

## FINAL

### Regulatory Impact Review for Proposed Amendment 120 to the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area and Amendment 108 to the Fishery Management Plan for the Groundfish of the Gulf of Alaska

# Catcher/processor Mothership Restrictions in the Bering Sea and Aleutian Islands and the Gulf of Alaska when taking Directed Non-CDQ Pacific cod deliveries from Trawl Catcher Vessels

November 2019

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Abstract: This Regulatory Impact Review (RIR) analyzes management measures that limit certain Amendment 80 and AFA catcher/processors acting as motherships when receiving Bering Sea and Aleutian Islands (BSAI) non-community development quota (CDQ) Pacific cod deliveries from trawl catcher vessels. The action considered limiting the amount of BSAI non-CDQ Pacific cod that can be delivered to certain catcher/processors by trawl catcher vessels. Finally, the proposed action would prohibit certain catcher/processors that are retired from LAPP programs from acting as a mothership in the BSAI or Gulf of Alaska Pacific cod fisheries. The objective of this proposed action is to be a first step towards improving prosecution of the non-CDQ Pacific cod trawl fishery by limiting deliveries to catcher/processors acting as a mothership in the Pacific cod fisheries.

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## List of Acronyms and Abbreviations

AAC	Alaska Administrative Code
ABC	acceptable biological catch
ADF&G	Alaska Department of Fish and Game
AFA	American Fisheries Act
AFSC	Alaska Fisheries Science Center
AI	Aleutian Islands
AKFIN	Alaska Fisheries Information Network
AKR	Alaska Regional Office
AM80	Amendment 80 Program
BS	Bering Sea
BOF	Board of Fish
BSAI	Bering Sea and Aleutian Islands
CAS	Catch Accounting System
CDC	Centers for Disease Control and Prevention
CDQ	Community Development Program
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
COAR	Commercial Operators Annual Report
Council	North Pacific Fishery Management Council
CP or C/P	Catcher/processor
CV	catcher vessel
E.O.	Executive Order
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EFH	essential fish habitat
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FMA	Fisheries Monitoring and Analysis
FMP	fishery management plan
FONSI	Finding of No Significant Impact
FR	<i>Federal Register</i>
FRFA	Final Regulatory Flexibility Analysis
ft	foot or feet
GHL	guideline harvest level
GOA	Gulf of Alaska
IRFA	Initial Regulatory Flexibility Analysis
LAPP	Limited Access Privilege Program
lb(s)	pound(s)

LLP	license limitation program
LOA	length overall
m	meter or meters
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act
MMPA	Marine Mammal Protection Act
MS	Mothership or Motherships
mt	metric ton
NAICS	North American Industry Classification System
NAO	NOAA Administrative Order
NEPA	National Environmental Policy Act
NIOSH	National Institute for Occupational Safety and Health
NMFS	National Marine Fishery Service
NOAA	National Oceanic and Atmospheric Administration
NPFMC	North Pacific Fishery Management Council
OMB	Office of Management and Budget
PSC	prohibited species catch
P.L.	Public Law
PPA	Preliminary preferred alternative
PRA	Paperwork Reduction Act
RFA	Regulatory Flexibility Act
RFFA	reasonably foreseeable future action
RIR	Regulatory Impact Review
RPA	reasonable and prudent alternative
RSW	refrigerated seawater
SAFE	Stock Assessment and Fishery Evaluation
SAR	stock assessment report
SBA	Small Business Act
Secretary	Secretary of Commerce
TAC	total allowable catch
U.S.	United States
USCG	United States Coast Guard
USFWS	United States Fish and Wildlife Service
WSD	Water Systems Division

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## Executive Summary

This Regulatory Impact Review (RIR) analyzes management measures that would limit Amendment 80 catcher/processors and non-Amendment 80 catcher/processors when acting as a mothership receiving Bering Sea and Aleutian Islands (BSAI) non-community development quota (CDQ) Pacific cod deliveries from trawl catcher vessels, would limit retired Amendment 80 catcher/processors from acting as a mothership in the BSAI and Gulf of Alaska (GOA), and considered limiting the amount of BSAI non-CDQ Pacific cod that can be delivered to certain catcher/processors acting as a mothership. The intent of this proposed action is to limit the activity of certain catcher/processors acting as motherships which has expanded, in part, due to the flexibility they were granted under a limited access privilege program (LAPP).

Appendix 2 is attached to this analysis and describes changes in the document that resulted from requests of the North Pacific Fishery Management Council (Council) during the initial review. Appendix 2 focuses on major changes to the document and the specific requests made by the Council's Scientific and Statistical Committee (SSC) and Advisory Panel (AP) at its February 2019 meeting.

### Purpose and Need

In April 2017, the Council tasked staff with preparing a discussion paper that examines participation and effort in the Bering Sea (BS) trawl catcher vessel Pacific cod fishery in response to a potential need to limit entry and participation in the trawl catcher vessel sector and the sector's delivery of BS Pacific cod to Amendment 80 catcher/processor 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 catcher vessels delivering BS Pacific cod to those Amendment 80 catcher/processors, have increased. Some historical Pacific cod participants are concerned about the increased participation by Amendment 80 catcher/processors and their potential to negatively impact the distribution of historical harvest.

After reviewing that discussion paper during in December 2017, the preliminary review document in June 2018, and the initial review document in February 2019, the Council amended previous purpose and need statements by adopting the following purpose and need statement:

*During development of Amendment 80 to the Bering Sea Aleutian Islands Fishery Management Plan, and associated rule making, the Council was silent on the ability of catcher processors defined in Amendment 80 to act as motherships in limited access fisheries. Recent increases of Amendment 80 catcher processors acting as motherships has resulted in an increase in the amount of Pacific cod delivered to Amendment 80 catcher processors, an increase in the number of catcher vessels delivering Pacific cod to motherships, and a decrease in the amount of Pacific cod delivered to shoreside processing facilities. One American Fisheries (AFA) Act catcher/processor has consistently operated as a mothership in the directed BSAI Pacific cod fishery. The Council is concerned about the impacts of the recent increases and potential for future growth in offshore deliveries of Pacific cod to Amendment 80 vessels or other vessels operating as motherships, and the potential impacts those increases could have on shoreside processors, communities, and participating catcher vessels. The Council intends to address the activity of vessels acting as motherships.*

### Alternatives

The following alternatives were considered by the Council to limit the number of catcher/processors that are eligible to accept directed BSAI Pacific cod harvested in the non-CDQ federal trawl catcher vessel fishery and limit the amount of Pacific cod from the BS Pacific cod non-CDQ trawl catcher vessel sector fishery to catcher/processors or their replacement vessels.<sup>1</sup>

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<sup>1</sup> Amendment 80 replacement vessels would also be limited in the GOA.

The Council's current suite of alternatives for this action, with the Council's preferred alternatives noted in bold print, are presented below.

**Alternative 1.** No action

**Alternative 2.** A catcher/processor may take directed fishery deliveries of Pacific cod from catcher vessels participating in the BSAI non-CDQ Pacific cod trawl fishery if the catcher processor acted as a mothership and received targeted Pacific cod deliveries as follows:

Option 1: Amendment 80 catcher/processers acting as motherships during 2015-2017

Sub-option 1.1: in any year

Sub-option 1.2: in two of the three years

Sub-option 1.3: in all three years (**Preferred Alternative**)

Option 2: Non Amendment 80 vessels acting as motherships during 2015-2017 (**Preferred Alternative**)

**Alternative 3.** The total amount of Bering Sea subarea non-CDQ Pacific cod catcher vessel trawl sector A-season (Option: A and B-season) allocation that can be delivered to catcher/processers limited by this action acting as a mothership is equal to the percentage of trawl catcher vessel sector's Bering Sea subarea Pacific cod delivered to catcher/processers acting as motherships relative to the total Bering Sea subarea catcher vessels trawl catch between:

Option 1: 2015-2017

Option 2: 2016-2017

Option 3: 2008-2017

Option 4: 2008-2014

Only the catch of vessels delivering to qualified catcher/processers during the selected Alternative 3 qualifying period would be used as the numerator to determine the catcher/processor's mothership sideboard percentage.

Sub-option 1: A catcher processor that received deliveries from the BSAI non-CDQ Pacific cod trawl catcher vessel sector allocation in 7 or more years during 2008-2017 is not subject to the limitations on receiving deliveries under Alternative 3. Any history of vessels that qualify for this suboption will not count toward any limitation created under Alternative 3.

**Alternative 4:** All Amendment 80 vessels not designated on:

(1) An Amendment 80 QS permit and an Amendment 80 LLP license; or

(2) An Amendment 80 LLP/QS license

Will be prohibited from receiving Pacific cod harvested in the Pacific cod directed fishery in the BSAI and GOA. (**Preferred Alternative**)

Control Date: The Council establishes a control date of December 31, 2017 that may be used as a reference date for a future management action to limit catcher processor vessels from acting as motherships in the BSAI trawl catcher vessel Pacific cod fishery.

**Table ES-1 Summary of Alternatives**



- Alt 1: No constraint on mothershiping
- Alt 2: Authorizing catcher/processor mothershiping based on history
- Alt 3: Impose limit on BS catcher/processor mothershiping amount
- Alt 4: Prohibit replaced AM80 vessels from mothershiping

## Regulatory Impact Review

### Alternative 1 Impacts

The No Action alternative (Alternative 1) would maintain the current management structure of the non-CDQ BSAI trawl catcher vessel Pacific cod fishery. A total of 22.1 percent of the available BSAI non-CDQ Pacific cod TAC would be allocated to the trawl catcher vessel sector. Trawl catcher vessels assigned a valid LLP license with a BS or AI trawl endorsement would be allowed to deliver their catch to any processor that is permitted to process fish from the BSAI. There are no constraints on which catcher/processers can act as a mothership in the BSAI Pacific cod fishery if they hold all required permits. The problem statement indicates that the Council is concerned about recent increases and potential for future growth in Pacific cod deliveries to Amendment 80 vessels and/or other catcher/processor vessels operating as motherships, and about the potential impacts those increases could have on shoreside processors, communities, and participating catcher vessels. The No Action alternative does not effectively address the concern that increasing numbers of catcher/processers could act as a Pacific cod mothership or that the amount of the non-CDQ BSAI trawl catcher vessel Pacific cod allocation delivered to catcher/processers acting as a mothership will increase in terms of percentage and/or weight.

Table ES-1 provides estimates of the amount of BSAI Pacific cod that would be allocated to the trawl catcher vessel sector through 2026. The estimates for the years 2020 through 2026 are based on the 2020 ABC reported in the harvest specifications. Additionally, if the State GHL fishery is fully harvested, the GHL fishery could remove an increasingly larger proportion of the BSAI Pacific cod ABC, which could result in an estimated 36 percent decline in BSAI Pacific cod allocation over time. Decreases in projected amounts of available BSAI Pacific cod could exacerbate the concerns by the various sectors. Changes in GHL fisheries approved by the Alaska Board of Fisheries (BOF) are included in the estimates. If the BOF determines that increases in the GHL are necessary in the future to meet the State waters fisheries objectives, they have the authority to establish additional increases. However, staff cannot predict with any certainty when or if those increases may occur. In the Dutch Harbor Subarea catch of GHL fisheries are traditionally delivered to shoreside processors. In the Aleutian Islands GHL fisheries, the catch has



been delivered primarily to shorebased processors when the Adak plant has been open. Years when the Adak plant has not operated, the catch has been delivered to both catcher/processors acting as a mothership and shoreside processors.

**Table ES-2 Estimated trawl catcher vessel allocation if maximum GHL increases are realized, based on 2018 ABCs**

Sector	Year									% change 2018 to 2026
	2018	2019	2020	2021	2022	2023	2024	2025	2026	
BS ABC	201,000	181,000	137,000	137,000	137,000	137,000	137,000	137,000	137,000	
DHS GHL % of ABC	6.4%	8.0%	9.0%	10.0%	11.0%	12.0%	13.0%	14.0%	15.0%	
DHS Pot GHL (mt)	12,864	14,480	12,330	13,700	15,070	16,440	17,810	19,180	20,550	
DHS Jig GHL (100,000 lbs in mt)	n/a	45	45	45	45	45	45	45	45	
DHS GHL total	12,864	14,525	12,375	13,745	15,115	16,485	17,855	19,225	20,595	
BS TAC	188,136	166,475	124,625	123,255	121,885	120,515	119,145	117,775	116,405	
BS CDQ	20,131	17,813	13,335	13,188	13,042	12,895	12,749	12,602	12,455	
BS non-CDQ TAC	168,005	148,662	111,290	110,067	108,843	107,620	106,396	105,173	103,950	-38.1%
BS Trawl CV Sector TAC	37,129	32,854	24,595	24,325	24,054	23,784	23,514	23,243	22,973	
A-Season BS Trawl CV Sector TAC	27,476	24,312	18,200	18,000	17,800	17,600	17,400	17,200	17,000	
A-Season BS Trawl CV Sector (less 5,000 mt but no BS ICA)	22,476	19,312	13,200	13,000	12,800	12,600	12,400	12,200	12,000	-46.6%
A and B-Season BS Trawl Sector TAC	31,560	27,926	20,906	20,676	20,446	20,216	19,987	19,757	19,527	
AI ABC	21,500	20,600	20,600	20,600	20,600	20,600	20,600	20,600	20,600	
AI GHL % of ABC	27%	31%	35%	39%	39%	39%	39%	39%	39%	
AI GHL (mt)	5,805	6,386	7,210	8,034	8,034	8,034	8,034	8,034	8,034	
AI TAC	15,695	14,214	13,390	12,566	12,566	12,566	12,566	12,566	12,566	
AI CDQ	1,679	1,521	1,433	1,345	1,345	1,345	1,345	1,345	1,345	
AI non-CDQ TAC	14,016	12,693	11,957	11,221	11,221	11,221	11,221	11,221	11,221	-19.9%
AI Trawl CV Sector TAC	3,097	2,805	2,643	2,480	2,480	2,480	2,480	2,480	2,480	
A-Season AI Trawl CV Sector TAC	2,292	2,076	1,955	1,835	1,835	1,835	1,835	1,835	1,835	
A and B-Season AI Trawl Sector TAC	2,633	2,384	2,246	2,108	2,108	2,108	2,108	2,108	2,108	
BSAI non-CDQ TAC	182,021	161,355	123,247	121,288	120,065	118,841	117,618	116,395	115,171	-36.7%
BSAI trawl CV Sector Allotment	40,227	35,660	27,238	26,805	26,534	26,264	25,994	25,723	25,453	
BSAI A-season trawl CV Sector Allotment	29,768	26,388	20,156	19,835	19,635	19,435	19,235	19,035	18,835	
BSAI A-season trawl CV Sector Allotment (less 2,500 mt ICA)	27,268	23,888	17,656	17,335	17,135	16,935	16,735	16,535	16,335	
% change in trawl CV sector allotment	n/a	-11.4%	-32.3%	-33.4%	-34.0%	-34.7%	-35.4%	-36.1%	-36.7%	

All calculations are based on the 2018, 2019, and 2020 Pacific cod ABCs (201,000 mt, 181,000 mt, and 137,000 mt, respectively) and AI ABCs (21,500 mt, 20,600 mt, and 20,600 mt, respectively).

All Trawl catcher vessel sector is allocated 22.1% of BSAI non-CDQ TAC.

Note: all amounts are in metric tons unless other units are specified.

DHS: Dutch Harbor subarea

### Alternative 2 Impacts

Alternative 2 would limit the number of Amendment 80 catcher/processors and/or the number of AFA<sup>2</sup> catcher/processors that could act as a mothership when taking deliveries from trawl catcher vessels in the non-CDQ BSAI Pacific cod fishery. Three options are considered for the Amendment 80 catcher/processors and one option for the AFA catcher/processors. Based on the current options, a maximum of eight catcher/processors could qualify to act as a mothership in this fishery in the future (Table ES-3). Seven of those catcher/processors are classified as Amendment 80 and one is classified as AFA. The qualification would be transferable and associated with the LLP license assigned to the vessel in the sector. Under Option 1, that applies to the Amendment 80 catcher/processors, either seven (deliveries during one year from 2015 through 2017), six (deliveries during two years from 2015 through 2017), or one (deliveries during three years from 2015 through 2017) Amendment 80 catcher/processor(s) would qualify to act as a mothership in the BSAI Pacific cod fishery. The remaining vessels could continue to participate in other fisheries as a catcher/processor or mothership, as allowed by the regulations implemented for those fisheries. If Option 2 is selected, one AFA catcher/processor would

<sup>2</sup> The terms AFA catcher/processors and non-Amendment 80 catcher/processors are used interchangeably in this analysis.

qualify. Any Amendment 80 and/or AFA catcher/processor vessel that does not qualify or is not assigned the license of a vessel that did qualify, would be prohibited from accepting directed Pacific cod deliveries harvested from the non-CDQ BSAI trawl catcher vessel sector allocation.

**Table ES-3 Number of catcher/processors that would qualify to take non-CDQ BSAI trawl Pacific cod deliveries when acting as a mothership under Alternative 2 by Option**

Alternative 2	Amendment 80 C/P			AFA C/P		
	Qualified	Not qualified	Total	Qualified	Not qualified	Total
Option 1: Suboption 1	7	12	19	n/a	n/a	21
Option 1: Suboption 2	6	13	19	n/a	n/a	21
Option 1: Suboption 3	1	18	19	n/a	n/a	21
Option 2	n/a	n/a	n/a	1	20	21

Source: AKFIN summary of NOAA Fisheries CAS data

The impact of Alternative 2 will depend on the number of catcher/processors that qualify and whether they would operate in the future as they have in the past. Catcher/processors acting as a mothership have either taken deliveries from catcher vessels owned by their company or from catcher vessels with no direct ownership linkage. Until recently the business model was primarily structured around taking deliveries from the catcher vessels that the firm owns to supplement the harvests made in the catcher/processor mode. One firm that entered the fishery since 2015 has used a different business model structured around catcher vessels not owned by the catcher/processor firm. The second business model allowed firms that did not own catcher vessels or that wanted more deliveries than could be provided by their own catcher vessels, to process Pacific cod as a mothership harvested from the catcher vessel cod sector allocation. One firm that has relied primarily on catcher vessels it does not own will be limited to the percentage of BSAI Pacific cod it may process as a mothership under Public Law number 115-282 until 2025, unless the Council takes an action to limit the catcher/processors owned by that firm that supersedes the regulation imposed under Public Law Number 115-282<sup>3</sup>.

Selecting the most liberal qualification options under Alternative 2 would not constrain the amount of Pacific cod delivered to catcher/processors acting as a mothership to past or current levels. Some or all of the catcher/processors could increase the amount of deliveries they accept in the short-term or long-term (after 2024). Selecting the most restrictive sub-option would more effectively limit the amount of Pacific cod delivered to catcher/processors acting as a mothership by displacing vessels owned by firms that have participated in the fishery for the past three years or longer, but who entered after Amendment 80 was implemented. Because the problem statement addresses entry since the Amendment 80 program was implemented this outcome is supported by the problem statement.

Catcher vessels and their associated LLP licenses that deliver to a catcher/processor acting as mothership could be affected by Alternatives 2 and 3. Eight catcher vessels delivered Pacific cod only to AFA or Amendment 80 catcher/processors. Two of those vessels delivered to catcher/processors that would not qualify under the sub-option that requires the catcher/processor operate all three years. The other six vessels delivered to catcher/processors that would qualify under any option.

### Preferred Options

The Council selected Alternative 2, Option 1, Suboption 1.3 and Alternative 2, Option 2 as its preferred choices. Qualification is based on having taken at least one Catch Accounting System (CAS) defined targeted BSAI Pacific cod delivery in each year from 2015 through 2017<sup>4</sup>. One Amendment 80

<sup>3</sup> Frank LoBiondo Coast Guard Authorization Act of 2018 (Public Law Number: 115-282)

<sup>4</sup> The qualification for AFA catcher/processors was accepting one landing in any year during the period, but it was understood that the one AFA vessel would have met the qualification criteria if the Council required accepting a landing one year or all three years during the qualification period.

catcher/processor and one AFA catcher/processor qualify to act as a mothership for catcher vessels participating in the BSAI non-CDQ directed Pacific cod trawl catcher vessel fishery using these criteria.

All Amendment 80 and AFA catcher/processors will continue to be allowed to take deliveries of Pacific cod harvested as incidental catch in non-Pacific cod target fisheries and participate as a mothership in the AI state water fishery. The AI state water fishery is open to trawl vessels. Some Amendment 80 catcher/processors that do not qualify, have participated as a mothership in the AI state waters fishery in the past. All true motherships and other processors are not directly regulated by this action and will continue to operate under the current regulations.

Sustained participation of catcher/processors acting as a mothership in the BSAI non-CDQ trawl catcher vessel fishery was considered over the years 2003 through 2017. Owners of the two catcher/processor vessels that were active as a mothership in the Pacific cod fishery and met the qualification criteria (participating in the fishery during each year from 2015 through 2017) are given the privilege of assigning an endorsement to one LLP license used on the qualifying vessel during the qualification period for each vessel that qualified. This will result in two BSAI LLP license mothership endorsements being generated for Pacific cod harvested by trawl catcher vessels operating in the non-CDQ fishery. Once assigned to the LLP license, the endorsement is non-severable from the LLP license it is originally assigned. The entire LLP license and all associated endorsements may be assigned to a different vessel or transferred to a different owner as allowed under the LLP license transfer regulations specified at 50 CFR 679.4(k)(7).

The preferred options under Alternative 2 were selected to limit mothership activity by catcher/processor vessels in the directed BSAI non-CDQ Pacific cod trawl catcher vessel fishery. The options were selected based on the Council's thorough analysis and understanding of the impacts of the alternatives and recommendations from its Advisory Panel and public testimony. The Council's preferred options are responsive to the purpose and need statement developed for this action, by limiting the number of catcher/processor vessels would be eligible to act as motherships in the BSAI Pacific cod trawl CV fishery.

The preferred alternative was determined by the Council to comply with the three allocation requirements of National Standard 4. The allocation of privileges is fair and equitable to all participants. The Council's Alternative 2 qualification criteria were developed after considering historical and recent participation from 2008 through 2017. The preferred alternative qualifies catcher/processor vessels that had sustained participation as a mothership and would not qualify catcher/processors that did not have sustained participation during the entire time period considered in this analysis, which was 2003 through 2019. Sustained participation is not a defined term, but was established based on the Council's knowledge of the fishery and understanding of the impacts of the various options.

The preferred alternative was determined by the Council to be reasonably calculated to promote conservation because it limits participation in a fishery that in recent years has been contributing to the increased pace of the trawl catcher vessel Pacific cod fishery, particularly in the Bering Sea. The recent decline in BSAI Pacific cod TACs, the Bering Sea trawl CV 5,000 mt limitation, increased cod prices, recent years when the fishing fleets have found high catch rates, and increased participation by catcher/processor vessels operating as motherships are contributing factors to a faster paced fishery in the Bering Sea non-CDQ Pacific cod trawl catcher vessel fishery. The Council heard from fishery participants in public testimony that over the past few years the fast-paced fishery results in crowded fishing grounds and an inability to effectively manage halibut bycatch. The fast-paced fishery also poses a substantial challenge for NMFS inseason managers to gather effort information to project when the seasonal allocations will be harvested. The preferred alternative is projected to increase the season length by about one or two days. While the increased season length is modest, it is considered an important first step in stabilizing the pace of the fishery and improving the prosecution of the fishery.

The preferred alternative is consistent with the excessive share provision of National Standard 4 because it has the result of limiting participation of catcher/processor vessels to levels seen prior to 2016. The vessels that would qualify under the preferred alternative have sustained participation in the fishery relative to the catcher/processors that would not qualify. The qualifying catcher/processor vessels will still have to compete with shorebased processors, floating processors, and any other vessels that take deliveries of BSAI Pacific cod from trawl catcher vessels and are not guaranteed a portion of the fishery.

BSAI fishery-dependent communities rely on economic benefits from the processing plants in addition to the state and local taxes that are assessed on landings to those plants. Section 4.4 of the draft SIA analysis shows the high levels of engagement and dependence in the BSAI Pacific cod fisheries for these communities. The substantial increase in offshore deliveries of Pacific cod in recent years has direct and immediate negative economic impacts on inshore processors and coastal communities. Increased deliveries offshore have resulted in a corresponding decline in the amount of Pacific cod delivered to onshore processing facilities. These Pacific cod deliveries are an important financial component to Bering Sea inshore processing operations and fishery dependent communities in the BSAI. The impacted communities include Dutch Harbor/Unalaska, King Cove, Akutan, Sand Point, St. Paul, Adak, Atka, and the Aleutians East Borough. For shoreside processing operations, Pacific cod is second only to pollock in terms of volume and these high-volume fisheries help ensure a more stable workforce in these remote communities and increase economic activity as was referenced in public testimony. Limiting the ability of catcher/processors to operate as a mothership to only these historical participants is consistent with the objectives of this action to address the recent and rapid increase in deliveries of Pacific cod offshore and the resulting negative impacts to the shoreside processors and fishery-dependent communities, consistent with National Standard 8. Based in information in the RIR and SIA the Council utilized the best available economic and social data available to select alternatives that provide for the sustained participation of fishing communities.

The preferred alternative is similar to a limited entry program. The reduction in processing capacity from removing the motherships that did not have sustained participation will substantially abate the impacts of offshore deliveries on the onshore sector and achieve the conservation and management objectives of the Council defined for this action.

### Alternative 3 Impacts

Alternative 3 was not selected as part of the Council's preferred alternative. Alternative 3 limits the percentage of the BS portion of the BSAI non-CDQ trawl catcher vessel sector allocation that may be delivered to catcher-processors when they are acting as a mothership. The limit would be treated as a sideboard that would prohibit catcher-processors from taking mothership deliveries once NMFS projects the sideboard amount would be reached. Because the intent of the action is to limit the total amount of Pacific cod delivered to catcher/processors acting as a mothership during the A-season or A- and B-seasons, NMFS would, to the extent possible, account for projected levels of incidental Pacific cod catches that would be delivered to these catcher/processors when prohibiting directed Pacific cod fishery deliveries of BS Pacific cod to catcher-processors acting as a mothership. To the extent allowed by other regulations, these catcher/processors, when acting as a mothership, could retain incidental deliveries of Pacific cod from other directed fisheries up to the 20% MRA. The limit could be applied to just the A-season (mid-January through March) or the A- and B-seasons (mid-January through mid-June) based on the BS Pacific cod deliveries to all AFA and Amendment 80 catcher/processors acting as a mothership. The A-season and, to a lesser extent, the B-season, are the seasons that have historically been most likely to have a directed Pacific cod fishery by the trawl catcher vessel sector.

Several Alternative 3 options are considered, based on mothership activity in certain years and whether catcher/processors that participated seven or more years from 2008 through 2017 would be exempted from the sideboard limit. Based on all those criteria, the percentage of the A-season allotment that could be delivered to catcher/processors acting as a mothership would range from 0% to about 7%. If both the

A-season and B-season catches were included in the calculation the range would be from 0% to about 11% of the BS portion of the BSAI trawl CV sector allocation. For comparison, during 2018, close to 20% of the A-season catch was delivered to catcher/processors acting as a mothership and in 2019 about 30% was delivered. The Council has latitude when taking action to either select a specific set of years to determine the sideboard limit or it could select any percentage that falls within the range considered.

Limiting the percentage of the non-CDQ trawl catcher vessel sector allocation that could be delivered to catcher/processors could have various impacts depending on the size of the sideboard limit and who may participate in the fishery. The smaller the sideboard the greater protection for the shorebased processors and communities the action is intended to protect. However, if the sideboard is too small to allow receipt of one week of directed fishing, based on the effort in the fishery and the sector allocation that year/season, NMFS would likely prohibit directed non-CDQ BS Pacific cod trawl CV deliveries to catcher/processors constrained under Alternative 3. Those catcher/processors may choose to participate in other fisheries as a catcher/processor using their LAPP quota or they could potentially move to the AI that is not limited under Alternative 3 and have their catcher vessels fish off the AI unrestricted fishery amount. Because that catch would be deducted from both the AI unrestricted fishery amount and the BS trawl catcher vessel A-season allocation remainder<sup>5</sup>, it could negatively impact the season length of both those components of the fishery. Once the unrestricted fishery limit is taken in the AI, only deliveries to an eligible AI shoreplant would be allowed. Because the catch also counts against the BS remainder fishery, when it is reached the entire trawl catcher vessel sector in both the BS and AI would be closed to directed fishing for Pacific cod - except when deliveries are made to an eligible shorebased AI plant, while the set-aside is in place.

In terms of management relative to meeting the objective of the proposed action, the simplest method would be to tightly constrain the number of catcher/processors that would qualify under Alternative 2 and not select a sideboard limit under Alternative 3. If closer to the maximum number of catcher/processors were allowed to qualify, the BS sideboard would need to be large enough to allow some directed fishing in the BS (Alternative 3 - Options 1 or 2) or it would increase the risk of some effort being displaced to the AI. Selecting larger sideboards would have a greater negative impact on the shorebased processors, relative to the status quo.

#### Alternative 4 Impacts

Alternative 4 was selected in conjunction with Alternative 2 as the Council’s preferred alternative. The purpose of Alternative 4 is to ensure that vessels replaced under the Amendment 80 program vessel replacement regulations would also be subject to any mothership limitations developed under this action. Selecting Alternative 4 closes a potential loophole that would allow replaced Amendment 80 vessels to act as a mothership for Pacific cod if they are no longer designated on an Amendment 80 QS permit and an Amendment 80 LLP license or an Amendment 80 LLP/QS license. The Alternative 4 mothership limitation applies to both the BSAI and GOA Pacific cod fisheries, whereas Alternative 2 is specific only to the BSAI Pacific cod fishery.

### **Comparison of Alternatives for Decision-making**

Alternative and Option	Impacts/Costs/Benefits	Meets Defined Objectives
Alternative 1 (No Action)	<ul style="list-style-type: none"> <li>Additional catcher/processors could enter that fishery and more catcher vessels could deliver to those processors.</li> </ul>	<ul style="list-style-type: none"> <li>No, it does not limit the amount of BS Pacific cod harvested with trawl gear being delivered to catcher/processors</li> </ul>

<sup>5</sup> BS trawl catcher vessel A-season Pacific cod allocation minus the BS trawl catcher vessel limitation equals the BS trawl catcher vessel A-season allocation remainder.

Alternative and Option	Impacts/Costs/Benefits	Meets Defined Objectives
	<ul style="list-style-type: none"> <li>• Deliveries of BS Pacific cod to Amendment 80 catcher/processors acting as a mothership for processing could increase.</li> <li>• More catcher vessels could enter the fishery increasing competition for the available resource between harvesters and the processors their deliveries.</li> </ul>	<ul style="list-style-type: none"> <li>• It does not limit the number of catcher/processors that can take BSAI Pacific cod deliveries as a mothership</li> <li>• Increased effort contributes to increasing the pace of the fishery, potentially continuing to shorten the length of the A-season. .</li> <li>• Value of the fishery could decline as a result of quickly harvesting the available sector allocation, requiring vessels to wait to offload, and forcing processors to quickly process all the fish in a short time.</li> <li>• Competing to catch a share of the fishery could reduce a vessel operator's willingness to implement fishing practices known to reduce bycatch and PSC.</li> <li>• Crowding on the grounds could lead to safety issues.</li> </ul>
Alternative 2	<ul style="list-style-type: none"> <li>• All qualification is based on participation as a mothership in the BSAI Pacific cod trawl fishery from 2015 through 2017 in either 1, 2, or all three years.</li> <li>• Amendment 80 catcher/processors (19 currently active) <ul style="list-style-type: none"> <li>○ Option 1: sub-option 1 (7 catcher/processors qualify) all of the firms that have recently participated in the fishery would have at least one vessel qualify to participate.</li> <li>○ Option 1: sub-option 2 (6 catcher/processors qualify) all of the firms that have recently participated in the fishery would have at least one vessel qualify to participate.</li> <li>○ Option 1: sub-option 3 (1 catcher/processor qualifies) two firms that have participated since 2016 would no longer be eligible to participate as a mothership.</li> </ul> </li> <li>• AFA catcher/processors (21 total) <ul style="list-style-type: none"> <li>○ Option 2 (1 catcher/processor qualifies)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Option 1, sub-options 1 and 2 would not be effective in limiting increases in the amount of Pacific cod delivered to catcher/processors. Because of declining BS TACs and current levels of effort, about 30.5% of the A-season catch was delivered to catcher/processors acting as a mothership in 2019. This level of processing or greater could continue under either options 1 sub-options 1 or 2.</li> <li>• Selecting Option 1 - suboption 1.3 and Option 2 would most closely reflect sustained participation as a mothership in the BSAI.</li> <li>• Option 2 would allow one AFA catcher/processor to qualify. If that option was not selected additional AFA catcher/processors could enter the fishery in the future.</li> </ul>

Alternative and Option	Impacts/Costs/Benefits	Meets Defined Objectives
	<ul style="list-style-type: none"> <li>Four LLP licenses were used by catcher vessels that only delivered to catcher/processors impacted by this action from 2010 through 2017. One of those LLP licenses only delivered to a catcher/processor that would qualify under Option 1 – sub-options 1 or 2. One of those four LLP licenses was transferred to a vessel that delivered to a shoreplant in 2018.</li> </ul>	<ul style="list-style-type: none"> <li>Would be effective in limiting the number of Amendment 80 catcher/processors and or AFA catcher/processors that can act as a mothership in the BSAI Pacific cod fishery.</li> <li>True mothership and other at-sea processors would not be restricted.</li> </ul>
Alternative 3	<ul style="list-style-type: none"> <li>72 different options are considered that would limit the percentage (ranging from 0% to approximately 11% of the trawl catcher vessel sector allocation) of BS Pacific cod that may delivered to catcher/processors acting as a mothership. The amount is treated as a sideboard limit. The Council could select any percentage in that range.</li> <li>Depending on the number of catcher/processors that qualify under Alternative 2 and the percentage limit selected, competition within and between members of the catcher/processor sectors could increase to process the available BS sideboard.</li> <li>Long-term participants could lose some of their historical percentage of the fishery if the sideboard limit is based on years when the more recent participants had little or no history. Exempting the Amendment 80 catcher/processor that qualifies under Alternative 2 - option 1 sub-option 3 and/or Option 2 (AFA) would result in those vessels being able to operate as they have in the past. Other catcher/processors owned by the firm would be subject to the sideboard limit, if one was imposed.</li> <li>It is anticipated that at least one week of processing effort would need to be available to open the sideboarded fishery. If the BS sideboard limit is too small to open or the fishery will close very quickly it could increase effort in the unrestricted AI fishery. Increased effort in the AI unrestricted fishery could result in the BS A-season fishery closing sooner and less fish being available for delivery to AI processors from the unrestricted fishery.</li> </ul>	<ul style="list-style-type: none"> <li>Setting a sideboard limit would be effective in protecting BS shoreside processors from increases in deliveries of directed BS Pacific cod to catcher/processors limited under Alternative 2.</li> <li>Shorebased processors would not be protected from increases in the Pacific cod deliveries as an ICA or from other classes of offshore processors taking directed deliveries of Pacific cod.</li> <li>Changing the amount of deliveries between catcher/processors acting as a mothership and other processors does not appear to significantly change the value derived from the fishery at the first wholesale level.</li> <li>Impact that result from this action are primarily distributional between the sectors.</li> <li>To the extent information is available, changes in net benefits to the Nation are negligible at the first wholesale level. If net benefits to the Nation change between the alternatives, the impacts are likely to occur beyond the first wholesale level and sufficient data are not available to generate those estimates.</li> <li>The action would have distributional impacts on participants in the various sectors.</li> </ul>

Alternative and Option	Impacts/Costs/Benefits	Meets Defined Objectives
Alternative 4	<ul style="list-style-type: none"> <li>• Prevents retired Amendment 80 catcher/processors from entering the fishery as mothership. Also prevents these vessels from acting as a mothership in the GOA or other BSAI fisheries, closing a potential loophole.</li> <li>• Could prevent additional effort from entering the processing sector.</li> </ul>	<ul style="list-style-type: none"> <li>• Is effective in limiting participation by any vessels that have been considered Amendment 80 vessels in the past.</li> <li>• Retired AFA catcher/processor are already prohibited from acting as a mothership in the Pacific cod fisheries, so additional regulation to limit their participation would be redundant.</li> </ul>



# 1 Introduction

This Regulatory Impact Review (RIR) analyzes management measures that would limit Amendment 80 catcher/processors and non-Amendment 80 catcher/processors acting as a mothership when receiving Bering Sea and Aleutian Islands (BSAI) non-community development quota (CDQ) Pacific cod deliveries from trawl catcher vessels. The action also considered limiting the amount of BSAI non-CDQ Pacific cod that trawl catcher vessels may deliver to certain catcher/processors. The intent of this proposed action is to address economic, social, and biological issues associated with compressed fishing seasons, additional fishing and processor effort, and economic instability that has been realized in the BSAI trawl catcher vessel Pacific cod fishery in recent years, and the concern that effort would continue increasing in the future.

The Council often prepares RIRs in combination with Environmental Assessments (EAs). An RIR/EA provides assessments of the economic benefits and costs of the action alternatives, as well as their distribution (the RIR), and the environmental impacts of an action and its reasonable alternatives (the EA). In this case, however, the proposed action(s) would not individually or cumulatively have a significant effect on the human environment. The only effects of the action are economic and social, as analyzed in the RIR. As such, the proposed management actions are categorically excluded from the need to prepare an EA.

This RIR addresses the statutory requirements of the Magnuson Stevens Fishery Conservation and Management Act, the National Environmental Policy Act, and Presidential Executive Order (E.O.) 12866. An RIR is a standard document produced by the North Pacific Fishery Management Council (Council) and the National Marine Fisheries Service (NMFS) Alaska Region to provide the analytical background for decision-making.

A Social Impact Assessment (SIA) is included as part of this analysis. Summary findings are included in the RIR and the complete SIA is attached as Appendix 1.

Appendix 2 is attached and describes changes in the document that resulted from requests of the Council during the initial review. Appendix 2 focuses on major changes to the document and the specific requests made by the Scientific and Statistical Committee at its February 2019 meeting.

## 2 Regulatory Impact Review

This RIR examines the benefits and costs of a proposed regulatory amendment to limit Amendment 80 catcher/processors and non-Amendment 80 catcher/processors acting as a mothership by receiving BSAI non-CDQ Pacific cod deliveries from trawl catcher vessels. The proposed amendment also considered limiting the percentage of BSAI non-CDQ Pacific cod harvested from the trawl catcher vessel sector allocation that can be delivered to catcher/processors. The intent of this proposed action is to address the activity of vessels acting as motherships in the BSAI Pacific cod trawl catcher vessel fishery and improve the prosecution of the fishery through limiting entry of vessels that have not participated or have not exhibited sustained participation in the fishery.

The preparation of an RIR is required under E.O. 12866 (58 FR 51735, October 4, 1993). The requirements for all regulatory actions specified in E.O. 12866 are summarized in the following Statement from the E.O.:

*In deciding whether and how to regulate, agencies should assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating. Costs and Benefits shall be understood to include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nonetheless essential to consider. Further, in choosing among alternative regulatory approaches agencies should select those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach.*

E.O. 12866 requires that the Office of Management and Budget review proposed regulatory programs that are considered to be “significant.” A “significant regulatory action” is one that is likely to:

- Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, local or tribal governments or communities;
- Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
- Raise novel legal or policy issues arising out of legal mandates, the President’s priorities, or the principles set forth in this Executive Order.

### 2.1 Statutory Authority

Under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (16 U.S.C. 1801, *et seq.*), the United States has exclusive fishery management authority over all marine fishery resources found within the exclusive economic zone (EEZ). The management of these marine resources is vested in the Secretary of Commerce (Secretary) and in the regional fishery management councils. In the Alaska Region, the Council has the responsibility for preparing fishery management plans (FMPs) and FMP amendments for the marine fisheries that require conservation and management, and for submitting its recommendations to the Secretary. Upon approval by the Secretary, NMFS is charged with carrying out the Federal mandates of the Department of Commerce with regard to marine and anadromous fish.

The BSAI Pacific cod fishery in the EEZ off Alaska is managed under the FMP for Groundfish of the BSAI. The proposed action under consideration would amend the BSAI FMP for all actions and the Gulf of Alaska (GOA) FMP under Alternative 4. Federal regulations at 50 CFR 679 would also be amended.

Actions taken to amend FMPs or implement other regulations governing these fisheries must meet the requirements of Federal law and regulations.

## **2.2 Purpose and Need for Action**

During February 2019, the Council adopted the following updated purpose and need statement for the proposed action:

*During development of Amendment 80 to the Bering Sea Aleutian Islands Fishery Management Plan, and associated rule making, the Council was silent on the ability of catcher processors defined in Amendment 80 to act as motherships in limited access fisheries. Recent increases of Amendment 80 catcher processors acting as motherships has resulted in an increase in the amount of Pacific cod delivered to Amendment 80 catcher processors, an increase in the number of catcher vessels delivering Pacific cod to motherships, and a decrease in the amount of Pacific cod delivered to shoreside processing facilities. One American Fisheries Act catcher/processor has consistently operated as a mothership in the directed BSAI Pacific cod fishery. The Council is concerned about the impacts of the recent increases and potential for future growth in offshore deliveries of Pacific cod to Amendment 80 vessels or other vessels operating as motherships, and the potential impacts those increases could have on shoreside processors, communities, and participating catcher vessels. The Council intends to address the activity of vessels acting as motherships.*

## **2.3 History of this Action**

### **April 2017**

At their April 2017 meeting, the Council tasked staff to prepare a discussion paper that examines participation and effort in the Bering Sea (BS) trawl catcher vessel Pacific cod fishery in response to a potential need to limit entry and participation in the trawl catcher vessel sector and the sector's delivery of BS Pacific cod to certain catcher/processor 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 catcher vessels delivering BS Pacific cod to those Amendment 80 catcher/processors, have increased. Some historical Pacific cod participants are concerned about the increased participation by Amendment 80 catcher/processors acting as motherships and their potential to negatively impact the distribution of historical harvest.

### **December 2017**

The Council reviewed a discussion paper that examined participation and effort in the BS trawl catcher vessel Pacific cod fishery in response to a potential need to limit entry and participation in the trawl catcher vessel sector and the sector's delivery of BS Pacific cod to Amendment 80 catcher/processor vessels acting as motherships. After reviewing the discussion paper, the Council adopted a purpose and need statement and initiated an analysis. The Council is concerned about the impacts of the recent increases and potential future growth in offshore deliveries of Pacific cod to Amendment 80 vessels or other vessels operating as motherships on shoreside processors, communities, and participating catcher vessels. The Council is also concerned about the high level of latency for the AFA trawl catcher vessel and the shortening of the BSAI trawl catcher vessel Pacific cod fishery season, which is resulting in a decreased ability to maximize the value of the fishery and is negatively impacting fishery participants.

### **June 2018**

A preliminary review of the alternatives was presented to the Council that provided background data, requested that the Council clarify specific aspects of its December motion, and requested that the Council indicate its agreement with certain staff assumptions regarding the motion. Based on the information presented in December 2017 and June 2018 the Council adopted alternatives that could limit Amendment

80 catcher/processors and non-Amendment 80 catcher/processors acting as a mothership when receiving BSAI non-CDQ Pacific cod deliveries from trawl catcher vessels, and an alternative that would limit the amount of BSAI non-CDQ Pacific cod trawl catcher vessels that can be delivered to catcher/processors. The Council also included a control date of December 31, 2017 that may be used as a reference date for a future management action to limit catcher/processors acting as motherships in the BSAI trawl catcher vessel Pacific cod fishery.

To address the concerns of latent LLP licenses entering the BSAI trawl catcher vessel Pacific cod fishery, the Council has proposed an alternative that would prohibit the use of any LLP license in the BSAI trawl cod fishery that has not delivered a targeted BSAI trawl Pacific cod landing during the qualifying period.

An alternative to was also included that would divide the BSAI non-CDQ Pacific cod trawl catcher vessel A-season allocation between LLP licenses that are defined as AFA and those defined as non-AFA. Dividing the allocation between these sectors would provide an opportunity for the AFA sector to manage its Pacific cod allocation through its cooperative and inter-cooperative agreements. The non-AFA sector could also be provided tools that would allow the LLP license holders in that sector to manage its allocation through one or more cooperatives.

## **February 2019**

The Council conducted an initial review of the RIR and SIA for this action and voted to remove the catcher vessel LLP license reduction action from the list of alternatives and the discussion of dividing the trawl catcher vessel BSAI Pacific cod sector allocation among AFA and non-AFA LLP licenses. The Council then slightly modified the problem statement and voted to send the analysis, with changes requested by the Council, out for final action at the April 2019 meeting. The Council did not select a preliminary preferred alternative at the February 2019 meeting.

## **April 2019**

The Council took final action by forwarding recommendatins to the Secretary of Commerce to limit the number of catcher/processors that may act as a mothership in the non-CDQ trawl catcher vessel BSAI Pacific cod fishery. It also selected Alternative 4 to prohibit replaced Amendment 80 catcher/processors from acting as a mothership in the BSAI and GOA Pacific cod fisheries.

## **2.4 Alternatives**

### **2.4.1 List of Alternatives**

The Council may choose one or all of the action alternatives.

**Alternative 1.** No action

**Alternative 2.** A catcher/processor may take directed fishery deliveries of Pacific cod from catcher vessels participating in the BSAI non-CDQ Pacific cod trawl fishery if the catcher processor acted as a mothership and received targeted Pacific cod deliveries as follows:

Option 1: Amendment 80 catcher/processors acting as motherships during 2015-2017

Sub-option 1.1: in any year

Sub-option 1.2: in two of the three years

Sub-option 1.3: in all three years (**Preferred Alternative**)

Option 2: Non Amendment 80 vessels acting as motherships during 2015-2017 (**Preferred Alternative**)

**Alternative 3.** The total amount of Bering Sea subarea non-CDQ Pacific cod catcher vessel trawl sector A-season (Option: A and B-season) allocation that can be delivered to catcher/processors limited by this action acting as a mothership is equal to the percentage of trawl catcher vessel sector's Bering Sea

subarea Pacific cod delivered to catcher/processors acting as motherships relative to the total Bering Sea subarea catcher vessels trawl catch between::

- Option 1: 2015-2017
- Option 2: 2016-2017
- Option 3: 2008-2017
- Option 4: 2008-2014

Only the catch of vessels delivering to qualified catcher/processors during the selected Alternative 3 qualifying period would be used as the numerator to determine the catcher/processor's mothership sideboard percentage.

Sub-option 1: A catcher processor that received deliveries from the BSAI non-CDQ Pacific cod trawl catcher vessel sector allocation in 7 or more years during 2008-2017 is not subject to the limitations on receiving deliveries under Alternative 3. Any history of vessels that qualify for this suboption will not count toward any limitation created under Alternative 3.

**Alternative 4:** All Amendment 80 vessels not designated on:

- (1) An Amendment 80 QS permit and an Amendment 80 LLP license; or
- (2) An Amendment 80 LLP/QS license

Will be prohibited from receiving Pacific cod harvested in the Pacific cod directed fishery in the BSAI and GOA. (**Preferred Alternative**)

Control Date: The Council establishes a control date of December 31, 2017 that may be used as a reference date for a future management action to limit catcher processor vessels from acting as motherships in the BSAI trawl catcher vessel Pacific cod fishery.

## 2.4.2 Description of Alternatives

Alternative 1 is the No Action alternative. This alternative would continue the sector level allocations of BSAI Pacific cod that have been established. After deductions are made for the CDQ fishery and the State of Alaska Pacific cod fisheries, the trawl catcher vessel sector is allocated 22.1% of the combined BSAI non-CDQ TAC. The trawl catcher vessel sector allocation (like each of the nine non-CDQ Pacific cod sectors) is managed by NMFS to ensure harvest of Pacific cod does not exceed the overall annual allocation. NMFS monitors harvests that occur while vessels are directed fishing for Pacific cod (specifically directed fishing for 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 flatfish fisheries). Both the directed and incidental catches of Pacific cod are deducted from the sector's allocation.

NMFS allocates exclusive harvest privileges to the non-AFA trawl catcher/processor sector (the Amendment 80 sector) participants that cannot be exceeded. BSAI Pacific cod catch attributed to the Amendment 80 sector is deducted from their allocation. BSAI Pacific cod harvested by catcher vessels and delivered to an Amendment 80 catcher/processor for processing is deducted from the trawl catcher vessel sector allocation. A similar process is used for the AFA catcher/processors.

Allocations of Pacific cod to the CDQ Program and to the non-CDQ fishery sectors are further apportioned by seasons. Regulations apportion trawl non-CDQ fishery sector allocations among seasons<sup>6</sup> that are defined as the A-season (January 20 through April 1), B-season (April 1 through June 10), and C-season (June 10 through November 1). Seasonal allocations vary by fishery, but for the trawl catcher vessel sector Pacific cod is allocated 74% to the A-season, 11% to the B-season, and 15% to the B-season.

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<sup>6</sup> Seasons open and close at noon of the dates shown.

Vessels that may harvest Pacific cod from the catcher vessel sector are limited to those vessels that have a valid groundfish LLP license assigned to the vessel with a trawl gear endorsement for the BS and/or AI. Vessels acting as a trawl catcher vessel could have either a valid catcher/processor or catcher vessel groundfish LLP license endorsed for the appropriate area and gear.

Catcher/processers wishing to act as a mothership are also required to hold a valid FFP with a mothership endorsement. A mothership endorsement for an FFP is obtained by selecting that activity on the form and meeting all other safety and operational requirements.

Under the No Action alternative there is no limit on the amount of the BS non-CDQ trawl catcher vessel sector allocation that may be delivered to catcher/processers acting as a mothership. Catcher vessels that deliver to shorebased plants and those deliver to the vessels acting as a mothership compete for the amount of Pacific cod they catch and processors compete for deliveries. AI Pacific cod deliveries were managed under BSAI Amendment 113 through 2019. Under the revised Amendment 113, catcher/processers are still allowed to take deliveries of Pacific cod from trawl catcher vessels operating in the AI unrestricted fishery or the entire AI apportionment after the set-aside is lifted. Amendment 113 regulations were vacated by a court ruling. When this analysis was drafted it was not known whether that ruling would be appealed or new regulations would be recommended by the Council.

Alternative 2 addresses which catcher/processers will be eligible to take deliveries from catcher vessels when they are participating in BSAI non-CDQ Pacific cod directed fishery. The purpose of this alternative is to limit the ability of certain catcher/processers to act as motherships in that fishery. The alternative has qualifying options for Amendment 80 catcher/processers and Non-Amendment 80 vessels. Based on the Council's language introducing the two options, the Non-Amendment 80 vessels are defined as catcher/processers acting as a mothership that do not fall under the Amendment 80 definition. Non-Amendment 80 catcher/processers are the same as the AFA catcher/processers since only trawl catcher/processers are equipped to take cod end deliveries from a trawl catcher vessel. Because the action is limited to catcher/processers, it excludes all true motherships listed in the AFA and non-AFA true motherships and stationary floating processors. Excluding true mothership and floating processors means that any eligible trawl catcher vessel will be allowed to make directed BSAI non-CDQ Pacific cod deliveries to these vessels when the BS non-CDQ Pacific cod catcher vessel trawl fishery is open to directed fishing or the AI fishery is open to directed fishing.

The options under Alternative 2 would require catcher/processers to have taken delivery of a targeted<sup>7</sup> BSAI trawl non-CDQ Pacific cod delivery from a catcher vessel between January 20th, 2015 and the end of the trawl fishing year in 2017. The Council's qualification period covers three calendar years and the Council's options consider a range that would require an Amendment 80 catcher/processor acting as a mothership to have taken the required Pacific cod delivery in either one, two, or all three calendar years to qualify to take directed BSAI non-CDQ trawl Pacific cod deliveries into the future. Non-Amendment 80 catcher/processers (AFA) would only be required to take one targeted non-CDQ Pacific cod delivery from a trawl catcher vessel over the entire period to qualify to take future directed deliveries of non-CDQ Pacific cod. The options for the two classes of catcher/processers are different because the Council knew through review of discussion papers that only one AFA catcher/processor would qualify under any of the Amendment 80 options. Therefore, to simplify the analysis it selected a single option for the AFA catcher/processers.

Any catcher/processor that does not qualify to take trawl deliveries of BSAI Pacific cod from catcher vessels in the directed fishery will still be allowed to take deliveries of other species as currently allowed in regulation. Incidental deliveries of Pacific cod will also be allowed, unless Pacific cod is placed on PSC status. Directed Pacific cod deliveries from Statewater fisheries would also be allowed.

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<sup>7</sup> A Pacific cod target is applied to catch when Pacific cod is the predominant species caught, measured whole pounds, for each delivery. The Council requested that the target be determined using the fish ticket level data so that shoreside and at-sea deliveries are treated similarly.

Catcher/processors that do not qualify would also be allowed to catch and process Pacific cod from the BSAI catcher/processor Pacific cod trawl allocation they are assigned.<sup>8</sup> The harvests by individual catcher/processors are governed by the cooperative agreements that their sector has developed and implemented.

Alternative 3 would limit the total amount of the Bering Sea subarea BSAI non-CDQ Pacific cod catcher vessel trawl sector A-season (or A- and B-season) allocation that may be delivered to catcher/processors. The total amount would be equal to the percentage of trawl catcher vessel's Bering Sea subarea BSAI Pacific cod delivered to catcher/processors acting as motherships relative to the total BSAI Bering Sea subarea trawl catcher vessels catch. Four different time periods are under consideration to determine the percentage (1) 2015-2017, (2) 2016-2017, (3) 2008-2017, or (4) 2008-2014. Only the catch by vessels when delivering to catcher/processors that qualify under Alternative 2 would be used as the numerator to determine the percentage of the non-CDQ BSAI trawl catcher vessel sector allocation that may be delivered to catcher/processors acting as a mothership. The percentage would be managed as a sideboard limit. Sideboards do not guarantee that percentage of the TAC would be delivered to catcher/processors acting as a mothership.

Alternative 3 includes a sub-option. That sub-option would exempt any catcher/processor that received deliveries from the BSAI non-CDQ Pacific cod trawl catcher vessel sector allocation in seven or more years during the years 2008 through 2017 from the sideboard limitations on receiving future Pacific cod deliveries. Any catch delivered in the future to these exempt catcher/processors would not count against any sideboard limit established under this action. If no sideboard limit is established they would be allowed to take deliveries until the BS is closed directed fishing or BSAI trawl catcher vessel sector allocation is taken.

This sideboard limit would be calculated and established based on catch in the A-season or the A-season and B-season. The Council is considering limiting the sideboard action to these seasons based on historical delivery patterns of BS Pacific cod to shoreplants, floating processors, and motherships during the qualifying years. These are also the seasons when the Pacific cod fishery is most likely to be open to directed fishing.

Alternative 4 was developed to ensure that replaced Amendment 80 vessels could not participate as a mothership in the BSAI Pacific cod fishery as well as other BSAI and GOA fisheries. The alternative is designed to be selected in conjunction with Alternative 2, if the Council wishes to limit both active and replaced Amendment 80 vessels from acting as a mothership in the BSAI Pacific cod trawl fishery. Alternative 2 is specific to current Amendment 80 LLP license and permit holders. This alternative covers all Amendment 80 vessels not designated on an Amendment 80 QS permit and an Amendment 80 LLP license. It also states that the prohibition on Amendment 80 LLP license and Amendment 80 QS holders would be prohibited from receiving groundfish harvested from the BSAI and GOA. The option does not apply to replaced AFA catcher/processors because they are already prohibited from acting as a mothership under the AFA vessel replacement regulations. All other alternatives considered were specific to the BSAI.

Finally, the Council established a control date of December 31, 2017 that may be used as a reference date for a future management action to limit catcher/processor vessels from acting as motherships in the BSAI trawl catcher vessel Pacific cod fishery. The control date does not bind the Council to that cutoff date, but it is intended to signal the Council's strong intent not to use processing activity after that date to determine a vessels eligibility in the future.

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<sup>8</sup> Amendment 80 catcher/processors would fish from the Amendment 80 catcher/processor Pacific cod allocation and AFA catcher/processors would be allowed to fish from the AFA catcher/processor allocation.

## 2.5 Methodology for Analysis of Impacts and Data Availability

### 2.5.1 Methodology for Analysis of Impacts

The evaluation of impacts in this analysis is designed to meet the requirement of E.O. 12866, which dictates that an RIR evaluate the costs and benefits of the alternatives, to include both quantifiable and qualitative considerations. Additionally, the analysis should provide information for decision makers “to maximize net benefits (including potential economic, environment, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach.” The costs and benefits of this action with respect to these attributes are described in the sections that follow, comparing the No Action Alternative (Alternative 1) and the status quo (pre-Amendment 80) with the action alternatives. The analyst then provides a qualitative assessment of the net benefit to the Nation of each alternative, compared to no action.

This analysis was prepared using data from the NMFS catch accounting system (CAS), which is the best available data to estimate total catch in the groundfish fisheries off Alaska. Total catch estimates are generated from information provided through a variety of required industry reports of harvest and at-sea discard, and data collected through an extensive fishery observer program. In the case of deliveries of BSAI Pacific cod to motherships by catcher vessels, estimates of catch originate from observer data. Shorebased deliveries are based on information reported in eLandings. Fishticket data are an input into the CAS system and are used to consider mothership activity under Alternative 2 - in addition CAS data.

In 2003, NMFS changed the methodologies used to determine catch estimates from the NMFS blend database (1995 through 2002) to the catch accounting system (2003 through present). The catch accounting system was implemented to better meet the increasing information needs of fisheries scientists and managers. Currently, the catch accounting system relies on data derived from a mixture of production and observer reports as the basis of the total catch estimates. The 2003 modifications in catch estimation included providing more frequent data summaries at finer spatial and fleet resolution, and the increased use of observer data. Redesigned observer program data collections were implemented in 2008 and include recording sample-specific information in lieu of pooled information, increased use of systematic sampling over simple random and opportunistic sampling, and decreased reliance on observer computations. Because of these modifications, NMFS is unable to recreate blend database estimates for total catch and retained catch after 2002. Therefore, NMFS is not able to reliably compare historical data from the blend database to the current catch accounting system.

Alternative 2 and Alternative 3 language states that access to the BSAI trawl catcher vessel Pacific cod fishery should be based on legal BSAI Pacific cod landing during the qualifying period.<sup>9</sup> Targeted landings under Alternative 2 are described in terms of both CAS and Fishticket targets. Both are determined by the amount of retained aggregate groundfish species that is greater than the retained amount of any other groundfish species for that trip. A trip for CAS is the weekly landings of all catcher vessels the mothership by area and the Fishticket definition is based on each individual landing. Using trip target to determine eligibility limits the potential for vessels to qualify for participation in the BSAI Pacific cod trawl fishery based on their incidental catch of Pacific cod. Alternative 3 is based on the total amount of Pacific cod landings in all trawl CV target fisheries, but information is also provided to show just the target catch of Pacific cod as a percentage of all targeted Pacific cod catch.

The Council had previously considered using directed fishing landings, which is defined as any fishing activity that results in retention of an amount of a species on board a vessel that is greater than the maximum retainable amount (MRA) for that species. Limiting access to the BSAI Pacific cod trawl fishery based on directed fishing activity could result in catcher/processors (Alternative 2) qualifying based on incidental catch of Pacific cod. Because qualification would be based on legal landings, directed

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<sup>9</sup> A legal targeted landing of Pacific cod includes all legal directed landings of Pacific cod.



fishing may only occur when the BSAI trawl catcher vessel Pacific cod fishery is open. The Council ultimately rejected this approach and used the CAS trip target definition as previous Council's had done for similar actions (e.g., the yellowfin sole TLAS fishery).

## **2.5.2 Data that would have been Useful but are Unavailable**

Additional discussion of unavailable data is provided in Section 3.5 of the SIA. Much of the data discussed in that section would be useful when developing the RIR.

Consistent cost data for all sectors impacted by this amendment would be useful. Cost data are necessary to calculate net National benefits. Because those data are unavailable for all sectors,<sup>10</sup> this analysis relies on changes in gross revenue to compare changes across sectors. Changes in gross revenue are not reliable proxies for net revenue when comparing impacts to each sector or calculating net benefits to the Nation.

More detailed and reliable information on product flows and values past the first wholesale markets would also be useful. Changes in net National benefits, especially in this analysis because there is no discernable change in net National benefits at the first wholesale level, are dependent on when the first whole products leave the U.S. economy. Products that are sold to foreign markets for secondary processing and never reenter the U.S. economy are expected to provide less net National benefit than products that receive secondary processing in the U.S. and are consumed in the U.S. Net National benefit is increased because all producer and consumer surplus is included beyond the first wholesale level.

## **2.6 Description of Fisheries**

The following section describes the management of the Pacific cod fishery in the BS and AI. Sections include a description of management of the Federal fishery, seasonal allowances, State-managed Bering Sea and Aleutian Island Pacific cod guideline harvest level (GHL) fisheries, Steller sea lion protection measures, description of affected sectors, LLP license and vessel information, affected communities, state and municipal fishery taxes, product composition and flow of Pacific cod, and other information. This information is included in the description of fisheries section since the current management of the BS and AI Pacific cod fishery will be central to interpreting the effects of the proposed alternatives and options.

### **2.6.1 Description of management**

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.

The State will manage three GHL fisheries for Pacific cod, two that occur within State waters in the BS and one that occurs within State waters in the AI. Under current State regulations, each year the Dutch Harbor Subarea (DHS) GHL fishery for pot gear in the BS is set at 8 percent of the BS ABC with annual 1 percent increase, if 90 percent is harvested, until it reaches 15 percent of the BS ABC. The Board of Fish also created 100,000 lb (just over 45 metric tons [mt]) GHL jig fishery in the DHS that will begin in 2019. The AI GHL fishery was set at 27 percent of the 2018 ABC specified for AI Pacific cod. The 2019 AI GHL was increased to 31 percent of the AI Pacific cod ABC, with annual "step-up" provisions that increases the amount of the GHL fishery if it was fully (90 percent) 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

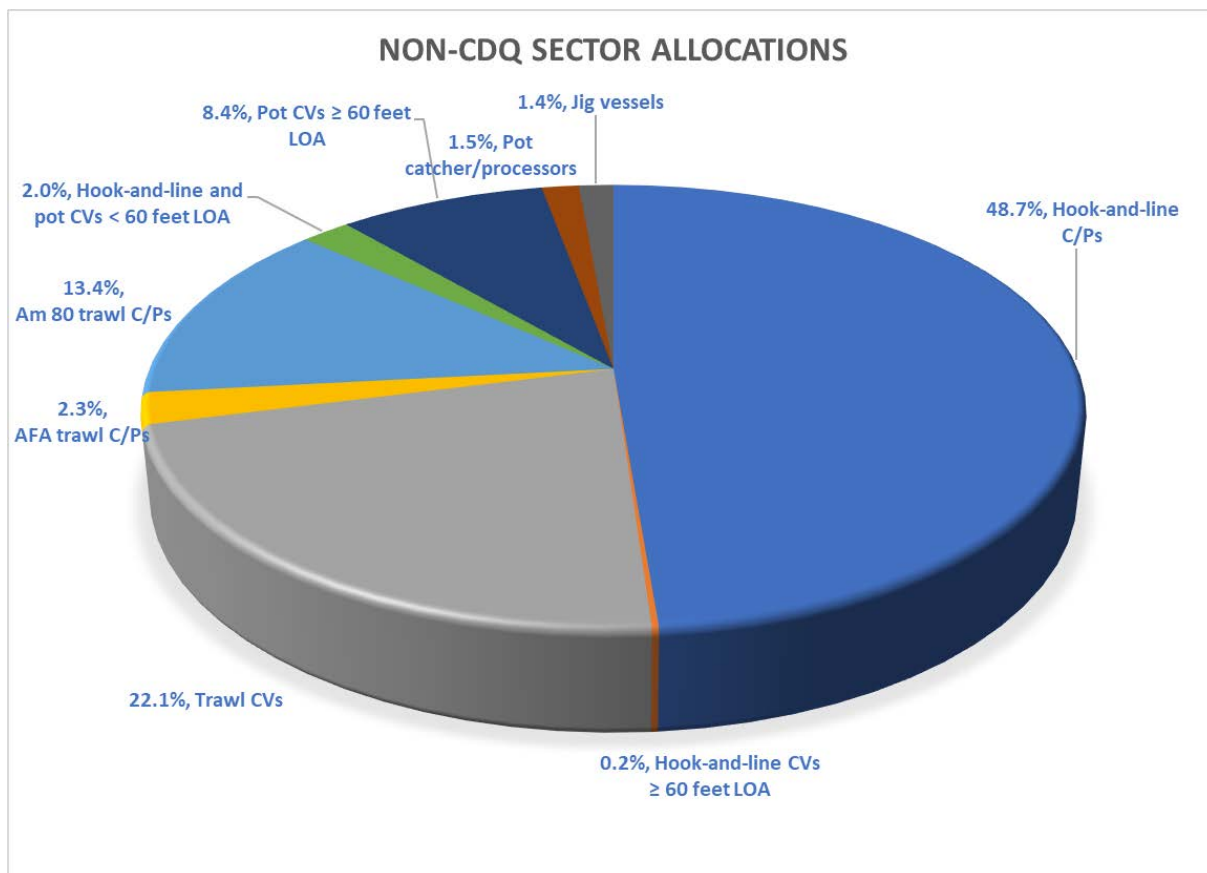
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<sup>10</sup> EDR data are collected for the Amendment 80 fleet that provides cost information. Similar information is not available for all catcher vessels, shorebased processors, floating processors, or other catcher/processors.

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 December 2017 discussion paper<sup>11</sup> provides additional discussion 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 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 implemented under BSAI Amendment 85 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., catcher vessel or catcher/processor), 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 Figure 2-1 below.



**Figure 2-1 Non-CDQ sector allocations of BSAI Pacific cod**

Prior to BSAI Amendment 85 being implemented in 2007, the trawl CV sector had been allocated 23.5 percent of the non-CDQ TAC and the two trawl catcher/processor sectors had shared 23.5 percent of the BSAI non-CDQ TAC. The majority of the trawl sector’s decrease was allocated to the hook-and-line

<sup>11</sup> <http://npfmc.legistar.com/gateway.aspx?M=F&ID=14769180-2558-4acc-9290-1facf916e0a7.pdf>

catcher/processor sector, whose allocation increased from 40.8 percent to 48.7 percent of the non-CDQ TAC.

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 catcher/processor 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 2.6.2 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 2-1 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 2019. Since the BS and AI were split in 2014, the BS ABC and TAC have declined and the AI ABC and TAC increased initially and have remained constant the last three years.

**Table 2-1 BSAI Pacific cod ABC, TAC, and ITAC 2003 to 2013 and BS and AI Pacific cod ABC, TAC, and ITAC 2014 and 2019 (amounts in metric tons)**

Year	BSAI			BS			AI								
	ABC	TAC	ITAC	ABC	TAC	ITAC	ABC	TAC	ITAC						
2003	223,000	207,500	191,938	N/A											
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												
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	N/A									255,000	240,000	214,320	17,600	9,422	8,414
2016	N/A			255,000	238,680	213,141	17,600	12,839	11,465						
2017	N/A			239,000	223,704	199,768	21,500	15,695	14,016						
2018	N/A			201,000	188,136	168,005	21,500	15,695	14,016						
2019	N/A			181,000	166,475	148,662	20,600	14,214	12,693						

## 2.6.2 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 2-2 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 2-2 BSAI non-CDQ Pacific cod seasonal allowances**

Pot	Jan 1 – June 10 (51%), Sept 1 – Dec 31 (49%) Pot catcher vessels <60' do not have seasonal allowances.	Trawl vessel catcher	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 catcher vessels <60' do not have seasonal allowances.	Trawl catcher/processor	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 2-3 provides the BSAI Pacific cod sector apportionment and BSAI Pacific cod seasonal allowance for the 2018 fishing year. The bottom row of the table shows the seasonal allocation for the trawl catcher

vessel sector. Any portions of the seasonal allowance that are not harvested in the A-season may be rolled over to the following fishing season.

**Table 2-3 BSAI non-CDQ Pacific cod sector apportionment and BSAI non-CDQ Pacific cod seasonal allowance for 2019**

Sector	BSAI Sector Apportionment (mt)	BSAI Season allowance (mt)		
		A	B	
H&L/pot < 60'	3,109	No seasonal allowance		
H&L CV ≥ 60'	311	159	152	
H&L CP	75,705	38,610	37,095	
Pot CV ≥ 60'	13,058	6,660	6,398	
Pot CP	2,332	1,189	1,143	
Sector	BSAI Sector Apportionment (mt)	BSAI Season allowance (mt)		
		A	B	C
Jig vessels	2,186	1,311	437	437
AFA trawl CP	3,591	2,693	898	0
Amendment 80	20,919	15,689	5,230	0
Trawl CV	34,500	25,530	3,795	5,175

Source: NMFS Final Specifications

Note: The sum of the seasonal apportionments may not equal the sector allocation due to rounding.

Table 2-4 reports the most recent 12 years of the BSAI trawl catcher vessel Pacific cod allocation. Since 2008, the trawl catcher vessel 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 (see Table 2-10). 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 2-4 BSAI Pacific cod trawl catcher vessel allocations (mt) by season 2008 through 2019**

Year	CV trawl allocation	Metric tons			Percentage		
		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%
2018	40,227	29,768	4,425	6,034	74.0%	11.0%	15.0%
2019	34,500	25,530	3,795	5,175	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](https://alaskafisheries.noaa.gov/sites/default/files/17_18bsaitable8.pdf))

### 2.6.3 BSAI Pacific cod trawl catcher vessel closures

Table 2-5 provides a summary of the closure and opening dates for the BSAI Pacific cod trawl catcher vessel fishery. It also reports the number of days the fishery was open to directed fishing. 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 catcher vessel 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 2019. The A-season fishery duration in the BSAI has ranged from 70 days in 2003 to 34 days in 2017 with an overall average duration of just over 51 days. The B-season, is typically only open for about one week or less. 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.

Variables that can affect the pace of fishing and season length include changes in Pacific cod TACs, increase or decrease of Pacific cod prices, and the catch rate of Pacific cod that the fleet can find. Additional specific issues that may have affected the pace of fishing in 2018 and 2019 include the 5,000 mt Bering Sea limitation in 2018 and 2019, and the Council’s notice at the end of 2017 that they were considering management measures to restrict C/Ps operating as motherships.

**Table 2-5 Closure and opening dates (days) for the BSAI Pacific cod trawl catcher vessel sector, 2003 through 2019 A-season**

Year	A-Season: 20 Jan – Apr 1	B-Season: 1 Apr - 10 Jun	C-Season: 10 Jun – Nov 1
2003			CI 25-Sep (107), HAL
2004	CL 23-Mar (62)	CI 4-Apr (3) Op 10-Apr CI 13-Apr (3)	
2005	CI 13-Mar (52) Op 29-Mar (3)		CI 18-Aug, HAL (69)
2006	CI 8-Mar (47)	CI 6-Apr (5) CI 8-Jun, HAL	Op 19-Jul, HAL CI 31-Aug
2007	CI 12-Mar (51)	CI 9-Apr (8)	CI 29-Sep (111), HAL
2008	CI 6-Mar (45)	CI 4-Apr (3)	
2009	CI 21-Mar (60)	CI 5-Apr (4)	
2010	CI 12-mar (51)	CI 1-Apr (0)	
2011	CI 26-Mar (65)	CI 4-Apr (3) Op 9-Apr CI 12-Apr (3) Op 15-Apr (15)	
2012	CI 29-Feb (39) Op 29-Mar (3)	CI 15-Apr (14)	
2013	CI 11-Mar (50)		
2014			
2015			
2016	CI 9-Mar (48)	CI 4-Apr (3) Op 11-Apr CI 4-May (23)	
2017	CI 23-Feb (34)	CI 3-Apr (2)	
2018	CI 4-Mar (43)	CI 3-Apr (2)	
2019	CI 16-Mar (55)	CI 2-Apr (1)	

Notes: CI = Closed by TAC, Op = Open, HAL=Closed because halibut PSC limits reached, REG=Closed by Regulation  
 Numbers reported in parentheses are the days the fishery was open prior to closing.  
 All openings and closures are because of TAC unless otherwise noted.

### 2.6.4 Vessel Replacement

#### 2.6.4.1 Amendment 80 Vessel Replacement (BSAI FMP Amendment 97)

Amendment 97 (77 FR 59852) to the BSAI FMP allows the owner of a trawl catcher/processor that is authorized to participate in the Amendment 80 catch share program to replace that vessel. In order to participate in the Amendment 80 program, the regulations require a person who owns the catch history of an original qualifying non-AFA trawl catcher/processor to apply to NMFS for an Amendment 80 QS permit. Each of the 28 original qualified vessels may be assigned an Amendment 80 QS permit, if that vessel owner applies to receive an Amendment 80 QS permit. In developing the regulations for Amendment 80, NMFS determined vessels that did not meet the criteria were prohibited from participating in the Amendment 80 sector. Therefore, only the 28 listed vessels were qualified to fish in

the Amendment 80 sector and replacement vessels were not permitted unless the replacement vessel was one of the qualifying vessels listed in Table 31 to part 679.

Several of the 28 original Amendment 80 vessels are no longer active in the Amendment 80 fleet due to an actual or constructive total loss (i.e., F/V Alaska Ranger, F/V Arctic Sole, and F/V Prosperity), or because those vessels have been reflagged under foreign ownership and are no longer eligible to re-enter U.S. fisheries under the provisions of 46 U.S.C. 12113 (i.e., F/V Bering Enterprise).

In cases where an original qualifying vessel has suffered a total or constructive loss, or is no longer eligible to receive a fishery endorsement (i.e., the vessel has been removed through a vessel buyback program, or has been reflagged as a foreign vessel), the regulations currently require that an Amendment 80 QS permit must be permanently assigned to the LLP license, creating an Amendment 80 LLP/QS license. Three Amendment 80 QS permits are permanently assigned to LLP licenses. The system of having Amendment 80 permits and LLP licenses as well as joined LLP licenses/Amendment 80 QS permits is the reason that Alternative 6 is structured to cover both scenarios when limiting inactive Amendment 80 vessels from acting as a mothership in the BSAI Pacific cod fishery.

To ensure that no more than the 28 originally qualifying vessels participate in the Amendment 80 fisheries, NMFS implemented regulations, at § 679.4(o)(v). Those regulations require Amendment 80 QS units assigned to an Amendment 80 QS permit are non-severable from that Amendment 80 QS permit and if transferred, then the Amendment 80 QS permit must be transferred in its entirety to another person.

Amendment 80 QS permits, and the Amendment 80 vessels or LLP licenses associated with those Amendment 80 QS permits, may be assigned annually to an Amendment 80 cooperative. Amendment 80 QS permit holders assigning their permit to an Amendment 80 cooperative are eligible to receive an exclusive harvest privilege for a portion of the TAC for the six defined Amendment 80 species, as well as a portion of the BSAI halibut, Bristol Bay red king crab, snow crab, and Tanner crab PSC assigned to the Amendment 80 sector.

BSAI Amendment 97 allows Amendment 80 vessels to be replaced with up to one other vessel for any reason and at any time. The vessel replacement process was established to provide Amendment 80 vessel owners with the flexibility to incorporate a broad range of processing opportunities that are not currently available on all vessels. Vessel replacement is intended to facilitate improved retention and utilization of catch by the Amendment 80 sector through vessel upgrades and new vessel construction. It also addressed regulatory deficiencies for lost vessels that were identified.

Amendment 80 replacement vessels are limited to a maximum length over-all of 295 feet. It also modifies the maximum length over-all on LLP licenses assigned to Amendment 80 replacement vessels. The maximum vessel length regulation is intended to provide equal opportunity for each vessel owner to increase or maintain vessel length, to improve the range of processed products, and to increase hold capacity onboard the vessel. In many cases vessel length is less important for increasing harvest rates than for providing a large enough vessel to provide adequate hold capacity and processing capacity to increase groundfish retention.

#### **2.6.4.2 AFA Vessel Replacement**

Replaced AFA vessels are not included under Alternative 4 because they lose their fishery endorsement and are prohibited from being issued a new fishery endorsement except if the vessel replaces a current AFA vessel. So, if a replaced or former AFA vessel (vessel 1) reenters the AFA fishery as a replacement vessel, the owner of the vessel (vessel 1) reentering the AFA fishery must obtain a new fishery endorsement from the United States Coast Guard and NMFS will transfer the AFA permit from the vessel leaving (vessel 2) the AFA fishery (the replaced vessel) to the vessel entering the AFA fishery (vessel 1 - the replacement vessel).

As noted above, the Coast Guard Act prohibits a removed catcher/processor vessel from receiving a federal fishery endorsement, unless it reenters as a replacement AFA vessel. The activities authorized by a fishery endorsement are defined, in general, at 46 U.S. Code Section 12113 which states that “*subject to the laws of the United States regulating the fisheries, a vessel for which a fishery endorsement is issued may engage in the fisheries.*” Regulations at 46 U.S. Code section 108 state that “*the term “fisheries” includes processing, storing, transporting (except in foreign commerce), planting, cultivating, catching, taking, or harvesting fish, shellfish, marine animals, pearls, shells, or marine vegetation in the navigable waters of the United States or in the exclusive economic zone.*” Because a fishing endorsement is required to process fish in U.S. waters, replaced AFA catcher/processors that cannot be assigned a fishery endorsement are therefore not eligible to act as a mothership for Pacific cod or any other species in the North Pacific. This is consistent with the Council’s intent that replaced catcher/processors under the AFA or Amendment 80 not be allowed to reenter the Pacific cod fishery as a mothership.

## **2.6.5 Amendment 113 and proposed replacement<sup>12</sup>**

During the December 2018 meeting, the Council recommended to the Secretary of Commerce to modify Amendment 113. The notice requirements to implement the shoreplant set-aside remain in place. The notice requirements state that if prior to November 1, neither the City of Adak nor the City of Atka have notified NMFS of the intent to process the non-CDQ directed fishing allowance (DFA) AI Pacific cod TAC in the upcoming year, the Aleutian Islands shoreplant delivery requirement and the Bering Sea Trawl Catcher Vessel A-Season Sector Limitation (BS Limitation) is suspended for the upcoming year. Cities can voluntarily provide notice prior to the selected date. The other critical dates and provisions of the fishery include:

1. If less than 1,000 mt of the AI Pacific cod non-CDQ TAC has been landed at shoreplants west of 170 longitude in the AI by February 28 the restrictions under 2) and 3) will be suspended for the remainder of the year.
2. Prior to March 15 AI DFA Pacific cod non-CDQ harvests of any sector, other than the catcher vessel sector delivering to shoreplants west of 170° longitude in the AI, are limited to the amount of the AI directed Pacific cod non-CDQ DFA above minus the amount set aside from the trawl catcher vessel BSAI allocation. Catches of non-catcher vessel sectors are not subject to the regional delivery requirement.
3. Prior to March 21, the A-season trawl catcher vessel Pacific cod harvests in the Bering Sea and trawl catcher vessel Pacific cod harvests in the AI, except harvests delivered to shoreplants west of 170° longitude in the AI, are limited to an amount equal to the BSAI aggregate catcher vessel trawl sector A season allocation minus the lesser of the AI Pacific cod non-CDQ DFA or 5,000 mt. Upon the closure under the above provision, trawl catcher vessel directed fishing for non-CDQ BSAI Pacific cod is prohibited for all trawl catcher vessels except trawl catcher vessels delivering to shoreplants west of 170° longitude in the AI prior to March 21, unless restrictions are removed earlier.
4. Allow Pacific cod harvested in the AI to be delivered either shoreside or at sea after March 15, the BS limitation would not apply after March 21 or when the AI Pacific cod TAC is achieved, whichever is sooner.

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<sup>12</sup> BSAI Amendment 113 and its proposed replacement regulations were vacated as a result of a recent court ruling (see *Groundfish Forum v. Ross*, Civil Action No. 16-2495 (TJK) (D.D.C. Mar. 21, 2019)). At the time this analysis was finalized NMFS had not yet determined if the ruling would be appealed. The Council is also considering how to proceed relative to AI shoreplant protections. Because of the uncertainty surround the future of this regulatory package, this section remains as drafted prior to the court ruling. However, it is understood the impacts of that court ruling and the AI plant not operating in a year are similar, in terms of the amount of Pacific cod catcher vessel harvest that will occur in the BS and AI. Because more of the sector’s Pacific cod harvest is expected to take place in the BS, less Pacific cod may be delivered to the AI shoreplant than would have occurred under Amendment 113.



The performance measures included in the revised Amendment 113 are 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 AI harvest set-aside and the BS Limitation 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 TAC is the lifting of the AI catcher vessel 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 AI Pacific cod catcher vessel harvest set-aside and the BS Limitation are suspended for the remainder of the year.

Under the proposed modifications to Amendment 113, the BS trawl catcher vessel A-season sector would close once the harvest from the BS Pacific cod fishery and AI Unrestricted Pacific cod fishery by trawl catcher vessels was equal to the amount of BS Pacific cod that remains after deducting the BS Limitation from the BSAI trawl catcher vessel sector A-season allocation listed in the annual harvest specifications. In addition, the modification of Amendment 113 would prohibit trawl catcher vessels from participating in the AI Unrestricted Fishery once the BS trawl catcher vessel A-season sector fishery closes to directed fishing.

The proposed revisions to the Amendment 113 regulations require that some or all of the AI Pacific cod DFA<sup>13</sup> is set aside for harvest by catcher vessels directed fishing for AI Pacific cod for delivery to an AI shoreplant. This AI catcher vessel Harvest Set-Aside will be available for harvest by catcher vessels using any authorized gear type. The amount of the AI catcher vessel Harvest Set-Aside will be an amount equal to the lesser of either the AI DFA or 5,000 mt. When the AI catcher vessel Harvest Set-Aside 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 catcher 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 catcher vessel Harvest Set-Aside is in effect, will be permitted to conduct directed fishing for groundfish (other than Pacific cod) in the AI and their Pacific cod incidental catch will accrue toward the AI incidental catch allowance (ICA).

When the AI DFA is greater than 5,000 mt, and therefore the AI catcher vessel Harvest Set-Aside is set equal to 5,000 mt, the difference between the DFA and the AI catcher vessel 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, the AI Unrestricted Fishery may be harvested and processed by any eligible processor, including trawl catcher vessels delivering to eligible AFA and Amendment 80 catcher/processers acting as a mothership or shoreside floating processors. In years when there is both an AI catcher vessel 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 and their sector is open to directed fishing.

The proposed revised Amendment 113 includes provisions to help ensure that the AI Pacific cod DFA is fully harvested. Also, the current structure of the non-CDQ Pacific cod allocations helps ensure the AI Pacific cod DFA is fully harvested. In 2014, BSAI Pacific cod catch limits (OFLs, ABCs, and TACs) were split into separate BS and AI catch limits. However, the allocations to the non-CDQ sectors continued to be BSAI wide. In 2014 to 2016, without an AI shoreplant processing Pacific cod, AI directed fishing closed for non-CDQ Pacific cod in February and March. However, in 2017, there was less effort early in the year and only 30% of the non-CDQ TAC was caught through March. In June, it was realized that effort was needed in the AI because the remaining BS non-CDQ TAC may not support the Pacific cod remaining in the sectors allocations. Some of the hook-and-line catcher/processers moved to the AI to target Pacific cod to avoid NMFS closing the BS non-CDQ Pacific cod for all sectors. This can occur

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<sup>13</sup> DFA = TAC - ICA and CDQ allowance

because the non-CDQ Pacific cod allocations are BSAI wide. The hook-and-line catcher/processor sector typically has the most Pacific cod available and their season remains open until December 31. As a result, in 2017, they were the only sector that had a sufficient amount Pacific cod DFA available to target the AI apportionment without an AI based plant being available. In 2018, with an AI shoreplant processing Pacific cod, NMFS did not close non CDQ Pacific cod directed fishing the AI, but NMFS was close to issuing a closure notice, and 95% of the non-CDQ TAC was caught. The catch may have been impacted because some of the fishing effort may have left the AI early because they may have thought NMFS was going to close the AI. In 2017, the effort by the hook-and-line catcher/processers moved to the AI in July, later than in previous years

Based on the information presented above, the following points associated with the fleet harvesting the AI DFA in years there are no AI shoreplants<sup>14</sup> operating are worth noting:

- In years when NMFS does not establish a 5,000 mt AI catcher vessel set-aside or BS Limitation because there is not an AI shoreplant, NMFS only manages the trawl catcher vessel sector allocation at the BSAI level. There is no separate BS closure or AI Unrestricted Fishery closure. If fishing is good in the BS then there are few incentives to go to the AI, especially with the short A-seasons in recent years. Incentives to move trawl catcher vessels into the AI were part of the Amendment 113 program.
- Floaters and eligible catcher/processers acting as motherships are most likely to go to the AI to take trawl deliveries. It is unlikely that a floater would go to the AI just to take deliveries from pot gear catcher vessels<sup>15</sup> or other non-trawl catcher vessels.
- Decisions to move to the AI are always dependent on the relative size of the AI and BS ABCs and TACs. The length of time a sector will be open to directed fishing for Pacific cod will factor into the firms decision to travel and operate in AI.
- The price of Pacific cod will factor into a firms decision to stay in the BS or move to the AI. In years Pacific cod has a relatively high value it creates greater incentives to ensure all of the Pacific cod DFA is taken. Firms may be willing to incur the higher cost of participating in the AI to access the Pacific cod.
- It is expected that the trawl catcher vessel sector will harvest their Pacific cod allocation in both the BS and AI under any of the alternatives being considered by the Council.
- Harvesting the AI DFA, if an AI plant is not operating in a year, could fall more heavily on the hook-and-line catcher/processers. Especially if there is limited economic incentives for the trawl catcher vessels to leave the BS. It is anticipated, especially under current conditions that the trawl catcher vessels would harvest as much of their allocation as possible in the BS. Because they have a smaller allocation and higher daily catch rates than the hook-and-line catcher/processor sector, they would be able to take all or almost all of their allocation from the BS. Selecting an option that limits the number of catcher/processers that could take deliveries of Pacific cod may slightly slow the pace of the fishery, but it would not be expected to impact whether the AI DFA would be harvested. Other factors, as described earlier, impact that outcome.

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<sup>14</sup> This is not intended to speculate that there will be years in the future that a plant in the AI is not operating but is intended to describe the potential impacts if that situation does exist.

<sup>15</sup> Pot gear catcher vessels greater than or equal to 60 feet LOA are allocated 8.4 percent of available non-CDQ BSAI TAC, hook-and-line and pot gear catcher vessel less than 60 feet are allocated 2 percent, hook-and-line catcher vessels greater than or equal to 60 feet are allocated 0.2 percent, and jig gear vessels are allocated 1.4 percent.

## 2.6.6 Frank LoBiondo Coast Guard Authorization Act of 2018 (Public Law Number: 115-282)

On December 4, 2018 Public Law No: 115-282 became law. Section 835 of Public Law Number: 115-282 contains a waiver that would allow one Amendment 80 vessel to be replaced by a new vessel that would not have otherwise qualified under the Jones Act. As a result, the Secretary is required to issue a certificate of documentation with coastwise and fishery endorsements to the certificated vessel. While Public Law Number: 115-282 allows the new vessel to participate in the U.S. fisheries, Section 836 the law placed specific temporary limitations on the use of that vessel.

One of the limitations is a sideboard on the amount of species delivered to the vessel(s) for processing that were harvested by another vessel. The language in Section 836(a) and Section 836(b) states that:

Section 836(a)(1)(B) “the percentage of processing of deliveries from other vessels in any Bering Sea, Aleutian Islands, and Gulf of Alaska groundfish fisheries (including fisheries subject to a limited access privilege program created by the North Pacific Fishery Management Council, or community development quotas as described in section 305(i) of the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1855(i))) that is equivalent to the total processing of such deliveries by the vessels described in paragraph (2) in those fisheries in the calendar years 2012 through 2017 relative to the total allowable catch available in the calendar years 2012 through 2017.

Section 836(a)(2) *APPLICABLE VESSELS.*—*The limitations described in paragraph (1) shall apply, in the aggregate, to—*

- (A) the vessel AMERICA’S FINEST (United States official number 1276760);
- (B) the vessel US INTREPID (United States official number 604439);
- (C) the vessel AMERICAN NO. 1 (United States official number 610654);
- (D) any replacement of a vessel described in subparagraph (A), (B), or (C); and
- (E) any vessel assigned license number LLG3217 under the license limitation program under part 679 of title 50, Code of Federal Regulations.

Section 836(b) *EXPIRATION.*—*The limitations described in subsection (a) shall apply to a groundfish species in Bering Sea, Aleutian Islands, and Gulf of Alaska only until the earlier of—*

- (1) the end of the 6-year period beginning on the date of enactment of this Act; or
- (2) the date on which the Secretary of Commerce issues a final rule, based on recommendations developed by the North Pacific Fishery Management Council consistent with the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 180114 et seq.), that limits processing deliveries of that groundfish species from other vessels in any Bering Sea, Aleutian Islands, and Gulf of Alaska groundfish fisheries that are not subject to conservation and management measures under section 206 of the American Fisheries Act (16 U.S.C. 1851 note).

For the purpose of this analysis there are important issues worth noting:

- All of the Amendment 80 catcher/processor vessels owned by one of the firms that acted as a mothership in the BSAI Pacific cod fishery could be limited to an average of the Pacific catcher vessel sector deliveries that is less than they have processed as a mothership in recent years. This is a result of the time period selected (2012 through 2017) including years when the firm accepted very little or no Pacific cod deliveries as a mothership in the BSAI.
- It has been determined the sideboard amount is considered confidential. The percentage will not be made public. Therefore, the information presented in this document includes all the Pacific cod delivered to the listed vessels when calculating the sideboard amount and does not account for the limits described in this section.

- The limitations on the amount of Pacific cod the firm may process as a mothership will expire prior to the start of the 2025 fishing year. The limitation could expire sooner than the 2025 fishing year, depending on actions taken by the Council relative to this proposed amendment. Distributional impacts within the Amendment 80 sector could be realized before and after the sideboard limits imposed under Public Law Number: 115-282, Section 836(b) expire.

### **2.6.7 State Dutch Harbor Subarea and AI GHL Fishery**

The Alaska Board of Fish (BOF) meeting cycle generally occurs from October through March. The BOF considers changes to regulations on a three-year, region-based cycle. Special petition and agenda change request procedures are available for the board to consider out-of-cycle requests. The normal cycle for BSAI Pacific cod fisheries review by the BOF occurs in the 2018/2019, 2021/2022, 2024/2025, and 2027/2028 cycle. Changes made to the GHL during the October 2018 meeting are described in this section. The BOF may change the size of the Pacific cod GHLs to address access and management issues that fall under its jurisdiction. However, future changes within the listed management cycle will not occur again until the 2022 fishing year. Projecting future actions the BOF may wish to implement is beyond the scope of this analysis, but any future increases in the GHL result in a corresponding decrease in the amount of Pacific cod available to the federal fisheries. Meaning that after deducting the 10.7 percent for CDQ, 22.1 percent of the remainder would be allocated to the BS and AI trawl CV sector allocation. Stated another way for each pound of Pacific cod allocated to the GHL fisheries the trawl CV sector loses 0.197 pounds of Pacific cod from its allocation.

The State of Alaska has managed a GHL fishery for Pacific cod in State waters in the AI subarea since 2006 and in the DHS of 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. The annual step-up provision remains in place if the GHL is fully harvested. The GHL is considered fully harvested at 90 percent harvested. In addition, the Alaska Board of Fisheries (BOF) capped the AI GHL at a maximum of 15 million pounds (6,804 mt). At the BOF October 2018 meeting, the BOF included a four percent step-down provision if the AI GHL is not fully harvested (90 percent is considered fully harvested) during two consecutive calendar years. The GHL may not be reduced below 15 percent of the federal AI Pacific cod ABC.

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 in recent years due to the number of participants in the processing sector. Table 2-6 summarizes the AI GHL fishery regulations. Table 2-7 summarize the state AI GHL participation, catch, and value for the years 2006 through 2018. Additional information on the AI GHL fishery can be found in the AI Pacific Cod Harvest Set-Aside RIR that addressed issues with Amendment 113 (NPFMC, 2018).

**Table 2-6 AI Pacific cod A-season GHL opening and closing dates by inside and outside 175° W long to 178° W long and authorized fishing gear**

Area	Season	GHL Opens	GHL Closes	Gear
Inside*	A	GHL Opens January 1	A season GHL remains open until A-season GHL reached or June 9	60' or less using trawl, pot, and jig and vessels 58' or less using longline gear
				March 15 - no trawl gear greater than 100', pot gear greater than 125', and mechanical jig and longline greater than 58'
Outside*	A	4 days after federal catcher vessel trawl closure	If there is state-water A-season GHL by April 1 and federal catcher vessel trawl B-season opens	60' or less using trawl, pot, and jig and vessels 58' or less using longline gear
		Noon March 15 if federal catcher vessel trawl fishery still open on noon March 14 and A-season GHL remains		March 15 - No trawl gear greater than 100', pot gear greater than 125', and mechanical jig and longline greater than 58'
		If federal catcher vessel trawl B-season closes and A-season GHL remains	Remains open until A-season GHL reached or June 9	
Inside and outside	B	June 10	September 1 if all B-season GHL has been taken	From June 10 through July 31, a vessel cannot exceed 60'
		If there is B-season GHL when federal catcher vessel pot B-season closes	Whenever B-season GHL is all harvested or December 31	Beginning August 1, pot vessels cannot exceed 125' while vessel with other gear cannot exceed 60'
				Pot vessels cannot exceed 125' while vessel with other gear cannot exceed 60'

\***Inside** is defined as 175° W long to 178° W long; **Outside** is defined as outside 175° W long to 178° W long

**Table 2-7 Aleutian Islands state-waters Pacific cod fishery guideline harvest level and harvest from 2006-2018**

Year	Season	Initial GHL <sup>a</sup>		Harvest <sup>a</sup>	Vessels		Landings	Average price per pound <sup>b</sup>	Fishery value <sup>c</sup>
<b>2006</b>	A season	4,074		3,857	26		68	\$0.23	\$1.30
	B-season	1,746	d	160	5		19	\$0.38	\$1.40
	TOTAL	5,820		4,017	30	e	87	\$0.31	\$2.70
<b>2007</b>	A season	3,696		3,733	27		97	\$0.45	\$3.60
	B-season	1,584	f	1,546	12		106	\$0.52	\$1.70
	TOTAL	5,280		5,279	39	e	203	\$0.49	\$5.30
<b>2008</b>	A season	3,696		3,392	30		116	\$0.63	\$4.50
	B-season	1,584	g	1,924	18		77	\$0.57	\$1.80
	TOTAL	5,280		5,316	45	e	193	\$0.61	\$6.30
<b>2009</b>	A season	3,822		2,512	22		50	NA	NA
	B-season	1,638	g	CF	5		47	CF	CF
	TOTAL	5,460		CF	27		97	CF	CF
<b>2010</b>	A season	3,654		3,610	16		84	\$0.25	\$1.60
	B-season	1,566	g	375	3		4	\$0.32	\$1.10
	TOTAL	5,220		3,985	16	e	88	\$0.29	\$2.70
<b>2011</b>	A season	4,935		CF	3		4	CF	CF
	B-season	2,115	g	CF	4		16	CF	CF
	TOTAL	7,050		270	6	e	20	CF	CF
<b>2012</b>	A season	6,594		5,199	21		201	\$0.31	\$3.60
	B-season	2,826	g	432	7		25	CF	CF
	TOTAL	9,420		5,598	26	e	226	CF	CF
<b>2013</b>	A season	6,447		CF	12		CF	CF	CF
	B-season	2,763	g	CF	1		CF	CF	CF
	TOTAL	9,210		4,792	13		151	CF	CF
<b>2014</b>	A season	5,672		CF	8		133	CF	CF
	B-season	2,431	g	0	0		0	\$0.00	\$0.00
	TOTAL	8,103		CF	8		133	CF	CF
<b>2015</b>	A season	5,725		CF	2		CF	CF	CF
	B-season	2,453	g	0	0		0	\$0.00	\$0.00
	TOTAL	8,178		CF	2		CF	CF	CF
<b>2016</b>		4,752	h	CF	6		39	CF	CF
<b>2017</b>		5,805	h	CF	3		84	CF	CF
<b>2018</b>		5,805	h	CF	13		132	CF	CF

Note: CF = Confidential

<sup>a</sup> In metric tons

<sup>b</sup> Price per pound of landed weight.

<sup>c</sup> Fishery value based on landed weight, in millions of dollars.

<sup>d</sup> ADF&G made 3.5 million pounds of the GHL available to National Marine Fisheries Service effective on September 1.

<sup>e</sup> Some vessels participated in both seasons.

<sup>f</sup> Overage from the A-season was deducted from the B-season GHL. Initial GHL shown.

<sup>g</sup> A-season GHL was not fully harvested, remaining A-season GHL rolled over into B-season GHL; initial GHL shown.

<sup>h</sup> Regulation changed to only one season for Aleutian Island Subdistrict state-waters Pacific cod.

During October 2013, the BOF created a state-waters Pacific cod fishery management plan for the Bering Sea near Dutch Harbor.<sup>16</sup> A summary of the regulations is provided in Table 2-8. The DHS GHL fishery for Pacific cod occurred in State waters between 164 degrees and 167 degrees west longitude until 2019.

<sup>16</sup> [https://www.psmfc.org/tsc-drafts/2017/ADFG\\_2017\\_AK\\_TSC\\_Alaska\\_FINAL.pdf](https://www.psmfc.org/tsc-drafts/2017/ADFG_2017_AK_TSC_Alaska_FINAL.pdf)

At the BOF October 2018 meeting it expanded the area to include waters between 162.30 and 167 west longitude. The fishery is open to vessels 58 feet or less overall length using pot gear, with a limit of 60 pots per vessel. The season opens seven days after the federal Bering Sea–Aleutian Islands < 60’ pot/longline sector’s season closure, and may close and re-open as needed to coordinate with federal fishery openings.<sup>17</sup> The fishery is not opened to jig gear because the federal jig season typically occurs year-round, so there has historically been no benefit to having a separate state-waters fishery.

The DHS state-waters Pacific cod fishery is in an exclusive registration area for pot gear but not jig gear. Vessels that register for the DHS state-waters Pacific cod pot gear fishery may not register for any other exclusive or super exclusive state-waters Pacific cod fishery that year but may participate in a nonexclusive state-waters Pacific cod fishery. Vessels that have registered for any other exclusive or super exclusive state-waters Pacific cod season outside of the DHS that year may not participate in the DHS state-waters Pacific cod fishery. Exclusive registration does not apply to federal or parallel Pacific cod fisheries. Jig gear vessels may register and fish in other areas for Pacific cod if they are registered to take Pacific cod with a mechanical jigging machine in the DHS.

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<sup>17</sup> The 2018 season opened on January 30 and was closed on March 1 because the GHF was projected to be taken.

**Table 2-8 Dutch Harbor Subarea state-waters Pacific cod (GHL) fishery**

Area	DHS state-waters opens	DHS state-waters closes	Gear	Vessel length
Dutch Harbor Sub district pot gear GHL	<ul style="list-style-type: none"> <li>The DHS state-waters Pacific cod season will open by emergency order 7 days after closure of the initial federal BSAI Pacific cod season for the &lt; 60' hook-and-line and pot gear catcher vessel sector.</li> <li>If GHL Pacific cod are available when the federal BSAI Pacific cod &lt; 60' HAL/pot gear catcher vessel sector closes after harvesting any reallocation, the DHS state-waters Pacific cod season may reopen.</li> <li>The DHS is defined as waters between 162.30 and 167 west longitude</li> </ul>	<ul style="list-style-type: none"> <li>When the GHL is taken or at the regulatory season closure date (December 31) whichever occurs first.</li> <li>If the federal BSAI Pacific cod &lt; 60' HAL/pot gear catcher vessel sector receives a TAC reallocation and is reopened, the DHS state-waters Pacific cod season may close.</li> </ul>	<ul style="list-style-type: none"> <li>Pot gear vessels using 60 or fewer pots unless the Commissioner modifies regulations after October 1.</li> <li>DHS is an exclusive registration area for Pacific cod and participants must purchase buoy tags and attach a tag to each pot prior to fishing.</li> </ul>	58' or less overall length, unless modified by ADF&G news release after October 1.
Dutch Harbor Sub district jig gear GHL	<ul style="list-style-type: none"> <li>May 1 opens a 100,000 lb fishery</li> </ul>	<ul style="list-style-type: none"> <li>When the GHL is taken or at the regulatory season closure date (December 31) whichever occurs first.</li> </ul>	<ul style="list-style-type: none"> <li>Jig gear with a limit of 5 jigging machines.</li> <li>The limit on the number of jigging machines may be lifted by the commissioner any time after October 1, to allow the fleet to harvest the GHL.</li> </ul>	58' or less overall length

Source: <http://www.adfg.alaska.gov/FedAidPDFs/FMR18-05.pdf>

The DHS fishery was first opened to fishing in 2014. State regulations provided for a GHL of 3 percent of the BSAI Pacific cod ABC, which was subtracted from the BS ABC before calculating the BS TAC. Starting in 2016, the Alaska Board of Fisheries changed the DHS GHL calculations to align with the split of the Federal BSAI Pacific cod stock into separate BS and AI stocks. As part of those modifications, the DHS GHL was changed to 6.4 percent of the BS ABC. The DHS GHL was changed again at the October 2018 BOF meeting. The DHS GHL was increased to 8.0% of the BS ABC starting in the 2019 fishery. If the GHL is fully harvested (90 percent is considered fully harvested), the limit is then increased by 1% of the BS ABC each year until it reaches 15% in 2026. The 15% GHL would continue unless changed by the BOF.

The GHL amount and reported harvest from that fishery are reported in **Table 2-9**. All of the catch is delivered to shoreside plants since it is harvested by pot vessels that are less than or equal to 58'. A total of 32 pot gear vessels participated in the fishery in 2018.



**Table 2-9 Pacific cod harvest (lbs.) with pot gear in the State of Alaska DHS Guideline Harvest Level Pacific cod fishery, 2014 through 2018**

Year	GHL		Harvest		% Harvested
	Pounds	mt	Pounds	mt	
2014	17,863,874	8,103	17,666,510	8,013	98.9%
2015	18,029,404	8,178	17,636,103	8,000	97.8%
2016	35,979,072	16,320	35,519,920	16,112	98.7%
2017	33,721,562	15,296	33,247,414	15,081	98.6%
2018	28,360,000	12,864	29,055,603	13,180	102.5%

Source: Personal communication Trent Hartill September 5, 2017 and ADF&G website.

The BOF also created a 100,000 lb (45 mt) GHL jig fishery for Pacific cod in the DHS. That fishery will begin May 1, 2019. The DHS jig gear fishery is not a super-exclusive fishery, so persons may register and fish that fishery and other State fisheries for Pacific cod. Because the fishery will open for the first time in 2019, no information is available on past participation or harvest.

Pacific cod may only be harvested with pot gear in one DHS GHL fishery and jig gear in the other. Because they are pot or jig gear fisheries, the primary direct impact to the BS trawl catcher vessel Pacific cod fishery is through a reduction to the ABC that is available prior to setting trawl catcher vessel TAC.<sup>18</sup> Once the DHS GHL for pot gear reaches 15% of the BS ABC it equates to a 134% increase in the GHL allocation, in GHL percent allocation, relative to 2018. In poundage terms, the 2018 (6.4 percent) GHL was 28.36 million lbs (12,864 mt).

Using the 2018 and 2019 ABCs and the projected 2020 ABCs continues through 2026, the information presented in Table 2-10 shows the impacts on the BSAI trawl non-CDQ catcher vessel allocation. Overall, the projected allocation would decrease by 36.7 percent (40,227 mt to 25,453 mt) from 2018 through 2026 when accounting for changes in the GHLs and TACs.

<sup>18</sup> After October 1, if a substantial portion of the state-waters GHL remains unharvested and the GHL is unlikely to be achieved by December 31, gear limits, vessel size restrictions, and exclusive registration requirements may be removed. All inseason management actions will be announced by ADF&G news release.

**Table 2-10 Change in trawl catcher vessel allocation if maximum GH L increases are realized, based on 2018 ABCs**

Sector	Year									% change 2018 to 2026
	2018	2019	2020	2021	2022	2023	2024	2025	2026	
BS ABC	201,000	181,000	137,000	137,000	137,000	137,000	137,000	137,000	137,000	
DHS GH L % of ABC	6.4%	8.0%	9.0%	10.0%	11.0%	12.0%	13.0%	14.0%	15.0%	
DHS Pot GH L (mt)	12,864	14,480	12,330	13,700	15,070	16,440	17,810	19,180	20,550	
DHS Jig GH L (100,000 lbs in mt)	n/a	45	45	45	45	45	45	45	45	
DHS GH L total	12,864	14,525	12,375	13,745	15,115	16,485	17,855	19,225	20,595	
BS TAC	188,136	166,475	124,625	123,255	121,885	120,515	119,145	117,775	116,405	
BS CDQ	20,131	17,813	13,335	13,188	13,042	12,895	12,749	12,602	12,455	
BS non-CDQ TAC	168,005	148,662	111,290	110,067	108,843	107,620	106,396	105,173	103,950	-38.1%
BS Trawl CV Sector TAC	37,129	32,854	24,595	24,325	24,054	23,784	23,514	23,243	22,973	
A-Season BS Trawl CV Sector TAC	27,476	24,312	18,200	18,000	17,800	17,600	17,400	17,200	17,000	
A-Season BS Trawl CV Sector (less 5,000 mt but no BS ICA)	22,476	19,312	13,200	13,000	12,800	12,600	12,400	12,200	12,000	-46.6%
A and B-Season BS Trawl Sector TAC	31,560	27,926	20,906	20,676	20,446	20,216	19,987	19,757	19,527	
AI ABC	21,500	20,600	20,600	20,600	20,600	20,600	20,600	20,600	20,600	
AI GH L % of ABC	27%	31%	35%	39%	39%	39%	39%	39%	39%	
AI GH L (mt)	5,805	6,386	7,210	8,034	8,034	8,034	8,034	8,034	8,034	
AI TAC	15,695	14,214	13,390	12,566	12,566	12,566	12,566	12,566	12,566	
AI CDQ	1,679	1,521	1,433	1,345	1,345	1,345	1,345	1,345	1,345	
AI non-CDQ TAC	14,016	12,693	11,957	11,221	11,221	11,221	11,221	11,221	11,221	-19.9%
AI Trawl CV Sector TAC	3,097	2,805	2,643	2,480	2,480	2,480	2,480	2,480	2,480	
A-Season AI Trawl CV Sector TAC	2,292	2,076	1,955	1,835	1,835	1,835	1,835	1,835	1,835	
A and B-Season AI Trawl Sector TAC	2,633	2,384	2,246	2,108	2,108	2,108	2,108	2,108	2,108	
BSAI non-CDQ TAC	182,021	161,355	123,247	121,288	120,065	118,841	117,618	116,395	115,171	-36.7%
BSAI trawl CV Sector Allotment	40,227	35,660	27,238	26,805	26,534	26,264	25,994	25,723	25,453	
BSAI A-season trawl CV Sector Allotment	29,768	26,388	20,156	19,835	19,635	19,435	19,235	19,035	18,835	
BSAI A-season trawl CV Sector Allotment (less 2,500 mt ICA)	27,268	23,888	17,656	17,335	17,135	16,935	16,735	16,535	16,335	
% change in trawl CV sector allotment	n/a	-11.4%	-32.3%	-33.4%	-34.0%	-34.7%	-35.4%	-36.1%	-36.7%	

All calculations are based on the 2018, 2019, and 2020 Pacific cod ABCs (201,000 mt, 181,000 mt, and 137,000 mt, respectively) and AI ABCs (21,500 mt, 20,600 mt, and 20,600 mt, respectively).

All Trawl catcher vessel sector is allocated 22.1% of BSAI non-CDQ TAC.

Note: all amounts are in metric tons unless other units are specified.

DHS = Dutch Harbor subarea

## 2.6.8 Steller Sea Lion Protections Measures

NMFS has closed areas around Steller sea lion rookeries and important haulouts to commercial fishing for Steller sea lion's prey species to protect Steller sea lions from potential competition for their prey. The area closures also help to reduce the potential for the fisheries to disrupt the sea lions' normal behavior near their terrestrial habitat. When the stock biomass of a Steller sea lion prey species is low, additional controls are applied to the annual catch limits to ensure that prey remain available for sea lions. NMFS has also imposed seasonal limits on catch of Steller sea lion prey and limits on catch of these species inside of Steller sea lion critical habitat.

Steller sea lion protection measures are integrated throughout the regulations for the Fisheries of the Exclusive Economic Zone off Alaska at 50 CFR 679. The current Steller Sea Lion Protection Measures in the Alaska Groundfish Fisheries were implemented in 2003 (Bering Sea and Gulf of Alaska) and 2015 (Aleutian Islands). Table 5 of 50 CFR 679 provides a summary of the closed Pacific cod fishing areas for Steller sea lions. Links to the various analyses associated with Steller sea lion protections can be found on the NMFS website.<sup>19</sup> The actions currently proposed in this document are not expected to change the Pacific cod trawl fishery to an extent that would negatively impact Steller sea lions or reduce the availability of Pacific cod as a prey species.

<sup>19</sup> <https://alaskafisheries.noaa.gov/fisheries/sslpm>

## 2.6.9 License Limitation Program (LLP) Licenses

Vessels that are assigned a valid LLP groundfish license with a trawl gear endorsement for the BS or AI may harvest Pacific cod in the area(s) for which they are endorsed. LLP licenses are also endorsed by mode of operation (catcher vessel or catcher/processor), based on the activity of the vessel used to generate the LLP license. Vessels with a catcher vessel license may harvest, but not process fish onboard. Vessels with a catcher/processor endorsed license may harvest and process fish. Because the LLP license provides the authority to conduct both activities, vessel with a catcher/processor LLP license may act as a catcher vessel, catcher/processor, or mothership. The LLP groundfish licenses also identify whether the LLP license is associated with either the Amendment 80 or AFA management programs.

Table 2-11 shows that in 2018 there were a total of 174 LLP licenses with a trawl endorsement for either the BS or AI. A catcher/processor designation is assigned to 59 of the LLP licenses and a catcher vessel designation is assigned to the remaining 115 LLP licenses. An Amendment 80 flag is attached to 26 of the catcher/processor LLP licenses; an AFA flag is assigned to 126 of the LLP licenses (27 catcher/processors and 99 catcher vessels). A total of 6 catcher/processor and 16 catcher vessel LLP licenses are not associated with either program. However, the LLP licenses may still be owned by a firm that is a participant in one of the two programs.

**Table 2-11 LLP groundfish licenses (2018) with a trawl endorsement for the BS and/or AI by mode of operation and gear endorsements in the BS and AI**

LLP Type	Area/Gear Endorsements		Management Program Association			Total
	AI	BS	None	AFA Derived	Am 80	
C/P			6	27	26	59
	None	Trawl		1	1	2
	None	Trawl		1	6	7
	Non-trawl & Trawl	None	1			1
	Non-trawl & Trawl	Non-trawl & Trawl	1	4	3	8
	Trawl	Trawl	4	21	16	41
CV			16	99		115
	None	Trawl	5	18		23
	None	Trawl	10	39		49
	Non-trawl & Trawl	None	1			1
	Non-trawl & Trawl	Non-trawl & Trawl		11		11
	Trawl	Trawl		31		31
<b>Total</b>			<b>22</b>	<b>126</b>	<b>26</b>	<b>174</b>

Source: 2018 LLP groundfish license file

The AFA granted vessel owners fixed percentages of the available BSAI pollock TAC after deductions for the CDQ fishery and the incidental catch allowances for other fisheries. The allocation of pollock provided the AFA fleet the ability to effectively consolidate and improve the efficiency of their BS pollock operations. Opportunities for these vessel owners to expand into other fisheries that would not otherwise have been available were a potential result. To limit these expansions, the AFA created harvesting limits, known as sideboards, on AFA vessels in non-pollock fisheries. The two groundfish directed fisheries limited by the sideboard limits were Pacific cod and yellowfin sole.<sup>20</sup>

Amendment 61 to the BSAI Fishery Management Plan also exempted certain AFA catcher vessels from BSAI Pacific cod sideboard limits. The AFA exempted specific vessels rather than specific LLP licenses,

<sup>20</sup> The other 14 BSAI sideboarded groundfish species are typically not open to directed fishing.

so if an LLP license is used on those vessels it is not subject to the Pacific cod sideboard limitations. A total of nine vessels are listed as being exempt from AFA Pacific cod sideboards.

**Table 2-12 AFA catcher vessels exempt from Pacific cod sideboard limits**

Name	USCG Number	Cooperative	C/P Delivery	MS Delivery	Inshore Delivery
ARCTIC WIND	608216	ALL CO-OPS	N	N	Y
PERSEVERANCE	536873	AKUTAN	N	N	Y
OCEAN HOPE 3	652397	NORTHERN	N	N	Y
SEEKER	924585	AKUTAN	N	N	Y
FORUM STAR	925863	CP Sector	Y	N	N
GOLDEN PISCES	599585	AKUTAN	N	N	Y
MESSIAH	610150	UNALASKA	N	N	Y
PREDATOR	547390	AKUTAN	N	N	Y
MARCY J	517024	AKUTAN	N	N	Y
NORTHERN RAM	979437	AKUTAN	N	N	Y

Source: [https://alaskafisheries.noaa.gov/sites/default/files/reports/18afa\\_list\\_cv.csv](https://alaskafisheries.noaa.gov/sites/default/files/reports/18afa_list_cv.csv)

### 2.6.9.1 Amendment 92

Catcher vessels fishing in the Aleutian Islands had been somewhat limited by processing options prior to the opening of shorebased processing in Adak. Leading up to Amendment 92, Congress, the Council, and NMFS developed and implemented a series of programs providing harvest opportunities for catcher vessels in the Aleutian Islands (73 FR 79773).<sup>21</sup> For example, section 803 of the Consolidated Appropriations Act of 2004 (Public Law 108-199), allocates the Aleutian Islands directed pollock fishery to the Aleut Corporation, or its authorized agents, for the economic development of Adak. NMFS published a final rule to implement section 803 on March 1, 2005, (70 FR 9856). Also in 2005, NMFS implemented the Crab Rationalization Program, a Limited Access Privilege Program (LAPP) for BSAI crab fisheries (March 2, 2005, 70 FR 10174) that allocates 10 percent of the TAC for Western Aleutian Islands golden king crab (*Lithodes aequispinus*) to a specific entity representing the community of Adak.

Amendment 92 assigned AI area endorsements to provide additional harvest opportunities to non-AFA trawl catcher vessels that have been active in State waters in the Aleutian Islands in recent years, but which are not designated on an LLP license with an AI area endorsement. These endorsements provide additional harvesting opportunities in the Aleutian Islands to those participants who have demonstrated dependence on Aleutian Islands groundfish resources. The AI area endorsements can be assigned to LLP licenses and used on trawl catcher vessels in the AI.

Two different types of AI area endorsements were created. First, non-AFA trawl catcher vessels that are equal to or greater than 60 feet LOA and that have made at least one landing in either the State GHF or parallel fishery and have made at least 1,000 mt of Pacific cod landings in the BSAI from 2000 through 2006 were issued an AI area endorsement. Second, non-AFA trawl catcher vessels that are less than 60 feet LOA and that have made at least 500 mt of Pacific cod landings in the parallel fishery from 2000 through 2006 were issued an AI endorsement. NMFS assigned these AI endorsement to the LLP licenses assigned to eligible vessels.

#### Less Than 60' AI Trawl LLP License Endorsements

Of the two types of AI endorsements created, only LLP license AI area endorsements for less than 60' LOA vessels would be transferrable separate from the LLP license. The AI area endorsement may be transferred from the LLP license to which it was originally issued to another LLP license that was not derived from the qualifying fishing history of an AFA catcher vessel that is less than 60' LOA and has a trawl gear designation

<sup>21</sup> Much of the information in this section is taken from the cited Proposed Rule.

Eight LLP licenses are currently assigned the transferable AI trawl endorsement (Table 2-13). These LLP licenses have a flag in the LLP license file listed under the “AITR<60” column that identifies the LLP license as eligible to fish with trawl gear in the federal AI Pacific cod fishery.

**Table 2-13 LLP licenses that were issued an AI trawl endorsement for vessels less than 60’ LOA under BSAI Amendment 92**

LICENSE	TYPE	MLOA	TRANSFERABLE	ADFG	VESSEL	AI	BS	PCOD	AITR<60
LLG4859	CV	59	Yes	57469	CELTIC	N	N	WG CV Pot	Y
LLG3124	CV	59	Yes	61679	EQUINOX	N	Non-trawl; Trawl	WG CV Pot	Y
LLG2071	CV	59	Yes	46701	KAREN EVICH	N	N	N	Y
LLG1313	CV	59	Yes	47952	BRUIN	N	N	WG CV Pot	Y
LLG4862	CV	59	Yes	40762	ADVANCER	N	N	WG CV Pot	Y
LLG3658	CV	59	Yes	64667	OCEAN STORM	N	N	N	Y
LLG2831	CV	59	Yes	41628	CAMERON	N	N	N	Y
LLG1292	CV	59	Yes	62288	MARAUDER	N	Non-trawl	N	Y

Source: RAM LLP license file (September 12, 2018)

In the Federal open access fishery, one vessel with these AI trawl endorsed LLP licenses never fished BSAI Pacific cod from 2009 through 2011, three vessels fished in both 2009 and 2010, one fished only in 2010,<sup>22</sup> and four fished only in 2009. These endorsements are intended to provide additional harvesting opportunities in the AI to those participants who have demonstrated dependence on AI groundfish resources. These endorsements are also likely to facilitate shore-based processing operations in Adak and Atka (during years plants operate in those communities) by providing greater harvesting opportunities to the catcher vessel fleet.

### Greater Than or Equal to 60’ AI Trawl LLP License Endorsements

Four LLP trawl license endorsements were issued to LLP licenses for vessels greater than or equal to 60 feet LOA (Table 2-14). As required, they are assigned to non-AFA vessels and have a BS trawl endorsement.

**Table 2-14 LLP licenses that were issued an AI trawl endorsement for vessels greater than or equal to 60’ LOA under BSAI Amendment 92**

LICENSE	AFA DERIVED LLP	Type	MLOA	TRANSFERABLE	VESSEL	AI	BS	PCOD	AITR>60
LLG1667	N	CV	104	Yes	ALASKA BEAUTY	N	Trawl	N	Y
LLG1710	N	CV	103	Yes	MISS LEONA	N	Trawl	N	Y
LLG1744	N	CV	90	Yes	BAY ISLANDER	N	Trawl	N	Y
LLG2550	N	CV	114	Yes	MICHELLE RENEE	N	Trawl	N	Y

Source: RAM LLP license file (September 12, 2018)

### **2.6.10 Assigning Processing History to LLP Licenses**

Qualification for a catcher/processor to act as a mothership is based on the history of a vessel receiving deliveries of targeted non-CDQ BSAI trawl caught Pacific cod during the selected qualifying years. The owner of each catcher/processor that qualifies may assign that qualification to the LLP license that was used during the qualifying period on that vessel. If more than one LLP license was used on the vessel, the vessel owner must assign the processing privilege to one LLP license that was used on the vessel during the qualifying period. The intent is that only one LLP mothership endorsement is generated for each vessel that met the qualification criteria defined under Alternative 2. Only vessels holding an LLP license with the mothership endorsement would be allowed to accept BSAI directed non-CDQ Pacific cod landings from a trawl CV if the proposed amendment is implemented.

<sup>22</sup> This vessel had a BS trawl endorsement, but never fished in the BS. The only landings for the vessel did not report the LLP license number. Therefore, it would appear as not qualified in the tables for the preliminary review document.

## 2.6.11 Maximum Retainable Amounts and Incidental Catch Allowances

Table 11 to 50 CFR 679 reports the maximum retainable amounts of Pacific cod as incidental catch in other BSAI directed fisheries (basis species). In all non-Pacific cod directed fisheries the MRA of Pacific cod is set at 20% of the basis species.

While Pacific cod may only comprise 20% or less of the basis species when the directed Pacific cod fishery is closed, more than 20% of the Pacific catcher vessel trawl sector allotment is caught in non-Pacific cod targets during the year. Pacific cod catch in other directed fisheries is typically greatest in the B-season, but in 2018 the incidental catch of Pacific cod was about equal in each of the three seasons. The change is due, in part, to the decrease in the percentage of Pacific cod caught in the directed Pacific cod fishery in the A- and B-seasons.

Table 2-15 shows the percentage of Pacific cod that was harvested in all target fisheries from 2016 through 2018. The percentages are the proportion of the Pacific cod catch by target fishery during each year and as an average over all years considered. On average, about 5 percent of the Pacific cod is taken in the A-season non-Pacific cod fisheries. Most of the catch was in the pollock and yellowfin sole target fisheries. The remaining fisheries accounted for less than 0.5 percent of the Pacific cod caught. During the B-season the yellowfin sole fishery and the pollock fisheries also accounted for the most incidental Pacific cod catch. The rock sole fishery also has a small (0.5 percent) of incidental Pacific cod catch. Finally, during the C-season, Atka mackerel, pollock, and rockfish generate the most Pacific cod incidental catch. It was also the only season when incidental catch was greater than the targeted Pacific cod catch.

**Table 2-15 Percentage of Pacific cod caught in BSAI target fisheries by season and year**

Season/Target Fishery	2016	2017	2018	Average
A-season	84.8%	85.5%	78.0%	83.0%
Atka Mackerel	0.1%	c	0.2%	0.2%
Flathead Sole	0.0%	c	0.2%	0.1%
Pacific Cod	80.8%	79.8%	73.3%	78.2%
Pollock - bottom	0.0%	0.1%	0.1%	0.1%
Pollock - midwater	3.2%	3.5%	3.5%	3.4%
Rock Sole - BSAI	0.1%	0.1%	c	0.1%
Yellowfin Sole - BSAI	0.5%	1.7%	0.6%	0.9%
B-season	9.2%	11.8%	18.4%	12.9%
Pacific Cod	6.7%	6.3%	15.5%	9.2%
Pollock - bottom	0.0%	1.5%	0.0%	0.5%
Pollock - midwater	0.5%	1.4%	1.1%	1.0%
Rock Sole - BSAI	0.9%	0.4%	0.2%	0.5%
Yellowfin Sole - BSAI	1.1%	2.3%	1.6%	1.6%
C-season	6.0%	2.7%	3.6%	4.1%
Atka Mackerel	0.3%	0.3%	1.1%	0.6%
Pacific Cod	3.8%	0.2%	0.6%	1.6%
Pollock - bottom	0.0%	0.0%	0.1%	0.0%
Pollock - midwater	1.7%	2.0%	1.4%	1.7%
Rockfish	0.1%	0.1%	0.3%	0.2%
Yellowfin Sole - BSAI	0.0%	0.0%	0.1%	0.0%
Total	100.0%	100.0%	100.0%	100.0%

Source: AKFIN summary of NMFS CAS data

"c" denotes that there were too few entities involved to report the amount of catch

Note: Totals may not add to 100 percent because reported catches in Alaska Plaice, rockfish, and rock sole targets were excluded some seasons because the data were confidential and the landings were very small.

Based on the information presented above, if the Council were to consider modifying the MRA for Pacific cod in the future, the pollock, yellowfin sole, and Atka mackerel fisheries have the greatest amount of Pacific cod incidental catch. However, those fisheries also have relatively large TACs. The pollock TAC being about 7.25 times larger than the Pacific cod TAC. The yellowfin sole TAC in 2018 was about 82% of the Pacific cod TAC. The Atka mackerel TAC was about 38% of the BSAI Pacific cod TAC.

### **2.6.12 Improved Retention/Improved Utilization**

Regulations at CFR 50 679.27 define the Improved Retention/Improved Utilization (IR/IU) Program. Those regulations state that the owner or operator of a vessel that is required to obtain a Federal fisheries or processor permit under CFR 50 679.4 must comply with the IR/IU program. Pacific cod is defined as an IR/IU species in that section that must be retained. Persons fishing for Pacific cod in the GOA and BSAI with a trawl catcher vessel must retain all Pacific cod harvested when the directed fishery is open and up to the MRA when the fishery is not open to the directed fishing.<sup>23</sup> If Pacific cod is placed on PSC status, no Pacific cod may be retained. At-sea discarding of any processed product from Pacific cod is also prohibited.

As a result of the IR/IU Program and the relatively high value of Pacific cod, there are only small amounts of Pacific cod discarded in the BSAI trawl fishery (Fissel, B, 2016). Typically less than 1 mt of Pacific cod is discarded annually in the BSAI trawl fisheries and the discard rate is about 1%. The proposed actions in this paper would not supersede the current IR/IU requirements.

### **2.6.13 Observer Requirements**

BSAI trawl catcher vessel may be subject to full observer coverage or partial coverage depending on which fishery they participate and their fishing for groundfish in a federally managed or parallel fishery that is not part of a catch share program and does not have transferable PSC allocations. Owners or operators of vessels operating in the full coverage category are required to pay for the observer cover they use. This is often referred to as the pay-as-you-go model. The owner or operator of a catcher vessel fishing for open access Pacific cod in the Federal or parallel waters in the BSAI management area fall under the partial observer coverage category. Any such vessel owner who, with permission from NMFS, wishes to voluntarily carry an observer at all times while prosecuting that fishery would be responsible for contracting with an observer provider, paying the daily observer rate for the full coverage (pay-as-you-go) category. Owners or operators of these vessels that opt to remain in the partial coverage category are subject to their portion of the 1.25% gross ex-vessel value-based partial coverage fee.<sup>24</sup> Vessels in the partial coverage category are assessed a fee equal to 1.25% of the gross ex-vessel value of landings that accrue against a Federal TAC for groundfish or commercial halibut quota (50 CFR 679.55).

Vessels delivering unsorted codends to a mothership are not required to carry an observer, since the catch is sorted after it is transferred to a mothership with full observer coverage. Because the processor is subject to the pay-as-you go fee the catcher vessel it is not subject to the partial coverage fee.

### **2.6.14 Affected Fishing Sectors**

The Council motion identifies processing and harvesting sectors that would potentially be directly or indirectly impacted by the proposed action. A brief description of each processing and harvesting sector is provided in this section. The data are based on retained harvests from 2009 through 2018 and the source

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<sup>23</sup> The retention and utilization requirements do not apply to incidental catch of dead or decomposing fish or fish parts that were previously caught and discarded at sea.

<sup>24</sup> Section 2.10.7 of the EA/RIR/IRFA prepared for Amendments 86/76 (NMFS, 2011) states that it was the Council's intent that the partial coverage observer fee be paid equally by the harvester and processor. This statement is not a regulatory requirement.

of those data is the NMFS Catch Accounting System. For further description of the sectors, “Fishing Fleet Profiles,” prepared by the Council, provides descriptions of the different sectors noted in this section that participate in the Bering Sea and Aleutian Islands fisheries (NPFMC 2012).

### 2.6.14.1 American Fisheries Act Catcher/Processors

AFA catcher/processors are currently allowed to harvest Pacific cod from their sector allocation (2.3% of the combined non-CDQ TACs) as catcher/processors and take deliveries from the trawl catcher vessel sector Pacific cod (22.1% of the combined non-CDQ TACs). Because all catcher/processor BSAI Pacific cod catch is deducted from their catcher/processor allocation, those catches would not earn a Pacific cod endorsement (under Alternative 2) to process/fish in the trawl catcher vessel sector allocation of Pacific cod in the future. Table 2-16 shows that there were three catcher/processor LLP licenses<sup>25</sup> that were derived from AFA vessels that reported trawl AFA catcher/processor Pacific cod target landings during the qualifying periods considered. Because the targeted Pacific cod catches were made by vessels acting as a catcher/processor, they would not count toward qualification under Alternative 2. These vessels would not be restricted from that activity in the future, because the actions considered only limit participation in the catcher vessel sector of the BSAI Pacific cod fishery.

**Table 2-16 LLP licenses active as a catcher/processor (not in mothership mode) in the BSAI Pacific cod trawl catcher processor target fishery 2009 through September 2018**

CP LLP	License	2010	2011	2012	2013	2014	2015	2016	2017	2018	2010-17	2012-17	2010-15	2012-15
1	AFA										4	3	2	1
2	AFA										1	1	1	1
3	AFA										7	6	5	4
Total LLPs		1	1	2	1	1	2	2	2	2	3	3	3	3

Source: AKFIN summary of CAS data

The LLP license associated with landings only one year reported a very small amount of catch in the Pacific cod target. Also, because a maximum of two vessels reported Pacific cod target fishery landings in the catcher/processor any one year, catch and value data are not reported.

One AFA catcher/processor took deliveries of Pacific cod from a trawl catcher vessel during the qualifying years. That activity is discussed in greater detail under sections that address qualification and impacts associated with Alternative 2 and Alternative 3.

Sideboards prevent the AFA fleet from impacting participants in other fisheries. The catcher/processors listed in the AFA are prohibited from harvesting any GOA groundfish. In the BS, AFA catcher/processors are allowed to harvest no more than their “traditional catch” levels in the non-pollock BSAI groundfish fisheries. The Council has generally defined traditional catch to be the retained catch in 1995 through 1997, from all fisheries by these vessels, relative to the total catch. AFA catcher/processors also have PSC sideboard limits, which are based on the percentage of PSC limits used from 1995 through 1997. Specifically, AFA catcher/processors are capped at 8.4 percent of the halibut PSC, 15.3 percent of the *C. opilio* crab PSC, 14 percent of the *C. bairdi* crab in Zone 1, and 5 percent of the Zone 2 *C. bairdi* crab PSC each year. Prohibited species catch of Chinook salmon and chum salmon have been a major issue for the fleet, and numerous regulations and voluntary measures have been implemented over the years seeking to minimize salmon PSC in the pollock fishery. Additional information on AFA catcher/processor sideboards are presented in Section 2.6.17.

### 2.6.14.2 Amendment 80 CPs

#### Overview

Amendment 80 identified groundfish trawl catcher/processors that were not covered by the AFA (i.e., the head-and-gut fleet or Amendment 80 vessels) and established a framework for future fishing by this fleet. The framework provided for an allocation of the TACs of six groundfish species among trawl fishery

<sup>25</sup> All these catcher/processors were based in the greater Seattle area.



sectors, created Amendment 80 quota share for these vessels, facilitated the development of cooperative arrangements among the vessels, and provided for a competitive fishery among Amendment 80 vessels not entering a cooperative. When the program was established it identified 28 Amendment 80 vessels and the fleet in 2018 includes 19 vessels owned five companies.

Amendment 80 established criteria for harvesters in the Amendment 80 sector to apply for and receive quota share, and for NMFS to initially allocate and transfer quota share. Vessels may choose to operate in a cooperative or in an open access fishery. Cooperative participants could consolidate fishing operations on a specific Amendment 80 vessel or subset of Amendment 80 vessels, thereby reducing monitoring, enforcement, and other operational costs, and permitting more efficient harvest. The opportunity to trade harvest privileges among cooperatives encourages efficient harvesting and discourages waste.

Each Amendment 80 cooperative receives an exclusive allowance of crab PSC and halibut PSC, amounts which the cooperative may not exceed while harvesting groundfish in the BSAI. This halibut and crab PSC cooperative quota is assigned to a cooperative in an amount proportionate to the amounts of Amendment 80 groundfish quota shares held by its members, and is not based on the amount of crab or halibut PSC historically removed by the cooperative members.

A cooperative structure allows Amendment 80 vessel operators to better manage PSC rates than operators who must race to harvest groundfish as quickly as possible before PSC causes a fishery closure. By reducing PSC through more efficient cooperative operations (such as through gear modifications or “hot spot” avoidance), Amendment 80 vessel operators may also increase the harvest of valuable targeted groundfish species and improve revenues that would otherwise be foregone.

Amendment 80 cooperatives may receive a reallocation of an additional amount of cooperative quota, if a portion of the Amendment 80 species, or of crab PSC or halibut PSC allotted to the BSAI trawl limited access sector, is projected to go unharvested. This reallocation to the Amendment 80 cooperatives is at the discretion of NMFS, based on projected harvest rates in the BSAI trawl limited access sector and other criteria. Each Amendment 80 cooperative would receive an additional amount of cooperative quota based on the proportion of the Amendment 80 quota share held by the Amendment 80 cooperative, as compared with all other Amendment 80 cooperatives.

The Amendment 80 program established groundfish and halibut PSC sideboards to limit the ability of Amendment 80 firms to expand their harvest efforts in the GOA. Groundfish harvesting sideboard limits were established for all Amendment 80 vessels, except the F/V *Golden Fleece*. All targeted or incidental catch of sideboard species made by Amendment 80 vessels are deducted from the sideboard limits. Additional information on Amendment 80 sideboard limits are described in Section 2.6.17.

#### ***Mothership limitations considered in the Amendment 80 Proposed Rule***

The proposed rules for Amendment 80 program, published May 30, 2007, (72 FR 30052), included prohibitions limiting Amendment 80 vessels from catching, receiving, and processing fish assigned to the BSAI trawl limited access sector. Although it was clear the Council intended to prohibit Amendment 80 vessels from catching Amendment 80 species in the BSAI Trawl Limited Access (TLAS) sector, it was unclear if the Council considered or intended that Amendment 80 vessels should serve as processing platform for the BSAI TLAS sector.

Recognizing the Council’s intent concerning Amendment 80 vessels as harvesters in the BSAI TLAS sector and the Council’s silence on Amendment 80 vessels serving as a processing platform for harvesters in the TLAS sector, NMFS proposed rules to prohibit any Amendment 80 vessel from catching, receiving, or processing fish assigned to the BSAI TLAS sector. 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 sector. Additionally, allowing Amendment 80 vessels to receive and process fish caught by vessels in the BSAI TLAS sector 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 sector 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. NMFS also noted that combining Amendment 80 and BSAI TLAS sector catch on the same vessel could increase the potential recordkeeping and reporting, and monitoring and enforcement complexities.

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 trawl limited access sector. The commenters indicated that this prohibition would limit the existing use of Amendment 80 vessels to receive and process unsorted catch delivery 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 sector 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 catcher vessel 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 sector 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 sector 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 sectors, 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 sector 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 sector 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 sector by Amendment 80 vessels contravened Council intent.

The final rule published September 14, 2007, noted that 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 sector to Amendment 80 vessels as currently practiced. This revision accommodated the one entity that NMFS identified as currently receiving unsorted catch from a catcher vessel in the BSAI TLAS sector 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 sector.

#### ***Recent Amendment 80 activity by target fishery***

Amendment 80 catcher/processors reported small amounts of targeted Pacific cod harvests in the Amendment 80 fishery, but they used the majority of their Pacific cod allocation as incidental catch in other fisheries. As described earlier, Amendment 80 catcher/processors do not harvest Pacific cod in the open access fishery since the fleet is not eligible to target Pacific cod in that fishery. BSAI catch by Amendment 80 catcher/processors are reported under the Amendment 80 management program and deducted from the Amendment 80 catcher/processor Pacific cod sector allocation. However, Amendment 80 catcher/processors have taken delivers from trawl catcher vessels that harvest Pacific cod from the trawl catcher vessel sector allocation. That activity is discussed in greater detail under sections that address activity and impacts associated with Alternative 2.

Table 2-17 shows the catch by catcher/processors when active in the Amendment 80 fisheries. This information excludes deliveries from catcher vessels that were participating in the open access fisheries. The information is broken out by target fishery, when possible. In some cases, the target fishery is not included in the table because too few vessels participated and the data are confidential. The catch in those target fisheries as well as the target fisheries included in the table are reported in the totals.

The amounts shown in the target fishery are the amounts of all species taken in that target's catch. Pacific cod target fishery catch is reported as range between about 1,000 mt and 6,000 mt over the period considered. In 2018 the Pacific cod target catch was reported to be 5,257 mt when the data were provided on September 18, 2018. The Amendment 80 sector Pacific cod allocation was 18,293 mt of Pacific cod for the A-season and 6,098 mt for the B-season. The relatively small amount of catch in the Pacific cod target fishery indicates that a substantial portion of the Pacific cod allocation is used by the Amendment 80 sector as incidental catch in other target fisheries.

**Table 2-17 Amendment 80 catcher/processors catch (mt) by target fishery**

Species/catch/vessels	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Arrowtooth Flounder											
Catch	616	28,837	15,869	18,579	18,370	17,276	8,285	7,580	3,556	761	119,729
Vessels	14	12	17	15	14	16	11	12	9	8	23
Atka Mackerel											
Catch	64,173	63,758	45,765	43,461	21,581	30,881	49,168	51,906	61,009	51,702	483,404
Vessels	12	7	8	10	9	7	8	8	11	11	18
Flathead Sole											
Catch	12,826	18,341	6,922	5,751	13,550	18,163	10,628	8,424	10,535	9,555	114,694
Vessels	15	15	12	13	11	12	12	10	10	13	20
Kamchatka Flounder - BSAI											
Catch			9,408	9,739	4,893	3,682	4,656	4,263	3,644	2,172	42,457
Vessels			12	9	9	7	5	5	8	5	18
Pacific Cod											
Catch	5,333	5,095	3,583	3,338	6,022	4,258	4,242	6,148	1,153	5,257	44,428
Vessels	15	16	16	13	16	13	13	15	10	16	23
Pollock											
Catch	1,519	4,705	4,136	1,856	6,528	5,024	1,870	1,958	1,336	708	29,641
Vessels	19	15	16	16	16	18	16	18	15	9	23
Rock Sole - BSAI											
Catch	36,217	65,357	62,056	73,744	63,258	64,084	57,332	71,252	44,738	39,513	577,552
Vessels	21	19	18	19	17	18	18	18	18	18	23
Rockfish											
Catch	8,877	11,974	19,511	19,505	29,281	27,072	30,620	24,647	26,343	17,950	215,779
Vessels	11	14	16	15	15	16	13	14	15	13	22
Yellowfin Sole - BSAI											
Catch	99,810	106,398	133,244	129,326	138,946	137,488	120,103	119,756	122,641	91,520	1,199,232
Vessels	20	19	20	19	18	18	18	19	19	19	23
Total*											
Total catch of all Species	229,432	305,241	302,157	307,406	306,775	308,022	289,169	298,449	278,771	226,893	2,852,314
Total Vessels	21	20	20	19	18	18	18	19	19	19	23

\* Totals include species that did not have enough vessels harvesting them to report at the individual target species level

Table 2-18 provides information on the real first wholesale value derived by Amendment 80 vessels that acted as a mothership in the BSAI Pacific cod fishery from 2009 through 2018. Because the data are provided for all the vessels that acted as a mothership during the entire period, the count of vessels only change when a new (Amendment 80 replacement) vessel was brought into the fishery. The data when

vessels were acting as a mothership for Pacific cod are only provided as a total. Providing the data on an annual basis would reveal confidential information. The data shows that Pacific cod mothership activity accounted for about 1.6 percent of their value in the BS (with a standard deviation of about 0.9) and 2.0 percent in the AI (with a standard deviation of 1.1). The “All Modes” columns include first wholesale value derived from fish processed by the vessel that were self-caught and deliveries from catcher vessels. The mothership mode values would need to be subtracted from the “All Modes” BSAI groundfish total to determine the first wholesale value of fish the catcher/processor caught itself.

**Table 2-18 Real first wholesale value of groundfish for catcher/processors that have acted as mothership in Pacific cod fishery**

Year	Mothership mode		All modes		Total	Vessels
	BS Pcod	AI Pcod	GOA Groundfish	BSAI Groundfish		
First wholesale value in millions of 2010 dollars						
2009	c	c	\$9.16	\$120.45	\$129.61	7
2010	c	c	\$12.12	\$145.91	\$158.03	7
2011	c	c	\$20.78	\$174.62	\$195.40	7
2012	c	c	\$14.34	\$182.90	\$197.24	7
2013	c	c	\$9.12	\$136.86	\$145.98	7
2014	c	c	\$21.64	\$142.04	\$163.67	7
2015	c	c	\$13.68	\$138.37	\$152.05	7
2016	c	c	\$13.12	\$156.33	\$169.44	8
Total	\$20.09	\$25.71	\$113.94	\$1,197.47	\$1,311.41	8
Percent of annual total						
2009	c	c	7.1%	92.9%	100.0%	7
2010		c	7.7%	92.3%	100.0%	7
2011	c	c	10.6%	89.4%	100.0%	7
2012	c	c	7.3%	92.7%	100.0%	7
2013	c	c	6.2%	93.8%	100.0%	7
2014	c	c	13.2%	86.8%	100.0%	7
2015	c	c	9.0%	91.0%	100.0%	7
2016	c	c	7.7%	92.3%	100.0%	8
Total (all years)	1.6%	2.0%	8.7%	91.3%	100.0%	8

Note: Includes the Amendment 80 catcher/processors that acted as a mothership in the BSAI Pacific cod fishery between 2009 and 2018.

Source: AKFIN summary of NOAA Fisheries CAS data

### 2.6.14.3 Trawl catcher vessels

The harvest of BSAI Pacific cod in the federal managed non-CDQ fishery by trawl vessels acting as a catcher vessel is deducted from the 22.1 percent BSAI trawl catcher vessel allocation of non-CDQ Pacific cod. All of their Pacific cod catch is counted against the sector allocation regardless of whether the catch was made in a directed Pacific cod fishery or as incidental catch in another non-CDQ target fishery. As shown in Table 2-19, about 89% of the BSAI Pacific cod catch in the federally managed non-CDQ fishery is harvested in the Pacific cod target fishery and the remaining catch is taken in non-Pacific cod target fisheries. Because Pacific cod is allocated to the sector by season and the A- and B-seasons are typically when the Pacific cod fishery is open to directed fishing, the majority of Pacific cod catch during those seasons is taken in the directed fishery. During the C-season, when the directed Pacific cod fishery is often closed, the majority of the catch is taken in directed fisheries other than Pacific cod. The options under consideration by the Council would only limit the deliveries to motherships during either the A-season or the combined A- and B-seasons. The options exclude the C-season since it has limited catch of Pacific cod in the directed Pacific cod fishery.

**Table 2-19 BSAI trawl catcher vessel's catch of Pacific cod by target fishery and season**

Fishery/Season	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
	Metric tons											
Non-Pacific Cod Targets	3,255	3,663	2,853	5,124	6,453	4,635	3,151	5,913	4,005	5,946	3,980	48,978
A	1,717	2,415	1,780	2,200	4,207	2,183	951	2,031	1,798	2,489	1,770	23,542
B	59	49	211	287	262	567	408	299	1,174	2,387	1,092	6,795
C	1,479	1,199	862	2,637	1,984	1,885	1,792	3,583	1,032	1,070	1,118	18,641
Pacific Cod Target	28,090	25,904	25,576	34,568	40,748	38,792	39,077	31,719	41,678	37,449	33,675	377,276
A	24,696	22,621	25,455	31,821	33,819	33,338	35,055	28,513	36,919	34,615	27,604	334,456
B	3,358	3,279	117	1,951	6,314	4,137	3,684	1,412	3,040	2,742	5,851	35,886
C	37	4	4	796	614	1,317	338	1,794	1,719	91	221	6,934
Total	31,346	29,568	28,429	39,692	47,201	43,427	42,228	37,632	45,683	43,394	37,655	426,254
	Percent of Annual Total											
Non-Pacific Cod Targets	10.4%	12.4%	10.0%	12.9%	13.7%	10.7%	7.5%	15.7%	8.8%	13.7%	10.6%	11.5%
A	5.5%	8.2%	6.3%	5.5%	8.9%	5.0%	2.3%	5.4%	3.9%	5.7%	4.7%	5.5%
B	0.2%	0.2%	0.7%	0.7%	0.6%	1.3%	1.0%	0.8%	2.6%	5.5%	2.9%	1.6%
C	4.7%	4.1%	3.0%	6.6%	4.2%	4.3%	4.2%	9.5%	2.3%	2.5%	3.0%	4.4%
Pacific Cod Target	89.6%	87.6%	90.0%	87.1%	86.3%	89.3%	92.5%	84.3%	91.2%	86.3%	89.4%	88.5%
A	78.8%	76.5%	89.5%	80.2%	71.7%	76.8%	83.0%	75.8%	80.8%	79.8%	73.3%	78.5%
B	10.7%	11.1%	0.4%	4.9%	13.4%	9.5%	8.7%	3.8%	6.7%	6.3%	15.5%	8.4%
C	0.1%	0.0%	0.0%	2.0%	1.3%	3.0%	0.8%	4.8%	3.8%	0.2%	0.6%	1.6%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: AKFIN summary of NOAA Fisheries CAS data

Table 2-20 provides information on the total Pacific cod catch by trawl catcher vessels, the ex-vessel value of that catch in real 2010 dollars, and the number of catcher vessels that delivered Pacific cod as either directed or incidental catch and the number of processing firms that took delivery of those landings. The information reported in this table includes vessels that made either a targeted or incidental landing of Pacific cod during the period considered. Adding the catcher vessels that only reported incidental Pacific cod landings brings in many AFA vessels that only target pollock. Catcher vessels that participate in non-Pacific cod fisheries and do not intend to fish in the directed Pacific cod fishery in the future are not directly impacted the proposed action. Catcher vessel operators will still be allowed to land Pacific cod caught incidentally in other directed fisheries as required under IR/IU regulations described in Section 2.6.12.

**Table 2-20 BSAI Pacific cod catch, ex-vessel value (2010 \$), ex-vessel price (2010 \$), number of catcher vessels and number of processing companies**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Motherships												
Pacific cod Weight (mt)	5,406	6,198	6,289	9,517	7,275	4,613	6,296	6,661	8,816	10,001	7,995	79,067
Ex-vessel Value (2010 \$)	\$6.02	\$2.70	\$3.55	\$5.31	\$4.35	\$1.77	\$2.90	\$2.99	\$4.29	\$5.60		
Ex-vessel Price (2010 \$)	\$0.50	\$0.20	\$0.26	\$0.25	\$0.27	\$0.17	\$0.21	\$0.20	\$0.22	\$0.25		
Catcher Vessels	25	21	19	24	28	19	19	22	31	30	24	46
Processing Companies	6	5	5	5	5	4	4	8	8	9	9	10
Shoreside												
Pacific cod Weight (mt)	25,940	23,369	22,140	30,175	39,925	38,814	35,932	30,971	36,867	33,394	29,660	347,187
Ex-vessel Value (2010 \$)	\$32.34	\$12.41	\$10.57	\$17.60	\$26.99	\$19.95	\$19.23	\$16.46	\$20.80	\$20.71		
Ex-vessel Price (2010 \$)	\$0.57	\$0.24	\$0.22	\$0.26	\$0.31	\$0.23	\$0.24	\$0.24	\$0.26	\$0.28		
Catcher Vessels	100	101	94	96	93	93	88	90	90	89	90	116
Processing Companies	8	7	7	7	6	7	8	7	7	6	7	14
Total Pacific cod Weight (mt)	31,346	29,568	28,429	39,692	47,201	43,427	42,228	37,632	45,683	43,394	37,655	426,254
Ex-vessel Value (2010 \$)	\$38.36	\$15.11	\$14.12	\$22.92	\$31.34	\$21.72	\$22.14	\$19.45	\$25.08	\$26.30		
Ex-vessel Price (2010 \$)	\$0.56	\$0.23	\$0.23	\$0.26	\$0.30	\$0.23	\$0.24	\$0.23	\$0.25	\$0.27		
Catcher Vessels	108	110	103	104	105	101	98	99	100	102	105	127
Total Processing Companies	14	12	12	12	11	11	12	15	15	15	16	24

Source: AKFIN summary of NOAA Fisheries CAS data

Note: Motherships in the tables include catcher/processors, true mothership, and floating processors defined as a mothership in the CAS data

A majority of the catcher vessels that participate in the directed BSAI fishery are associated with the AFA cooperative management structure for pollock. These vessels have a sideboard limit of 86.09 percent of the seasonal allocation of BSAI trawl catcher vessel Pacific cod. The Pacific cod harvest limits, like other groundfish and PSC bycatch limits for AFA catcher vessels, are managed using directed fishing closures according to the procedures set out at §§679.20(d)(1)(iv) and 679.21(d)(8) and (e)(3)(v).

Both AFA vessels and LLP licenses derived from AFA vessels are used in the BSAI groundfish fisheries. Table 2-21 reports the amount and percentage of federally managed BSAI non-CDQ Pacific cod that was caught by AFA vessels and AFA derived LLP licenses. Both the catch associated with AFA vessels and licenses are reported, because over the period considered 5.6 percent of the catch was taken by AFA vessels that had a non-AFA LLP license.

From 2008 through 2018, the AFA trawl catcher vessels harvested an average of 81.3 percent of the total federally managed non-CDQ BSAI trawl catcher vessel Pacific cod harvest. Over the same period the catch associated with AFA derived LLP licenses was 75.7 percent. Non-AFA vessels and LLP licenses harvested a greater proportion of the mothership deliveries relative to the shoreside deliveries. This is expected because of the Amendment 80 firm's participation in the mothership sector relative to the participation of the AFA catcher/processor(s) and true motherships.

**Table 2-21 Federal fishery annual BSAI Pacific cod trawl catcher vessel catch by AFA and non-AFA vessels and LLP licenses**

Sector/Vessels/LLP licenses	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Metric Tons												
Motherships	5,406	6,198	6,289	9,517	7,275	4,613	6,296	6,661	8,816	10,001	7,995	79,067
Non AFA Derived LLP Licenses	4,851	5,660	4,789	5,227	4,758	3,572	5,401	5,401	4,332	5,326	6,655	55,973
Non-AFA Vessels	2,006	1,619	2,287	3,636	3,543	3,011	4,118	4,885	2,756	5,326	6,655	39,842
AFA Vessels	2,845	4,041	2,502	1,590	1,215	561	1,284	516	1,576			16,131
AFA Derived LLP Licenses & Vessels	555	538	1,500	4,290	2,517	1,041	895	1,260	4,484	4,674	1,340	23,094
Shoreside	25,940	23,369	22,140	30,175	39,925	38,814	35,932	30,971	36,867	33,394	29,660	355,345
Non AFA Derived LLP Licenses	2,866	4,086	3,833	5,176	6,000	6,140	4,042	5,004	5,120	3,260	3,040	55,829
Non-AFA Vessels	2,206	3,197	2,889	5,122	5,243	5,360	2,951	4,047	5,120	3,259	3,039	48,221
AFA Vessels	660	888	944	54	757	780	1,090	957		1	1	7,608
AFA Derived LLP Licenses & Vessels	23,074	19,284	18,307	24,999	33,926	32,674	31,891	25,967	31,747	30,134	26,620	299,516
<b>Total</b>	<b>31,346</b>	<b>29,568</b>	<b>28,429</b>	<b>39,692</b>	<b>47,201</b>	<b>43,427</b>	<b>42,228</b>	<b>37,632</b>	<b>45,683</b>	<b>43,394</b>	<b>37,655</b>	<b>426,254</b>
Annual Percentage												
Motherships	17.2%	21.0%	22.1%	24.0%	15.4%	10.6%	14.9%	17.7%	19.3%	23.0%	21.2%	18.5%
Non AFA Derived LLP Licenses	15.5%	19.1%	16.8%	13.2%	10.1%	8.2%	12.8%	14.4%	9.5%	12.3%	17.7%	13.1%
Non-AFA Vessels	6.4%	5.5%	8.0%	9.2%	7.5%	6.9%	9.8%	13.0%	6.0%	12.3%	17.7%	9.3%
AFA Vessels	9.1%	13.7%	8.8%	4.0%	2.6%	1.3%	3.0%	1.4%	3.5%	0.0%	0.0%	3.8%
AFA Derived LLP Licenses & Vessels	1.8%	1.8%	5.3%	10.8%	5.3%	2.4%	2.1%	3.3%	9.8%	10.8%	3.6%	5.4%
Shoreside	82.8%	79.0%	77.9%	76.0%	84.6%	89.4%	85.1%	82.3%	80.7%	77.0%	78.8%	83.4%
Non AFA Derived LLP Licenses	9.1%	13.8%	13.5%	13.0%	12.7%	14.1%	9.6%	13.3%	11.2%	7.5%	8.1%	13.1%
Non-AFA Vessels	7.0%	10.8%	10.2%	12.9%	11.1%	12.3%	7.0%	10.8%	11.2%	7.5%	8.1%	11.3%
AFA Vessels	2.1%	3.0%	3.3%	0.1%	1.6%	1.8%	2.6%	2.5%	0.0%	0.0%	0.0%	1.8%
AFA Derived LLP Licenses & Vessels	73.6%	65.2%	64.4%	63.0%	71.9%	75.2%	75.5%	69.0%	69.5%	69.4%	70.7%	70.3%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: AKFIN summary of NOAA Fisheries CAS data

Note: Motherships in the tables include catcher/processors, true mothership, and floating processors defined as a mothership in the CAS data

Table 2-22 provides similar information to the previous table except it only include A-season catch. A table that only considers the BSAI A-season catch is presented because the Council's Alternative 3 may only consider the A-season when making allocations. The average percentage harvested by AFA vessels and vessels with an AFA LLP license are on average about 2 percent more when only the A-season is considered relative to the entire year.

**Table 2-22 Federal fishery annual BSAI Pacific cod trawl catcher vessel A-season catch by AFA and non-AFA vessels and LLP licenses**

Sector/Vessels/LLP licenses	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Metric Tons												
Motherships	4,921	5,089	6,043	6,624	5,513	2,092	3,196	5,153	6,667	7,235	5,030	57,563
Non AFA Derived LLP Licenses	4,603	4,685	4,644	2,831	3,140	1,273	2,601	4,253	3,404	3,653	3,752	38,840
Non-AFA Vessels	1,764	1,344	2,266	1,333	2,174	719	1,343	3,780	1,880	3,653	3,752	24,010
AFA Vessels	2,839	3,341	2,378	1,498	965	554	1,258	473	1,524			14,830
AFA Derived LLP Licenses & Vessels	318	404	1,399	3,793	2,374	819	595	900	3,262	3,582	1,278	18,723
Shoreside	21,492	19,948	21,192	27,397	32,513	33,427	32,810	25,391	32,050	29,869	24,344	300,433
Non AFA Derived LLP Licenses	2,263	3,731	3,803	4,765	4,503	5,026	3,451	3,074	3,564	3,246	2,539	39,963
Non-AFA Vessels	1,867	2,945	2,885	4,739	3,750	4,279	2,434	2,278	3,564	3,246	2,539	34,526
AFA Vessels	395	786	918	26	752	747	1,017	796				5,438
AFA Derived LLP Licenses & Vessels	19,229	16,216	17,389	22,633	28,011	28,401	29,359	22,317	28,487	26,624	21,805	260,470
<b>Total</b>	<b>26,413</b>	<b>25,036</b>	<b>27,235</b>	<b>34,022</b>	<b>38,027</b>	<b>35,519</b>	<b>36,006</b>	<b>30,544</b>	<b>38,717</b>	<b>37,104</b>	<b>29,374</b>	<b>357,996</b>
Annual Percentage												
Motherships	18.6%	20.3%	22.2%	19.5%	14.5%	5.9%	8.9%	16.9%	17.2%	19.5%	17.1%	16.1%
Non AFA Derived LLP Licenses	17.4%	18.7%	17.1%	8.3%	8.3%	3.6%	7.2%	13.9%	8.8%	9.8%	12.8%	10.8%
Non-AFA Vessels	6.7%	5.4%	8.3%	3.9%	5.7%	2.0%	3.7%	12.4%	4.9%	9.8%	12.8%	6.7%
AFA Vessels	10.7%	13.3%	8.7%	4.4%	2.5%	1.6%	3.5%	1.5%	3.9%	0.0%	0.0%	4.1%
AFA Derived LLP Licenses & Vessels	1.2%	1.6%	5.1%	11.1%	6.2%	2.3%	1.7%	2.9%	8.4%	9.7%	4.3%	5.2%
Shoreside	81.4%	79.7%	77.8%	80.5%	85.5%	94.1%	91.1%	83.1%	82.8%	80.5%	82.9%	83.9%
Non AFA Derived LLP Licenses	8.6%	14.9%	14.0%	14.0%	11.8%	14.2%	9.6%	10.1%	9.2%	8.7%	8.6%	11.2%
Non-AFA Vessels	7.1%	11.8%	10.6%	13.9%	9.9%	12.0%	6.8%	7.5%	9.2%	8.7%	8.6%	9.6%
AFA Vessels	1.5%	3.1%	3.4%	0.1%	2.0%	2.1%	2.8%	2.6%	0.0%	0.0%	0.0%	1.5%
AFA Derived LLP Licenses & Vessels	72.8%	64.8%	63.8%	66.5%	73.7%	80.0%	81.5%	73.1%	73.6%	71.8%	74.2%	72.8%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: AKFIN summary of NOAA Fisheries CAS data

Note: Motherships in the tables include catcher/processors, true mothership, and floating processors defined as a mothership in the CAS data

Table 2-23 is the third in the series of AFA versus non-AFA tables and includes only BS A-season catch data. Over the entire time-period 85.0 percent of the Pacific cod catch was made by AFA vessels and 83.5 percent was made by vessels with an AFA derived LLP license. These percentages are slightly greater than the AFA percentage presented either of the previous two tables.

**Table 2-23 Federal fishery annual BS Pacific cod trawl catcher vessel A-season catch by AFA and non-AFA vessels and LLP licenses**

Sector/Vessels/LLP licenses	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Metric Tons												
Motherships	362	444	327	401	3,043	1,193	1,461	2,388	816	4,539	4,752	19,725
Non AFA Derived LLP Licenses	44	40	8	26	1,977	743	1,331	1,896	374	2,095	3,474	12,009
Non-AFA Vessels	6				1,843	719	1,327	1,864	359	2,095	3,474	11,686
AFA Vessels	38	40	8	26	134	24	4	32	15			323
AFA Derived LLP Licenses & Vessels	318	404	319	375	1,066	450	130	492	442	2,444	1,278	7,717
Shoreside	13,419	12,104	13,900	27,005	29,277	30,173	29,977	25,391	32,050	29,869	20,093	263,258
Non AFA Derived LLP Licenses	1,806	2,237	1,995	4,765	4,321	4,736	3,451	3,074	3,564	3,246	1,554	34,748
Non-AFA Vessels	1,660	1,905	1,556	4,739	3,612	4,279	2,434	2,278	3,564	3,246	1,554	30,826
AFA Vessels	145	332	439	26	709	457	1,017	796				3,922
AFA Derived LLP Licenses & Vessels	11,614	9,867	11,904	22,240	24,956	25,437	26,526	22,317	28,487	26,624	18,538	228,510
Total	13,781	12,548	14,227	27,406	32,320	31,366	31,438	27,779	32,867	34,408	24,844	282,983
Annual Percentage												
Motherships	2.6%	3.5%	2.3%	1.5%	9.4%	3.8%	4.6%	8.6%	2.5%	13.2%	19.1%	7.0%
Non AFA Derived LLP Licenses	0.3%	0.3%	0.1%	0.1%	6.1%	2.4%	4.2%	6.8%	1.1%	6.1%	14.0%	4.2%
Non-AFA Vessels	0.0%	0.0%	0.0%	0.0%	5.7%	2.3%	4.2%	6.7%	1.1%	6.1%	14.0%	4.1%
AFA Vessels	0.3%	0.3%	0.1%	0.1%	0.4%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%
AFA Derived LLP Licenses & Vessels	2.3%	3.2%	2.2%	1.4%	3.3%	1.4%	0.4%	1.8%	1.3%	7.1%	5.1%	2.7%
Shoreside	97.4%	96.5%	97.7%	98.5%	90.6%	96.2%	95.4%	91.4%	97.5%	86.8%	80.9%	93.0%
Non AFA Derived LLP Licenses	13.1%	17.8%	14.0%	17.4%	13.4%	15.1%	11.0%	11.1%	10.8%	9.4%	6.3%	12.3%
Non-AFA Vessels	12.0%	15.2%	10.9%	17.3%	11.2%	13.6%	7.7%	8.2%	10.8%	9.4%	6.3%	10.9%
AFA Vessels	1.1%	2.6%	3.1%	0.1%	2.2%	1.5%	3.2%	2.9%	0.0%	0.0%	0.0%	1.4%
AFA Derived LLP Licenses & Vessels	84.3%	78.6%	83.7%	81.2%	77.2%	81.1%	84.4%	80.3%	86.7%	77.4%	74.6%	80.8%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: AKFIN summary of NOAA Fisheries CAS data

Note: Motherships in the tables include catcher/processors, true mothership, and floating processors defined as a mothership in the CAS data

#### 2.6.14.4 Shorebased and Floating Processors

A total of 18 different shorebased or floating processing entities took deliveries of Pacific cod from either the BS or AI during the 2009 through 2017 period (Table 2-24).<sup>26</sup> The number of plants that operated in any one year ranged from 10 to 13. In real 2010 dollars, the shorebased and floating processors spent on average 3.9 percent of their total cost to purchase fish on BS Pacific cod and 0.5 percent from AI Pacific cod. The BS Pacific cod percentages ranged from over \$6 million in 2009 and 2010 to almost \$18 million in 2016 and 2017. The costs to purchase AI Pacific cod has been less than \$50,000 from 2015 through 2017, but that amount will increase in 2018 because of the Adak plant reopening operations.

<sup>26</sup> Entities in this table are defined as a count of unique Intent to Operate codes issued by the State of Alaska and excludes floating catcher/processors and at-sea motherships.



**Table 2-24 Shorebased and floating processing plants purchases of BS or AI Pacific cod from 2009 through 2017**

Year	Shellfish	Salmon	Halibut	Sablefish	Herring	Groundfish	BS Pacific cod	AI Pacific cod	Total	Number of Processors
Real ex-vessel cost (in 2010 dollars)										
2009	\$89.78	\$39.31	\$18.33	\$13.13	\$1.22	\$190.64	\$6.61	\$5.60	\$340.04	12
2010	\$105.48	\$29.53	\$27.91	\$15.13	\$1.30	\$179.43	\$6.83	\$4.51	\$344.13	12
2011	\$142.93	\$40.24	\$43.42	\$19.61	\$0.85	\$261.06	\$17.02	\$0.49	\$488.64	13
2012	\$140.20	\$37.99	\$24.56	\$14.43	\$2.85	\$273.55	\$23.51	\$3.47	\$480.02	13
2013	\$114.13	\$54.01	\$11.49	\$10.92	\$2.82	\$234.14	\$17.23	\$2.64	\$416.68	12
2014	\$113.90	\$40.51	\$12.92	\$10.57	\$1.01	\$249.35	\$17.24	\$2.01	\$417.96	13
2015	\$113.55	\$39.52	\$13.72	\$8.06	\$0.68	\$236.82	\$14.48	\$0.00	\$405.27	11
2016	\$93.39	\$41.47	\$15.34	\$7.22	\$0.32	\$236.60	\$18.93	\$0.00	\$387.63	11
2017	\$51.25	\$45.13	\$13.96	\$11.08	\$0.61	\$225.92	\$18.62	\$0.00	\$337.07	10
<b>Total</b>	<b>\$896.19</b>	<b>\$343.67</b>	<b>\$167.59</b>	<b>\$101.94</b>	<b>\$10.81</b>	<b>\$1,949.86</b>	<b>\$132.07</b>	<b>\$16.97</b>	<b>\$3,372.10</b>	<b>18</b>
Percentage of real ex-vessel cost (in 2010 dollars)										
2009	26.4%	11.6%	5.4%	3.9%	0.4%	56.1%	1.9%	1.6%	100%	12
2010	30.7%	8.6%	8.1%	4.4%	0.4%	52.1%	2.0%	1.3%	100%	12
2011	29.3%	8.2%	8.9%	4.0%	0.2%	53.4%	3.5%	0.1%	100%	13
2012	29.2%	7.9%	5.1%	3.0%	0.6%	57.0%	4.9%	0.7%	100%	13
2013	27.4%	13.0%	2.8%	2.6%	0.7%	56.2%	4.1%	0.6%	100%	12
2014	27.3%	9.7%	3.1%	2.5%	0.2%	59.7%	4.1%	0.5%	100%	13
2015	28.0%	9.8%	3.4%	2.0%	0.2%	58.4%	3.6%	0.0%	100%	11
2016	24.1%	10.7%	4.0%	1.9%	0.1%	61.0%	4.9%	0.0%	100%	11
2017	15.2%	13.4%	4.1%	3.3%	0.2%	67.0%	5.5%	0.0%	100%	10
<b>Total</b>	<b>26.6%</b>	<b>10.2%</b>	<b>5.0%</b>	<b>3.0%</b>	<b>0.3%</b>	<b>57.8%</b>	<b>3.9%</b>	<b>0.5%</b>	<b>100%</b>	<b>18</b>

Note: 2017 was the most recent year value information was available when the data were provided  
Source: AKFIN summary of ex-vessel data (BSAI\_TRW\_PROC\_DIV(9\_22\_18))

Information is not currently available to compare the first wholesale revenue derived from all species the firm's process. First wholesale data are only available for groundfish species.<sup>27</sup>

Additional information on the shoreside processing sector is presented in the community impacts Section 2.8.5 of the analysis. Shoreside processors are not directly regulated by this action but could benefit from limits imposed on catcher/processors. The intent of the action is to implement regulations that would limit the number of catcher/processors acting as a mothership in the BSAI Pacific cod fishery and limit the amount of directed deliveries of BSAI non-CDQ trawl caught Pacific cod from catcher vessels that can that can be processed by those catcher/processors.

#### 2.6.14.5 At-sea True Motherships

True motherships are defined in this paper as vessels that only process raw fish at-sea by taking deliveries from catcher vessels. True motherships include AFA motherships and any other mothership that may only process fish delivered by trawl catcher vessels in the future. True motherships are not licensed or permitted to harvest fish. A total of three AFA true motherships are have reported very little activity in the directed Pacific cod fishery. The majority of Pacific cod processed by true motherships is derived from incidental catch in the pollock fishery.

Pacific cod deliveries to the AFA motherships or any other true mothership would not be limited under any of the proposed amendments in this action since they would continue to be allowed to take incidental deliveries of Pacific cod from non-Pacific cod target fisheries.

#### 2.6.15 Affected Communities

The distribution of affected fishing sectors described in Section 2.6.14 across communities in Alaska and the Pacific Northwest is described in Section 4, Quantitative Indicators of Community Fishery Engagement and Dependency, of Appendix 1 of this RIR (the Social Impact Assessment [SIA]). As shown in detail in the tables and discussed in the narrative in that section:

<sup>27</sup> A more detailed discussion of this issue is presented in the SIA (Section 3.5.3 of Appendix 1).

- AFA and Amendment 80 catcher/processors have strong ownership ties to the greater Seattle metropolitan area, as represented by the Seattle-Tacoma-Bellevue Metropolitan Statistical Area<sup>28</sup> (referred to as the “Seattle MSA” in the SIA). All of the catcher/processors that acted as motherships by taking BSAI non-CDQ targeted Pacific cod fishery catcher vessel trawl-caught deliveries 2008-2018 had ownership addresses in the Seattle MSA and utilized LLP licenses with ownership addresses in the Seattle MSA.
- Trawl catcher vessels making at least one BSAI non-CDQ targeted Pacific cod fishery trawl-caught delivery 2008-2018 had strong ownership ties to the Seattle MSA, Newport, Oregon, and Kodiak, Alaska. Over the years 2008-2018, on an annual average basis 35.5 vessels with Seattle MSA ownership addresses participated in the fishery, while the analogous figures for Newport and Kodiak, were 7.4 and 3.6, respectively. Only one other community averaged 1 or more catcher vessels participating per year.<sup>29</sup> Ownership address patterns for LLP licenses used by these vessels showed a similar pattern of distribution among communities.
- Vessels with catcher/processor endorsed LLP licenses that functioned as catcher vessels and made at least one BSAI non-CDQ targeted Pacific cod fishery trawl-caught delivery over the period 2008-2018 had strong ties to the Seattle MSA. Over the years 2008-2018, on an annual average basis, 7.9 vessels with Seattle MSA ownership addresses participated in the fishery, while the analogous figures for Newport, Oregon and Rockland, Maine were each 1.0. No other community averaged 0.5 or more of these vessels participating in this fishery per year.
- Among shoreside and inshore floating processors that accepted BSAI non-CDQ targeted Pacific cod fishery catcher vessel trawl-caught deliveries 2008-2018, the plants that accepted the largest volume of those deliveries as a group were operating in Unalaska/Dutch Harbor and Akutan. The shoreside processor in King Cove also participated in processing these types of deliveries on a regular basis through this period as well and together these three communities represent the Alaska communities that are most vulnerable to the type of erosion of shoreside landings from the fishery in recent years described in the purpose and need statement. Seattle, grouped with inshore floating processors for which good operating location data are not available, also shows up in the data as a center of shoreside processors that have accepted BSAI non-CDQ targeted Pacific cod fishery catcher vessel trawl-caught deliveries 2008-2018.

As described in detail in Section 5 of the SIA (i.e., “Community Context of the Fisheries” discussion of Appendix 1 to this RIR), the communities that are home to these sector participants derive multiple benefits from economic activity related to vessel and processor activities, employment and income provided by the various sectors, business activity generated at fishery support services providers in the communities, and public revenues that derive from taxes on fishery related activities in the communities.

### **2.6.16 Product Composition and Flow of Pacific Cod**

The following information on production composition and flow of Pacific cod is taken from the 2013 Economic Status of the Groundfish Fisheries of Alaska (NMFS 2014c). The reader is referred to that document for additional information on markets for Pacific cod and other species, noting that the information may be somewhat dated.

Product flows for Pacific cod have changed following the decline of Atlantic cod (*G. morhua*) harvests.

<sup>28</sup> The Seattle-Tacoma-Bellevue Metropolitan Statistical Area is a U.S. Census Bureau defined region used to tabulate the metropolitan area in and around Seattle, Washington. It includes of King, Pierce, and Snohomish counties.

<sup>29</sup> An annual average of 1.1 catcher vessels with Bellingham Washington ownership addresses participated in the fishery over the 2008=2018 period.

Pacific cod are processed as either headed and gutted (H&G), fillet blocks, or individually frozen fillets, which are either individually quick-frozen (IQF) or processed into shatter pack (layered frozen fillets that separate individually when struck upon a hard surface) or layer pack. The final markets include fine or “white tablecloth” restaurants, institutional food service, quick-service restaurants, retail fish markets, grocery stores, and overseas markets.

Wholesale prices are highest for fillet products, but H&G accounts for the largest share of Alaska Pacific cod production. The H&G production was significant in the mid-1990’s at roughly 50 percent. Since then H&G’s share of production increased to upwards of 70 percent in recent years. Fillet production since 2009 has ranged between 12 percent and 13 percent.

Production shares of other minimally processed goods have decreased substantially since the mid-90’s with salted-and-split (29 percent to less than 1percent) and whole fish (47 percent to 3 percent). Increased exports of H&G product to China where it is filleted and re-exported have contributed to the shift.

H&G Pacific cod is frozen after the first processing, and then proceeds to another processor within the U.S., or is exported for secondary processing. Some domestic H&G Pacific cod is sent to the East Coast refresh market, where it is thawed and filleted before being processed further or sold as refreshed. Other U.S. processors may purchase H&G Pacific cod and further process it by cutting it into sticks and portions or breading it for sale in grocery stores or food services. Foreign consumers, especially China, Japan, and Europe, also purchase H&G Pacific cod for further processing, including the production of salt cod. Large H&G Pacific cod are reported command the highest price, and it is these fish that are processed into salt cod.

The wholesale prices for H&G Pacific cod caught and processed by fixed gear (freezer longline) vessels have been consistently higher than the prices received by trawl vessels. According to an industry representative, this price difference occurs because fish caught by longline gear can be bled while still alive, which results in a better color fish, and there is less skin damage and scale loss than if they are caught in nets. In contrast, shoreplant processors obtain fish from both fixed gear and trawl vessels, and the fish have been dead for many hours before they are processed (although they are generally kept in refrigerated saltwater holds).

Discussions with potential buyers concerning BS and AI Pacific cod start several months before the fish are harvested. One of the most important factors for Pacific cod suppliers is being a reliable and consistent source of cod products from year-to-year. Another important factor in the Pacific cod fishery is market timing. Asian buyers, particularly the Japanese, are accustomed to making their buying commitments early in the year. In addition, as the volume of Pacific cod product streams into the market during the first few months of the season, demand and price for Pacific cod tend to decline. These market signals provide an incentive for suppliers of Pacific cod products to start fishing and processing AI Pacific cod as early as mid-February. Also, quality of Pacific cod caught late in March and into April begins to deteriorate. Once Pacific cod have spawned, the roe (which is the most valuable product made from Pacific cod) becomes watery and losses value. Flesh quality decreases markedly in post-spawned fish, further decreasing the value.

**Table 2-25 Shoreplant 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
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
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
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
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
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
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 2-26 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
<b>Non-Amendment 80 CPs</b>														
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
<b>Amendment 80 CPs</b>														
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."

### 2.6.17 Amendment 80 and AFA Catcher/processor Limitations in BSAI and GOA

Both Amendment 80 and AFA catcher/processors participation in GOA and BSAI fisheries were limited when their respective LAPPs were implemented. As a result of those limitations, these catcher/processors are very limited in the opportunities to expand fishing/processing effort in either the GOA or BSAI.

Regulations at 50 CFR 679.7(k) defines prohibitions specific to AFA vessels.

- 50 CFR 679(k)(ii) states that the use of a listed AFA catcher/processor or a catcher/processor designated on a listed AFA catcher/processor permit to harvest any species of fish in the GOA is prohibited.
- 50 CFR 679.7(k)(iv)(A) states that the use of a listed AFA catcher/processor or a catcher/processor designated on a listed AFA catcher/processor permit to process any pollock

harvested in a directed pollock fishery in the GOA and any groundfish harvested in Statistical Area 630 of the GOA is prohibited. Section (B) limits the use a listed AFA catcher/processor or a catcher/processor designated on a listed AFA catcher/processor permit from acting as a stationary floating processor for Pacific cod in the GOA and a catcher/processor in the GOA during the same year.

- 50 CFR 679.7(v) states that the use a listed AFA catcher/processor or a catcher/processor designated on a listed AFA catcher/processor permit to engage in directed fishing for a groundfish species or species group in the BSAI after the Regional Administrator has issued an AFA catcher/processor sideboard directed fishing closure for that groundfish species or species group under 50 CFR 679.20(d)(1)(iv), 679.21(b)(4)(iii), or 679.21(e)(3)(v) is prohibited.
- AFA catcher/processor groundfish sideboard limits and directed fishery closures for the BSAI are reported at 83 FR 8365.

Tables 37, 38, and 39 of 50 CFR 679 show the limitations on Amendment 80 catcher/processers in the GOA groundfish directed fisheries (note that Amendment 80 catcher/processers to receive allocations of rockfish under the Central GOA Rockfish Program), GOA halibut PSC, and flatfish participation, respectively. Amendment 80 catcher/processers are also prohibited from directed fishing for BSAI pollock (except 0.5% of the BS TAC by the one unlisted AFA catcher/processor).

As a result of all these limitations implemented as part of their respective LAPPs, these vessels have had very limited opportunities to expand effort. The one opportunity that has traditionally been open to the Amendment 80 and AFA catcher/processor sector is mothership processing of BSAI and GOA Pacific cod.

## **2.7 Analysis of Alternatives**

This analysis focuses on the change in the number of catcher/processers that have, or may act as a mothership in the Pacific cod fishery. It also considers the impacts of a one percent change in the delivery of BS portion<sup>30</sup> of the trawl catcher vessel sector allocation of Pacific cod has on the catcher/processor sector acting as a mothership and other processors. The status quo in this analysis is different than the No Action alternative based on the Council's problem statement. The Council's problem statement essentially defines the status quo as the number of Amendment 80 catcher/processers acting as motherships prior to implementation of the Amendment 80 program. The first year of the Amendment 80 program was 2008, so the Status Quo is considered to be 2007 and earlier. The No Action alternative considers the most recent years information are available to show the increases in participation that have led to consideration of this proposed action.

### **2.7.1 Alternative 1: No Action**

The No Action alternative would maintain the current management structure of the non-CDQ BSAI trawl catcher vessel Pacific cod fishery. A total of 22.1 percent of the available BSAI non-CDQ Pacific cod TAC would be allocated to the trawl catcher vessel sector. Trawl catcher vessels assigned a valid LLP license with a BS or AI trawl endorsement would be allowed to harvest Pacific cod from that allowance and deliver it to the processor of their choice.<sup>31</sup> Based on the problem statement, the Council is concerned that recent increases and potential for future growth in offshore deliveries of Pacific cod to Amendment 80 vessels or other catcher/processor vessels operating as motherships, and about the

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<sup>30</sup> The BSAI sector allocation is calculated by adding the BS and AI portion of the trawl CV ITAC contributed by each area. The BS portion of the combined ITAC (less the 5,000 mt set-aside) is used for these calculations since it is difficult to determine with certainty how much of the total BSAI trawl CV sector allocation, delivered to catcher/processers acting as a mothership, would be AI or BS Pacific cod in the future.

<sup>31</sup> Subject to regulations that limit deliveries of AI Pacific cod to Adak and/or Atka based plants when provisions of Amendment 113 (or its replacement amendment) are in effect.

potential impacts those increases could have on shoreside processors, communities, and participating catcher vessels. The No Action alternative does not effectively address the concern that increasing amounts of the BSAI non-CDQ trawl catcher vessel Pacific cod allocation will be delivered to catcher/processors acting as a mothership. Amendment 80 catcher/processors and AFA catcher/processors that are active as a mothership in the fishery could maintain or increase the percentage of the trawl catcher vessel sector allocation they process.<sup>32</sup> Any catcher/processor not currently active in the fishery could enter the fishery as a mothership if they have the proper FFP and endorsement and meet any other regulatory requirement to act as a mothership.

Table 2-27 provides an overview of the nine catcher/processors that were reported to be active as motherships in the Pacific cod fishery from 2003 through 2018. The cells shaded black indicate the catcher/processor acted as a mothership in the Pacific cod target fishery at least one week during the year based on the CAS targeting definition. The CAS targeting definition is calculated using all the deliveries from an area to that processor by catcher vessels during the week. Cells that are shaded orange with a reverse diagonal stripe indicate the catcher/processor took a targeted Pacific cod delivery from a trawl catcher vessel based on the Fishticket definition. The Fishticket target is based on at least one the delivery during the year being a majority of Pacific cod, as opposed to the weekly aggregation of all deliveries by area during the week.

**Table 2-27 Years a catcher/processor acted as a mothership by taking deliveries from a catcher vessel operating in the BS or AI Pacific cod non-CDQ trawl target fishery**

Area	Vessel	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
AI	1																
	2																
	3																
	4																
BS	1																
	2																
	3																
	4																
	5																
	6																
	7																
	8																
	9																
BSAI	1																
	2																
	3																
	4																
	5																
	6																
	7																
	8																
	9																

Note: Cells shaded black indicate a Pacific cod target based on CAS data during the year and orange with a reverse diagonal stripe shaded cells indicate that a Pacific cod target delivery only is credited if Fishticket targeting was used.

As shown in Table 2-27, two catcher/processors were active as a mothership in the BSAI Pacific cod trawl fishery prior to 2008. In 2008 there were three catcher/processors active as a mothership. The new addition processed only in the AI during 2008 and did not participate again until 2016 (or 2015 using the

<sup>32</sup> One Amendment 80 firm would not be allowed to maintain or increase their current level of processing under P.L. No. 115-282 for up to six years.

Fishticket definition). A fourth catcher/processor<sup>33</sup> processed in the AI from 2011 through 2013 and then begin processing again in the BS in 2016. Three catcher/processors begin acting as a mothership in the BSAI Pacific cod fishery for the first time (in the 2003 through 2018 period considered in this analysis) in 2016. All three vessels processed only in the BS. An eighth vessel entered in 2017 and a ninth in 2018. Both vessels only took Pacific cod deliveries from the BS.

Table 2-28 shows the percentage of Pacific cod harvested by trawl catcher vessels when they delivered to either AFA or Amendment 80 catcher/processors or when they delivered to another class of processor. The data represent the average of all Pacific cod landings from 2010 through 2018 from the non-CDQ trawl catcher vessel sector allocation. Information is presented by season where possible and confidential data are concealed.

The data indicate that years the Adak plant was not taking Pacific cod deliveries the catcher/processors acting as a mothership tended to be more active in the AI. In the recent past, shoreplants and inshore floating processors took 100 percent of the AI Pacific cod from trawl CVs and many earlier years took deliveries of 30 percent to 50 percent of the AI Pacific cod. In 2018, when the AI plant was open the numbers cannot be reported but the AI plant took the vast majority of the AI Pacific cod deliveries. In 2019, two catcher/processors and one floater took deliveries of AI Pacific cod from catcher vessels. Again, because only two catcher/processors were operating, the AI the catch data cannot be reported.

**Table 2-28 Percentage of targeted Pacific cod harvest by area and season, and target fishery**

Area / Year	Other Processors				C/Ps acting as a MS				Total
	A	B	C	Total	A	B	C	Total	
AI Average	44.8%	c	c	52.3%	44.9%	c	c	47.7%	100.0%
2008	55.6%	c	c	67.6%	31.4%	c	c	32.4%	100.0%
2009	52.0%	12.7%	0.0%	64.7%	30.8%	c	c	c	100.0%
2010	56.0%	0.0%	0.0%	56.0%	43.1%	c	c	c	100.0%
2011	c	c	c	10.1%	81.1%	8.7%	0.0%	89.9%	100.0%
2012	46.5%	c	c	53.7%	35.5%	c	c	46.3%	100.0%
2013	c	c	0.0%	82.2%	c	c	c	c	100.0%
2014	c	c	c	c	c	c	c	c	100.0%
2015	c	c	c	c	c	c	c	c	100.0%
2016	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	100.0%
2017	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%	100.0%
2018	c	c	c	c	c	c	c	c	100.0%
BS Average	83.9%	7.5%	1.4%	92.8%	4.5%	1.8%	1.0%	7.2%	100.0%
2008	88.8%	c	c	c	c	c	c	c	100.0%
2009	93.7%	c	c	c	c	c	c	c	100.0%
2010	100.0%	c	c	c	c	c	c	c	100.0%
2011	93.6%	c	c	c	c	c	c	c	100.0%
2012	77.6%	c	c	c	c	c	c	5.6%	100.0%
2013	86.1%	c	c	c	c	c	c	c	100.0%
2014	85.0%	c	c	c	c	c	c	c	100.0%
2015	82.3%	c	c	c	c	c	c	c	100.0%
2016	85.9%	c	c	96.8%	0.8%	1.7%	0.7%	3.2%	100.0%
2017	81.7%	c	c	87.3%	10.2%	2.4%	0.1%	12.7%	100.0%
2018	66.6%	c	c	79.2%	14.9%	6.0%	0.0%	20.8%	100.0%
BSAI Average	75.3%	7.5%	1.1%	83.8%	13.4%	2.0%	0.8%	16.2%	100.0%
Processors	18	16	7	22	9	7	5	9	31

Source: AKFIN summary of NOAA Fisheries CAS data

<sup>33</sup> This vessel was owned by the same firm as the vessel that took deliveries in 2008, 2016, and 2017 in the AI.



The information in the table indicates that the catcher/processors that are limited under Alternative 2 (and Alternative 3) accounted for a much greater percentage of the Pacific cod processing in the AI versus the BS, especially in years the Adak plant did not operate. Information that cannot be reported is the percentage of deliveries to the two firms that could be exempt from sideboard limits under Alternative 3. Those firms accounted for a substantial majority of the AI Pacific cod processing by catcher/processors acting as a mothership prior to 2015. If their activity were excluded from the calculations, processing of catcher/processors acting as a mothership would be similar if the BS or BSAI was considered under Alternative 3.

Table 2-29 provides information on just the BSAI Pacific cod A-season fishery. The data are slightly different than reported earlier because just the A-season is included for each year. So, if a catcher/processor acted as a mothership in only the B and/or C-seasons it would not be included in the counts. The data are based on the CAS reports so only catch that is only defined as a Pacific cod in that system is included.

Table 2-29 BSAI A-season deliveries to C/Ps acting as a MS from 2006 through 2019 with C/P and CV counts

Year	CP as MS (mt)	Other Processors (mt)	C/P as MS %	C/Ps acting as MS	CVs	
					C/Ps acting delivering to as MS	C/P as MS
2006	c	c	c	1	2	
2007	c	c	c	1	2	
2008	c	c	c	2	4	
2009	c	c	c	2	3	
2010	c	c	c	2	5	
2011	1,229	13,963	8.8%	3	7	
2012	2,473	27,840	8.9%	3	11	
2013	c	c	c	2	5	
2014	c	c	c	2	3	
2015	c	c	c	2	4	
2016	3,160	24,820	12.7%	6	9	
2017	6,120	35,158	17.4%	8	15	
2018	4,433	26,880	16.5%	8	11	
2019	4,855	15,918	30.5%	6	13	

Source: AKFIN CAS data (Motherships\_CA [2\_5\_2019])

Note: A "c" denotes confidential data

The smallest percentage of Pacific cod processed by the catcher/processors acting as a mothership occurred in the years 2013, 2014, 2007, and 2006, respectively. Over the entire period considered in the table above, the catcher/processors acting as a mothership processed just under 7 percent of the Pacific cod A-season landings.

Catcher vessels operate differently in terms of their delivery patterns based on the business plan of the owner. Eight catcher vessels delivered only to catcher/processors that acted as a mothership during the 2008 through 2018 period. The catcher/processors they delivered to would qualify under sub-options that require a targeted Pacific cod landing 1 or 2 years during the 2015 through 2017 period. If the sub-option that required 3 years of participation was selected two of the eight catcher vessel would no longer be able

to deliver to the catcher/processor that they historically delivered. Table 54 in the SIA shows this information in greater detail along with the years of participation and the owner's city.

The current management structure provides opportunities for catcher vessels to access new markets provided by catcher/processors that have traditionally harvested and processed Pacific cod. These markets could benefit catcher vessels that have limited hold space or in other ways are well suited to deliver their catch to an at-sea processor. It could benefit the catcher/processors accepting deliveries since it could provide more product to sell and provide greater processing opportunities for their crew if the vessel cannot harvest enough Pacific cod to operate the plant at an efficient level or the additional deliveries from the CV sector allocation increases the production, since many catcher/processor crew are paid on a production basis. Benefits to the catcher/processors acting as a mothership will be in whole or part offset by losses realized by shorebased processors. Because the trawl CV sector allocation is shared by catcher vessels delivering to any type of processor, any catch delivered to a catcher/processor reduces the potential amount of Pacific cod that can be delivered shoreside by an equal amount.

Ex-vessel price differences between shorebased plants and at-sea plants could make delivering to one or the other more desirable to catcher vessels. Sufficient data are not available to make that determination. However, anecdotal information indicates that currently the offshore sector matches the average inshore ex-vessel price<sup>34</sup>. If the ex-vessel prices paid to the two sectors are comparable, that factor on its own is unlikely to provide a strong incentive to deliver to catcher/processors or other processors.

There may also be cost savings and increased production levels associated with delivering to the specific sectors. For example, delivering to an at-sea processor could reduce fuel costs, observer costs, and running time to and from the processor. Fuel cost savings are more likely to occur if a catcher vessel has a market with a mothership or a market with the Akutan plant. The Akutan plant is located closer to the fishing grounds and a catcher vessel can make a trip to that plant in about half a day. Deliveries to Dutch Harbor may take a whole day and other plants that are more distant from the fishing grounds may take longer. Some plants are reported to have used tenders in 2019 to increase efficiencies associated with the catcher vessel delivering fish. The use of tenders adds another cost to the fish that are delivered but allow the harvesting vessels to stay on the fishing grounds, which is important in short seasons. The quicker turn-around between trips allow catcher vessels to make more deliveries when they deliver to Akutan, a mothership, or a tender. Based solely on delivery times the proximity to the fishing grounds make these markets desirable for the Pacific cod fishery.

Because of the shorter run to the Akutan plant, fuel costs are expected to be more similar for catcher vessels delivering there and to a mothership than to the other shorebased processors. While the fuel costs associated with catching Pacific cod are expected to be the similar regardless of where the vessel delivers, the longer running times to processors farther from the Pacific cod fishing grounds will increase the total fuel costs.

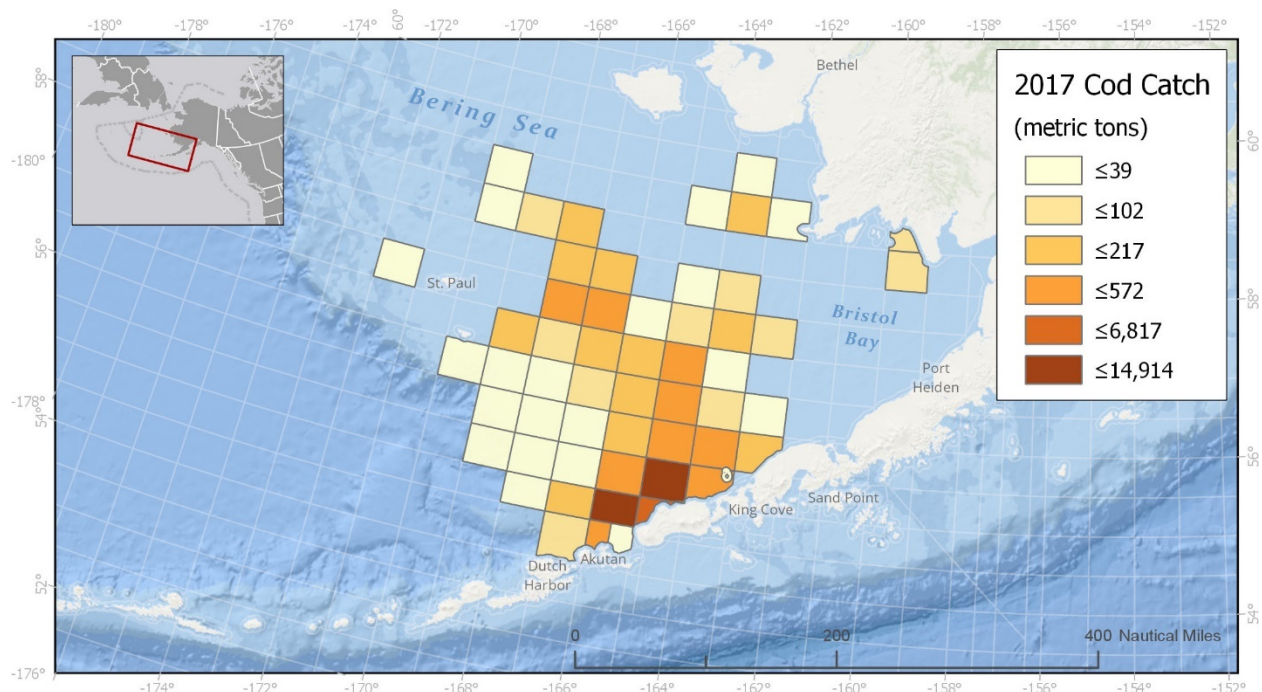
The actual observer costs paid directly by catcher vessels are difficult to determine. Pacific cod deliveries to shorebased processors are subject to 30 percent coverage at the plant and catcher vessel deliveries to shoreside processors are subject to an observer fee of 1.25 percent of the ex-vessel value. The intent is that the 1.25 percent observer fee is shared equally by the catcher vessel and the shoreplant. Catcher vessels delivering unsorted codends to a mothership are not subject to any observer requirements, but the mothership must have 200 percent coverage. The same as when they are acting as a catcher/processor. These costs to the processors are directly or indirectly accounted for in the ex-vessel prices paid to the catcher vessels. The actual mechanism may vary by processor but is unavailable to the analysts.

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<sup>34</sup> Although participants in the fishery have indicated that at-sea markets at times have offered a lower ex-vessel price because catcher vessels can make more deliveries. Other participants have stated that some catcher/processors have offered a higher price that was matched by the shoreplants. Given the lag in when these data are available, the fact that not all prices are an arm's length transaction, and confidentiality of these data the various reports are difficult to verify.

Any increase in the daily catch rates associated with shorter delivery times could increase daily removals of Pacific cod, which could lead to shorter fishing seasons. The increased number of vessels on the grounds could also increase crowding. It has been reported in public testimony that the most desirable Pacific cod fishing grounds in the BS (referred to as “cod alley”) is limited in size and vessels typically que up to take turns trawling the grounds. Increased effort in the fishery, in terms of numbers of vessels fishing at any one time, has led to longer wait times to fish and more stress to access their turn. As noted in Figure 2-2, the highest concentration of BS Pacific cod catch in 2017 was reported in three statistical areas just North of Unimak Island, which is the location of cod alley.

Anecdotal information indicates that the 2019 A-season fishery was fished in the more traditional area (Northwest of Unimak Island) by catcher vessels delivering to shoreplants. This is in part due to the need to fish closer to the plant to reduce costs and decrease delivery times so a higher quality product can be delivered to the plant. Catcher vessels that were delivering to motherships fished more Northeast of the more traditional grounds. Because the mothership can move with the fleet this allowed the catcher vessels to more closely maintain their delivery schedules.



**Figure 2-2 2017 BS Pacific cod catch by statistical area**

A total of 174 BSAI LLP licenses have been issued with a non-severable trawl endorsement that allows the vessel assigned to the LLP license to fish Pacific cod with trawl gear in the BS and/or AI. LLP licenses with a catcher vessel endorsement account for 115 of those LLP licenses. The remaining 59 LLP licenses have a catcher/processor endorsement, but the LLP regulations allow catcher/processor LLP licenses to be used on a vessel acting as a catcher vessel. From 2010 through 2017, 14 of the catcher/processor LLP licenses have been used to make at least one BSAI non-CDQ Pacific cod target fishery trawl catcher vessel landing. One additional catcher/processor LLP license made a delivery during 2009 but did not report a landing after that year. However, because catcher/processor licenses are mostly used/held by firms that are part of the AFA catcher/processor sector and Amendment 80 program, it is not anticipated that all of these catcher/processor LLP licenses that have not fished as a catcher vessel in the past would be used in the catcher vessel Pacific cod fishery in the future. Some of the LLP licenses are also assigned to vessels that only act as catcher vessels but could be moved to a catcher/processor.

In addition to the 174 LLP licenses that have a non-transferable trawl endorsement, eight AI transferable trawl endorsements (see Section 2.6.9.1) could also be assigned to an LLP license on a vessel less than

60' LOA and be used to harvest AI Pacific cod in the directed Pacific cod trawl fishery. These LLP license endorsements were issued to allow trawl vessels that are less than 60' LOA to participate in the Federal Pacific cod fishery in addition to the State managed Pacific cod fishery in the AI. These LLP trawl endorsements may only be used to fish in the AI and typically delivery to the AI shorebased plant.

The current LLP license endorsement requirements to fish with trawl gear for BSAI Pacific cod provides the opportunity for persons that have not harvested Pacific cod in the directed trawl catcher vessel fishery to enter the fishery. While data are not available to determine the change in net revenue associated with firms entering the fishery, it is assumed that in either the short-term or long-term, the harvester anticipates that activity will benefit the firm. In the short term it could increase profitability or decrease an annual loss. It could also allow the holder of the LLP license to preserve the opportunity to fish for Pacific cod in the future. Persons may feel that catch history could be important in future harvest privilege programs and may be willing to accept a short-term loss to help ensure future access.

All non-CDQ BSAI Pacific cod caught by trawl catcher vessels is deducted from the trawl catcher vessel sector allocation regardless of whether the catch was made in the BS or AI. Prior to being vacated, Amendment 113 defined a set-aside and harvest limitation to help ensure that at least 5,000 mt of the AI TAC is available for delivery to the Adak plant (and/or Atka plant if one is operational). These limitations close directed fishing in the BS, when necessary, to account for AI harvest that can be delivered to the AI shoreplants as well as processors operating at-sea. These restrictions tend to negatively impact vessels that operate in the BS and benefit vessels that have a market at the AI shoreplant (NPFMC, 2018). If Amendment 113 is no longer in place, more of the trawl catcher vessel allocation is expected to be harvested from the BS, since the BS fishery historically occurs first and the current A-season is very short.

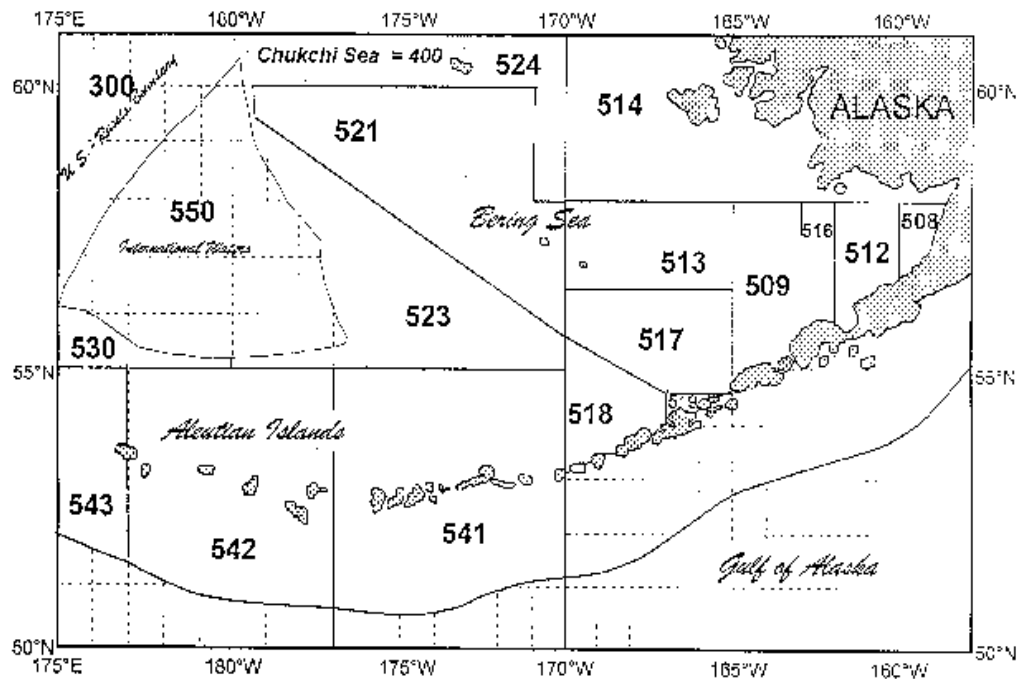
Halibut PSC usage rates in the BSAI Pacific cod trawl CV sector was greater in 2019 than in either 2018 or 2017 (Table 2-30). In NMFS management area 509 (Figure 2-3) the halibut PSC usage rate was about twice the 2018 rate and more than three times the 2017 rate. In area 517, the rate in 2019 was about three times the 2018 and 2017 rates. Testimony at the February 2019 Council meeting indicated that the increased halibut PSC usage rates were directly related to the fast pace of the fishery and the pressure harvesters felt to catch Pacific cod before the fishery closed. This race for the available fish caused harvesters to abandon fishing practices (i.e., not fishing at night or moving to avoid areas of high bycatch) that have led to halibut savings in the past. Also, the pace of the fishery made it difficult to get real time PSC usage data since it takes time to get the data into the system before it can be distributed to the fleet.

**Table 2-30 Halibut PSC usage (Kg of halibut mortality per Mt of groundfish caught) by NMFS management area, 2017 through 2019 A-seasons**

Year	NMFS Area	
	509	517
2019	19.5	15.5
2018	10.3	5.5
2017	6.3	5.0

Source: NMFS data (e.g., [https://alaskafisheries.noaa.gov/sites/default/files/reports/car240\\_psc\\_halibut2019.csv](https://alaskafisheries.noaa.gov/sites/default/files/reports/car240_psc_halibut2019.csv))

**Figure 2-3 NMFS BSAI management areas**



### 2.7.2 Alternative 2: Limiting catcher/processors that can act as a mothership

Alternative 2 would limit the number of catcher/processors that could take directed BSAI trawl caught Pacific cod deliveries from catcher vessels in the future. It would not impose a specific limit the amount of the trawl CV sector allocation that could be delivered to qualified catcher/processors when acting as a mothership. Limits on the amount of Pacific cod that can be delivered are addressed under Alternative 3. Alternative 2 may be selected on its own or along with Alternative 3. Selecting Alternative 2 without an Alternative 3 sideboard limit would be the most straightforward option in terms of NMFS management of the fishery.

To qualify to accept deliveries of BSAI Pacific cod harvested from the directed Pacific cod trawl catcher vessel allocation, catcher/processors must have accepted at least one targeted BSAI Pacific cod delivery from 2015 through 2017. Three options are included for consideration for the Amendment 80 catcher/processors and one option is included for the AFA catcher/processors, in addition to the No Action alternative. The Amendment 80 catcher/processor options would require a delivery in either one, two, or three years during the time period considered. The AFA catcher/processor option only requires one delivery during the three-year qualification period.<sup>35</sup>

NMFS will develop an official catch record database and notify catcher/processor owners whether their catcher/processor will qualify. If qualified the owner of the catcher/processor is allowe to assign the qualification to an LLP license used on the vessel during the qualifying period. Once assigned to the LLP license the BSAI Pacific cod mothership endorsement is non-severable from the LLP license it is originally assigned. The vessel to which the endorsed LLP license is assigned may take deliveries of trawl caught Pacific cod from the trawl catcher vessel sector allocation. A vessel owner/LLP license holder that disagree with the official record will be given the opportunity to appeal that finding in the official record

<sup>35</sup> Only one option was included because that vessel would qualify under any of the options considered for the Amendment 80 catcher/processors. Because more restrictive options would not impact whether the vessel would qualify, they were not included in the analysis.

through the National Appeals Office (NAO). The NAO is a division of NMFS Office of Management and Budget within NOAA. The NAO adjudicates appeals by providing due process and consistency to NMFS administrative decisions.

The action would only limit catcher/processors acting as a mothership and would not limit the ability of catcher/processors that harvest BS or AI Pacific cod from harvesting and processing the respective trawl catcher/processor sector allocations. It would also not limit true motherships and, depending on the option selected, may only limit catcher/processors in the Amendment 80 sector from taking directed BSAI Pacific cod deliveries from trawl catcher vessels harvesting Pacific cod from the non-CDQ BSAI trawl catcher vessel sector allocation.

Alternative 2 could indirectly limit the percentage of Pacific cod processed by Amendment 80 and AFA catcher/processors acting as a mothership. The effectiveness of the alternative will depend on the number of vessels that are allowed to qualify and the processing capacity of those vessels. Implementing Alternative 2 will not guarantee that deliveries to motherships will not increase relative to recent levels since:

- not all mothership activity is limited by the alternative,
- catcher/processors that are allowed to participate could be more fully utilized as a mothership,
- the qualified LLP license could be transferred to more efficient catcher/processors with greater processing capacity in the future, and
- catcher/processors that could qualify under Option 1, Suboption 1 or Option 1, Suboption 2 did not participate in 2019 when the sector took the greatest percentage of the fishery.

However, the short season length during the A-season and the overall increases in effort in the fishery will make it more difficult for these catcher/processors to substantially increase their portion of the sector allocation. Forecasted decreases in the BS Pacific TAC will also increase competition for the available Pacific cod which could help maintain sector splits that are closer to the No Action alternative, but well above the Status Quo levels, if liberal qualification criteria are implemented.

The directed Pacific cod deliveries to the catcher/processor sector would be most constrained under Alternative 2 by tightly limiting the vessels that can participate (Option 1, Suboption 3 and Option 2). Vessels that do not qualify will be limited to accepting Pacific cod as incidental catch in BSAI non-Pacific cod target fisheries. This primarily would occur in the yellowfin sole fishery for Amendment 80 vessels and pollock for AFA vessels. The Council took action in 2017 to limit the catcher vessels that may delivery yellowfin sole to catcher/processors acting as a mothership. That amendment limits the other primary mothership alternative (yellowfin sole) for the Amendment 80 sector that could deliver Pacific cod as incidental catch and could be effective in limiting incidental Pacific cod deliveries. The AFA catcher/processor that could qualify also had history as a mothership in the yellowfin sole fishery.

Incidental catches of Pacific cod to all Amendment 80 catcher/processors and AFA catcher/processors would continue to be allowed. Any increases in incidental Pacific cod catches delivered to these vessels when acting as a motherships would directly reduce the amount available for delivery shoreside, since both directed Pacific cod catch and incidental Pacific cod catches made by trawl catcher vessels are deducted from the BSAI non-CDQ trawl catcher vessel sector allocation.

The impact of this option will depend on the number of catcher/processors that qualify and whether they would operate in the future as they have in the past. Catcher/processors acting as a mothership have either taken deliveries from catcher vessels owned by their company or they take deliveries from catcher vessels with no direct ownership linkage. Until recently the business model was primarily structured around taking deliveries from the catcher vessels that the firm owns to supplement the harvests made in the catcher/processor mode. A firm that entered the fishery since 2015 used a different business model that depends on catcher vessels not owned by the catcher/processor firm. Firms that have in the past relied

more heavily on their own catcher vessels have increasingly used other catcher vessels to deliver Pacific cod. Contracting with catcher vessels a firm does not own allowed firms that did not own catcher vessels or that wanted more deliveries than could be provided by their own catcher vessels to process more Pacific cod as a mothership from the catcher vessel cod sector allocation.

### 2.7.2.1 Catcher/Processors that would Qualify to Act as a BSAI Pacific Cod Mothership

Table 2-31 shows the number of Amendment 80 and AFA catcher/processor vessels that would qualify, would not qualify, and the totals. The totals are based on the number of vessels that were part of the respective programs (AFA and Amendment 80) in 2018. Currently 19 Amendment 80 vessels owned by five companies are participants<sup>36</sup>. Nine of the original 28 vessels in the Amendment 80 program have realized a total loss, no longer have a U.S. fishing endorsement, or do not participate in the fishery. One catcher/processor qualified for both the Amendment 80 and AFA programs. That vessels is a full participant in the Amendment 80 program and as a vessel not listed by name in the AFA. That catcher/processor is allowed to harvest and process up to 0.5% of the pollock allocated to the non-CDQ BSAI pollock directed fishery, based on harvesting 2,000 mt or more pollock in the 1997 directed BSAI pollock fishery. Because that vessel is classified as an Amendment 80 vessel, it is considered to be an Amendment 80 vessels throughout this document. As a result, it must meet the Amendment 80 qualification requirements and not the AFA qualification requirements under Alternative 2.

AFA catcher/processers include 21 vessels that held an AFA catcher/processor permit in 2018, but were not included in the Amendment 80 program. Not all vessels participated in the harvesting of the BS pollock allocation. The 2018 Pollock Conservation Cooperative report<sup>37</sup> indicates that 14 vessel owned by seven firms harvested the cooperative’s pollock allocation in 2018. The owners of the remaining vessels leased their allocation within the cooperative.

A total of eight catcher/processers could qualify to act as a mothership in this fishery in the future. Seven of the catcher/processers that could potentially qualify are classified as Amendment 80 and one is classified as AFA. The qualification would be transferable and associated with the LLP assigned to the vessel in the sector. If only Option 1 is selected either seven, six, or one Amendment 80 catcher/processor would qualify to act as a mothership in that fishery. The remaining vessels could continue to participate in other fisheries as a catcher/processor or mothership, as allowed by the regulations implemented for those fisheries. If Option 2 is also selected, one AFA catcher/processor would also qualify. Any Amendment 80 or AFA catcher/processor that does not qualify or is not assigned the license of a vessel that did qualify, would be prohibited from accepting directed Pacific cod deliveries harvested from the BSAI trawl catcher vessel sector allocation.

The information in Table 2-27 indicates that if the Fishticket targeting definition is used, one additional catcher/processor would qualify under Alternative 2, Option 1, sub-option 3. The Fishticket definition would not change the qualification of any other catcher/processor under Alternative 2.

**Table 2-31 Number of catcher/processers that would qualify to take non-CDQ BSAI trawl Pacific cod deliveries when acting as a mothership under Alternative 2 by Option**

Alternative 2	Amendment 80 C/P			AFA C/P		
	Qualified	Not qualified	Total	Qualified	Not qualified	Total
Option 1: Suboption 1	7	12	19	n/a	n/a	21
Option 1: Suboption 2	6	13	19	n/a	n/a	21
Option 1: Suboption 3	1	18	19	n/a	n/a	21
Option 2	n/a	n/a	n/a	1	20	21

Source: AKFIN summary of NOAA Fisheries CAS data

<sup>36</sup> [https://www.npfmc.org/wp-content/PDFdocuments/catch\\_shares/CoopRpts2018/AKSC.pdf](https://www.npfmc.org/wp-content/PDFdocuments/catch_shares/CoopRpts2018/AKSC.pdf)

<sup>37</sup> [https://www.npfmc.org/wp-content/PDFdocuments/catch\\_shares/CoopRpts2018/PCC\\_HSCC\\_AFA.pdf](https://www.npfmc.org/wp-content/PDFdocuments/catch_shares/CoopRpts2018/PCC_HSCC_AFA.pdf)

Note: The “not qualified” and “total” count of Amendment 80 catcher/processors is based on the number of vessels that were part of the program in 2018.

In addition to the catcher/processors that may qualify to act as a mothership in the future, one catcher/processor took Pacific cod deliveries as a mothership in 2018 for the first time. That vessel is owned by a firm that has participated in the fishery in previous years with another vessel. That firm could continue to use the vessel that qualifies as a mothership in the fishery, but the vessel that acted as a mothership only in 2018 would be prohibited unless the firm transferred the LLP license that qualified to the vessel that entered the fishery in 2018.

As shown in Section 6.3.1 of the SIA, 23 catcher vessels made BSAI non-CDQ directed Pacific cod trawl-caught deliveries to both catcher-processors acting as motherships and other processors from 2008 through 2018. Eleven of the 23 catcher vessels made at least some of their deliveries over this period to catcher/processors that would not qualify under all of the sub-options. These catcher vessels may also be at risk of losing some historic markets. The loss of markets could impact their choices of where to deliver or eliminate ability to participate in the Pacific cod fishery. Their ability to continue participating will depend on the available markets. They may not be able to obtain a desirable market close to the fishing grounds, which could reduce the amount of Pacific cod they are able to deliver or they may realize increased costs associated with longer run times to plants located further from the fishing grounds.

#### **2.7.2.2 Preferred Options for Alternative 2**

The Council selected Alternative 2, Option 1, Suboption 1.3 and Alternative 2, Option 2 as its preferred choices. Qualification is based on having taken at least one targeted delivery, based on the CAS target definition, of Pacific cod in the required number of years during the qualifying period. As stated, above these options will allow one Amendment 80 catcher/processor and one AFA catcher/processor to act as a mothership for catcher vessels participating in the BSAI non-CDQ directed Pacific cod trawl catcher vessel fishery.

The Council selected three sub-options for qualifying criteria during the 2015 to 2017 period to demonstrate the different levels of participation among the seven Amendment 80 catcher processor vessels that had received deliveries of Pacific cod from trawl CVs from 2015 through 2017, the most recent three years of data available at the time the alternatives were developed. Those years also the years also consider the years directly before and after 2016, which was the year that several additional Amendment 80 catcher processor vessels entered the fishery as motherships and resulted in the Council expressing concern about the increased amount of Pacific cod delivered offshore and the corresponding decrease in the amount delivered onshore.

Only one qualification option was selected for the AFA catcher/processors, because after reviewing the discussion papers when this program was being developed it understood that only one AFA catcher/processor has acted as a mothership in the fishery and it participated in all three years from 2015 through 2017. To simplify the analysis, the Council selected a single qualification option, but understood that if it had used the same options considered for the Amendment 80 sector, any of the options would result in the same outcome. The one AFA catcher/processor acting as a mothership from 2015 through 2017 would qualify under all of the sub-options established for the Amendment 80 catcher processors. Including the AFA catcher/processor was done as a risk averse approach applied to a sector that has had very limited recent participation in the fishery, to ensure AFA catcher/processors would not enter as a mothership in the future. While additional vessels entering the fishery may not be economically viable under current conditions, including them in the action ensures they will not enter in the future.

The Council also made a policy decision early when reviewing discussion papers and developing this action (December 2017) to exclude AFA motherships based on information showing that they have not participated as a mothership in the BSAI Pacific cod fishery by taking deliveries from the BSAI cod target fishery from 2008 through 2017 [pp. 20-21 in the December 2017 discussion paper]. Because they had not participated, they were not considered to be a concern in the near term. If any of these three



vessels enter the fishery, their participation could be addressed through future Pacific cod actions that the Council has already placed on its agenda.

All Amendment 80 and AFA catcher/processors will continue to be allowed to take deliveries of Pacific cod harvested as incidental catch in non-Pacific cod target fisheries. Vessels that do not qualify under Alternative 2 can still process Pacific cod in the AI state water fishery. The AI state water fishery is open to trawl vessels and some Amendment 80 catcher/processors have participated as a mothership in the AI state waters fishery in the past. All true motherships and other processors are not directly regulated by this action and will continue to operate under the current regulations.

Qualification of catcher/processors to act as a mothership in the BSAI non-CDQ trawl catcher vessel fishery is based on sustained participation over the years 2003 through 2017. Owners of the two catcher/processors that were active as a mothership in the Pacific cod fishery and met the qualification criteria are given the privilege of assigning an endorsement to one LLP license used on the qualifying vessel during the qualification period for each vessel that qualified. This will result in two BSAI LLP license mothership endorsements being generated for Pacific cod harvested by trawl catcher vessels operating in the non-CDQ fishery. Once assigned to the LLP license, the endorsement is non-severable from the LLP license it is originally assigned. The entire LLP license and all associated endorsements may be assigned to a different vessel or transferred to a different owner as allowed under the LLP license transfer regulations specified at 50 CFR 679.4(k)(7).

The preferred options under Alternative 2 were selected to limit mothership activity by catcher/processor vessels in the directed BSAI non-CDQ Pacific cod trawl catcher vessel fishery. The options were selected based on the Council's thorough analysis and understanding of the impacts of the alternatives and recommendations from its Advisory Panel and public testimony. The Council's preferred options are responsive to the purpose and need statement developed for this action, by limiting the number of catcher/processor vessels would be eligible to act as motherships in the BSAI Pacific cod trawl CV fishery. The Council's purpose and need statement expressed concern regarding "the increased participation by Amendment 80 catcher/processors and their potential to negatively impact the distribution of historical harvest." The problem being addressed by this action is the increased participation when several catcher/processors began operating in the fishery in 2016 on a consistent basis. Prior to 2016 only four catcher/processors acted as a mothership in the BSAI Pacific cod fishery from 2003 through 2015 (Table 2-27). Based on the CAS target definition, one of those catcher/processors acted as a mothership in the BSAI Pacific cod fishery during 1 of those 13 years and the other acted as mothership in the BSAI Pacific cod fishery during 3 of the 13 years. The Council determined that those levels of participation did not rise to its definition of sustained participation. The two catcher/processors that qualified had participated as a mothership in the BSAI Pacific cod fishery during 10 of 13 years and 12 of 13 years.

Since 2016, nine catcher/processors have acted as a mothership in the fishery. Limiting the number of catcher/processors will help address concerns over increased landings of Pacific cod going offshore and the corresponding decrease being landed at shoreside processing facilities. The increase in mothership activity since 2016 was cited as particularly concerning. Table 2-29 shows the increasing trend in offshore landings: in 2016, 12.7% of the BSAI A season cod fishery was delivered to offshore platforms, 17.4% was delivered offshore in 2017, 16.5% in 2018, and 30.5% in 2019. These increases in the proportion of the trawl catcher vessel Pacific cod fishery being delivered offshore are occurring as the overall BSAI TAC is declining, resulting in a faster-paced fishery. From 2003 through 2014 more than 90% of BS non-CDQ Pacific cod was delivered to inshore processors (Table 2-23).

BSAI fishery-dependent communities rely on economic benefits from the processing plants in addition to the state and local taxes that are assessed on landings to those plants. Section 4.4 of the draft SIA analysis shows the high levels of engagement and dependence in the BSAI Pacific cod fisheries for these communities. The substantial increase in offshore deliveries of Pacific cod in recent years has direct and

immediate negative economic impacts on inshore processors and coastal communities. Increased deliveries offshore have resulted in a corresponding decline in the amount of Pacific cod delivered to onshore processing facilities. These Pacific cod deliveries are an important financial component to Bering Sea inshore processing operations and fishery dependent communities in the BSAI. The impacted communities include Dutch Harbor/Unalaska, King Cove, Akutan, Sand Point, St. Paul, Adak, Atka, and the Aleutians East Borough. For shoreside processing operations, Pacific cod is second only to pollock in terms of volume and these high-volume fisheries help ensure a more stable workforce in these remote communities and increase economic activity as was referenced in public testimony. Limiting the ability of catcher/processors to operate as a mothership to only these historical participants is consistent with the objectives of this action to address the recent and rapid increase in deliveries of Pacific cod offshore and the resulting negative impacts to the shoreside processors and fishery-dependent communities, consistent with National Standard 8. Based in information in the RIR and SIA the Council utilized the best available economic and social data available to select alternatives that provide for the sustained participation of fishing communities.

The alternatives and options selected by the Council are consistent with Council's practice of limiting the ability of catch share program participants to increase participation in non-catch share fisheries and disadvantage historical participants in those fisheries. The discussion provided in Section 2.6.14.2 indicates that when Amendment 80 was implemented there was concern expressed by NMFS that the Amendment 80 catcher/processors may increase their operations as a mothership in the future. After that increased effort was realized the Council took this action to curtail it.

Because of the uncertainty surrounding the Amendment 113 set-aside, the Council wanted to limit the number of catcher/processors that could act as a mothership in the AI. If the AI set-aside is not in place for the 2020 A-season, the Council felt it was imperative to limit mothership participation in both the BS and AI to help slow down the fishery. The Council understood that given the size of the BS TAC, the trawl CV sector allocation of 22.1% of the combined BS and AI TACs, and pace of the fishery, it is possible that the trawl catcher vessel sector allocation could be harvested entirely in the BS. This would negatively impact the Adak community and its processor. If that were to occur, it is expected that the majority of the AI TAC would need to be harvested by freezer longline vessels.

Public testimony also indicated that because of the increased effort in the fishery, lower Pacific cod BS Pacific cod TAC, and a strong Pacific cod market, there is an unchecked growth in participation in the CV trawl cod fishery. This growth has occurred both in terms of harvesting and processing effort. For these reasons, the Pacific cod seasons continue to get shorter, increasing the race for fish, which has negatively impacted:

- vessel safety - as the race for fish intensifies,
- fish quality - as cod are delivered in a short period of time and are rushed through the factory to facilitate quick turnaround for the catcher vessels,
- global markets - as large volumes of lower quality cod hit the market all at once resulting in oversaturation, and
- local economies - as more of the trawl catcher vessel allocation is delivered offshore the historical landings that the surrounding shoreside communities have depended on for years continue to erode.

The preferred alternative is similar to a limited entry program. The reduction in processing capacity from removing the motherships that did not have sustained participation will substantially abate the impacts of offshore deliveries on the onshore sector and achieve the conservation and management objectives of the Council.

### **2.7.3 Alternative 3: Limiting the amount of BS Pacific cod delivered to catcher/processors**

Alternative 3 could be selected with Alternative 2 or independently of that alternative. Alternative 2 limits the number of certain classes of catcher/processors that would be allowed to take directed deliveries of BS Pacific cod from the trawl catcher vessel sector allocation in the future. Alternative 3 would establish a sideboard limit on the amount of Pacific cod that could be delivered to Amendment 80 and, if selected under Alternative 2, AFA catcher/processors.

Alternative 3 would limit the amount of the BSAI trawl catcher vessel sector allocation, harvested from the BS, which may be delivered to Amendment 80 catcher/processors qualified under Alternative 2. The sideboard limit could apply to just the directed Pacific cod landings or the directed and incidental Pacific cod landings. NMFS prefers that the sideboard limit includes both the directed and incidental Pacific cod landings, if it is selected<sup>38</sup>, so they would not need to specify an ICA in the harvest specifications for the mothership sector. If a sideboard limit is established, it could be applied as either a soft cap as implemented under the AFA sideboards or a hard cap as implemented under the Amendment 80 program. A soft cap is a limit that is a target amount for a sector not to exceed. Reaching the limit or an amount less than the limit to account for incidental catch later in the year would prohibit further directed Pacific cod deliveries to the selected catcher/processors, but would not prohibit incidental Pacific cod deliveries to catcher/processors acting as a mothership in other fisheries. A hard cap would prohibit all deliveries of Pacific cod to motherships when the sideboard is reached. It would be up to the participants to limit their Pacific cod deliveries to ensure the sideboard limit is not exceeded. These sideboard limits are typically applied under LAPPs and function best when a sector is working in a cooperative fashion. It is anticipated that it will be difficult for a sector to coordinate its Pacific cod deliveries under a race to fish to stay within a hard cap sideboard limit. The advantage of a hard cap is that under the proper conditions and incentives it makes the fleet pay closer attention to those total catch in all targets. The race to harvest the sector allocation of Pacific cod is not considered proper conditions for a hard cap to function as intended or to create the necessary economic incentives.

Catcher/processors that do not qualify to take directed Pacific cod deliveries would still be allowed to take incidental Pacific cod deliveries that would also count against the sideboard limit if a limit is established for the sector. These catcher/processors do not currently participate in many fisheries where they act as a mothership. Yellowfin sole is the main fishery currently and participation in that fishery by catcher vessels that deliver to catcher/processors is already limited under BSAI Amendment 116 (83 FR 49994).

The overall management of the BSAI Pacific cod trawl catcher vessel sector allocation will not change in that any Pacific cod catch by a trawl catcher vessel will accrue against the Pacific cod trawl catcher vessel sector allocation, whether it is delivered in the BS or AI. NMFS will need to monitor the incidental catches of Pacific cod in other fisheries and account for those harvests when prohibiting directed catcher vessel deliveries of Pacific cod to catcher/processors acting as mothership.

Depending on the Amendment 113 BS Pacific cod trawl catcher vessel limitation and AI set-aside that is in place during the A-season, some amount of the AI unrestricted fishery could be delivered to catcher/processors acting as a mothership. Those deliveries would not count against the BS catcher/processor sideboard limit but would be deducted from the overall BSAI Pacific cod trawl catcher vessel sector allocation and the BS Pacific cod remainder apportionment. That could result in the BS fishery closing sooner for the trawl catcher vessel sector since the fishery closes when the BS trawl catcher vessel remainder is harvested.

A sub-option that excludes the catch of BS Pacific cod from the sideboard limit when it is delivered to a catcher/processor that took deliveries as a mothership in seven or more years from 2008 through 2017,

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<sup>38</sup> As stated earlier, management would be simplified if Alternative 2 was sufficiently constraining to forgo the need to establish a sideboard limit under Alternative 3.

was also included in the options. The catch delivered to any exempt vessel would not count towards calculating the sideboard limit. In the future, any catch delivered to the exempt vessels would not accrue against the sideboard limit.

In total, 72 different options and sub-options are considered under Alternative 3. Many of the options would reveal confidential information either on their own or in combination with other options presented. To protect confidential information many of the option's resulting percentages are reported as a "c" to denote the information is considered confidential.

Depending on the option considered, the percentage of the BS portion of the trawl catcher vessel TAC that could be harvested and delivered to the qualified catcher/processors when acting as a mothership range from 0 percent to less than 11%. The largest sideboard is less than 11% if the least restrictive option is selected under Alternative 2 and the sideboard is based on target and incidental catch from both the A and B-seasons during 2016 and 2017. This would not represent the maximum percentage of the BS TAC that the trawl catcher vessel sector could deliver to vessels acting as a mothership if managed as a soft cap and since it excludes any catcher/processors that are not defined as Amendment 80 or AFA and deliveries to any true mothership vessels that never harvest fish. The sideboard limit would be less than half<sup>39</sup> that amount if the sideboard was based on same criteria but used the years 2008 through 2014.

If the sideboard limit were based on the same Alternative 2 option described in the previous paragraph but only used targeted BS Pacific cod catch in the A-season, the range would be from 0 percent to about 6.5 percent. Meaning that incidental catch and any directed B-season catch accounted for about 3.5 percentage points of the total.

Based on previous Council actions, the Council may select any sideboard percentage within the range that is considered in the analysis. As stated above, the options under consideration range from 0% to about 11% of the BS portion of the BSAI non-CDQ trawl catcher vessel sector allocation of Pacific cod. Therefore, instead of selecting a range of years to determine the sideboard percentage, many of which cannot be presented due to confidentiality constraints, the Council could provide rationale to select a specific sideboard percentage that would be implemented in regulation.

Because the limitation is only applied to the Amendment 80 catcher/processor sector under Alternative 2 Option 1 and Amendment 80 and AFA catcher/processors under Alternative 2, Options 1 and 2, the shoreside plants and floating processors that operate in protected bays are not guaranteed a minimum percentage of the BS trawl catcher vessel sector Pacific cod deliveries. Conversely, the limited catcher/processors are not guaranteed the percentage calculated or selected, since the percentage is treated as limit<sup>40</sup> on the amount that can be delivered to the catcher/processors and not an allocation to that sector.

### **2.7.3.1 Alternative 3 Sideboard Limits**

All of the options being considered by the Council are presented in Table 2-32 through Table 2-40. The tables show the sideboard limit percentage and the remainder after the sideboard limit, when confidentiality restrictions allow. The tables also show the number of processors by sector that were active during the period considered.

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<sup>39</sup> The exact percentage cannot be reported under confidentiality rules.

<sup>40</sup> The limit would be managed like sideboard limits are in other fisheries.

**Table 2-32 Percent of BS Pacific cod trawl CV sector A-season or A and B-season allocation that could be delivered to catcher/processors under Alternative 2, Option 1, Sub-option 1**

	Percentage of All BS Pacific cod			Percentage of Target BS Pacific cod			Number of Processors		
	C/Ps Acting as MS	Other Processors	Total	C/Ps Acting as MS	Other Processors	Total	C/Ps Acting as MS	Other Processors	Total
Alternative 3									
	Only Catch Delivered to Qualified C/Ps (Alt 2 Option 1 sub-option 1), A season								
Option 1: 2015-2017	6.85%	93.15%	100.00%	6.05%	93.95%	100.00%	7	11	18
Option 2: 2016-2017	6.91%	93.09%	100.00%	5.73%	94.27%	100.00%	7	10	17
Option 3: 2008-2017	4.02%	95.98%	100.00%	3.28%	96.72%	100.00%	7	14	21
Option 4: 2008-2014	c	c	100.00%	c	c	100.00%	1	11	12
	Only Catch Delivered to Qualified C/Ps (Alt 2 Option 1 sub-option 1), A & B seasons								
Option 1: 2015-2017	9.04%	90.96%	100.00%	6.64%	93.36%	100.00%	7	11	18
Option 2: 2016-2017	9.87%	90.13%	100.00%	6.70%	93.30%	100.00%	7	10	17
Option 3: 2008-2017	5.70%	94.30%	100.00%	4.15%	95.85%	100.00%	7	14	21
Option 4: 2008-2014	c	c	100.00%	c	c	100.00%	1	11	12

Source: AKFIN summary of NOAA Fisheries CAS data

**Table 2-33 Percent of BS Pacific cod trawl CV sector A-season or A and B-season allocation that could be delivered to catcher/processors under Alternative 2, Option 1, Sub-option 2**

	Percentage of All BS Pacific cod			Percentage of Target BS Pacific cod			Number of Processors		
	C/Ps Acting as MS	Other Processors	Total	C/Ps Acting as MS	Other Processors	Total	C/Ps Acting as MS	Other Processors	Total
Alternative 3									
	Only Catch Delivered to Qualified C/Ps (Alt 2 Option 1 sub-option 2), A season								
Option 1: 2015-2017	c	c	100.00%	c	c	100.00%	6	11	18
Option 2: 2016-2017	c	c	100.00%	c	c	100.00%	6	10	17
Option 3: 2008-2017	c	c	100.00%	c	c	100.00%	6	14	21
Option 4: 2008-2014	c	c	100.00%	c	c	100.00%	1	11	12
	Only Catch Delivered to Qualified C/Ps (Alt 2 Option 1 sub-option 2), A & B seasons								
Option 1: 2015-2017	c	c	100.00%	c	c	100.00%	6	11	18
Option 2: 2016-2017	c	c	100.00%	c	c	100.00%	6	10	17
Option 3: 2008-2017	c	c	100.00%	c	c	100.00%	6	14	21
Option 4: 2008-2014	c	c	100.00%	c	c	100.00%	1	11	12

Source: AKFIN summary of NOAA Fisheries CAS data

**Table 2-34 Percent of BS Pacific cod trawl CV sector A-season or A and B-season allocation that could be delivered to catcher/processors under Alternative 2, Option 1, Sub-option 3**

	Percentage of All BS Pacific cod			Percentage of Target BS Pacific cod			Number of Processors		
	C/Ps Acting as MS	Other Processors	Total	C/Ps Acting as MS	Other Processors	Total	C/Ps Acting as MS	Other Processors	Total
Alternative 3									
	Only Catch Delivered to Qualified C/Ps (Alt 2 Option 1 sub-option 3), A season								
Option 1: 2015-2017	c	c	100.00%	c	c	100.00%	1	11	14
Option 2: 2016-2017	c	c	100.00%	c	c	100.00%	1	10	13
Option 3: 2008-2017	c	c	100.00%	c	c	100.00%	1	14	17
Option 4: 2008-2014	c	c	100.00%	c	c	100.00%	1	11	12
	Only Catch Delivered to Qualified C/Ps (Alt 2 Option 1 sub-option 3), A&B seasons								
Option 1: 2015-2017	c	c	100.00%	c	c	100.00%	1	11	14
Option 2: 2016-2017	c	c	100.00%	c	c	100.00%	1	10	13
Option 3: 2008-2017	c	c	100.00%	c	c	100.00%	1	14	17
Option 4: 2008-2014	c	c	100.00%	c	c	100.00%	1	11	12

Source: AKFIN summary of NOAA Fisheries CAS data

Note: Data cannot be reported because two firms own the three vessels

**Table 2-35 Percent of BS Pacific cod trawl CV sector A-season or A and B-season allocation that could be delivered to catcher/processors under Alternative 2, Option 1, Sub-option 1, and Option 2**

	Percentage of All BS Pacific cod			Percentage of Target BS Pacific cod			Number of Processors		
	C/Ps Acting as MS	Other Processors	Total	C/Ps Acting as MS	Other Processors	Total	C/Ps Acting as MS	Other Processors	Total
Alternative 3									
Only Catch Delivered to Qualified C/Ps (Alt 2 Option 1 sub-option 1 & Option 2), A season									
Option 1: 2015-2017	c	c	100.00%	c	c	100.00%	8	11	19
Option 2: 2016-2017	c	c	100.00%	c	c	100.00%	8	10	18
Option 3: 2008-2017	c	c	100.00%	c	c	100.00%	8	14	22
Option 4: 2008-2014	c	c	100.00%	c	c	100.00%	2	11	13
Only Catch Delivered to Qualified C/Ps (Alt 2 Option 1 sub-option 1 & Option 2), A & B seasons									
Option 1: 2015-2017	c	c	100.00%	c	c	100.00%	8	11	19
Option 2: 2016-2017	c	c	100.00%	c	c	100.00%	8	10	18
Option 3: 2008-2017	c	c	100.00%	c	c	100.00%	8	14	22
Option 4: 2008-2014	c	c	100.00%	c	c	100.00%	2	11	13

Source: AKFIN summary of NOAA Fisheries CAS data

**Table 2-36 Percent of BS Pacific cod trawl CV sector A-season or A and B-season allocation that could be delivered to catcher/processors under Alternative 2, Option 1, Sub-option 2, and Option 2**

	Percentage of All BS Pacific cod			Percentage of Target BS Pacific cod			Number of Processors		
	C/Ps Acting as MS	Other Processors	Total	C/Ps Acting as MS	Other Processors	Total	C/Ps Acting as MS	Other Processors	Total
Alternative 3									
Only Catch Delivered to Qualified C/Ps (Alt 2 Option 1 sub-option 2 & Option 2), A season									
Option 1: 2015-2017	c	c	100.00%	c	c	100.00%	7	11	18
Option 2: 2016-2017	c	c	100.00%	c	c	100.00%	7	10	17
Option 3: 2008-2017	c	c	100.00%	c	c	100.00%	7	14	21
Option 4: 2008-2014	c	c	100.00%	c	c	100.00%	2	11	13
Only Catch Delivered to Qualified C/Ps (Alt 2 Option 1 sub-option 2 & Option 2), A&B seasons									
Option 1: 2015-2017	c	c	100.00%	c	c	100.00%	7	11	18
Option 2: 2016-2017	c	c	100.00%	c	c	100.00%	7	10	17
Option 3: 2008-2017	c	c	100.00%	c	c	100.00%	7	14	21
Option 4: 2008-2014	c	c	100.00%	c	c	100.00%	2	11	13

Source: AKFIN summary of NOAA Fisheries CAS data

**Table 2-37 Percent of BS Pacific cod trawl CV sector A-season or A and B-season allocation that could be delivered to catcher/processors under Alternative 2, Option 1, Sub-option 3, and Option 2**

	Percentage of All BS Pacific cod			Percentage of Target BS Pacific cod			Number of Processors		
	C/Ps Acting as MS	Other Processors	Total	C/Ps Acting as MS	Other Processors	Total	C/Ps Acting as MS	Other Processors	Total
Alternative 3									
Only Catch Delivered to Qualified C/Ps (Alt 2 Option 1 sub-option 3 & Option 2), A season									
Option 1: 2015-2017	c	c	100.00%	c	c	100.00%	2	11	15
Option 2: 2016-2017	c	c	100.00%	c	c	100.00%	2	10	14
Option 3: 2008-2017	c	c	100.00%	c	c	100.00%	2	14	18
Option 4: 2008-2014	c	c	100.00%	c	c	100.00%	2	11	13
Only Catch Delivered to Qualified C/Ps (Alt 2 Option 1 sub-option 3 & Option 2), A&B seasons									
Option 1: 2015-2017	c	c	100.00%	c	c	100.00%	2	11	15
Option 2: 2016-2017	c	c	100.00%	c	c	100.00%	2	10	14
Option 3: 2008-2017	c	c	100.00%	c	c	100.00%	2	14	18
Option 4: 2008-2014	c	c	100.00%	c	c	100.00%	2	11	13

Source: AKFIN summary of NOAA Fisheries CAS data

**Table 2-38 Percent of BS Pacific cod trawl CV sector A-season or A and B-season allocation that could be delivered to non-exempt catcher/processors under Alternative 2, Option 1, Sub-option 1**

Alternative 3	Percentage of All BS Pacific cod			Percentage of Target BS Pacific cod			Number of Processors		
	C/Ps Acting as MS	Other Processors	Total	C/Ps Acting as MS	Other Processors	Total	C/Ps Acting as MS	Other Processors	Total
Catch to Qualified C/Ps (Alt 2 Option 1 sub-option 1, Exempt vessels excluded), A season									
Option 1: 2015-2017	c	c	100.00%	c	c	100.00%	6	11	17
Option 2: 2016-2017	c	c	100.00%	c	c	100.00%	6	10	16
Option 3: 2008-2017	c	c	100.00%	c	c	100.00%	6	14	20
Option 4: 2008-2014	0.00%	100.00%	100.00%	0.00%	100.00%	100.00%	0	11	11
Catch to Qualified C/Ps (Alt 2 Option 1 sub-option 1, Exempt vessels excluded), A&B seasons									
Option 1: 2015-2017	c	c	100.00%	c	c	100.00%	6	11	17
Option 2: 2016-2017	c	c	100.00%	c	c	100.00%	6	10	16
Option 3: 2008-2017	c	c	100.00%	c	c	100.00%	6	14	20
Option 4: 2008-2014	0.00%	100.00%	100.00%	0.00%	100.00%	100.00%	0	11	11

Source: AKFIN summary of NOAA Fisheries CAS data

**Table 2-39 Percent of BS Pacific cod trawl CV sector A-season or A and B-season allocation that could be delivered to non-exempt catcher/processors under Alternative 2, Option 1, Sub-option 2**

Alternative 3	Percentage of All BS Pacific cod			Percentage of Target BS Pacific cod			Number of Processors		
	C/Ps Acting as MS	Other Processors	Total	C/Ps Acting as MS	Other Processors	Total	C/Ps Acting as MS	Other Processors	Total
Catch to Qualified C/Ps (Alt 2 Option 1 sub-option 2, Exempt vessels excluded), A season									
Option 1: 2015-2017	c	c	100.00%	c	c	100.00%	5	11	16
Option 2: 2016-2017	c	c	100.00%	c	c	100.00%	5	10	15
Option 3: 2008-2017	c	c	100.00%	c	c	100.00%	5	14	19
Option 4: 2008-2014	0.00%	100.00%	100.00%	0.00%	100.00%	100.00%	0	11	11
Catch to Qualified C/Ps (Alt 2 Option 1 sub-option 2, Exempt vessels excluded), A&B seasons									
Option 1: 2015-2017	c	c	100.00%	c	c	100.00%	5	11	16
Option 2: 2016-2017	c	c	100.00%	c	c	100.00%	5	10	15
Option 3: 2008-2017	c	c	100.00%	c	c	100.00%	5	14	19
Option 4: 2008-2014	0.00%	100.00%	100.00%	0.00%	100.00%	100.00%	0	11	11

Source: AKFIN summary of NOAA Fisheries CAS data

**Table 2-40 Percent of BS Pacific cod trawl CV sector A-season or A and B-season allocation that could be delivered to non-exempt catcher/processors under Alternative 2, Option 1, Sub-option 3**

Alternative 3	Percentage of All BS Pacific cod			Percentage of Target BS Pacific cod			Number of Processors		
	C/Ps Acting as MS	Other Processors	Total	C/Ps Acting as MS	Other Processors	Total	C/Ps Acting as MS	Other Processors	Total
Catch to Qualified C/Ps (Alt 2 Option 1 sub-option 3, Exempt vessels excluded), A season									
Option 1: 2015-2017	0.00%	100.00%	100.00%	0.00%	100.00%	100.00%	0	11	12
Option 2: 2016-2017	0.00%	100.00%	100.00%	0.00%	100.00%	100.00%	0	10	11
Option 3: 2008-2017	0.00%	100.00%	100.00%	0.00%	100.00%	100.00%	0	14	15
Option 4: 2008-2014	0.00%	100.00%	100.00%	0.00%	100.00%	100.00%	0	11	11
Catch to Qualified C/Ps (Alt 2 Option 1 sub-option 3, Exempt vessels excluded), A&B seasons									
Option 1: 2015-2017	0.00%	100.00%	100.00%	0.00%	100.00%	100.00%	0	11	12
Option 2: 2016-2017	0.00%	100.00%	100.00%	0.00%	100.00%	100.00%	0	10	11
Option 3: 2008-2017	0.00%	100.00%	100.00%	0.00%	100.00%	100.00%	0	14	15
Option 4: 2008-2014	0.00%	100.00%	100.00%	0.00%	100.00%	100.00%	0	11	11

Source: AKFIN summary of NOAA Fisheries CAS data

Alternative 3 would be managed by prohibiting directed non-CDQ Pacific cod trawl catcher vessel deliveries of BS Pacific cod to catcher/processors subject to the sideboard when the A-season or A- and B-season catch delivered to those vessels is projected to reach the sideboard limit. The projected Pacific cod catch would include any incidental catch that is anticipated during the season in addition to the directed fishery amount. The limit is not managed as an allocation, but as an amount that should not be exceeded, like a sideboard limit.

Table 2-41 provides information on the average real first wholesale value of all products derived from one metric ton of round Pacific cod by processors operating shoreside versus at-sea. Average value derived from Pacific cod depends on whitefish market conditions, the types of product produced, and the quality of the products. Annual values from 2009 through 2017 were adjusted using the CPI to 2010 dollars so that values could be more directly compared over the years considered. The average real price of all years as well as the standard deviation of the annual values is provided. The conclusion is that the annual first wholesale value<sup>41</sup> is greater some years for shorebased processors and for other years at-sea values are greater. The overall average value is slightly greater for shoreside products (\$1,504/mt) versus at-sea (\$1,480/mt), but the shoreside processor's values also have a larger standard deviation (\$276/mt versus \$261/mt). Therefore, based on this information it is not possible to determine with any confidence that one sector or the other will derive more first wholesale value from a metric ton of Pacific cod. Value derived beyond the first wholesale level are important, but information is unavailable to make comparisons by sector beyond the first wholesale level.

<sup>41</sup> It is important to note that first wholesale value used throughout this document is gross first wholesale value and not net first wholesale value. As a result, the values do not account for the costs associated with the production of the products and do not indicate that a sector has higher net returns from production.



**Table 2-41 Estimated real first wholesale value of Pacific cod products per metric ton of round Pacific cod, 2008 through 2017**

Year	Shoreside	At-sea
2008	\$2,177	\$2,074
2009	\$1,170	\$1,270
2010	\$1,457	\$1,490
2011	\$1,658	\$1,658
2012	\$1,561	\$1,439
2013	\$1,322	\$1,114
2014	\$1,388	\$1,323
2015	\$1,303	\$1,474
2016	\$1,451	\$1,373
2017	\$1,556	\$1,584
Average	\$1,504	\$1,480
Standard Deviation	\$276	\$261

Source: AKFIN summary of COAR and NMFS CAS data

Note: Values are reported in real 2010 dollars adjusted using the CPI

Using the average first wholesale value of a metric ton of round Pacific cod presented in Table 2-41, Table 2-42 projects the change in real gross first wholesale value by sector from a 1 percent change in the trawl catcher vessel BS ITAC after the 5,000 mt set-aside is deducted and assuming there is not ICA removed. The BS sector amounts are based on the calculations provided in Table 2-10. Tables earlier in this section show, to the extent allowed under confidentiality restrictions, the percentage of the trawl catcher vessel sector that could be delivered to certain catcher/processors acting as a mothership. Using that information and the information presented in Table 2-42, it is possible to estimate the change in first wholesale value derived by each sector and change in gross first wholesale value. Assuming that the proposed action would not be in place until the 2020 fishing year, a 1% shift in the BS ITAC available to the trawl CV sector is estimated to change gross first wholesale revenues by less than \$3,000 per year. The same 1% change in the sector's apportionment would result in a change of about \$200,000 in gross first wholesale revenue for each sector. Changes in net benefits to the nation may be most dependent on value derived from post first wholesale value for products that are not shipped outside of the U.S. Impacts at the ex-vessel and first wholesale level appear to be distributional in nature between firms in the catcher/processor sectors limited by the action and shoreside/floating processors as well as the catcher vessels that deliver to them, as opposed to changes in net benefits to the Nation. Total changes in net benefits to the Nation cannot be provided due to data limitations.

**Table 2-42 Estimated real first wholesale value of Pacific cod products that results from moving 1% of the BS portion of the BSAI trawl catcher vessel sector allocation between the at-sea and shoreside processing sectors**

Sector	Year									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	
Trawl CV sector allotment (mt)	22,476	19,312	13,200	13,000	12,800	12,600	12,400	12,200	12,000	
1% of allocation (mt)	224.8	193.1	132.0	130.0	128.0	126.0	124.0	122.0	120.0	
First Wholesale value Shoreside (\$/round mt)	\$1,504	\$1,504	\$1,504	\$1,504	\$1,504	\$1,504	\$1,504	\$1,504	\$1,504	
First Wholesale value at-sea (\$/round mt)	\$1,480	\$1,480	\$1,480	\$1,480	\$1,480	\$1,480	\$1,480	\$1,480	\$1,480	
First wholesale value of 1% of trawl CV BS ITAC shoreside	\$338,039	\$290,452	\$198,528	\$195,520	\$192,512	\$189,504	\$186,496	\$183,488	\$180,480	
First wholesale value of 1% of trawl CV BS ITAC at-sea	\$332,645	\$285,818	\$195,360	\$192,400	\$189,440	\$186,480	\$183,520	\$180,560	\$177,600	
Change in first wholesale value	\$5,394	\$4,635	\$3,168	\$3,120	\$3,072	\$3,024	\$2,976	\$2,928	\$2,880	

Source: AKFIN summary of COAR and NMFS CAS data

Note: Values are reported in real 2010 dollars adjusted using the CPI

### 2.7.3.2 Council Rationale for Not Selecting Alternative 3

The analysis and public testimony received on this issue clearly stated that imposing a sideboard would be increase the complexity of the action and could result in the setting of a sideboard limit that would be confidential. This RIR indicates that the simplest approach to limiting mothership activity in the BSAI Pacific cod trawl CV fishery while meeting the objective of the proposed action is to tightly constrain the number of catcher processors that would qualify under Alternative 2 and not select a sideboard limit under Alternative 3. The RIR also indicates that without a sideboard it is possible for the qualified catcher/processors to increase the amount of Pacific cod they accept from catcher vessels in the directed Pacific cod fishery, but the potential amount of increase is not known with any certainty. This was a concern expressed by the Council and some members of the public. However, because the vessels that would qualify have been operating in a fishery where participations compete for a portion of the sector allocation, there have been incentives in place to operate at capacity while operating as efficiently as possible. These incentives will remain in place under the Council's preferred alternatives, since the qualified catcher/processors will still compete for a share of the fishery with the shorebased and floating processors.

Public testimony by representatives of the vessels that qualify under the Council's preferred options for Alternative 2 indicated that there are constraints on the vessel's ability to accept increases in Pacific cod deliveries. Those constraints include:

- The vessels are unable to add more processing lines because of space limitations on the vessel and projected economic returns on the investment.
- The vessels have limited freezing capacity.
- One vessel operator indicated that the vessel has two live tanks and under current regulations the vessel cannot mix tows for catch accounting and bycatch reasons.
- During the times when harvest rates are highest the catcher/processor can only support two or three catcher vessels, and catcher vessels are unwilling to only sign up to deliver only when fishing is slow and the Pacific cod have not formed the spawning aggregations.
- Increasing deliveries beyond optimal processing levels would result in reductions in product quality which will have a negative impact on the firm's ability to market their product and first wholesale prices.

The Council noted that it will continue to monitor the catcher/processors that qualify to act as a mothership to determine if they are increasing the amount of Pacific cod they accept. Tracking those deliveries will be done through the catch accounting system, but those deliveries will not be made public because of confidentiality restrictions placed on the reporting of deliveries to less than three firms. This means that the Council will need to gauge increases in effort through other means, such as transfers of LLP licenses with the mothership endorsement to vessels that have greater processing capacity, modification to the processing plants on vessels to which the endorsed LLP license is assigned, and the number of catcher vessels that are delivering to the catcher/processor assigned the endorsed LLP license.

Placing a sideboard on the amount of Pacific cod delivered to catcher/processor vessels acting as motherships only applies to the Bering Sea under Alternative 3. The analysis discusses the potential negative impacts of a Bering Sea sideboard on both the Bering Sea and Aleutian Islands trawl catcher vessel fisheries. Depending on the fishery conditions each year, a relatively small sideboard in the Bering Sea could result in increased effort in the Aleutian Islands. Given uncertainty regarding whether the AI set aside will be in place in future years, the Council determined that it was neither necessary nor appropriate to establish a sideboard in the Bering Sea for the two catcher/processor vessels. If the sideboard were constraining it would increase the risk of those vessels increasing effort in the AI which would have negative impacts on the shoreplant(s) in the AI. The impacts in the Bering Sea would be

primarily distributional within the qualified fleet in the Bering Sea. Those impacts would be tempered by only allowing two vessels to qualify in the directed fishery, but they would be more acute if the sideboard was managed to account for both directed and incidental Pacific cod catch, since all Amendment 80 and AFA catcher/processors would be allowed to take incidental Pacific cod catches in the future.

In conclusion, the Council determined that the increased management costs, increased management complexity for the Council and NMFS, limited constraints a sideboard would have on the Bering Sea directed fishery, and the potential for increases in the incidental catch of Pacific cod delivered to catcher/processors that do not qualify outweighed the benefits of implementing a sideboard. As a result the Council determined that tightly limiting the number of catcher/processors that qualify to act as a mothership and not implementing a sideboard was the preferred management approach.

#### **2.7.4 Alternative 4: Limitations on replaced Amendment 80 vessels (Preferred Alternative)**

This alternative was developed to ensure that Amendment 80 vessels that are replaced under BSAI Amendment 97<sup>42</sup> cannot be used to circumvent the intent of Alternative 2 and Alternative 3 that would limit Amendment 80 vessels activity as a mothership in the non-CDQ BSAI Pacific cod trawl catcher vessel fishery. The intent is to clearly indicate that both current and replaced Amendment 80 vessels are subject to the limitations placed on the fleet. If an Amendment 80 vessel that qualifies is replaced, the endorsements to participate and/or restrictions to act as a BSAI Pacific cod mothership for the trawl catcher vessel sector transfers with the Amendment 80 QS permit and LLP license or the combined QS permit/LLP license and does not provide the opportunity for both vessels to be used as a mothership in the fishery.

Alternative 4 expands the limitations beyond those under Alternative 2 and Alternative 3, since it includes all mothership activity in the BSAI and GOA. However, it does reflect the Council's intent to prohibit the expanded use of those vessels once they exit the Amendment 80 program.

Alternative 4 clarifies the intent of the Council and to ensure that a "loophole" is not created that would allow more Amendment 80 or former Amendment 80 vessels to operate in the BSAI Pacific cod trawl catcher vessel sector than intended by the proposed action. Not selecting this action would have allowed a retired Amendment 80 vessel to participate as a mothership in the Pacific cod fishery. Selecting Alternative 4 clearly closes that potential "loophole" in the regulations and meets the Council's intent of only allowing one Amendment 80 catcher/processor and one non-Amendment 80 catcher/processor from acting as a mothership in the BSAI Pacific cod fishery in the future.

As discussed in Section 2.6.4, AFA vessel replacement regulations prohibit replaced AFA vessels from operating as a mothership in the Pacific cod fisheries. Therefore, it is not necessary to include those vessels under this restriction.

#### **2.7.5 Control Date**

The Council establishes a control date of December 31, 2017 for the proposed actions limiting catcher/processor vessels from acting as motherships in the BSAI trawl catcher vessel Pacific cod fishery. This action applies to Alternative 2 and Alternative 3.

A control date is a date that 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.

Selecting a control data 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

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<sup>42</sup> Amendment 97 – Vessel replacement program for Amendment 80 vessels.

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.<sup>43</sup>

Since the Council is considering regulatory changes to the BS Pacific cod trawl catcher vessel fishery, it has selected to set a control date for catcher/processors entering into the BSAI Pacific cod mothership fishery. The control date should be considered as a useful tool to set expectations for future participation and minimize speculative behavior. The National Marine Fisheries Service Procedural Directive 01-119-02 (NMFS, 2016a) 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, prescribe how the control date should be determined, or mandate that a control date be adhered to at final action. Those decisions are left to the Council based on its knowledge of the individual issue and the concerns presented by stakeholders.

## 2.7.6 Comparison of Alternatives Summary

This analysis is structured to meet the requirements of an RIR and SIA. This section contains a summary table of the alternatives considered. The table is intended to identify the factors that are key to the decision in terms of impacts, costs, and benefits.

**Table 2-43 Comparison of Alternatives Table**

Alternative and Option	Impacts/Costs/Benefits	Meets Defined Objectives
Alternative 1 (No Action)	<ul style="list-style-type: none"> <li>• Additional catcher/processors could enter that fishery and more catcher vessels could deliver to those processors.</li> <li>• Deliveries of BS Pacific cod to Amendment 80 catcher/processors acting as a mothership for processing could increase.</li> <li>• More catcher vessels could enter the fishery increasing competition for the available resource between harvesters and the processors their deliveries.</li> </ul>	<ul style="list-style-type: none"> <li>• No, it does not limit the amount of BS Pacific cod harvested with trawl gear being delivered to catcher/processors</li> <li>• It does not limit the number of catcher/processors that can take BSAI Pacific cod deliveries as a mothership</li> <li>• Increased effort contributes to increased pace of the fishery, potentially continuing to shorten the length of the A-season.</li> <li>• Value of the fishery could decline as a result of quickly harvesting the available sector allocation, requiring vessels to wait to offload, and forcing processors to</li> </ul>

<sup>43</sup> [http://sero.nmfs.noaa.gov/sustainable\\_fisheries/more\\_info/documents/pdfs/sero\\_control\\_dates\\_april2013.pdf](http://sero.nmfs.noaa.gov/sustainable_fisheries/more_info/documents/pdfs/sero_control_dates_april2013.pdf)

Alternative and Option	Impacts/Costs/Benefits	Meets Defined Objectives
		<p>quickly process all the fish in a short time.</p> <ul style="list-style-type: none"> <li>• Competing to catch a share of the fishery could reduce a vessel operator’s willingness to implement fishing practices known to reduce bycatch and PSC.</li> <li>• Crowding on the grounds could lead to safety issues.</li> </ul>
Alternative 2	<ul style="list-style-type: none"> <li>• All qualification is based on participation as a mothership in the BSAI Pacific cod trawl fishery from 2015 through 2017 in either 1, 2, or all three years.</li> <li>• Amendment 80 catcher/processors (19 currently active) <ul style="list-style-type: none"> <li>○ Option 1: sub-option 1 (7 catcher/processors qualify) all of the firms that have recently participated in the fishery would have at least one vessel qualify to participate.</li> <li>○ Option 1: sub-option 2 (6 catcher/processors qualify) all of the firms that have recently participated in the fishery would have at least one vessel qualify to participate.</li> <li>○ Option 1: sub-option 3 (1 catcher/processor qualifies) two firms that have participated since 2016 would no longer be eligible to participate as a mothership.</li> </ul> </li> <li>• AFA catcher/processors (21 total) <ul style="list-style-type: none"> <li>○ Option 2 (1 catcher/processor qualifies)</li> </ul> </li> <li>• Four LLP licenses were used by catcher vessels that only delivered to catcher/processors impacted by this action from 2010 through 2017. One of those LLP licenses only delivered to a catcher/processor that would qualify under Option 1 – sub-options 1 or 2. One of those four LLP licenses was transferred to a vessel that delivered to a shoreplant in 2018.</li> </ul>	<ul style="list-style-type: none"> <li>• Option 1, sub-options 1 and 2 would not be effective in limiting increases in the amount of Pacific cod delivered to catcher/processors. Because of declining BS TACs and current levels of effort, about 30.5% of the A-season catch was delivered to catcher/processors acting as a mothership in 2019. This level of processing or greater could continue under either options 1 sub-options 1 or 2.</li> <li>• Selecting Option 1 - suboption 1.3 and Option 2 would most closely reflect sustained participation as a mothership in the BSAI.</li> <li>• Option 2 would allow one AFA catcher/processor to qualify. If that option was not selected additional AFA catcher/processors could enter the fishery in the future.</li> <li>• Would be effective in limiting the number of Amendment 80 catcher/processors and or AFA catcher/processors that can act as a mothership in the BSAI Pacific cod fishery.</li> <li>• True mothership and other at-sea processors would not be restricted.</li> </ul>
Alternative 3	<ul style="list-style-type: none"> <li>• 72 different options are considered that would limit the percentage (ranging from 0% to approximately 11% of the trawl catcher vessel</li> </ul>	<ul style="list-style-type: none"> <li>• Setting a sideboard limit would be effective in protecting BS shoreside processors from</li> </ul>

Alternative and Option	Impacts/Costs/Benefits	Meets Defined Objectives
	<p>sector allocation) of BS Pacific cod that may delivered to catcher/processors acting as a mothership. The amount is treated as a sideboard limit. The Council could select any percentage in that range.</p> <ul style="list-style-type: none"> <li>• Depending on the number of catcher/processors that qualify under Alternative 2 and the percentage limit selected, competition within and between members of the catcher/processor sectors could increase to process the available BS sideboard.</li> <li>• Long-term participants could lose some of their historical percentage of the fishery if the sideboard limit is based on years when the more recent participants had little or no history. Exempting the Amendment 80 catcher/processor that qualifies under Alternative 2 - option 1 sub-option 3 and/or Option 2 (AFA) would result in those vessels being able to operate as they have in the past. Other catcher/processors owned by the firm would be subject to the sideboard limit, if one was imposed.</li> <li>• It is anticipated that at least one week of processing effort would need to be available to open the sideboarded fishery. If the BS sideboard limit is too small to open or the fishery will close very quickly it could increase effort in the unrestricted AI fishery. Increased effort in the AI unrestricted fishery could result in the BS A-season fishery closing sooner and less fish being available for delivery to AI processors from the unrestricted fishery.</li> </ul>	<p>increases in deliveries of directed BS Pacific cod to catcher/processors limited under Alternative 2.</p> <ul style="list-style-type: none"> <li>• Shorebased processors would not be protected from increases in the Pacific cod deliveries as an ICA or from other classes of offshore processors taking directed deliveries of Pacific cod.</li> <li>• Changing the amount of deliveries between catcher/processors acting as a mothership and other processors does not appear to significantly change the value derived from the fishery at the first wholesale level.</li> <li>• Impact that result from this action are primarily distributional between the sectors.</li> <li>• To the extent information is available, changes in net benefits to the Nation are negligible at the first wholesale level. If net benefits to the Nation change between the alternatives, the impacts are likely to occur beyond the first wholesale level and sufficient data are not available to generate those estimates.</li> <li>• The action would have distributional impacts on participants in the various sectors.</li> </ul>
Alternative 4	<ul style="list-style-type: none"> <li>• Prevents retired Amendment 80 catcher/processors from entering the fishery as mothership. Also prevents these vessels from acting as a mothership in the GOA or other BSAI fisheries, closing a potential loophole.</li> <li>• Could prevent additional effort from entering the processing sector.</li> </ul>	<ul style="list-style-type: none"> <li>• Is effective in limiting participation by any vessels that have been considered Amendment 80 vessels in the past.</li> <li>• Retired AFA catcher/processor are already prohibited from acting as a mothership in the Pacific cod fisheries, so additional regulation to limit their participation would be redundant.</li> </ul>

## **2.8 Analysis of Impacts by Sector**

### **2.8.1 Catcher/Processors**

Trawl catcher/processors that are defined as non-Amendment 80 (AFA) or Amendment 80 could be limited by Alternative 2. Catcher/processors subject to Alternative 2 options could be limited by Alternative 3 and Alternative 4. Catcher/processors are not directly impacted by the action when they are operating as a catcher/processor.

There are six BSAI trawl LLP licenses with a catcher/processor endorsement that are not defined in the LLP license files as AFA derived or Amendment 80. These licenses are all owned by Amendment 80 or AFA companies. None of the vessels associated with the LLP licenses would qualify for a BSAI Pacific cod mothership endorsement under Alternative 2.

The Council established a control date of December 31, 2017 for catcher/processors acting as a mothership in the BSAI non-CDQ Pacific cod trawl fishery as part of the proposed action. One Amendment 80 catcher/processor first took deliveries as a mothership in 2018. Control dates do not bind future Council actions but are intended to signal strong Council intent to consider only catch and processing history through the end of 2017. The most recent available catch and processing data are presented in this paper as required for decision documents. While the Council is required to consider the most recent information available, it is not required include participation after its control date as part of its preferred alternative to limit catcher/processors mothership activity.

#### **2.8.1.1 AFA**

AFA catcher/processors could be directly impacted by Alternative 2 and Alternative 3. Only one AFA catcher/processor could qualify to take deliveries of BSAI Pacific cod from the directed Pacific cod fishery as a mothership under Alternative 2. It would qualify under any of the options considered under Alternative 2, Option 2. Option 2 does not directly impact the AFA catcher/processor because they could take directed Pacific cod deliveries if Option 2 is selected or not. All other AFA catcher/processors would continue to accept deliveries of Pacific cod from catcher vessels that were taken incidentally to non-Pacific cod directed fishery harvests, as they have in the recent past. The three AFA catcher/processors with catch history in the Pacific cod directed fishery (see Table 2-16) would be allowed to continue participating in the directed BSAI Pacific cod fishery when acting as a catcher/processor, and they would be limited to harvesting and processing up to the AFA Pacific cod catcher/processor sector allocation (2.3% of the non-CDQ BSAI Pacific cod TAC).

The one AFA catcher/processor that could qualify to act as a BSAI Pacific cod mothership could be subject to sideboard limitations established under Alternative 3. If the suboption to exempt participants with sustained participation from the mothership sideboard limits is selected, the AFA catcher/processor would be exempt from Alternative 3 sideboard limits. To the extent Amendment 80 catcher/processors are limited by this action, it could either benefit the one AFA catcher/processor firm, through reduced competition for offshore deliveries of the BS Pacific cod fishery or negatively impact the one AFA catcher/processor firm in the AI Pacific cod fishery through increased competition. The competition between sectors would be greatest if more encompassing qualification criteria is selected under Alternative 2, the sideboard limit amounts are relatively small, and are applied to all catcher/processors.

AFA catcher/processors could be impacted by the actions of Amendment 80 catcher/processors. If certain members of the Amendment 80 sector are prohibited from accepting directed Pacific cod deliveries because of small BS sideboard limits, it could have two impacts depending on the decisions made by the Amendment 80 sector participants. One outcome is it could allow a slightly longer fishery opening in the BS during the A-season or A- and B-seasons, if the restricted Amendment 80 catcher/processors do not increase effort in the AI. If the season is extended, more deliveries could potentially be taken by the AFA catcher/processor in the BS. However, if some Amendment 80 catcher/processors are prohibited from acting as a mothership in the BS Pacific cod fishery due to small sideboard limits, their mothershipping

effort could be displaced into the AI. Any catch in the AI would be deducted from the overall BSAI sector allocation. The result could be that the AI Pacific cod unrestricted fishery is harvested more quickly and less Pacific cod would be available to the AFA firm that has a longer tradition of taking catcher vessel deliveries in the AI Pacific cod fishery. In addition, because the catch associated with mothership deliveries is also deducted from the overall non-CDQ trawl catcher vessel sector allocation, it could result in the BS fishery closing sooner even though the increased effort is in the AI, which could impact the AFA catcher/processor as well as other sectors that rely on the A-season BS trawl CV allocation.

### 2.8.1.2 Amendment 80

The Amendment 80 sector could realize the greatest negative impacts from this action. Both Alternative 2, Alternative 3, and Alternative 4 directly impact the Amendment 80 catcher/processors. These options will determine future levels of participation in the BS and AI Pacific cod fishery and the percentage of the BS portion of the BSAI Pacific cod sector allotment that can be processed by the qualified catcher/processors.

Alternative 2 could prohibit as many as seven Amendment 80 catcher/processors that have taken BS Pacific cod deliveries as a mothership since 2008 from participating in the directed BS Pacific cod fishery as a mothership in the future. It would also prevent any vessels or firms that had anticipated entering the fishery in the future from taking BS non-CDQ Pacific deliveries from trawl catcher vessels. Because the Alternative 3 delivery limitation is specific to the BS, firms are likely to consider fishing opportunities in the AI. Since some Amendment 80 firms hold Amendment 80 quota that may be fished in the AI, it may be possible for them to time those harvests around when the AI Pacific cod aggregations occur. For example, if a firm holds a sufficient amount of Atka mackerel quota for the AI, they could move a vessel to the AI when Pacific cod are expected to aggregate. If Pacific cod are not aggregated, the vessel could spend time fishing Atka mackerel, as opposed to being idle. Table 2-44 indicates that at least two and possibly three of the Amendment 80 firms hold a sufficient amount of Atka mackerel to fish in the AI around the Pacific cod A-season.

**Table 2-44 Percent of Amendment 80 QS held by QS holder's address as of October 31, 2018**

Am 80 Firm	Atka Mackerel	Flathead Sole	Pacific Cod	Pacific Ocean Perch	Rock Sole	Yellowfin Sole
1	32.9%	28.5%	21.4%	28.4%	26.5%	32.6%
2	10.5%	9.7%	16.1%	14.3%	13.1%	9.4%
3	0.3%	26.2%	20.7%	0.0%	20.5%	17.5%
4	53.9%	10.4%	17.4%	56.8%	14.6%	24.8%
5	2.3%	14.9%	21.1%	0.4%	20.8%	12.3%
6	0.0%	10.2%	3.2%	0.0%	4.4%	3.4%

Source: [https://alaskafisheries.noaa.gov/sites/default/files/reports/18A80\\_Owner\\_List.csv](https://alaskafisheries.noaa.gov/sites/default/files/reports/18A80_Owner_List.csv)

Table 2-45 shows that some harvests of Atka mackerel do coincided with the A-season AI Pacific cod fishery, which generally occurs February through March. Whether the firms utilize that strategy will depend on the size of the AI Pacific cod unrestricted fishery, whether the BS Pacific cod A-season trawl CV fishery is open for directed fishing, and other opportunities available in the BS, AI, or GOA. However, the availability of other fishing opportunities while waiting for the Pacific cod fishery to be viable reduces the risk to firms when moving vessels from the BS to the AI. Firms would still likely begin fishing in the BS, if it is available, because of the AI Pacific cod fishery has traditionally started later in the A-season than the BS. This is primarily due to biological conditions related to when Pacific aggregate, as well as economic factors associated with moving areas and alternative fishing opportunities for some firms.



**Table 2-45 AI Atka mackerel catch by week and AI sub-area, during 2017**

Week Ending Date	Eastern	Central	Western	Total
2/18/2017	774			774
2/25/2017	1,012			1,012
3/4/2017		1,631	189	1,820
3/11/2017		552	1,402	1,954
3/18/2017	704			704
3/25/2017	1,280		425	1,705
4/1/2017	1,060			1,060
4/8/2017	1,846			1,846
4/15/2017	800			800
4/22/2017	1,140			1,140
4/29/2017	1,228			1,228
5/6/2017	512			512
5/13/2017	150			150
6/10/2017	240			240
6/17/2017	719	519		1,238
6/24/2017		1,610		1,610
7/1/2017		1,311		1,311
7/8/2017		702	95	797
7/15/2017	40		599	639
7/22/2017		275	1,336	1,611
7/29/2017		546		546
8/5/2017		1,198		1,198
8/12/2017		991	389	1,380
8/19/2017			513	513
8/26/2017		549	423	972
9/2/2017		400	424	824
9/9/2017	788	272		1,060
9/16/2017	1,005			1,005
9/23/2017	1,941			1,941
9/30/2017	1,792			1,792
10/7/2017	1,730			1,730
10/14/2017	3,297			3,297
10/21/2017	1,825			1,825
10/28/2017	2,376			2,376
11/4/2017	639			639
11/11/2017	685			685
<b>Total</b>	<b>27,583</b>	<b>10,556</b>	<b>5,795</b>	<b>43,934</b>

Source: [https://alaskafisheries.noaa.gov/sites/default/files/reports/car200\\_bsai\\_weekly\\_catch2017.csv](https://alaskafisheries.noaa.gov/sites/default/files/reports/car200_bsai_weekly_catch2017.csv)

Alternative 3 would limit the percentage of the BS portion of the non-CDQ trawl catcher vessel sector allocation that could be delivered to Amendment 80 catcher/processors acting as a mothership in BS. The percentage is based on the BS, even though the sector allocation is managed at the BSAI level. The limit applies only to the BS catch delivered to catcher/processors acting as a mothership, so to the extent allowed - catcher/processors could receive more of the BSAI trawl CV sector allocation by operating in the AI.

Table 2-46 presents the percentage of first wholesale revenue derived from BS and AI Pacific cod delivered by catcher vessels to catcher/processors relative to all groundfish. The information is presented to show that over the longer time period relatively more of the revenue was generated from the AI fishery than the BS. Using more recent years the percentage is slightly larger in the BS. This information indicates that the longer-term participants in the fishery were more reliant on the AI fishery, especially in years the Adak plant was not operational, relative to the more recent structure of the fishery.

**Table 2-46 Percent of real first wholesale value generated by catcher/processors that operated in the mothership sector of products produced from GOA and BSAI catch and catcher vessel Pacific cod deliveries**

	Mothership Pacific cod		Groundfish		Total
	BS	AI	GOA Groundfish	BSAI Groundfish	
2009 through 2017	1.8%	3.1%	9.0%	91.0%	100.0%
2016 through 2017	2.7%	2.6%	9.0%	91.0%	100.0%

Source: AKFIN summary of production and value data

Considering the impacts of this proposed trawl catcher vessel Pacific cod mothership action on the AI Pacific cod fishery, some amount of trawl catcher vessel fishing effort and offshore processing effort could shift to the AI Pacific cod fishery. Under the least restrictive Alternative 2 (Suboption 1 - 7 qualified Amendment 80 catcher/processors) combined with the most restrictive Alternative 3 (Option 4), there would likely be a shift in offshore processing and trawl catcher vessel fishing effort from the BS A-season trawl catcher vessel fishery to the AI Pacific cod unrestricted fishery due to insufficient sideboard limits in the BS. In contrast, under the least restrictive Alternative 2 combined with the least restrictive Alternative 3 (Alternative 2 Suboption 1.1 combined with Alternative 3/Option 3/Sub-option 1), there would likely be less incentive for the seven qualified Amendment 80 catcher/processors acting as mothership to increase their effort in the AI Pacific cod unrestricted fishery. These vessels would likely still have opportunity to participate in the BS trawl catcher vessel fishery and the sideboard limit for these qualified catcher/processors in the BS trawl catcher vessel fishery would be equivalent to their combined catch history in more recent years. Although the sideboard percentage would be substantially less than the percentage of the BSAI sector allocation they processed in 2018 or 2019, in part due to declining ABC in the BS.

Catcher/processors that have a relatively long history operating as a Pacific cod mothership have shifted more of their effort from the AI to the BS since the Adak plant has been operating. Because of the timing of the BS and AI fisheries, vessels typically begin the year fishing in the BS and move the AI later if there are economic incentives to do so. This is only expected to occur under the proposed Alternative 3 options if the catcher/processors that qualify to act as a mothership under Alternative 2 have a sideboard limit that allows deliveries of BS directed Pacific cod and provides a sufficient opportunity to make up any AI losses in the BS. However, since these vessels also have substantial histories acting as a mothership in the BS Pacific cod fishery, they are not anticipated to substantially increase their participation in the BS relative to recent years. These catcher/processors have generally relied on deliveries from catcher vessels they own until recently. Substantial increases in their processing of BS Pacific cod as a mothership are limited by their overall capacity in the current short fishing seasons, so substantial increase in the amount of Pacific cod harvested are not anticipated relative to what occurred in 2019. However, that is still an approximate 25 percentage point increase in the BSAI trawl CV sector allocation delivered to motherships relative to the status quo.

If moving effort into the AI does increase catch rates of catcher vessels delivering non-CDQ BSAI Pacific cod to motherships, it would result in the trawl catcher vessel sector being closed earlier in both the BS and AI. Under Amendment 113, any Pacific cod catch by trawl catcher vessels in the non-CDQ fishery from the AI or BS is deducted from the AI unrestricted fishery and the BS A-season remainder fishery. The BS A-season remainder is the amount left over after the AI set-aside is deducted from the BSAI trawl catcher vessel sector allocation. Once the A-season remainder is taken, the BS A-season fishery is closed and the AI unrestricted fishery is still open (if it has not been harvested) but closed to fishing by trawl catcher vessels. They are limited to delivering to an AI shoreplant until the 5,000 mt set-aside is taken or the set-aside restriction is lifted.

Absent an AI Pacific cod set-aside fishery for the year, there is a greater potential for catcher/processors to increase their effort in the AI Pacific cod fishery if they were not allowed to fishing the BS because of

restrictive sideboard limits. If vessels had a sufficient sideboard amount they would like take as much of the trawl catcher vessel sector allocation as possible in the BS.

The impact of setting sideboard limits under Alternative 3 will have differing effects within the Amendment 80 sector. Catcher/processors that have contributed a relatively large amount of history to the sideboard limit could be placed at a disadvantage relative to qualified Amendment 80 vessels that contributed smaller amounts to the limit. For example, two catcher/processors have a relatively long and stable history in the fishery. Vessels that entered the fishery more recently may have similar histories as a mothership in recent years, but they have not contributed to the sideboard limit every year during the qualifying period. Once the sideboard limit is in place, if all vessels try to maintain their current weekly processing rates, the long-term participants will generate less benefit from the sideboard than they contributed, and the newer entrants will get more benefit than they contributed. This outcome is more likely to occur if the Alternative 2 – Suboptions 1 or 2 are selected relative to suboption 3. A method of addressing this issue would be to exempt the long-term participants from the sideboard limit and establish the sideboard limit based on the history of the vessels subject to the sideboard. Selecting Alternative 3, Suboptions 1 or 2 would achieve this outcome. Selecting a sideboard amount under Alternative 3 that uses a more recent time period would give these vessel owners a larger sideboard that is closer to their recent participation, but that does not meet the goals and objectives of the problem statement. Selecting a sideboard qualification period using a longer history would increase the number of years with no participation and reduce the sideboard average percentage relative to the total BS catch of the trawl catcher vessel sector. If the sideboard is too small (less than one week's effort by the qualified vessels) the fishery would unlikely open to directed fishing. Long-term participants (one Amendment 80 vessel) that is exempt from the sideboard limits would be allowed to participate as they had in the past without restrictions on the amount of Pacific cod they may accept from catcher vessels fishing in the BS.

Implementation of small sideboard limits could have impacts on the Amendment 80 catcher/processors as a direct result of management actions that may be necessary to limit mothership activity. NMFS In-season Management would prefer no sideboard limit, but to manage a sideboarded fishery they would require directed Pacific cod deliveries for at least one week. That is the amount of time needed to determine the amount of processing that is occurring and to provide time to close the sector to catcher vessel deliveries before the sideboard limit is exceeded.

CAS data indicate that the weeks with the most mothership deliveries of Pacific cod in 2016, 2017, and 2018 averaged about 1,600 mt. The one week maximum during those years was about 2,800 mt. The data presented in Section 2.6.6 indicates that a 1% change in the BS portion of the trawl catcher vessel sector A-season allocation may range from about 120 mt to 132 mt, after the 5,000 mt deduction, depending on the GHJ amounts and the Pacific cod ABC. Meaning that the allowing all 8 catcher/processors to qualify under Alternative 2 would require a sideboard amount of about 13 percent of the BS contribution to the BSAI trawl catcher vessel sector allocation. This is larger than any of the sideboard limits considered and indicates that the under these assumptions the BS sideboard fishery may not open to directed fishing.

Because the proposed sideboard limits under Alternative 3 would not prohibit incidental catches of Pacific cod to catcher/processors when they are acting as a mothership when they are within the MRAs, there is the potential for increased landings of incidental catches of Pacific cod to catcher/processors. The current regulations allow for an amount of Pacific cod equal to 20% of the basis species to be landed. This issue was discussed in Section 2.6.11, and while there is the potential for substantial increases in incidental catches of Pacific cod, this action does not include any alternatives to limit that behavior. Given the structure of the fishery, there exists uncertainty whether catcher vessels will actually try to increase the incidental deliveries of Pacific cod. This issue is worth noting and considering, but it is not possible to determine with the information currently available whether this will be a problem in the future. If it rises to that level it could be addressed, perhaps through the development of future Amendments being considered by the Council.

Replaced Amendment 80 vessels would be prohibited from acting as a mothership in the BSAI or GOA fisheries. To date there is no indication this has occurred but including this option would close a potential loophole in the regulations. Imposing this restriction could reduce the value of these vessels since it limits their current suite of opportunities to participate in BSAI and GOA fisheries. However, the intent of the vessel replacement provision was to allow older less efficient vessels to be replaced by more efficient platforms. The intent of the regulations was not to provide new opportunities for the replaced vessel in fisheries that are already fully utilized.

### **2.8.2 Catcher Vessels**

Under the no action alternative, there would be no limitations on the catcher/processor markets that catcher vessels can deliver to when fishing Pacific cod from the BSAI trawl catcher vessel allocation in the BS. Catcher vessels would also not be limited in the amount of Pacific cod from the available directed BS Pacific cod trawl catcher vessel fishery that they can delivery to catcher/processors.

Catcher vessel operators would continue to determine whether it was in the firm's best interest to fish for Pacific cod and deliver to the market that offered the greatest benefits in terms of compensation and delivery options. Some vessels that are assigned an LLP license with a BS or AI trawl endorsement will determine that it is most economically efficient not to participate in the BSAI directed Pacific cod fishery, because the directed BS Pacific cod has higher opportunity costs than other uses of the vessel. For example, some vessels fishing in AFA cooperatives may determine that it is economically efficient for their firm to lease their portion of Pacific cod sideboard limit to other cooperative members rather than fish it them self. These vessels may generate more benefits from harvesting pollock in their AFA cooperative than harvesting both pollock and Pacific cod. Other vessels may focus on GOA or West coast fisheries.

The number of LLP licenses and vessels that will be used to participate in the BSAI trawl catcher vessel Pacific cod fishery under the No Action alternative is unknown but is limited by the total number of trawl-endorsed LLP licenses issued for the BSAI, which is 174 (Table 2-11). Historical levels of participation indicate the actual number is slightly more than one-third of the theoretical maximum. Some of those licenses are further constrained by sideboard limits placed on AFA and Amendment 80 vessels and associated LLP licenses. LLP licenses that are not constrained by other regulations that limit their participation in the non-CDQ BSAI Pacific cod catcher vessel sector, will enter the fishery based on future market conditions, the size of Pacific cod TACs, opportunities to participate in other fisheries, the regulatory environment (both current and anticipated), relative ex-vessel prices paid by different markets, and operating costs in the fisheries. Consequently, this analysis does not provide a quantitative estimate of the potential economic impacts of the no action alternative.

Limiting the mothership markets available to catcher vessels could negatively impact the ex-vessel price some catcher vessels receive and impact the profitability of the vessel and firm. Information on ex-vessel prices of Pacific cod delivered to catcher/processors acting as a mothership are not presented in this paper for two reasons. The first is that some firms take deliveries from a catcher vessel or catcher vessels owned by their firm. Since the sale of the fish is not an arm's length transaction, it may not represent a true open market price. The second reason is there are too few catcher/processor firms that rely on directed deliveries of catcher vessel Pacific cod from catcher vessels that are not affiliated with their firm to report price data and still maintain confidential information. Aggregating ex-vessel prices across sectors would not provide in the distinctions that are needed for this analysis. To the extent price difference are offered by participants in different sectors, limiting those markets under Alternatives 2 and 6 or Alternative 3, could negatively impact some catcher vessels.

There may also be costs differences realized by catcher vessels that deliver inshore and to a mothership. Catcher vessels delivering to a mothership that is located close to the fishing grounds will experience lower fuel costs if they do not need to transport catch to the port where their processing partner is located and then return to the grounds to fish. They may also realize lower observer costs since observers are not

required to be on catcher vessels that deliver unsorted codends to a mothership. Some catcher vessels may be better equipped to deliver to at-sea markets for a variety of reasons including but not limited to the vessel's hold capacity or their ability to maintain a high-quality product until it is offloaded (lack of refrigerated sea water (RSW) tanks).

The differences in costs and prices presented or described in this paper represent a limited, and often qualitative view of expected changes in the overall net revenue calculation (profitability) of the firms. Definitive statements on overall net revenue of the catcher vessels in the various sectors are not provided because they would be speculative given the available information. However, if it is assumed that catcher vessel operators are making business decisions that maximize net revenue then an action alternative eliminating that option would result in the catcher vessel operator selecting an available fishing strategy with the next lowest opportunity cost. Because the option may have a greater opportunity cost than was available before, the profitability of the firm would be reduced relative to the status quo. Vessels that are delivering to a market not restricted by this action could benefit, if they are able to increase the amount of Pacific cod they harvest relative to the status quo and maintain similar contracts with their processor.

Increases in Pacific cod prices in recent years, limited opportunities to fish Pacific cod in the GOA, and the possibility of future rationalization of the BSAI Pacific cod fishery has the potential to attract re-entry of latent effort into the fisheries. The continued entry of these latent licenses will depend on future market conditions, conditions in the fisheries, the future regulatory environment, and opportunities to participate in other fisheries.

The proposed action is not likely to result in any immediate reduction of effort. Therefore, the short-term effects on efficiency should be negligible. In the longer term, the proposed action has the potential to prevent increases in effort by catcher vessels delivering to catcher/processors in the fishery that is already experiencing crowded fishing grounds. The most LLP licenses used to fish in the BSAI trawl catcher vessel sector in a given year between 2009 and 2018 was 66 in 2018. The actual number of vessels that will participate in the fishery in the future and therefore, the economic effects of the proposed action cannot be precisely quantified. Especially since the LLP licenses are transferable to vessels other than the ones used to qualify as long as they are within the required MLOA designated on the LLP license. New vessels entering the fishery tend to be more efficient and have greater harvesting power than vessels they replace. Nothing this action would limit upgrading the fleet to more efficient and more powerful harvesters.

Shorter fishing seasons and declining Pacific cod ABC in the BS will create incentives to abandon fishing practices that have reduced bycatch and PSC. For example, higher halibut PSC rates are often realized when fishing at night. Pressures to catch a share of the sector allocation creates incentives to fish during the night in compressed seasons. This was a concern during the 2019 A-season and could continue into the foreseeable future. Prohibited species catch limits for halibut were analyzed in the EA/RIR/IRFA for Amendment 111 to the Fishery Management Plan for Groundfish of the Bering Sea/Aleutian Islands Management Area to Revise the Bering Sea/Aleutian Islands Halibut Prohibited Species Catch Limits (NMFS 2016b). The proposed action limiting CPs operating as motherships in the BSAI directed non-CDQ Pacific cod trawl fishery analyzed in this RIR will not affect halibut PSC limits, but could reduce halibut PSC in this fishery if the fishing season was less compressed. However, such savings are not guaranteed under any of the alternatives, nor are they predictable due to the suite of variables that can affect halibut PSC in this fishery. Variables affecting the halibut PSC in this fishery include, but are not limited to, fleet behavior, fishery management decisions, and inter-annual variability of environmental conditions and biological factors. There is no expectation of any effects on halibut, since PSC limits for this fishery are established for each year, and the fishery would be closed if that limit is reached before the Pacific cod allocation is reached.

Safety issues associated with compressed seasons and crowding of “cod alley” could be exacerbated as more vessels enter the fishery. Public testimony has indicated that crowding may already be occurring on the Pacific cod fishing grounds in the BS. That testimony indicated that vessels are required to queue up to begin fishing. Additional effort in the fishery could increase the queue times and perhaps increase the risks vessel operators are willing to take to establish their place in the queue and make the tow.

### 2.8.3 Shorebased and Floating Processors

Other than the catcher/processors limited by this action, the shorebased processors and stationary floating processors are likely to realize the greatest impacts from Alternative 2, Alternative 3, and Alternative 4. Those actions limit the number of catcher/processors that may take deliveries from catcher vessel harvesting BSAI Pacific cod from the non-CDQ trawl catcher vessel allocation. Because all catch taken from that sector allocation is deducted from the total amount of Pacific cod available to trawl catcher vessels in the BSAI, any Pacific cod that is delivered to catcher/processors acting as a mothership is not available for delivery to shorebased and floating processors.

Continuation of the No Action alternative would leave the shorebased and floating processor more susceptible to declines in the percentage of the portion of the non-CDQ trawl catcher vessel sector allocation of Pacific cod they receive. As shown in Table 2-47 the percentage of the A-season non-CDQ BSAI trawl catcher vessel sector allocation delivered to these processors was approximately 82.3% and the average over the entire time period was 94.8%. Earlier years cannot be presented due to confidentiality restrictions as it relates to the number of catcher/processors acting as a mothership those years. However, as may be inferred the percentage delivered to the shoreside and floating processors were generally greater during the earlier years.

**Table 2-47 Percentage of A-season BS Pacific cod delivered to sector by year from all target fisheries, 2015 through 2018**

Year	Shoreside and Floating Processors		C/Ps as MS	
	Percentage	Plants	Percentage	Vessels
2015	92.68%	12	7.32%	4
2016	98.62%	14	1.38%	5
2017	90.79%	12	9.21%	7
2018	82.29%	13	17.71%	8
<b>Total</b>	<b>94.78%</b>	<b>16</b>	<b>5.22%</b>	<b>8</b>

The decreases in the sector’s percentage of Pacific cod delivered to these processors will impact the shoreside and floating processors in various ways. The first wholesale gross revenue of the firm would be expected to decrease. The market share controlled by the firm would decrease. The hours they can offer their workers would decrease. Finally, the amount of raw fish taxes and other local taxes the communities pay would decline. To some extent the decline in raw fish taxes would be offset by the raw fish taxes paid by the catcher/processors acting as a mothership. The issue of taxes is described in greater detail in Section 6.3.2 of the SIA.

Alternative 2 would limit the number of catcher/processors that could act as a mothership in the non-CDQ BS Pacific cod trawl fishery. Selecting the most restrictive options (Alternative 2, option 3) would limit the number of catcher/processors to two. One AFA and one Amendment 80 vessel. These vessels have a long history in the fishery and have generally utilized catcher vessels owned by their firm to deliver Pacific cod to the catcher/processor. These two vessels have participated in both the BS and AI Pacific cod fisheries as a mothership. Effort in the AI has traditionally been greater in years that the AI shoreplant did not operate and the A-season was longer. When that plant is operational and no sideboard limit is in place, it is anticipated that the catcher/processors would operate more fully in the BS and compete with the BS shoreplants for a share of the BS remainder fishery.

Alternative 3 could provide the greatest protection to the shorebased and floating processors, since it would set a limit on the percentage of the BSAI non-CDQ trawl catcher vessel sector allocation that could be delivered to catcher/processors taking deliveries of Pacific cod harvested from the BS. That limit ranges from 0% (if the two long-term catcher/processor participants in the fishery is exempted) to about 11% if the most liberal qualification criteria are imposed. That limit would provide a guideline for NMFS to manage and determine when the directed BS Pacific cod deliveries to catcher/processors and their replacements would be closed. The limit does not restrict incidental catches of Pacific cod from other fisheries. Potential increases in incidental Pacific cod deliveries by catcher vessel outside of the pollock and yellowfin sole fishery are very limited. NMFS could attempt to account for increases in incidental catches of Pacific cod by prohibiting deliveries to catcher/processors earlier in the A-season to account for incidental catches of Pacific cod. No specific options to address increases in incidental catches of Pacific cod are included in this package.

Alternative 3 would benefit the shorebased sector, especially relative to the 2018 and 2019 fisheries. The benefits they derive relative to other definitions of recent processing history will depend on the options that are selected. Options that result in larger sideboard limits provide less protection than smaller limits; options that allow more catcher/processors to act as a mothership provide less protection than options that limit the number that can accept directed Pacific cod deliveries. All of the options provide more protection than the No Action alternative. Option 1, suboption 3 with or without Option 2 provide protections that most closely reflect the status quo.

Table 2-42 shows that staff projections indicate that a 1% change in the BS portion of the non-CDQ trawl catcher vessel sector allocation (after deducting the 5,000 mt set-aside) will result in approximately a \$200,000 annual change in gross first wholesale revenue that would be divided between all processors relative to their individual changes in production value from those fish. Given that the A-season deliveries of Pacific cod to catcher/processors acting as a mothership in 2018 was reported to be about 18% and 2019 was 31% of all catcher vessel non-CDQ Pacific cod trawl deliveries in the BS, Alternative 3 would limit the deliveries to catcher/processors acting as a mothership to up to 11% (the range is 0% to about 11% depending on the years selected, the catcher/processors that qualify, and the catcher/processors that are exempted). Assuming an 8% change in the BS portion of the trawl catcher vessel sector allocation being delivered to shorebased and floating processors this would equate to a change of \$1.5 million annually being delivered onshore. Based on the 2017 first wholesale value of these processors, that would account for slightly less than 1% of their total gross first wholesale value from all species.

While the overall percentage of gross first wholesale value derived from non-CDQ Pacific cod deliveries is relatively small relative to total gross first wholesale values of all sales, Pacific cod deliveries to these plants are important to the firms. Pacific cod deliveries could help cover fixed costs or, if fixed cost are covered by other species, add to the net revenue when the variable costs of Pacific cod processing are less than the gross first wholesale revenue Pacific cod generates. Pacific cod deliveries may also allow the plant to operate at a capacity that keeps the plant open and provides raw fish for the production workers to process. This is dependent on the interrelationships of when pollock roe is mature and most profitable when Pacific cod are aggregated, and harvest costs are relatively low.

Shorebased processing plants in the BSAI are located in remote areas of Alaska where the plant operators project the employment needs pre-season and staff the production facilities to meet that level of activity. If less fish are delivered to the plant than expected, it could result in workers not having a sufficient amount of fish to process. This could result in the plant operating at a level that is less efficient and could result in lower profitability of the firm as a result of lower revenues and higher per unit of production costs.

Additional and more detailed information relative to communities associated with specific shorebased and floating processors is presented in the community impacts section. The reader is referred to that section for additional information.

## 2.8.4 True Motherships

True motherships are not directly impacted by any of the proposed actions. These processors are not subject to directed Pacific cod delivery restrictions under Alternative 2. Pacific cod delivered to these processors in the directed Pacific cod target fishery or incidental Pacific cod harvested in other directed fisheries would not count against any limit imposed under Alternative 3.

Three of these vessels are participants in the AFA pollock fishery and have reported very little reported activity in the Pacific cod target fishery. The vessels are configured to process pollock and would need to be reconfigured to process Pacific cod during the pollock A-season. Reconfiguring the processing lines on these vessels has been a deterrent to these vessels taking directed deliveries of Pacific cod. They are expected to continue to generate the vast majority of their income from BS pollock processed under provisions of the AFA program.

## 2.8.5 Communities

The distribution of impacts by sector described in Section 2.8.1 through Section 2.8.3 across communities in Alaska and the Pacific Northwest is described in Section 6, Community-Level Social Impacts by Alternative, of Appendix 1 of this RIR (the Social Impact Assessment [SIA]). As shown in detail in the tables and discussed in the narrative in that section:

- Under Alternative 1, the No Action Alternative, the existing trends of increases of catcher/processors acting as motherships noted in the purpose and need statement could continue. These increases in participation have, in turn, resulted in an increase in the amount of Pacific cod delivered to catcher/processors, an increase in the number of catcher vessels delivering Pacific cod to motherships, and a decrease in the amount of Pacific cod delivered to shoreside processing facilities. Council concerns expressed in the purpose and need statement about the impacts these changes could have on shoreside processors, communities, and participating catcher vessels, would not be addressed.
  - A continued decline of percentage of deliveries to shore-based processors under Alternative 1 would be most acutely felt in Unalaska/Dutch Harbor, Akutan, and King Cove. The ex-vessel value of BSAI trawl Pacific cod deliveries at Unalaska/Dutch Harbor and Akutan shoreside plants combined accounted for between 3.4 percent and 4.3 percent of the annual total ex-vessel value of all deliveries (all species, gear, and area fisheries combined) over the 2015-2018 period. Analogous information for King Cove (or King Cove, Sand Point, and Adak combined) are not available for this period due to confidentiality constraints. While the percentages appear relatively modest for the Unalaska/Dutch Harbor and Akutan plants, in absolute terms they account for between \$8.6 million and \$10.5 million in ex-vessel value of deliveries each year over the 2015-2018 period, and the processing activity associated with these deliveries provides work for processing crews and throughput for the plants at different points in the annual processing cycle. Additionally, these shoreside deliveries generate public revenues to Unalaska/Dutch Harbor, Akutan, and King Cove from fishery related taxes and fees. While these communities derive public revenues from tax sources related to both shoreside and offshore processing activities, the relative contribution of the two sectors to local public revenues varies by community. Among the varying tax revenue sources, city raw fish taxes and state shared fishery business taxes are applied to landings at shoreside processors, while the state shared fishery resource landing tax is applied to landings from catcher/processors and motherships.
  - Public revenues from the state shared fishery resource landing tax generated in Akutan and King Cove are modest in relation to those generated by the local fish taxes and/or the state shared fisheries business tax within those communities as well as in relation to revenues generated by the state shared fisheries resource landing tax in Unalaska/Dutch



Harbor. For Akutan and King Cove, a continued shift in BSAI non-CDQ directed Pacific cod fishery trawl-caught deliveries from local shoreside processors to catcher/processors acting as motherships would represent a close-to-complete loss of combined local and state fishery tax derived general fund revenues from those shifted deliveries. In the case of Unalaska/Dutch Harbor, on an annual average basis for fiscal years 2000-2017, local general fund revenues deriving from the state shared fishery resource landing tax were roughly half of those deriving from the local fish tax and the state shared fisheries business tax combined. While both sources of revenue are clearly substantial and important components of Unalaska/Dutch Harbor's general fund revenues on an ongoing basis, the loss of combined local fish tax and shared state fishery business fish tax revenues from BSAI non-CDQ directed Pacific cod fishery trawl-caught deliveries continuing to shift from Unalaska/Dutch Harbor shoreside processors to catcher/processors acting as motherships would only be partially offset by increases in tax revenues related to state shared fishery resource landing taxes, assuming a pound-for-pound equivalence. As a result, continued erosion of the historic proportion of the trawl catcher vessel sector allocation of BSAI Pacific cod delivered to shoreside processors in Unalaska/Dutch Harbor under Alternative 1 would represent additional foregone fish landing tax related revenues to the community. However, the situation is made more complicated by differential patterns of shoreside and offshore landings across the three communities.

- The communities that would presumably benefit from the continuation of existing trends, as determined by community of ownership address for LLP licenses used on relevant catcher/processors acting as motherships, and the community of ownership address of those vessels themselves, would be communities in the Seattle MSA. The BSAI non-CDQ Pacific cod fishery catcher vessel trawl-caught deliveries to catcher/processors acting as motherships also provide employment and income for operational and processing crew. In other words, from a community impact perspective, under Alternative 1, as under the other alternatives being considered, proposed management actions (or in this case inaction) would effectively function as an allocation mechanism that would economically benefit some communities while adversely affecting others.
- Alternative 2 would limit the number of certain catcher/processors acting as motherships (all of which have ownership ties to the Seattle MSA), but it would not limit the number of catcher vessels (with a broader community ownership base, including primarily the Seattle MSA, Newport, Oregon, and Kodiak, Alaska) that could make BSAI non-CDQ directed Pacific cod trawl deliveries to those catcher/processors, nor does it limit the percentage of the BSAI non-CDQ directed Pacific cod catcher vessel trawl sector allocation that could be delivered to those catcher/processors (or other vessels that acted as motherships in the fishery). Adverse community impacts of this alternative would primarily accrue to the Seattle MSA area, but it is understood that the relevant catcher processors provide employment and earnings opportunities to crew members from a wide geographic area. These vessels also provide business opportunities for support service businesses in Alaska ports, notably Unalaska/Dutch Harbor. Three of the eight relevant catcher/processors have Alaska homeport designations (Unalaska/Dutch Harbor [2] and Kodiak [1]).
- From a community impact perspective, it is important to note that while Alternative 3 would establish a maximum percentage of the BSAI non-CDQ directed Pacific cod catcher vessel trawl sector allocation that could be delivered to Amendment 80 processors when acting as motherships (i.e., it would establish a single/common Amendment 80-specific sideboard based on the aggregate histories of Amendment 80 and AFA catcher/processors receiving deliveries), it does not establish how much of that sideboard amount would actually be delivered to those vessels, nor would it limit the number of catcher vessels that could make BSAI non-CDQ directed Pacific cod trawl deliveries

to those Amendment 80 catcher/processors. Further, it does not limit the percentage of the BSAI non-CDQ directed Pacific cod catcher vessel trawl sector allocation that could be delivered to processing vessels other than AFA and Amendment 80 catcher/processors acting as motherships (i.e., it does not guarantee that a certain percentage of the BSAI non-CDQ directed Pacific cod catcher vessel trawl sector allocation would be delivered to shoreside processors). In general, the pattern of differential distribution of impacts across communities would be similar to that described for Alternative 2.

- For Alternative 3, SIA presents a series of tables that examine a range of estimated changes in selected Alaska raw fish tax revenues associated with a one percent shift of catcher vessel trawl sector Bering Sea non-CDQ Pacific cod ITAC (less the 5,000 mt set-aside) to shoreside processors or catcher/processors acting as motherships. These tables vary based on a range of assumptions regarding ex-vessel value per mt and the number of mt that would represent a one percent shift. Given that the patterns of landings vary from community to community for the two different sectors, results and the community level (or groups of communities) are different than for grand total results. For example, while in every case the grand total of raw fish taxes deriving from shoreside catcher vessel deliveries is larger than for catcher/processor deliveries, the opposite is true at the community group level for Akutan/Unalaska/Dutch Harbor (and only for this community group). This is because Akutan/Unalaska/Dutch Harbor “captures” approximately 98.2 percent of resource landings tax associated with every metric ton delivered (for transshipment) to all communities combined by all catcher/processors combined (primarily due to Unalaska/Dutch Harbor’s position as the main transshipment port in the Bering Sea). In contrast, Akutan/Unalaska/Dutch Harbor captures approximately 46.2 percent of every metric ton delivered to all shoreside processors in all communities combined (as these types of deliveries are more widely spread amongst other communities, such as Adak/Sand Point/King Cove, and inshore floating processors that could not be assigned to a specific port due to lack of location of operation data). While Akutan/Unalaska/Dutch Harbor derive more raw fish tax revenue from each metric ton delivered to local shoreside processors than from each metric ton delivered to catcher/processors and then transshipped through the communities, in absolute terms the raw fish tax revenue or equivalent from the higher volume of transshipments exceeds that of landings at local processors. It is important to note, however, that raw fish taxes are only one source of public revenue to communities, and do not, for example, take into account multiple other important sources, such as property taxes, personal business property taxes, taxes on fuel sales, harbor fees, fees from other provision of other services, sales taxes generated from economic activity of local support services businesses, and the like.
- The Alternative 4 mothership limitation applies to all BSAI and GOA fisheries, whereas Alternative 2 is specific only to the BSAI Pacific cod fishery. From a community impact perspective, however, the impacts of this alternative have already been covered under the analysis of Alternative 2, as none of the vessels that would qualify under any of the options in Alternative 2 are replaced Amendment 80 vessels.
- Each of the alternatives would benefit some communities while adversely affecting others. As the action alternatives would essentially be a reallocation of catcher vessel trawl caught deliveries from one processing sector to another, economic impacts for the group of all affected communities identified as being substantially engaged in and/or dependent on the fishery would be close to neutral. Given that the purpose and need statement for the proposed action contemplates a return to the status quo (i.e., the historic pattern of landings of the BSAI trawl catcher vessel sector allocation), those alternatives that would most constrain deliveries to catcher/processors that recently began acting as motherships would minimize adverse impacts on fishing communities that historically (2015 and earlier) were substantially engaged in and/or dependent on the fishery and continue to be so. This would be true whether that engagement and/or dependency was based on shoreside processing or catcher/processor acting as mothership processing. These most constraining alternatives would cause the greatest adverse impacts to those communities whose

engagement and dependency is largely related to those catcher/processor entities acting as motherships that more recently entered the fishery (2016 and later), fostering the trend the purpose and need statement seeks to address. While each of the alternatives would adversely affect some communities, and economic harm would come to some individual operations under each alternative, it is unlikely that the sustained participation of any fishing communities would be put at risk by any of the proposed alternatives, as all communities would retain continued access to the fishery within the constraints of the condition of the resource.

## 2.9 Fishing Vessel Safety

National Standard 10 states that “conservation and management measures shall, to the extent practicable, promote the safety of human life at sea.” In response to National Standard 10, the Council always considers vessel safety as part of its fishery management proposals.

Economic incentives are created when competing to catch a share of the TAC, under the LLP, that may entice a vessel operator to go to sea or continue fishing in weather conditions that may pose a higher operating risk. Each person will respond differently to these incentives depending on the level of risk they are willing to accept and the vulnerability of their vessel to those weather conditions.

Several factors that are human causes of commercial fishing accidents include improper procedures, inexperience, poor judgment, carelessness, and navigational error. Other factors include stress, fatigue, and boredom, which are critical to vessels at sea for prolonged periods or operating in congested ports and waterways (NRC, 1991). Other literature indicates that limited access privilege programs (LAPPs) have also increased fishing safety (Grimm, et al., 2012).

The National Institute for Occupational Safety and Health (NIOSH) manages the Commercial Fishing Incident Database (CFID). CFID is a national surveillance system that contains information on work-related fatalities and vessel disasters in the U.S. fishing industry. For Alaska, CFID contains fatality data from 2000 through 2016 and vessel disaster data from 2000 through 2015. One limitation is that these data sources do not include other safety measures, including nonfatal injuries, vessel system failures not resulting in abandonment, and search-and-rescue missions. Study of these areas in the future could provide more insight into additional hazards.

NIOSH staff was provided a list of catcher vessels that the AKFIN summary of CAS data indicated were active in the BSAI Pacific cod trawl fishery from 2009 through 2018. The list of catcher vessels was matched against all fishing vessels that had been added to CFID as the result of:

1. one or more crewmember fatalities that occurred on or otherwise involved the vessel; or
2. if the vessel sunk, capsized, or sustained other damage that required the entire crew to abandon the vessel.

Based on vessel name, casualty date, and casualty location, it was determined that there were a total of eight CFID incidents matched with the list of vessels. Only four were in 2009 or later. Three of the incidents were occurred in non-Pacific cod fisheries and one was in the Pacific cod fishery. That was a loss of life in 2014. A search of the internet also indicated that there was a crew member fatality in the 2018 BS Pacific cod trawl catcher vessel fishery.

Shortened fishing seasons and increased crowding on the grounds can create conditions that reduce vessel safety. Alternative 2 and Alternative 4 may reduce the number of catcher/processors that can take directed BS Pacific cod deliveries from catcher vessels. Alternative 3 will limit the amount of BS non-CDQ Pacific cod that may be delivered to certain catcher/processors acting as a mothership. These alternatives will decrease crowding on the grounds if they limit the markets available to catcher vessels. That is expected to result from the Council selecting most restrictive options under Alternative 2. As stated

earlier, implementing Alternative 2 is projected to increase the A-season length by one or two days, which will slightly decrease crowding on the fishing grounds.

## **2.10 Management and Enforcement Considerations**

Implementation of the proposed action will require NOAA Fisheries to process and adjudicate the qualifying and non-qualifying licenses under Alternative 2 and add Pacific cod endorsements to licenses that meet the qualification criteria. NOAA Fisheries must also make changes to databases used to administer and record license information. The Pacific cod endorsements under Alternative 2 would limit participation by catcher/processors acting as a mothership in the directed non-CDQ BSAI trawl catcher vessel Pacific cod fisheries. All LLP license holders would be required under IR/IU to deliver incidental catches of Pacific cod up to the MRA and it is possible that some participants that do not have a Pacific cod endorsement may use retained incidental catch to supplement their revenue in less lucrative target fisheries.

Requiring BSAI trawl gear LLP licenses to have Pacific cod endorsements to participate in the non-CDQ trawl catcher vessel sector would further reduce the number of fisheries available to some BSAI trawl gear LLP license holders. However, vessels that do not have an LLP license with a BSAI trawl gear Pacific cod endorsement could continue to harvest Pacific cod in the CDQ fishery and the AI GHLL fishery if they are less than 60' LOA.

Alternative 3 would prohibit directed fishing for BSAI non-CDQ Pacific cod by trawl catcher vessels delivering to certain catcher/processors acting as a mothership after the catcher vessels have delivered an amount of Pacific cod equal to those catcher/processors sideboard limit. NMFS preference is to not implement sideboards that may be difficult to manage. The options under Alternative 3 that set the sideboard limit vary depending on the catcher/processors that qualify to act as a mothership, whether the sideboard limit applies to the just A-season or both the A- and B-seasons and the years used to determine the sideboard limit. As reported in Section 2.7.3 the sideboard limit ranges from 0% to about 11% of the BSAI trawl catcher vessel sector allocation. If the sideboard limits are too small, relative to the number of catcher/processors that may act as a mothership, it could result in sideboard limits that are not large enough to support directed fishing as that term is defined at § 679.2. The Council and NOAA Fisheries recently took action to remove certain sideboard limits (83 FR 40733). The action was determined to be necessary to streamline and simplify NMFS's management of applicable groundfish sideboard limits. To manage these small sideboard limits, NMFS prohibited directed fishing for groundfish subject to these sideboard limits because most sideboard limits were too small each year to support directed fishing. NMFS was also able to cease calculating and publishing the relevant sideboard limits and their corresponding directed fishing prohibitions in the groundfish harvest specifications.

It is likely that some of the options under Alternative 3 could result in sideboard limits that are too small for NMFS to manage and could result in a directed fishery closure at the start of the A-season for catcher vessels delivering BS Pacific cod to catcher/processors subject to the sideboard limitation. If that outcome is anticipated Council may wish to consider not including Alternative 3 sideboard limits as part of that preferred alternative. The Council could instead select an option under Alternative 2 to limit the number of catcher/processors that could take deliveries from catcher vessels harvesting Pacific cod from the trawl catcher vessel sector allocation that is more restrictive.

No duplication, overlap, or conflict between this proposed action and existing Federal rules has been identified. The proposed actions will only modify existing rules that manage the BSAI groundfish fisheries that are identified in CFR 50 679. Management structure and participation requirements currently in regulation are described in Section 2.6 of this document.

## **2.11 Number and Description of Directly Regulated Small Entities**

Section 603 of the Regulatory Flexibility Act (RFA) requires that an initial regulatory flexibility analysis (IRFA) be prepared to describe the economic impacts of proposed actions on small entities. As of January 2017, NMFS Alaska Region will prepare the IRFA in the Classification section of the proposed rule for an action. Therefore, the preparation of a separate IRFA is not necessary for the Council action on this issue until after final action.

The Council's preferred alternative would limit the number of Amendment 80 and non-Amendment 80 catcher/processors that could act as mothership in the directed BSAI Pacific cod fishery and would prohibit retired Amendment 80 catcher/processors from acting as a mothership in the BSAI and GOA directed Pacific cod fisheries. The entities directly regulated by this action are those catcher/processors that would act as a mothership in the directed Pacific cod fishery in the BSAI and GOA. The thresholds applied to determine if an entity or group of entities are "small" under the RFA depend on the industry classification for the entity or entities. Businesses classified as primarily engaged in commercial fishing are considered small entities if they have combined annual gross receipts not in excess of \$11.0 million for all affiliated operations worldwide (81 FR 4469; January 26, 2016). Based on the number of LAPP permits issued to the AFA and Amendment 80 catcher/processors, 21 AFA catcher/processors and 19 (active in 2019) Amendment 80 catcher/processors would be directly regulated by this action. Because of the vessel's affiliation with firms associated with the LAPP cooperatives, none of the firms that own these vessels are considered small entities.

## **2.12 Summation of the Alternatives with Respect to Net Benefit to the Nation**

The preferred alternatives are not projected to have an annual effect on the economy of \$100 million or more, or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, local or tribal governments or communities. The provisions could have differential economic impacts on various participants, but changes in net benefits to the Nation are projected to be minimal under any of the alternatives or options considered. Seven Amendment 80 catcher/processors that have acted as a mothership in the non-CDQ BSAI Pacific cod fishery will lose their ability to act as a mothership in the BS Pacific cod fishery. The one Amendment 80 catcher/processor and one AFA catcher/processor that does qualify will compete with shorebased and floating processors for a share of the trawl catcher vessels sector Pacific cod allocation. Shorebased processors, floating processors, and the two qualified catcher/processors are expected to benefit from the selection of the preferred alternative. The seven Amendment 80 catcher/processors that do not qualify will lose a component of their annual fishing cycle.

Any changes to net benefits to the Nation that result from this action are expected to occur after the first wholesale level. Information is limited on those markets to estimated changes in net benefits to the Nation. To the extent that one sector sells more of their products to secondary processors or consumers within the U.S., net benefits to the Nation will continue to accrue. If the Pacific cod is sold to a foreign market for secondary processing and consumption, no additional net benefits to the Nation will be generated.

The actions proposed in this amendment do not create a serious inconsistency or otherwise interfere with an action taken or planned by another agency. NMFS will continue to manage the BSAI Pacific cod fishery. Any appeals that arise will be addressed using the methods established by NMFS and will not interfere with the actions taken by other agencies.

The proposed actions will not materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients. The intent of the amendments is to limit the ability of certain catcher/processors to increase the amount of BS Pacific cod they process that is harvested by trawl catcher vessels. These catcher/processors benefit from LAPP which provide the opportunity to more fully participate as a mothership in the Pacific cod fishery as a mothership. The increased processing effort in the Pacific cod reduces the amount of Pacific cod available to the shoreside processors.

All of the alternatives will allow for sufficient harvesting and processing capacity to catch the BSAI trawl catcher vessel allocation of Pacific cod and will not have a negative impact on net benefits to the Nation that to a level that approaches the \$100 million annual threshold.

The proposed actions do not raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in E.O. 12866. The actions slightly modify existing regulations to stabilize the BSAI Pacific cod trawl catcher vessel sector and the processing sectors that take delivery of those fish.

## 3 Magnuson-Stevens Act and FMP Consideration

### 3.1 Magnuson-Stevens Act National Standards

Below are the 10 National Standards as contained in the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), and a brief discussion of how each alternative is consistent with the National Standards, where applicable. In recommending a preferred alternative, the Council must consider how to balance the national standards.

**National Standard 1** — *Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry.*

Management of the BSAI Pacific cod fishery prevents overfishing through the setting of conservative overfishing levels, allowable biological catches, and total allowable catches. Optimum yield is achieved because sufficient processing and harvesting capacity will remain in the fishery to catch and process the BS and AI Pacific cod TACs.

**National Standard 2** — *Conservation and management measures shall be based upon the best scientific information available.*

The best scientific information available was used to conduct this analysis. Information presented in Section 2.5 of the RIR describes the data used, the methodology used to describe the impacts, and the data that would have been useful had they been available. Information is presented in Chapter 3 of the SIA that describes the methodology and data used for the social/community impact assessment.

**National Standard 3** — *To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.*

The proposed action applies to trawl catcher vessel fisheries in the BSAI. The BSAI Pacific cod fisheries are managed as unit with a trawl CV sector allocation set for the BSAI. TACs for the BS and AI are set within the annual specifications process as described in the BSAI SAFE document. That document states that

*“research conducted in 2018 indicates that the genetic samples from the NBS survey in 2017 are very similar to those from the EBS survey area, and quite distinct from samples collected in the Aleutian Islands and the Gulf of Alaska (Spies, et al., In Prep). Although the resource in the combined EBS and AI (BSAI) region had been managed as a single unit from 1977 through 2013, separate harvest specifications have been set for the two areas since the 2014 season.*

*Pacific cod are not known to exhibit any special life history characteristics that would require it to be assessed or managed differently from other groundfish stocks in the BSAI.”*

**National Standard 4** — *Conservation and management measures shall not discriminate between residents of different states. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be; (A) fair and equitable to all such fishermen, (B) reasonably calculated to promote conservation, and (C) carried out in such a manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.*

The preferred alternative was determined by the Council to comply with the three allocation requirements of National Standard 4. The allocation of privileges is fair and equitable to all participants. The Council’s Alternative 2 qualification criteria were developed after considering historical and recent participation from 2008 through 2017. The preferred alternative qualifies catcher/processor vessels that had sustained participation as a mothership and would not qualify catcher/processers that did not have sustained participation during the entire time period we looked at in this analysis, which was 2003 through 2019.

Sustained participation is not a defined term, but was based on the Council's knowledge of the fishery and understanding of the impacts of the various options.

The preferred alternative was determined by the Council to be reasonably calculated to promote conservation because it limits participation in a fishery that in recent years has been contributing to the increased pace of the trawl catcher vessel Pacific cod fishery, particularly in the Bering Sea. The decline in Pacific cod TACs, the Bering Sea trawl CV 5,000 mt limitation, increased cod prices, recent years when the fishing fleets have found high catch rates of Pacific cod, and increased participation by catcher/processor vessels operating as motherships are all contributing factors to a faster paced Bering Sea non-CDQ Pacific cod trawl catcher vessel fishery. The Council heard from fishery participants in public testimony that over the past few years that the fast-paced fishery results in crowded fishing grounds and an inability to effectively manage halibut bycatch. The fast-paced fishery also poses a substantial challenge for NMFS inseason managers to gather effort information to project when the seasonal allocations will be harvested. The preferred alternative is projected to increase the season length by about one or two days. While the increased season length is modest, it is an important first step in stabilizing the pace of the fishery and improving the prosecution of the fishery.

The preferred alternative is consistent with the excessive share provision of National Standard 4 because it has the result of limiting participation of catcher/processor vessels to levels seen prior to 2016. The vessels that would qualify under the preferred alternative have sustained participation in the fishery when the other catcher processors that would not qualify were not participating. The qualifying catcher/processor vessels will still have to compete with shorebased processors, floating processors, and any other vessels that take deliveries of BSAI Pacific cod from trawl catcher vessels.

***National Standard 5*** — *Conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources, except that no such measure shall have economic allocation as its sole purpose.*

The Council considered efficiency in the utilization of the Pacific cod resource as part of this action. It is expected that the fishery will be fully utilized in both the Bering Sea and Aleutian Islands. The small reduction in processing capacity that recently entered to Bering Sea portion of the fishery, where the vast majority of catch will occur given current conditions, will still allow sufficient processing capacity to efficiently utilize the Pacific cod harvested by trawl catcher vessels.

***National Standard 6*** — *Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.*

The Council spent a substantial amount of time considering this issue in the development of their preferred alternative. Discussions focused on the differences in the Bering Sea and Aleutian Islands Pacific cod trawl catcher vessel fisheries. The differences considered included the timing of the two fisheries, the processing capacity that would be available to the catcher vessels in the two areas, the historic participation of the Amendment 80 and AFA catcher/processors in the two areas, and difference in regulations applied to the two areas. After considering all of these factors as they are described in the RIR, SIA, and in public testimony, the Council determined that its preferred alternatives best met its problem statement within the context of National Standard 6.

***National Standard 7*** — *Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.*

The Council's preferred alternatives minimized costs by tightly constraining the number of catcher/processors that may act as a mothership for Pacific cod in the BSAI and not selecting and option under Alternative 3. In doing so, the Council minimized costs to NMFS when implementing and managing the proposed action. The Council's preferred alternative does not duplicate other regulations, but does add an endorsement to two LLP licenses that allows a vessel assigned the LLP license to take directed Pacific cod deliveries from trawl catcher vessels participating the non-CDQ fishery.



**National Standard 8** — *Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities by utilizing economic and social data that meet the requirements of National Standard 2, in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities.*

Each of the alternatives would benefit some communities while adversely affecting others. As the action alternatives would essentially be a reallocation of catcher vessel trawl caught deliveries from one processing sector to another, economic impacts for the group of all affected communities identified as being substantially engaged in and/or dependent on the fishery would be close to neutral. Given that the purpose and need statement for the proposed action contemplates a return to the historic pattern of landings of the BSAI trawl catcher vessel sector allocation, the combination of alternatives and options that would most constrain deliveries to catcher/processors that recently began acting as motherships (i.e., the preferred alternative) would minimize adverse impacts on fishing communities that historically (2015 and earlier) were substantially engaged in and/or dependent on the fishery and continue to be so. This would be true whether that engagement and/or dependency was based on shoreside processing or catcher/processor acting as mothership processing. The preferred (most constraining) alternative would cause the greatest adverse impacts to those communities whose engagement and dependency is largely related to those catcher/processor entities acting as motherships that more recently entered the fishery (2016 and later), fostering the trend the purpose and need statement seeks to address. While each of the alternatives would adversely affect some communities, and economic harm would come to some individual operations under each alternative, it is unlikely that the sustained participation of any fishing communities would be put at risk by any of the proposed alternatives, as all communities would retain continued access to the fishery within the constraints of the condition of the resource.

**National Standard 9** — *Conservation and management measures shall, to the extent practicable, (A) minimize bycatch, and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.*

The proposed action is a positive first step in slowing the pace of the BSAI trawl catcher/vessel fishery. Slower paced fisheries provides greater incentives for the fleet to adopt fishing practices that reduce bycatch. These practices include only fishing during the daylight when halibut bycatch rates are lower. In the BSAI Pacific cod fishery during January and February there are approximately nine hours of daylight. The Amendment 80 catcher/processor that qualifies is attempting to reduce halibut mortality by deck sorting halibut. Returning the fish back into the water sooner is known to, on average, increase viability of the fish that are released.

**National Standard 10** — *Conservation and management measures shall, to the extent practicable, promote the safety of human life at sea.*

The action is projected to reduce the number of catcher vessels that are active in the fishery relative to the most recent years and extend the season by one or two days. The slight decrease in effort is expected to somewhat reduce crowding on the grounds as fewer catcher vessels will be fishing and more of those that are fishing will need to travel to shorebased processor to offload.

While it is acknowledged that this is a positive first step in promoting safety in the BSAI trawl catcher vessel Pacific cod fishery, the Council is scheduled to more globally consider the BSAI Pacific cod fishery in the near future. Those management actions could have a more substantial positive impact on safety in the fishery.

## 3.2 Section 303(a)(9) Fisheries Impact Statement

Section 303(a)(9) of the Magnuson-Stevens Act requires that a fishery impact statement be prepared for each FMP amendment. A fishery impact statement is required to assess, specify, and analyze the likely effects, if any, including the cumulative conservation, economic, and social impacts, of the conservation and management measures on, and possible mitigation measures for (a) participants in the fisheries and fishing communities affected by the plan amendment; (b) participants in the fisheries conducted in adjacent areas under the authority of another Council; and (c) the safety of human life at sea, including whether and to what extent such measures may affect the safety of participants in the fishery.

The RIR/IRFA prepared for this plan amendment constitutes the fishery impact statement. The likely effects of the proposed action are analyzed and described throughout the EA/RIR/IRFA. The effects on participants in the fisheries and fishing communities are analyzed in the RIR/IRFA chapters of the analysis (Section 2.6.14, Section 2.6.15, and Section 2.7). The effects of the proposed action on safety of human life at sea are evaluated in Section 0, and under National Standard 10, in Section 3.1. Based on the information reported in this section, there is no need to update the Fishery Impact Statement included in the FMP.

The proposed action affects the BSAI Pacific cod fisheries in the EEZ off Alaska, which are under the jurisdiction of the North Pacific Fishery Management Council. Impacts on participants in fisheries conducted in adjacent areas under the jurisdiction of other Councils are not anticipated as a result of this action.

## 3.3 Council's Ecosystem Vision Statement

In February 2014, the Council adopted, as Council policy, the following:

### **Ecosystem Approach for the North Pacific Fishery Management Council**

#### ***Value Statement***

The Gulf of Alaska, Bering Sea, and Aleutian Islands are some of the most biologically productive and unique marine ecosystems in the world, supporting globally significant populations of marine mammals, seabirds, fish, and shellfish. This region produces over half the nation's seafood and supports robust fishing communities, recreational fisheries, and a subsistence way of life. The Arctic ecosystem is a dynamic environment that is experiencing an unprecedented rate of loss of sea ice and other effects of climate change, resulting in elevated levels of risk and uncertainty. The North Pacific Fishery Management Council has an important stewardship responsibility for these resources, their productivity, and their sustainability for future generations.

#### ***Vision Statement***

The Council envisions sustainable fisheries that provide benefits for harvesters, processors, recreational and subsistence users, and fishing communities, which (1) are maintained by healthy, productive, biodiverse, resilient marine ecosystems that support a range of services; (2) support robust populations of marine species at all trophic levels, including marine mammals and seabirds; and (3) are managed using a precautionary, transparent, and inclusive process that allows for analyses of tradeoffs, accounts for changing conditions, and mitigates threats.

#### ***Implementation Strategy***

The Council intends that fishery management explicitly take into account environmental variability and uncertainty, changes and trends in climate and oceanographic conditions, fluctuations in productivity for managed species and associated ecosystem components, such as habitats and non-managed species, and relationships between marine species. Implementation

will be responsive to changes in the ecosystem and our understanding of those dynamics, incorporate the best available science (including local and traditional knowledge), and engage scientists, managers, and the public.

The vision statement shall be given effect through all of the Council's work, including long-term planning initiatives, fishery management actions, and science planning to support ecosystem-based fishery management.

In considering this action, the Council is being consistent with its ecosystem approach policy. The impacts from the proposed action are primarily distributional between the firms that harvest and process BSAI Pacific cod in the at-sea and shoreside sectors. All of the alternatives or options considered would maintain the current system that allow for sustainable fisheries and that provide benefits for harvesters, processors, recreational and subsistence users, and fishing communities.

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## 6 Appendices

### 6.1 Appendix 1: Social Impact Assessment

*(Please see separate PDF for the SIA)*

### 6.2 Appendix 2: Addressing Changes Requested or Recommended at Initial Review

During initial review at the February 2019 Council meetings, requests or recommendations for changes to the RIR and/or the SIA were received from both the Council and the Scientific and Statistical Committee (SSC). These requests/recommendations, and a brief explanation of how they have been addressed, are provided below.

#### Council Requests

1. *Additional discussion on AI fishery and whether there would be sufficient processing capacity and markets to allow the AI Pacific cod TAC to be harvested.* This issue is addressed in RIR Section 2.6.5 as well as in the impacts sections of Alternative 2 and 3.
2. *Additional detail on catcher/processor activity as a mothership in the BSAI Pacific cod fisheries by area.* A table was added to RIR Section 2.7.3 to show the years of participation by each catcher/processor in the AI and BS. That table considered the years 2003 through 2018. Information back to 2003 is included to provide additional context relative to pre-Amendment 80 implementation. That table also provides information on years a catcher/processor took targeted Pacific cod deliveries if Fishticket data were used to determine the target fishery.
3. *Delete old Alternatives 4 and 5 that focused on catcher vessels license limitation and cooperative formation.* Those sections and the analysis of those alternatives were deleted throughout both the RIR and the SIA.
4. *Fix minor errors identified at initial review.* Minor errors that were identified by staff, the AP, SSC, Council, and the public have been addressed in both the RIR and the SIA.

#### Scientific and Statistical Committee Recommendations

##### ***Main Recommendations***

1. *The SSC recommends the analysis incorporate predictions of how effectively the alternatives will attenuate entry and the race to fish, and synthetically consider consequences for crew safety, bycatch, ecological impacts of shortened seasons, etc.* Bifurcation of the analysis and the changes to the purpose and need statement focused the analysis on those alternatives (Alternatives previously numbered as 2, 3, and 6) that limit the ability of certain catcher/processors to act motherships. While this is a positive first step over adverse status quo conditions noted in the revised purpose and need statement, it does not directly address the issues of excess catch capacity, latent licenses, or other factors that exacerbate race for fish conditions present in the fishery. It is not likely that the number of catcher vessels active in the fishery would decrease substantially as a result of these alternatives, nor does it address the pressures that accompany a decreasing TAC. The analysis, however, has been augmented with a qualitative discussion that addresses the aspects of the adverse fishery trend noted in the revised purpose and need statement. These SSC comments

will be applied to future BSAI Pacific cod fishery analysis the Council is considering that would better address these issues.

2. *The SSC recommends the analysts use history to predict which communities will gain or lose landings under the various alternatives and apply the differential tax rates to describe the changes in the total tax revenue levels that are currently a focus of the community dependence analysis in the SIA.* Section 6.3.2 of the SIA has updated to address this request. Tables were created that shows how much a metric ton of Pacific cod is worth in tax revenues to the different communities with respect to inshore and offshore landings. Those tax revenues were aggregated across communities using historic distribution of inshore and offshore landings across groups of communities. Confidentiality constraints precluded a community-by-community discussion.
3. *The SSC recommends that the analysis use prediction of port-specific reductions in landings under the alternatives to gauge employment impacts, perhaps using a social accounting matrix appropriate for economic impact analysis in isolated fishing communities.* The modeling request is not included in this analysis. The analysts did reach out via phone to processing plant personnel at various ports to provide limited qualitative information. The analysts also contacted the NMFS staff that have been developing a social accounting matrix model. After talking with the developers of the model and briefly using the model to check the results that it could provide for this analysis, it was determined that a social accounting model in general and that model in particular would NOT be incorporated into the analysis as requested by the SSC. The reasons for not developing our own model are:
  - The limited time available to get the document ready for a March 8<sup>th</sup> release.
  - This is a longer-term project that would require much more time and review before it could be implemented which is beyond the scope of this paper and most other papers developed for the Council
  - It does not provide information that is critical to the Council understanding the impacts of the action.

The reasons we are not using the NMFS model are:

- The model only provides Alaska, West Coast, and National level impacts and the SSC requested a model that would provide port-specific impacts.
  - The model has not been reviewed by the SSC or the Council. Based on our initial consideration of the model, it would benefit from a critical review by the SSC and other Council/agency staff prior to use.
  - After talking to the authors of the model, it was unclear whether all sectors defined in the model required inputting changes in gross values or some sector inputs would require inputting changes in net values. If net values are required to make the model function properly, those data are not available and could not be collected/estimated in the time available.
4. *The SSC recommends that the analysts thoroughly consider possible differences in costs between shoreside and offshore delivery of Pacific cod. The RIR discusses categories of cost but does not reflect on their relative scale. In this analysis, the absence of cost data is particularly problematic because it does not prevent just calculation of net benefits to the nation, but also prevents prediction of the entry of new CVs and motherships, which is the fundamental economic driver of the problem to be addressed by this action.* Staff contacted members of industry to provide additional qualitative discussions of costs in addition to those already included in the document. As a result, the qualitative discussion of differences in cost has been expanded. Quantitative cost data are not available across the relevant sectors of this fishery.
  5. *Particularly as Alternative 5 evolves, the SSC strongly encourages development of a system for collecting cost data that would permit evaluation of action objectives.* This recommendation is noted by the authors, however, it is project that is larger than any single analysis. This would require development of a new data collection program that would require careful design, involve SSPT input, AFSC resources, etc. Also given the reference to the former

Alternative 5 that was removed with the bifurcation of the analysis, it is no longer applicable to the current analysis.

6. *The SSC recommends that the analysts complement calculations of the effects of alternatives at historical ABC levels with predictions of effects at the projected lower ABC levels for 2020. This information is included in the projections made in the RIR. The tables referenced used the projected ABC levels in the BS and AI for 2020 through 2026.*
7. *The SSC recommends greater integration between RIRs and SIAs to characterize how economic changes described in the RIR will lead to changes in social indicators in the SIAs. This recommendation has been noted. As discussed in the SSC report, this is a forward-looking recommendation on how to make analyses such as this one more effective in the future. To the extent feasible, edits consistent with this larger recommendation have been made in the document. The changes to this document focused on taxes and discussion of the distribution of reallocation shoreside.*

### ***Minor Additions***

In addition to the major requests, the SSC recommended the following minor additions:

1. *It would be useful to consider the extent to which the State of Alaska may elect to continue expanding its inshore GHL fishery to ensure a continued supply for shore-based processors, if the federal fishery continues to move activity offshore. A summary of the recent changes made by the BOF is included in the analysis. The RIR was updated to show the BOF 3-year cycle to address BSAI Pacific cod issues and notes that on that cycle new changes would not be in place until the 2022 fishing year. Projecting what the BOF will do in the future would be highly speculative, so those projections are not included.*
2. *Consistently calculate eligibility criteria using either trip-specific fish tickets or weekly aggregated landings from the catch accounting system, reflecting the Council's intent. Currently, Alternative 4 is evaluated with fish tickets, as requested by the Council, but the others with the CAS. The preferred alternative is to use fish ticket data in all cases because aggregating data to week tends to underestimate the number of trips targeting cod when they coincide with numerous trips targeting other species. The bifurcation of the analysis reduces the issue of consistency. As noted earlier, a new table was added that showed the impact of using Fishticket data under Alternative 2.*
3. *The literature review presented as a discussion of the effects of limited rights programs in the analysis of Alternative 5 in the SIA focuses primarily on constructive criticism of older programs. More recent catch share programs have had features designed to mitigate these adverse effects, and a more developed synthesis of this literature would also provide case-based guidance on lessons learned from these efforts. This discussion, along with all other references to Alternative 5, have been removed from the document. The scoping document requested by the Council as the second portion of the bifurcated analysis would encompass these issues. This SSC recommendation will be applied to that analysis.*
4. *Incorporate season length in days in RIR Table 2-5 to highlight the race to fish, with simple symbol annotations for different reasons for closure. The length of the season in days was added to the table. Information on why the fishery closed was clarified.*
5. *Retitle RIR Table 2-42 to reflect that it is the value of the reallocation, not the change in value through reallocation. The table title has been updated to reflect the SSC request.*
6. *Redesign SIA Table X (in errata) to show the changes in taxation rates or revenue, rather than status quo revenue composition. A new series of tables has been added to the discussion in SIA Section 6.3.2 consistent with this recommendation. These tables show the tax revenue effects of shifting catcher vessel deliveries between the shoreside processing and catcher/processor acting as mothership sectors under a variety of price and volume assumptions.*



7. *Be explicit about the baseline for impact comparison, because the status quo is rapidly changing.* Language was added at the beginning of RIR Section 2.7 to clarify the distinction between the status quo defined in the problem statement and the No Action alternative.
8. *Description of trends in the fishery may be better represented with figures than tables. For example, RIR Table 2.1 presents time series, and the box on page 11 might be more clearly communicated with a pie chart.* This was done to the extent practicable.
9. *In RIR Section 2.6.5 on Amendment 113, clarify what is already implemented and what is in the proposed revisions.* As noted under the Council requests, this section of the RIR was redrafted to reflect this request.
10. *Remove speculations about subsistence impacts in SIA Section 9 that are based upon data from other regions/cultures of Alaska.* With the bifurcation of this analysis, this discussion, which linked to the analysis of Alternative 4, has been removed from the SIA (along with all other references to Alternative 4).
11. *Reach out to the Office of Subsistence Management for more current Aleutian subsistence data.* Based on follow-up with the SSC commenter, additional subsistence information has been added to the SIA.
12. *Explore ways to potentially repackage data in contexts with small numbers of participants that still preserves confidentiality.* This is a recommendation that is larger than this single analysis. It is a topic under active consideration by the SSPT and staff analysts working on RIRs and SIAs, with the intent of having quantitative data better inform future analyses while remaining within data confidentiality constraints.

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