.e., bones and stomachs) in value.

Table 16 Product forms reported in data and aggregated product forms

Reported Product Form	Aggregated Product Form
Fillets-no skin or ribs	Fillet
Fillets with skin-no ribs	Fillet
Deep skin fillet	Fillet
Fillets with ribs-no skin	Fillet
Fillets with skin & ribs	Fillet
Headed & gutted, eastern cut	H&G
Headed & gutted, western cut	H&G
Headed & gutted, tail removed	H&G
Headed & gutted with roe	H&G
Fish meal	Meal
Roe only	Other
Belly flaps (meat)	Other
Milt	Other
Salted & split	Other
Heads	Other
Stomachs (internal organs)	Other
Bones	Other
Other-specify	Other
Minced fish	Other
Sujiko	Other
Whole bait	Other
Fish oil	Other
Surimi	Other
Pectoral girdle only	Other
Chins (1990 forward)	Other
Ikura	Other
Split-no backbone	Other
Cheeks or chins (< 1990)	Other
Whole fish/food fish	Whole
Bled only	Whole

Note: An Amendment 80 C/P reported fillets in 2015. That data was included in the other category that year.

Two tables of processing information are presented in this section. Table 17 provides shoreside processor information on the nominal first wholesale value, net product weight, price per pound of product produced, and the number of processors producing the product. Cells reported as "cf" indicate the information was masked to prevent the release of confidential information. All values reported in the table are in nominal dollars, and do not account for inflation that occurred over the time period. Production is reported for all Pacific cod delivered to the plant regardless of gear used to harvest the fish or the target fishery in which it was caught. Information is not reported for 2017, because that value information is not yet available.

Table 18 provides similar information to Table 17, but is presented for non-Amendment 80 trawl C/Ps and Amendment 80 C/Ps. The information does not distinguish between when C/Ps acting as motherships and harvesting their own fish. Also, because Amendment 80 C/Ps produce primarily H&G products, it is assumed that their product mix does not change when they are processing fish harvested by their vessel or a CV delivering raw fish. The non-Amendment 80 C/Ps generated most of their value from H&G and fillets. Data for other products and whole fish were confidential in almost every year.

Over the years considered, shorebased plants generated most of their Pacific cod revenue from fillets, followed by head and gut (H&G) products and other products. Meal and whole fish made up a relatively small component of the overall Pacific cod value. Fillet production is relatively more labor intensive than

other products and its production increases processing labor compensation relative to H&G and whole fish production.

Amendment 80 C/Ps produce almost exclusively H&G products. Almost 96.5 percent of the sector's first wholesale value was generated from H&G products. Whole fish and other products made up the remainder of the sector's production with each contributing approximately 2 percent of the total over the period reported.

Table 17 Shoreside production of Pacific cod products by year, 2004 through 2016

Product	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
Fillet														
1st Wholesale Value ($ mill)	$23.4	$32.8	$48.3	$37.3	$44.3	$36.3	$53.5	$64.1	$61.9	$78.4	$75.3	$49.8	$90.9	$696.3
Net Weight (Mlbs)	11.7	12.0	15.7	10.1	11.0	13.6	19.7	20.4	21.8	25.7	27.2	18.5	26.4	233.6
$/lb	$2.00	$2.73	$3.08	$3.71	$4.04	$2.68	$2.72	$3.15	$2.84	$3.05	$2.77	$2.68	$3.44	$2.98
Processors	6	6	6	6	6	6	7	6	7	8	8	7	7	22
H&G														
1st Wholesale Value ($ mill)	$33.1	$40.1	$43.9	$65.4	$63.2	$8.5	$23.8	$47.4	$42.2	$20.1	$47.0	$42.9	$22.9	$500.4
Net Weight (Mlbs)	32.0	26.2	32.6	39.3	37.1	9.8	25.3	37.8	36.5	25.3	48.2	41.5	22.1	413.6
$/lb	$1.04	$1.53	$1.35	$1.66	$1.70	$0.87	$0.94	$1.25	$1.16	$0.79	$0.98	$1.03	$1.04	$1.21
Processors	11	10	10	12	12	7	8	10	9	9	9	8	7	26
Meal														
1st Wholesale Value ($ mill)	$1.4	cf	cf	cf	cf	$1.0	cf	cf	cf	cf	$2.1	cf	cf	$15.9
Net Weight (Mlbs)	2.4	cf	cf	cf	cf	2.3	cf	cf	cf	cf	3.2	cf	cf	29.6
$/lb	$0.60	cf	cf	cf	cf	$0.42	cf	cf	cf	cf	$0.68	cf	cf	$0.54
Processors	6	4	5	3	4	4	4	3	3	3	4	4	4	16
Other														
1st Wholesale Value ($ mill)	$17.4	$14.7	$18.3	$16.4	$18.0	$10.3	$10.3	$13.7	$14.6	$14.5	$15.8	$11.9	$11.8	$187.8
Net Weight (Mlbs)	15.8	13.9	15.7	13.2	16.8	13.5	15.3	16.8	16.8	19.3	18.6	15.5	16.4	207.5
$/lb	$1.10	$1.06	$1.16	$1.24	$1.07	$0.77	$0.68	$0.82	$0.87	$0.75	$0.85	$0.77	$0.72	$0.91
Processors	10	11	10	11	11	8	8	9	9	9	9	8	8	28
Whole														
1st Wholesale Value ($ mill)	$0.5	cf	cf	cf	cf	$0.2	cf	cf	cf	cf	$0.5	cf	cf	$4.4
Net Weight (Mlbs)	1.0	cf	cf	cf	cf	0.4	cf	cf	cf	cf	0.6	cf	cf	8.3
$/lb	$0.53	cf	cf	cf	cf	$0.35	cf	cf	cf	cf	$0.79	cf	cf	$0.53
Processors	6	3	2	3	2	4	2	2	3	5	4	2	3	17
Total of all products														
1st Wholesale Value ($ mill)	$75.9	$89.0	$111.2	$119.9	$127.0	$56.3	$89.8	$126.5	$119.8	$115.4	$140.8	$105.9	$127.3	$1,404.9
Net Weight (Mlbs)	62.9	55.1	65.7	64.0	70.8	39.6	63.4	76.9	77.6	74.0	97.7	77.4	67.5	892.6
$/lb	$1.21	$1.61	$1.69	$1.87	$1.79	$1.42	$1.42	$1.65	$1.54	$1.56	$1.44	$1.37	$1.89	$1.57
Processors	12	12	11	13	12	9	9	11	10	10	10	9	9	29

Source: AKFIN summary of CAS and value data (BS_Pcod_Prod 10-11-17)
Confidential data is reported in the table as "cf".

Table 18 Trawl Catcher/processor production of BS Pacific cod products by year, 2004 through 2016

Product	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
Non-Amendment 80 CPs														
Fillet														
1st Wholesale Value ($ mill)	cf	$3.6	$6.4	cf	$3.4	$3.4	$2.5	$0.6	$1.1	cf	$0.1	$0.3	cf	$28.2
Net Weight (Mlbs)	cf	1.7	1.9	cf	0.9	1.2	1.1	0.6	0.6	cf	0.1	0.3	cf	11.5
$/lb	cf	$2.04	$3.37	cf	$3.78	$2.88	$2.22	$1.00	$1.65	cf	$0.84	$1.04	cf	$2.46
Processors	6	8	4	3	6	7	8	7	8	7	4	4	3	19
H&G														
1st Wholesale Value ($ mill)		cf	cf	cf	cf	cf	cf	$1.7	$17.5	$4.8	cf	cf	cf	$39.9
Net Weight (Mlbs)		cf	cf	cf	cf	cf	cf	1.4	6.7	3.8	cf	cf	cf	25.3
$/lb		cf	cf	cf	cf	cf	cf	$1.20	$2.60	$1.28	cf	cf	cf	$1.57
Processors		1	2	3	3	3	2	4	6	6	2	3	3	10
Other														
1st Wholesale Value ($ mill)	cf	cf	cf	cf	$3.2	cf	cf	cf	cf		cf	cf	cf	cf
Net Weight (Mlbs)	cf	cf	cf	cf	1.5	cf	cf	cf	cf		cf	cf	cf	cf
$/lb	cf	cf	cf	cf	$2.14	cf	cf	cf	cf		cf	cf	cf	cf
Processors	1	5	4	3	6	5	5	2	2		1	2	2	11
Whole														
1st Wholesale Value ($ mill)					cf				cf	cf		cf	cf	cf
Net Weight (Mlbs)					cf				cf	cf		cf	cf	cf
$/lb					cf				cf	cf		cf	cf	cf
Processors					1				1	1		1	1	2
Total of all products														
1st Wholesale Value ($ mill)	$4.1	$6.1	$8.4	$7.1	$6.7	$6.6	$5.6	$2.3	$19.1	$5.4	$1.6	$4.2	$9.0	$86.3
Net Weight (Mlbs)	2.5	4.3	3.6	2.7	2.5	3.1	2.9	2.0	8.1	4.4	1.6	3.6	7.4	48.9
$/lb	$1.60	$1.42	$2.33	$2.60	$2.67	$2.10	$1.91	$1.14	$2.36	$1.23	$1.01	$1.17	$1.21	$1.76
Processors	6	9	8	7	11	11	10	8	11	11	6	7	7	24
Amendment 80 CPs														
H&G														
1st Wholesale Value ($ mill)	$38.9	$32.7	$46.2	$58.4	$32.4	$17.7	$21.8	$35.8	$39.1	$32.2	$28.0	$39.0	$30.8	$453.1
Net Weight (Mlbs)	40.48	31.67	31.98	35.62	18.56	19.52	19.47	26.25	31.90	37.13	26.97	32.66	27.09	379.31
$/lb	$0.96	$1.03	$1.44	$1.64	$1.74	$0.91	$1.12	$1.36	$1.23	$0.87	$1.04	$1.19	$1.14	$1.19
Processors	23	22	23	23	23	20	16	15	19	17	16	18	14	49
Other														
1st Wholesale Value ($ mill)	$0.7	$1.2	$2.2	$2.3	$0.9	$0.1	$0.3	$0.6	$0.9	$0.2	cf	cf	$0.2	$10.2
Net Weight (Mlbs)	1.1	1.4	1.7	2.0	0.9	0.2	0.3	0.7	1.0	0.3	cf	cf	0.5	11.0
$/lb	$0.59	$0.88	$1.29	$1.19	$0.98	$0.43	$1.12	$0.84	$0.87	$0.86	cf	cf	$0.49	$0.92
Processors	17	17	17	20	14	8	10	9	11	10	7	7	6	40
Whole														
1st Wholesale Value ($ mill)	$1.0	$0.8	$0.2	$0.4	$0.7	$1.8	$0.5	$0.1	$0.5	$0.8	cf	cf		$6.9
Net Weight (Mlbs)	2.2	$1.6	$0.4	$0.6	$1.3	3.4	$1.1	$0.3	$1.1	$1.7	cf	cf		14.2
$/lb	$0.43	$0.53	$0.61	$0.66	$0.55	$0.52	$0.43	$0.47	$0.44	$0.45	cf	cf		$0.49
Processors	5	5	4	5	8	11	8	4	11	7	3	2		29
Total of all products														
1st Wholesale Value ($ mill)	$40.6	$34.7	$48.6	$61.1	$34.0	$19.6	$22.6	$36.5	$40.5	$33.2	$28.2	$39.6	$31.1	$470.3
Net Weight (Mlbs)	43.9	34.6	34.1	38.2	20.8	23.1	20.9	27.2	34.0	39.1	27.3	33.8	27.6	404.6
$/lb	$0.93	$1.00	$1.43	$1.60	$1.64	$0.85	$1.08	$1.34	$1.19	$0.85	$1.03	$1.17	$1.13	$1.16
Processors	23	22	23	23	23	20	16	15	19	17	16	18	14	49

Source: AKFIN summary of CAS and value data (BS_Pcod_Prod 10-11-17)
Confidential data is reported in the table as "cf".

5 State and Community Taxes

Since the Council requested this discussion paper there have been conversations between stakeholders and the analysts regarding the requirements for the C/P sector to pay various State of Alaska and Alaska community fish taxes.

The Fishery Resource Landing Tax is defined in Alaska Statues 43.77. In summary, Alaska levies a fishery resource landing tax on fishery resources processed outside of and first landed in Alaska, based on

the unprocessed value of the resource. The unprocessed value is determined by multiplying a statewide average price per pound (derived from Alaska Department of Fish and Game data) by the unprocessed weight.

The Department of Revenue's Tax Division collects the Fishery Resource Landing Tax primarily from factory trawlers and floating processors that process fishery resources outside the state's 3-mile limit and bring their products into Alaska for transshipment. The tax rate for "established" fisheries, like Pacific cod, is 3 percent of the estimated ex-vessel value of the raw fish used to make the product landed.

The Magnuson-Stevens Act (the Act) does not prohibit federally permitted U.S. fishing vessels from catching, processing, and delivering fish to other U.S. fishing vessels in the exclusive economic zone (EEZ) without entering into state waters. U.S. fishing vessels may catch and process U.S. harvested fish in the EEZ and then transport this fish or fish product out of Alaska[4]. The options to deliver to U.S. vessels in the EEZ are severely limited by the lack of U.S. transport vessels. The Act does prohibit U.S. fishing vessels from transferring or attempting to transfer at sea any U.S. harvested fish to any foreign vessel "while such foreign vessel is within the exclusive economic zone or within the boundary of any state except to the extent that the foreign fishing vessel has been permitted under section 204(d) or 306(c) (of the American Fisheries Act) to receive such fish." 16 U.S.C. § 1857(3). Therefore, any U.S. fishing vessel transferring or attempting to transfer at sea processed products from U.S. harvested fish to any unpermitted foreign vessel in the EEZ or in Alaska state waters would be violating the Act.

Notwithstanding the prohibitions noted above, NOAA has interpreted the Act to allow U.S. fishing vessels in Alaska state waters to legally transfer U.S. harvested fish to unpermitted foreign vessels in internal waters or at ports, harbors, or recognized roadsteads (collectively "legal transshipment areas"). Alaska roadsteads are within the 3-mile State waters area so all C/Ps and motherships are subject to the Fishery Resource Landing Tax when they offload product in Alaska.

At-sea processors' transshipment to a foreign tramper outside the U.S. EEZ off Alaska would not be authorized since a U.S. fishing vessel would need a NMFS-issued High Seas Fishing Permit to conduct any fishing, including transshipment, on the high seas outside the U.S. EEZ. There are currently only eight fisheries that are authorized on the high seas, with no Alaska-related fisheries on that list. NMFS would not be authorized to issue a permit without rule making.

Schedule 6 of the Fishery Resource Landing Tax form allows persons with this tax liability to take a tax credit for charitable contributions to authorized educational institutions of up to $300,000 per year. The credit allows the person to deduct 50 percent of the first $100,000 from their Fishery Resource Landing Tax liability and 100 percent of the next $200,000. Persons electing to take this tax credit are allowed to determine where a portion of their Fishery Resource Landing Tax liability is allocated.

In summary, the information currently available to the analysts indicates that at-sea processors are currently paying the Fishery Resource Landing Tax. The only case where the tax would not be paid is if the vessel never entered into State waters. That may only occur if the last load of product is taken directly to Seattle at the end of the year.

At-sea processors are not required to pay community taxes that are based on landings of raw fish (Table 19). Because the vessels are landing processed product, the fish are not considered raw fish and are not subject to the community tax based on the definition of raw fish landings. Published information is not

[4] Information in this section is based in part on a September 15, 2017 memo from Lisa Lindeman, NOAA GC to ADF&G Commissioner Cotten.

available to determine whether vessels offloading in these communities are also using services provided by the community.

Table 19 Summary of community and borough raw fish taxes for communities that are home to processors that take BS Pacific cod deliveries from trawl vessels

Community/Borough	Tax Rate (exvessel)
Aleutians East Borough (borough tax)	**2.0%**
Akutan (city tax)	1.5%
King Cove (city tax)	2.0%
Sand Point (city tax)	2.0%
Aleutians West Census Area	
Adak (city tax)	2.0%
Unalaska (city tax)	2.0%

Source: https://www.commerce.alaska.gov/dcra/DCRARepoExt/RepoPubs/Taxable/2016-AlaskaTaxableSupplement.pdf

In addition to the city tax, King Cove also collects a $100,000 Fisheries Business Impact Tax from its shoreside processor. In the 2011 AFSC survey, community leaders reported that the Fisheries Business Impact Tax is collected from Peter Pan Seafoods, and is used to support the City's General Fund, providing police, emergency response, and public works funding[5].

6 Next Steps

Upon review of this discussion paper, the Council should first determine whether there is a problem which needs to be addressed. If so, the next step would be the development of a purpose and need statement. The Council indicated in its April 2017 motion the potential need to limit entry and participation in the BS Pacific cod trawl CV sector and limit CV trawl sector's deliveries of BS Pacific cod to the Amendment 80 C/Ps acting as motherships. The Council could develop a single purpose and need statement and associated alternatives that encompasses both issues in one amendment package or it could divide the two actions into separate amendment packages. The interrelatedness of the two actions could support development of a single amendment covering both issues. The purpose and need statement should be focused on identifying specific problems that motivate the action, which, in turn, will serve to guide the development of specific elements and options for consideration.

In addition, the Council could establish a control date. In the original tasking of this discussion paper in April 2017, the Council debated including a control date as reference date for future management action on this issue. At that time, the Council voted to not include a control date due to the absence of information concerning this issue. After reviewing the discussion paper, the Council may view there is sufficient information to indicate a need to establish a control date.

A control date may be used by a fishery management council or by NOAA Fisheries Service in establishing eligibility criteria for determining levels of future access to fisheries, or sectors of fisheries. The establishment or revision of control dates does not bind the Council or NOAA Fisheries Service to selecting that date or management regime at final action or at the time of implementation.

[5] https://www.afsc.noaa.gov/refm/socioeconomics/Projects/communityprofiles/King_Cove_Profile_2000_2010.pdf

Selecting a control date does not guarantee harvesters or processors future participation in a fishery, regardless of their entry date or intensity of participation in the fishery before or after the control dates under consideration. The Council also may choose to take no further action to control entry or access to the fishery, and rescind the control dates. Publication of the control dates is intended to inform stakeholders that the Council is considering management measures that could limit eligibility in the fishery. Implementation of any program or an amendment to an existing program would require preparation of the necessary analyses to implement the proposed change[6].

If the Council determines that it may consider regulatory changes to the BS Pacific cod trawl CV fishery, it may wish to consider the development of a control date. Control dates can be a useful tool to set expectations for future participation and minimize speculative behavior. The National Marine Fisheries Service Procedural Directive 01-119-02 (NMFS, 2016) states:

"to limit situations which may lead to speculative behavior or practices whenever allocations are being considered, the Council should consider announcing a control date for a given fishery, by sector as appropriate, which is published by NMFS as an advance notice of proposed rulemaking. The control date provides notice that, if an allocation decision is made in an FMP or FMP amendment, there is no assurance that any entrance or increased effort into a fishery beyond said date will be used to determine allocations. Announcing a control date is common practice when creating limited access and catch share programs, but could also be used for allocation decisions between gear types, sectors, or groups."

This guidance does not require that the Council select a control date or prescribe how the control date should be determined. Those decisions are left to the Council based on its knowledge of the individual issue, concerns presented by stakeholders, and the potential for new entry.

7 References

NPFMC. (2007). *Secretarial Review Draft for Allocation of Non-Pollock Groundfish and Development of a Cooperative Program for the H&G Trawl Catcher Processor Sector*. North Pacific Fishery Management Council. 605 W. 4th Ave. Suite 306, Anchorage, AK 99501. July 20, 2007.

NMFS. (2016). *National Marine Fisheries Service Procedural Directive 01-119-02: Recommended Factors and Practices to Consider when Reviewing and making Alloction Decisions.* Silver Spring : National Marine Fisheries Service.

Thompson, G. G. (2017). *Stock Assessment and Fishery Evaluation Report. Chapter 2: Assessment of the Pacific Cod Stock in the Eastern Bering Sea*. Seattle: Resource Ecology and Fisheries Management Division, Alaska Fisheries Science Center, NMFS.

[6] http://sero.nmfs.noaa.gov/sustainable_fisheries/more_info/documents/pdfs/sero_control_dates_april2013.pdf