

INITIAL REVIEW DRAFT

Regulatory Impact Review for Proposed Amendment to the Fishery Management Plans for the Groundfish Fishery of the Bering Sea and Aleutian Islands and Gulf of Alaska

Catcher/processor Mothership Restrictions in the Bering Sea and Aleutian Islands and the Gulf of Alaska and Latent License Limitation in the Bering Sea and Aleutian Islands Non-CDQ Trawl Catcher Vessel Pacific Cod Sector

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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 may also limit the amount of BSAI non-CDQ Pacific cod that can be delivered to certain catcher/processors by trawl catcher vessels. Concerns regarding vessel latency and recent entry in the BSAI trawl catcher vessel Pacific cod fishery are addressed through alternatives that would prohibit the use of License Limitation Program (LLP) licenses in the BSAI trawl Pacific cod fishery that do not meet specific BSAI Pacific cod landings criteria. Finally, the action considers allocating the BSAI non-CDQ Pacific cod trawl catcher vessel allocation among the AFA and non-AFA catcher vessels to facilitate the management of the fishery through cooperatives. The intent of this proposed action is to improve prosecution of the fishery by promoting safety and increasing its value.

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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 would limit the amount of BSAI non-CDQ Pacific cod trawl catcher vessels that can be delivered to Amendment 80 catcher/processors. To address the concerns of vessel latency in the BSAI trawl catcher vessel Pacific cod fishery, the proposed action would also prohibit the use of License Limitation Program (LLP) licenses in the BSAI trawl cod fishery that have not been attributed a targeted BSAI trawl Pacific cod landing within given years. The intent of this proposed action is to address the activity of vessels acting as motherships in the BSAI Pacific cod fishery and to improve the prosecution of the fishery by increasing the value of the fishery through limiting entry of vessels that have not participated or have not recently participated in the fishery.

This analysis is structured somewhat differently than other initial review RIRs presented to the Council. Five of the six action alternatives have been analyzed to meet the requirements of a decision document. The remaining action alternative (Alternative 5) is included for discussion only, since specific options for analysis have not yet been provided by the Council. The Council may either develop options for Alternative 5 and schedule another initial review for the entire package or bifurcate the analysis. In the latter case, the Council would determine whether the remaining alternatives have been sufficiently analyzed (after requested modifications) and schedule all or a subset of those alternatives for final review, with any alternatives that are not ready for final action would be removed from this amendment package and pursued in a separate RIR. For example, Alternatives 2, 3, and 6 could be selected and moved forward, with changes requested by the Council incorporated in a final review draft, and Alternative 4 could either remain with those alternatives or be moved into a separate analysis and placed on its own time-line with Alternative 5. Depending on the options, if any, developed for Alternative 5, the new amendment package would likely require an Environmental Assessment (at a minimum) in addition to an RIR.

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 and the preliminary review document in June 2018, the Council adopted 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. 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.

In addition, there are both AFA and non-AFA licenses endorsed to fish in the BSAI trawl cod fishery including exempt and non-exempt AFA vessels. Information shows a large number of AFA endorsed vessels are not participating, but whose catch history contributes to the AFA Pacific cod sideboard in the Bering Sea trawl cod fishery. Despite a high level of latency, the pace of the fishery has increased shortening the season, resulting in decreased ability to maximize the value of the fishery and negatively impacting fishery participants. Additional entrants could exacerbate these issues and threaten the viability of the fishery. The Council is considering options to improve the prosecution of the fishery, with the intent of promoting safety and increasing the value of the fishery.

Alternatives

The following alternatives are under consideration 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, limit the amount of Pacific cod from the BS Pacific cod non-CDQ trawl catcher vessel sector fishery to Amendment 80 catcher/processors or their replacement vessels,¹ and limit the number of BSAI trawl endorsed LLP licenses that may be used to participate in the directed BSAI Pacific cod trawl fishery as a catcher vessel.

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 Bering Sea Aleutian Islands (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

Option 2: Non Amendment 80 vessels acting as motherships during 2015-2017

Alternative 2, Sub-options 1.2 and 1.3 were modified by staff to clearly reflect Council's intent of this alternative.

Alternative 3. The total amount of Bering Sea subarea BSAI non-CDQ Pacific cod catcher vessel trawl sector A-season (Option: A and B-season) allocation that can be delivered to Amendment 80 vessels catcher/processors limited by this action acting as a mothership is equal to the percentage of trawl catcher vessel sector's Bering Sea subarea BSAI Pacific cod delivered to catcher/processors acting as motherships relative to the total BSAI 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.

¹ Replacement vessels would also be limited in the GOA.

Alternative 4: Prohibit use of LLP licenses in the BSAI trawl Pacific cod fishery that are not attributed a targeted (using fish ticket information) BSAI trawl cod landing between:

- Option 1: 2010-2017
- Option 2: 2012-2017
- Option 3: 2010-2015
- Option 4: 2012-2015

The eight severable Aleutian Islands trawl licenses awarded under Amendment 92² are exempt from prohibitions selected in Alternative 4.

Alternative 5: Establish AFA and non-AFA sector allocations for the BSAI non-CDQ Pacific cod trawl catcher vessel A-season.

- The AFA sector will include AFA-exempt licenses.
- Allocations will be made after considering historical distribution of catch between AFA and non-AFA vessels and other possible considerations
- AFA and non-AFA catcher vessel sector allocations are applicable in the Bering Sea-subarea when the Bering Sea Sector Limitation is implemented, and BSAI-wide when the Bering Sea Sector Limitation is not implemented. Halibut and crab prohibited species catch (PSC) is allocated pro rata to Pacific cod between AFA and non-AFA catcher vessels annually.
- Include a discussion on how the non-AFA cod fishery may also be able to have a cooperative fishing structure and what changes or tools may be necessary.
- Include considerations of how an AFA non-AFA split will address concerns identified in the second paragraph of the purpose and need statement.

Alternative 6: All Amendment 80 vessels not designated on:

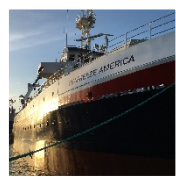
- (1) An Amendment 80 QS permit and an Amendment 80 LLP license; or
- (2) An Amendment 80 LLP/QS license

Will be prohibited from receiving Pacific cod harvested in the Pacific cod directed fishery in the BSAI and GOA.

Control Date: The Council has 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.

² Amendment 92 rescinded latent trawl gear licenses and issued new and additional trawl CV AI area endorsements for AI subarea LLP licenses. Effective September 14, 2009.

Table ES-1 Summary of Alternatives



Alts that affect BSAI Pcod mothershipping

- Alt 1: No constraint on mothershipping
- Alt 2: Authorizing AM80 mothershipping based on history
- Alt 3: Impose limit on AM80 mothershipping amount
- Alt 6: Prohibit replaced AM80 vessels from mothershipping



Alts that affect BSAI Pcod harvesting

- Alt 1: No change for CVs or C/Ps; need an LLP with appropriate endorsements
- Alt 4: Reduced LLP License latency
- Alt 5: Allocate trawl CV Pcod allocation between AFA and non-AFA vessels

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 harvest Pacific cod from that allowance, and in the BS, deliver their catch to the processor of their choice. There is no constraints for catcher/processors to act as a mothership. 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 amounts of the non-CDQ trawl catcher vessel Pacific cod allocation will be delivered to catcher/processors acting as a mothership.

Table ES-1 provides estimates of the amount of BSAI Pacific cod that would be allocated to the trawl catcher vessel sector through 2025. Additionally, if the State GHF fishery is fully harvested, the GHF 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.

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

Sector	Year									% change 2018 to 2026
	2018	2019	2020	2021	2022	2023	2024	2025	2026	
DHS GHLL % of ABC	6.4%	8.0%	9.0%	10.0%	11.0%	12.0%	13.0%	14.0%	15.0%	
DHS Pot GHLL (mt)	12,864	14,480	12,330	13,700	15,070	16,440	17,810	19,180	20,550	
DHS Jig GHLL (100,000 lbs in mt)	n/a	45	45	45	45	45	45	45	45	
DHS GHLL 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%
AI GHLL % of ABC	27%	31%	35%	39%	39%	39%	39%	39%	39%	
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%
BSAI non-CDQ TAC	182,021	161,355	123,247	121,288	120,065	118,841	117,618	116,395	115,171	-36.7%
Trawl CV sector allotment	40,227	35,660	27,238	26,805	26,534	26,264	25,994	25,723	25,453	
% 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 catcher/processors that could act as a mothership when taking deliveries from trawl vessels in the 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 BS 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 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	21	28	n/a	n/a	20
Option 1: Suboption 2	6	22	28	n/a	n/a	20
Option 1: Suboption 3	1	27	28	n/a	n/a	20
Option 2	n/a	n/a	n/a	1	19	20

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. The firm that has relied primarily on catcher vessels not owned by their firm will be limited to the percentage of BSAI Pacific cod it may process as a mothership under Public Law number 115-282 through 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 115-282³.

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 2025). Selecting the most restrictive sub-option would more effectively limit the amount of Pacific cod delivered to catcher/processors acting as a mothership but would displace vessels owned by firms that have participated in the fishery for the past three years or longer.

Catcher vessels and their associated LLP licenses that deliver to a catcher/processor acting as mothership could be affected by Alternatives 2 and 3. Three LLP licenses were used by vessels that delivered Pacific cod only to AFA or Amendment 80 catcher/processors. The markets for the vessels associated with two of those LLP licenses, held by Amendment 80 firms, could be eliminated depending on the options selected. The other LLP license was held by an AFA firm. The catcher/processor that received Pacific cod deliveries from this third catcher vessel and its associated LLP would qualify under Alternative 2, Option 2 and would not be limited under Alternative 3. In total, 9 LLP licenses were associated with catcher vessels that delivered to both Amendment 80 catcher/processors that could be affected under Alternative 2 and other processors not impacted by this action. Those vessels may lose the choice of markets they deliver to in the future. The catcher vessels that were associated with the other 60 LLP licenses only delivered to shorebased processors, floating processors, or true motherships not directly regulated by the action. Those catcher vessels would not be limited by the proposed action from delivering to their traditional processor.

Alternative 3 Impacts

Alternative 3 limits the percentage of the non-CDQ trawl catcher vessel sector allocation that may be delivered to Amendment 80 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 Pacific cod to Amendment 80 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 qualified 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

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

be delivered to Amendment 80 catcher/processors acting as a mothership would range from 0% to about 8%. If both the A-season and B-season were included in the calculation the range would be from 0% to about 10% of the sector allocation. For comparison, during 2018, close to 18% of the A-season catch was delivered to catcher/processors acting as a mothership. 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 Amendment 80 catcher/processors could have various impacts depending on the size of the sideboard limit and who may participate in the fishery. 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 deliveries to Amendment 80 catcher/processors constrained under Alternative 3. Those Amendment 80 catcher/processors may choose to participate in other fisheries as a catcher/processor using their Amendment 80 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 remainder⁴, 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 Adak would be allowed (they are the only AI shoreplant currently operating, but if a plant were opened in Atka catcher vessels could deliver there). 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 Adak, while the set-aside is in place.

In terms of management while 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.

Alternative 4 Impacts

Alternative 4 would limit the number of LLP licenses that could be used to harvest Pacific cod from the non-CDQ trawl catcher vessel sector allocation. The 174 LLP licenses with a BS and/or AI trawl catcher vessel endorsement would be required to have a Pacific cod endorsement to participate in that directed catcher vessel Pacific cod fishery. LLP licenses would qualify for an endorsement if they were used once to target Pacific cod from the non-CDQ trawl catcher vessel sector allocation during the qualifying period.

Four options, based on different qualifying years, are being considered by the Council. The number of LLP licenses that would qualify range from 78 to 85, depending on the option selected (Table ES-4). The majority of the LLP licenses that qualify are AFA derived LLP licenses. The number of LLP licenses used to fish in the BSAI trawl non-CDQ Pacific cod catcher vessel target fishery during a year ranged from 44 to 66, from 2009 through 2018. Therefore, at least 12 to 19 more LLP licenses would qualify than fished during any one year.

One non-AFA LLP license was reported to only have made a landing in 2018 and would not qualify under any of the options defined under Alternative 4. A second non-AFA LLP license would not qualify under any of the options that exclude years after 2015. Three AFA LLP licenses were only associated with landings in 2018 and would not qualify under any option.

⁴ 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.

ES-4 Number of LLP licenses used to fish in the non-CDQ trawl catcher vessel Pacific cod fishery from 2009 through 2018 and the projected number of LLP licenses that would qualify.

License	Year										Option 1	Option 2	Option 3	Option 4
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2010-17	2012-17	2010-15	2012-15
Non-AFA LLPs	6	7	12	10	11	6	7	9	12	13	14	14	13	13
AFA LLPs	41	37	38	47	45	48	46	52	53	53	71	70	67	65
Total LLPs	47	44	50	57	56	54	53	61	65	66	85	84	80	78

Source: AKFIN summary of CAS data

In addition to the licenses that qualify, eight additional transferable AI trawl endorsements issued under Amendment 92 are exempt from this action. Those LLP license endorsements are severable and may be transferred to a qualified LLP license (endorsed for 60' LOA or less) that does not have a trawl endorsement for the AI. These endorsements were exempted to provide trawl vessels that are less than 60' LOA to participate in the AI Pacific cod trawl fishery with the intent they could support the AI shoreplant(s).

Alternative 5 Discussion

Alternative 5 is still considered a discussion paper and not an analysis of impacts. Options need to be developed before they can be analyzed. Information reported in that section of the paper include:

- a short discussion of how a cooperative structure could meet the current problem statement,
- data on the historical catch of non-CDQ Pacific cod in the trawl catcher vessel sector by AFA vessels and LLP licenses and non-AFA vessels and LLP licenses, and
- a brief summary of decisions that would need to be made and components that would need to be included, if a cooperative structure were developed.

Alternative 6 Impacts

Alternative 6 would be selected in conjunction with Alternative 2. The purpose of that alternative 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 that alternative 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 6 mothership limitation applies to all BSAI and GOA 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"> • Additional catcher/processors could enter that fishery and more catcher vessels deliver to those processors. • Deliveries of BS Pacific cod to Amendment 80 catcher/processors acting as a mothership for processing could increase. • More catcher vessels could enter the fishery increasing competition for the available resource between harvesters and the processors their deliveries. 	No, it does not limit the amount of BSAI Pacific cod harvested with trawl gear being delivered to at-sea processors or the number of catcher/processors that can take Pacific cod deliveries as a mothership
Alternative 2	<ul style="list-style-type: none"> • All qualification is based on participation as a mothership in the BSAI Pacific cod trawl fishery 	<ul style="list-style-type: none"> • Option 1, sub-options 1 and 2 would not be effective in limiting increases in the

Alternative and Option	Impacts/Costs/Benefits	Meets Defined Objectives
	<p>from 2015 through 2017 in either 1, 2, or all three years.</p> <ul style="list-style-type: none"> • Amendment 80 catcher/processors (28 total) <ul style="list-style-type: none"> ○ 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. ○ 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. ○ 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. • AFA catcher/processors (20 total) <ul style="list-style-type: none"> ○ Option 2 (1 catcher/processor qualifies) • 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. 	<p>amount of Pacific cod delivered to Amendment 80 catcher/processors. Because of declining BS TACs and current levels of effort, about 18% of the A-season catch was delivered to catcher/processors acting as a mothership in 2018. This level of processing or greater could continue under either options 1 sub-options 1 or 2 in the long-term.</p> <ul style="list-style-type: none"> • 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. • True mothership and other at-sea processors would not be restricted.
Alternative 3	<ul style="list-style-type: none"> • 72 different options are considered that would limit the percentage (ranging from 0% to approximately 10% of the trawl catcher vessel sector allocation) of BS Pacific cod that may delivered to Amendment 80 catcher/processors acting as a mothership. The amount is treated as a sideboard limit. The Council could select any percentage in that range. • Depending on the number of catcher/processors that qualify under Alternative 2 and the percentage limit selected, competition between members of the Amendment 80 sector could increase to harvest the available BS sideboard. • 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 no history. Exempting the catcher/processor that qualifies under Alternative 2 - option 1 sub-option 3 would result in that vessel being able to operate as they have in the 	<ul style="list-style-type: none"> • Setting a sideboard limit would be effective in protecting BS shoreside processors from increases in deliveries to of directed BS Pacific cod to Amendment 80 catcher/processors. • 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. • Changing the amount of deliveries between catcher/processors acting as a mothership and other processors does not appear to significantly change the value

Alternative and Option	Impacts/Costs/Benefits	Meets Defined Objectives
	<p>past. Other catcher/processors owned by the firm would be subject to the sideboard limit, if one was imposed.</p> <ul style="list-style-type: none"> • 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. 	<p>derived from the fishery at the first wholesale level and therefore does not change net benefits to the Nation.</p> <ul style="list-style-type: none"> • The action would have distributional impacts on participants in the various sectors.
Alternative 4	<p>Limits the number of BSAI LLP licenses that have a trawl endorsement from harvesting BSAI Pacific cod from the trawl catcher vessel sector allocation. A total of 174 LLP licenses have a BSAI trawl endorsement.</p> <ul style="list-style-type: none"> • Option 1: 2010-2017 <ul style="list-style-type: none"> ◦ (85 qualify – 14 AFA & 71 non-AFA) • Option 2: 2012-2017 <ul style="list-style-type: none"> ◦ (84 qualify – 14 AFA & 70 non-AFA) • Option 3: 2010-2015 <ul style="list-style-type: none"> ◦ (80 qualify – 13 AFA & 67 non-AFA) • Option 4: 2012-2015 <ul style="list-style-type: none"> ◦ (78 qualify – 13 AFA & 65 non-AFA) • The eight severable Aleutian Islands trawl endorsements awarded under Amendment 92 are exempt and can continue to be used to deliver to the AI plant(s). None of these would have qualified based on their catch history in the federal fisheries. Protecting those endorsements provides opportunities for the <60' vessels that use those endorsements and the AI plant. • The number of LLP licenses that qualify will allow increased effort in the fishery. • Four LLP licenses that, since 2010, have only been used in the fishery in 2018 would not qualify. The users of these LLP licenses could be displaced. 	<ul style="list-style-type: none"> • All options limit the number of LLP licenses that could fish the BSAI trawl catcher vessel sector allocation well below the maximum currently allowed, but every option allows more LLP licenses to qualify than ever fished in a year. • Limiting the number of LLP licenses could constrain future expansion of effort. • The number of LLP licenses that qualify could result in shortened fishing seasons and crowded fishing grounds. • The number of qualified LLP licenses are not based on limiting the fleet to maximize economic efficiency.
Alternative 5	<p>This Alternative is still in the discussion paper stage and has not been analyzed.</p>	<p>Potentially could address several issues defined as problems in the BSAI Pacific cod trawl catcher vessel sector A-season fishery.</p>
Alternative 6	<p>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.</p>	<p>Is effective in limiting participation by any vessels that have been considered Amendment 80 vessels in the past.</p>

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 considers limiting the amount of BSAI non-CDQ Pacific cod that trawl catcher vessels may deliver to certain catcher/processors. To address the concerns of vessel latency in the BSAI trawl catcher vessel Pacific cod fishery, the proposed action would also prohibit the use of License Limitation Program (LLP) licenses in the BSAI trawl cod fishery that has not attributed a directed BSAI trawl Pacific cod landing during a defined qualifying period. 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.

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 considers limiting the percentage of BSAI non-CDQ Pacific cod harvested from the trawl catcher vessel sector allocation that can be delivered to Amendment 80 catcher/processors. To address the concerns of vessel latency in the BSAI trawl catcher vessel Pacific cod fishery, the proposed action would also prohibit the use of LLP licenses in the BSAI trawl cod fishery that have not reported a legal targeted BSAI non-CDQ Pacific cod trawl catcher vessel landing during the qualifying period. 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 is improve the prosecution of the fishery to increase the value of the fishery through limiting entry of vessels that have not participated or have not recently participated 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 6. 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 June 2018, the Council adopted 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. 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.

In addition, there are both AFA [American Fisheries Act] and non-AFA licenses endorsed to fish in the BSAI trawl cod fishery including exempt and non-exempt AFA vessels. Information shows a large number of AFA endorsed vessels are not participating, but whose catch history contributes to the AFA Pacific cod sideboard in the Bering Sea trawl cod fishery. Despite a high level of latency, the pace of the fishery has increased shortening the season, resulting in decreased ability to maximize the value of the fishery and negatively impacting fishery participants. Additional entrants could exacerbate these issues and threaten the viability of the fishery. The Council is considering options to improve the prosecution of the fishery, with the intent of promoting safety and increasing the value of the fishery.

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 for 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 Amendment 80 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.

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

Option 2: Non Amendment 80 vessels acting as motherships during 2015-2017

Alternative 2, Sub-options 1.2 and 1.3 were modified by staff to clearly reflect Council's intent of this alternative.

Option 2: Non-Amendment 80 vessels acting as motherships during 2015-2017

Alternative 3. The total amount of Bering Sea subarea BSAI non-CDQ Pacific cod catcher vessel trawl sector A-season (Option: A and B-season) allocation that can be delivered to Amendment 80 vessels catcher/processors limited by this action acting as a mothership is equal to the percentage of trawl catcher vessel sector's Bering Sea subarea BSAI Pacific cod delivered to catcher/processors acting as motherships relative to the total BSAI 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: Prohibit use of LLP licenses in the BSAI trawl Pacific cod fishery that are not attributed a targeted (using fish ticket information) BSAI trawl cod landing between:

- Option 1: 2010-2017
- Option 2: 2012-2017
- Option 3: 2010-2015
- Option 4: 2012-2015

The eight severable Aleutian Islands trawl licenses awarded under Amendment 92⁵ are exempt from prohibitions selected in Alternative 4.

Alternative 5: Establish AFA and non-AFA sector allocations for the BSAI non-CDQ Pacific cod trawl catcher vessel A-season.

- The AFA sector will include AFA-exempt licenses.
- Allocations will be made after considering historical distribution of catch between AFA and non-AFA vessels and other possible considerations
- AFA and non-AFA catcher vessel sector allocations are applicable in the Bering Sea-subarea when the Bering Sea Sector Limitation is implemented, and BSAI-wide when the Bering Sea Sector Limitation is not implemented. Halibut and crab PSC is allocated pro rata to Pacific cod between AFA and non-AFA catcher vessels annually.
- Include a discussion on how the non-AFA cod fishery may also be able to have a cooperative fishing structure and what changes or tools may be necessary.
- Include considerations of how an AFA non-AFA split will address concerns identified in the second paragraph of the purpose and need statement.

Alternative 6: 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.

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.

⁵ Amendment 92 rescinded latent trawl gear licenses and issued new and additional trawl CV AI area endorsements for AI subarea LLP licenses. Effective September 14, 2009.

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.

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 seasons⁶ 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.

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 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 required by law.

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 are managed under BSAI Amendment 113 and its revision. 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.

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 options. Because the action is limited to catcher/processers, it excludes all true mothership 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

⁶ Seasons open and close at noon of the dates shown.

deliveries to these vessels when the BS non-CDQ Pacific cod catcher vessel trawl fishery is open to directed fishing or the AI unrestricted fishery is open to directed fishing.

The options under Alternative 2 would require catcher/processors to have taken delivery of a targeted⁷ 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/processors would only be required to take one targeted Pacific cod delivery to qualify to take future directed deliveries of non-CDQ Pacific cod.

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. 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.⁸ 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 Amendment 80 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. Because only Amendment 80 catcher/processors are limited under Alternative 3, the sub-option only applies to that sector. Any catch delivered in the future to these exempt catcher/processors would not count against any sideboard limit established under this action.

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 would establish a Pacific cod trawl catcher vessel endorsement that would be required for directed fishing in the non-CDQ BSAI Pacific cod trawl catcher vessel sector. The endorsement would be applied to BSAI groundfish LLP licenses that have a trawl endorsement and the limitation would apply for the entire fishing year. The endorsement would be required to use the LLP license to directed fish for

⁷ 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.

⁸ 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.

Pacific cod that is assigned to the BSAI trawl catcher vessel sector. To qualify for the endorsement the Council is considering requiring a targeted BSAI non-CDQ Pacific cod landing from the federal trawl catcher vessel sector allocation. Fish ticket data will be used to determine if a vessel made the required landing based on four time periods under consideration (1) 2010 through 2017, (2) 2012 through 2017, (3) 2010 through 2015, and (4) 2012 through 2015.

Alternative 4 also specifically states that the eight severable Aleutian Islands trawl licenses awarded under Amendment 92 are exempt from the endorsement requirements. These licenses are not required to have recorded a valid non-CDQ trawl Pacific cod landing in the federal trawl catcher vessel fishery during the qualifying period to fish non-CDQ AI Pacific cod from the BSAI trawl catcher vessel allocation in the future. These LLP licenses were exempted because they are used in AI fisheries and provide small vessels that have had limited opportunities for shorebased deliveries in recent years. They are also intended to support small boat fishermen and the AI shoreplants.

Alternative 5 is a request for additional information to aid in the development of specific elements and options to establish AFA and non-AFA sector allocations for the BSAI non-CDQ Pacific cod trawl catcher vessel A-season and to provide information on issues the Council may want to consider that would facilitate development of non-AFA Pacific cod cooperatives in the catcher vessel sector. The Council discussed the issues associated with AFA and non-AFA allocations and their impact on existing AFA cooperatives and the potential for forming non-AFA Pacific cod catcher vessel cooperatives. Based on those discussions the Council was not ready to develop specific alternatives for analysis but wanted to collect additional information from industry and staff.

Alternative 6 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 was 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. 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 is specific to catcher/processors acting as a mothership. It does not apply to catcher vessels qualifying for Pacific cod endorsement on its LLP license (Alternative 4). 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.

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) 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, 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. Fish ticket data are an input into the CAS system and are used to determine which LLP licenses qualify under Alternative 4.

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 4 language states that access to the BSAI trawl catcher vessel Pacific cod fishery should be based on legal targeted BSAI Pacific cod landing during the qualifying period.⁹ Targeted landings 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. 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. Eligibility for previous limited access programs were based on trip target rather than directed fishing activity (e.g., the yellowfin sole TLA fishery amendment).

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) and catcher vessels (Alternative 4) qualifying based on incidental catch of Pacific cod. Because qualification would be based on legal landings, directed fishing may only occur when the BSAI trawl catcher vessel Pacific cod fishery is open. The Council ultimately rejected this approach and used the 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,¹⁰ 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

⁹ A legal targeted landing of Pacific cod includes all legal directed landings of Pacific cod.

¹⁰ 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.

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 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 paper¹¹ 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 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

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

nine non-CDQ fishery sectors. The nine non-CDQ fishery sectors and the percentage of the combined BSAI non-CDQ TAC allocated to each sector are shown in the table below.

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

NMFS manages each of the non-CDQ fishery sectors to ensure harvest of Pacific cod does not exceed the overall annual allocation made to each of the non-CDQ fishery sectors. NMFS monitors harvests that occur while vessels are directed fishing for Pacific cod (specifically targeting and retaining Pacific cod above specific threshold levels) and harvests that occur while vessels are directed fishing in other fisheries and incidentally catching Pacific cod (e.g., the incidental catch of Pacific cod in the directed pollock fishery). For the non-AFA trawl 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 2018. Since the BS and AI were split in 2014, the BS ABC and TAC have declined and the AI ABC and TAC have increased.

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 2018 (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						

Source: NMFS Final Specifications

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 2018

Sector	BSAI Sector Apportionment (mt)	BSAI Season allowance (mt)		
		A	B	
H&L/pot < 60'	3,627	No seasonal allowance		
H&L CV ≥ 60'	363	185	178	
H&L CP	88,324	45,045	43,279	
Pot CV ≥ 60'	15,235	7,770	7,465	
Pot CP	2,720	1,387	1,333	
Sector	BSAI Sector Apportionment (mt)	BSAI Season allowance (mt)		
		A	B	C
Jig vessels	2,549	1,529	510	510
AFA trawl CP	4,186	3,140	1,047	0
Amendment 80	24,391	18,293	6,098	0
Trawl CV	40,227	29,768	4,425	6,034

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 11 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 2-11). 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 2018

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%

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

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

2.6.3 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. 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 2018. In 2014 and 2015, the fishery closed only in the AI prior to the end of the A-season. During 2016 and 2017 the fishery has closed on March 9th and February 23rd. The earliest closure for the non-CDQ trawl catcher vessel sector during the A-season was February 11, 2018 in BS. That year the BSAI fishery was closed on March 4, while the latest initial closure, prior to the normal end of the A season, was March 26 in 2011. The B-season, is typically only open for about one week. The B-season sometimes reopened during the B-season if sufficient TAC was available. The C season has not closed since 2007, and closures were generally due to halibut PSC limits being reached.

Table 2-5 Closure and opening dates for the BSAI Pacific cod trawl catcher vessel sector, 2003 through 2018

Year	A-Season: 20 Jan - Apr 1	B-Season: 1 Apr - 10 Jun	C-Season: 10 Jun - Nov 1
2003			Cl 25-Sep, HAL
2004	Cl 23-May	Cl 4-Apr Op 10-Apr Cl 13-Apr	
2005	Cl 13-Mar Op 29-Mar		Cl 18-Aug, HAL
2006	Cl 8-Mar	Cl 6-Apr Cl 8-Jun, HAL	Op 19-Jul, HAL Cl 31-Aug
2007	Cl 12-Mar	Cl 9-Apr	Cl 29-Sep, HAL
2008	Cl 6-Mar	Cl 4-Apr	
2009	Cl 21-Mar	Cl 5-Apr	
2010	Cl 12-Mar	Cl 1-Apr	
2011	Cl 26-Mar	Cl 4-Apr Op 9-Apr Cl 12-Apr Op 15-Apr	
2012	Cl 29-Feb Op 29-Mar	Cl 15-Apr	
2013	Cl 11-Mar		
2014	Cl 16-Mar		
2015	Cl 27-Feb		
2016	Cl 9-Mar	Cl 4-Apr Op 11-Apr Cl 4-May	
2017	Cl 23-Feb	Cl Apr 3	
2018	Cl 11-Feb (BS), Cl 4-Mar (BSAI)	Cl Apr 3	

Notes: Cl = Closed, Op = Open, HAL=Closed because halibut PSC limits reached, REG=Closed by Regulation

All openings and closures are because of TAC unless otherwise noted

2.6.4 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.

2.6.5 Amendment 113 and proposed replacement

Amendment 113 is under review to potentially amend current regulations to provide greater protection to the AI communities allowed to accept certain AI Pacific cod deliveries. The current regulations, at the time this document was drafted, were effective November 23, 2016. Regulations associated with Amendment 113 set aside a portion of the AI Pacific cod TAC for harvest by vessels directed fishing for AI Pacific cod and delivering their catch to a shoreside processor located on land west of 170° W. longitude in the AI. The harvest set-aside applies only if specific notification and performance requirements are met by the AI shorebased processor(s), and only during the first few months of the fishing year. This harvest set-aside provides the opportunity for catcher vessels, AI shoreplants, and the communities where AI shoreplants are located to receive benefits from a portion of the AI Pacific cod fishery. The notification and performance requirements preserve an opportunity for the complete harvest of the BSAI Pacific cod resource if the set-aside is not fully harvested.

The proposed revisions to the Amendment 113 regulations require that some or all of the AI Pacific cod Directed Fishing Allowance (DFA)¹² 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 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-Side is equal to the AI DFA and the set-

¹² DFA = TAC - ICA and CDQ allowance

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 Harvest Set-Aside is in effect, will be permitted to conduct directed fishing for groundfish (other than Pacific cod) in the AI and their incidental Pacific cod harvests will accrue toward the AI incidental catch allowance (ICA).

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 and may be processed by any eligible processor. 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 is open to directed fishing. Catcher/processors can also conduct directed fishing for AI Pacific cod and process that catch as long as the AI Unrestricted Fishery is open for directed fishing.

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

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

Table 2-6 Example of 2017 BSAI A-Season Pacific Cod limits if AI shoreplants intend to process AI Pacific cod

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

Source: NMFS Final Specifications

NMFS will account for harvest and processing of AI Pacific cod under the AI catcher vessel Harvest Set-Aside separately from, and in addition to its accounting of AI Pacific cod catch by the nine non-CDQ

fishery sectors. Because of this separate accounting, the AI catcher vessel Harvest Set-Aside will not increase or decrease the amount of BSAI Pacific cod allocated to any of the non-CDQ fishery sectors.

The AI catcher vessel Harvest Set-Aside will apply from January 1 until March 21 of each year if certain notification and performance measures are satisfied. If the entire set-aside is harvested and delivered prior to March 15, NMFS will lift the BS Trawl catcher vessel A-season sector limitation and AI catcher vessel Harvest Set-Aside as soon as possible. The AI catcher vessel Harvest Set-Aside will end at noon on March 15 even if the entire set-aside has not been harvested and delivered to AI shoreplants. Any amount of remaining AI DFA may be harvested by any non-CDQ fishery sector with remaining A-season allocation, and the harvest may be delivered to any eligible processors.

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

The second measure to prevent stranding of available AI non-CDQ Pacific cod harvest is the lifting of the AI 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 harvest set-aside and the restriction on the trawl catcher vessel sector BS A-season allocation are suspended for the remainder of the year.

In February 2018, the Council identified a regulatory issue that runs counter to the intent of providing community protections in the AI. Since the AI Unrestricted Fishery and the AI catcher vessel Harvest Set-Aside are administered simultaneously, the AI Pacific cod catch that is delivered to offshore or non-AI shoreplants by trawl catcher vessels is deducted from both the AI Unrestricted Fishery and the BS Trawl catcher vessel Limitation. The deduction of AI Pacific cod delivered to offshore processors or non-AI shoreplants from the BS Trawl catcher vessel Limitation runs counter to the intent of the Council to provide stability to AI shoreplant operations and the communities that are dependent on shore processing activity. The BS Trawl catcher vessel Limitation was intended for use by trawl catcher vessels for harvest and delivery of AI Pacific cod from the AI catcher vessel Harvest Set-Aside to AI shoreplants.

In December 2018, the Council recommended to the Secretary of Commerce to modify Amendment 113 so that harvest by the trawl catcher vessels from the AI Unrestricted Fishery will not be included in the BS trawl catcher vessel A-season Sector Limitation when determining the closure of the BS subsection. In other words, under the preferred modification to Amendment 113, the BS trawl catcher vessel A-season sector would close once the harvest from the BS Pacific cod fishery and Unrestricted AI Pacific cod fishery by trawl catcher vessels was equal to the amount of BS Pacific cod that remains after deducting the BS Trawl catcher vessel A-season Sector 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. All other regulations associated with Amendment 113 would remain unmodified.

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.
- NMFS Staff had not yet determined the percentage of the available Pacific cod trawl catcher vessel sector allocation that would be set as a sideboard for these vessels when acting as a mothership at the time this paper was drafted (in part due to the timing of the December Council meeting and the Federal government shutdown).
- It had also not been determined whether the sideboard amount is considered confidential. If it (and all other sideboard limits calculated for the firm) 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 amounts.
- 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 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 2-7 summarizes the AI GHL fishery regulations. Table 2-8 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 2-7 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'
				Beginning August 1, pot vessels cannot exceed 125' while vessel with other gear 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	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 2-8 Aleutian Islands state-waters Pacific cod fishery guideline harvest level and harvest from 2006-2018

Year	Season	Initial GHl ^a	Harvest ^a	Vessels	Landings	Average price per pound ^b	Fishery value ^c
2006	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
2007	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
2008	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
2009	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
2010	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
2011	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
2012	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
2013	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
2014	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
2015	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
2016		4,752	h	CF	6		39	CF	CF
2017		5,805	h	CF	3		84	CF	CF
2018		5,805	h	CF	13		132	CF	CF

Note: CF = Confidential

^a In metric tons

^b Price per pound of landed weight.

^c Fishery value based on landed weight, in millions of dollars.

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

^e Some vessels participated in both seasons.

^f Overage from the A-season was deducted from the B-season GHL. Initial GHL shown.

^g A-season GHL was not fully harvested, remaining A-season GHL rolled over into B-season GHL; initial GHL shown.

^h 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.¹³ A summary of the regulations is provided in Table 2-9. The DHS GHL fishery for Pacific cod occurred in State waters between 164 degrees and 167 degrees west longitude until 2019. 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.¹⁴ 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.

¹³ https://www.psmfc.org/tsc-drafts/2017/ADFG_2017_AK_TSC_Alaska_FINAL.pdf

¹⁴ The 2018 season opened on January 30 and was closed on March 1 because the GHL was projected to be taken.

Table 2-9 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"> 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 < 60' hook-and-line and pot gear catcher vessel sector. If GHL Pacific cod are available when the federal BSAI Pacific cod < 60' HAL/pot gear catcher vessel sector closes after harvesting any reallocation, the DHS state-waters Pacific cod season may reopen. The DHS is defined as waters between 162.30 and 167 west longitude 	<ul style="list-style-type: none"> When the GHL is taken or at the regulatory season closure date (December 31) whichever occurs first. If the federal BSAI Pacific cod < 60' HAL/pot gear catcher vessel sector receives a TAC reallocation and is reopened, the DHS state-waters Pacific cod season may close. 	<ul style="list-style-type: none"> Pot gear vessels using 60 or fewer pots unless the Commissioner modifies regulations after October 1. 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. 	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"> May 1 opens a 100,000 lb fishery 	<ul style="list-style-type: none"> When the GHL is taken or at the regulatory season closure date (December 31) whichever occurs first. 	<ul style="list-style-type: none"> Jig gear with a limit of 5 jigging machines. 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. 	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 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 2-10. 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 2-10 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.¹⁵ 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 2-11 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.

Table 2-11 Change in trawl catcher vessel allocation if maximum GHL increases are realized, based on 2018 ABCs

Sector	2018	2019	2020	Year							% change 2018 to 2026
				2021	2022	2023	2024	2025	2026		
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%	
AI GHL % of ABC	27%	31%	35%	39%	39%	39%	39%	39%	39%		
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%	
BSAI non-CDQ TAC	182,021	161,355	123,247	121,288	120,065	118,841	117,618	116,395	115,171	-36.7%	
Trawl CV sector allotment	40,227	35,660	27,238	26,805	26,534	26,264	25,994	25,723	25,453		
% 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

¹⁵ 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.

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.¹⁶ 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.

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 2-12 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.

¹⁶ <https://alaskafisheries.noaa.gov/fisheries/sslpm>

Table 2-12 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
Total			22	126	26	174

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.¹⁷

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, 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 2-13 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

The Appendix 1 Section 6.4 provides four detailed tables that show the 174 BSAI trawl endorsed LLP licenses by whether they may qualify under this amendment and by specific LLP license attributes. The reader is referred to that section and Section 2.7.4 for more information on the active and inactive LLP

¹⁷ The other 14 BSAI sideboarded groundfish species are typically not open to directed fishing.

licenses in the BSAI Pacific cod trawl fishery and Section 2.6.17 for additional information on Amendment 80 and AFA catcher/processor sideboard limits in other fisheries.

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).¹⁸ 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

Eight LLP licenses are currently assigned the transferable AI trawl endorsement (Table 2-14). 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.

¹⁸ Much of the information in this section is taken from the cited Proposed Rule.

Table 2-14 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 2010,¹⁹ and four fished only in 2009. Given that the Council's options only reach back to 2010 to qualify under Alternative 4, four of the LLP licenses could qualify if the vessel owner could assign the catch history from the vessel to those LLP licenses. Because none of the vessels fished for open access Pacific cod in the BSAI open access trawl fishery after 2010, none of the LLP licenses would qualify under Alternative 4, options 2 and 4. Those options only include the years 2012 and later as a qualifying years.

The Council's motion indicates that these endorsements are exempted from the recent landings requirements considered under Alternative 4. 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 2-15). As required, they are assigned to non-AFA vessels and have a BS trawl endorsement. These endorsements are not exempt from the recent landings requirements considered under Alternative 4, because they have traditionally operated in the BS and an open access Pacific cod landing in the BS would qualify the holder to retain the endorsements to trawl in both areas. All four of these LLP licenses were on a vessel that reported at least one open access trawl Pacific cod target fishery landing during the four qualifying periods being considered and would qualify to continue to fish Pacific cod under each of the Alternative 4 options.

Table 2-15 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 Catch History to LLP Licenses

Data indicates that there were 18 LLP licenses that were associated with a vessel in the BSAI Pacific cod fishery when the vessel had two LLP licenses. Six of the LLP licenses were always fished when more than one LLP license was on the vessel. Eight of the LLP licenses were also used on a vessel during the qualifying period when it was the only LLP license on the vessel. All of these LLP licenses would qualify

¹⁹ 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.

on their own. Four of the LLP licenses would qualify under Options 1 and 2 based on their history when they were the only LLP on the vessel. It is assumed that vessel owners could determine when catch is assigned to a specific LLP license during the application process. Based on the data available it also appears that all of the stacked LLP licenses eligible to fish with trawl gear in the BSAI could potentially qualify. Allowing the vessel owner to assign catch history to a LLP license or allowing all these LLP licenses to qualify may result in the same number of LLP licenses qualifying.

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 2-16 Percentage of Pacific cod harvested by season and fishery

Season	2016	2017	2018	2008-2018 average
Non-Pacific cod target fisheries				
A Season	6.26%	11.40%	7.77%	9.04%
B Season	10.64%	16.32%	8.26%	5.62%
C Season	3.79%	2.61%	7.58%	8.25%
Annual Total	20.69%	30.33%	23.61%	22.91%
Pacific cod target fishery				
A Season	69.36%	60.95%	55.15%	63.76%
B Season	7.03%	8.28%	21.24%	9.59%
C Season	2.91%	0.45%	0.00%	3.74%
Annual Total	79.31%	69.67%	76.39%	77.09%

Source: AKFIN summary of NMFS CAS data

Table 2-17 shows the percentage of Pacific cod that was harvested in the non-Pacific target fisheries from 2016 through 2018. The percentages are the proportion of the Pacific cod catch by target fishery, excluding the Pacific cod target fishery. On average, about one-third of the Pacific cod is taken in the A-season. Most of the catch is in the yellowfin sole target fishery, followed by the pollock and Atka mackerel fisheries. During the B-season the yellowfin sole fishery also accounts for the most incidental Pacific cod catch. The rock sole fishery also has a small but substantial amount of incidental Pacific cod catch. Finally, during the C-season, Atka mackerel, pollock, and rockfish generate the most Pacific cod incidental catch.

Table 2-17 Percentage of Pacific cod caught in non-Pacific cod target fisheries by season and year

Season/target	2016	2017	2018	Average
A Season	30.25%	37.57%	32.90%	34.29%
Alaska Plaice - BSAI	c	c	c	c
Atka Mackerel	2.18%	c	4.95%	4.31%
Flathead Sole	0.00%	c	4.36%	1.27%
Pollock	12.96%	7.76%	10.46%	9.92%
Rock Sole - BSAI	3.56%	0.72%	c	1.52%
Yellowfin Sole - BSAI	11.55%	23.80%	12.01%	17.19%
B Season	51.43%	53.82%	34.98%	47.90%
Alaska Plaice - BSAI	c	c	c	c
Pollock	c	c	c	c
Rock Sole - BSAI	23.36%	5.36%	3.15%	9.61%
Rockfish	c	c	c	c
Yellowfin Sole - BSAI	27.65%	32.23%	31.29%	30.73%
C Season	18.31%	8.60%	32.12%	17.81%
Atka Mackerel	8.72%	4.71%	22.16%	10.68%
Other Species	c	c	c	c
Pollock	5.85%	2.17%	2.89%	3.36%
Rock Sole - BSAI	c	c	c	c
Rockfish	2.85%	1.32%	5.30%	2.85%
Yellowfin Sole - BSAI	0.00%	0.00%	1.77%	0.49%
Percent of Annual Total non-Pacific cod Targets	100.00%	100.00%	100.00%	100.00%
Percent of Annual Total all Targets	20.69%	30.33%	23.61%	22.91%

Source: AKFIN summary of NMFS CAS data

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

Based on the information presented above, if the Council were to consider modifying the MRA for Pacific in the future, the yellowfin sole, Atka mackerel, and pollock 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. Person 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.²⁰ 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.

²⁰ 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.

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.²¹ 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 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 CPs

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 or Alternative 4) to process/fish in the trawl catcher vessel sector allocation of Pacific cod in the future. Table 2-18 shows that there were three catcher/processor LLP licenses²² 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 CP, they would not count toward qualification under Alternative 4. 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.

²¹ 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.

²² All these catcher/processors were based in the greater Seattle area.

Table 2-18 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 20 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 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 currently includes 23 vessels.

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 the use 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. Since they may not harvest Pacific cod from the trawl catcher vessel sector allocation, no LLP licenses used by Amendment 80 catcher/processors to harvest Pacific cod would qualify under Alternative 4. However, Amendment 80 catcher/processors have taken deliveries 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 2-19 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 2-19 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 2-20 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 2-20 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 credited against 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 2-21, 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 2-21 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 2-22 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 number of catcher vessels reported in this table are greater than the numbers reported as qualified under Alternative 4, because qualification is based on making a targeted Pacific cod landing during the qualifying period. 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 by Alternative 4 since that alternative only limits a catcher vessels ability to participate in the directed BSAI Pacific cod fisheries. 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 2-22 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 2-23 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% 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 2-23 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
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
	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%
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

Table 2-24 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 and Alternative 5 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 2-24 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
Total	26,413	25,036	27,235	34,022	38,027	35,519	36,006	30,544	38,717	37,104	29,374	357,996
	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%
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

Table 2-25 is the third in the series of AFA versus non-AFA tables and includes only BS A-season catch data. This table is provided because Alternative 5 direction indicates the Council may consider dividing the catch between the AFA and non-AFA sectors based only on BS history in years when the BS sector limitation is implemented under Amendment 113.

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 2-25 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 2-26).²³ 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.

²³ 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 2-26 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
Total	\$896.19	\$343.67	\$167.59	\$101.94	\$10.81	\$1,949.86	\$132.07	\$16.97	\$3,372.10	18
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
Total	26.6%	10.2%	5.0%	3.0%	0.3%	57.8%	3.9%	0.5%	100%	18

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.²⁴

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 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 reported to have taken deliveries of Pacific cod in the directed Pacific cod fishery or as 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:

- 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

²⁴ A more detailed discussion of this issue is presented in the SIA (Section 3.5.3 of Appendix 1).

Area²⁵ (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.²⁶ 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.

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

²⁵ 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.

²⁶ An annual average of 1.1 catcher vessels with Bellingham Washington ownership addresses participated in the fishery over the 2008=2018 period.

“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 2-27 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
Fillet														
1st Wholesale Value (\$ mill)	\$23.4	\$32.8	\$48.3	\$37.3	\$44.3	\$36.3	\$53.5	\$64.1	\$61.9	\$78.4	\$75.3	\$49.8	\$90.9	\$696.3
Net Weight (Mlbs)	11.7	12.0	15.7	10.1	11.0	13.6	19.7	20.4	21.8	25.7	27.2	18.5	26.4	233.6
\$/lb	\$2.00	\$2.73	\$3.08	\$3.71	\$4.04	\$2.68	\$2.72	\$3.15	\$2.84	\$3.05	\$2.77	\$2.68	\$3.44	\$2.98
Processors	6	6	6	6	6	6	7	6	7	8	8	7	7	22
H&G														
1st Wholesale Value (\$ mill)	\$33.1	\$40.1	\$43.9	\$65.4	\$63.2	\$8.5	\$23.8	\$47.4	\$42.2	\$20.1	\$47.0	\$42.9	\$22.9	\$500.4
Net Weight (Mlbs)	32.0	26.2	32.6	39.3	37.1	9.8	25.3	37.8	36.5	25.3	48.2	41.5	22.1	413.6
\$/lb	\$1.04	\$1.53	\$1.35	\$1.66	\$1.70	\$0.87	\$0.94	\$1.25	\$1.16	\$0.79	\$0.98	\$1.03	\$1.04	\$1.21
Processors	11	10	10	12	12	7	8	10	9	9	9	8	7	26
Meal														
1st Wholesale Value (\$ mill)	\$1.4	cf	cf	cf	cf	\$1.0	cf	cf	cf	cf	\$2.1	cf	cf	\$15.9
Net Weight (Mlbs)	2.4	cf	cf	cf	cf	2.3	cf	cf	cf	cf	3.2	cf	cf	29.6
\$/lb	\$0.60	cf	cf	cf	cf	\$0.42	cf	cf	cf	cf	\$0.68	cf	cf	\$0.54
Processors	6	4	5	3	4	4	4	3	3	3	4	4	4	16
Other														
1st Wholesale Value (\$ mill)	\$17.4	\$14.7	\$18.3	\$16.4	\$18.0	\$10.3	\$10.3	\$13.7	\$14.6	\$14.5	\$15.8	\$11.9	\$11.8	\$187.8
Net Weight (Mlbs)	15.8	13.9	15.7	13.2	16.8	13.5	15.3	16.8	16.8	19.3	18.6	15.5	16.4	207.5
\$/lb	\$1.10	\$1.06	\$1.16	\$1.24	\$1.07	\$0.77	\$0.68	\$0.82	\$0.87	\$0.75	\$0.85	\$0.77	\$0.72	\$0.91
Processors	10	11	10	11	11	8	8	9	9	9	9	8	8	28
Whole														
1st Wholesale Value (\$ mill)	\$0.5	cf	cf	cf	cf	\$0.2	cf	cf	cf	cf	\$0.5	cf	cf	\$4.4
Net Weight (Mlbs)	1.0	cf	cf	cf	cf	0.4	cf	cf	cf	cf	0.6	cf	cf	8.3
\$/lb	\$0.53	cf	cf	cf	cf	\$0.35	cf	cf	cf	cf	\$0.79	cf	cf	\$0.53
Processors	6	3	2	3	2	4	2	2	3	5	4	2	3	17
Total of all products														
1st Wholesale Value (\$ mill)	\$75.9	\$89.0	\$111.2	\$119.9	\$127.0	\$56.3	\$89.8	\$126.5	\$119.8	\$115.4	\$140.8	\$105.9	\$127.3	\$1,404.9
Net Weight (Mlbs)	62.9	55.1	65.7	64.0	70.8	39.6	63.4	76.9	77.6	74.0	97.7	77.4	67.5	892.6
\$/lb	\$1.21	\$1.61	\$1.69	\$1.87	\$1.79	\$1.42	\$1.42	\$1.65	\$1.54	\$1.56	\$1.44	\$1.37	\$1.89	\$1.57
Processors	12	12	11	13	12	9	9	11	10	10	10	9	9	29

Source: AKFIN summary of CAS and value data (BS_Pcod_Prod 10-11-17)

Confidential data is reported in the table as "cf."

Table 2-28 Trawl Catcher/processor production of BS Pacific cod products by year, 2004 through 2016

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

Source: AKFIN summary of CAS and value data (BS_Pcod_Prod 10-11-17)

Confidential data is reported in the table as "cf."

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/processors in the GOA groundfish directed fisheries (note that Amendment 80 catcher/processors to receive allocations of rockfish under the Central GOA Rockfish Program), GOA halibut PSC, and flatfish participation, respectively. Amendment 80 catcher/processors 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 is the mothership processing sector for BSAI Pacific cod. Replaced Amendment 80 vessels are also currently not prohibited from acting as a mothership in the GOA.

2.7 Analysis of Alternatives

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.²⁷ 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 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 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.²⁸ 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.

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

²⁷ 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.

²⁸ 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.

catch to an at-sea processor. It could benefit the catcher/processers 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 catcher/processor Pacific cod allocation is insufficient for a directed fishery.

There may also be price differentials in the markets that make delivery to shorebased plants or at-sea plants more desirable to catcher vessels. In addition to different market prices the sectors may offer, 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. The quicker turn-around between trips could allow the catcher vessel to make more deliveries.

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 to trawl. As noted in Figure 2-1, the highest concentration of BS Pacific cod catch in 2017 was reported in three stastical areas just North of Unimak Island, which is the location of cod alley.

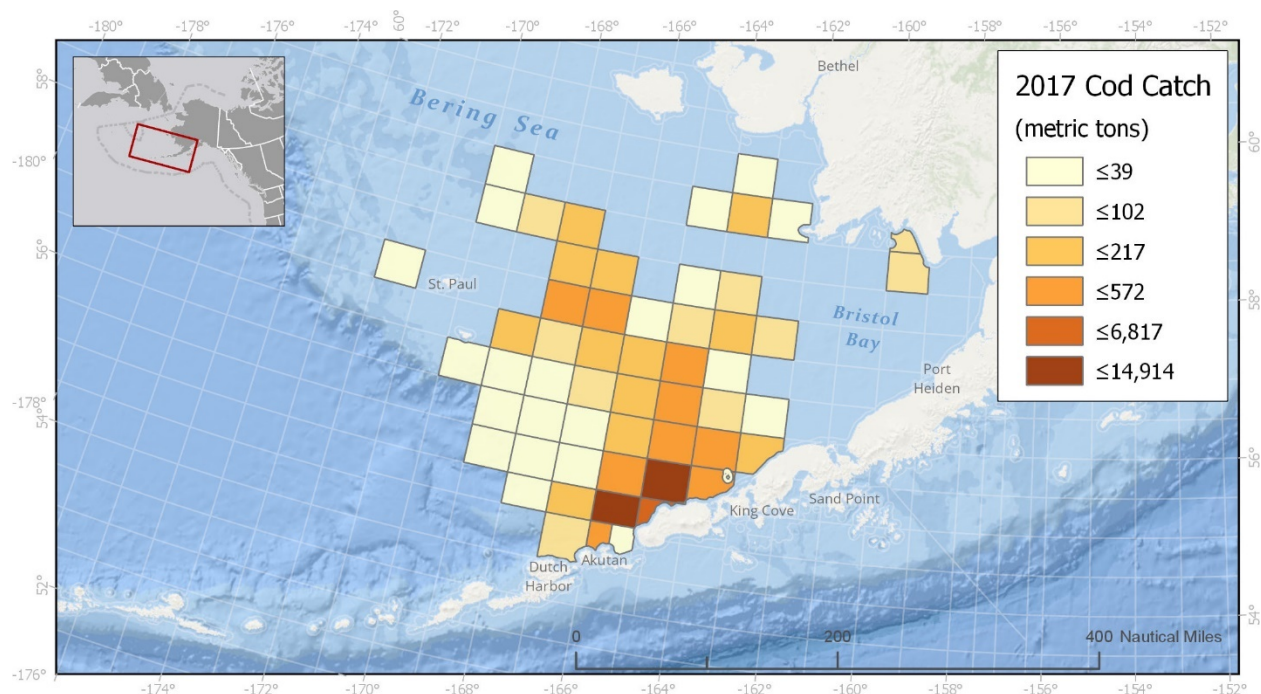


Figure 2-1 2017 BS Pacific cod catch by stastical area

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 would not qualify under Alternative 4. 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 are not subject to any of the proposed regulations in this package and are treated the same under the No Action alternative as the action alternatives.

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 Pacific cod trawl catcher vessel catch from the BSAI federal fishery is deducted from the trawl catcher vessel sector allocation regardless of whether the catch was made in the BS or AI. Amendment 113 defines a set-aside and harvest limitations 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).

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. As a result, it could limit the number of catcher/processors markets that are available to vessels eligible to fish BSAI Pacific cod from the trawl catcher vessel sector allocation.

NMFS will develop an official catch record database and notify LLP license holders whether their catcher/processor trawl LLP license will qualify to take deliveries of trawl caught Pacific cod from the trawl catcher vessel sector allocation based on those records. LLP license holders that disagree with the official record will be given the opportunity to appeal that finding in the official record 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 BSAI Pacific cod deliveries from trawl catcher vessels. This option could indirectly limit the percentage of Pacific cod processed by Amendment 80 and AFA catcher/processors acting as a mothership. The effectiveness will depend on the number of vessels that are allowed to qualify and the processing capacity of those vessels. It will not guarantee that deliveries to motherships will not increase, because not all mothership activity is limited by the alternative, qualified LLP licenses could be more fully utilized as a mothership on their current vessel, or the qualified LLP license could be transferred to more efficient catcher/processors with greater processing capacity in the future.

The directed Pacific cod deliveries to the Amendment 80 sector would be constrained under Alternative 2 by limiting the vessels that can participate and not the total amount of directed Pacific cod they can process. Vessels that do not qualify will be limited to accepting Pacific cod as incidental catch from other 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/processers acting as a mothership. This is the sector that has realized the most growth in vessels acting as motherships and is the sector that is identified in the problems statement as being of the most concern. The one AFA catcher/processor that has participated in the fishery has a long participation history and would qualify under any Alternative 2 option.

Incidental catches of Pacific cod to all Amendment 80 catcher/processers and AFA catcher/processers would continue to be allowed. Any increases in incidental Pacific cod catches delivered to 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.

To qualify to accept deliveries of BSAI Pacific cod harvested from the directed Pacific cod trawl catcher vessel allocation, catcher/processers must have accepted at least one targeted BSAI Pacific cod delivery from 2015 through 2017. Three options were included for consideration for the Amendment 80 catcher/processers and one option was included for the AFA catcher/processers, 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.²⁹

The impact of this option will depend on the number of catcher/processers that qualify and whether they would operate in the future as they have in the past. Catcher/processers 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 has used a different business model that depends on catcher vessels not owned by the catcher/processor firm, exclusively or in addition to vessels they own. 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.

Table 2-29 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 maximum number of vessels that qualified under the AFA and Amendment 80 programs when they were developed. Currently only 23 Amendment 80 vessels are participants since some vessels have realized a total loss or no longer have a U.S. fishing endorsement. One catcher/processor qualified for both programs, as 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. That vessel, is classified as an Amendment 80 vessel in the table and throughout this document. As a result, it must meet the Amendment 80 qualification requirements and not the AFA qualification requirements under Alternative 2.

A total of eight catcher/processers could qualify to act as a mothership in this fishery in the future. Seven of those catcher/processers 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

²⁹ Only one option was included because that vessel would qualify under any of the options considered for the Amendment 80 catcher/processers. Because more restrictive options would not impact whether the vessel would qualify, they were not included in the analysis.

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 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 BSAI trawl catcher vessel sector allocation.

Table 2-29 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	21	28	n/a	n/a	20
Option 1: Suboption 2	6	22	28	n/a	n/a	20
Option 1: Suboption 3	1	27	28	n/a	n/a	20
Option 2	n/a	n/a	n/a	1	19	20

Source: AKFIN summary of NOAA Fisheries CAS data

Note: The “not qualified” and “total” count of Amendment 80 catcher/processers is based on the number that originally qualified and not the number (23) currently participating in the fishery

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 that vessel.

Table 2-30 shows the percentage of Pacific cod harvested by trawl catcher vessels when they delivered to either AFA or Amendment 80 catcher/processers or when they delivered to another class of processor. The data represent the average of all Pacific cod landings from 2010 through 2017 from the non-CDQ trawl catcher vessel sector allocation. AI information is not presented by season to maintain the confidentiality of the data. However, the reported total and the A-season percentages are very similar.

Table 2-30 Percentage of Pacific cod harvest by area, season, and target fishery

Area/Season/Target	All Other Processors	C/Ps as MS	Total
AI - All Seasons Combined	37.87%	62.13%	100.00%
Other	0.00%	100.00%	100.00%
Pacific Cod	38.98%	61.02%	100.00%
BS	92.18%	7.82%	100.00%
A Season	95.69%	4.31%	100.00%
Other	85.29%	14.71%	100.00%
Pacific Cod	96.52%	3.48%	100.00%
B Season	76.32%	23.68%	100.00%
Other	50.97%	49.03%	100.00%
Pacific Cod	83.26%	16.74%	100.00%
C Season	72.40%	27.60%	100.00%
Other	79.08%	20.92%	100.00%
Pacific Cod	58.37%	41.63%	100.00%
Total	83.96%	16.04%	100.00%

Source: AKFIN summary of NOAA Fisheries CAS data

The information in the table indicates that the catcher/processers 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. Information that cannot be reported is the percentage of deliveries to the two firms that could be

exempted under Alternative 3. Those firms accounted for a substantial majority of the AI Pacific cod processing from trawl catcher vessels in the AI. 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.

Catcher vessels operate differently in terms of their delivery patterns based on the business plan of the owner. Table 2-31 shows the number of LLP licenses by whether the LLP license was used to deliver targeted Pacific cod to AFA or Amendment 80 catcher/processors acting as a mothership, deliveries to processors other than the AFA or Amendment 80 catcher/processors (includes shorebased processors), or both. Three LLP licenses were only used by vessels that delivered Pacific cod to AFA or Amendment 80 catcher/processors. Two of the LLP licenses were held by Amendment 80 firms. One was held by an AFA firm. A total of 28 LLP licenses delivered to both catcher/processors that could be affected under Alternatives 2 and 3 and other processors not effected by this action. Of those, 19 were designated as AFA LLP licenses and nine were non-AFA. One of the non-AFA LLP licenses only delivered to catcher/processors limited by the proposed actions when delivering to the mothership sector. All of the other LLP licenses that delivered to both sectors also delivered at least once to a mothership not impacted by this action as well as a mothership that is potentially limited by the action. The other 60 LLP licenses only delivered to processors not impacted by the action - including shorebased processors and other types of floating processors.

Table 2-31 Count of LLP license by the type of processor targeted non-CDQ trawl catcher vessel Pacific cod was delivered

Processor Taking Delivery	Am 80	AFA	Total
Am 80 or AFA C/Ps acting as MS	2	1	3
Both (C/Ps as MS and Shoreside/Floaters/True MS)	9	19	28
Shoreside/Floaters/True MS	7	53	60
Total	18	73	91

Source: AKFIN summary of NOAA Fisheries CAS data

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. However, if Alternative 3 were selected on its own it could create increased competition within the Amendment 80 sector for the available sideboard limit. It is assumed in this discussion that they will be selected together.

Alternative 3 would limit the percentage 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 applies to both directed and incidental catches of Pacific cod that are delivered to qualified Amendment 80 catcher/processors. Amendment 80 catcher/processors that do not qualify to take directed Pacific cod deliveries would still be allowed to take incidental Pacific cod deliveries that would not count against the sideboard limit.

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 opening and closing the trawl catcher vessel sector allocation to directed fishing. However, the sideboard limit will be managed as a soft-cap and reaching the sideboard limit will not close other fisheries to directed fishing that take Pacific cod as incidental catch.

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 remainder allotment. That could result in the BS fishery closing sooner since the fishery closes when the remainder is taken. The trawl catcher vessel sector closes in both the BS and AI when the remainder is taken to provide more opportunity for the AI shoreplant to receive the entire 5,000 mt set-aside.

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, 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 BSAI trawl catcher vessel sector allocation that could be harvested from the BS subarea and delivered to the qualified Amendment 80 catcher/processors when acting as a mothership range from 0% to almost 10%. This would not represent the maximum percentage of the BSAI trawl catcher vessel sector allocation that could be delivered to vessels acting as a mothership, since it excludes all catcher/processors that are not defined as Amendment 80 or AFA and deliveries to any true mothership vessels that never harvest fish.

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 almost 10% 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, 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 Amendment 80 sector is not guaranteed the percentage calculated or selected, since the percentage is treated as limit³⁰ on the amount that can be delivered to the Amendment 80 sector and not an allocation to that sector.

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. The tables also show the number of processors by sector that were active during the period considered.

³⁰ The limit would be managed like sideboard limits are in other fisheries.

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

Alternative 3	Percentage of BS Pacific cod			Number of Processors		
	C/Ps Acting as MS	Other Processors	Total	C/Ps Acting as MS	Other Processors	Total
Only Catch Delivered to Qualified C/Ps (Alt 2 Option 1 sub-option 1), A season						
Option 1: 2015-2017	5.14%	94.86%	100.00%	7	11	18
Option 2: 2016-2017	5.22%	94.78%	100.00%	7	10	17
Option 3: 2008-2017	2.67%	97.33%	100.00%	7	14	21
Option 4: 2008-2014	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	7.57%	92.43%	100.00%	7	11	18
Option 2: 2016-2017	8.48%	91.52%	100.00%	7	10	17
Option 3: 2008-2017	4.20%	95.80%	100.00%	7	14	21
Option 4: 2008-2014	c	c	100.00%	1	11	12

Source: AKFIN summary of NOAA Fisheries CAS data

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

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

Source: AKFIN summary of NOAA Fisheries CAS data

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

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

Alternative 3	Percentage of BS Pacific cod			Number of Processors		
	C/Ps Acting as MS	Other Processors	Total	C/Ps Acting as MS	Other Processors	Total
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%	8	11	19
Option 2: 2016-2017	c	c	100.00%	8	10	18
Option 3: 2008-2017	c	c	100.00%	8	14	22
Option 4: 2008-2014	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%	8	11	19
Option 2: 2016-2017	c	c	100.00%	8	10	18
Option 3: 2008-2017	c	c	100.00%	8	14	22
Option 4: 2008-2014	c	c	100.00%	2	11	13

Source: AKFIN summary of NOAA Fisheries CAS data

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

Alternative 3	Percentage of BS Pacific cod			Number of Processors		
	C/Ps Acting as MS	Other Processors	Total	C/Ps Acting as MS	Other Processors	Total
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%	7	11	18
Option 2: 2016-2017	c	c	100.00%	7	10	17
Option 3: 2008-2017	c	c	100.00%	7	14	21
Option 4: 2008-2014	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%	7	11	18
Option 2: 2016-2017	c	c	100.00%	7	10	17
Option 3: 2008-2017	c	c	100.00%	7	14	21
Option 4: 2008-2014	c	c	100.00%	2	11	13

Source: AKFIN summary of NOAA Fisheries CAS data

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

Alternative 3	Percentage of BS Pacific cod			Number of Processors		
	C/Ps Acting as MS	Other Processors	Total	C/Ps Acting as MS	Other Processors	Total
Only Catch Delivered to Qualified C/Ps (Alt 2 Option 1 sub-option 3 & Option 2), A season						
Option 1: 2015-2017	1.94%	98.06%	100.00%	4	11	15
Option 2: 2016-2017	2.32%	97.68%	100.00%	4	10	14
Option 3: 2008-2017	1.82%	98.18%	100.00%	4	14	18
Option 4: 2008-2014	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	3.44%	96.56%	100.00%	4	11	15
Option 2: 2016-2017	4.28%	95.72%	100.00%	4	10	14
Option 3: 2008-2017	3.08%	96.92%	100.00%	4	14	18
Option 4: 2008-2014	c	c	100.00%	2	11	13

Source: AKFIN summary of NOAA Fisheries CAS data

Table 2-38 Percent of BS Pacific cod catcher vessel 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 BS Pacific cod			Number of Processors		
	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%	6	11	17
Option 2: 2016-2017	c	c	100.00%	6	10	16
Option 3: 2008-2017	c	c	100.00%	6	14	20
Option 4: 2008-2014	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%	6	11	17
Option 2: 2016-2017	c	c	100.00%	6	10	16
Option 3: 2008-2017	c	c	100.00%	6	14	20
Option 4: 2008-2014	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 catcher vessel 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 BS Pacific cod			Number of Processors		
	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%	5	11	16
Option 2: 2016-2017	c	c	100.00%	5	10	15
Option 3: 2008-2017	c	c	100.00%	5	14	19
Option 4: 2008-2014	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%	5	11	16
Option 2: 2016-2017	c	c	100.00%	5	10	15
Option 3: 2008-2017	c	c	100.00%	5	14	19
Option 4: 2008-2014	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 catcher vessel 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 BS Pacific cod			Number of Processors		
	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	c	c	100.00%	1	11	12
Option 2: 2016-2017	c	c	100.00%	1	10	11
Option 3: 2008-2017	c	c	100.00%	1	14	15
Option 4: 2008-2014	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	c	c	100.00%	1	11	12
Option 2: 2016-2017	c	c	100.00%	1	10	11
Option 3: 2008-2017	c	c	100.00%	1	14	15
Option 4: 2008-2014	0.00%	100.00%	100.00%	0	11	11

Source: AKFIN summary of NOAA Fisheries CAS data

Alternative 3 would be managed by closing the non-CDQ Pacific cod trawl catcher vessel BS directed fishery for deliveries to Amendment 80 catcher/processors 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 value³¹ 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.

³¹ 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 sector allocation. The sector allocation amounts are based on the calculations provided in Table 2-11. 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 allocation is estimated to change gross first wholesale revenues by less than \$7,000 per year. The same 1% change in the sector allocation would result in a change of up to \$400,000 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 change in real first wholesale value of Pacific cod products from moving 1% of the BSAI trawl catcher vessel sector allocation between at-sea and shoreside processing

Sector	Year									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	
Trawl CV sector allotment (mt)	40,227	35,660	27,238	26,805	26,534	26,264	25,994	25,723	25,453	
1% of allocation (mt)	402.3	356.6	272.4	268.0	265.3	262.6	259.9	257.2	254.5	
First wholesale value of 1% of CV sector shoreside	\$605,151	\$536,445	\$409,751	\$403,237	\$399,170	\$395,102	\$391,035	\$386,968	\$382,900	
First wholesale value of 1% of CV sector at-sea	\$595,355	\$527,762	\$403,118	\$396,710	\$392,708	\$388,707	\$384,705	\$380,704	\$376,702	
Change in gross first wholesale value	\$9,796	\$8,683	\$6,633	\$6,527	\$6,461	\$6,396	\$6,330	\$6,264	\$6,198	

Source: AKFIN summary of COAR and NMFS CAS data

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

2.7.4 Alternative 4: Trawl Pacific cod LLP license endorsements

The Council selected Fish tickets as the data source to be used to determine which LLP licenses associated with trawl BSAI target Pacific cod deliveries from catcher vessels would qualify for a BSAI trawl Pacific cod endorsement under Alternative 4. Using fish ticket data, where the target is determined

based on each landing versus aggregated weekly deliveries for vessels delivering offshore, allows one additional LLP license to qualify relative to using weekly summaries of catch data to define target fisheries.

NMFS will develop an official catch record database and notify license holders whether their trawl LLP license will qualify based on those records. LLP license holders that disagree with the official record will be given then opportunity to appeal findings in the official record 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.

Four options, based on different qualifying years, are considered in this section. The number of LLP licenses that would qualify range from 78 to 85, depending on the option selected. Information on the LLP licenses that have been active in the BSAI open access Pacific cod trawl fishery as catcher vessels is reported in Table 2-43. Each row of the table represents an LLP license, but the license identifier is not provided. AFA and non-AFA LLP licenses are reported separately to make information available on the number of AFA and non-AFA licenses that were active each year and the number that may qualify under each of the options selected under Alternative 4. The number of years each LLP license was used to fish in the BSAI trawl Pacific cod catcher vessel target fishery is reported in the right-hand columns of the table. An LLP license is only required to have been associated with one landing during the qualifying period to qualify for the non-CDQ BSAI Pacific cod trawl catcher vessel endorsement.

One non-AFA LLP license was reported to only have made a landing in 2018 (over the time period considered) and would not qualify under any of the options defined under Alternative 4. A second non-AFA LLP license would not qualify under any of the options that exclude years after 2015. Three AFA LLP licenses were only associated with landings in 2018 and would not qualify under any option. Two additional AFA LLP licenses only reported landings in 2009, the year prior to the beginning of the qualifying period and would not qualify under any option. The remaining LLP licenses that were active in the BSAI open access Pacific cod trawl catcher vessel fishery would qualify under some or all of the options. The total number of LLP licenses estimated to qualify is reported for each option at the bottom of the four right hand columns of the table.

Table 2-43 AFA and non-AFA LLP licenses used in the open access BSAI target Pacific cod trawl fishery, 2009 through September 2018

Count	License	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2010-17	2012-17	2010-15	2012-15
1	Non-AFA											8	6	6	4
2	Non-AFA											8	6	6	4
3	Non-AFA											8	6	6	4
4	Non-AFA											8	6	6	4
5	Non-AFA											7	5	5	3
6	Non-AFA											7	5	5	3
7	Non-AFA											5	4	3	2
8	Non-AFA											5	4	4	3
9	Non-AFA											4	2	3	1
10	Non-AFA											4	3	4	3
11	Non-AFA											3	3	1	1
12	Non-AFA											3	2	2	1
13	Non-AFA											2	1	2	1
14	Non-AFA											2	2	0	0
15	Non-AFA											0	0	0	0
1	AFA											8	6	6	4
2	AFA											8	6	6	4
3	AFA											8	6	6	4
4	AFA											8	6	6	4
5	AFA											8	6	6	4
6	AFA											8	6	6	4
7	AFA											8	6	6	4
8	AFA											8	6	6	4
9	AFA											8	6	6	4
10	AFA											8	6	6	4
11	AFA											8	6	6	4
12	AFA											8	6	6	4
13	AFA											8	6	6	4
14	AFA											8	6	6	4
15	AFA											8	6	6	4
16	AFA											8	6	6	4
17	AFA											8	6	6	4
18	AFA											8	6	6	4
19	AFA											8	6	6	4
20	AFA											8	6	6	4
21	AFA											8	6	6	4
22	AFA											8	6	6	4
23	AFA											8	6	6	4
24	AFA											7	5	5	3
25	AFA											7	6	5	4
26	AFA											7	6	5	4
27	AFA											7	5	5	3
28	AFA											7	5	5	3
29	AFA											7	6	5	4
30	AFA											7	5	5	3
31	AFA											7	6	5	4
32	AFA											7	5	6	4
33	AFA											7	6	5	4
34	AFA											6	6	4	4
35	AFA											6	5	4	3
36	AFA											5	3	5	3
37	AFA											5	4	3	2
38	AFA											5	5	3	3
39	AFA											5	4	3	2
40	AFA											5	5	3	3
41	AFA											5	3	3	1
42	AFA											5	5	3	3
43	AFA											5	4	5	4
44	AFA											4	3	3	2
45	AFA											4	4	2	2
46	AFA											4	4	2	2
47	AFA											4	4	2	2
48	AFA											4	3	2	1
49	AFA											3	3	2	2
50	AFA											3	3	1	1
51	AFA											3	3	1	1
52	AFA											3	1	3	1
53	AFA											3	2	3	2
54	AFA											3	3	1	1
55	AFA											2	1	1	0
56	AFA											2	2	2	2
57	AFA											2	2	1	1
58	AFA											2	1	2	1
59	AFA											2	2	0	0
60	AFA											2	2	0	0
61	AFA											2	2	0	0
62	AFA											1	1	1	1
63	AFA											1	1	0	0
64	AFA											1	1	1	1
65	AFA											1	1	1	1
66	AFA											1	1	1	1
67	AFA											1	1	1	1
68	AFA											1	1	1	1
69	AFA											1	0	1	0
70	AFA											1	1	1	1
71	AFA											1	1	1	1
72	AFA											0	0	0	0
73	AFA											0	0	0	0
74	AFA											0	0	0	0
75	AFA											0	0	0	0
76	AFA											0	0	0	0
	Non-AFA LLPs	6	7	12	10	11	6	7	9	12	13	14	14	13	13
	AFA LLPs	41	37	38	47	45	48	46	52	53	53	71	70	67	65
	Total LLPs	47	44	50	57	56	54	53	61	65	66	85	84	80	78

Source: AKFIN summary of Fish Ticket data as reported in the NOAA Fisheries CAS data

LLP licenses that are shown in the above table exclude the eight LLP trawl licenses that were assigned a transferable AI trawl endorsement that may be used on vessels that are less than 60 feet in length overall (see Table 2-14). These LLP licenses would continue to allow a vessel to fish in the AI Pacific cod trawl fishery, based on the Council's decision to exempt those LLP license endorsements from this recency action. Those endorsements are specific to the AI and would not authorize a vessel to fish for Pacific cod in the BS with trawl gear, unless an LLP license that met the Alternative 4 qualifying criteria was also attached to the vessel.

A total of 41 LLP licenses that do not qualify for a trawl catcher vessel Pacific cod endorsement in the BSAI under any option have been used as a BSAI trawl catcher vessel in non-CDQ fisheries from 2009 through 2018. Based on where they delivered their BSAI trawl catch, 32 delivered only shoreside, 3 delivered only to a mothership, and 6 delivered to both. All of these LLP licenses were used in BSAI trawl target fisheries other than Pacific cod during the qualifying years, but six did target non-CDQ BSAI Pacific cod as a catcher vessel in 2009 or 2018. The primary fishery for these LLP licenses was AFA pollock. The pollock target fishery accounted for 99.63% of all non-CDQ BSAI trawl catcher vessel catch associated with the LLP licenses that did not qualify. Harvests in the Pacific cod target fishery, during non-qualifying years, accounted for 0.36% of the catch. The remaining 0.01% of the catch was in the yellowfin sole or Atka mackerel target fisheries. No LLP license was used more than one year, during 2009 through 2018 the period, in either the yellowfin sole or Atka mackerel fishery.

2.7.5 Alternative 5: Establish AFA and non-AFA trawl catcher vessel Pacific cod allocations and cooperative structure

This section is not intended to meet the requirements of an RIR for the development of an AFA and non-AFA vessel cooperative structure for the non-CDQ trawl catcher vessel Pacific cod sector allocation. The Council has not developed specific options to address this issue. Instead this section of the paper should be considered to be more analogous to a discussion paper that provides background information. The Council may consider using the information presented to help inform the development of options if it considers the issue BSAI Pacific cod cooperatives.

This discussion could be separated from the remainder of the document, if the Council wishes to address this issue independently from the other alternatives that are analyzed more thoroughly in this paper. Retaining Alternative 5 as part of this amendment package requires the development of specific options which must be analyzed. The current problem statement could also be reviewed and perhaps amended.

2.7.5.1 How Cooperatives Could Address Current Problem Statement

As part of the Council's request for this section of the paper, it asked for a short discussion of how cooperatives could address the following portion of its current problem statement:

In addition, there are both AFA and non-AFA licenses endorsed to fish in the BSAI trawl cod fishery including exempt and non-exempt AFA vessels. Information shows a large number of AFA endorsed vessels are not participating, but whose catch history contributes to the AFA Pacific cod sideboard in the Bering Sea trawl cod fishery. Despite a high level of latency, the pace of the fishery has increased shortening the season, resulting in decreased ability to maximize the value of the fishery and negatively impacting fishery participants. Additional entrants could exacerbate these issues and threaten the viability of the fishery. The Council is considering options to improve the prosecution of the fishery, with the intent of promoting safety and increasing the value of the fishery.

Based on that paragraph of the problem statement the issues addressed in this section of the document are:

1. There are both AFA and non-AFA licenses endorsed to fish in the federally managed BSAI non-CDQ Pacific cod trawl fishery.

Alternatives 3 would divide the federally managed component of the BS non-CDQ trawl Pacific cod trawl fishery by catcher vessels when making deliveries to certain catcher/processors and catcher vessels when they are delivering to other classes of processors. Current options would not divide the BS or BSAI Pacific cod non-CDQ trawl catcher vessel sector allocation between the AFA and non-AFA sectors. Because the allocation would be to all catcher vessels it would be difficult to reach agreement between the various catcher vessels to form voluntary cooperatives. Dividing the allocation between AFA and non-AFA catcher vessels could allow the AFA sector to incorporate their portion of the relevant BS or BSAI A-season Pacific cod allocation into the current AFA cooperatives. The catcher vessels in the AFA sector could fish the available Pacific cod in the AFA cooperatives in which they are members.

2. AFA licenses are either subject to BSAI Pacific cod sideboards or they are exempt.

AFA catcher vessel sideboard limits in the BSAI Pacific cod fishery are structured such that certain vessels and their LLP licenses are subject to BSAI Pacific harvest limits and other AFA vessels and their LLP licenses are not. Regulations at CFR 50 679.64(b) state that the Regional Administrator will restrict the ability of AFA catcher vessels to engage in directed fishing for other groundfish species to protect participants in other groundfish fisheries from adverse effects resulting from the AFA fishery cooperatives. BSAI AFA catcher vessel sideboard limits apply to all non-pollock groundfish fisheries in the BSAI except vessels qualifying for sideboard exemptions. In the BSAI Pacific cod fishery, AFA catcher vessels less than 125 ft LOA that were determined to have harvested a combined total of less than 5,100 mt of BSAI pollock, and to have made 30 or more legal landings of Pacific cod in the BSAI directed fishery for Pacific cod from 1995 through 1997 are exempt from sideboard closures for BSAI Pacific cod³². AFA catcher vessels with mothership endorsements are exempt from BSAI Pacific cod catcher vessel sideboard directed fishing closures after March 1 of each fishing year. Replacement vessels are subject to the same sideboard limitations as the vessel it replaced.

Allocating Pacific cod between the AFA and non-AFA sectors during the A-season would eliminate the need for A-season Pacific cod sideboards (soft caps) and replace them with allocations to cooperatives (and perhaps an open access component) that would be managed as other AFA allocations are managed. It would be up to the individual cooperatives to manage their Pacific cod allocation, like they do their pollock allocation, to ensure that it is not exceeded. Sideboard limits would be applied to the B- and C-seasons and the same sideboard percentage could be applied that is currently used. However, since the B- and C-seasons could be closed to directed fishing at the start of the season for all trawl catcher vessels, in those years there would effectively be no sideboard limits applied to the AFA catcher vessels.

This section does not consider the relative bargaining power that exempt and non-exempt vessels will have within their AFA cooperatives. To the extent it differs, in part because of the pollock allocation each group controls in the cooperative, linking the exempt vessels with the non-exempt vessels in a Pacific cod allocation could impact how the two groups can negotiate favorable economic outcomes for their firms.

3. Many AFA catcher vessels are not participating in the BSAI non-CDQ Pacific cod fishery.

Table 2-22 shows the number of trawl catcher vessels that fished in the BSAI from 2009 through 2018. A total of 127 vessels were reported to have fished during the period. Given that from 78 to 85 LLP licenses could qualify under Alternative 4, it indicates that several AFA vessels only fish in the pollock fishery.

It is assumed that any AFA portion of the Pacific cod allocation would be divided among the cooperatives based on the percentage of the Pacific cod harvest that was made by members of the cooperative. It would then be the individual cooperative's responsibility to divide that amount of Pacific cod among its members by agreements to ensure their A-season Pacific cod allotment is not exceeded. Part of that agreement would likely need to be sorted out between cooperative members to account for agreed to

³² The Pacific cod sideboard limits (groundfish harvest limits and PSC bycatch limits) for AFA catcher vessels are managed using directed fishing closures.

harvesting patterns in the Pacific cod fishery in past years. Those types of agreements were in place to enable the efficient harvest of the available Pacific cod TAC. However, those agreements are not part of the public record and therefore, determining the appropriate division of a cooperative's Pacific allotment should be a cooperative decision and not a Council/NMFS decision. The policy maker's decisions could focus on how much should be allocated to each LLP license/vessel/cooperative and any limits on the amount that can be harvested (and processed) by a specific entity. It would be up to the cooperative members to determine how the allocation is divided once it is in the cooperative.

4. The Pacific cod season length is decreasing and could be exacerbated by increased effort.

Pacific cod seasons are reported in Section 2.6.3. Allocating Pacific cod to cooperatives could allow the cooperatives as a whole as well as the individual members within the cooperative to determine when to fish during the A-season. Cooperatives could allow harvesters to determine who fishes the cooperative's allotment. Vessel operators will want to fish at a pace and time that will provide the most benefit to their fishing operation. These decisions could decrease effort on the grounds by moving Pacific cod harvests to more efficient vessels, scheduling when vessels fish, and creating penalties for vessel operators that do not comply with the requirements. However, it is anticipated that cooperative members will continue to want to fish when Pacific cod are aggregated to increase harvest rates, reduce costs, and perhaps reduce bycatch of other groundfish and PSC species. Even with the pressure to harvest the Pacific cod while they are aggregated, it is still anticipated that this could be done with fewer vessels and less effort, especially in years when the TAC is low relative to historical averages.

5. Cooperatives could promote safety in the BSAI Pacific cod fishery.

Section 2.9 provides a fishing vessel safety discussion. It concludes that, in general, LAPPs could improve fishing vessel safety in the BS Pacific cod fishery.

6. Cooperatives could help increase the value derived from the BSAI non-CDQ Pacific cod fishery.

A LAPP may allow the harvesters and processors in the fishery to increase the value derived from the fishery. If harvesters can improve the quality of the fish delivered, they may receive a higher ex-vessel price. They are unlikely to increase value by retaining more of the fish harvested because Pacific cod is already subject to IR/IU regulations described in Section 2.6.12. First wholesale value could also increase if processors produce higher value products and products of higher quality. Processors could work closely with their fleet to set a delivery schedule to allow shorter offload times, allow for processing that is more labor intensive (e.g., fillet production), and perhaps better marketing of their production through better forecasting of when and how much product will be available. These outcomes could result from more optimal fishing and processing patterns that results from greater certainty of fish availability and better planning by both harvesters and processors.

2.7.5.2 Allocation and transfer of cooperative QS

Alternative 5 requests that information be provided that would allow the Council to consider establishment of AFA and non-AFA sector allocations for the BSAI non-CDQ Pacific cod trawl catcher vessel A-season. The Council requested information so that the aggregated AFA catch history associated with LLP licenses will include the AFA-exempt licenses. The Council also requested that information considers historical distribution of catch between AFA and non-AFA vessels. Because of actions associated with Amendment 113, the Council requested that the AFA and non-AFA catcher vessel sector allocations be applicable in the Bering Sea-subarea when the Bering Sea Sector Limitation is implemented, and BSAI-wide when the Bering Sea Sector Limitation is not implemented. As a result of these requests, tables developed for Section 2.6.14.3 and Section 2.7.5.2 break out non-CDQ trawl catcher vessel catch data for the years 2010 through 2017 by AFA vessels and AFA licenses and includes separate tables for the BSAI and BS. Separate rows in the table are provided for AFA vessels and licenses, because non-AFA LLP licenses have been used on AFA vessels.

Table 2-44 Pacific cod landings by AFA and non-AFA by Alternative 4 options

Sector/Vessels/LLP licenses	BSAI A season				BS A season			
	2010-2017	2012-2017	2010-2015	2012-2015	2010-2017	2012-2017	2010-2015	2012-2015
Metric Tons								
Motherships	42,523	29,856	28,621	15,955	14,168	13,440	8,814	8,085
Non AFA Derived LLP Licenses	25,800	18,324	18,742	11,267	8,451	8,416	5,982	5,947
Non-AFA Vessels	17,149	13,550	11,616	8,017	8,206	8,206	5,753	5,753
AFA Vessels	8,650	4,774	7,126	3,250	245	210	229	194
AFA Derived LLP Licenses & Vessels	16,723	11,532	9,879	4,688	5,717	5,024	2,832	2,138
Shoreside	234,650	186,061	172,730	124,141	217,642	176,738	155,723	114,818
Non AFA Derived LLP Licenses	31,431	22,863	24,621	16,054	29,151	22,391	22,342	15,582
Non-AFA Vessels	27,174	19,551	20,365	12,741	25,706	c	18,897	c
AFA Vessels	4,257	3,313	4,257	3,313	3,445	c	3,445	c
AFA Derived LLP Licenses & Vessels	203,219	163,197	148,109	108,087	188,491	154,347	133,381	99,237
Total	277,173	215,917	201,352	140,096	231,811	190,178	164,536	122,903
Annual Percentage								
Motherships	15.3%	13.8%	14.2%	11.4%	6.1%	7.1%	5.4%	6.6%
Non AFA Derived LLP Licenses	9.3%	8.5%	9.3%	8.0%	3.6%	4.4%	3.6%	4.8%
Non-AFA Vessels	6.2%	6.3%	5.8%	5.7%	3.5%	4.3%	3.5%	4.7%
AFA Vessels	3.1%	2.2%	3.5%	2.3%	0.1%	0.1%	0.1%	0.2%
AFA Derived LLP Licenses & Vessels	6.0%	5.3%	4.9%	3.3%	2.5%	2.6%	1.7%	1.7%
Shoreside	84.7%	86.2%	85.8%	88.6%	93.9%	92.9%	94.6%	93.4%
Non AFA Derived LLP Licenses	11.3%	10.6%	12.2%	11.5%	12.6%	11.8%	13.6%	12.7%
Non-AFA Vessels	9.8%	9.1%	10.1%	9.1%	11.1%	c	11.5%	c
AFA Vessels	1.5%	1.5%	2.1%	2.4%	1.5%	c	2.1%	c
AFA Derived LLP Licenses & Vessels	73.3%	75.6%	73.6%	77.2%	81.3%	81.2%	81.1%	80.7%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: AKFIN summary of CAS data

Regulations at CFR 679.21(b) establish BSAI halibut PSC limits for four sectors which total 3,515 mt:

1. Amendment 80 sector—1,745 mt;
2. BSAI trawl limited access sector—745 mt;
3. BSAI non-trawl sector—710 mt; and
4. CDQ Program—315 mt (established as a PSQ reserve).

The BSAI trawl limited access sector fisheries are defined in CFR 679.21(b)(1)(ii)(B)(5) and for Pacific cod is defined as fishing with trawl gear during any weekly reporting period that results in a retained aggregate amount of Pacific cod that is greater than the retained amount of any other groundfish fishery category.

The BSAI Pacific halibut and crab PSC that is allocated to the BSAI trawl limited access BSAI Pacific cod target fishery would be allocated between AFA and non-AFA catcher vessels at the same percentage as the BSAI trawl catcher vessel Pacific cod allocation. The amount of halibut and crab assigned to the Pacific cod target fishery is reported under 83 FR 8365 (Table 16 of the Final 2018 and 2019 Prohibited Species Bycatch Allowances for the BSAI Trawl Limited Access Sector) would be divided among the LLP licenses at the same percentage as the fishing privileges for Pacific cod in the trawl catcher vessel sector. In 2018 that means that 391 mt of halibut, 2,954 red king crab (Zone 1), 105,182 *C. opilio* (*C. Opilio* Crab Bycatch Limitation Zone [COBLZ]), 50,816 *C. bairdi* (Zone 1), and 442,424 *C. bairdi* (Zone 2) would be available to allocate between cooperatives based on the qualified LLP licenses that join the cooperative. If the options developed for cooperatives only apply to the A-season, and there could be directed Pacific cod fishing in the B-and/or C-seasons, the Council must determine how much of the annual PSC limits should account for PSC needs in those seasons.

Once the process is established to determine who will qualify, the species allocated to holders of a qualified LLP licenses, and the years or other methods used determine the amount assigned to each qualified LLP license, other issues should be clarified. For example, the duration of the program should be identified. LAPP programs may be established for up to 10 years. They can then automatically be renewed unless the Council takes action to eliminate the program or the LAPP can require positive Council action to continue (e.g. the Central GOA Rockfish Program). The Council should also indicate that only legal landings will count towards qualification, an official record of landings will be established, an application process will be defined, and rules for assigning Pacific cod cooperative quota (CQ) would be developed along with any transfer regulations to allow CQ to be transferred between cooperatives inseason.

Regulations will need to be developed that define the timing and requirements for the annual cooperative application to NMFS. Notification requirements and forms would need to be developed for inter-cooperative transfer of CQ. The Council could consider changing the MRAs associated with the Pacific cod catcher vessel fishery as was done for Rockfish targets in the Central GOA Rockfish Program.

A LAPP must ensure that no entity owns or controls an excessive amount of the fishery. To meet this objective the Council must consider harvesting and processing caps. However, it is up to the Council to determine what is considered excessive in each fishery and these caps vary greatly under various LAPPs in the North Pacific.

The program will need to define if everyone is required to join a cooperative to access their quota. If all LLPs or vessels are not required to join a cooperative, their history could be assigned to a opt out fishery. These fisheries are generally very small and difficult to manage in-season. If the fishery allocation is too small to manage without risk of the allocation being exceeded, it would not be available for directed fishing during the A-season.

The Council would also need to consider the impacts that development of BS or BSAI catcher vessel Pacific cod cooperative structure could have on other fisheries in the BSAI or GOA. If it is determined that other fisheries could be negatively impacted as a result of the catcher vessel Pacific cod cooperatives the Council could consider establishing sideboard limitations on vessels that benefit from the LAPP. To the extent participants are already limited by other LAPPs (e.g. AFA), additional sideboard limitations may be unnecessary for those vessels.

The LAPP would require specific recordkeeping and reporting requirements. Those requirements would likely be similar to those established for the AFA and Rockfish programs. See 50 CFR 679.5(r) for the Rockfish Program recordkeeping and reporting requirements. Also see 50 CFR 679.4(n) for the Rockfish Program permit requirements.

All vessels and processors operating under a Pacific cod cooperative would be required to meet the observer requirements applied to other LAPPs. This would mean 100% observer coverage for the catcher vessels that are not delivering unsorted codends at-sea. Plants would also be required to meet the monitoring requirements that have been established in other LAPPs. These monitoring requirements are established to ensure accurate accounting of all CQ species that are allocated under the program.

The LAPP would also require that a cost recovery program is implemented and cost recover fees up to 3% of the ex-vessel value of the fishery be paid by the participants to cover additional agency costs associated with the program. Cost recovery programs require the agency to determine the extra costs, set a standard ex-vessel price for trawl catcher vessel Pacific cod, determine the annual fee percentage, collect the fee, and typically submit a written annual report. The regulations would also need to define what happens if a cooperative does not pay their cost recovery fee, who pays the fee to the agency, a refund policy if there is an overpayment by a cooperative. Since this is a single species LAPP, the fee could be divided based on the percentage of Pacific cod assigned to each cooperative and the cooperative billed the cost recovery fee.

Finally, an appeals process for the initial application, fee payments, and other grievances will be established. These would be structure like they are for other LAPP programs in the North Pacific.

2.7.6 Alternative 6: Limitations on replaced Amendment 80 vessels

This alternative was developed to ensure that Amendment 80 vessels that are replaced under BSAI Amendment 97³³ 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 6 does expand 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 6 is included to clarify 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. Depending on how the regulations for this action are drafted, the potential "loophole" may have been that both the retired Amendment 80 vessel and the Amendment 80 replacement vessel could both qualify to participate based on the replaced vessels processing history. Alternatively, if the action did not define retired Amendment 80 vessels as an Amendment 80 vessel and the limitations apply to Amendment 80 vessels that vessel could continue to act as a mothership in the BSAI Pacific cod fishery in the future. Selecting Alternative 6 would eliminate both of those potential "loopholes" in the regulations.

2.7.7 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 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.³⁴

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

³³ Amendment 97 – Vessel replacement program for Amendment 80 vessels.

³⁴ http://sero.nmfs.noaa.gov/sustainable_fisheries/more_info/documents/pdfs/sero_control_dates_april2013.pdf

and minimize speculative behavior. The National Marine Fisheries Service Procedural Directive 01-119-02 (NMFS, 2016) states:

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

This guidance does not require that the Council select a control date, 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.

2.7.8 Comparison of Alternatives Summary

This analysis is structured somewhat differently than other RIRs presented to the Council. Five of the six action alternatives have been analyzed to meet the requirements of a decision document. The remaining action alternative (Alternative 5) is included as a discussion paper, since specific options for analysis have not been provided by the Council. Therefore, the Council has the opportunity to either develop options for Alternative 5 and schedule another initial review for the entire package or determine whether the remaining alternatives have been sufficiently analyzed (after requested modifications) and schedule all or a subset of those Alternatives for final review, with the other alternatives that are not ready for final action removed from this paper and placed in a separate RIR. For example, Alternatives 2, 3, and 6 could be selected and moved forward, with changes requested by the Council incorporated in a final review draft and Alternative 4 could either remain with those Alternatives or moved to a separate analysis and placed on their own time-line with Alternative 5. Depending on the options selected, if any are developed for Alternative 5, the new amendment package would likely require an Environmental Assessment (at a minimum) in addition to an RIR. 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.

Alternative and Option	Impacts/Costs/Benefits	Meets Defined Objectives
Alternative 1 (No Action)	<ul style="list-style-type: none"> Additional catcher/processors could enter that fishery and more catcher vessels deliver to those processors. Deliveries of BS Pacific cod to Amendment 80 catcher/processors acting as a mothership for processing could increase. More catcher vessels could enter the fishery increasing competition for the available resource between harvesters and the processors their deliveries. 	No, it does not limit the amount of BSAI Pacific cod harvested with trawl gear being delivered to at-sea processors or the number of catcher/processors that can take Pacific cod deliveries as a mothership
Alternative 2	<ul style="list-style-type: none"> 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. Amendment 80 catcher/processors (28 total) 	<ul style="list-style-type: none"> Option 1, sub-options 1 and 2 would not be effective in limiting increases in the amount of Pacific cod delivered to Amendment 80 catcher/processors. Because of declining BS TACs and

Alternative and Option	Impacts/Costs/Benefits	Meets Defined Objectives
	<ul style="list-style-type: none"> ○ 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. ○ 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. ○ 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. • AFA catcher/processors (20 total) <ul style="list-style-type: none"> ○ Option 2 (1 catcher/processor qualifies) • 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. 	<p>current levels of effort, about 18% of the A-season catch was delivered to catcher/processors acting as a mothership in 2018. This level of processing or greater could continue under either options 1 sub-options 1 or 2 in the long-term.</p> <ul style="list-style-type: none"> • 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. • True mothership and other at-sea processors would not be restricted.
Alternative 3	<ul style="list-style-type: none"> • 72 different options are considered that would limit the percentage (ranging from 0% to approximately 10% of the trawl catcher vessel sector allocation) of BS Pacific cod that may delivered to Amendment 80 catcher/processors acting as a mothership. The amount is treated as a sideboard limit. The Council could select any percentage in that range. • Depending on the number of catcher/processors that qualify under Alternative 2 and the percentage limit selected, competition between members of the Amendment 80 sector could increase to harvest the available BS sideboard. • 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 no history. Exempting the catcher/processor that qualifies under Alternative 2 - option 1 sub-option 3 would result in that vessel being able to operate as they have in the past. Other catcher/processors 	<ul style="list-style-type: none"> • Setting a sideboard limit would be effective in protecting BS shoreside processors from increases in deliveries to of directed BS Pacific cod to Amendment 80 catcher/processors. • 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. • 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

Alternative and Option	Impacts/Costs/Benefits	Meets Defined Objectives
	<p>owned by the firm would be subject to the sideboard limit, if one was imposed.</p> <ul style="list-style-type: none"> 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. 	<p>first wholesale level and therefore does not change net benefits to the Nation.</p> <ul style="list-style-type: none"> The action would have distributional impacts on participants in the various sectors.
Alternative 4	<p>Limits the number of BSAI LLP licenses that have a trawl endorsement from harvesting BSAI Pacific cod from the trawl catcher vessel sector allocation. A total of 174 LLP licenses have a BSAI trawl endorsement.</p> <ul style="list-style-type: none"> Option 1: 2010-2017 <ul style="list-style-type: none"> (85 qualify – 14 AFA & 71 non-AFA) Option 2: 2012-2017 <ul style="list-style-type: none"> (84 qualify – 14 AFA & 70 non-AFA) Option 3: 2010-2015 <ul style="list-style-type: none"> (80 qualify – 13 AFA & 67 non-AFA) Option 4: 2012-2015 <ul style="list-style-type: none"> (78 qualify – 13 AFA & 65 non-AFA) The eight severable Aleutian Islands trawl endorsements awarded under Amendment 92 are exempt and can continue to be used to deliver to the AI plant(s). None of these would have qualified based on their catch history in the federal fisheries. Protecting those endorsements provides opportunities for the <60’ vessels that use those endorsements and the AI plant. The number of LLP licenses that qualify will allow increased effort in the fishery. Four LLP licenses that, since 2010, have been only used in the fishery in 2018 would not qualify. The users of these LLP licenses could be displaced. 	<ul style="list-style-type: none"> All options limit the number of LLP licenses that could fish the BSAI trawl catcher vessel sector allocation well below the maximum currently allowed, but every option allows more LLP licenses to qualify than ever fished in a year. Limiting the number of LLP licenses could constrain future expansion of effort. The number of LLP licenses that qualify could result in shortened fishing seasons and crowded fishing grounds. The number of qualified LLP licenses are not based on limiting the fleet to maximize economic efficiency.
Alternative 5	<p>This Alternative is still in the discussion paper stage and has not been analyzed.</p>	<p>Potentially could address several issues defined as problems in the BSAI Pacific cod trawl catcher vessel sector A-season fishery.</p>
Alternative 6	<p>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.</p>	<p>Is effective in limiting participation by any vessels that or have been considered Amendment 80 vessels in the past.</p>

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. Amendment 80 catcher/processors could be limited by Alternative 3 and Alternative 6. 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. All six of these LLP licenses would qualify for a Pacific cod endorsement under Alternative 4 options 1 and 2 as a catcher vessel eligible to harvest from trawl catcher vessel sector allocation. Five of the six LLP licenses qualify under Alternative 4 options 3 and 4. These LLP licenses have been used to deliver to catcher/processors acting as a mothership to supplement the processing by catcher/processors and provide efficient markets for the firm's catcher vessels.

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 only 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 present 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 processing activity.

2.8.1.1 AFA

AFA catcher/processors are only directly impacted by Alternative 2 and indirectly impacted by Alternative 3 and Alternative 4. Only one AFA catcher/processor could qualify to take deliveries of BSAI Pacific cod from the directed Pacific cod fishery as a mothership. It would qualify under any of the options considered under Alternative 2 so that option does not directly impact the AFA catcher/processor. 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 2-18) 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 would not be subject to any sideboard limitations established under Alternative 3. Those limitations only apply to Amendment 80 catcher/processors when acting as a mothership in the BS Pacific cod fishery. 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.

If certain members of the Amendment 80 sector are prohibited from accepting directed Pacific cod deliveries because of small 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 (as allowed under the revised

Amendment 113) 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.

Alternative 4 could limit the catcher vessels that deliver to AFA catcher/processors acting as a mothership in the directed Pacific cod fishery in the future. The impact of this limitation is expected to be very small since the all but one of the catcher vessels that has delivered BS Pacific cod from the directed Pacific cod fishery to the AFA catcher/processors would qualify³⁵ and all catcher vessels that make incidental deliveries of Pacific cod are not required to have a BSAI Pacific cod trawl endorsement to deliver incidental amounts of Pacific cod under Alternative 4.

The impacts of Alternative 5 are not considered because the elements and options for that alternative have not been fully developed and therefore cannot be analyzed. Alternative 6 applies to Amendment 80 catcher/processors acting as a mothership in the BS Pacific cod fishery. The only impact on the AFA catcher/processor sector would be the potential that this action would prevent replaced Amendment 80 catcher/processors from acting as a mothership in the BS Pacific cod fishery in the future.

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 6 directly impact the Amendment 80 catcher/processors. Alternative 4 does not directly impact the Amendment 80 catcher/processors but could impact Amendment 80 firms if some catcher vessels they own are not allowed to make catcher vessel deliveries to their 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 exclusion is specific to the BS, firms are likely to consider fishing opportunities in the AI. Because 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 2-45 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 2-45 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

³⁵ The one vessel that does not qualify only delivered a small amount of Pacific cod in 2012.

Table 2-46 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 2-46 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
Total	27,583	10,556	5,795	43,934

Source: https://alaskafisheries.noaa.gov/sites/default/files/reports/car200_bsai_weekly_catch2017.csv

Alternative 3 would limit the percentage of the BSAI 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 total BSAI because that is how the sector allocation is managed. The limit applies only to the BS catch delivered to Amendment 80 catcher/processors acting as a mothership, so to the extent allowed -

Amendment 80 catcher/processors could receive more of the BSAI trawl CV sector allocation by operating in the AI.

As noted in Section 2.6.5, the Council, at its December 2018 meeting, selected a preferred alternative that would amend Amendment 113 (NPFMC, 2018) so that harvest by the trawl catcher vessels from the AI Pacific cod unrestricted fishery will be included in the BS trawl catcher vessel limitation when determining the closure of the BS subsection. Upon closure of the BS Pacific cod A-season for the trawl catcher vessel sector (thereby leaving only the BS trawl catcher vessel limitation in place), directed fishing for AI Pacific cod would be prohibited for all trawl catcher vessels except those trawl catcher vessels delivering AI Pacific cod to AI shoreplants. That change to Amendment 113 does not prohibit catcher/processors from acting as a mothership in the AI Pacific cod fishery as long as the AI Pacific cod unrestricted is open to directed fishing. Given that the AI Pacific cod unrestricted fishery is set at an amount equal to the AI directed fishing allowance (DFA) less the 5,000 mt AI catcher vessel harvest set-aside, it is expected to be about 6,000 mt in the future.³⁶ That amount of Pacific cod shared by all processors, other than AI plants when the 5,000 mt set-aside is in place, could provide sufficient incentives for Amendment 80 catcher/processors to operate as mothership in the AI Pacific cod fishery.

Table 2-47 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 2-47 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 - 8 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 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 amount would be substantially less than they processed in 2018.

With regards to the catcher/processors that has a lengthy history operating as a mothership, there is the potential that the arrangement of alternatives and options could result in increased mothership opportunities in the BS relative to the AI. As stated above, the preferred alternative for the adjustment to

³⁶ Assuming that current AI Pacific cod ABC projections hold and CDQ allocations and ICA amounts set for the fixed gear sectors are constant.

Amendment 113 allows some opportunity for catcher/processors acting as a mothership to process AI Pacific cod from the AI Pacific cod unrestricted fishery until the BS A-season trawl CV fishery is closed to directed fishing (NPFMC, 2018). Nevertheless, the proposed regulations accounting for AI Pacific cod catch could shift trawl catcher vessel fishing effort and offshore processing effort from the AI Pacific cod unrestricted fishery to the BS Pacific cod fishery. This is only expected to occur if the catcher/processors that qualify to act as a mothership under Alternative 2 and the Alternative 3 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 or is exempt from Alternative 3. 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. These catcher/processors have generally relied on deliveries from catcher vessels they own. Unless they acquire new catcher vessels, increase the harvest levels of the catcher vessels they own in the Pacific cod fishery, or have the processing capacity to offer markets to catcher vessels they do not own or control, substantial increases in their processing of BS Pacific cod as a mothership are not anticipated.

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 the new Amendment 113 revisions, 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 unless they are delivering to an AI shorebased processor. They are limited to delivering to an AI plant 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 non-qualified catcher/processors and sideboarded catcher/processors to increase their effort in the AI Pacific cod fishery since there would be a greater amount of AI Pacific cod available and the sideboard limit from the proposed action does not apply in the AI. This result could be expected under any of the Alternative 3 options being considered.

The impact of setting sideboard limits under Alternative 3 will have differing effects within the Amendment 80 sector. Catcher/processors that have contributed 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 second 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. 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 to have a sideboard limit that would allow for Amendment 80 vessels to take 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 trawl catcher vessel sector allocation may range from about 250 mt to 350 mt depending on the GHL amounts and the Pacific cod ABC. Since 74% of the sector allocation is available in the A-season, a 1% movement in the sector allocation between certain catcher/processors acting as a mothership and other processors would equate to 1,300 mt to 1,850 mt of Pacific cod.

Based on these amounts and the projected sideboard limits under Alternative 3, all of the options that include 2008 would be difficult to manage as sideboards and could result in the fishery never being opened to Pacific cod deliveries to Amendment 80 catcher/processors acting as a mothership. Alternative 3 options that are based on more recent years during the A-season, could result in the fishery being opened, but it may only be open for about two weeks. These estimates will vary based on the overall TAC set for the Pacific cod fishery, the amount of effort expected to enter the fishery, and catch rates during a year.

Because the proposed sideboard limits under Alternative 3 would not limit incidental catches of Pacific cod to catcher/processors when they are acting as a mothership beyond the limits imposed under the MRAs, there is the potential for increased landings of incidental catches of Pacific cod to Amendment 80 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 Alternative 5 options.

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 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 Amendment 80 catcher/processors, and there would also be no reduction in the number of trawl gear licenses eligible to participate in the directed BSAI Pacific cod trawl catcher vessel fishery. 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 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 2-12). 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.

Selection of Alternative 4 would not allow everyone currently holding an existing BSAI trawl LLP license to enter the BSAI Pacific cod catcher vessel fishery in the future and dilute gross revenues, increase costs, or both, for LLP license holders that have participated in the fisheries during recent years. Increased participation may result in negative economic impacts to current participants in the fisheries especially under current conditions where the BS Pacific cod ABC has declined and is projected to decline further. If Pacific cod endorsements are not added to trawl endorsed BSAI LLP licenses, licenses with no recent catch history in the BSAI trawl Pacific cod fisheries could enter the fisheries and erode the catch of recent participants. The new entrants could deliver to either the shorebased or at-sea processors depending on market availability and incentives provided by the various markets. Alternative 5 could further stabilize participation and effort in the fishery, depending on the options that are developed.

The requirement that one targeted Pacific cod landing during the qualifying period, in the non-CDQ trawl catcher vessel sector, would result in any recent (as defined by the qualifying period selected) participants in the fisheries receiving a Pacific cod endorsement. The primary effect of this action on the harvesting sector would be to limit the potential for future entry of latent licenses into the BSAI Pacific cod fisheries. If the Council chooses a more restrictive window for qualifying landings, this action has the potential to exclude some relatively recent participants who did not make a landing during the qualifying period.

This action would reduce potential trawl gear capacity in the BSAI Pacific cod trawl catcher vessel fishery to include only LLP licenses that meet the catch history requirement. Prohibiting certain BSAI trawl LLP licenses could prevent future revenues from Pacific cod harvests in the respective management areas from being diluted by increases in fishing effort by latent licenses. Those LLP holders having exhibited some recent dependence and participation in the BSAI trawl catcher vessel Pacific cod fishery would be protected from possible future increases in effort and dilution of their gross revenue share. However, this action may not result in increased production efficiencies to licenses that qualify. Implementation of the proposed amendment would continue to create an incentive for qualified LLP license holders to expand their fishing effort and maximize their respective share of the gross revenues in the BSAI trawl catcher vessel Pacific cod fisheries.

Alternative 4 will likely not result in an 'optimum' harvesting capacity in any of the catcher vessel trawl vessel sub-sectors or the BS or AI management areas. The number of gear-specific Pacific cod endorsements that may be added to licenses under any of the four Alternative 4 options was not based on a predetermined optimum capacity for the trawl catcher vessel fleet. The action is instead directed towards limiting future entry into the fishery as opposed to constraining fishing effort at some current or past level.

Increases in Pacific cod prices in recent years have the potential to attract re-entry of latent effort into the fisheries. In the absence of this action, latent LLP licenses would not necessarily re-enter the fisheries in the future. The re-entry of these latent licenses would 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 in the fishery that is already experiencing crowded fishing grounds. However, all of the options being considered would allow more LLP licenses to qualify than have fished in the BSAI Pacific cod trawl catcher vessel sector in any recent year (Table 2-43). The options considered under Alternative 4 would reduce the total number of BSAI trawl LLP licenses that could participate in catcher vessel sector from a theoretical maximum of 174 to a range of 78 to 85. 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.

Reducing the pool of licenses eligible to access the directed Pacific cod fisheries has the potential to increase the prices of LLP licenses that qualify for the endorsement and decrease the price of those that do not. The price of a license may depend on the combination of area, gear (trawl and/or fixed gear), and species endorsements, and the MLOA on the license. It also may depend on whether the license has recent catch history. Ultimately, the value of the LLP license is dependent on the expected long-term profit stream the buyer of the LLP license anticipates deriving from its use.

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 que up to begin fishing. Additional effort in the fishery could increase the que times and perhaps increase the risks vessel operators are willing to take to establish their place in the que 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 6. 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 non-CDQ trawl catcher vessel sector allocation of Pacific they receive. As shown in Table 2-48 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 2-48 Percentage of A-season BS Pacific cod delivered to sector by year, 2015 through 2018

Year	Shoreside and Floating Procesors		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
Total	94.78%	16	5.22%	8

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 the community impact section of the document.

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. When that plant is operational and revised Amendment 113 regulations are 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 Amendment 80 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 10% 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 Amendment 80 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 closing the directed fishery sooner. No specific options to address increases in incidental catches of Pacific cod are included in this package. So, Alternative 3 would benefit the shorebased sector, especially relative to the 2018 fishery. 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.

Table 2-42 shows that staff projections indicate that a 1% change in the amount of the non-CDQ trawl catcher vessel sector allocation will result in approximately a \$400,000 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 17.7% 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 10% (the range is 0% to about 10% depending on the years selected, the catcher/processors that qualify, and the catcher/processors that are exempted). Assuming an 8% change in the catcher vessel sector allocation being delivered to shorebased and floating processors this would equate to a change of \$3.2 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.

Alternative 4 could also impact the number of catcher vessels that are eligible to deliver directed Pacific cod landings. If new processors enter the fishery or current processors wish to expand their fleets they would need to attract vessels that are assigned an LLP license with a BSAI trawl endorsement for Pacific cod. While it is expected that the number of endorsed licenses will exceed the number that fish in a year, the increased scarcity of those LLP licenses could make attracting those vessels more difficult. If the LLP licenses are relatively scarce, bargaining power of the LLP licenses holders in terms of receiving higher ex-vessel prices or other favorable delivery terms and conditions could increase.

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.

Alternative 5 could have a substantial impact on individual shorebased processors and the sector as a whole. Impacts are not provided in this document because the options for that alternative have not been developed.

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 activity in the Pacific cod target fishery. They will 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. The net loss of local fish tax revenues from deliveries not made to Unalaska/Dutch Harbor shoreside processors (but made instead to catcher-processors acting as motherships) would, however, likely be minimized if not offset by commensurate increases in tax revenues related to state shared resource landing taxes. The latter revenues are derived from offshore processing and landing related activities and both shoreside- and offshore-derived revenue sources are substantial contributors to total fishery related tax revenues in Unalaska/Dutch Harbor. On the other hand, the relative importance of shoreside compared to offshore sources of fishery derived public revenues is higher in Akutan and King Cove.

- 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]). The shared state revenues derived from fisheries business and resource landing taxes associated with BSAI catcher/processors also provide an important source of public revenues to Alaska communities, and specifically in substantial degree in Unalaska/Dutch Harbor, if to a lesser degree in Akutan and King Cove.
- 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 other vessels, including AFA 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). The pattern of differential distribution of impacts across communities would be similar to that described for Alternative 2.

- While Alternative 4 would address the issue of latent licenses in the BSAI non-CDQ directed Pacific cod trawl fishery, it would limit future ability of the owners of those latent LLP licenses to enter the fishery, an option that they would have otherwise been able to exercise should circumstances dictate it would be favorable to do so.
 - Under all options, this includes all LLP licenses that (1) have never been used in the BSAI non-CDQ directed Pacific cod trawl fishery, (2) have not been used in the fishery since 2009, (3) have only been used in the fishery after 2017, or (4) were only used in the fishery before 2010 and after 2017.
 - Additionally, depending on the option chosen, it would include some LLP licenses that have been used in the fishery in one or more years 2010-2017 (i.e., the LLP licenses that would qualify under some of the Alternative 4 options but not others). It is assumed that this latter group would potentially experience the greatest adverse impacts under this alternative. The exemption for the eight severable Aleutian Islands trawl license endorsements awarded under Amendment 92 would serve to continue to foster shoreside deliveries of Pacific cod in an area that has seen limited opportunities for deliveries to shore-based processors operating in local communities in recent years, as intended under that Amendment, and preserve opportunities for small trawl vessel (less than 60 length overall [LOA]) operators as also intended under that Amendment. The four LLP licenses that were issued an Aleutian Islands trawl endorsement for vessels greater than or equal to 60' LOA under Amendment 92 but not covered by the Alternative 4 exemption would each qualify under all of the Alternative 4 options, thereby further protecting the interests of local communities as intended under Amendment 92.
 - None of the options under Alternative 4 would be expected to change patterns of catcher vessel deliveries between catcher/processors and shoreside processors, nor would they be expected to change delivery patterns between shoreside processors operating in different communities. As a result, no changes to patterns of public revenues deriving from local fish taxes or shared state fisheries business or resource landing taxes are expected to occur.
- Alternative 5 is currently in a request for information stage/undergoing development and community impacts are not analyzed in the initial review draft SIA.
- From a community impact perspective, Alternative 6 addresses an Amendment 80 replaced vessel issue that was not directly addressed in Alternatives 2 and 3 and is not a stand-alone alternative.

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 6 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 only decrease crowding on the grounds if they limit the markets available to catcher vessels. That is not expected to result from those alternatives. Alternative 4 will reduce the total number of catcher vessels that can participate in the fishery, but it would still allow more catcher vessels to participate that have participated in recent years. Alternative 5 options have not yet been developed by the Council. Depending on how the Council addresses that Alternative it has the potential to slow the pace of the fishery and perhaps reduce crowding on the Pacific cod fishing grounds. However, until specific options are developed an analysis cannot be completed.

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 Alternative 4 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 and Alternative 4 would limit participation 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 GHL 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. 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 10% 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

To be completed after the Council selects a preliminary preferred alternative.

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

This section will be updated after the Council selects a preliminary preferred alternative.

None of the proposed alternatives are 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. Some Amendment 80 catcher/processors and one AFA catcher/processor may lose their ability to act as a mothership in the BS Pacific cod fishery. Amendment 80 catcher/processors that do qualify to act as a mothership in the BS Pacific cod trawl catcher vessel fishery may only be allowed to process an amount that is less than their historically average. Shorebased and floating processor are expected to benefit from the selection of any option under Alternatives 2, 3, and 6. The difference in the amount of BSAI Pacific cod processed by one sector will be accounted for by another sector, as all of the trawl catcher vessel sector allocation of BSAI Pacific cod is expected to be harvested and processed under any of the options.

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 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.

Alternative 4 would limit the number of BSAI trawl LLP licenses that could be used to harvest BSAI Pacific cod. The LLP licenses that would not qualify, in general, have not been used in the fishery in recent years. The LLP licenses that do qualify will allow for sufficient harvesting 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 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

To be completed after the Council selects a preliminary preferred alternative

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.

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

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.

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.

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.

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

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

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.

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.

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

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 2.9, 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 Appendix 1 (See attached Social Impact Assessment)