

**Regulatory Impact Review/Environmental Assessment
for Proposed Amendment
to the Fishery Management Plan for Groundfish of the Bering Sea and
Aleutian Islands Management Area and Gulf of Alaska Management Area**

BSAI PACIFIC COD TRAWL CATCHER VESSEL COOPERATIVE PROGRAM

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Abstract: This Regulatory Impact Review/ Environmental Assessment analyzes a proposed Bering Sea and Aleutian Islands (BSAI) trawl Pacific cod catch share program that would assign BSAI trawl catcher vessel (CV) Pacific cod harvest shares based on legal landings of targeted BSAI Pacific cod authorized by a valid License Limitation Program (LLP) license. The proposed program considers allocations of quota shares (QS) to groundfish LLP licenses based on the harvest of targeted BSAI Pacific cod during the qualifying years. The action also considers allocating harvest shares to a processor permit based on processing history of BSAI Pacific during the qualifying years. This would yield an exclusive harvest privilege allocation for use in a BSAI trawl CV Pacific cod catch share program cooperatives. The purpose of this action is to improve the prosecution of the fishery with the intent of promoting safety and stability in the harvesting and processing sectors, increasing the value of the fishery, providing for the sustained participation of fishery dependent communities, and ensuring the sustainability and viability of the resource.

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List of Acronyms and Abbreviations

Acronym or Abbreviation	Meaning	Acronym or Abbreviation	Meaning
AAC	Alaska Administrative Code	LOA	length overall
ABC	acceptable biological catch	m	meter or meters
ADF&G	Alaska Department of Fish and Game	Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act
AFA	American Fisheries Act	MMPA	Marine Mammal Protection Act
AFSC	Alaska Fisheries Science Center	MSST	minimum stock size threshold
AI	Aleutian Islands	mt	Metric ton
AIDQ	Aleutian Islands delivery quota	NAICS	North American Industry Classification System
AKFIN	Alaska Fisheries Information Network	NAO	NOAA Administrative Order
AMP	Adaptive management program	NEPA	National Environmental Policy Act
APA	Administrative Procedure Act	NIOSH	National Institute for Occupational Safety and Health
BOF	Alaska Board of Fisheries	NMFS	National Marine Fishery Service
BS	Bering Sea	NOAA	National Oceanic and Atmospheric Administration
BSAI	Bering Sea and Aleutian Islands	NPFMC	North Pacific Fishery Management Council
CAS	Catch Accounting System	NPPSD	North Pacific Pelagic Seabird Database
CDQ	Community Development Quota	Observer Program	North Pacific Observer Program
CEQ	Council on Environmental Quality	OFL	Over Fishing Level
CFID	Commercial Fishing Incident Database	OMB	Office of Management and Budget
CFR	Code of Federal Regulations	PBR	potential biological removal
COAR Council	Commercial Operators Annual Report Council	PCTC	Pacific Cod Trawl Cooperative
C/P	catcher/processor	PFMC	Pacific Fishery Management Council
CQ	Cooperative quota	PHQ	processor harvester quota
CV	catcher vessel	PSC	prohibited species catch
DPS	distinct population segment	PPA	Preliminary preferred alternative
E.O.	Executive Order	PRA	Paperwork Reduction Act
E.O. 12866	Executive Order 12866	PSEIS	Programmatic Supplemental Environmental Impact Statement
EA	Environmental Assessment	QS	Quota share
EEZ	Exclusive Economic Zone	RFA	Regulatory Flexibility Act
EFH	essential fish habitat	RFFA	reasonably foreseeable future action
EIS	Environmental Impact Statement	RIR	Regulatory Impact Review
ESA	Endangered Species Act	RPA	reasonable and prudent alternative
ESU	endangered species unit	SAFE	Stock Assessment and Fishery Evaluation
FCMA	Fishermen's Collective Marketing Act	SAR	stock assessment report
FLPR	Floating processor	SBA	Small Business Act
FMA	Fisheries Monitoring and Analysis	SBPR	Shore-based processor
FMP	fishery management plan	Secretary	Secretary of Commerce
FONSI	Finding of No Significant Impact	SIA	Social Impact Assessment
FR	<i>Federal Register</i>	SPLASH	Structure of Populations, Levels of Abundance, and Status of Humpbacks
FRFA	Final Regulatory Flexibility Analysis	SRKW	Southern Resident killer whales
ft	foot or feet	TAC	total allowable catch
GHL	Guideline Harvest Level	U.S.	United States
GOA	Gulf of Alaska	USCG	United States Coast Guard
HAL	Hook-and-Line	USFWS	United States Fish and Wildlife Service
IRFA	Initial Regulatory Flexibility Analysis	VMS	vessel monitoring system
ICA	Incidental catch allowance		
IPA	Incentive Plan Agreement		
JAM	jeopardy or adverse modification		
lb(s)	pound(s)		
LEI	long-term effect index		
LLP	license limitation program		

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Executive Summary

This Environmental Assessment/Regulatory Impact Review analyzes a proposed Bering Sea and Aleutian Islands (BSAI) trawl Pacific cod catch share program that would assign BSAI trawl catcher vessel (CV) Pacific cod harvest shares based on legal landings of targeted BSAI Pacific cod authorized by a valid groundfish License Limitation Program (LLP) license. From this point forward, all references to LLP licenses throughout the document refer to groundfish LLP licenses, unless otherwise noted. The proposed Pacific Cod Trawl CV Program (PCTC Program) considers allocations of quota shares (QS) to groundfish LLP licenses based on the harvest of targeted BSAI Pacific cod during the qualifying years. The action also considers allocating harvest shares to a processor permit based on processing history of BSAI Pacific cod during the qualifying years. This would that yield an exclusive harvest privilege for use in a BSAI trawl CV Pacific cod catch cooperative(s). The intent of this action is to improve the prosecution of the fishery with the intent of promoting safety and stability in the harvesting and processing sectors, increasing the value of the fishery, providing for the sustained participation of fishery dependent communities, and insuring the sustainability and viability of the resource.

Purpose and Need

It is generally understood that current regulations that limit harvest directly through limitations on total allowable harvest and/or input controls can make vessels less efficient. However, management that relies on catch share programs is expected to result in improved productivity at a fleet level through retirement of redundant capital, more efficient use of retained capital and other inputs, and quota transfers from less efficient to more efficient trawl CVs (Marine Policy, 2015).

Recognizing the benefits of a catch share program in addressing increasing inefficiency in the BSAI trawl CV Pacific cod fishery, the Council at its February 2019 meeting adopted a purpose and need statement as part of a request for a scoping paper that considers development of a cooperative based program for the BSAI Pacific cod trawl CV fishery.¹ At the October 2019 meeting, the Council, while conducting a review of the scoping paper, adjusted the purpose and need statement to reflect the Council's intent to provide stability in the harvesting and processing sectors and to provide for sustained participation of fishery dependent communities while ensuring the sustainability and viability of the BSAI Pacific cod resource. Provided below is the revised purpose and need statement:

Over the last several years, total allowable catch for Pacific cod in the Bering Sea-Aleutian Island has steadily decreased. The pace of the fishery has contributed to an increasingly compressed season, resulting in decreased ability to maximize the value of the fishery and negatively impacting all fishery participants (catcher vessels, motherships, shoreside processors, and communities). This race for fish also discourages fishing practices that can minimize bycatch and threatens the sustained viability of the fishery. The Council is considering the development of a cooperative-based program to improve the prosecution of the fishery, with the intent of promoting safety and stability in the harvesting and processing sectors, increasing the value of the fishery, providing for the sustained participation of fishery dependent communities, and ensuring the sustainability and viability of the resource.

Description of Alternatives, Elements, and Options

To address the purpose and need statement, the Council has adopted a suite of elements, options, and alternatives. The alternatives proposed include no action (Alternative 1) and implement a cooperative style limited access privilege program for the BSAI Pacific cod trawl CV sector (Alternative 2). Staff has

¹ Motion from February 2019: <https://meetings.npfmc.org/CommentReview/DownloadFile?p=68547653-a558-4b6e-8318-70444670bca5.pdf&fileName=C4%20MOTION%20BSAI%20Pcod%20Trawl%20CV%20Scoping%20Document.pdf>

further developed Alternative 2 into two strawman alternatives (Alternative 2a and 2b) that are described in Table 2-1 in order provide a more analytical contrast for two types of cooperative style limited access privilege programs under consideration. In general, the proposed cooperative style limited access privilege program would assign BSAI trawl CV Pacific cod harvest shares based on legal landings of targeted BSAI Pacific cod authorized by a valid LLP license. The proposed program considers allocations of QS to groundfish LLP licenses based on the harvest of targeted BSAI Pacific cod during qualifying years selected from ranges included in the options. The action also considers allocating harvest shares to a processor permit based on processing history of BSAI Pacific cod during the qualifying years. The proposed action would yield an exclusive harvest privilege for a portion of the trawl CV sector's BSAI Pacific cod initial TAC (ITAC) allocation for use in a PCTC Program cooperative or a limited access fishery.

The proposed PCTC Program considers two different cooperative approaches: 1) two cooperatives, one for AFA vessels and one for non-AFA vessels (Element 1, Option 1.1), or 2) voluntary harvester cooperatives in association with a legally permitted processor (Element 1, Option 1.2). Based on the Council's proposed action, any vessel assigned to an LLP license that authorized the vessel's legal landings of targeted trawl CV BSAI Pacific cod during the qualifying years would be eligible to receive QS (Element 2.1). To determine the amount of QS allocation to be assigned under this action, the Council is considering three different year combinations based on targeted BSAI Pacific cod landings (Element 2.2, Options 2.2.1-2.2.3) and a fourth option that would blend both catch history and sideboard history² for AFA BSAI Pacific cod sideboarded vessels only (Element 2.2, Option 2.2.4). The Council included an option to allocate only A season and B season QS, leaving the C season as a limited access fishery available to any vessel with an eligible groundfish LLP license and appropriate endorsements (Element 2.5).

With regards to halibut and crab PSC, the Council has included an option that would continue to utilize the current harvest specifications process to determine the amount of halibut and crab PSC that would be apportioned to the Pacific cod trawl limited access fishery (Element 3, Option 3.1). Federal regulations currently apportion to the trawl limited access sector, which is composed of both trawl CV and AFA catcher/processor (C/P) sectors, 745 mt of halibut PSC. This apportioned halibut PSC is further divided by fishery, with 391 mt designated for use in the BSAI Pacific cod fishery for the 2019 fishing year. Recognizing there may be a need for the trawl CVs to have their own apportionment of Pacific cod, the Council included a suboption to establish a trawl CV Pacific cod halibut PSC apportionment based on historic use between trawl CV sector and the AFA catcher processor sector (Element 3, Option 3.1, Suboption 3.1.1). The Council also included an option to reduce the halibut and crab PSC apportionment to the BSAI trawl CV Pacific cod sector by 10% to 25% (Element 3, Option 3.2).

The Council included options to limit impacts from the PCTC Program on GOA fisheries. These options include sideboard limits for non-exempt AFA LLP licenses and CVs (Element 4, Option 4.1) and non-AFA LLP licenses (Element 4, Option 4.3) based on their GOA catch history during the BSAI Pacific cod qualifying period for this proposed action. Element 4, Option 4.2 addresses how AFA vessels that are exempt from GOA sideboards under that program could continue to be exempted from GOA sideboards in the proposed Pacific cod LAPP. Element 4, Option 4.3 describes GOA sideboards and sideboard exemptions for non-AFA LLP licenses. Those LLP licenses would be subject to GOA sideboard limits based on their GOA catch (other than harvests permitted under the Rockfish Program) during the qualifying years. The Council did include a provision to exempt non-AFA CVs from BSAI Pacific cod GOA sideboards if their qualifying BSAI Pacific cod history was less than a yet to be determined threshold amount (Element 4, Option 4.3). Finally, a suboption at the end of Element 4 would allow a

² Sideboard history refers to the leasing of Pacific cod sideboard limits within AFA cooperatives. The intent is to devise a system where both the person leasing the Pacific cod and the person harvesting the Pacific cod divide the resulting QS so that a portion of the QS is attached to the LLP licenses of both the person leasing out the Pacific cod (the lessor) and the person harvesting the Pacific cod (the lessee) at the time of initial allocation.

one-time exemption from GOA sideboard limits created by this program for any eligible CV LLP that opts out of the program.

Included in the Council's elements and options were provisions addressing processing sector issues. These include allowing all processors with an eligible federal processor permit to process BSAI Pacific cod (subject to eligibility requirements under the April 2019 Council action to limit catcher processors acting as motherships) (Element 5.1); a limit on targeted BSAI Pacific cod that can be delivered to trawl C/Ps acting as a mothership (Element 5.2), and allocating harvest shares to onshore and offshore processors for use in a PCTC Program cooperative (Element 5.3). Under Element 5.3, the Council is considering allocating between 5 percent and 30 percent of total QS to eligible processors (Options 5.3.1 - 5.3.5).

The Council included provisions to promote sustained participation of Aleutian Islands (AI) processors and communities (Element 6). Option 6.1 requires the cooperative(s) to reserve a set-aside ranging from 10% to 25% of the BSAI trawl CV A season harvest amount for delivery to a shoreplant in the AI management region. Option 6.2 would issue annual harvest quota, the lesser of 5,000 mt or 5.5% of the total BSAI trawl CV Pacific cod quota, to the plant operator if the community of Adak or Atka files a notice of intent to process.

The Council also included transferability provisions. Specifically, Element 7 notes that QS is attached to the LLP license and are non-severable from the LLP license. Transfer of an LLP license eligible for this program results in the transfer of any program eligibility, QS associated with the LLP, and sideboard limitations (Element 7.1). Allocations based on processing history will be issued as separate quota permits and use and transfer restrictions on these processor cooperative shares, if selected, will be determined at a later date (Element 7.2).

With regards to ownership and use caps, the Council included options for ownership and use caps for harvester-issued (Element 8.1) and processor-issued cooperative shares (Element 8.3), vessel use caps (Element 8.2), and a plant level processing cap (Element 8.4). To set appropriate options for caps, the Council is waiting for the initial review draft which will provide information on current ownership and use percentages where possible. The Council included options to grandfather persons over the harvester-issued and processor-issued use caps and the processing cap. The Council motion did not include a grandfather provision option for the vessel use cap.

Finally, the Council included elements to address cooperative provisions (Element 9), share duration (Element 10), monitoring (Element 11), reporting and program review (Element 12), cost recovery (Element 13), and gear conversion which would allow BSAI Pacific cod trawl CV quota to be fished with pot gear (Element 14).

The following elements and options were adopted by the Council in October 2019.³ Note that staff changed LLP to LLP license where appropriate. This does not change the intent of any of the proposed actions.

Element 1. Cooperative Style Systems

Option 1.1: One cooperative will be formed for AFA vessels and one cooperative will be formed for non-AFA vessels.

Each eligible license will be eligible for one cooperative and must join that cooperative to participate in the Pacific cod cooperative fishery.

Cooperative requires membership of 80% of the eligible catch history for that cooperative.

Vessels and LLP licenses that do not join a cooperative would be eligible to fish in a limited access fishery. Harvest and PSC in the limited access fishery would be limited to the Pacific cod and halibut and crab PSC that would have been issued to cooperatives had the eligible LLP licenses joined a cooperative.

Suboption 1.1.1: Reduce halibut and crab PSC apportionment to the BSAI trawl CV limited access fishery by 25% to 40%.

Option 1.2: Voluntary harvester cooperatives with no minimum number of licenses required.

Holders of qualified LLP licenses must join a cooperative annually in association with a licensed processor (FFP) to harvest allocations of Pacific cod. Harvesters may change cooperatives and cooperative associations may change annually without penalty.

No limitation on the number of LLP licenses holders or eligible catch history needed to form a cooperative.

No limitation on the number of cooperatives that may form.

Suboption 1.2.1: A minimum of three LLP license holders are needed to form a cooperative

Suboption (applicable to Options 1.1 and 1.2): inter-cooperative formation is allowed.

Element 2: Allocation to LLP Licenses

2.1. Eligibility – Any LLP license assigned to a vessel that authorized that vessel’s legal landings of targeted trawl catcher vessel BSAI cod during the qualifying years is eligible to receive harvest shares.

2.2. Harvester Allocations – Eligible LLP licenses must be assigned to a cooperative to receive annual Pacific cod quota. The sector’s harvest shares will be allocated to eligible LLP licenses, with each LLP license’s allocation based on the Pacific cod catch history (legal landings) of targeted BSAI cod authorized by that LLP license during the following qualifying years:

Option 2.2.1: 2014 - 2019

Option 2.2.2: 2009 –2019

Option 2.2.3: 2004 –2019

Option 2.2.4: Allocations based on a blend of catch history and AFA sideboard history

Suboptions to credit catch history/sideboard at:

Suboption 2.2.1: 50%/50%

Suboption 2.2.2: 80%/20%

Suboption 2.2.3: 20%/80%

³ The numbering system utilized in the motion has been modified to allow for easier reference.

Suboptions (applicable to Options 2.2.1 – 2.2.4):

Suboption 2.2.1. Drop 1 Year

Suboption 2.2.2. Drop 2 Years

2.3. Catch history is attached to the LLP license at the time of harvest. If multiple licenses authorized catch by a vessel, in the absence of agreement of the license holders at the time of application, history will be:

Option 2.3.1: divided equally between those licenses.

Option 2.3.2: assigned to an LLP license by the owner of the vessel that made the catch.

2.4. Annual quota will be issued to each license based on its share of the total qualifying BSAI trawl catcher vessel catch history. Allocations will not be designated for harvest in a management area (i.e., BS or AI) but may be harvested from either area.

2.5. Option to allocate A and B season BSAI trawl CV Pacific cod only:

A and B season TACs (after deduction of the ICAs) will be allocated to cooperatives as annual cooperative quota (and to seasonal limited access fisheries, if applicable). Annual cooperative allocations (and seasonal limited access allocations, if applicable) attributable to each LLP license will be that LLP license's proportional share of the total qualifying Pacific cod history.

Staff should analyze distributional impacts of this option based on differential catch histories in the A and B season.

The C season allocation will remain 15 percent and remain a limited access fishery to any vessel with an eligible groundfish LLP license with an applicable area endorsement. The C season limited access fishery will be managed as currently by NMFS, including management of incidental catches of Pacific cod in other directed fisheries. C season TAC (and A and B season ICAs) that NMFS projects to go unused are subject to reallocation to other sectors under current reallocation rules.

2.6 All species not allocated to cooperatives will be managed by maximum retainable amounts (MRAs), as under current management.

Element 3. Prohibited Species Catch Limits

The annual crab and halibut PSC available to the BSAI trawl catcher vessel Pacific cod sector will be as follows:

Option 3.1: Status quo methodology

Suboption 3.1.1: Establish trawl CV Pacific cod halibut PSC apportionment based on historic use between the trawl CV sector and the AFA C/P sector.

Option 3.2: Reduce halibut and crab PSC apportionment to BSAI trawl CV Pacific cod sector that would be harvested under a status quo methodology by 10% to 25%.

Element 4: Gulf of Alaska Sideboards

Option 4.1: AFA LLP licenses or CVs will be sideboarded as to all Gulf of Alaska (GOA) fishing activity, except for the CGOA Rockfish Program, based on their Gulf catch history during the BSAI Pacific cod qualifying period.

Option 4.2: AFA GOA-Exempt CVs will not be permitted to transfer their BSAI cod history on their respective LLP license as a condition of continuing to benefit from its GOA exemption.

Suboption 4.2.1: AFA GOA Exempt CVs with LLP licenses of less than a threshold amount of qualifying BSAI cod history may transfer their BSAI cod history and continue to benefit from GOA exemption.

Option 4.3: Non-AFA LLP licenses would be sideboarded in the GOA (with the exception of the CGOA Rockfish Program) based on their GOA catch history during the qualifying years with the exception that those non-AFA CV with less than a threshold amount of qualifying BSAI cod history, which would be exempt from the sideboard limitation.

Suboption: Any eligible CV LLP license that opts out of the BSAI Pacific cod program at implementation of the program will be exempt from GOA sideboards created by this program (one-time option).

Element 5: Processor and Community Provisions

5.1. No closed class of processors; all processors with an eligible FPP are eligible to process BSAI Pacific cod (subject to eligibility requirements under the April 2019 Council action to limit catcher processors acting as motherships).

5.2. Limit (sideboard) on directed BSAI Pacific cod that can be delivered by trawl CVs to eligible C/Ps acting as motherships. The sideboard would be based on BSAI Pacific cod processing history by eligible C/Ps during qualifying years under Element 2.

5.3. Allocation of harvest shares to processors (option: only applicable to Bering Sea processors and eligible C/Ps if different AI shoreside protections are selected under element 6):

Onshore and offshore processors (Option: subject to eligibility requirements under the April 2019 Council action to limit catcher processors acting as motherships) that have history of processing in the federal BSAI Pacific cod trawl CV fishery will be eligible to receive a percentage of total harvesting shares based on each onshore processor's and offshore processor's processing history. To be used, the processor's harvest shares would be transferred to the CV cooperative. *Additional restrictions on use of this quota must be developed through further analysis.*

Percent of harvest shares and PSC to be allocated to eligible processors:

Option 5.3.1: 5%

Option 5.3.2: 10%

Option 5.3.3: 15%

Option 5.3.4: 25%

Option 5.3.5: 30%

Suboption: Harvest shares only

Processing history years to receive harvest shares are the same as harvester years in Element 2.

Element 6: Aleutian Islands Processor Provisions

Option 6.1: Require the cooperative(s) to reserve a set-aside for delivery to a shoreplant in the Aleutian Island management region. The amount of the set-aside will be 10% to 25% of the BSAI CV trawl directed A season harvest amount.

Suboption 6.1.1: The set-aside will be reduced by any amount Adak/Atka processors receive as a direct allocation of harvesting shares pursuant to this LAPP Program, regulation or legislation.

Option 6.2: In any year when the community of Adak or Atka files a notice of intent to process, annual harvest quota shall be issued to the plant operator designated in that notice of intent. In the event, one community issues a notice, the lesser of 5,000 mt or 5.5% of the total BSAI trawl catcher vessel Pacific cod quota (prior to allocations based on harvesting or processing histories) (1,961 mt in 2019) shall be

issued to the plant. In the event both communities issue a notice the allocation shall be divided equally between two plants.

Suboption 6.2.1: Allocations are transferrable between qualified entities.

Annual Aleutian Islands community shore plant allocations shall be transferable to any cooperative(s) (and between cooperatives) for harvest by member vessels that are assigned an AI trawl CV LLP license eligible under this program. Quota shall be harvestable exclusively in the AI and any catch must be landed to the shore plant operated by the annual quota recipient (i.e., plant operator).

In the event any Aleutians community shore plant allocation is not fully harvested by March 21, that unharvested allocation will expire and an amount of annual quota equivalent to the unharvested portion will be reissued to cooperatives (holders of LLP licenses with BS and AI harvest history in proportion to their annual allocations).

Suboption 6.2.2: If the community of Adak and Atka files a notice of intent to process, annual harvest quota should be issued to an entity representing the community designated in the notice of intent.

Element 7. Transferability

7.1. Catch histories are attached to LLP licenses and are non-severable from the LLP. Transfer of an LLP license eligible for this program results in the transfer of any program eligibility and catch history/harvest shares associated with the LLP license.

7.2. Allocations based on processing history are issued as separate permits. *To be analyzed: Use and transfer restrictions on processor cooperative shares if selected (e.g., options for restrictions on use on company-owned vessels, transferability restrictions).*

7.3. Annual allocations of Pacific cod and PSC are transferable between cooperatives.

7.4. Post-delivery transfers of cooperative quota are permitted, but must be completed by December 31 (i.e., prior to annual cooperative quota expiring).

Element 8: Ownership and Use Caps

8.1. Harvester-issued cooperative shares: No person may hold or use more than ___ percent of the Pacific cod cooperative quota or PSC apportionment issued:

Option 8.1.1: using the individual and collective rule or

Option 8.1.2: using 10% ownership threshold or management and control for assigning quota to a holder's/entity's cap.

Suboption 8.1: Persons over the cap at the time of implementation are grandfathered.

8.2. No vessel may harvest more than ___ percent of the annual Pacific cod cooperative quota or PSC apportionment issued in the fishery.

8.3. Processor-issued cooperative shares: No person may hold or use more than ___ percent of the Pacific cod cooperative quota or PSC apportionment:

Option 8.3.1: using the individual and collective rule or

Option 8.3.2: using 10% ownership threshold or management and control for assigning quota to a holder's/entity's cap.

Suboption 8.3: Persons over the cap at the time of implementation are grandfathered.

8.4. No processing facility may process more than ___percent of the Pacific cod cooperative quota.

Suboption 8.4.1: Processing facilities over the cap are grandfathered.

Element 9. Cooperative Provisions

Annual cooperative applications must be filed on or before ____ of the preceding year.

Cooperatives shall be formed by qualified LLP licenses with Pacific cod history. Each LLP license is eligible to join one cooperative. A vessel assigned a qualified LLP license is a member of that LLP license's cooperative. A vessel may join a single cooperative.

Cooperatives are intended only to conduct and coordinate harvest activities of members and are not Fishermen's Collective Marketing Act (FCMA) cooperatives.

Membership agreements will specify that processor affiliated members cannot participate in any price setting negotiations, except as permitted by antitrust laws.

Each cooperative will receive annual cooperative quota allocations of Pacific cod and apportionments of halibut and crab PSC based on members' qualifying catch histories (and processing histories, if applicable) to be harvested in accordance with the harvest cooperative agreement. The sector's halibut and crab PSC will be apportioned to cooperatives in proportion to their members' Pacific cod qualifying catch histories (and processing histories, if applicable).

Option: Maintain crab PSC limits at the sector level.

Element 10. Share duration

All allocations and allowances under this program are revocable privileges that 1) may be revoked, limited or modified at any time; 2) shall not confer any right of compensation to the holder, if they are revoked limited, or modified, and; 3) shall not create or be construed to create any right, title or interest in or to any fish before the fish is harvested by the holder.

The duration of all harvest shares and associated PSC apportionments is 10 years. These permits will be renewed before their expiration, unless revoked, limited, or modified.

Element 11. Monitoring

All vessels in the program will be in the full coverage program (100% observer or electronic monitoring coverage category) (if applicable). NMFS will develop monitoring and enforcement provisions necessary to track quota, harvest, and use caps. The Council authorizes NMFS to report weekly vessel-level bycatch information as authorized under MSA Sec 402(b)(2)(A).

Element 12. Reporting and Program Review

Each cooperative shall annually produce a report for the council describing its performance in the preceding year.

Per the Magnuson Stevens Act, a formal detailed review of the program shall be undertaken 5 years after implementation, with additional reviews, at a minimum, each seven years thereafter.

Element 13. Cost recovery

A fee, not to exceed 3% of the exvessel value, will be charged on all program landings to cover the actual costs directly related to the management, data collection, and enforcement of the program.

Element 14. Gear Conversion

Pacific cod allocations associated with trawl CV license may be fished with pot gear. A pot endorsement is not necessary but the LLP license must have the appropriate area endorsement. Harvest would

continue to be deducted from the annual trawl cooperative quota account to which the LLP is assigned⁴ and will not affect sector allocations.

Council Clarifications and Concurrence of Staff Assumptions

In preparing the analysis of the elements and options staff found several clarifications/issues that need the Council should address. In addition, to complete the analysis of the elements and options for the December 2020 initial review, the staff made several assumptions with regards to some of the clarifications/issues that the Council should review. A summary list of these clarifications/issues and staff assumptions are provided in Table ES-1 and Table 2-2.

Table ES-1 Summary of issues needing Council clarifications and concurrence of staff assumptions

Element/Option	Description of issue	Potential solutions
Control date (Chapter 2.7.2)	Control date included in Feb 7, 2019 scoping paper tasking was not included in Oct 2019 BSAI Pacific cod trawl CV catch share framework motion.	If the Council intended to include the Feb 7, 2019 control date in the development of the LAPP, the Council could clarify its intent and the control date could be included in the next iteration of the analysis.
Element 1, Option 1.1. (Chapter 2.7.1.1)	Reduction of halibut and crab PSC for those eligible LLP licenses holders that do not join a cooperative and instead fish in the limited access would not work if halibut and crab PSC are not apportioned to the trawl CV sector.	Apportion halibut and crab PSC to the trawl CV sector or do not reduce PSC if is not apportioned the trawl CV sector.
Element 1, Option 1.1 (Chapter 2.7.1.1)	LLP license do not have an AFA or non-AFA endorsement to determine 80% of eligible catch history for cooperative formation.	Utilize the vessel (AFA/non-AFA) named on the eligible LLP license to determine how to categorize eligible catch history or apply a permanent endorsement to eligible LLP license as AFA or non-AFA (for purpose of cooperative formation only).
Element 1, Option 1.1 (Chapter 2.7.1.1)	Staff assumes language in Option 1.1 allows holders of eligible LLP licenses to elect, on an annual basis, to fish in the limited access sector. Furthermore, staff assumes holders of eligible LLP licenses can permanently opt out of the PCTC Program at implementation (see suboption in Element 4).	Clarify language in Option 1.1 is an annual decision.
Element 1, Option 1.2 (Chapter 2.7.1.2)	Language in the option defines a licensed processor as those with an FFP, which includes motherships and C/Ps, but not shoreside processors and stationary floating processors, which require an FFP.	Modify Option 1.2 to read ...in association with a licensed processor (FFP and FPP) to harvest allocations of Pacific cod.
Element 1, Suboption 1.2.1 (Chapter 2.7.1.2)	To form a cooperative, a minimum of three LLP license holders are needed. LLP license holder is not defined in suboption.	Staff assumes that an LLP license holder is the licensee name provide on the most recent LLP license.

⁴ The first part of this sentence was inadvertently not included in the final motion. Recognizing the omission, staff adjusted the final motion to reflect the complete sentence.

Element/Option	Description of issue	Potential solutions
Element 1, Suboption 1.2.1 (Chapter 2.7.1.2)	A single person could hold multiple LLP licenses and each LLP license could have a different licensee name.	If the Council's intent is to have a minimum of three unique holders (persons) to form a cooperative, then the Council could apply the "10% ownership threshold rule" to determine a unique holder (person).
Element 2.2, Option 2.2.4 (Chapter 2.7.2.1)	There are at least three distinct points in time that blending the 1997 sideboard history can be occur. They include blending when the LLP license was on the sideboarded vessel during the qualifying years defined in Options 2.2.1-2.2.3, blending the LLP licenses that are on the sideboarded vessels at the time of final implementation of the PCTC Program, or blending those LLP licenses that were authorized by sideboarded vessels at the time they originated.	Staff relied on blending 1997 sideboard history with qualifying year option catch history attached to the eligible LLP license at the time of implementation of the PCTC Program.
Element 2.2, Option 2.2.4 (Chapter 2.7.2.1)	Motion will need to specify that LLP licenses that do not qualify under the three qualifying year options (2.2.1 – 2.2.3) but would be allocated catch history under the blend option would qualify for the PCTC Program.	Staff suggested changes: Element 2.1. Eligibility - Any LLP license assigned to a vessel that authorized that vessel's legal landings of targeted trawl CV BSAI cod during the qualifying years <u>or an LLP license, as of Feb 7, 2019 (control date), assigned to an AFA trawl CV that had BSAI Pacific cod catch in 1997</u> is eligible to receive harvest shares.
Element 2.2 (Chapter 2.7.2.1)	Reported catches by vessels that do not have an LLP license limited in those data. Most of reported retained catch without an LLP license was harvested in AI but did have a transferrable trawl AI endorsement.	QS could be issued to the LLP license currently on the harvesting vessel or the catch could be attached to the transferable endorsement that allowed the legal harvest.
Element 2.5 (Chapter 2.7.2.5)	If the intent is to include any unused A-season and B-season cooperative quota in a limited access C-season fishery, Council would need to modify the motion.	Rollover any unused A-season and B-season cooperative quota into the C-season limited access fishery.
Element 3, Suboption 3.1.1 (Chapter 2.7.3.2)	Suboption is silent on the years used to define historic PSC usage. In addition, the option is silent on the computation of the percentage of PSC usage by the two sectors.	Staff used the qualifying years from Element 2 and used average annual percent of halibut PSC usage by the two sectors.
Element 3, Suboption 3.1.1 (Chapter 2.7.3.2)	Suboption only apportions trawl limited access halibut PSC to the trawl CV sector. It does not provide language to apportion crab PSC to the trawl CV sector.	Add crab PSC to Suboption 3.1.1 if the Council wants to apportion crab PSC limits to cooperatives.
Element 3, Option 3.2 (Chapter 2.7.3.3)	Since trawl limited access crab PSC is not apportioned to the trawl CV sector in the current motion, the crab PSC limit for the trawl CV sector cannot be lowered.	Add crab PSC to Suboption 3.1.1

Element/Option	Description of issue	Potential solutions
Element 4 (Chapter 2.7.4)	Based on discussions between NOAA Fisheries and staff, it may be possible to simplify the sideboard structure for the PCTC Program beyond what is proposed in Element 4.	Implement a sideboard for pollock and possibly Pacific cod while utilizing halibut PSC sideboard for all other GOA groundfish fisheries.
Element 4, Option 4.1 (Chapter 2.7.4.2)	There is no AFA endorsement on an LLP license, so restricting LLP licenses based on AFA endorsement is not possible.	Since the PCTC Program is an LLP license-based program, the option could be revised to sideboard the LLP licenses that allowed AFA CVs to generate qualifying BSAI Pacific cod catch history.
Element 4, Option 4.1 (Chapter 2.7.4.2)	Option is not specific to non-exempt AFA CVs or the LLP licenses that name those vessels.	Since Option 4.2 addresses exempt AFA trawl CVs, staff assumed that Option 4.1 was specific to non-exempt AFA CVs.
Element 4, Option 4.1 (Chapter 2.7.4.2)	Excluding CGOA Rockfish Program fishing activity from sideboard calculations could be calculated two different ways. Whether fishing activity from CGOA Rockfish Pilot Program and CGOA Rockfish Program are excluded or just fishing activity from the CGOA Rockfish Program are excluded.	Staff removed the CGOA rockfish fishing activity from all nine non-exempt AFA CVs that qualified for the Pilot Program (2007-2011) combined with the CGOA rockfish fishing activity from the four non-exempt AFA CVs that qualified for the Rockfish Program (2012-2019).
Element 4, Option 4.1 (Chapter 2.7.4.2)	Element 1, Option 1.1 provides the opportunity for holders of eligible LLP licenses to annually elect to fish in the limit access sector rather than join a cooperative. It is unclear if these LLP licenses would be restricted by GOA sideboard limits for both GOA groundfish and halibut PSC.	Clarify eligible LLP licenses that elect on annual basis to fish in the limited access sector would not be restricted by GOA groundfish and crab PCTC Program sideboard limits.
Element 4, Option 4.2 (Chapter 2.7.4.3)	Qualified BSAI Pacific cod catch history cannot be severed from the LLP license (Element 7.1), motion should be revised	Staff suggested changes: Option 4.2: AFA GOA-Exempt CVs will not be permitted to lease their BSAI Pacific cod cooperative quota transfer their BSAI cod history on their respective LLP as a condition of continuing to benefit from its AFA GOA sideboard exemption. Suboption 4.2.1: AFA GOA Exempt CVs with LLP licenses of less than a threshold amount of qualifying BSAI Pacific cod history may transfer lease their BSAI Pacific cod cooperative quota history and continue to benefit from the AFA GOA sideboard exemption.
Element 4, Option 4.2 (Chapter 2.7.4.3)	Option is unclear on how to develop regulations to sideboard exempt AFA CVs if they lease BSAI Pacific cod cooperative quota (CQ). Developing these regulations could be challenging.	Could signal intent for cooperatives to enforce prohibition on leasing BSAI Pacific cod CQ.
Element 4, Option 4.3 (Chapter 2.7.4.4)	There is no non-AFA endorsement on an LLP license, so restricting LLP licenses based on non-AFA endorsement is not possible.	Since the PCTC Program is an LLP license-based program, the option could be revised to sideboard the LLP licenses that allowed non-AFA CVs to generate qualifying BSAI Pacific cod catch history.

Element/Option	Description of issue	Potential solutions
Element 4, Option 4.3 (Chapter 2.7.4.4)	Option is silent on the years used to calculate the GOA sideboard limit.	Staff utilized the three qualifying year Options 2.1.1 through 2.2.3
Element 4, Option 4.3 (Chapter 2.7.4.4)	Option is unclear if sideboard limits apply to LLP licenses and vessels authorized on those LLP licenses.	Staff assumed that the option applies to LLP licenses and the vessels authorized by those LLP licenses.
Element 5, Option 1 (Chapter 2.7.5.1)	All processors with an eligible FPP are eligible to process BSAI Pacific cod.	Staff recommends changing the language to also include FFPs to cover certain floating processors, motherships, and eligible C/Ps.
Element 5, Option 2 (Chapter 2.7.5.2)	C/P processing sideboard limits are calculated using the history of the qualified C/Ps and Element 2 history.	Staff assumes that only the two C/Ps that qualify under the recent Council action to limit the C/Ps that may act as a MS in the BSAI Pacific cod trawl CV sector fishery. This will require certain CVs that are owned by firms that do not qualify to deliver their PCTC Program CQ to another firm instead of their own processors. This means that a firm's harvest and processing history may not work well together.
Element 5, Option 3 (Chapter 2.7.5.3)	Is QS assigned to the processing permit non-severable from the permit it was initially issued?	Staff assumes that once the processing QS is assigned to the processing permit, the QS would be non-severable. It would be treated the same as QS attached to LLP licenses in the harvest sector.
Element 5, Option 3 & Element 7, Option 2 (Chapters 2.7.5.3 and 2.7.7.2)	Council needs to define processor's harvest share limitations if those shares are issued. These include who may purchase the shares, who may use the shares, how are ownership and use limits applied and calculated.	Staff has not made any specific assumptions, instead staff has provided information in the analysis that is intended to aid the Council in making these decisions.
Element 6 (Chapters 2.7.6)	Certain regulations that were implemented under Amendment 113 need to be reimplemented to allow the proposed actions to function as intended	Staff has described these actions in the discussion of Element 6, The Council only need to review those assumptions and make any necessary changes.
Element 6, Options 1 & 2 (Chapters 2.7.6.1 and 2.7.6.2)	Does not state if Element 6 allocations are in addition to or reduced by any allocation of harvest shares to AI shorebased processors under Element 5, Option 3.	Staff has not made an assumption on this issue and is requesting clarification from the Council
Element 8, Option 2 (Chapter 2.7.8.2)	No grandfather provision was included under the vessel use cap.	Confirm intent that a vessel is limited by the cap regardless of how much CQ they bring into the cooperative.
Element 9 (Chapter 2.7.9)	Can vessels only associated with an LLP license with PCTC Program QS join a cooperative?	Staff assumes that this limitation would not apply. Staff assumes that any vessel assigned a valid LLP license and is eligible to fish in a Federal groundfish fishery would be allowed to join a cooperative and be subject to the cooperative's civil contracts.
Element 14 (Chapter 2.7.14)	Additional information on how gear conversion is intended to function is needed.	Staff assumes that a vessel does not need to have CQ to join a cooperative to fish CQ under cooperative contracts. Pot CVs or trawl CV could use pot gear to fish. C/Ps would not be allowed to fish the CQ. The QS would not be permanently designated as pot gear quota. PCTC Program CQ may only be fished with pot gear within a cooperative by vessels that are member of the cooperative to allow NMFS to properly account for CQ catch.

Summary of Effects of the Alternative 1 and Strawman Alternatives

This section of the ES provides a summary of Alternative 1 (status quo), and two strawman alternatives. Although the alternatives to the status quo differ in several respects, the primary difference is in the cooperative structures. Alternative 2a is a cooperative alternative that would allow only two cooperatives to be formed within the sector: a cooperative for the AFA trawl CVs and a cooperative for the non-AFA trawl CVs. Alternative 2b is a cooperative structure that would allow voluntary harvester cooperatives with no minimum number of licenses required in associate with a licensed processor. See Table ES-2 below for detailed description of the two strawman alternatives. A summary of the alternatives directly follows Table ES-2 and Table 2-1.

ES-2 Comparison of the strawman Alternatives

	Alternative 2a – Two Cooperative Model (Strawman)	Alternative 2b Multiple Cooperative Model (Strawman)
Cooperative Style (Element 1)	<p>Option 1.1 - AFA and Non-AFA cooperatives. Requires 80% of eligible LLP licenses for cooperative formation.</p> <p>Suboption 1.1.1 - reduce halibut and crab PSC apportionment by 25% for those that choose to remain in the BSAI trawl limited access fishery.</p> <p>Suboption 1.2.2 - inter-cooperative formation is allowed.</p>	<p>Option 1.2 - voluntary cooperative with no minimum number of LLP licenses or holders in association with licensed processor.</p> <p>Suboption 1.2.2 - inter-cooperative formation is allowed.</p>
Allocation to LLP Licenses (Element 2)	<p>Option 2.2.1 - harvest allocation would be based on targeted BSAI Pacific cod catch history during 2014-2019 no drop. Harvest allocation would be for the A and B seasons only (Element 2.5).</p> <p>Option 2.3.2 - multiple licenses authorized catch by one vessel would be assigned to an LLP license by the owner of the vessel that made the catch. All species not allocated will be managed by MRAs.</p>	<p>Option 2.2.3 - BSAI Pacific cod harvest allocation would be based on targeted BSAI Pacific cod catch history during 2004-2019 drop 2 years. Harvest allocation would be for A, B, and C seasons.</p> <p>Option 2.3.1 - multiple licenses authorized catch by one vessel would be divided equally between those licenses. All species not allocated will be managed by MRAs.</p>
Prohibited Species Catch Limits (Element 3)	<p>Annual crab and halibut PSC available to the BSAI trawl CV cod limited access sector will continue as currently managed.</p> <p>Option 3.1 - cooperatives will not receive a specific halibut or crab PSC apportionment.</p>	<p>Suboption 3.1.1 - establish trawl CV cod halibut PSC apportionment based on historic use between the trawl CV sector and AFA CP sector using based on 2004-2019 calculated using average annual percent of halibut PSC usage.</p> <p>Option 3.2 - reduce halibut PSC apportionment to BSAI trawl CV cod sector by 10%. Crab PSC would continue to be managed as a shared apportionment between trawl CV and AFA C/P sectors.</p>
Gulf of Alaska Sideboards (Element 4)	<p>Option 4.1 - continue to use the existing AFA sideboard limits for the qualified and non-qualified non-exempt AFA CVs.</p> <p>Option 4.2 - AFA exempt vessels would be exempt from any GOA sideboard limits implemented under this program based on the Council's intent that the vessels should not transfer their BSAI cod QS.</p> <p>Option 4.3 - non-AFA LLPs and CVs named on those LLP licenses would be restricted by GOA sideboard limits.</p>	<p>Option 4.1 - qualified and non-qualified non-exempt AFA CVs would be restricted by new GOA sideboard limits based on 2004-2019 GOA aggregate retained catch divided by TAC. CGOA rockfish Program fishing activity was not included in sideboard calculations.</p> <p>Option 4.2 - AFA exempt vessels would be exempt from any GOA sideboard limits implemented under this program based on the Council's intent that the vessels should not transfer their BSAI cod QS.</p> <p>Option 4.3 - non-AFA LLPs and CVs named on those LLP licenses would be restricted by GOA sideboard limits.</p>

	Alternative 2a – Two Cooperative Model (Strawman)	Alternative 2b Multiple Cooperative Model (Strawman)
Processor and Community Provisions (Element 5)	<p>Element 5.2 - sideboard BSAI Pacific cod processing for qualified C/Ps acting as a MS. C/Ps that are not qualified may not process BSAI Pacific cod as a MS that is harvested from the directed BSAI Pacific cod trawl CV fishery. BSAI trawl C/Ps acting as a BSAI Pacific cod MS sideboard limit is based on processing history under Element 2.</p> <p>Element 5.3 - allocate processors 15% (Option 5.3.3) of the harvest shares and PSC based on their processing history under Element 2. All processors with processing history under Element 2 will qualify except C/Ps that are not qualified to act as a MS for BSAI trawl CVs. The processor allocation of BSAI Pacific cod harvest shares will be assigned to a newly created processor permit that is transferable. No restrictions applied to processor issued harvest shares by processor owned/controlled CVs.</p>	<p>Element 5.2 - no BSAI Pacific cod processing sideboard limit for qualified C/Ps acting as a MS. C/Ps that are not qualified may not process BSAI Pacific cod as a MS harvested from the directed BSAI Pacific cod trawl CV fishery.</p> <p>Element 5.3 - no initial allocation of harvest shares or PSC to processors.</p>
AI Processor Provisions (Element 6)	<p>Option 6.1 - 25% set-aside of BSAI A-season harvest amount must be delivered to an AI shoreplant. Amount is reduced by any allocation they receive under Element 5 (Suboption 6.1.1). Allocations (Element 5.3) are transferable between plants.</p>	<p>Option 6.2 - allocate the lesser of 5,000 mt or 5.5% of the BSAI trawl CV sector allocation to AI shoreplants any year at least one plant files an intent to process. Allocations are equally divided between qualified entities and are not transferable.</p>
Transferability (Element 7)	<p>Catch history would be attached to the LLP license and would be non-severable. Allocations based on processing history would be issued as separate permit. QS is transferable with the LLP license or processor permit that it is attached. Annual allocations (CQ) of Pacific cod and halibut PSC are transferable within and between cooperatives. Post-delivery transfers would be permitted through December 31.</p>	<p>Catch history would be attached to the LLP license and would be non-severable. Allocations based on processing history would be issued as separate permit. QS is transferable with the LLP license or processor permit that it is attached. Annual allocations (CQ) of Pacific cod and halibut PSC are transferable within and between cooperatives. Post-delivery transfers would not be permitted.</p>
Ownership and Use Caps (Element 8)	<p>Element 8.1 - Harvester issued QS/CQ ownership and use caps will be based on the individual and collective rule (Option 8.1.1) and set at 5% of QS/CQ issued with grandfather provision (Suboption 8.1.1.1) set equal to initial allocation</p> <p>Element 8.2 - Vessel use caps are 5% of CQ that is transferable if vessel is replaced.</p> <p>Element 8.3 - Processor issued cooperative shares have an ownership and use cap at the entity level of 25% with a grandfather provision (Suboption 8.3.1.1) equal to initial allocation. The cap will be calculated using the 10% ownership threshold rule (Option 8.3.2).</p> <p>Element 8.4 - No processing facility may process more than 20% of the CQ allocated, with a grandfather provision</p>	<p>Element 8.1 - Harvester issued QS/CQ ownership and use caps will be based on the individual and collective rule (Option 8.1.1) and set at 2% of QS/CQ issued with grandfather provision (Suboption 8.1.1.1) set equal to initial allocation</p> <p>Element 8.2 - Vessel use caps are 2% of CQ that is not transferable if vessel is replaced.</p> <p>Element 8.3 – Processors are not issued cooperative shares but have a use cap at the entity level of 10% with a grandfather provision (Suboption 8.3.1.1) equal to initial allocation. The cap will be calculated using the individual and collective rule (Option 8.3.1).</p> <p>Element 8.4 - No processing facility may process more than 10% of the CQ allocated, with a grandfather provision</p>

	Alternative 2a – Two Cooperative Model (Strawman)	Alternative 2b Multiple Cooperative Model (Strawman)
	(Option 8.4.1) based on highest annual percentage of history under Element 2.	(Option 8.4.1) based on average percentage of history under Element 2.
Cooperative Provisions (Element 9)	Annual cooperative application must be filed on or before November 1 of the year prior. Cooperatives shall be formed by qualified LLP license holders and processor permit holders that are assigned QS. Each qualified LLP license/processor permit is eligible to be assigned to one cooperative and the vessel assigned to the qualified LLP license is a member of the cooperative. A vessel may join a single cooperative. Cooperatives are intended to conduct and coordinate harvest activities and are not FCMA cooperatives. Membership agreements will specify that processors affiliated members cannot participate in any price setting negotiations. Each cooperative will receive annual CQ based on members qualifying catch history. Halibut PSC will be apportioned to cooperatives based on members' Pacific cod qualifying catch history.	
Share Duration (Element 10)	All allocations and allowances under this program are revocable privileges that 1) may be revoked, limited, or modified any time, 2) shall not confer any right of compensation to the holder, if they are revoked, limited, or modified, and 3) shall not create or be construed to create any right, title, or interest in or to any fish before the fish is harvested by the holder. Duration of harvest shares and associated PSC is 10 years. Permits will be renewed before their expiration, unless revoked, limited, or modified.	
Monitoring (Element 11)	All vessels in the program will be in the full coverage program. NMFS will develop monitoring and enforcement provisions necessary to track quota, harvest, and use caps.	
Reporting and Program Review (Element 12)	Cooperatives will annually produce a report to the Council describing its performance in the preceding year. As per MSA, a formal detailed program shall be undertaken 5-years after implementation, with subsequent reviews each 7-years after.	
Cost Recovery (Element 13)	A fee, not to exceed 3% of the exvessel value, will be charged on all program landings to cover the actual costs directly related to the management, data collection, and enforcement of the program.	
Gear Conversion (Element 14)	No gear conversion.	Pacific cod QS may be fished with pot gear. A pot endorsement is not necessary but the LLP license must have the appropriate area endorsement. Gear conversion will not affect initial sector allocations.

Harvest participation and fishing practices

Alternative 1:

- Harvest participation and fishing practices in the BSAI Pacific cod fishery for the trawl CV sector under this alternative would likely continue to be similar to the current participation and fishing practices.
- Of the trawl CV sector BSAI Pacific cod allocation during the 2004 through April 10, 2020 period:
 - 110 LLP licenses with trawl CV endorsements and 115 trawl CV vessels targeted BSAI Pacific cod.
 - Non-AFA vessels harvested on average 16.2 percent, while the AFA vessels harvested on average 83.8 percent.
 - 88.2 percent was target catch, while the remaining 11.8 percent was incidental catch.
 - The BS contributed the largest portion of target catch at 75.9 percent, while the AI accounted for 24.1 percent.
 - The A-season is the primary season at 89 percent followed by the B-season at 9.6 percent and the C-season at 1.6 percent.
 - The A-season fishery in the BS has ranged from 60 days in 2009 to 12 days in 2019.

- The earliest closure for the non-CDQ trawl CV sector during the A-season was February 1, 2019 in the BS; the 2020 BS fishery closed to directed fishing on February 16th.
- The trawl CV sector routinely does not harvest its entire annual allocation of BSAI Pacific cod.
 - Over those 16 years the reallocations from the trawl CV sector averaged 5,440 mt.
 - Reallocation of BSAI Pacific cod from the trawl CV sector are routinely reapportioned to the HAL/pot CV < 60 ft and HAL C/P sectors during the fall fishery.
 - It is likely reallocations from the trawl CV sector to other sectors including the HAL/pot CV <60 ft sector will continue but could see reduced reallocations amounts due to lower BSAI Pacific cod TACs and the continued strength in Pacific cod market.

Alternative 2a:

- Greater potential for consolidation of the fleet size with only the most efficient vessels remaining relative to Alternative 2b, leading to a decrease in the cost of harvesting. This is due primarily to less restrictive ownership and use caps for holders of eligible LLP licenses and vessel use caps. This could also result in vessels that are Pacific cod focused, especially in the AFA sector where two of the primary BSAI trawl CV fisheries would be conducted under a cooperative structure.
- Harvest of the BSAI sector allocation would increase, leading to higher gross revenue per vessel and per-vessel profits, but likely less than Alternative 2b since Alternative 2a only allocates A-season and B-season BSAI trawl CV Pacific cod.
- Cooperative harvest privileges in the BSAI Pacific cod trawl CV sector would result in less motivation to “race for fish,” allowing harvesters to time fishing operations in a manner that more closely optimizes revenue and improves product quality.
- A variety of factors, including bycatch avoidance and ease in transferring harvest privileges may lead to changes in the geographic distribution and timing of harvest. However, the harvests will continue to be highly influenced by the timing and location of spawning aggregations
- Increased profits and greater flexibility of when to fish would improve safety conditions on board trawl vessels.
- Harvesters not receiving an initial allocation (or one of sufficient size) could purchase QS or lease CQ necessary to participate in the fishery, increasing costs. Fleet consolidation may result in BSAI Pacific cod trawl CVs that are designated on an LLP license with a pot or HAL endorsement from increasing participation in those fisheries.
- Reallocations to other sectors would decrease to some degree because the cooperatives would develop strategies to help ensure the entire cooperative allocation is harvested or leased to other cooperative members, but likely greater potential for reallocations to other sectors than Alternative 2b since the C-season Pacific cod would continue to be managed as a limited access fishery and not be allocated to eligible LLP licenses under Alternative 2a.

Alternative 2b:

- Consolidation of the fleet size is likely with only the most efficient vessels remaining, leading to a decrease in the cost of harvesting, but less than Alternative 2a given more restrictive ownership and use caps for eligible LLP license holders and vessel use caps.
- Similar to Alternative 2a, this alternative could also result in vessels that are Pacific cod focused, especially in the AFA sector where two the primary BSAI trawl CV fisheries would be conducted under a cooperative.
- Harvest of the BSAI sector allocation would increase, leading to higher gross revenue per vessel and per-vessel profits, with greater potential for higher returns under this alternative relative to Alternative 2a since C-season Pacific cod is allocated to cooperatives under this alternative.

- A variety of factors, including bycatch avoidance, ease in transferring harvest privileges, and the potential use of pot gear, may lead to changes in the geographic distribution and timing of harvest.
- Harvests will continue to be highly influenced by the timing and location of spawning aggregations.
- Increased profits and greater flexibility of when to fish would improve safety conditions on board trawl vessels.
- Harvesters not receiving an initial allocation (or one of sufficient size) could purchase QS or lease CQ necessary to participate in the fishery, increasing costs.
- Fleet consolidation may result in BSAI Pacific cod trawl CVs that are designated on an LLP license with a pot or HAL endorsement from increasing participation in those fisheries.
- Reallocations of BSAI Pacific cod from the trawl CV sector to other sectors would be reduced significantly under this alternative due to a combination of C-season allocation, gear conversion, and the benefits of cooperative management.
- This would likely have a negative effect on all sectors that rely on these reallocations, particularly the HAL/pot CV 60 ft sector fishery.

Processors

Alternative 1:

- Shoreplants and floating processors
 - Prices paid for raw fish are expected to be determined by the same economic forces that determined prices in the past. Harvesters will negotiate prices with processors but have incentives to start fishing when the fishery opens or risk not harvesting or processing a share of the sector allocation.
 - Landings will continue to take place in communities where they have historically, Unalaska/Dutch Harbor, Akutan, Adak (when operating) and floating processors with limited amounts of processing some years in King Cove and Sand Point.
 - Shifts in processing locations are determined by the processors with consultation and negotiation with the communities' leaders where they operate.
 - The hurried pace of processing will create economic conditions that favor processing quickly and producing more H&G products and relatively less fillets.
 - Production quality is expected to be less than under the PCTC Program due to harvesting and delivery pace and the rush to process high volumes of Pacific cod by the plants.
 - Cost of production in the Pacific cod fishery is higher than necessary due to the need to have high levels of capacity to process peak delivery amounts.
 - Shorter processing season results in need to have more processing crew to handle peak processing levels.
 - Compliance costs are assumed to be about the same as past years and are determined by current and future monitoring and enforcement requirements.
 - Consolidation could occur due to low or negative profit margins in the fishery caused by the market, biological, and regulatory conditions.
 - AI deliveries to an AI shoreplant will depend on whether the plant is operating and if additional regulations are implemented to provide a set-aside for the AI shoreplants.
 - Improvements in technical efficiency and increased production of products that are sold to U.S. consumers should increase Net Benefits to the Nation, all else being equal.
- C/Ps acting as a mothership
 - Only two C/Ps will be allowed to operate as a mothership taking BSAI Pacific cod deliveries from trawl CVs. One of those C/Ps will produce almost exclusively H&G

products while the other will produce a mix of fillets and H&G products. C/Ps are not impacted when harvesting Pacific cod from their C/P sector apportionments.

- The C/Ps will process as much of the trawl CV sector as possible, based on their capacity and the CVs capacity that deliver to them.
- Processing will start in the BS and continue until the BS TAC is taken and then would move into the AI if there is AI TAC available and market conditions warrant the move.

Alternative 2a:

- Shoreplants and floating processors
 - Cost for raw fish may change but market power is closer to Alternative 1 than Alternative 2b because both harvesters and processors are allocated QS for the harvest of BSAI Pacific cod.
 - Potential regional shifts in landings under the control of processors with consultation with community officials to ensure minimal disruption in raw fish taxed and other support businesses.
 - Increase in the processing of bycatch in the Pacific cod target fishery could occur relative to Alternative 1 because processors may have more time to process the catch.
 - Lower cost of production in the Pacific cod fishery could occur due to better timing of deliveries, longer season length, and increased harvest and more utilization of processing capital to improve the Pacific cod production lines.
 - Increased compliance costs could occur if first receivers must pay for the cost of shoreside catch monitors to observe offloading of CQ.
 - Processors wishing to enter the fishery would compete against processors that receive an initial allocation. This could negatively impact their ability to attract CVs or they may need to offer incentives that are similar to those processors that can distribute QS they control.
 - Consolidation could occur across shoreside processing firms or within firms, reducing total capital costs and improving technical efficiencies.
 - Cooperatives would be required to deliver 25 percent of their A-season allocation to an AI shoreplant. This would benefit the AI shoreplants and negatively impact BS shoreplants, floating processors, and C/Ps. Cooperatives would determine who and when the AI shoreplants would be delivered Pacific cod based on negotiations with the AI shoreplant operators and through civil contracts implemented by cooperatives and by inter-cooperative agreements.
 - AI shoreplants would be allowed to transfer their allocation. Transfers could improve efficiency and it is assumed that the AI shoreplants would get any potential transfers through community officials that submit to the application for the CQ, to ensure that the community is not negatively impacted.
- C/Ps acting as a mothership
 - Maintaining processor endorsements that define which C/Ps may act as a MS for BSAI Pacific cod are anticipated to define which entities may continue to accept deliveries of CQ. This will likely give these entities some certainty over delivery volumes, depending on agreements within that sector and the level of the processing limits are imposed on the sector.
 - Vertical integration with their CVs fleet will give certain processing entities more control over deliveries from CVs.
 - The amount of processing capacity in the fishery is expected to remain the same due to the limitations on who may participate. Reductions in process capacity would only occur

if the two participants were to reach an agreement to remove one of the endorsed C/Ps and that is not expected to occur under the current or foreseeable structure of the fishery.

- The cost of processing Pacific cod may decline because of increased season length and the ability to participate so that deliveries are timed to better match production capacity.
- Improving the technical efficiency within this sector is dependent on whether the two firms are able to reach an agreement on how to divide the cap on the amount of processing history they are granted under Element 5 based on history defined under Element 2. If the two firms are able to agree on how to divide the Pacific cod to sector is allowed to process, they could achieve allocative efficiencies when processing their allocation. If the two firms cannot reach an agreement, they may compete to process as much of the limit as they can before it is reached and lose some of the allocate efficiencies associated with a LAPP. Reaching an agreement between the two qualified C/Ps may be complicated because one is in an AFA cooperative and the other an Amendment 80 cooperative. Being in separate cooperatives for their other fisheries will limit the give and take that can occur when negotiating how to divide the Pacific cod that is available to process.

Alternative 2b:

- Shoreplants
 - Increased cost for raw fish because only harvesters are allocated QS.
 - Processors that are vertically integrated and own part of their harvesting fleet will benefit from control of some QS.
 - Processors wishing to enter the fishery will not be at a competitive disadvantage relative to those processors that received an initial allocation of QS based on their processing history.
 - AI shoreplants would be provided access to a defined amount of BSAI Pacific cod fishery. The impacts would be similar Alternative 2a, but, depending on the annual sector allocations and TACs, the AI shoreplants would be granted access to more or less Pacific cod.
 - AI shoreplants could not transfer their apportionment. Limiting transfers may reduce the ability to move quota between plants that need or cannot use deliveries.
 - Other impacts should be similar to those described under Alternative 2a.
- C/Ps acting as a mothership
 - Maintaining processor endorsements that define which C/Ps may act as a MS for BSAI Pacific cod are anticipated to define which entities may continue to accept deliveries of CQ. This will likely give these entities some certainty over delivery volumes, depending on agreements within that sector and the level of the processing limits are imposed on the sector.
 - Other impacts should be similar to Alternative 2a.

Bycatch (PSC and groundfish)

Alternative 1:

- Halibut bycatch increased in 2019 as harvesters attempted to harvest a share of the sector's BSAI Pacific cod allocation.
 - The sector in recent years has increased their halibut avoidance measures to reduce halibut PSC and bycatch of other species.
 - Sector has also reduced the use of gear modifications that are more selective but may have lower harvest rates.

- The sector has also organized a voluntary stand down in the A-season Pacific cod fishery due to high halibut PSC rates.
- Given the importance of reducing halibut PSC, the sector will likely continue to utilize halibut PSC avoidance measures in addition to continually seeking better ways to reduce halibut PSC under this alternative.
- Crab mortality for the trawl CV sector is limited throughout 2004-2019 and would likely continue this trend in the future under this alternative.
- The use of MRAs and ICAs as tools for managing the groundfish fisheries under status quo would continue with similar results in limiting groundfish bycatch in the BSAI Pacific cod trawl CV fishery under the status quo alternative.

Alternative 2a:

- Alternative would not apportion annual crab and halibut PSC between the trawl CV sector and the AFA C/P sector
 - As a result, cannot apportion halibut or crab PSC at the individual cooperative level.
 - Would rely on the trawl CV and the AFA C/P sectors negotiating halibut and crab PSC limit apportionments for the Pacific cod target fishery via an intercooperative agreement.
 - Could jeopardize some of the potential successes of cooperative fishing under the alternative.
 - Alternative would likely reduce halibut and crab PSC through cooperative fishing with cooperative members.
 - Cooperative fishing would likely provide benefits in terms of allowing flexibility to avoid periods of high bycatch rates and changes in gear configuration and elimination of night fishing which also have shown to reduce halibut bycatch mortality.
- This alternative would rely on an ICA monitored by NMFS to account for incidental catch of BSAI Pacific cod while directed fishing for other non-Pacific cod groundfish fisheries.
 - There is the potential that cooperative vessels could intentionally top off on incidental catch of Pacific cod while fishing in targeting other groundfish fisheries.
 - If incidental catch of BSAI Pacific cod by cooperative vessels increases, there is the potential that the BSAI Pacific cod allocations to the cooperatives will be reduced to accommodate a larger ICA.
 - There appears to be limited opportunities for qualified trawl CVs utilizing the benefits of a cooperative program to strategically target incidental catch for non-Pacific cod groundfish species.
 - The use of MRAs and ICAs as tools for managing the groundfish fisheries under Alternative 2a would continue with similar results in limiting groundfish bycatch in the BSAI Pacific cod trawl CV fishery and other non-Pacific cod groundfish fisheries.

Alternative 2b:

- Would apportion only halibut PSC limits between the trawl CV sector and the AFA C/P sector based on historic use by the two sectors.
 - Crab PSC limits would continue to be apportioned to the trawl limited access sector.
 - The halibut PSC allocation percentages under this alternative appears to be sufficient to allow the harvest of both sector's BSAI Pacific cod allocation.
 - The alternative would likely reduce halibut PSC but could increase crab PSC.
 - Cooperative fishing under this alternative would allow more flexibility to avoid periods of high bycatch rates, allow for changes in gear configuration, and eliminate the need for night fishing which has shown to reduce halibut bycatch mortality.

- For groundfish bycatch, the alternative would utilize the same approach as Alternative 2a.
 - The use of MRAs and ICAs would continue to be used with similar results in limiting groundfish bycatch in the BSAI Pacific cod trawl CV fishery under this alternative.

Other groundfish fisheries

Alternative 1:

- Existing sideboard limits for the AFA Program, BSAI Crab Program, and the CGOA Rockfish Program would continue to limit groundfish bycatch and PSC.
 - In the BSAI, there is an AFA Pacific cod trawl gear CV sideboard limit and an AFA yellowfin sole sideboard limit. The primary sideboard fishery is BSAI Pacific cod fishery.
 - Between 2004 and 2019, approximately 56 percent of the sideboard limit was harvested.
 - This percentage trend would likely continue or increase as BSAI Pacific cod TACs continue to decline in the future.
 - In the GOA, AFA sideboard restricted trawl CVs on average have harvested far less than their limit during 2004 through 2019.
 - one of the primary reasons AFA vessels do not harvest a greater share of the sideboard limit is likely due to conflicts between the BSAI Pacific cod season and GOA groundfish seasons.
 - In all likelihood, the seasonal conflict will likely continue which would result in harvest of GOA AFA trawl CV sideboard fisheries near similar rates.

Alternative 2a:

- Existing non-exempt AFA CV groundfish and halibut PSC sideboard limits developed as part of the AFA Program are utilized.
 - Could provide some potential for non-exempt AFA CVs to expand their harvest of these sideboard restricted fisheries given harvesting flexibility provided.
- Would prohibit GOA sideboard exempt AFA CVs from transferring their BSAI Pacific cod catch history on their LLP licenses as a condition of continuing to benefit from the AFA GOA sideboard exemption.
 - Given that requiring exempt AFA CVs be restricted by GOA sideboards if they lease their BSAI Pacific cod CQ would likely not work as intended, the alternative would rely on cooperatives to monitor exempt AFA CVs to ensure they do not lease their BSAI Pacific cod CQ while benefiting from sideboard exemptions.
- Alternative would also apply GOA groundfish and halibut PSC sideboard limits for non-AFA LLP licenses and vessels that are qualified for the BSAI Pacific cod Cooperative Program.
- In general, many of the GOA species/area sideboard ratios under this alternative would be insufficient for a sideboard fishery.
 - As a result, several sideboard fisheries under this alternative would be closed annually to directed fishing.
 - Species/area fisheries sufficient for a sideboard fishery would likely be limited to pollock, CGOA Pacific cod, shallow-water flatfish, rex sole, arrowtooth flounder, and flathead sole.

Alternative 2b:

- Alternative would include new GOA sideboard limits non-exempt AFA CVs.
- With the exception of C-season and D-season Shumagin (610) pollock, all four seasons of Chirikof (620) and Kodiak (630) pollock, CGOA shallow-water flatfish, and CGOA arrowtooth

flounder, the remaining sideboard species would likely have insufficient limits to allow directed fishing.

- Given the reduced sideboard limits for those species with sufficient limits for a fishery, it is likely NMFS would require intercooperative management of these fisheries in order for the species to be open for directed fishing.
- Both vessels and LLP licenses would also be restricted by PSC usage sideboards.
 - New halibut PSC sideboard limits are in all cases smaller than the existing sideboard limits.
 - Despite calculated halibut PSC sideboards being severely limited for most directed fishing opportunities, published halibut PSC sideboard limits annually may be necessary so as not to limit cooperatives from determining how to utilize potential GOA groundfish sideboard fisheries while staying within their halibut PSC mortality limit.
- This alternative would also prohibit GOA sideboard exempt AFA CVs from transferring their BSAI Pacific cod catch history on their LLP licenses as a condition of continuing to benefit from the AFA GOA sideboard exemption.
 - See Alternative 2a for a summary of this option.
- Alternative would also limit non-AFA LLP licenses and vessels that are qualified for the BSAI Pacific cod Cooperative Program with GOA groundfish and halibut PSC sideboards.
 - Many of the GOA species/area sideboard ratios would be insufficient for a sideboard fishery.
 - In all likelihood, these sideboard fisheries under this alternative would be closed annually to directed fishing.

Fishing Communities

Alternative 1:

- Existing trends in the pattern of community engagement in and dependency on the fishery are likely to continue.
 - The community of ownership address for most LLP licenses (and trawl CVs) would remain in the Pacific Northwest in general with the largest concentrations, by far, in the Seattle MSA and in Newport, Oregon.
 - Among Alaska communities, BSAI Pacific cod trawl CV and LLP license ownership has already consolidated into Kodiak (CVs) and Kodiak and Homer (LLP licenses).
 - Shore-based processing would continue to occur in Unalaska/Dutch Harbor, Akutan, and Adak (when operating) and, in more limited amounts and less regularly, in King Cove and Sand Point.
 - Fishing support sector services in the BSAI region would remain concentrated in Unalaska/Dutch Harbor.

Alternatives 2a and 2b:

- Overall patterns of community engagement are unlikely to fundamentally change based on either of the qualifying year range options included Alternatives 2a and 2b.
 - The predominance of Seattle MSA and Newport as a proportion of overall engagement fluctuates relatively little. However, while Alternatives 2a and 2b feature bookend ranges of qualifying years, depending on the qualifying period selected under Element 2, the consolidation of Alaska community engagement that occurred over the 2004-2019 era would be reflected to greater or lesser degrees in the patterns of allocation to LLP licenses.
 - Using the most recent years (Alternative 2a), within Alaska allocations would be made exclusively to LLP licenses with either Kodiak or Homer addresses.
 - Using all years 2004-2019 (Alternative 2b), within Alaska allocations would be made to LLPs with historical ownership addresses in five Alaska communities used on CVs with

- ownership addresses in five Alaska communities, including three that differ from LLP license ownership communities.
- LLP licenses have changed hands over time, such that (1) historical links to a community may not reflect any present-day association with ultimate allocation recipients and (2) participation varied in consistency and intensity among Alaska communities outside of Kodiak and Homer, suggesting that for multiple communities historical engagement may translate to minimal fishing history contribution toward initial quota allocation.
 - Additional consolidation of CV effort is expected to occur under a cooperative system.
 - Consolidation of vessels themselves would be limited by quota not being severable from LLP licenses.
 - From a community perspective, retention of active local vessels, even if focused on other fisheries, would be key to minimizing further adverse consolidation affects.
 - Kodiak ownership address trawl CVs are not likely to exit commercial fishing altogether as BSAI Pacific cod is, on average, a relatively modest portion of their fishing portfolio, which is otherwise heavily oriented toward GOA fisheries.
 - Kodiak trawl fleet stability is further ensured through most Kodiak trawl CVs participation in the Central GOA rockfish program, which has helped operationally stabilize the sector through quota not being severable from LLP licenses.
 - In contrast, CVs with ownership addresses in the Pacific Northwest engaged in the BSAI Pacific cod trawl fishery are more dependent on that fishery, both on a community BSAI Pacific cod trawl sector basis and on a community overall fleet (all fisheries) basis, compared their Alaska ownership address counterparts.
 - Limits on the amount of quota an entity can control would also tend to reduce further ownership consolidation across all communities both in the Pacific Northwest and in Alaska.
 - Under Alternative 2a, harvest allocations to cooperatives would not include the C season, making reallocations from the trawl CV sector to the < 60' HAL and pot CV sector more likely to continue and more likely to continue at higher levels than would be the case under Alternative 2b.
 - This is important for < 60' HAL/pot CV operations based in multiple communities, as reallocations have accounted for more than half of the harvest within the sector on an annual average basis 2004-2019.
 - Uniquely among Alaska communities, potential loss of regular reallocations has been identified as important for the Unalaska/Dutch Harbor local ownership address community fleet as a whole, based on percentage of total local fleet ex-vessel gross revenue dependency.
 - Potential impacts to subsistence harvest of BSAI Pacific cod or other subsistence fishing by CVs engaged in the BSAI Pacific cod fishery, if any, would be more likely under Alternative 2b than 2a.
 - These impacts could occur through a decline in retaining fish for subsistence use from commercial catch, or from a decline in commercial vessels being used as “joint production platforms” in both the commercial cod and multi-species subsistence fisheries related to vessels finding continuing participation in the commercial < 60' HAL/pot BSAI Pacific cod fishery untenable due to a decline or discontinuation of annual reallocations from the trawl CV sector.
 - These types of impacts, if they were to occur, would likely be concentrated among the type of small vessels found in the Unalaska/Dutch Harbor local fleet, more than half of which were less than 50' LOA in 2019 and 2020.
 - For Alaska communities with locally operating shore-based processors accepting deliveries of trawl-caught BSAI Pacific cod, consolidation of effort into fewer plants may occur.

- For all communities except Adak, ownership and operation of the centrally involved plants have been relatively stable over the qualifying periods, so changes that may take place under a CV cooperative system would likely be minor from the community perspective.
- Adak, with a more complicated history of local shore-based processing operational ownership (and intermittent operations) is more at risk of experiencing community impacts from an allocation based strictly on processing history, absent AI processor provisions under Element 6, which could benefit Adak, Atka, or both in any given year.
- Fishery support service businesses could be adversely affected by CV and/or shore-based processor consolidation under a cooperative system.
 - Fewer vessels involved in the harvest would equate to a lower demand for some types of support services.
 - Many support service suppliers are located in the Seattle MSA and in the Newport, Oregon area, including suppliers of a range services (and a scale of services) not available in Alaska.
 - Support services in the BSAI region itself are largely concentrated in Unalaska/Dutch Harbor as would be potential adverse impacts to this sector. Many of these same support service businesses that support the BSAI Pacific cod trawl CV fleet also support the more numerous < 60' HAL/pot fleet and could experience adverse impacts from a loss of revenue by that fleet if reallocations from the trawl sector were to decrease under a cooperative system.
 - Similar decreases in service provision demand due to consolidation of the trawl fleet or adverse impacts to the < 60' HAL/pot fleet could impact municipalities through declines in sales tax revenues or usage fees for waterfront infrastructure-based services.

Fishing and Processing Crew

Alternative 1:

- Existing trends would continue. Short seasons on crowded fishing grounds under race-for-fish conditions would continue to yield variable results for fishing crew.
- Shore-based and floating processor crews are engaged in processing BSAI Pacific cod harvested by trawl CVs for a relatively short period of time at the end of January and the beginning of February.
 - Because the BS Pacific cod fishery currently coincides with the BS pollock fishery, some plants must employ substantially larger crews that are juggled between lines/plants to process landings from both fisheries.
 - Processing landings from non-rationalized fisheries hinder the ability of plants to develop employment schedules that require fewer processing crew being brought into Alaska communities for relatively short periods of time.

Alternatives 2a and 2b:

- Consolidation is expected to result in a decrease in captain and crew jobs in the BSAI Pacific cod trawl CV fishery, while those jobs that do remain are expected to result in more stable employment at higher overall levels compensation per crew member per season than under status quo conditions.
 - Crew would likely work longer seasons and crew compensation per unit effort could be negatively impacted if crew shares were adjusted to cover costs of leasing harvesting quota.
 - The remaining crew jobs could feature better working conditions, be safer with a discontinuation of race-for-fish conditions, provide better season-to-season employment potential, and allow for compensation predictability.

- The non-severability of quota from the LLP licenses is expected to minimize overall crew job losses, especially aboard BSAI Pacific cod trawl CVs with Alaska ownership addresses, as those vessels are primarily focused on GOA fisheries.
 - Crew members on Alaska ownership address vessels that no longer participate directly in the BSAI Pacific cod fishery may still participate in other fisheries in the GOA pursued by the vessels on which they work.
 - These crew positions may also be perceived by a substantial portion of the crew as more desirable due to fishing closer to home.
- Harvests from the Pacific cod fishery are likely to occur over a longer period under Alternatives 2a and 2b. For processors, this would facilitate opportunities to improve quality and the production of higher valued, more highly processed product forms.
 - Although the Pacific cod fishery is a relatively small portion of the processing portfolio of most of the qualified processors, the cooperative program alternatives are likely to contribute to stability in processing crew employment.
 - This increased stability could lead to fewer processing jobs at peak times, but the remaining jobs should provide more stable and consistent employment.
 - If similar hiring conditions remain in place after a cooperative program is implemented, overtime hours would likely continue to be available to processing workers.

Safety

- Current BSAI trawl CV Pacific cod fishery requires vessel operators to compete for a share of the BSAI trawl CV sector apportionment of Pacific cod during a brief A-season and to a lesser extent the brief B-season and the C-season.
 - BSAI weather conditions during the A-season (the end of January and beginning of February) can be unpredictable and dangerous, especially for smaller CVs.
 - Storms can cause inclement weather that may cause unsafe fishing conditions.
- Management of the BSAI trawl CV Pacific cod fishery under the PCTC Program (either Alternative 2a or Alternative 2b) is expected to extend the A-season season from about 2-weeks at the end of January and early February to January 20 through the end of March which could improve safety at-sea.
- Overall, economic incentives are created when competing to catch a share of the TAC under Alternative 1 that may entice a vessel operator to go to sea or continue fishing in weather conditions that may pose a higher operating risk than they would be willing to accept if they were operating under the proposed PCTC Program.

Consumers

- Under Alternative 1 management, it is likely that trawl CV participants will continue to produce high quality H&G, fillet blocks, and individually frozen fillets, which are either individually quick-frozen or processed into shatterpack or layer pack.
- Under a cooperative management program, changes may occur in the production of CV harvests to the benefit of consumers.
 - Although production is typically high quality already under Alternative 1, it is believed that some improvements could be achieved through cooperative management, removing pressure to rapidly catch and process fish to maximize individual vessel catch rates.
 - Improvements in consumer benefits arising from improved quality are likely to be realized, both in U.S. markets and international markets.

Environmental/non-use benefits

- Public non-use benefits derived from the management of a healthy BSAI Pacific cod stock are likely to be sustained, if current management is perpetuated.
- Under a cooperative management program, catch of BSAI Pacific cod by the trawl CV sector will continue to be limited by TAC or PSC limits.
 - These limits should be effectively maintained through the monitoring and management program, perpetuating the current non-use benefit derived from maintenance of healthy stocks.

Monitoring and enforcement

See

Table 2-127 for a summary of the types of impacts of monitoring and enforcement requirements to implement the proposed PCTC Program.

Net benefits to the Nation

NOTE: This section will be completed when the Council selects a PPA.

Summary of Environmental Assessment

Overall, the EA of the current alternatives did not identify any significant effects on the biological, physical, or human environment. The current fishery management program was analyzed in detail in the Groundfish Programmatic Supplemental Environmental Impact Statement.

As the Council continues to develop its alternatives, the effects of the alternatives may change. This initial EA analyzes the cumulative effects of each alternative and the effects of past, present, and reasonably foreseeable future actions (RFFA). The cumulative effects on the other resources have been analyzed in numerous documents and the impacts of this proposed action and alternatives on those resources is minimal, therefore there is no need to conduct an additional cumulative impacts analysis for those resources.

The sections presented in this EA focus on Pacific cod (Section 3.2), incidental catch (Section 3.3), Prohibited Species Catch (PSC) (Section 3.4), and marine mammals (Section 3.5). No significant effects are presumed for ecosystem component species, seabirds, habitat, or the ecosystem because harvest limits (TACs), habitat protections (such as closed areas), and current or proposed fishing regulations as described in previous documents (NMFS 2005; NPFMC and NMFS 2017; NPFMC 2018) would not be changed by any of the alternatives.

The alternatives have the potential to affect BSAI groundfish, prohibited species, marine mammals, and social and economic components. For groundfish, increased seasonal flexibility is not likely to increase overall fishing pressure. The intensity of trawling would remain unchanged because current regulations define the methods that may be used, areas in which trawling is allowed, and restrict the maximum amount of trawling to TAC levels. Even if there is a redistribution of effort, the fishery will likely remain within the established footprint of the trawl fishing grounds. In addition, rationalized fisheries have been shown to be beneficial to resource components by reducing the race for fish. The timing of the fishery is not expected to change.

PSC rates may decrease slightly from the status quo if fishing effort moves away from periods with relatively high PSC rates or the fleet implements fishing practices that are known to reduce PSC rates (i.e., eliminating night fishing and using halibut escapement devices in the fishing nets).

No change in the number of incidental takes for Steller sea lions (SSL) is expected under either alternative. As compared to the status quo, Alternatives 2a and 2b may have potential impacts on a portion of the western DPS of SSL in the BSAI due to any changes in availability of Pacific cod, but not in a way that may be measurable or discernable separate from all the other variables that affect fishery operations and natural variation.

Any effects to habitat continue to be limited by the amount of the groundfish TACs and by the existing habitat conservation and protection measures. Overall, the combination of the direct, indirect, and cumulative effects on habitat complexity for both living and non-living substrates, benthic biodiversity, and habitat suitability is not likely to be significant under any of the alternatives.

Relevant past and present actions are described in several documents and are incorporated by reference. These include the PSEIS (NMFS 2004), the EFH EIS (NMFS 2005), the harvest specifications EIS (NMFS 2007), and the EA/RIR/IRFA to implement Amendment 85 to the BSAI FMP (NPFMC 2007). This analysis provides a brief review of the RFFAs that may affect environmental quality and result in

cumulative effects. Future effects include harvest of federally managed fish species and current habitat protection from federal fishery management measures, harvests from state managed fisheries and their associated protection measures, efforts to protect endangered species by other federal agencies, and other non-fishing activities and natural events.

Considering the direct and indirect impacts of the proposed alternatives when added to the impacts of past and present actions previously analyzed in other documents that are incorporated by reference and the impacts of the RFFAs listed above, the cumulative impacts of the proposed alternatives are determined to be not significant.

1. Introduction

This Regulatory Impact Review (RIR)/Environmental Assessment (EA) analyzes a proposed Bering Sea and Aleutian Islands (BSAI) trawl Pacific cod catch share program that would assign BSAI trawl catcher vessel (CV) Pacific cod harvest shares based on legal landings of targeted BSAI Pacific cod authorized by a valid groundfish License Limitation Program (LLP) license. From this point forward, all references to LLP licenses throughout the document refer to groundfish LLP licenses, unless otherwise noted. The proposed Pacific Cod Trawl Cooperative (PCTC) Program considers allocations of quota shares (QS) to groundfish LLP licenses based on the harvest of targeted⁵ BSAI Pacific cod during the qualifying years. The action also considers allocating harvest shares to a processor permit based on processing history of BSAI Pacific during the qualifying years. This QS would yield an exclusive harvest privilege for use in a BSAI trawl CV Pacific cod catch cooperative(s). The intent of this action is to improve the prosecution of the fishery by promoting safety and stability in the harvesting and processing sectors, increasing the value of the fishery, providing for the sustained participation of fishery dependent communities, and ensuring the sustainability and viability of the resource.

The RIR describes the benefits and costs of the alternatives, the distribution of impacts, and identification of the small entities that may be affected by the alternatives. This RIR also integrates an analysis of the social and fishing community impacts of the proposed action typically found in a Social Impact Assessment. The EA provides assessments of the environmental impacts of a proposed action and its reasonable alternatives. This RIR/EA addresses the statutory requirements of the Magnuson Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), the National Environmental Policy Act (NEPA), Presidential Executive Order 12866 (E.O. 12866), and some of the requirements of the Regulatory Flexibility Act (RFA). An RIR/EA 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.

⁵ The analysis includes a brief discussion of whether the initial allocation should include all BSAI Pacific cod trawl CV sector Pacific cod catch and not just targeted Pacific cod catch attributed to that sector. Impacts on incidental catch of Pacific cod in other directed fisheries and management considerations are the focus of those discussions.

2. Regulatory Impact Review

This RIR examines the economic benefits and costs of a proposed regulatory amendment that authorizes the owners/operators of CVs targeting Pacific cod in the BSAI to develop harvesting cooperatives that are granted access to a specific amount of the sector's apportionment. This RIR also integrates an analysis of the social impacts and fishing community impacts of the proposed action, typically found in a Social Impact Assessment. The purpose of this action is to improve the prosecution of the fishery with the intent of promoting safety and stability in the harvesting and processing sectors, increasing the value of the fishery, providing for the sustained participation of fishery dependent communities, and ensuring the sustainability and viability of the resource.

The preparation of an RIR is required under Presidential Executive Order (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 nevertheless 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, the environment, public health or safety, or State, 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 E.O. 12866.

2.1. Statutory Authority

Under the 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 groundfish fisheries in the EEZ off Alaska are managed under the FMP for Groundfish of the Bering Sea and Aleutian Islands Management Area (BSAI FMP) and the Fishery Management Plan for Groundfish of the Gulf of Alaska (GOA FMP). The proposed action under consideration would amend both FMPs and Federal regulations at 50 CFR §679. Actions taken to amend FMPs or implement

regulations governing these fisheries must meet the requirements of applicable Federal laws, regulations, and executive orders.

2.2. Purpose and Need

It is generally understood that current regulations that limit harvest directly through limitations on total allowable harvest and/or input controls can make the harvesting and processor sectors less efficient. However, management that relies on catch share programs is expected to result in improved technical efficiency through retirement of redundant capital, more efficient use of retained capital and other inputs, and quota transfers from less efficient to more efficient trawl CVs (Marine Policy, 2015).

Recognizing the benefits of a catch share program in addressing increasing inefficiency in the BSAI trawl CV Pacific cod fishery, the Council at its February 2019 meeting adopted a purpose and need statement as part of a request for a scoping paper that considers development of a cooperative based program for the BSAI Pacific cod trawl CV fishery.⁶ At the October 2019 meeting, the Council, while conducting a review of the scoping paper, adjusted the purpose and need statement to reflect the Council's intent to provide stability in the harvesting and processing sectors and to provide for sustained participation of fishery dependent communities while ensuring the sustainability and viability of the BSAI Pacific cod resource. Provided below is the revised purpose and need statement:

Over the last several years, total allowable catch for Pacific cod in the Bering Sea-Aleutian Island has steadily decreased. The pace of the fishery has contributed to an increasingly compressed season, resulting in decreased ability to maximize the value of the fishery and negatively impacting all fishery participants (catcher vessels, motherships, shoreside processors, and communities). This race for fish also discourages fishing practices that can minimize bycatch and threatens the sustained viability of the fishery. The Council is considering the development of a cooperative-based program to improve the prosecution of the fishery, with the intent of promoting safety and stability in the harvesting and processing sectors, increasing the value of the fishery, providing for the sustained participation of fishery dependent communities, and ensuring the sustainability and viability of the resource.

2.3. History of this Action

The Council, while completing an initial review at their February 2019 meeting of an action to limit certain Amendment 80 and AFA C/Ps acting as motherships when receiving non-community development quota (CDQ) BSAI Pacific cod deliveries from trawl CVs, initiated the cooperative program analysis as a separate action. At that meeting, the Council bifurcated its action into two separate actions: 1) alternatives that would constrain when C/Ps can act as a mothership (implemented under the BSAI FMP Amendment 120) and 2) trawl CV management structure alternatives (the current alternatives under consideration are included in this proposed amendment). The Council noted that bifurcating the C/P mothership limitations from the trawl CV management alternatives was necessary to control offshore processing activity to protect critical revenue streams and economic development in coastal Alaska communities. The Council also noted that the trawl CV management alternatives did not capture the full scope of the issues faced by the BSAI Pacific cod participants.

During that February 2019 meeting, the Council initiated an action to address the numerous concerns being encountered in the BSAI Pacific cod trawl CV fishery, which superseded the previous trawl CV management alternatives that were evaluated in the initial review document noted above. The Council requested the development of a scoping paper that considers methods to rationalize the BSAI Pacific cod

⁶ Motion from February 2019: <https://meetings.npfmc.org/CommentReview/DownloadFile?p=68547653-a558-4b6e-8318-70444670bca5.pdf&fileName=C4%20MOTION%20BSAI%20Pcod%20Trawl%20CV%20Scoping%20Document.pdf>

trawl CV fishery.⁷ The Council requested a scoping document instead of a discussion paper, because it felt a scoping document indicates that the issue is farther along than the discussion paper stage. The Council also stated that this scoping paper signals that the Council has a greater intent to move forward on the issue. At the same time the Council approved development of the scoping document, it encouraged stake holders to begin a parallel process of working to develop approaches to developing a catch share program for the BSAI Pacific cod trawl CV fishery that address their concerns.

Specifically, the Council requested that staff address the following issues so they could be incorporated into a comprehensive BSAI cod trawl CV management program:

- allocation of BSAI Pacific cod quota share to BSAI LLP licenses
- establishing trawl CV cooperative(s) for Pacific cod
- recognition of historical American Fisheries Act (AFA) cooperative-based cod harvest arrangements since the implementation of pollock cooperatives under the AFA
- recognition of historical harvest of AFA cod exempt boats
- recognition of historical harvest of non-AFA boats
- protections for harvesters, processors, and communities
- use caps, transfer requirements, and other administrative requirements that apply to quota programs
- establishing sideboard limits to protect limited access GOA and BSAI fisheries
- consideration of management changes on CV crew; and
- implications for bycatch management, including halibut savings to benefit the health of halibut resource.

The Council also established a control date of February 7th, 2019 that may be used as reference for any future management action to address trawl CV participation in the BSAI Pacific cod fishery. For more discussion concerning the control date and its impacts, see the text immediately following the description of Element 2 in Section 2.7.2.

At the October 2019 meeting, the Council received the scoping paper, revised its purpose and need statement, and provided alternatives, elements, and options for a proposed PCTC Program style limited access privilege program (LAPP). The Council is currently considering a cooperative program where any LLP license assigned to a vessel that authorized that vessel's legal landings of targeted trawl CV BSAI Pacific cod during the qualifying years is eligible to receive harvest shares.⁸

2.4. Description of Elements, Options, and Alternatives

To address the problem statement, the Council has adopted a suite of elements, options, and alternatives. The alternatives proposed include no action (Alternative 1) and implement a cooperative style limited access privilege program for the BSAI Pacific cod trawl CV sector (Alternative 2). Staff has further developed Alternative 2 into two strawman alternatives (Alternative 2a and 2b) that are described in Table 2-1 in order provide a more analytical contrast for two types of cooperative style limited access privilege programs under consideration. In general, the proposed cooperative style limited access privilege program would assign BSAI trawl CV Pacific cod harvest shares based on legal landings of targeted BSAI Pacific cod authorized by a valid LLP license. The proposed program considers allocations of QS to groundfish LLP licenses based on the harvest of targeted BSAI Pacific cod during qualifying

⁸ Motion from October 2019: <https://meetings.npfmc.org/CommentReview/DownloadFile?p=8ec692b1-f98b-4195-808a-11ca5ded71f0.pdf&fileName=D2%20MOTION.pdf>

years selected from ranges included in the options. The action also considers allocating harvest shares to a processor permit based on processing history of BSAI Pacific cod during the qualifying years. The proposed action would yield an exclusive harvest privilege for a portion of the trawl CV sector's BSAI Pacific cod initial TAC (ITAC) allocation for use in a PCTC Program cooperative or a limited access fishery.

The proposed PCTC Program considers two different cooperative approaches: 1) two cooperatives, one for AFA vessels and one for non-AFA vessels (Element 1, Option 1.1), or 2) voluntary harvester cooperatives in association with a legally permitted processor (Element 1, Option 1.2). Based on the Council's proposed action, any vessel assigned to an LLP license that authorized the vessel's legal landings of targeted trawl CV BSAI Pacific cod during the qualifying years would be eligible to receive QS (Element 2.1). To determine the amount of QS allocation to be assigned under this action, the Council is considering three different year combinations based on targeted BSAI Pacific cod landings (Element 2.2, Options 2.2.1-2.2.3) and a fourth option that would blend both catch history and sideboard history⁹ for AFA BSAI Pacific cod sideboarded vessels only (Element 2.2, Option 2.2.4). The Council included an option to allocate only A season and B season QS, leaving the C season as a limited access fishery available to any vessel with an eligible groundfish LLP license and appropriate endorsements (Element 2.5).

With regards to halibut and crab PSC, the Council has included an option that would continue to utilize the current harvest specifications process to determine the amount of halibut and crab PSC that would be apportioned to the Pacific cod trawl limited access fishery (Element 3, Option 3.1). Federal regulations currently apportion to the trawl limited access sector, which is composed of both trawl CV and AFA catch/processor (C/P) sectors, 745 mt of halibut PSC. This apportioned halibut PSC is further divided by fishery, with 391 mt designated for use in the BSAI Pacific cod fishery for the 2019 fishing year. Recognizing there may be a need for the trawl CVs to have their own apportionment of Pacific cod, the Council included a suboption to establish a trawl CV Pacific cod halibut PSC apportionment based on historic use between trawl CV sector and the AFA catcher processor sector (Element 3, Option 3.1, Suboption 3.1.1). The Council also included an option to reduce the halibut and crab PSC apportionment to the BSAI trawl CV Pacific cod sector by 10% to 25% (Element 3, Option 3.2).

The Council included options to limit impacts from the PCTC Program on GOA fisheries. These options include sideboard limits for non-exempt AFA LLP licenses and CVs (Element 4, Option 4.1) and non-AFA LLP licenses (Element 4, Option 4.3) based on their GOA catch history during the BSAI Pacific cod qualifying period for this proposed action. Element 4, Option 4.2 addresses how AFA vessels that are exempt from GOA sideboards under that program could continue to be exempted from GOA sideboards in the proposed Pacific cod LAPP. Element 4, Option 4.3 describes GOA sideboards and sideboard exemptions for non-AFA LLP licenses. Those LLP licenses would be subject to GOA sideboard limits based on their GOA catch (other than harvests permitted under the Rockfish Program) during the qualifying years. The Council did include a provision to exempt non-AFA CVs from BSAI Pacific cod GOA sideboards if their qualifying BSAI Pacific cod history was less than a yet to be determined threshold amount (Element 4, Option 4.3). Finally, a suboption at the end of Element 4 would allow a one-time exemption from GOA sideboard limits created by this program for any eligible CV LLP license holder that opts out of the program.

Included in the Council's elements and options were provisions addressing processing sector issues. These include allowing all processors with an eligible federal processor permit to process BSAI Pacific cod (subject to eligibility requirements under the April 2019 Council action to limit catcher processors acting as motherships) (Element 5.1); a limit on targeted BSAI Pacific cod that can be delivered to trawl

⁹ Sideboard history refers to the leasing of Pacific cod sideboard limits within AFA cooperatives. The intent is to devise a system where both the person leasing the Pacific cod and the person harvesting the Pacific cod divide the resulting QS so that a portion of the QS is attached to the LLP licenses of both the person leasing out the Pacific cod (the lessor) and the person harvesting the Pacific cod (the lessee) at the time of initial allocation.

C/Ps acting as a mothership (Element 5.2), and allocating harvest shares to onshore and offshore processors for use in a PCTC Program cooperative (Element 5.3). Under Element 5.3, the Council is considering allocating between 5 percent and 30 percent of total QS to eligible processors (Options 5.3.1 - 5.3.5).

The Council included provisions to promote sustained participation of Aleutian Islands (AI) processors and communities (Element 6). Option 6.1 requires the cooperative(s) to reserve a set-aside ranging from 10% to 25% of the BSAI trawl CV A season harvest amount for delivery to a shoreplant in the AI management region. Option 6.2 would issue annual harvest quota, the lesser of 5,000 mt or 5.5% of the total BSAI trawl CV Pacific cod quota, to the plant operator if the community of Adak or Atka files a notice of intent to process.

The Council also included transferability provisions. Specifically, Element 7 notes that QS is attached to the LLP license and are non-severable from the LLP license. Transfer of an LLP license eligible for this program results in the transfer of any program eligibility, QS associated with the LLP, and sideboard limitations (Element 7.1). Allocations based on processing history will be issued as separate quota permits and use and transfer restrictions on these processor cooperative shares, if selected, will be determined at a later date (Element 7.2).

With regards to ownership and use caps, the Council included options for ownership and use caps for harvester-issued (Element 8.1) and processor-issued cooperative shares (Element 8.3), vessel use caps (Element 8.2), and a plant level processing cap (Element 8.4). To set appropriate options for caps, the Council is waiting for the initial review draft which will provide information on current ownership and use percentages where possible. The Council included options to grandfather persons over the harvester-issued and processor-issued use caps and the processing cap. The Council motion did not include a grandfather provision option for the vessel use cap.

Finally, the Council included elements to address cooperative provisions (Element 9), share duration (Element 10), monitoring (Element 11), reporting and program review (Element 12), cost recovery (Element 13), and gear conversion which would allow BSAI Pacific cod trawl CV quota to be fished with pot gear (Element 14).

The following elements and options were adopted by the Council in October 2019.¹⁰ Note that staff changed LLP to LLP license where appropriate. This does not change the intent of any of the proposed actions.

Element 1. Cooperative Style Systems

Option 1.1: One cooperative will be formed for AFA vessels and one cooperative will be formed for non-AFA vessels.

Each eligible license will be eligible for one cooperative and must join that cooperative to participate in the Pacific cod cooperative fishery.

Cooperative requires membership of 80% of the eligible catch history for that cooperative.

Vessels and LLP licenses that do not join a cooperative would be eligible to fish in a limited access fishery. Harvest and PSC in the limited access fishery would be limited to the Pacific cod and halibut and crab PSC that would have been issued to cooperatives had the eligible LLP licenses joined a cooperative.

Suboption 1.1.1: Reduce halibut and crab PSC apportionment to the BSAI trawl CV limited access fishery by 25% to 40%.

Option 1.2: Voluntary harvester cooperatives with no minimum number of licenses required.

¹⁰ The numbering system utilized in the motion has been modified to allow for easier reference.

Holders of qualified LLP licenses must join a cooperative annually in association with a licensed processor (FFP) to harvest allocations of Pacific cod. Harvesters may change cooperatives and cooperative associations may change annually without penalty.

No limitation on the number of LLP license holders or eligible catch history needed to form a cooperative.

No limitation on the number of cooperatives that may form.

Suboption 1.2.1: A minimum of three LLP license holders are needed to form a cooperative

Suboption (applicable to Options 1.1 and 1.2): inter-cooperative formation is allowed.

Element 2: Allocation to LLP Licenses

2.1. Eligibility – Any LLP license assigned to a vessel that authorized that vessel’s legal landings of targeted trawl catcher vessel BSAI cod during the qualifying years is eligible to receive harvest shares.

2.2. Harvester Allocations – Eligible LLP licenses must be assigned to a cooperative to receive annual Pacific cod quota. The sector’s harvest shares will be allocated to eligible LLP licenses, with each LLP license’s allocation based on the Pacific cod catch history (legal landings) of targeted BSAI cod authorized by that LLP license during the following qualifying years:

Option 2.2.1: 2014 - 2019

Option 2.2.2: 2009 –2019

Option 2.2.3: 2004 –2019

Option 2.2.4: Allocations based on a blend of catch history and AFA sideboard history

Suboptions to credit catch history/sideboard at:

Suboption 2.2.1: 50%/50%

Suboption 2.2.2: 80%/20%

Suboption 2.2.3: 20%/80%

Suboptions (applicable to Options 2.2.1 – 2.2.4):

Suboption 2.2.1. Drop 1 Year

Suboption 2.2.2. Drop 2 Years

2.3. Catch history is attached to the LLP license at the time of harvest. If multiple licenses authorized catch by a vessel, in the absence of agreement of the license holders at the time of application, history will be:

Option 2.3.1: divided equally between those licenses.

Option 2.3.2: assigned to an LLP license by the owner of the vessel that made the catch.

2.4. Annual quota will be issued to each license based on its share of the total qualifying BSAI trawl catcher vessel catch history. Allocations will not be designated for harvest in a management area (i.e., BS or AI) but may be harvested from either area.

2.5. Option to allocate A and B season BSAI trawl CV Pacific cod only:

A and B season TACs (after deduction of the ICAs) will be allocated to cooperatives as annual cooperative quota (and to seasonal limited access fisheries, if applicable). Annual cooperative allocations (and seasonal limited access allocations, if applicable) attributable to each LLP license will be that LLP license’s proportional share of the total qualifying Pacific cod history.

Staff should analyze distributional impacts of this option based on differential catch histories in the A and B season.

The C season allocation will remain 15 percent and remain a limited access fishery to any vessel with an eligible groundfish LLP license with an applicable area endorsement. The C season limited access fishery will be managed as currently by NMFS, including management of incidental catches of Pacific cod in other directed fisheries. C season TAC (and A and B season ICAs) that NMFS projects to go unused are subject to reallocation to other sectors under current reallocation rules.

2.6 All species not allocated to cooperatives will be managed by maximum retainable amounts (MRAs), as under current management.

Element 3. Prohibited Species Catch Limits

The annual crab and halibut PSC available to the BSAI trawl catcher vessel Pacific cod sector will be as follows:

Option 3.1: Status quo methodology

Suboption 3.1.1: Establish trawl CV Pacific cod halibut PSC apportionment based on historic use between the trawl CV sector and the AFA C/P sector.

Option 3.2: Reduce halibut and crab PSC apportionment to BSAI trawl CV Pacific cod sector that would be harvested under a status quo methodology by 10% to 25%.

Element 4: Gulf of Alaska Sideboards

Option 4.1: AFA LLP licenses or CVs will be sideboarded as to all Gulf of Alaska (GOA) fishing activity, except for the CGOA Rockfish Program, based on their Gulf catch history during the BSAI Pacific cod qualifying period.

Option 4.2: AFA GOA-Exempt CVs will not be permitted to transfer their BSAI cod history on their respective LLP license as a condition of continuing to benefit from its GOA exemption.

Suboption 4.2.1: AFA GOA Exempt CVs with LLP licenses of less than a threshold amount of qualifying BSAI cod history may transfer their BSAI cod history and continue to benefit from GOA exemption.

Option 4.3: Non-AFA LLP licenses would be sideboarded in the GOA (with the exception of the CGOA Rockfish Program) based on their GOA catch history during the qualifying years with the exception that those non-AFA CV with less than a threshold amount of qualifying BSAI cod history, which would be exempt from the sideboard limitation.

Suboption: Any eligible CV LLP license that opts out of the BSAI Pacific cod program at implementation of the program will be exempt from GOA sideboards created by this program (one-time option).

Element 5: Processor and Community Provisions

5.1. No closed class of processors; all processors with an eligible FPP are eligible to process BSAI Pacific cod (subject to eligibility requirements under the April 2019 Council action to limit catcher processors acting as motherships).

5.2. Limit (sideboard) on directed BSAI Pacific cod that can be delivered by trawl CVs to eligible C/Ps acting as motherships. The sideboard would be based on BSAI Pacific cod processing history by eligible C/Ps during qualifying years under Element 2.

5.3. Allocation of harvest shares to processors (option: only applicable to Bering Sea processors and eligible C/Ps if different AI shoreside protections are selected under element 6):

Onshore and offshore processors (Option: subject to eligibility requirements under the April 2019 Council action to limit catcher processors acting as motherships) that have history of processing in the federal BSAI Pacific cod trawl CV fishery will be eligible to receive a percentage of total harvesting shares based on each onshore processor's and offshore processor's processing history. To be used, the processor's harvest shares would be transferred to the CV cooperative. *Additional restrictions on use of this quota must be developed through further analysis.*

Percent of harvest shares and PSC to be allocated to eligible processors:

- Option 5.3.1: 5%
- Option 5.3.2: 10%
- Option 5.3.3: 15%
- Option 5.3.4: 25%
- Option 5.3.5: 30%

Suboption: Harvest shares only

Processing history years to receive harvest shares are the same as harvester years in Element 2.

Element 6: Aleutian Islands Processor Provisions

Option 6.1: Require the cooperative(s) to reserve a set-aside for delivery to a shoreplant in the Aleutian Island management region. The amount of the set-aside will be 10% to 25% of the BSAI CV trawl directed A season harvest amount.

Suboption 6.1.1: The set-aside will be reduced by any amount Adak/Atka processors receive as a direct allocation of harvesting shares pursuant to this LAPP Program, regulation or legislation.

Option 6.2: In any year when the community of Adak or Atka files a notice of intent to process, annual harvest quota shall be issued to the plant operator designated in that notice of intent. In the event, one community issues a notice, the lesser of 5,000 mt or 5.5% of the total BSAI trawl catcher vessel Pacific cod quota (prior to allocations based on harvesting or processing histories) (1,961 mt in 2019) shall be issued to the plant. In the event both communities issue a notice the allocation shall be divided equally between two plants.

Suboption 6.2.1: Allocations are transferrable between qualified entities.

Annual Aleutian Islands community shore plant allocations shall be transferable to any cooperative(s) (and between cooperatives) for harvest by member vessels that are assigned an AI trawl CV LLP license eligible under this program. Quota shall be harvestable exclusively in the AI and any catch must be landed to the shore plant operated by the annual quota recipient (i.e., plant operator).

In the event any Aleutians community shore plant allocation is not fully harvested by March 21, that unharvested allocation will expire and an amount of annual quota equivalent to the unharvested portion will be reissued to cooperatives (holders of LLP licenses with BS and AI harvest history in proportion to their annual allocations).

Suboption 6.2.2: If the community of Adak and Atka files a notice of intent to process, annual harvest quota should be issued to an entity representing the community designated in the notice of intent.

Element 7. Transferability

7.1. Catch histories are attached to LLP licenses and are non-severable from the LLP. Transfer of an LLP license eligible for this program results in the transfer of any program eligibility and catch history/harvest shares associated with the LLP license.

7.2. Allocations based on processing history are issued as separate permits. *To be analyzed: Use and transfer restrictions on processor cooperative shares if selected (e.g., options for restrictions on use on company-owned vessels, transferability restrictions).*

7.3. Annual allocations of Pacific cod and PSC are transferable between cooperatives.

7.4. Post-delivery transfers of cooperative quota are permitted, but must be completed by December 31 (i.e., prior to annual cooperative quota expiring).

Element 8: Ownership and Use Caps

8.1. Harvester-issued cooperative shares: No person may hold or use more than ___ percent of the Pacific cod cooperative quota or PSC apportionment issued:

Option 8.1.1: using the individual and collective rule or

Option 8.1.2: using 10% ownership threshold or management and control for assigning quota to a holder's/entity's cap.

Suboption 8.1: Persons over the cap at the time of implementation are grandfathered.

8.2. No vessel may harvest more than ___ percent of the annual Pacific cod cooperative quota or PSC apportionment issued in the fishery.

8.3. Processor-issued cooperative shares: No person may hold or use more than ___ percent of the Pacific cod cooperative quota or PSC apportionment:

Option 8.3.1: using the individual and collective rule or

Option 8.3.2: using 10% ownership threshold or management and control for assigning quota to a holder's/entity's cap.

Suboption 8.3: Persons over the cap at the time of implementation are grandfathered.

8.4. No processing facility may process more than ___percent of the Pacific cod cooperative quota.

Suboption 8.4.1: Processing facilities over the cap are grandfathered.

Element 9. Cooperative Provisions

Annual cooperative applications must be filed on or before ____ of the preceding year.

Cooperatives shall be formed by qualified LLP licenses with Pacific cod history. Each LLP license is eligible to join one cooperative. A vessel assigned a qualified LLP license is a member of that LLP license's cooperative. A vessel may join a single cooperative.

Cooperatives are intended only to conduct and coordinate harvest activities of members and are not Fishermen's Collective Marketing Act (FCMA) cooperatives.

Membership agreements will specify that processor affiliated members cannot participate in any price setting negotiations, except as permitted by antitrust laws.

Each cooperative will receive annual cooperative quota allocations of Pacific cod and apportionments of halibut and crab PSC based on members' qualifying catch histories (and processing histories, if applicable) to be harvested in accordance with the harvest cooperative agreement. The sector's halibut and crab PSC will be apportioned to cooperatives in proportion to their members' Pacific cod qualifying catch histories (and processing histories, if applicable).

Option: Maintain crab PSC limits at the sector level.

Element 10. Share duration

All allocations and allowances under this program are revocable privileges that 1) may be revoked, limited or modified at any time; 2) shall not confer any right of compensation to the holder, if they are revoked limited, or modified, and; 3) shall not create or be construed to create any right, title or interest in or to any fish before the fish is harvested by the holder.

The duration of all harvest shares and associated PSC apportionments is 10 years. These permits will be renewed before their expiration, unless revoked, limited, or modified.

Element 11. Monitoring

All vessels in the program will be in the full coverage program (100% observer or electronic monitoring coverage category) (if applicable). NMFS will develop monitoring and enforcement provisions necessary to track quota, harvest, and use caps. The Council authorizes NMFS to report weekly vessel-level bycatch information as authorized under MSA Sec 402(b)(2)(A).

Element 12. Reporting and Program Review

Each cooperative shall annually produce a report for the council describing its performance in the preceding year.

Per the Magnuson Stevens Act, a formal detailed review of the program shall be undertaken 5 years after implementation, with additional reviews, at a minimum, each seven years thereafter.

Element 13. Cost recovery

A fee, not to exceed 3% of the exvessel value, will be charged on all program landings to cover the actual costs directly related to the management, data collection, and enforcement of the program.

Element 14. Gear Conversion

Pacific cod allocations associated with trawl CV license may be fished with pot gear. A pot endorsement is not necessary but the LLP license must have the appropriate area endorsement. Harvest would continue to be deducted from the annual trawl cooperative quota account to which the LLP is assigned¹¹ and will not affect sector allocations.

Given the myriad ways to combine the many elements and options in the proposed action to form an alternative, staff has developed two strawman alternatives for purposes of analysis. These strawman alternatives, if approved by the Council at initial review, would be supplemented with a Council developed preliminary preferred alternative prior to final action that would also be included in the analysis. The combination of these three action alternatives in addition to Alternative 1 represent a reasonable suite of alternatives to assess the impacts of the proposed action. Each of the action alternatives in the analysis address the problem statement by providing an allocation of BSAI Pacific cod to the trawl CV sector and allow for the sector to form cooperatives, which are expected to facilitate a more reasonable paced fishery that would lengthen the seasons, resulting in an increased ability to maximize the value of the fishery and reduced the impacts of a compressed fishery on all fishery participants. The action alternatives would also likely encourage fishing practices that can minimize bycatch and improve the sustained viability of the fishery.

¹¹ The first part of this sentence was inadvertently not included in the final motion. Recognizing the omission, staff adjusted the final motion to reflect the complete sentence.

Although the action alternatives differ in several respects, the primary difference is in the cooperative structure. Alternative 2a would allow only two cooperatives to be formed within the sector: a cooperative for the AFA trawl CVs and a cooperative for the non-AFA trawl CVs. Alternative 2b would allow voluntary harvester cooperatives with no minimum number of LLP licenses required and could only form in association with a licensed processor. The specific differences of these strawman alternatives are described in Table 2-1.

Table 2-1 Comparison of strawman alternatives

	Alternative 2a – Two Cooperative Model (Strawman)	Alternative 2b Multiple Cooperative Model (Strawman)
Cooperative Style (Element 1)	<p>Option 1.1 - AFA and Non-AFA cooperatives. Requires 80% of eligible LLP licenses for cooperative formation.</p> <p>Suboption 1.1.1 - reduce halibut and crab PSC apportionment by 25% for those that choose to remain in the BSAI trawl limited access fishery.</p> <p>Suboption 1.2.2 - inter-cooperative formation is allowed.</p>	<p>Option 1.2 - voluntary cooperative with no minimum number of LLP licenses or holders in association with licensed processor.</p> <p>Suboption 1.2.2 - inter-cooperative formation is allowed.</p>
Allocation to LLP Licenses (Element 2)	<p>Option 2.2.1 - harvest allocation would be based on targeted BSAI Pacific cod catch history during 2014-2019 no drop. Harvest allocation would be for the A and B seasons only (Element 2.5).</p> <p>Option 2.3.2 - multiple licenses authorized catch by one vessel would be assigned to an LLP license by the owner of the vessel that made the catch. All species not allocated will be managed by MRAs.</p>	<p>Option 2.2.3 - BSAI Pacific cod harvest allocation would be based on targeted BSAI Pacific cod catch history during 2004-2019 drop 2 years. Harvest allocation would be for A, B, and C seasons.</p> <p>Option 2.3.1 - multiple licenses authorized catch by one vessel would be divided equally between those licenses. All species not allocated will be managed by MRAs.</p>
Prohibited Species Catch Limits (Element 3)	<p>Annual crab and halibut PSC available to the BSAI trawl CV cod limited access sector will continue as currently managed.</p> <p>Option 3.1 - cooperatives will not receive a specific halibut or crab PSC apportionment.</p>	<p>Suboption 3.1.1 - establish trawl CV cod halibut PSC apportionment based on historic use between the trawl CV sector and AFA C/P sector using based on 2004-2019 calculated using average annual percent of halibut PSC usage.</p> <p>Option 3.2 - reduce halibut PSC apportionment to BSAI trawl CV cod sector by 10%. Crab PSC would continue to be managed as a shared apportionment between trawl CV and AFA C/P sectors.</p>
Gulf of Alaska Sideboards (Element 4)	<p>Option 4.1 - continue to use the existing AFA sideboard limits for the qualified and non-qualified non-exempt AFA CVs.</p> <p>Option 4.2 - AFA exempt vessels would be exempt from any GOA sideboard limits implemented under this program based on the Council's intent that the vessels should not transfer their BSAI cod QS.</p> <p>Option 4.3 - non-AFA LLP licenses and CVs named on those LLP licenses would be restricted by GOA sideboard limits.</p>	<p>Option 4.1 - qualified and non-qualified non-exempt AFA CVs would be restricted by new GOA sideboard limits based on 2004-2019 GOA aggregate retained catch divided by TAC. CGOA rockfish Program fishing activity was not included in sideboard calculations.</p> <p>Option 4.2 - AFA exempt vessels would be exempt from any GOA sideboard limits implemented under this program based on the Council's intent that the vessels should not transfer their BSAI cod QS.</p> <p>Option 4.3 - non-AFA LLP licenses and CVs named on those LLP licenses would be restricted by GOA sideboard limits.</p>
Processor and Community	<p>Element 5.2 - sideboard BSAI Pacific cod processing for qualified C/Ps acting as a MS. C/Ps that are not qualified may not</p>	<p>Element 5.2 - no BSAI Pacific cod processing sideboard limit for qualified C/Ps acting as a MS. C/Ps that are not</p>

	Alternative 2a – Two Cooperative Model (Strawman)	Alternative 2b Multiple Cooperative Model (Strawman)
Provisions (Element 5)	<p>process BSAI Pacific cod as a MS that is harvested from the directed BSAI Pacific cod trawl CV fishery. BSAI trawl C/Ps acting as a BSAI Pacific cod MS sideboard limit is based on processing history under Element 2.</p> <p>Element 5.3 - allocate processors 15% (Option 5.3.3) of the harvest shares and PSC based on their processing history under Element 2. All processors with processing history under Element 2 will qualify except C/Ps that are not qualified to act as a MS for BSAI trawl CVs. The processor allocation of BSAI Pacific cod harvest shares will be assigned to a newly created processor permit that is transferable. No restrictions applied to processor issued harvest shares by processor owned/controlled CVs.</p>	<p>qualified may not process BSAI Pacific cod as a MS harvested from the directed BSAI Pacific cod trawl CV fishery.</p> <p>Element 5.3 - no initial allocation of harvest shares or PSC to processors.</p>
AI Processor Provisions (Element 6)	<p>Option 6.1 - 25% set-aside of BSAI A-season harvest amount must be delivered to an AI shoreplant. Amount is reduced by any allocation they receive under Element 5 (Suboption 6.1.1). Allocations (Element 5.3) are transferable between plants.</p>	<p>Option 6.2 - allocate the lesser of 5,000 mt or 5.5% of the BSAI trawl CV sector allocation to AI shoreplants any year at least one plant files an intent to process. Allocations are equally divided between qualified entities and are not transferable.</p>
Transferability (Element 7)	<p>Catch history would be attached to the LLP license and would be non-severable. Allocations based on processing history would be issued as separate permit. QS is transferable with the LLP license or processor permit that it is attached. Annual allocations (CQ) of Pacific cod and halibut PSC are transferable within and between cooperatives. Post-delivery transfers would be permitted through December 31.</p>	<p>Catch history would be attached to the LLP license and would be non-severable. Allocations based on processing history would be issued as separate permit. QS is transferable with the LLP license or processor permit that it is attached. Annual allocations (CQ) of Pacific cod and halibut PSC are transferable within and between cooperatives. Post-delivery transfers would not be permitted.</p>
Ownership and Use Caps (Element 8)	<p>Element 8.1 - Harvester issued QS/CQ ownership and use caps will be based on the individual and collective rule (Option 8.1.1) and set at 5% of QS/CQ issued with grandfather provision (Suboption 8.1.1.1) set equal to initial allocation</p> <p>Element 8.2 - Vessel use caps are 5% of CQ that is transferable if vessel is replaced.</p> <p>Element 8.3 - Processor issued cooperative shares have an ownership and use cap at the entity level of 25% with a grandfather provision (Suboption 8.3.1.1) equal to initial allocation. The cap will be calculated using the 10% ownership threshold rule (Option 8.3.2).</p> <p>Element 8.4 - No processing facility may process more than 20% of the CQ allocated, with a grandfather provision (Option 8.4.1) based on highest annual percentage of history under Element 2.</p>	<p>Element 8.1 - Harvester issued QS/CQ ownership and use caps will be based on the individual and collective rule (Option 8.1.1) and set at 2% of QS/CQ issued with grandfather provision (Suboption 8.1.1.1) set equal to initial allocation</p> <p>Element 8.2 - Vessel use caps are 2% of CQ that is not transferable if vessel is replaced.</p> <p>Element 8.3 – Processors are not issued cooperative shares but have a use cap at the entity level of 10% with a grandfather provision (Suboption 8.3.1.1) equal to initial allocation. The cap will be calculated using the individual and collective rule (Option 8.3.1).</p> <p>Element 8.4 - No processing facility may process more than 10% of the CQ allocated, with a grandfather provision (Option 8.4.1) based on average percentage of history under Element 2.</p>

	Alternative 2a – Two Cooperative Model (Strawman)	Alternative 2b Multiple Cooperative Model (Strawman)
Cooperative Provisions (Element 9)	Annual cooperative application must be filed on or before November 1 of the year prior. Cooperatives shall be formed by qualified LLP license holders and processor permit holders that are assigned QS. Each qualified LLP license/processor permit is eligible to be assigned to one cooperative and the vessel assigned to the qualified LLP license is a member of the cooperative. A vessel may join a single cooperative. Cooperatives are intended to conduct and coordinate harvest activities and are not FCMA cooperatives. Membership agreements will specify that processors affiliated members cannot participate in any price setting negotiations. Each cooperative will receive annual CQ based on members qualifying catch history. Halibut PSC will be apportioned to cooperatives based on members' Pacific cod qualifying catch history.	
Share Duration (Element 10)	All allocations and allowances under this program are revocable privileges that 1) may be revoked, limited, or modified any time, 2) shall not confer any right of compensation to the holder, if they are revoked, limited, or modified, and 3) shall not create or be construed to create any right, title, or interest in or to any fish before the fish is harvested by the holder. Duration of harvest shares and associated PSC is 10 years. Permits will be renewed before their expiration, unless revoked, limited, or modified.	
Monitoring (Element 11)	All vessels in the program will be in the full coverage program. NMFS will develop monitoring and enforcement provisions necessary to track quota, harvest, and use caps.	
Reporting and Program Review (Element 12)	Cooperatives will annually produce a report to the Council describing its performance in the preceding year. As per MSA, a formal detailed program shall be undertaken 5-years after implementation, with subsequent reviews each 7-years after.	
Cost Recovery (Element 13)	A fee, not to exceed 3% of the exvessel value, will be charged on all program landings to cover the actual costs directly related to the management, data collection, and enforcement of the program.	
Gear Conversion (Element 14)	No gear conversion.	Pacific cod QS may be fished with pot gear. A pot endorsement is not necessary, but the LLP license must have the appropriate area endorsement. Gear conversion will not affect initial sector allocations.

In preparing the analysis of the elements and options staff found several clarifications/issues the Council should address. In addition, to complete the analysis of the elements and options for the December 2020 initial review, the staff made several assumptions with regards to some of the clarifications/issues that the Council should review. A summary list of these clarifications/issues and staff assumptions are provided in Table 2-2.

Table 2-2 Summary of issues needing Council clarifications and concurrence of staff assumptions

Element/Option	Description of issue	Potential solutions
Control date (Chapter 2.7.2)	Control date included in Feb 7, 2019 scoping paper tasking was not included in Oct 2019 BSAI Pacific cod trawl CV catch share framework motion.	If the Council intended to include the Feb 7, 2019 control date in the development of the LAPP, the Council could clarify its intent and the control date could be included in the next iteration of the analysis.
Element 1, Option 1.1. (Chapter 2.7.1.1)	Reduction of halibut and crab PSC for those eligible LLP licenses holders that do not join a cooperative and instead fish in the limited access would not work if halibut and crab PSC are not apportioned to the trawl CV sector.	Apportion halibut and crab PSC to the trawl CV sector or do not reduce PSC if is not apportioned the trawl CV sector.
Element 1, Option 1.1 (Chapter 2.7.1.1)	LLP license do not have an AFA or non-AFA endorsement to	Utilize the vessel (AFA/non-AFA) named on the eligible LLP license to determine how to categorize

Element/Option	Description of issue	Potential solutions
	determine 80% of eligible catch history for cooperative formation.	eligible catch history or apply a permanent endorsement to eligible LLP license as AFA or non-AFA (for purpose of cooperative formation only).
Element 1, Option 1.1 (Chapter 2.7.1.1)	Staff assumes language in Option 1.1 allows holders of eligible LLP licenses to elect, on an annual basis, to fish in the limited access sector. Furthermore, staff assumes holders of eligible LLP licenses can permanently opt out of the PCTC Program at implementation (see suboption in Element 4).	Clarify language in Option 1.1 is an annual decision.
Element 1, Option 1.2 (Chapter 2.7.1.2)	Language in the option defines a licensed processor as those with an FFP, which includes motherships and C/Ps, but not shoreside processors and stationary floating processors, which require an FFP.	Modify Option 1.2 to read ...in association with a licensed processor (FFP and FPP) to harvest allocations of Pacific cod.
Element 1, Suboption 1.2.1 (Chapter 2.7.1.2)	To form a cooperative, a minimum of three LLP license holders are needed. LLP license holder is not defined in suboption.	Staff assumes that an LLP license holder is the licensee name provided on the most recent LLP license.
Element 1, Suboption 1.2.1 (Chapter 2.7.1.2)	A single person could hold multiple LLP licenses and each LLP license could have a different licensee name.	If the Council's intent is to have a minimum of three unique holders (persons) to form a cooperative, then the Council could apply the "10% ownership threshold rule" to determine a unique holder (person).
Element 2.2, Option 2.2.4 (Chapter 2.7.2.1)	There are at least three distinct points in time that blending the 1997 sideboard history can be occur. They include blending when the LLP license was on the sideboarded vessel during the qualifying years defined in Options 2.2.1-2.2.3, blending the LLP licenses that are on the sideboarded vessels at the time of final implementation of the PCTC Program, or blending those LLP licenses that were authorized by sideboarded vessels at the time they originated.	Staff relied on blending 1997 sideboard history with qualifying year option catch history attached to the eligible LLP license at the time of implementation of the PCTC Program.
Element 2.2, Option 2.2.4 (Chapter 2.7.2.1)	Motion will need to specify that LLP licenses that do not qualify under the three qualifying year options (2.2.1 – 2.2.3) but would be allocated catch history under the blend option would qualify for the PCTC Program.	Staff suggested changes: Element 2.1. Eligibility - Any LLP license assigned to a vessel that authorized that vessel's legal landings of targeted trawl CV BSAI cod during the qualifying years <u>or an LLP license, as of Feb 7, 2019 (control date), assigned to an AFA trawl CV that had BSAI Pacific cod catch in 1997</u> is eligible to receive harvest shares.
Element 2.2 (Chapter 2.7.2.1)	Reported catches by vessels that do not have an LLP license limited in those data. Most of reported retained catch without	QS could be issued to the LLP license currently on the harvesting vessel or the catch could be attached to the transferable endorsement that allowed the legal harvest.

Element/Option	Description of issue	Potential solutions
	an LLP license was harvested in AI but did have a transferrable trawl AI endorsement.	
Element 2.5 (Chapter 2.7.2.5)	If the intent is to include any unused A-season and B-season cooperative quota in a limited access C-season fishery, Council would need to modify the motion.	Rollover any unused A-season and B-season cooperative quota into the C-season limited access fishery.
Element 3, Suboption 3.1.1 (Chapter 2.7.3.2)	Suboption is silent on the years used to define historic PSC usage. In addition, the option is silent on the computation of the percentage of PSC usage by the two sectors.	Staff used the qualifying years from Element 2 and used average annual percent of halibut PSC usage by the two sectors.
Element 3, Suboption 3.1.1 (Chapter 2.7.3.2)	Suboption only apportions trawl limited access halibut PSC to the trawl CV sector. It does not provide language to apportion crab PSC to the trawl CV sector.	Add crab PSC to Suboption 3.1.1 if the Council wants to apportion crab PSC limits to cooperatives.
Element 3, Option 3.2 (Chapter 2.7.3.3)	Since trawl limited access crab PSC is not apportioned to the trawl CV sector in the current motion, the crab PSC limit for the trawl CV sector cannot be lowered.	Add crab PSC to Suboption 3.1.1
Element 4 (Chapter 2.7.4)	Based on discussions between NOAA Fisheries and staff, it may be possible to simplify the sideboard structure for the PCTC Program beyond what is proposed in Element 4.	Implement a sideboard for pollock and possibly Pacific cod while utilizing halibut PSC sideboard for all other GOA groundfish fisheries.
Element 4, Option 4.1 (Chapter 2.7.4.2)	There is no AFA endorsement on an LLP license, so restricting LLP licenses based on AFA endorsement is not possible.	Since the PCTC Program is an LLP license-based program, the option could be revised to sideboard the LLP licenses that allowed AFA CVs to generate qualifying BSAI Pacific cod catch history.
Element 4, Option 4.1 (Chapter 2.7.4.2)	Option is not specific to non-exempt AFA CVs or the LLP licenses that name those vessels.	Since Option 4.2 addresses exempt AFA trawl CVs, staff assumed that Option 4.1 was specific to non-exempt AFA CVs.
Element 4, Option 4.1 (Chapter 2.7.4.2)	Excluding CGOA Rockfish Program fishing activity from sideboard calculations could be calculated two different ways. Whether fishing activity from CGOA Rockfish Pilot Program and CGOA Rockfish Program are excluded or just fishing activity from the CGOA Rockfish Program are excluded.	Staff removed the CGOA rockfish fishing activity from all nine non-exempt AFA CVs that qualified for the Pilot Program (2007-2011) combined with the CGOA rockfish fishing activity from the four non-exempt AFA CVs that qualified for the Rockfish Program (2012-2019).
Element 4, Option 4.1 (Chapter 2.7.4.2)	Element 1, Option 1.1 provides the opportunity for holders of eligible LLP licenses to annually elect to fish in the limited access sector rather than join a cooperative. It is unclear if these LLP licenses would be restricted by GOA sideboard limits for both GOA groundfish and halibut PSC.	Clarify eligible LLP licenses that elect on annual basis to fish in the limited access sector would not be restricted by GOA groundfish and crab PCTC Program sideboard limits.

Element/Option	Description of issue	Potential solutions
Element 4, Option 4.2 (Chapter 2.7.4.3)	Qualified BSAI Pacific cod catch history cannot be severed from the LLP license (Element 7.1), motion should be revised	<p>Staff suggested changes:</p> <p>Option 4.2: AFA GOA-Exempt CVs will not be permitted to lease their BSAI Pacific cod cooperative quota transfer their BSAI cod history on their respective LLP as a condition of continuing to benefit from its AFA GOA sideboard exemption.</p> <p>Suboption 4.2.1: AFA GOA Exempt CVs with LLP licenses of less than a threshold amount of qualifying BSAI Pacific cod history may transfer lease their BSAI Pacific cod cooperative quota history and continue to benefit from the AFA GOA sideboard exemption.</p>
Element 4, Option 4.2 (Chapter 2.7.4.3)	Option is unclear on how to develop regulations to sideboard exempt AFA CVs if they lease BSAI Pacific cod cooperative quota (CQ). Developing these regulations could be challenging.	Could signal intent for cooperatives to enforce prohibition on leasing BSAI Pacific cod CQ.
Element 4, Option 4.3 (Chapter 2.7.4.4)	There is no non-AFA endorsement on an LLP license, so restricting LLP licenses based on non-AFA endorsement is not possible.	Since the PCTC Program is an LLP license-based program, the option could be revised to sideboard the LLP licenses that allowed non-AFA CVs to generate qualifying BSAI Pacific cod catch history.
Element 4, Option 4.3 (Chapter 2.7.4.4)	Option is silent on the years used to calculate the GOA sideboard limit.	Staff utilized the three qualifying year Options 2.1.1 through 2.2.3
Element 4, Option 4.3 (Chapter 2.7.4.4)	Option is unclear if sideboard limits apply to LLP licenses and vessels authorized on those LLP licenses.	Staff assumed that the option applies to LLP licenses and the vessels authorized by those LLP licenses.
Element 5, Option 1 (Chapter 2.7.5.1)	All processors with an eligible FPP are eligible to process BSAI Pacific cod.	Staff recommends changing the language to also include FFPs to cover certain floating processors, motherships, and eligible C/Ps.
Element 5, Option 2 (Chapter 2.7.5.2)	C/P processing sideboard limits are calculated using the history of the qualified C/Ps and Element 2 history.	Staff assumes that only the two C/Ps that qualify under the recent Council action to limit the C/Ps that may act as a MS in the BSAI Pacific cod trawl CV sector fishery. This will require certain CVs that are owned by firms that do not qualify to deliver their PCTC Program CQ to another firm instead of their own processors. This means that a firm's harvest and processing history may not work well together.
Element 5, Option 3 (Chapter 2.7.5.3)	Is QS assigned to the processing permit non-severable from the permit it was initially issued?	Staff assumes that once the processing QS is assigned to the processing permit, the QS would be non-severable. It would be treated the same as QS attached to LLP licenses in the harvest sector.
Element 5, Option 3 & Element 7, Option 2 (Chapters 2.7.5.3 and 2.7.7.2)	Council needs to define processor's harvest share limitations if those shares are issued. These include who may purchase the shares, who may use the shares, how are ownership and use limits applied and calculated.	Staff has not made any specific assumptions, instead staff has provided information in the analysis that is intended to aid the Council in making these decisions.
Element 6 (Chapters 2.7.6)	Certain regulations that were implemented under Amendment 113 need to be reimplemented to allow the proposed actions to function as intended	Staff has described these actions in the discussion of Element 6, The Council only need to review those assumptions and make any necessary changes.

Element/Option	Description of issue	Potential solutions
Element 6, Options 1 & 2 (Chapters 2.7.6.1 and 2.7.6.2)	Does not state if Element 6 allocations are in addition to or reduced by any allocation of harvest shares to AI shorebased processors under Element 5, Option 3.	Staff has not made an assumption on this issue and is requesting clarification from the Council
Element 8, Option 2 (Chapter 2.7.8.2)	No grandfather provision was included under the vessel use cap.	Confirm intent that a vessel is limited by the cap regardless of how much CQ they bring into the cooperative.
Element 9 (Chapter 2.7.9)	Can vessels only associated with an LLP license with PCTC Program QS join a cooperative?	Staff assumes that this limitation would not apply. Staff assumes that any vessel assigned a valid LLP license and is eligible to fish in a Federal groundfish fishery would be allowed to join a cooperative and be subject to the cooperative's civil contracts.
Element 14 (Chapter 2.7.14)	Additional information on how gear conversion is intended to function is needed.	Staff assumes that a vessel does not need to have CQ to join a cooperative to fish CQ under cooperative contracts. Pot CVs or trawl CV could use pot gear to fish. C/Ps would not be allowed to fish the CQ. The QS would not be permanently designated as pot gear quota. PCTC Program CQ may only be fished with pot gear within a cooperative by vessels that are member of the cooperative to allow NMFS to properly account for CQ catch.

2.5. Methods Used for the Impact Analysis

The costs and benefits of this action are described in the sections that follow, comparing the no action Alternative 1 with the action alternatives.¹² The analysis then provides a qualitative assessment of the net benefit to the Nation of each alternative, with “no action” as a baseline.

This analysis was prepared using data from the NMFS catch accounting system (CAS), which is the best available data to estimate total catch and PSC 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 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). 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. This analysis relies solely on total catch and PSC estimates. For the most part, this analysis relies on fishery data beginning in 2004. BSAI Pacific cod catch data for AFA CVs for 1997 was utilized for Element 2, Option 4.

Fishery data are provided through the Alaska Fisheries Information Network (AKFIN). AKFIN has access to the CAS data, Commercial Fisheries Entry Commission (CFEC) Fish Ticket data, and Alaska Department of Fish and Game (ADFG) Commercial Operators Annual Report (COAR) data from which it can supply catch and discard records, as well as estimates of gross exvessel and first wholesale revenues.

Fishing vessel safety data are provided by the National Institute for Occupational Safety and Health (NIOSH) who 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.

¹² 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.”

fishing industry. For Alaska, CFID contains fatality data from 2000 through 2018 and vessel disaster data from 2000 through 2018.

2.5.1. Unavailable information

Certain data and information would have been useful if it could have been included as part of this analysis. The following is a list of this unavailable information.

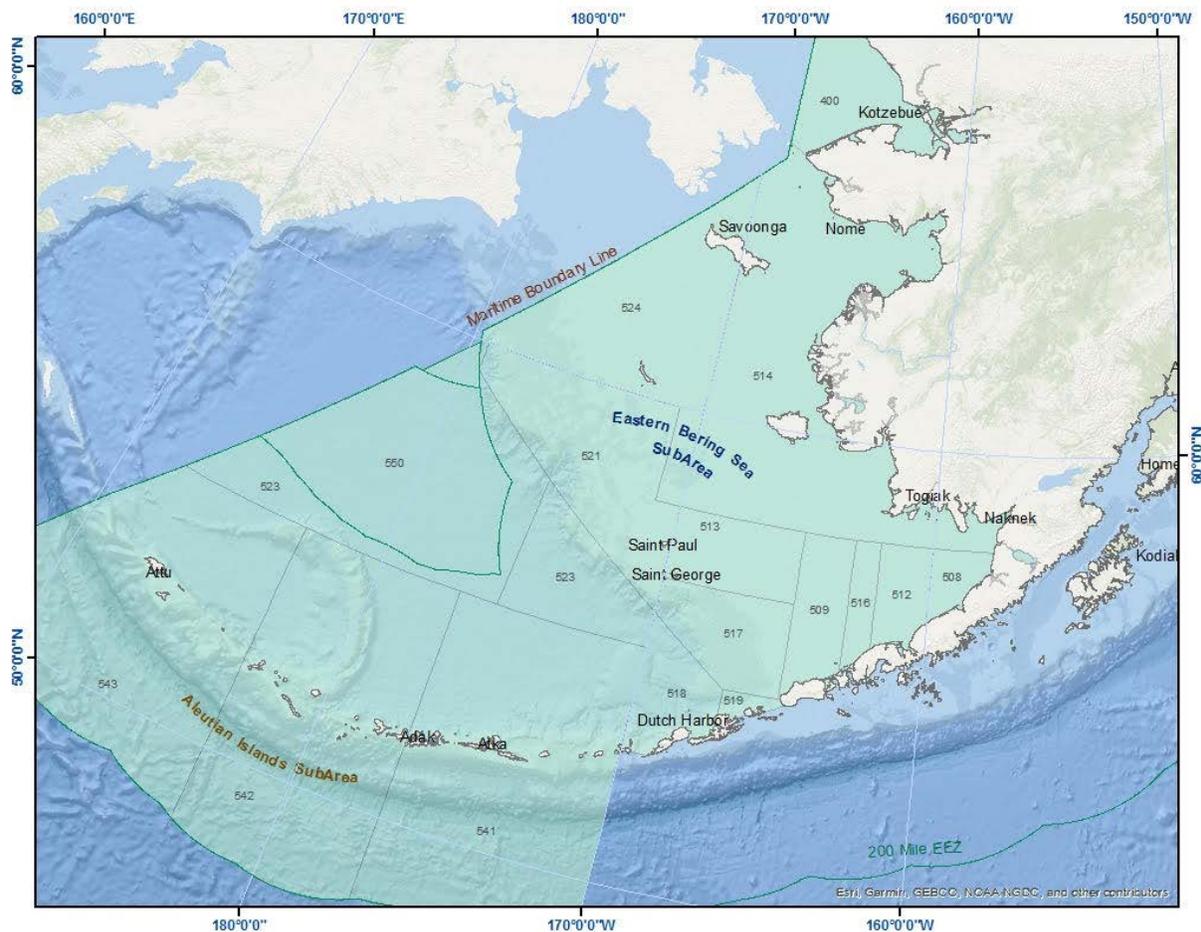
- Ownership data that would allow better estimates of ownership and use caps. Data used in the analysis was based on address which may over or underestimate the true values.
- Data on product flow after it first leaves the U.S. Data on product that is reimported or receives secondary processing in the U.S. would help refine Net National Benefit calculations.
- Consistent cost and employment data across all sectors. Currently data are collected using EDRs that have different levels of information for some sectors and not at all for other sectors. The piecemeal approach to data collection limits its usefulness.
- Comparable first wholesale value data for all species. AKFIN staff have advised the analysts that direct comparisons of groundfish first wholesale values are appropriate but comparing groundfish first wholesale values with non-groundfish species may be misleading. Therefore, the analysis compares exvessel values for processors (the amount they spend buying fish) and not first wholesale values (the amount they receive for their product) in the diversification discussion.
- Systematically collected time series data on fisheries support service sector entities and community patterns of catcher vessel, catcher/processor, and shore-based processor expenditures. If these data were available, more accurate social and economic analyses of sector and community impacts would be possible, including a more accurate picture of local multipliers for fishery related expenditures. Additionally, this type of information would help in associating vessels with particular communities based on quantitative data for the purposes of social impact assessment as a supplement to, if not a replacement for, assigning vessels to communities based on other factors, such as ownership address, homeport, or LLP license ownership address which are currently used as proxies for revenue flows.

2.6. Description of Fisheries

2.6.1. Description of Management

Each year, the Council's BSAI groundfish plan team and Scientific and Statistical Committee (SSC) establish an overfishing level (OFL) and acceptable biological catch (ABC) for Pacific cod for the BS subarea of the BSAI, and a separate OFL and ABC for the AI subarea of the BSAI (see Figure 2-1 for a map of the BS and AI operating area and the reporting areas). Before the AI and BS Pacific cod total allowable catches (TACs) are established at a more localized level, 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: 1) Pacific cod guideline harvest level (GHL) fisheries that occur in the State waters of the BSAI, and 2) an overall 2 million mt limit on the maximum amount of TAC that can be specified for all BSAI groundfish. The process for establishing Pacific cod catch limits and sector allocations is illustrated in Figure 2-2.

Figure 2-1 Map of the BSAI reporting areas



Pacific cod TACs are specified at reduced levels that take into account the GHL fisheries¹³ so that the combined harvest limits from GHL fisheries and the TACs do not exceed the ABCs specified for the BS or AI. The State manages three GHL fisheries for Pacific cod¹⁴, two that occur within State waters in the BS and one that occurs within State waters in the AI. Under current State regulations in the BS, the Dutch Harbor Subarea (DHS) GHL fishery for pot gear in the BS is set at 8 percent of the BS ABC with an annual 1 percent increase in that GHL allocation if 90 percent of the GHL allocation is harvested, until it reaches 15 percent of the BS ABC. A second BS GHL fishery began in 2019 allocating approximately 45 mt (10,000 lbs.) to the jig sector in the DHS. In the AI, the GHL fishery was set at 27 percent of the 2018 ABC specified for AI Pacific cod, with annual “step-up” provisions that would increase the amount of the GHL fishery if at least 90 percent in the previous year’s GHL was harvested. The 2019 AI GHL was increased to 31 percent of the AI Pacific cod ABC. If the GHL fishery continues to be nearly fully harvested it can continue to increase annually by 4 percent up to a maximum of 39 percent of the AI ABC or to a maximum of 6,804 mt (15 million lbs.), whichever is less. Allowable gear in the AI GHL fisheries include trawl, longline, pot, and jig gear.

Once the individual AI and BS TACs are established, regulations at 50 CFR §679.20(a)(7)(i) allocate 10.7 percent of the BS and AI Pacific cod TAC to the CDQ Program. The remaining portion of TAC, after deducting the 10.7 percent allocation for CDQ Program, is the initial total allowable catch (ITAC).

¹³ <http://www.adfg.alaska.gov/FedAidPDFs/FMR18-18.pdf>

¹⁴ <http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyareaaleutianislands.groundfish>

Table 2-3 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 2020.

Table 2-3 BSAI Pacific cod ABC, TAC, and ITAC 2003 to 2013 and BS and AI Pacific cod ABC, TAC, and ITAC 2014 and 2020 (amounts in metric tons)

Year	BSAI			BS ¹			AI ²								
	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										255,000	240,000	214,320	17,600	9,422	8,414
2016				255,000	238,680	213,141	17,600	12,839	11,465						
2017				239,000	223,704	199,768	21,500	15,695	14,016						
2018				201,000	188,136	168,005	21,500	15,695	14,016						
2019				181,000	166,475	148,662	20,600	14,214	12,693						
2020				137,000	124,625	111,290	20,600	14,214	12,693						

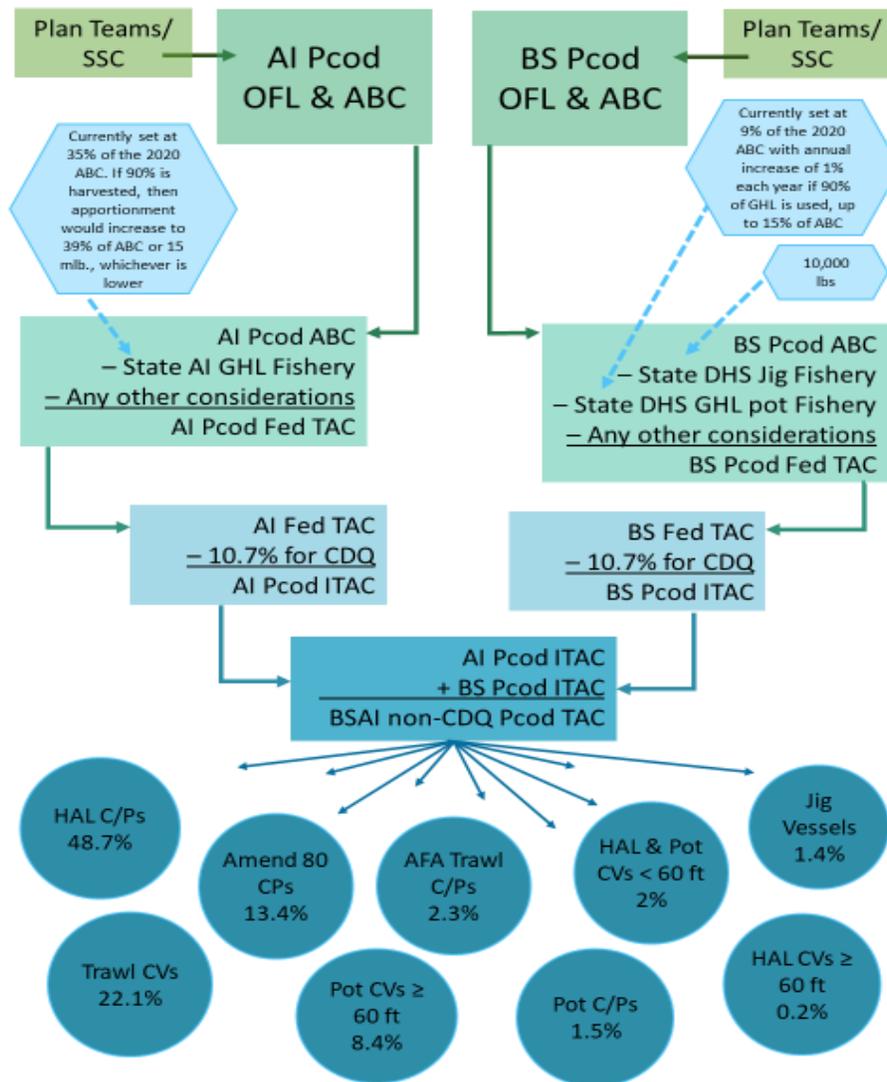
Source: NMFS Final Specifications

¹The BS Pacific cod TAC accounts for the GHL in State waters of the BS, which is 8% of the BS ABC as of 2019.

²The AI Pacific cod TAC accounts for the GHL in State waters of the AI, which is 31% of the AI ABC as of 2019.

After subtraction of the CDQ allocation from each TAC, NMFS combines the remaining BS and AI ITACs into one BSAI non-CDQ TAC, which is available for harvest by nine non-CDQ fishery sectors. Regulations implemented under BSAI Amendment 85 at 50 CFR §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, HAL), operation type (i.e., CV or catcher/processor), and vessel size categories (e.g., vessels ≥ to 60 ft in length overall). Through the annual harvest specifications process, NMFS allocates an amount of the combined BSAI non-CDQ TAC to each of these nine non-CDQ fishery sectors. The nine non-CDQ fishery sectors and the percentage of the combined BSAI non-CDQ TAC allocated to each sector are shown in Figure 2-2 below.

Figure 2-2 BSAI Pacific cod specifications and sector allocations



Notes: SSC= Scientific and Statistical Committee, AI= Aleutian Islands, BS= Bering Sea, Pcod= Pacific cod, OFL= overfishing limit, ABC= acceptable biological catch, GHL= guideline harvest limit, DHS = Dutch Harbor Subarea, TAC= total allowable catch, ITAC= initial total allowable catch, CDQ= community development quota, HAL= hook-and-line, CV= catcher vessel, C/P= catcher processor, AFA= American Fisheries Act, Amend 80= Amendment 80

NMFS manages each of the non-CDQ fishery sectors to ensure harvest¹⁵ 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 pollock directed fishery). NMFS allocates exclusive harvest privileges to the non-AFA trawl C/P sector (Amendment 80 sector) that is prohibited from being exceeded. For the other eight non-CDQ fishery sectors, NMFS carefully tracks both directed and incidental catch of Pacific cod. NMFS takes appropriate

¹⁵ Pacific cod is managed under Improved Retention/Improved Utilization regulations that prohibit the discard of Pacific cod, except under very limited circumstances. Those regulations have caused the harvest and total catch (harvest plus at-sea discards) to be about equal. NMFS manages the fishery to account for total removals of Pacific cod and not only harvest.

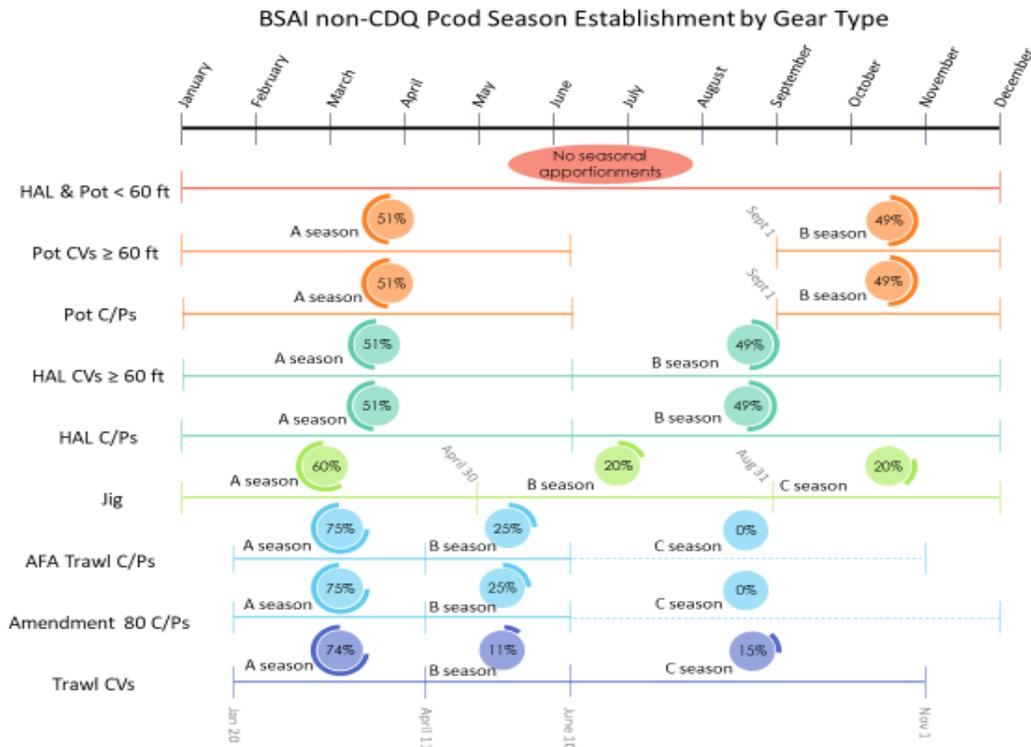
management measures, such as closing directed fishing for a non-CDQ fishery sector, to ensure that total directed fishing and incidental fishing harvests do not exceed that sector’s allocation.

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. The other area will remain open to directed fishing for all sectors as long as Pacific cod TAC is available in that area and the sector has Pacific cod available from their BSAI allocation.

BSAI non-CDQ Pacific cod allocation are managed at the BSAI level. Because there are no non-CDQ sector allocations specific to each area, there are not 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 allowance varies by gear type taking into account changes to the season dates from the Steller sea lion protection measures implemented in 2015. Figure 2-3 demonstrates how those seasons vary by non-CDQ sector.

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 sector seasonal allocations. Table 2-4 provides the BSAI Pacific cod apportionment and BSAI Pacific cod seasonal allowance for the 2020 fishing year. To help ensure the efficient allocation management, NMFS may 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.

Figure 2-3 BSAI non-CDQ Pacific cod seasonal apportionments by gear type



Note: HAL= hook-and-line, CV= catcher vessel, C/P= catcher processor, AFA= American Fisheries Act

Table 2-4 BSAI non-CDQ Pacific cod sector apportionment and BSAI non-CDQ Pacific seasonal allowance for 2020

Sector	BSAI Sector Apportionment (mt)	BSAI Season allowance (mt)		
		A	B	C
H&L/pot < 60'	2,766	No seasonal allowance		
H&L CV ≥ 60'	277	141	136	n/a
H&L CP	67,346	34,347	33,000	n/a
Pot CV ≥ 60'	11,616	5,924	5,692	n/a
Pot CP	2,074	1,058	1,016	n/a
Jig vessels	1,945	1,167	389	389
AFA trawl CP	3,196	2,397	799	0
Amendment 80	18,619	13,964	4,655	0
Trawl CV	30,707	22,723	3,378	4,606

Source: NMFS Final Specifications

2.6.2. Reallocations Among Gear Types

With the exception of the jig sector, any unused seasonal apportionment to a particular sector is reallocated to the next seasonal allowance for that sector within the same year. This is the case for both CDQ and non-CDQ seasonal allocations. Near the end of the year, however, NMFS considers whether one or more (non-CDQ) sectors will not likely be able to use its remaining BSAI Pacific cod allocation. Federal regulations outline a system for reallocating sector allocations that is projected to remain unused by a particular (non-CDQ) sector near the end of the year (50 CFR §679.20(a)(7)(ii)(B)(iii)).

- From CV sectors reallocated first to the jig sector, or to the less than 60 ft HAL or pot CV sector, or to both of these sectors; second, to the greater than or equal to 60 ft HAL sector or to the greater than or equal to 60 ft pot CV sector; third to the trawl CV sector, last to the HAL C/P sector. (Staff note: reallocations from a CV sector includes the trawl CV sector, so this regulation allows the reallocation of Pacific cod to sectors that are not specifically defined in the last bullet that applies to the trawl CV sector and the AFA C/P sector.)
- From the greater than or equal to 60 ft pot CV sector, would be reallocated to the pot C/P sector and from the pot C/P sector to the greater than 60 ft pot CV sector, and then to the HAL C/P sector.
- From the trawl CV sector or AFA C/P sector to other trawl sectors before unharvested amounts are reallocated and apportioned to the following sectors:
 - 83.1 percent to the HAL C/P sector,
 - 2.6 percent to the pot C/P sector, and
 - 14.3 percent to the greater than or equal to 60 ft pot CV sector.

2.6.3. License Limitation Program

As of January 1, 2000, a Federal LLP license is required for vessels participating in directed fishing for LLP groundfish species in the BSAI (>32 feet) or GOA (>26 feet).¹⁶ A vessel must be named on an original LLP license that is onboard the vessel. The LLP is authorized in Federal regulations at 50 CFR

¹⁶ The NMFS Alaska Region website provides a summary of the LLP: <https://alaskafisheries.noaa.gov/fisheries/llp>

§679.4(k), definitions relevant to the program are at 50 CFR §679.2, and prohibitions are at 50 CFR §679.7.

The LLP license requirement is in addition to all other permits or licenses required by federal regulations. The LLP is a Federal program and LLP licenses are not required for participation in fisheries that occur in the waters of the State of Alaska. Vessels that do not exceed 32 feet in Length Overall (LOA) are exempt from the LLP in the BSAI. There are currently no CVs that are 32 feet or less fishing with trawl gear in the BSAI Pacific cod fishery, so that exemption does not impact vessels managed under the proposed action.

In the BSAI, beginning January 1, 2003, vessels that are ≥ 60 ft engaged in directed fishing for BSAI Pacific cod in the Federal fisheries using fixed gear must have an area endorsement, non-trawl endorsement, and operation type specific Pacific cod endorsement on the LLP license that names the vessels. This requirement was intended to provide a mechanism that would further limit entry into the fishery by fixed gear vessels that have not participated or have participated at a level that would constitute significant dependence on the fishery.

Note that the AFA numbers in the matrix do not denote LLP license endorsements, but rather the number of LLP licenses on AFA vessels.

Table 2-5 shows a matrix of the endorsements associated with the BSAI LLP licenses that are current as of June 10, 2020. This table summarizes the number of LLP licenses eligible for use on a vessel to harvest BS and AI Pacific cod in the directed federal fishery by the different gears and operation. For example, the table shows that there are 114 LLP licenses with a BS trawl CV endorsement. Of those 114 LLP licenses, 42 also have an AI trawl CV endorsement. Because there are 43 trawl CV endorsements for the AI, one LLP license only has an AI trawl CV endorsement. None of the LLP licenses with a trawl CV endorsement for the BS or AI have a pot gear endorsement. It should be noted that LLP licenses with a C/P endorsement may have been used to act as a CV. The table also shows that there are 49 LLP licenses that have an endorsement for BS, Pacific cod, CV, and pot gear. Of those 49 LLP licenses with these endorsements, 2 have AI endorsement and 1 has BS Hook-and-Line (HAL) endorsement. Note that the AFA numbers in the matrix do not denote LLP license endorsements, but rather the number of LLP licenses on AFA.

Table 2-5 Number of LLP licenses issued for the BSAI by endorsement (current as of June 10, 2020)

Sector	Sum of AI_C/P_PCOD_HAL2	Sum of BS_C/P_PCOD_HAL2	Sum of AI_C/P_PCOD_POT2	Sum of BS_C/P_PCOD_POT2	Sum of AI_CV_PCOD_HAL2	Sum of BS_CV_PCOD_HAL2	Sum of AI_CV_PCOD_POT2	Sum of BS_CV_PCOD_POT2	Sum of AI_TRAWL_C/P2	Sum of BS_TRAWL_C/P2	Sum of AI_TRAWL_CV2	Sum of BS_TRAWL_CV2	Sum of A802	Sum of AFA
AI_C/P_PCOD_HAL	34													
BS_C/P_PCOD_HAL	34	36												
AI_C/P_PCOD_POT	3	3	5											
BS_C/P_PCOD_POT	3	3	5	8										
AI_CV_PCOD_HAL	0	0	1	1	8									
BS_CV_PCOD_HAL	0	0	1	1	7	8								
AI_CV_PCOD_POT	0	0	0	0	0	0	3							
BS_CV_PCOD_POT	0	0	0	0	0	1	2	49						
AI_TRAWL_C/P	0	0	0	0	0	0	0	0	50					
BS_TRAWL_C/P	0	0	0	0	0	0	0	0	49	58				
AI_TRAWL_CV	0	0	0	0	1	0	0	0	0	0	43			
BS_TRAWL_CV	0	0	0	0	0	0	0	0	0	0	42	114		
A80	0	0	0	0	0	0	0	0	19	26	0	0	26	
AFA	0	0	0	0	0	0	0	0	27	29	41	102	1	135

Source file: LLPs_Endo(6-10-20)

2.6.4. Overview of State Water GHL Fisheries

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. The GHL fishery opens after the federal fishery closes to directed fishing. 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. For 2019, the AI GHL was 31 percent of the AI ABC since the previous year's AI GHL was fully 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. The 2019 GHL was fully harvested, so the 2020 AI GHL increased to 35% (7,210 mt); however due to the maximum regulatory GHL for this fishery the 2020 season GHL was 6,804 mt. At the BOF December 2019 meeting, the BOF made the AI state waters fishery an exclusive fishery for all gear types. This became effective during the 2020 season.

While all gears can be 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. Table 2-6 summarize the state AI GHL participation, catch, and value for the years 2006 through 2020. Additional information on the AI GHL fishery can be found in the AI Pacific Cod Harvest Set-Aside Regulatory Impact Review (RIR) that addressed issues with Amendment 113 (NPFMC, 2018).

Table 2-6 Aleutian Islands state-waters Pacific cod fishery guideline harvest level and harvest from 2006-2019

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
2019		6,386	h	6,198	18		155	\$0.38	\$5.08
2020		6,804	h	6,762	15		187	\$0.35	\$5.12

Source: ADF&G

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.

In October 2013, the BOF created a state-waters Pacific cod fishery management plan for the Bering Sea near Unalaska/Dutch Harbor.¹⁷ A summary of the regulations is provided in Table 2-7. The DHS GHF 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 degrees and 167 degrees 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 BSAI < 60 ft pot/HAL sector's closure, and may close and re-open as needed to coordinate with federal fishery openings.¹⁸ The fishery was not opened to jig gear until 2019 because the federal jig season typically occurs year-round, so there has historically been no benefit to having a separate GHF state-waters fishery.

The DHS state-waters Pacific cod fishery is in an exclusive registration area for pot gear but not jig gear. This means 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 nonexclusive state-waters Pacific cod fisheries. 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.

¹⁷ https://www.psmfc.org/tsc-drafts/2017/ADFG_2017_AK_TSC_Alaska_FINAL.pdf

¹⁸ The 2018 season opened on January 30 and was closed on March 1 because the GHF was projected to be taken. For 2019, the season opened on January 19 and closed on February 24, while the 2020 season opened January 26 and closed on March 12.

Table 2-7 Dutch Harbor Subarea state-waters Pacific cod (GHL) fishery

Area	DHS state-waters opens	DHS state-waters closes	Gear	Vessel length
Dutch Harbor Subarea 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' HAL and pot gear CV sector. If GHL Pacific cod are available when the federal BSAI Pacific cod < 60' HAL/pot gear CV 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 CV 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 Subarea 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 pot fishing in 2014. State regulations provided the pot fishery with 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 BOF 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 percent of the BS ABC starting in the 2019 fishery. If the GHL is fully harvested (90 percent is considered fully harvested), the limit is then increased by 1 percent of the BS ABC each year until it reaches 15 percent in 2026. The 15 percent GHL would continue unless changed by the BOF.

The GHL amount and reported harvest from that fishery are reported in Table 2-8. All the catch is delivered to shoreside plants and inshore floating processors since it is harvested by pot vessels that are less than or equal to 58 ft. A total of 37 pot gear vessels participated in the fishery in 2019. This increased to 40 pot gear vessels in 2020.

Table 2-8 Pacific cod harvest (lbs.) with pot gear in the State of Alaska DHS Guideline Harvest Level Pacific cod fishery, 2014 through 2020

Year	GHL		Harvest		% harvested
	Pounds	mt	Pounds	mt	
2014	17,863,874	8,103	17,666,510	8,013	98.90%
2015	18,029,404	8,178	17,636,103	8,000	97.80%
2016	35,979,072	16,320	35,519,920	16,112	98.70%
2017	33,721,562	15,296	33,247,414	15,081	98.60%
2018	28,360,000	12,864	29,055,603	13,180	102.50%
2019	31,922,600	14,480	32,345,033	14,672	101.30%
2020	30,927,000	14,028	30,081,227	13,645	97.30%

Source: ADF&G

In 2019, the BOF also created a 100,000 lb. (45 mt) GHL jig fishery for Pacific cod in the DHS. As noted in Table 2-9, one vessel participated in the fishery, which opened May 1, 2019 and closed on June 6, 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. Harvest is confidential for the 2019 DHS jig fishery; however, the GHL was achieved.

Table 2-9 Dutch Harbor Subdistrict state-waters Pacific cod jig fisher harvest, effort, value, and season dates, 2019

Year	GHL (lbs.)	Harvest (lbs.)	Vessels	Landings	Average price per pound	Fishery value	Season dates		Season duration (days)
							Opened	Closed	
2019	100,000	CF	1	5	CF	CF	5/1/2019	6/6/2019	37

Source: ADF&G

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 CV Pacific cod fishery is through a reduction to the ABC that is available prior to setting trawl CV TAC.¹⁹ 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).

2.6.5. Overview of AI Pacific Cod Set-aside for AI Shoreside Processors

In October 2015, the Council recommended a management measure to provide stability to AI shoreplant operations and the communities dependent on shoreside processing activity by prioritizing a portion of the AI Pacific cod TAC for access by CVs delivering their AI Pacific cod catch to shoreplants in the AI. The Secretary of Commerce (SOC) approved the Council's recommendation (Amendment 113) which had an effective date of November 23, 2016. The amendment modified the management of the BSAI Pacific cod fishery to set aside a portion of the AI Pacific cod TAC for harvest by CVs directed fishing for AI Pacific cod and delivering their catch for processing 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, and only during the first few months of the fishing year. This harvest set-aside provides the opportunity for vessels, AI shoreplants, and the communities where AI shoreplants are located to receive benefits from a portion of the AI Pacific cod fishery. The notification and performance requirements preserve an opportunity for the complete harvest of the BSAI Pacific cod resource if the set-aside is not fully harvested.

¹⁹ 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.

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 CV Harvest Set-Aside are administered simultaneously, the AI Pacific cod catch that is delivered to offshore or non-AI shoreplants by trawl CVs is deducted from both the AI Unrestricted Fishery and the BS Trawl CV Limitation. The deduction of AI Pacific cod delivered to offshore processors or non-AI shoreplants from the BS Trawl CV Limitation runs counter to the intent of the Council because the BS Trawl CV Limitation was developed for use by trawl CVs for harvest and delivery of AI Pacific cod to AI shoreplants.

To address the identified AI Pacific cod set-aside regulatory issue, the Council during its April 2018 meeting developed a purpose and need statement and requested that staff develop an analysis of three action alternatives to adjust Amendment 113 regulations implementing the AI Pacific cod set-aside for CVs delivering to shoreplants in the AI to prioritize the AI Pacific cod CV harvest set-aside fishery before the AI unrestricted fishery for the trawl CV sector. In December 2018, the Council recommended to the Secretary of Commerce to modify Amendment 113 so that harvest by the trawl CVs from the AI Unrestricted Fishery will not be included in the BS trawl CV A-season Sector Limitation when determining the closure of the BS subarea. In other words, under the preferred modification to Amendment 113, the BS trawl CV A-season sector would close once the harvest from the BS Pacific cod fishery and Unrestricted AI Pacific cod fishery by trawl CVs was equal to the amount of BS Pacific cod that remains after deducting the BS Trawl CV A-season Sector Limitation from the BSAI trawl CV sector A-season allocation listed in the annual harvest specifications. In addition, the modification of Amendment 113 would prohibit trawl CVs from participating in the AI Unrestricted Fishery once the BS trawl CV A-season sector fishery closes to directed fishing. All other regulations associated with Amendment 113 would remain unmodified.

On December 21, 2016, several trade associations and commercial fishing operations filed a complaint challenging the rule adopting Amendment 113 arguing that it exceeded the NMFS's statutory authority under the MSA and the APA. On March 21, 2019, the U.S. District Court determined that NMFS did not exceed its statutory authority in imposing a harvest set-aside with an onshore delivery requirement, it nonetheless NMFS failed to demonstrate that the amendment satisfied the requisite standards for such regulatory measures set forth by the MSA. The Court vacated the rule implementing Amendment 113 and remanded the amendment to NMFS for reconsideration consistent with the opinion.

Prior to the ruling of the U.S. District Court, the AI Pacific cod set-aside was utilized for the 2018 and 2019 fishing years. For the 2018 fishing year, 28 percent of the 21,500 mt AI Pacific cod ABC was assigned to the State GHL fishery and the remaining 73 percent of the ABC was assigned to the federal fishery as the TAC. The GHL and federal longline gear fisheries opened on January 1, 2018. Several less than 60 feet pot CVs participated in the State AI GHL fishery and delivered to an AI shoreplant. Some greater than or equal to 60 feet pot CVs arrived about a week after the start date (January 4th and January 8th) and participated in the federal Pacific cod fishery. On January 19, 2018, BSAI Pacific cod directed fishing closed for pot CVs greater than or equal to 60 ft. On January 23, 2018, BSAI Pacific cod directed fishing closed for CV less than 60 feet using HAL/pot gear. The AI shoreplant did not take deliveries of any Pacific cod deducted from the federal TAC by the CVs less than 60 feet HAL/pot sector.²⁰

On January 20, 2018, the federal BSAI non-CDQ Pacific cod trawl CV fishery opened to directed fishing. Many of the trawl CVs arrived in the AI after participating in the BS fisheries as well as some of the smaller CVs owned by persons from communities in the Western GOA and Central GOA areas that rely primarily on GOA fisheries. The trawl CVs began fishing for the AI shoreplant in early February. Directed fishing closed on February 11, 2018 for the BS non-CDQ Pacific cod trawl CV sector to prevent exceeding the 2018 BS trawl CV A-season sector limitation. The limited deliveries by pot vessels from the federal Pacific cod fisheries and the late arrival of the trawl fleet created some concern that the 1,000

²⁰ NMFS did reapportion 1,400 mt from the jig sector to the <60 feet HAL/pot sector on February 6th, but the <60 feet HAL/pot sector in federal waters may not reopen until September 1st.

mt AI minimum requirement would not be reached by February 28th. However, the shoreplant was able to reach the required amount and the 5,000 mt set-aside remained in effect.

Since there was 6,515 mt of AI Pacific cod that was available as unrestricted, two companies made plans to harvest a portion of that allowance and deliver the catch to processors other than AI shoreplants. One company was using its CV to deliver to one of its C/Ps. However, this occurred during the February 2018 Council meeting, and when the Council was made aware of the issue with Amendment 113, the Council asked this company to not participate in the unrestricted fishery, due to the impacts to the AI shoreplant. This company had already taken a small amount of AI Pacific cod, but they agreed to stand-down from the fishery at the request of the Council. After the 2018 A-season was underway, a second company requested that their CVs be allowed to deliver to the AI shoreplant. In part due to capacity constraints and the timing of the request, the AI shoreplant could not take deliveries from these CVs. The company instead decided to have some of its trawl CVs AI Pacific cod delivered to Unalaska/Dutch Harbor.

To assist the AI shoreplant in spacing out deliveries so as to reduce wait times at the AI shoreplant, the trawl CVs initiated self-imposed trip limits and a one-day stand-down after a delivery. Trawl CVs set the trip limit at 400,000 lbs. for the larger CVs and 100,000 lbs. for smaller CVs. These self-imposed trip limits were abandoned after NMFS announced a scheduled BSAI A-season trawl CV closure for March 4, 2018, which then resulted in a larger volume of Pacific cod being delivered during a short period of time.

Once trawl CVs harvested an amount that was projected to be equal to the BSAI trawl CV sector A-season allowance, they are closed to directed fishing, which in 2018 was on March 11. Catch in the AI set-aside and unrestricted fishery resulted in a closure of the trawl CV sector in the BSAI prior to delivery of the entire 5,000 mt AI set-aside. That meant the only CV sector that remained open²¹ to directed fishing was the BSAI jig gear sector. The BSAI allocation to the jig sector was insufficient to allow the AI shoreplant to take deliveries of the remaining 5,000 mt AI set-aside.

NMFS announced that the 5,000 mt AI set-aside had not been landed at the AI shoreplant by March 15th. Because the 5,000 mt AI set-aside was not reached by that date the BS non-CDQ trawl CV A-season sector limitation remained in effect until March 21 and the AI set-aside did not apply for the remainder of the year. The amount of the 5,000 mt AI set-aside that was delivered to the AI shoreplant in 2018 cannot be reported due to confidentiality restrictions.²²

The BSAI Pacific cod non-CDQ trawl CV B-season opened to directed fishing on April 1. The 2018 B-season allowance was set at 4,425 mt at the start of the fishing year. Directed fishing was closed on April 3 as a result of the B-season allowance being reached. The AI shoreplant took Pacific cod deliveries during the B-season. However, as was the case for the A-season, confidentiality restrictions prohibit reporting the amount of catch delivered to the AI shoreplant relative to other processors.

For the 2019 fishing year, one AI shoreplant notified NMFS that they would be participating in the 2019 Pacific cod season. For 2019, the AI Pacific cod directed fishing allowance (DFA) was set at 10,193 mt. The DFA was specified as 5,193 mt for the AI unrestricted fishery and 5,000 mt for the AI CV harvest set-aside for delivery to AI shoreplants. CVs participated in both the BS and AI areas for the federal Pacific cod CV greater than or equal to 60 feet pot fishery and the CV less than 60 feet pot/HAL fishery beginning on January 1, and deliveries were made in both the BS and AI. The CV less than 60 feet pot/HAL sector closed on January 12, and the CV greater than or equal to 60 feet pot gear sector closed on January 15. The closures for both sectors applied to both the BS and the AI.

²¹ The <60' HAL/pot Pacific cod fishery was closed to directed fishing in the BSAI on January 23. On February 6, NMFS reallocated 1,400 mt of the jig A-season allocation to the < 60' HAL/pot sector. That reduced the total A-season jig allowance to 129 mt. The 510 mt B-season jig allowance became available on April 30th.

²² Golden Harvest Alaska Seafood, LLC in a public comment letter to the NPFMC in April 2018 noted that "landings from the Federal fishery were 4,010 mt; or about 80% of the AI CV Harvest Set Aside."
<http://comments.npfmc.org/CommentReview/DownloadFile?p=48236946-a5e9-42fa-977a-b723217e1a66.pdf&fileName=GHAS%20to%20NPFMC%20033018.pdf>

The BSAI CV trawl sector for Pacific cod opened on January 20 with an overall A season sector TAC of 26,388 mt. CVs participated in both the BS and the AI beginning in January. The BS subarea closed on February 1 after achieving the Bering Sea trawl limitation (BSAI CV trawl TAC minus 5,000 mt to be harvested from the AI). Although the new regulation was still not in place for 2019, industry agreed not to participate in the AI unrestricted fishery if it cut into the 5,000 mt set-aside established for AI shoreplants. However, there was some fish remaining in the trawl fishery over the 5,000 mt needed for AI shoreplants to achieve the full set-aside. As a result, some unrestricted fishing did occur in the AI after the closure of the BS, but it did not affect the AI shoreplant's ability to achieve the full set-aside amount.

On February 21, NMFS announced that AI shoreplants had landed the 1,000 mt necessary to keep the set-aside regulations in place after February 28. As a result, the set-aside regulations remained in effect until March 15 and the BS CV trawl limitation would remain in effect until the set-aside was achieved or until March 21, whichever came first. On March 15, the NMFS announced that AI shoreplants had not landed the full 5,000 mt set-aside. As a result, the BS CV trawl limitation would remain in effect until March 21. Although shoreplants did not land the full set-aside amount by March 15, the CV trawl Pacific cod fishery in the AI remained open until March 16. Next, the CV trawl Pacific cod B season opened on April 1 and closed on April 2 for a 24-hour fishery. CVs participated in both the BS and AI and harvest was landed in both areas. Pacific cod harvest landed to the AI shoreplant is confidential.

The 2020 A season Pacific cod fisheries for the CV greater than or equal to 60 feet pot gear sector and the CV less than 60 feet pot/HAL sector opened on January 1. Vessels from both sectors participated in both the BS and AI areas. The CV greater than or equal to 60 feet pot gear sector closed on January 15 and the CV less than 60 feet pot/HAL sector closed on January 18. The closures for both sectors applied to both the BS and the AI.

The 2020 BSAI CV trawl sector for Pacific cod opened on January 20 with an overall A season TAC of 22,723 mt. In 2020, Amendment 113, which included regulations regarding the AI CV harvest set-aside for delivery to AI shoreplants, was no longer in effect. As a result, there was no longer a stipulation that 5,000 mt had to be harvested and delivered in the AI. Although fishing was open in both the AI and the BS, in 2020, no harvest occurred in the AI. After two days of fishing, the fleet organized a voluntary stand down due to high halibut PSC rates. No fishing occurred again until February 9. The A season closed in both the AI and BS areas on February 16, and 51 CVs participated. Although the fishery was open for 28 days, fishing only occurred for 10 days due to the voluntary stand down for halibut PSC. After the completion of A-season it was determined there was not enough TAC available to prosecute a B season fishery and the fishery did not open.

2.6.6. Affected Sectors

The following is an overview of each of the different sectors directly affected by the proposed focusing on the BSAI Pacific cod fishery from 2004 through 2019. These sectors include the trawl CV, the AFA trawl C/P and Amendment 80 (some of the C/Ps from these two sectors could be eligible to receive Pacific cod deliveries from trawl CVs), and the HAL/pot < 60 ft (this sector is the primary benefactor of reallocations of C-season trawl CV Pacific cod during the fall fishery). This section will also include a profile of shoreside processors.

2.6.6.1. Trawl CV

The trawl CV sector includes all trawl CVs that 1) are issued an AFA permit for eligibility to participate in the directed BSAI pollock fishery and 2) are not issued an AFA permit. Both of these trawl CV groups share the 22.1 percent allocation of BSAI Pacific cod.

For the AFA CVs, most vessels rely almost exclusively on pollock harvested in the BS, while Pacific cod is the second most important species in terms of volume for these vessels. While nearly all the groundfish harvested by the larger vessels is delivered to shoreside processors, many of the smaller vessels deliver their catch to motherships or C/Ps. The AFA trawl CVs have a sideboard limit of 86.09 percent of the seasonal allocations of BSAI trawl CV Pacific cod. The Pacific cod harvest limits, like other groundfish and PSC bycatch limits for AFA CVs, are managed using directed fishing closures according to the procedures set out at 50 CFR §679.20(d)(1)(iv), 50 CFR §679.21(d)(8), and 50 CFR §679.21(e)(3)(v). There are nine AFA trawl CVs that are exempt from the AFA CV BSAI Pacific cod sideboard limits. Nineteen additional CVs have a mothership endorsement and are exempt from the sideboards after March 1. The harvest of BSAI Pacific cod for this sector is managed through a private inter-cooperative agreement.

The non-AFA trawl CVs are not eligible to participate in the directed BSAI pollock fishery. Vessels in this group are typically between 60 ft and 125 ft but occasionally vessels < 60 ft participate in the sector. The non-AFA trawl CVs rely on BSAI Pacific cod, the GOA groundfish fishery, and halibut IFQ using longline gear and State of Alaska commercial seine fisheries for salmon.

Table 2-5 shows that as of June 2020, there were a total of 114 LLP licenses with a trawl CV endorsement for the BS. Of those 114 LLP licenses, 42 licenses also had an AI endorsement, one license was endorsed only for the AI and that license had an AI HAL endorsement. The 12 of the AI trawl area endorsements that were created under Amendment 92 (74 FR 41080, August 14, 2009) were also included in these LLP license totals.

Looking at the catch indicators of Table 2-11, the sector on average harvested 83 percent of its BSAI Pacific cod allocation from 2004 through 2007, and 87 percent of their allocation since implementation of Amendment 85 in 2008. The sector's remaining unharvested BSAI Pacific cod was reallocated throughout the fishing year to other sectors. The reallocation has ranged from a low of 2,200 mt in 2018 to a high of 11,370 mt in 2015.

In the federal BSAI Pacific cod target fishery, the number of participating trawl CV vessels ranged from a low of 48 in 2010, 2014, and 2015 to a high of 77 in 2004. Factoring in incidental catch of Pacific cod, the total number of vessels in the sector that harvested any BSAI Pacific cod has ranged from a low 95 as of June 2020 to high of 114 in 2004. The difference in vessel count between those targeting BSAI Pacific cod and those only harvesting incidental amounts of BSAI Pacific cod is due mostly to those AFA trawl CVs that only target BSAI pollock. Activity in other BSAI Pacific cod fisheries (i.e., GHF and CDQ) for the sector were minimal, with only an average one percent of their BSAI total Pacific cod harvest originating from these BSAI Pacific cod sources.

The trawl CV sector is one of the sectors that participate in the AI Pacific cod fishery on a regular basis. As noted in Table 2-119, the AI fishery has declined from its peak in 2009 as a percent of total non-CDQ BSAI Pacific cod catch for the sector. The number of trawl CVs during 2004 through June 2020 that participate in the AI Pacific cod fishery has also declined. The largest number of trawl CVs harvesting AI Pacific cod was 34 in 2007, while the lowest number of trawl CVs was in 2015 and 2017 at seven. Total catch of AI Pacific cod is down from its 2009 peak. The highest amount of Pacific cod harvested in the AI was nearly 15,000 mt in 2009, while the lowest amount of AI Pacific cod was 2,735 mt in 2015.

Annual estimates of the trawl CV sector's gross exvessel value for Pacific cod are provided in Table 2-12 in addition to gross exvessel value of BSAI Pacific cod as a percent of total gross revenue, gross first wholesale value for BSAI Pacific cod, and combined gross revenue of State and Federal fisheries. The exvessel value of the BSAI Pacific cod fishery has ranged from a low of \$14 million in 2009 and 2010 to

a high of \$36 million in 2008. Gross first wholesale value has ranged from a low of \$34 million in 2009 to a high of \$75 million in 2012 and 2017. Looking at the value of the BSAI Pacific cod fishery for the trawl CV sector relative to the total gross revenue, the fishery on average contributed approximately 8 percent of the total revenue from 2004 to 2019. The largest contributor to the total gross revenue for the sector was the BS pollock fishery. The Pacific cod fishery as a percent of the total gross revenue has been as low as 6 percent in 2015 and as high as 11 percent in 2007 and 2008.

The length of the BSAI Pacific cod fishery for the trawl CV sector has compressed in recent years. Table 2-10 provides a summary of the closure and opening dates for the BSAI Pacific cod trawl CV fishery. The BSAI trawl CV fishery is opened to fishing on January 20 and closes by regulation on November 1. Except for 2014 and 2015, the trawl CV sector has been restricted to bycatch-only retention status (directed fishing closures) at some point during the A-season every year from 2004 through June 2020. The A-season fishery in the BS has ranged from 60 days in 2009 to 0 days in 2010 and 2020. 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 was closed on March 9th and February 23rd, respectively. The earliest closure for the non-CDQ trawl CV sector during the A-season was February 1, 2019 in the BS. In 2020, after two days of fishing, the fleet organized a voluntary stand down due to high halibut PSC rates. No fishing occurred again until February 9. The B-season is typically only open from one week to a few days in recent years. During the C-season, when Pacific cod directed fishery is often closed, the majority of the catch is taken in directed fisheries other than Pacific cod.

Table 2-10 Closure and opening dates (days opened) for the BSAI Pacific cod trawl CV sector, 2004 through June 2020

Pacific cod closing and opening dates in the BSAI Pacific cod trawl CV fishery

Year	A-Season: 20 Jan - Apr 1	B-Season: 1 Apr - 10 Jun	C-Season: 10 Jun - Nov 1
2004	Cl 23-Mar (62)	Cl 4-Apr (3) Op 10-Apr Cl 13-Apr (3)	Cl-Nov 1, REG (144)
2005	Cl 13-Mar (52) Op 29-Mar (3)	Cl 10-Jun, REG (71)	Cl 18-Aug, HAL (69)
2006	Cl 8-Mar (47)	Cl 6-Apr (5) Cl 8-Jun, HAL	Op 19-Jul, HAL
2007	Cl 12-Mar (51)	Cl 9-Apr (8)	Cl 29-Sep, HAL (111) Cl 31-Aug (43)
2008	Cl 6-Mar (45)	Cl 4-Apr (3)	Cl-Nov 1, REG (144)
2009	Cl 21-Mar (60)	Cl 5-Apr (4)	Cl-Nov 1, REG (144)
2010	Cl 12-Mar (51)	Cl 1-Apr (0)	Cl-Nov 1, REG (144)
2011	Cl 26-Mar (65) Op 29-Mar (3)	Cl 4-Apr (3) Op 9-Apr Cl 12-Apr (3) Op 15-Apr	Cl-Nov 1, REG (144)
2012	Cl 29-Feb (39)	Cl 15-Apr (14)	Cl-Nov 1, REG (144)
2013	Cl 11-Mar (50)	Cl 10-Jun, REG (71)	Cl-Nov 1, REG (144)
2014	Cl 16-Mar (55)	Cl 10-Jun, REG (71)	Cl-Nov 1, REG (144)
2015	Cl 27-Feb (38)	Cl 10-Jun, REG (71)	Cl-Nov 1, REG (144)
2016	Cl 9-Mar (48)	Cl 4-Apr (3) Op 11-Apr Cl 4-May (23)	Cl-Nov 1, REG (144)
2017	Cl 23-Feb (34)	Cl Apr 3 (2)	Cl-Nov 1, REG (144)
2018	Cl 11-Feb (22-BS), Cl 4-Mar (43-BSAI)	Cl Apr 3 (2)	Cl-Nov 1, REG (144)
2019	Cl 1-Feb (12 BS)	Cl Apr 2 (1)	Cl-Nov 1, REG (144)
2020	Cl 16-Feb (28)	Cl 1-Apr (0)	TBA

Source file: Season length table

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

Numbers reported in parentheses are the days the fishery was open to directed fishing prior to closure

All openings and closures are because of TAC unless otherwise noted

Provided in Table 2-13 are PSC amounts for halibut, red king crab, *C. bairdi*, *C. opilio*, Chinook salmon, and non-Chinook by the trawl CV sector while targeting BSAI Pacific cod from 2004 through June 2020. Most PSC levels since implementation of Amendment 85 in 2008 have declined. Halibut PSC has declined from a high of 596 mt in 2005 to a low of 140 mt as of June 2020. Crab PSC has also declined since implementation of Amendment 85 as seen in Table 2-13. Salmon PSC while targeting Pacific cod is

also noted in Table 2-13. Although the sector is not restricted in their salmon PSC in the Pacific cod fishery, the sector does utilize salmon avoidance measures where possible to reduce their salmon PSC.

The port delivery indicator provided in Table 2-14 depicts the total number of deliveries of targeted BSAI Pacific cod the trawl CV sector made and the total number of delivery ports from 2004 through June 2020. Overall, the total number of delivery ports has ranged from a six to eight ports. The total number of deliveries has fluctuated between 487 deliveries in 2009 to 667 deliveries in 2012. Floating processors had the largest number of deliveries annually by the trawl CV sector followed by Akutan, C/Ps acting as motherships, Unalaska/Dutch Harbor, and Adak.

Detailed fishing community fishery engagement information is provided in Section 2.6.8.1, but in summary, Table 2-32 in that section notes a gradual concentration of reported trawl CV ownership by community within Alaska. From 2004-2010, ownership included five different Alaska communities; from 2011-2019, Alaska ownership was exclusive to Kodiak. This shift could be in part due to some consolidation in the AFA trawl CV fleet and the non-AFA trawl CV fleet. Alaska communities reported as the ownership address of trawl CVs before 2011 but not in later years include Anchorage/Girdwood, Unalaska/Dutch Harbor, Sand Point, and Petersburg. While Alaska CV ownership was consolidating toward Kodiak, ownership outside of Alaska was consolidating toward the Seattle MSA. Declines in ownership were seen in all other communities or aggregates of communities outside of Alaska over the 2004-2019 period, as seen in that same table.

Overall, the sector's vessel counts and harvest performance prior to the implementation of Amendment 85 and after its implementation in 2008 has not changed much. What has changed for the sector in recent years is the pace of the A-season fishery (see Table 2-10) and the growth in deliveries to Amendment 80 C/Ps acting as motherships in the BS. The A-season fishery in the BS has been reduced from an approximately 40-50 day plus fishery through 2016 to a 12-day fishery in 2019 and a 28-day fishery in 2020, while maintaining the same level of harvest capacity. Simultaneously, the percent of BS Pacific cod harvested by the sector and delivered to trawl C/Ps acting as a mothership for processing has increased from an average 4.3 percent during the 2008 through 2016 time period, to a high of 30.5 percent in 2019 (NPFMC, 2019). Both AFA and non-AFA trawl CVs have contributed to the growth offshore deliveries by the sector. Also, the addition of the AI Pacific cod set-aside for AI shoreplants (Amendment 113) restricted trawl CV BS A-season Pacific cod by 5,000 mt in the 2018 and 2019 fishery and shortened the BS A-season Pacific cod fishery for the sector in the 2018 and 2019 fishing seasons. Overall, the combination of these factors in addition to the reduced BS Pacific cod TAC has compressed a nearly two-month fishery into an almost two-week fishery. Some of the potential consequences of a compressed fishery are increased halibut PSC, reduced safety, and reduced harvesting and processing efficiency. In addition, with the recent U.S. District Court ruling on the Amendment 113 in March 2019, the trawl CV sector harvested its entire A-season allocation in the BS, which prevented the trawl CVs from targeting AI Pacific cod during their A-season which negatively impacted AI shoreplants that rely on the trawl CV sector for deliveries during this crucial period of the fishing year.

Table 2-11 Trawl CV BSAI Pacific cod allocation and catch data from 2004 through 2020

Sector	Year	Initial allocation (mt)	Final allocation (mt)	Reallocations (mt)	Final allocation as a % of initial allocation	Vessel count for target fishery	Vessel count for all Pacific cod catch	Non-CDQ Pacific cod federal target catch (mt)	Total federal non-CDQ Pacific cod catch (mt)	Total catch of BSAI Pacific cod as a % of initial allocation	Total Pacific cod catch as a % of final allocation	GHL total catch (mt)	Vessel count in GHL fisheries	CDQ Pacific cod total catch (mt)	Vessel count in the Pacific cod CDQ fishery
Trawl CV	2004	46844	40717	6127	87%	77	114	37,207	40,817	87%	100%	-	-	70	5
	2005	44,779	35,847	-8,932	80%	64	109	30,920	35,625	80%	99%	-	-	107	6
	2006	41,251	33,824	-7,427	82%	56	103	29,576	33,367	81%	99%	2,864	19	99	8
	2007	37,110	34,110	-3,000	92%	64	112	28,666	31,480	85%	92%	2,796	18	198	9
	2008	33,692	30,842	-2,850	92%	65	108	27,528	30,784	91%	100%	2,530	22	62	7
	2009	34,841	29,740	-5,101	85%	54	110	25,727	29,390	84%	99%	544	16	114	5
	2010	33,309	28,175	-5,134	85%	48	103	24,885	28,022	84%	99%	2,064	13	*	2
	2011	44,987	39,897	-5,090	89%	50	104	34,599	39,723	88%	100%	*	2	*	2
	2012	51,509	47,749	-3,760	93%	55	105	39,919	46,373	90%	97%	2,351	14	1,376	3
	2013	51,312	43,812	-7,500	85%	53	101	38,979	43,609	85%	100%	1,117	5	99	3
	2014	50,107	43,107	-7,000	86%	48	98	38,743	41,923	84%	97%	1,049	4	113	3
	2015	49,224	37,854	-11,370	77%	48	99	31,583	37,496	76%	99%	*	2	72	4
	2016	49,638	45,138	-4,500	91%	56	101	40,846	44,850	90%	99%	871	6	814	5
	2017	47,246	44,163	-3,083	93%	61	102	37,443	43,587	92%	99%	-	-	1,148	5
	2018	40,227	38,027	-2,200	95%	65	105	33,709	37,690	94%	99%	887	6	729	5
	2019	35,660	31,690	-3,970	89%	61	100	26,329	31,479	88%	99%	553	4	1,196	5
	2020	30,707	TBA	TBA	TBA	TBA	51	95	21,515	27,633	90%	TBA	1,327	6	271

Source: AKFIN, June 2020; Table originates from Sector_Landings(6-25-20)

* Denoted confidential data

Table 2-12 Trawl CV BSAI Pacific cod exvessel price, BSAI Pacific cod gross exvessel value (millions \$), BSAI Pacific cod gross exvessel value as a % of total gross revenue, BSAI Pacific cod gross first wholesale value (million \$), and total gross revenue (millions \$) from 2004 through 2019

Year	Exvessel price (\$ per lbs.)	Gross exvessel value (million \$)	Gross exvessel value as a % of total gross revenue	Gross first wholesale value (million \$)	Total gross revenue (millions \$)
2004	0.21	19	8%	49	230
2005	0.23	18	7%	60	266
2006	0.34	25	9%	55	280
2007	0.42	29	11%	70	267
2008	0.53	36	11%	65	315
2009	0.22	14	7%	34	216
2010	0.22	14	7%	41	207
2011	0.26	23	7%	67	310
2012	0.30	31	9%	75	330
2013	0.23	22	7%	60	301
2014	0.25	23	7%	62	307
2015	0.22	18	6%	53	284
2016	0.25	24	9%	70	279
2017	0.28	26	9%	75	291
2018	0.33	27	9%	84	310
2019	0.31	21	8%	56	249

Source: AKFIN July 2020; Table originates from file Sector_Landings_REV(7-8-20)

Table 2-13 Halibut and crab PSC along with salmon catch for the trawl CV sector while targeting BSAI Pacific cod from 2004 through 2020

Species	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Halibut mortality (mt)	440	596	586	427	291	181	255	238	429	309	281	236	294	221	205	352	140
Red King crab	467	2,963	22	25	1,249	475	437	2,109	316	2	587	60	585	361	200	466	178
C. bairdi	44,794	57,138	56,284	28,355	34,632	6,778	21,714	12,206	8,035	6,313	8,304	10,247	11,069	9,201	1,945	2,849	2,210
C. opilio PSC (COBLZ)	86	59	12	89	349	251	14	42	0	321	2,291	71	5	0		4,144	0
Other C. opilio	4,924	6,485	18,274	8,406	17,657	8,144	4,003	5,702	5,902	4,814	1,640	1,072	30	701	760	275	2,315
Chinook	2,147	1,867	1,421	3,577	1,609	904	1,045	404	775	862	1,243	1,164	1,902	1,550	385	1,108	175
Non-chinook	742	556	1,409	720	69	53	17	84	5	143	546	294	136	84	1	156	0

Source: AKFIN June 2020; Table originates from file Sector_PSC(6-25-20)

Table 2-14 Total number of deliveries of targeted BSAI Pacific cod and total number of ports of delivery for the trawl CV sector from 2004 through 2020

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Number of ports	7	7	7	6	7	7	5	8	6	8	6	6	5	5	7	6	6
Total deliveries	620	505	539	611	644	478	498	625	667	592	600	529	603	502	522	449	263

Source: AKFIN, June 2020, Table originates from Sector_Landings_Port(6-26-20); Total deliveries includes deliveries to floating processors & motherships

2.6.6.2. AFA Trawl C/P

The AFA trawl C/P sector includes 20 vessels listed by name in the AFA as eligible to harvest BSAI pollock in the directed fishery.²³ The Consolidated Appropriations Act of 2005 (Section 219(a)(1)) defines eligibility in the AFA trawl C/P sector as the owners of each C/P listed in paragraphs (1) through (20) of Section 208(e) of the AFA. On January 21, 1999, they formed the Pollock Conservation Cooperative (PCC) to coordinate pollock harvest under the AFA.

These large factory trawlers have the processing equipment to produce surimi and/or fillets from pollock, Pacific cod, and other groundfish. These vessels also have room for equipment to produce fishmeal, minced product, and other product forms. This sector operates in a pollock cooperative under AFA, which allows them to modify operations in terms of when they fish and what the process to account for changing weather, markets, and access to fisheries. Pollock is the primary species harvested by this sector, but two or three vessels have targeted Pacific cod, while several vessels target yellowfin sole. The Amendment 85 final rule removed the sideboard limit for BSAI Pacific cod for the AFA trawl C/Ps. The establishment of a separate BSAI Pacific cod allocation to this sector negates the need for the BSAI Pacific cod sideboard which protects the historic share of the non-AFA trawl C/P sector from being eroded by the AFA trawl C/P vessels.

Table 2-5 shows that in 2019, there were a total of 27 AFA derived LLP licenses with a trawl C/P endorsement for the BS. Of those 27 AFA derived LLP licenses, 25 licenses had an AI endorsement.

Prior to the implementation of Amendment 85 in 2008, the AFA C/P sector shared a 23.5 percent BSAI Pacific cod allocation with the Amendment 80 sector, so initial and final allocations and the associated percent of harvested allocation for the AFA C/P sector is not available. Upon implementation of Amendment 85, the PCC coordinate its 2.3 percent allocation of BSAI Pacific cod among its members.

Looking at the catch indicators of Table 2-15, the sector on average harvested 104 percent of its BSAI Pacific cod allocation since the implementation of Amendment 85 in 2008. From 2008 through 2013, the AFA C/P sector harvested on average 125 percent of their allocation, while since 2014, the sector has harvested on average 64 percent of their allocation. Some portion of the unharvested BSAI Pacific cod allocation starting in 2015 was reallocated to other sectors. The largest reapportionment was 1,350 mt in 2016, while the reapportionment was 158 mt in 2018.

In the federal BSAI Pacific cod target fishery, the number of AFA C/Ps ranged from a low of one as of June 2020 to a high of four in 2012. However, from the annual cooperative report, it is generally understood that only two AFA C/Ps routinely target BSAI Pacific cod. Factoring in incidental Pacific cod, the total number of vessels in the sector that harvested any BSAI Pacific cod has ranged from a low 16 to high of 18. Most of the incidental catch of Pacific cod was from AFA C/Ps targeting mostly yellowfin sole. Activity in other BSAI Pacific cod fisheries (i.e., GHL and CDQ) for the sector were minimal in the GHL, while in the CDQ fishery the sector has increased their vessel count and harvest relative to the 2005-2010 period.

The AFA C/P sector is one of the sectors that participates in the AI Pacific cod fishery on an annual basis. As a percent of total non-CDQ BSAI Pacific cod catch for the sector, the AI fishery has declined since its highs in 2004. The number of AFA C/Ps during 2005 through 2020 that participate in the AI Pacific cod fishery has remained relatively constant with one AFA C/P actively targeting AI Pacific cod. Given there is only one AFA C/P actively targeting AI Pacific cod, catch data for that one vessel is confidential and therefore cannot be reported.

²³ One additional trawl C/P qualifies under 208(e)(21) of the AFA and is limited to a small percentage of the AFA C/P allocation of pollock and is not sideboarded in other fisheries. However, only the 20 listed AFA C/Ps are considered part of this sector for purposes of this review. The additional trawl C/P that qualifies under 208(e)(21) would be considered as part of the Amendment 80 sector for purposes of this review, because it primarily operates as an Amendment 80 vessel during its annual fishing cycle.

Provided in Table 2-16 are annual estimates the AFA C/P sector's estimated gross first wholesale value for BSAI Pacific cod, gross first wholesale value as a percent of total gross revenue, and total gross revenue of all fisheries (state and federal). Gross first wholesale value for the sector has ranged from a low of \$4 million in 2004 to a high of \$11 million in 2006 and 2011. Looking at the value of the BSAI Pacific cod fishery for the AFA C/P sector relative to the total gross revenue, the fishery on average contributed approximately one percent of the total revenue from 2004 to 2019. The largest contributor to the total gross revenue for the sector was the BS pollock fishery.

There are three BSAI Pacific cod seasons for the AFA C/P sector: A-season which is January 20 to April 1, B-season which is April 1 to June 10, and C-season June 10 – November 1 (see Figure 2-3). Since the implementation of Amendment 85, the AFA C/P sector allocation of Pacific cod is apportioned only to the A and B seasons and not to the C season. With regards to directed fishing closures for the sector, in general, directed fishing has closed prior to the sector's regulated closure date. For example, during the A-season, the BSAI Pacific cod fishery tended to close between mid-February to mid-March, while the B-season for most the years was only open for one day. Starting in 2014, the fishery for the sector was generally open for the entire regulated period in the BS, while the AI tended to close in February and March for all non-CDQ Pacific cod sectors due to Steller sea lion protection measures.

Provided in Table 2-17 are halibut, red king crab, *C. bairdi*, *C. opilio*, Chinook salmon, and non-Chinook salmon PSC by the AFA C/P sector while targeting BSAI Pacific cod from 2004 through June 2020. Most PSC levels since implementation of Amendment 85 in 2008 have declined. Halibut PSC has declined from a high of 54 mt in 2005 to a low of 1 mt in 2010 and 2013. Crab PSC has also declined since implementation of Amendment 85 and salmon bycatch has declined which is likely the result of the utilization of salmon avoidance measures.

Table 2-18 depicts annual number of port calls by port for those AFA C/Ps that target BSAI Pacific cod. In general, vessels during a port call could conduct crew transfers, purchase provisions and fuel, offload product, and purchase other local goods and services. Most of the port calls over the 2008 through June 2020 period were to Unalaska/Dutch Harbor.

From a community perspective, Table 2-19 notes that nearly all the AFA C/P owners report Seattle as their residence. One AFA C/P owner reported Anchorage as their residence between 2011 and 2018, while from 2005 through 2008, an AFA C/P owner reported Washington (other than Seattle) as their residence.

In summary, the AFA C/P sector while utilizing its BSAI allocation has been stable since implementation Amendment 85 in 2008. The number of AFA C/Ps targeting BSAI Pacific cod has remained constant throughout the 2008 through 2020 period and the season length has, in recent years, increased in length due to more effective management by the Pollock Conservation Cooperative. The sector has routinely harvested most of its initial allocation. The sector has also been successful in lowering its PSC for halibut, crab, and salmon since implementation of Amendment 85.

Table 2-15 AFA C/P sector BSAI Pacific cod allocations and catch data from 2004 through June 2020

Sector	Year	Initial allocation (mt)	Final allocation (mt)	Reallocations (mt)	Final allocation as a % of initial allocation	Vessel count for target fishery	Vessel count for all Pacific cod catch	Non-CDQ Pacific cod federal target catch (mt)	Total federal non-CDQ Pacific cod catch (mt)	Total catch of BSAI Pacific cod as a % of initial allocation	Total Pacific cod catch as a % of final allocation	GHL total catch (mt)	Vessel count in GHL fisheries	CDQ Pacific cod total catch (mt)	Vessel count in the Pacific cod CDQ fishery
AFA CP	2004					2	17	*	3310			-	-	575	11
	2005					1	17	*	4,877			-	-	360	11
	2006					1	17	*	5,964			*	1	550	11
	2007					3	17	1,844	4,554			*	1	394	11
	2008	3,506	4,706	1,200	134%	1	17	*	4,599	131%	98%	-	-	563	12
	2009	3,626	4,826	1,200	133%	2	15	*	4,790	132%	99%	-	-	418	12
	2010	3,467	4,041	574	117%	2	15	*	4,023	116%	100%	-	-	546	12
	2011	4,682	6,432	1,750	137%	2	16	*	6,299	135%	98%	-	-	1,165	15
	2012	5,361	6,621	1,260	124%	4	16	94	6,190	115%	93%	-	-	1,903	15
	2013	5,340	6,740	1,400	126%	1	16	*	6,438	121%	96%	-	-	2,197	15
	2014	5,215	5,465	250	105%	1	16	*	4,380	84%	80%	-	-	1,481	15
	2015	5,123	3,823	-1,300	75%	2	16	*	3,571	70%	93%	*	1	2,097	15
	2016	5,166	3,816	-1,350	74%	2	16	*	3,675	71%	96%	-	-	2,681	16
	2017	4,917	4,712	-205	96%	2	16	*	4,700	96%	100%	*	1	2,240	16
	2018	4,186	4,028	-158	96%	2	16	*	4,004	96%	99%	-	-	2,098	16
	2019	3,711	3,181	-530	86%	2	15	*	3,139	85%	99%	-	-	1,064	14
	2020	3,196	TBA	TBA	TBA	1	15	*	3,388	106%	TBA	-	-	1,039	14

Source: AKFIN, June 2020; Table originates from Sector_Landings(6-25-20)

* Denoted confidential data

Table 2-16 AFA C/P sector BSAI Pacific cod gross first wholesale value (million \$), gross first wholesale value as a percent of total gross revenue, and total gross revenue (millions \$) from 2004 through 2019

Year	Gross first wholesale value (millions \$)	Gross first wholesale value as a % of total gross revenue	Total gross revenue (millions \$)
2004	4	1%	558
2005	7	1%	657
2006	11	2%	673
2007	9	1%	673
2008	9	1%	723
2009	6	1%	519
2010	6	1%	555
2011	11	1%	740
2012	9	1%	767
2013	8	1%	738
2014	6	1%	710
2015	6	1%	735
2016	5	1%	760
2017	8	1%	814
2018	8	1%	774
2019	6	1%	800

Source: AKFIN July 2020; Table originates from file Sector_Landings_REV(7-8-20)

Table 2-17 Halibut PSC along with crab and salmon catch for AFA C/P sector while targeting BSAI Pacific cod from 2004 through June 2020

Species	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Halibut mortality (mt)	10	54	34	25	2	2	1	2	0	1	8	4	10	17	10	9	*
Red King crab	385	75	7	21	60	0	25	51	0	0	0	0	13	0	0	0	*
C. bairdi	1,218	919	2,803	1,360	324	79	5	380	0	80	1,016	30	0	148	148	131	*
C. opilio PSC (COBLZ)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*
C. opilio	89	116	996	681	0	0	0	0	0	0	207	0	15	0	0	198	*
Chinook	351	288	257	335	352	60	84	0	0	0	4	80	55	131	42	98	*
Non-chinook	0	12	7	80	1	7	1	0	0	0	0	0	304	0	0	36	*

Source for AFA CP PSC data is from Pollock Conservation Cooperative

* Confidential data when using Sector_PSC(6-25-20) since 2020 Pollock Conservation Cooperative report will not be published until April 2021.

Table 2-18 Port calls for AFA C/Ps with targeted BSAI Pacific cod from 2004 through June 2020

Port	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Dutch Harbor	1	1	1	1	2	1	1		1	1	3	2	6	3	3	5	1
Adak													1				
Total number of port calls	1	1	1	1	2	1	1	0	1	1	3	2	7	3	3	5	1

Source: AKFIN, June 2020, Table originates from Sector_Landings_Port(6-26-20)

Table 2-19 Reported ownership address for AFA C/Ps from 2004 through June 2020

CITY	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
SEATTLE	16	16	16	16	16	15	15	15	15	15	15	15	15	15	15	14	14
ANCHORAGE								1	1	1	1	1	1	1	1	1	1
WA	1	1	1	1	1												
Total	17	17	17	17	17	15	15	16	16	16	16	16	16	16	16	15	15

Source: AKFIN, June 2020, Table originates from Sector_Landings(6-25-20)

2.6.6.3. Amendment 80

The Amendment 80 Program, implemented in 2008, initially qualified 28 C/Ps. The Amendment 80 Program allocates a portion of the TAC for Pacific ocean perch in the AI, Atka mackerel, yellowfin sole, rock sole, and flathead sole in the BSAI, along with an allowance of PSC quota for halibut and crab to the sector. In addition, Amendment 85 allocated the sector a 13.4 percent allocation of the BSAI Pacific cod.

Table 2-5 shows that as of June 2020, there were a total of 26 LLP licenses with an attached Amendment 80 endorsement. Of those 26 LLP licenses, 19 LLP licenses had both a BS and an AI endorsement, leaving 7 LLP licenses with a BS only endorsement. From 2008 to 2010, eight of the Amendment 80 endorsed LLP licenses were in the Amendment 80 limited access sector. From 2011 and 2017, the Amendment 80 endorsed LLP licenses were in two cooperatives until, in 2018, when all the Amendment 80 endorsed LLP licenses were in one cooperative.

Prior to the implementation of Amendment 85 in 2008, the Amendment 80 sector shared a BSAI Pacific cod allocation with the AFA C/P sector of 23.5 percent, so initial and final allocation data and the associated total BSAI Pacific cod catch as a percent of the initial allocation for the Amendment 80 sector is not available. Table 2-20 shows the sector on average harvested 92 percent of its initial BSAI Pacific cod allocation since the implementation of Amendment 85. The sector fully harvested its initial allocation in 2009, 2010, and 2013, while in six other years the sector harvested 90 percent or more of their initial allocation. Since implementation of Amendment 85, NMFS, as required by regulation, reallocated Pacific cod to the sector seven out of the past 11 years. The largest reapportionment was 6,100 mt in 2013.

Since implementation of Amendment 85 in 2008, a large portion of the sector's Pacific cod catch is incidental to their primary Amendment 80 fisheries. Since 2008, on average, 11 percent of the total BSAI Pacific cod harvested by the Amendment 80 sector is accounted for as targeted catch. Most of the targeted Pacific cod originates from test tows for Amendment 80 species that were not intended as Pacific cod target tows, but there were a few intended Pacific cod target tows to assist in facilitating a vessel's mothership processing activity.

One of the primary reasons the Amendment 80 sector does not harvest their entire BSAI Pacific cod allocation is likely due to how the Amendment 80 cooperative allocation is managed. Unlike the other Pacific cod sectors (except CDQ), Pacific cod for an Amendment 80 cooperative is managed as a hard cap. Under a hard cap, a cooperative is prohibited from exceeding any cooperative allocation. If a cooperative has harvested its entire cooperative allocation of a species, the cooperative is restricted from any directed fishing that caught that species. Although a hard cap is considered an appropriate management tool when a sector is rationalized, hard cap management does have the potential to result in a cooperative's catch of one species constraining the cooperative's directed fishing for other species. Recognizing this hard cap limitation and the importance of BSAI Pacific cod as a bycatch species while targeting its Amendment 80 species, the Amendment 80 sector manages its BSAI Pacific cod allocation so as not to lose its opportunity to harvest its primary Amendment 80 species since Pacific cod incidental catch can be variable. This is likely a primary reason for BSAI Pacific cod remaining unharvested at the end of the year.

In the federal BSAI Pacific cod target fishery, the number of Amendment 80 vessels ranged from a low of 10 in 2017 and 2020 through June 25 to a high of 22 in 2007. Factoring in incidental Pacific cod, the total number of vessels in the sector that harvested any BSAI Pacific cod has ranged from a low of 18 to high of 22. Most of the incidental catch of Pacific cod was from Amendment 80 vessels targeting mostly their flatfish allocations. Activity in other BSAI Pacific cod fisheries (i.e., GHF and CDQ) for the sector were limited to mostly the CDQ fishery. On average, six Amendment 80 vessels participated in the CDQ fishery with catch ranging from between 400 mt to 600 mt prior to Amendment 85 to generally over 3,600 mt after 2013.

The Amendment 80 sector also harvests AI Pacific cod on an annual basis. The number of Amendment 80 vessels during 2004 through June 2020 that have harvested AI Pacific cod has fluctuated between a low

of seven vessels in 2014 and 2015 to a high of 14 vessels in 2007. As a percent of total non-CDQ BSAI Pacific cod catch for the sector, the AI fishery has declined since in 2008. From 2004 through 2007, on average the AI accounted for 29 percent of the sector's total non-CDQ BSAI Pacific cod catch. Since 2008, the AI on average has accounted for 11 percent of sector's total non-CDQ BSAI Pacific cod catch.

Provided in Table 2-21 are annual estimates the Amendment 80 sector's estimated gross first wholesale value for BSAI Pacific cod, gross first wholesale value as a percent of total gross revenue, and total gross revenue of all fisheries (state and federal). As seen in the figure and table, the estimated gross first wholesale value for the sector has declined since implementation of Amendment 85 in 2008. Overall, gross first wholesale value has ranged from a low of \$26 million in 2009 to a high of \$67 million in 2007. Looking at the value of the BSAI Pacific cod fishery for the Amendment 80 sector relative to the total gross revenue, the fishery on average contributed approximately 10 percent of the total revenue from 2008 to 2019, whereas in the four years prior to the implementation of Amendment 85, Pacific cod contributed 21 percent of the total gross revenue for the sector.

There are three BSAI Pacific cod seasons for the Amendment 80 sector: A-season which is January 20 to April 1, B-season which is April 1 to June 10, and C-season June 10 – December 31 (changed from November 1 in 2015). By regulation, the Amendment 80 sector allocation of Pacific cod is apportioned only to the A and B seasons and not to the C season. NMFS does not issue directed fishing closures specific to the Amendment 80 allocation species.

Provided in Table 2-22 are halibut, red king crab, *C. bairdi*, *C. opilio*, Chinook salmon, and non-Chinook salmon PSC by the Amendment 80 sector while targeting BSAI Pacific cod from 2005 through 2018. Most PSC levels since implementation of Amendment 85 have declined. Halibut, as noted in Table 2-22, has declined from a high of 786 mt in 2005 to a low of 6 mt as June 25, 2020.

Using observer data, the port calls indicator in Table 2-23 depicts the annual number of port calls by port for those Amendment 80 vessels that target BSAI Pacific cod. In general, vessels during a port call could conduct crew transfers, purchase provisions and fuel, offload product, and purchase other local goods and services. Most of the port calls over the 2008 through June 2020 period were to Unalaska/Dutch Harbor, but other communities for port calls were Adak, St. Paul, Togiak, Sand Point and other unknown communities.

From a community perspective, the owner city indicator shown in Table 2-24 notes that nearly all the Amendment 80 vessel owners report Seattle as their residence. As of June 2020, three Amendment 80 vessel owners reported their residency as Washington other than Seattle and five owners report other unknown communities as their residence.

In summary, the Amendment 80 sector has shown stability in the BSAI Pacific cod fishery since Amendment 85 implementation in 2008. The number of Amendment 80 vessels active in the directed BSAI Pacific cod fishery decline significantly starting in 2008, which was likely a result of the Amendment 85 allocation and the implementation of Amendment 80 cooperative structure. The sector has, on average, harvested 92 percent of its initial Pacific cod allocation even though the primary usage of the allocation is for incidental catch while fishing for their Amendment 80 species. The sector's BSAI Pacific cod season has remained open for the entire regulation period since implementation of Amendment 85, which is likely due in part to the effective cooperative management of the Pacific cod allocation by the sector. The sector has also been successful in lowering its halibut mortality and crab, Chinook salmon, and non-Chinook salmon PSC while targeting BSAI Pacific cod since implementation of Amendment 85.

Table 2-20 Amendment 80 sector BSAI Pacific cod allocations and catch data from 2004 through June 2020

Sector	Year	Initial allocation (mt)	Final allocation (mt)	Reallocations (mt)	Final allocation as a % of initial allocation	Vessel count for target fishery	Vessel count for all Pacific cod catch	Non-CDQ Pacific cod federal target catch (mt)	Total federal non-CDQ Pacific cod catch (mt)	Total catch of BSAI Pacific cod as a % of initial allocation	Total Pacific cod catch as a % of final allocation	GHL total catch (mt)	Vessel count in GHL fisheries	CDQ Pacific cod total catch (mt)	Vessel count in the Pacific cod CDQ fishery
AM80	2004					20	23	23,583	37,548					476	3
	2005					18	22	17,133	30,010			-	-	552	5
	2006					18	22	18,659	28,700			58	3	537	3
	2007					25	22	24,911	33,182			64	4	609	4
	2008	20,429	20,429	0	100%	11	22	3,580	15,437	76%	76%	-	-	819	4
	2009	21,125	24,125	3,000	114%	15	21	3,851	21,323	101%	88%	-	-	573	5
	2010	20,197	24,028	3,831	119%	17	20	3,474	22,932	114%	95%	*	1	1,068	7
	2011	27,277	27,277	0	100%	16	20	1,767	24,503	90%	90%	-	-	1,052	8
	2012	31,232	33,232	2,000	106%	13	19	2,267	27,510	88%	83%	-	-	1,100	7
	2013	31,112	37,212	6,100	120%	16	18	3,317	31,325	101%	84%	-	-	3,604	6
	2014	30,381	33,631	3,250	111%	13	18	2,193	27,368	90%	81%	-	-	2,129	6
	2015	29,846	32,216	2,370	108%	13	18	2,442	26,897	90%	83%	-	-	2,096	4
	2016	30,097	31,397	1,300	104%	16	19	3,644	28,530	95%	91%	*	1	2,245	6
	2017	28,647	28,647	0	100%	10	19	544	23,062	81%	81%	-	-	1,932	7
	2018	24,391	24,391	0	100%	16	19	3,458	22,391	92%	92%	-	-	1,842	8
	2019	21,622	21,622	0	100%	15	20	1,593	19,830	92%	92%	-	-	1,446	8
	2020	18,619	TBA	TBA	TBA	10	19	608	10,040	54%	TBA	-	-	331	7

Source: AKFIN, June 2020; Table originates from Sector_Landings(6-25-20)

* Denoted confidential data

Table 2-21 Amendment 80 sector BSAI Pacific cod gross first wholesale value (million \$), gross first wholesale value as a percent of total gross revenue, and total gross revenue (millions \$) from 2004 through 2019

Year	Gross first wholesale value (millions \$)	Gross first wholesale value as a % of total gross revenue	Total gross revenue (millions \$)
2004	44	23%	191
2005	42	18%	237
2006	51	20%	257
2007	67	24%	275
2008	31	10%	301
2009	26	10%	261
2010	34	11%	317
2011	41	10%	423
2012	41	10%	429
2013	37	12%	319
2014	39	11%	354
2015	42	13%	324
2016	42	12%	352
2017	40	9%	437
2018	45	10%	457
2019	35	9%	406

Source: AKFIN July 2020; Table originates from file Sector_Landings_REV(7-8-20)

Table 2-22 Halibut PSC along with crab and salmon catch for Amendment 80 sector while targeting BSAI Pacific cod from 2004 through June 2020

Species	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Halibut mortality (mt)	1,177	786	801	613	42	75	35	19	39	48	33	36	28	8	36	18	6
Red King crab	765	1,753	3,796	1,565	116	1,339	427	135	30	396	0	257	164	53	18	275	242
C. bairdi	178,297	98,690	132,911	111,358	2,776	8,639	5,944	2,407	1,566	5,965	11,213	2,463	1,385	946	498	1,440	380
C. opilio PSC (COBLZ)	52,064	31,829	68,898	258,127	4,117	6,064	102	3,888	343	6,391	3,963	2,760	318	900	6	38,413	1,454
Other C. opilio	14,508	1,408	6,432	5,086	26	296	478	0	288	0	66	0	0	7	78	160	0
Chinook	3,144	1,649	1,952	2,605	76	232	123	0	152	2	57	112	527	19	856	231	30
Non-chinook	6,011	323	5,903	823	133	3	0	60	0	190	0	0	45	0	0	0	0

Source: AKFIN June 2020; Table originates from file Sector_PSC(6-25-20)

Table 2-23 Port calls for Amendment 80 vessels with targeted BSAI Pacific cod from 2004 through June 2020

Port	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Dutch Harbor	7	10	12	9	7	24	13	20	24	17	18	16	4
Other	1	2	4	4	2	2					1		
Adak	2	4		1				2	5	1			
St Paul	1	1				1							
Togiak								1					
Sand Point					1								
Total number of port calls	11	17	16	14	10	27	13	23	29	18	19	16	4

Source: AKFIN, June 2020, Table originates from Sector_Landings_Port(6-26-20)

Table 2-24 Reported ownership address for Amendment 80 vessels from 2004 through June 2020

CITY	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
SEATTLE	16	16	17	17	19	17	16	14	12	9	9	9	10	10	12	12	11
OTHER	3	3	3	3	3	3	3	3	3	3	3	3	3	5	5	5	5
WA	2	3	2	2		1	1	3	4	6	6	6	6	4	2	3	3
KODIAK	2																
Total	23	22	22	22	22	21	20	20	19	18	18	18	19	19	19	20	19

Source: AKFIN, June 2020, Table originates from Sector_Landings(6-25-20)

2.6.6.4. HAL/Pot CV < 60'

The HAL/Pot CV < 60 ft sector includes all CVs that are < 60 ft LOA using pot or HAL gear. Vessels in this sector need a non-trawl LLP to participate in the Federal fisheries. As of June 2020, 129 non-trawl licenses were issued to < 60 ft CVs with BS and/or AI area endorsements.

These vessels focus on salmon, halibut, and higher priced groundfish using a mix of gear types. The length of these vessels means they can participate in all Alaskan salmon fisheries (to participate in the Bristol Bay salmon drift gillnet fishery vessels must be 32 ft. or less). In recent years, Pacific cod has been the primary revenue source. This sector has a 2 percent BSAI Pacific cod allocation since Amendment 85 in 2008.

Looking at the catch indicators of Table 2-25, the sector routinely harvests their entire initial allocation²⁴ in addition to a significant portion of BSAI Pacific cod reallocated from other sectors in April and later in the year. On average, the sector harvested 226 percent of their initial allocation from 2005 to 2007, and 218 percent since Amendment 85. Reallocation amounts have ranged from a low of 1,247 mt in 2005 to high of 7,500 mt in 2014. Including the reallocated Pacific cod, the sector on average has harvested all their final allocation of Pacific cod on an annual basis.

In the federal BSAI Pacific cod target fishery, the number of participating HAL/Pot CVs < 60 ft has ranged from a low of 18 in 2004 to high of 36 in 2019. Some sector vessels participate in the AI Pacific cod fishery, but as a percent of their total BSAI Pacific cod activity, this active is relatively small.

Vessel length for the HAL/Pot CVs < 60 ft has in general ranged from between 28 ft to 58 ft. Based on vessel size data in the BSAI Pacific cod fishery for the HAL/Pot CV < 60 ft sector, the number of participating 58 ft vessels has remained fairly consistent during 2004 through June 2020. The number of 58 ft. CVs participating in the target BSAI Pacific cod allocation has ranged from a low 13 CVs in 2005 to a high of 28 CVs as of June 25, 2020.

As noted in the catch and vessel count indicator in Table 2-25, fishing activity in other BSAI Pacific cod fisheries (i.e., GHL and CDQ) for the sector has increased significantly. In the CDQ fishery, the number of participating sector vessels has increased from a low of three CVs in 2006 to a high of 25 CVs in 2019. The amount of harvested BSAI Pacific cod CDQ has ranged from a low of one mt in 2006 to a high of 2,531 mt in 2013. In the GHL fisheries, there has also been significant increase in the number of active CVs and the amount harvested, most of which is in the DHS GHL fishery for pot CVs which started in 2014. Prior to 2014, the number of participating sector CVs ranged from two to 10 harvesting between 111 mt and 562 mt, all of which was in the AI GHL fishery since that was the only GHL fishery in the BSAI. Starting in 2014 with the implementation of a DHS GHL fishery, the number of sector CVs increased to 18 which harvested 11,401 mt of Pacific cod. In 2020, 43 sector CVs harvested over 18,000 mt of DHS GHL.

Provided in Table 2-26 are HAL/Pot CV < 60 ft sector annual gross exvessel value for BSAI Pacific cod, gross exvessel value of BSAI Pacific cod as a percent of total gross revenue, gross first wholesale value for BSAI Pacific cod, and total gross revenue of all fisheries (state and federal). The exvessel value of the BSAI Pacific cod fishery has ranged from a low of \$2 million in 2005 to a high of \$9 million in 2019. Gross first wholesale value has ranged from a low of \$4 million in 2004 to a high of \$19 million in 2018. Looking at the BSAI Pacific cod exvessel value for the sector relative to the total gross revenue, the fishery accounted for less than 16 percent of the total revenue on average from 2004 to 2019.

There are no PSC limits for halibut, crab, and salmon for the pot CVs < 60 ft in the sector, but the HAL CVs < 60' ft in the sector share a halibut PSC limit with HAL CVs \geq 60 ft. In 2019, the HAL CV halibut PSC limit was 13 mt. Nevertheless, the sector does show high crab bycatch. Provided in Table 2-27 provides data showing annual halibut mortality, and red king crab, *C. bairdi*, *C. opilio*, Chinook salmon

²⁴ A portion of the initial allocation for the fixed gear sectors is used for the HAL/pot incidental catch allowance, so the initial allocation utilized in this report includes the ICA allowance.

PSC, and non-Chinook salmon PSC for the sector while targeting BSAI Pacific cod from 2004 through June 2020. Halibut mortality for the sector ranges from a low of one mt to a high of 8 mt in 2014.

The HAL/Pot CV < 60 ft sector does not have seasonal allowances. Nevertheless, there appears to be a gradual shortening of the initial fishing period when the sector harvests its initial allocation. In 2005 and 2006, the sector did not have its first closer before April. Between 2007 and 2011, the sector's first fishery closure occurred in March. Since 2014, the sectors first closure has occurred in early February and even January 19 for the 2020 season. Once the sector has harvested its initial allocation, reallocations from other sectors can open the fishery as early as late April or early May. Another typically period of reallocations that can allow the sector to target Pacific cod is mid-August to early September. Typically, the fall reallocation is sufficient to allow the fishery to remain open for the sector during the remainder of the year.

The port delivery indicator provided in the port delivery data provided in Table 2-28 show the total number of deliveries of targeted BSAI Pacific cod for the HAL/Pot CV < 60 ft sector and the number of ports including floating processors. The number of ports the sector has delivered BSAI Pacific cod has ranged from between four and eight. The total number of deliveries has fluctuated between 178 deliveries in 2004 to 888 deliveries in 2019. Of the delivery ports, Unalaska/Dutch Harbor has routinely had the most deliveries throughout the 2004-2020 period.

Detailed information on community engagement is provided in Section 2.6.8.1, but in summary, as shown in Table 2-48 and Table 2-49 in that Section, this is a geographically diversified fleet, but there has been some concentration of reported residency since implementation of Amendment 85. Unalaska/Dutch Harbor has the largest number of locally owned HAL/Pot CV < 60 ft vessels 9 out of 16 years, with Kodiak having the largest number the remaining 7 out of 16 years.

In summary, the sector is showing signs their BSAI Pacific cod fishery is getting more competitive. The number of days needed to harvest its initial allocation has been reduced from nearly 75 to a little of 19 days. In the past two years, the number of CVs within the sector participating in the Federal BSAI Pacific cod fishery has increased to a high of 36 and 42 vessels, respectively. In the years prior to 2019, the number of participating CVs in the Federal fishery had been in decline from its high of 31 in 2007 and 2008. Unlike the Federal fishery though, the CDQ and GHL fisheries in the BSAI have shown significant increases in the number of participating CVs and the amount of Pacific cod harvested. Despite the growth in the CDQ and GHL fisheries, since 2010, the exvessel value of the Federal BSAI Pacific cod fishery has increased relatively to the sector's total gross revenue.

Table 2-25 HAL/Pot CVs ≤ 60 ft sector BSAI Pacific cod allocations and catch data from 2004 through June 2020

Sector	Year	Initial allocation (mt)	Final allocation (mt)	Reallocations (mt)	Final allocation as a % of initial allocation	Vessel count for target fishery	Vessel count for all Pacific cod catch	Non-CDQ Pacific cod federal target catch (mt)	Total federal non-CDQ Pacific cod catch (mt)	Total catch of BSAI Pacific cod as a % of initial allocation	Total Pacific cod catch as a % of final allocation	GHL total catch (mt)	Vessel count in GHL fisheries	CDQ Pacific cod total catch (mt)	Vessel count in the Pacific cod CDQ fishery
Pot & HAL CV<60	2004	1416	2961	1,545	209%	18	23	3,199	3230	228%	109%	-	-	-	-
	2005	1,354	2,601	1,247	192%	28	38	3,219	3,231	239%	124%	-	-	-	-
	2006	1,246	3,242	1,996	260%	28	45	3,900	3,924	315%	121%	*	2	1	3
	2007	1,121	2,928	1,807	261%	31	50	3,566	3,595	321%	123%	562	8	2	4
	2008	3,033	5,210	2,177	172%	31	55	5,085	5,132	169%	98%	388	10	4	4
	2009	3,137	4,434	1,297	141%	28	43	4,649	4,657	148%	105%	111	5	294	5
	2010	2,998	5,509	2,511	184%	23	39	5,518	5,527	184%	100%	-	-	230	4
	2011	4,055	9,005	4,950	222%	21	39	8,026	8,043	198%	89%	*	2	928	4
	2012	4,645	8,880	4,235	191%	24	38	8,877	8,888	191%	100%	2,821	8	2,311	5
	2013	4,627	9,177	4,550	198%	26	36	9,479	9,435	204%	103%	3,660	8	2,531	7
	2014	4,518	12,018	7,500	266%	20	25	12,448	12,412	275%	103%	11,401	18	2,016	5
	2015	4,438	10,630	6,192	240%	25	32	10,035	10,019	226%	94%	7,974	14	2,218	8
	2016	4,476	10,674	6,198	238%	22	32	10,301	10,303	230%	97%	16,053	24	2,020	3
	2017	4,259	9,271	5,012	218%	24	32	9,950	9,950	234%	107%	17,859	25	1,661	19
	2018	3,627	8,748	5,121	241%	29	46	8,558	8,579	237%	98%	17,533	37	1,554	24
	2019	3,214	9,800	6,586	305%	36	60	8,852	8,864	276%	90%	20,117	43	1,632	25
	2020	2,766	TBA	TBA	TBA	TBA	42	44	3,752	3,753	136%	TBA	18,069	47	1,179

Source: AKFIN, June 2020; Table originates from Sector_Landings(6-25-20)

* Denoted confidential data

Table 2-26 HAL/Pot CVs ≤ 60 ft sector BSAI Pacific cod exvessel price, BSAI Pacific cod gross exvessel value (millions \$), BSAI Pacific cod gross exvessel value as a % of total gross revenue, BSAI Pacific cod gross first wholesale value (million \$), and total gross revenue (millions \$) from 2004 through 2019

Year	Exvessel price (\$ per lbs.)	Gross exvessel value (millions \$)	Gross exvessel value as a % of total gross revenue	Gross first wholesale value (millions \$)	Total gross revenue (millions \$)
2005	0.30	2	10%	6	21
2006	0.43	4	12%	6	32
2007	0.49	4	11%	8	36
2008	0.60	7	14%	11	48
2009	0.27	3	11%	5	27
2010	0.29	4	10%	8	35
2011	0.33	6	11%	14	52
2012	0.35	7	18%	14	38
2013	0.28	6	19%	13	32
2014	0.28	8	27%	18	28
2015	0.27	6	22%	14	28
2016	0.29	6	20%	16	32
2017	0.31	7	22%	17	31

Source: AKFIN, May 2019

Table originates from Excel file Tables and Figures for BSAI cod Allocation Review June 2019

Table 2-27 Halibut, crab, and salmon mortality for HAL/Pot CVs ≤ 60 ft sector while targeting BSAI Pacific cod from 2004 through June 2020

Species	2014	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Halibut mortality (mt)	2	3	2	5	5	3	2	2	3	4	8	4	1	2	5	4	5
Red King crab	97	236	1,827	9,008	9,063	957	407	1,535	1,611	26,726	44,181	62,530	562	18,954	75,500	10,259	7,815
C. bairdi	9,063	33,556	56,191	125,930	340,701	151,108	66,444	69,718	40,604	63,933	235,063	230,399	115,826	188,181	85,461	90,098	60,087
C. opilio PSC (COBLZ)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47
Other C. opilio	16,101	19,950	23,787	236,199	144,745	60,900	91,921	38,443	5,237	3,353	28,089	45,414	2,703	59,608	7,023	9,285	35,733
Chinook	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-chinook	0	0	0	1	0	0	0					0	0	0	0	0	0

Source: AKFIN June 2020; Table originates from file Sector_PSC(6-25-20)

Table 2-28 Total number of deliveries of targeted BSAI Pacific cod and total number of delivery ports for the HAL/Pot CVs ≤ 60 ft sector from 2004 through June 2020

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Number of ports	4	4	5	5	5	5	5	6	5	6	6	3	3	4	5	8	4
Total deliveries	178	257	233	295	318	300	199	257	391	406	752	511	707	696	645	888	713

Source: AKFIN, June 2020, Table originates from Sector_Landings_Port(6-26-20); Total deliveries includes deliveries to floating processors & motherships

2.6.6.5. Shoreside processors

Regulations at 50 CFR §679.2 define a shoreside processor as “any person or vessel that receives, purchases, or arranges to purchase, unprocessed groundfish, except catcher/processors, motherships, buying stations, tender vessels, restaurants, or persons receiving groundfish for personal consumption or bait.” That section of the regulations defines a mothership as “a vessel that receives and processes groundfish from other vessels.” The definition as applied to the analysis of the BSAI Pacific cod CV trawl fishery includes both shorebased processors and floating processors other than C/Ps. Amendment 80 and AFA C/Ps are described in earlier sections. As noted in the next section, AFA motherships are included in this category because only one AFA mothership participated in the BSAI target Pacific cod trawl CV fishery during the qualifying periods considered.

A summary of the BSAI Pacific cod deliveries by processing sector is presented in Table 2-29. Landings in metric tons are only presented for the shorebased processing sector because of confidentiality limitations. While there are more than three plants operating in the floating processor and C/Ps sectors in many years, the floating processor sector does not have three or more firms active. As a result, both the C/Ps sector and the floating processor sector are masked. One MS was active one year and that information is also masked.

C/Ps over the entire time period accounted for 13.9 percent of the total amount. During the three periods considered for allocations under the proposed program C/Ps took 14.4 percent of the deliveries from 2004 through 2019, 16.8 percent from 2009 through 2019, and 17.4 percent from 2014 through 2019.

The total number of processing plants that accepted deliveries of BSAI Pacific cod from trawl CVs are reported in the bottom portion of the table. From 10 through 19 plants were active during any year. The increase in plants operating after 2015 was primarily driven by the increased C/P participation. The number increased from two in 2015 to as many as nine in 2018. BSAI FMP Amendment 120 limited the number of C/Ps that may act as a mothership when taking deliveries from the Pacific cod trawl CV sector apportionment. It is assumed that limitations imposed under Amendment 120 will remain in place under this action. As a result, the processors that were active in the past that may continue to participate in the future is closer to 10 to 13 that historically participated. However, there is not closed class of processors so the number of floating processors, shorebased processors, or motherships that are active in the fishery could increase.

Table 2-29 Pacific cod deliveries from trawl CVs by processing sector, 2003 through 2019

Year	CP	FP	MS	SP	Total
Pacific cod deliveries received (metric tons)					
2003	conf	conf		26,983	39,963
2004	conf	conf		20,765	37,207
2005	conf	conf		18,025	30,920
2006	conf	conf		14,178	32,440
2007	conf	conf		15,882	29,150
2008	conf	conf		13,980	28,090
2009	conf	conf		12,021	25,904
2010	conf	conf		11,615	25,283
2011	conf	conf		15,173	34,622
2012	conf	conf		24,051	40,797
2013	conf	conf		23,313	38,979
2014	conf	conf		22,817	39,093
2015	conf	conf		19,581	31,741
2016	conf	conf	conf	19,110	41,716
2017	conf	conf		14,712	37,443
2018	conf	conf		19,750	33,709
2019	conf	conf		13,837	26,329
Total	79,839	493,548	(FP, MS, & SP Combined)		573,388
Count of processors					
2003	1	4		6	11
2004	3	4		7	14
2005	1	4		7	12
2006	1	3		7	11
2007	2	2		8	12
2008	3	3		8	14
2009	2	2		6	10
2010	2	3		5	10
2011	3	3		7	13
2012	3	2		6	11
2013	2	3		8	13
2014	2	2		6	10
2015	2	2		6	10
2016	7	3	1	6	17
2017	8	3		5	16
2018	9	3		7	19
2019	8	3		7	18
Total Processors	18	8	1	13	42

Source: BSAI_TRW_LLP_PCODLANDINGS(4-10-20).xls

Table 2-30 shows the percentage of exvessel value generated by various species and species groups in recent years by shorebased and floating processors that took deliveries of BSAI Pacific cod from trawl CVs. Pacific cod value as a percentage of the total and as a percentage of groundfish are presented in the first two rows. Pacific cod accounted for 3 percent to 6 percent of the total value and 5 percent to 10 percent of the groundfish value, depending on the year. Those percentages indicate that Pacific cod is an important source of revenue for these processors. The table does not indicate amount of profit generated by Pacific cod relative to the other fisheries considered, because those data are unavailable.

Table 2-30 Percentage of exvessel value generated by species or species group, 2009 through 2019.

Exvessel Value	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Pcod as % of Total	4%	3%	4%	6%	4%	4%	3%	4%	4%	6%	4%	4%
Pcod as % of Groundfish	6%	6%	7%	10%	8%	6%	5%	6%	6%	8%	6%	7%
Shellfish as % of Total	26%	31%	29%	29%	28%	30%	28%	24%	16%	17%	18%	25%
Salmon as % of Total	12%	9%	8%	8%	13%	4%	6%	5%	14%	4%	5%	8%
Halibut as % of Total	5%	8%	9%	5%	3%	3%	3%	4%	4%	3%	3%	5%
Sablefish as % of Total	4%	4%	4%	3%	3%	3%	2%	2%	3%	2%	2%	3%
Herring as % of Total	0%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%
Groundfish as % of Total	56%	52%	53%	57%	56%	63%	62%	66%	66%	76%	73%	62%

Source: BSAI_TRW_PROC_DIV(7-8-20) AKFIN summary

The shorebased processors were located in five different communities: Akutan, Adak, King Cove, Sand Point, and Unalaska/Dutch Harbor. In recent years the primary delivery ports were Akutan, Adak, and Unalaska/Dutch Harbor. Sand Point and King Cove were active most years, but the amount of targeted BSAI Pacific cod delivered to them by the trawl CV sector was substantially less than the amounts delivered to the other ports.

Floating processors are generally mobile vessels that are positioned close to the fishing grounds for specific fisheries and seasons. For the Pacific cod fishery, they may be positioned in protected areas near Unalaska/Dutch Harbor or closer to Unimak Island for the Bering Sea Fishery or farther West along the Aleutian Islands chain for the Aleutian Islands fishery.

2.6.6.6. Catcher/Processors

Two C/Ps are qualified to act as motherships and accept deliveries of BSAI Pacific cod under BSAI FMP Amendment 120. One is owned by a firm that is a part of the AFA C/P cooperative and the other is owned by a firm that is part of the Amendment 80 cooperative program. One of the C/Ps typically took deliveries from CVs that were owned by the firm. The other contracted with CVs to deliver Pacific cod. Both firms operate out of the Seattle metropolitan area.

The processing history of these two vessels cannot be reported under confidentiality limitations. An option under this proposed action would create a sideboard limit on deliveries of BSAI Pacific cod to these two vessels based on historical deliveries. How these two firms will operate under the proposed program will depend on whether they are operating under sideboard limitations and whether they are able to reach an agreement on how to divide any limits that are imposed. It is not known at this time whether the two firms will be able to reach such an agreement. If they cannot, they would likely race to process the sideboard limit that is imposed. That could result in the CVs delivering CQ earlier and at a faster pace than they would if the two firms reached an agreement on how to divide the sideboard limit.

2.6.6.7. AFA Motherships

True motherships have not been very active in the fishery. These are vessels that are primarily involved in the pollock fishery and have only taken very limited deliveries of targeted BSAI Pacific cod from trawl CVs in 2016. Motherships operate at-sea where the fish are harvested and take unsorted cod ends from the trawl CVs. These processors are not expected to increase activity in the fishery under proposed program since they typically accept deliveries from CVs that are members of the Mothership Fleet Cooperative (MFC) which is a signatory to the Cod Allocation Agreement. The CVs in the MFC determine how to harvest their sideboard limit within the cooperative structure and where to deliver that catch. A summary of the harvest of the MFC's Pacific cod sideboard limit by CV is presented in Table 5 of the 2019 MFC's AFA cooperative report.²⁵ That table only reports the harvest and not where the catch was delivered.

²⁵ https://www.npfmc.org/wp-content/PDFdocuments/catch_shares/CoopRpts2019/MothershipFleet_AFA.pdf

2.6.7. Product Composition and Flow of Pacific Cod

The following information on production composition and flow of Pacific cod originates from the 2013 Economic Status of the Groundfish Fisheries of Alaska (NMFS 2018). That information has been updated with more recent data on the production by product and its reported value.

Product flows for Pacific cod have changed following the decline of Atlantic cod (*G. morhua*) harvests. Buyers from Norway and Portugal began purchasing Pacific cod from Alaska for the first time in the late 2000's. Historically, Pacific cod was considered an inferior product compared to Atlantic cod, but the decline of Atlantic cod has made Pacific cod more acceptable.

Pacific cod are processed as either headed and gutted (H&G), fillet blocks, or individually frozen fillets, which are either individually quick-frozen or processed into shatterpack (layered frozen fillets that separate individually when struck upon a hard surface) or layer pack. These product forms account for over 80 percent of total production annually. The other product forms produced includes whole fish, roe, milt, and other products. The final markets include fine or "white tablecloth" restaurants, institutional food service, quick-service restaurants, retail fish markets, grocery stores, and overseas markets.

Wholesale prices are highest for fillet products, but H&G accounts for the largest share of Alaska Pacific cod production. The H&G production was significant in the mid-90's at roughly 50 percent. Since then H&G's share of production increased, reaching 79 percent in 2004 and then declined to just over 70 percent in recent years. Fillet production since 2009 has ranged between 18 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 surely 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. According to industry representatives, large H&G Pacific cod 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).

Table 2-31 Production and gross first wholesale value (real 2019 dollars) of BSAI Pacific cod products by processors taking deliveries from trawl CVs

Product Group	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Gross First Wholesale Value (\$ millions) in 2019 Dollars																	
Fillet	\$56.7	\$71.9	\$99.9	\$73.5	\$85.2	\$69.5	\$94.0	\$100.4	\$95.2	\$120.0	\$111.7	\$74.3	\$131.5	\$124.0	\$110.1	\$88.5	\$1,506.3
H&G	\$297.9	\$318.8	\$366.4	\$405.1	\$358.5	\$170.0	\$228.9	\$361.0	\$366.3	\$243.7	\$314.5	\$350.4	\$306.6	\$343.4	\$308.4	\$225.3	\$4,965.1
Meal, Oil, Bones	\$2.0	\$0.5	\$0.6	\$0.6	\$1.2	\$1.8	\$2.7	\$1.6	\$1.1	\$2.3	\$2.5	\$1.4	\$1.8	\$1.7	\$2.0	\$1.7	\$25.6
Milt	\$4.3	\$6.7	\$9.4	\$5.4	\$6.3	\$5.0	\$4.1	\$7.4	\$7.3	\$5.9	\$6.2	\$6.7	\$6.7	\$10.5	\$11.7	\$6.3	\$109.9
Other	\$3.1	\$3.6	\$4.4	\$7.3	\$7.3	\$6.6	\$8.1	\$7.6	\$8.5	\$8.6	\$7.4	\$9.9	\$15.3	\$13.4	\$11.6	\$10.0	\$132.7
Roe	\$9.0	\$10.8	\$19.5	\$15.6	\$16.9	\$4.7	\$4.3	\$5.0	\$7.8	\$9.2	\$12.0	\$6.4	\$4.1	\$5.0	\$10.5	\$6.3	\$147.0
Salted & Split, Split	\$14.8	\$9.2	\$5.6	\$5.0	\$4.0	\$0.3	\$0.2	\$0.3	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$39.6
Stomachs, Heads, Chins	\$6.4	\$9.8	\$7.6	\$7.0	\$6.6	\$4.6	\$6.1	\$12.0	\$7.5	\$4.6	\$3.7	\$7.8	\$6.4	\$8.2	\$5.3	\$6.0	\$109.5
Whole, Bled	\$3.2	\$3.7	\$1.4	\$2.8	\$1.7	\$4.2	\$1.9	\$1.5	\$1.8	\$2.9	\$0.8	\$0.5	\$2.4	\$0.4	\$0.6	\$0.3	\$30.0
Total	\$397.2	\$434.9	\$515.0	\$522.3	\$487.9	\$266.8	\$350.3	\$496.7	\$495.7	\$397.3	\$458.7	\$457.4	\$474.8	\$506.5	\$460.2	\$344.3	\$7,065.7
Pounds (millions)																	
Fillet	20.6	20.4	25.1	16.1	18.3	22.3	32.2	28.3	29.4	36.7	36.4	25.4	37.0	34.5	26.3	22.6	431.5
H&G	204.4	186.5	180.3	183.0	163.1	121.8	149.4	215.0	242.5	211.5	249.5	246.7	225.0	210.4	163.0	142.9	3,094.8
Meal, Oil, Bones	2.5	1.9	1.8	1.2	5.6	4.6	4.0	2.6	2.9	3.2	4.3	2.2	3.6	3.5	5.2	5.2	54.2
Milt	3.8	4.8	6.6	4.4	5.6	3.3	4.5	5.9	6.4	5.6	5.4	6.4	6.0	7.9	7.5	5.9	89.9
Other	3.8	4.2	5.6	4.7	4.9	5.1	7.0	8.2	9.1	11.1	10.2	10.6	16.8	17.7	12.2	11.7	142.9
Roe	7.4	7.7	9.3	8.4	9.8	5.3	6.0	6.4	8.3	8.8	10.9	7.7	5.9	6.9	8.3	7.1	124.2
Salted & Split, Split	7.4	4.5	2.4	1.9	2.2	0.4	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.3
Stomachs, Heads, Chins	3.5	4.8	5.7	5.7	6.8	4.6	5.1	9.2	6.7	9.2	5.7	9.0	6.4	9.9	6.3	6.9	105.5
Whole, Bled	4.8	5.2	1.8	2.9	2.7	6.5	3.3	3.5	3.3	5.6	1.2	0.9	3.2	0.4	0.7	0.3	46.2
Total	258.1	239.9	238.6	228.4	219.0	173.8	211.6	279.2	308.6	291.8	323.5	308.8	303.9	291.2	229.5	202.7	4,108.6
Percent of annual production																	
Fillet	8.0%	8.5%	10.5%	7.1%	8.4%	12.8%	15.2%	10.1%	9.5%	12.6%	11.3%	8.2%	12.2%	11.8%	11.4%	11.2%	10.5%
H&G	79.2%	77.7%	75.6%	80.1%	74.5%	70.1%	70.6%	77.0%	78.6%	72.5%	77.1%	79.9%	74.0%	72.2%	71.1%	70.5%	75.3%
Meal, Oil, Bones	1.0%	0.8%	0.8%	0.5%	2.5%	2.6%	1.9%	0.9%	1.0%	1.1%	1.3%	0.7%	1.2%	1.2%	2.3%	2.6%	1.3%
Milt	1.5%	2.0%	2.8%	1.9%	2.6%	1.9%	2.1%	2.1%	2.1%	1.9%	1.7%	2.1%	2.0%	2.7%	3.3%	2.9%	2.2%
Other	1.5%	1.7%	2.4%	2.1%	2.2%	3.0%	3.3%	2.9%	3.0%	3.8%	3.1%	3.4%	5.5%	6.1%	5.3%	5.8%	3.5%
Roe	2.9%	3.2%	3.9%	3.7%	4.5%	3.0%	2.8%	2.3%	2.7%	3.0%	3.4%	2.5%	2.0%	2.4%	3.6%	3.5%	3.0%
Salted & Split, Split	2.9%	1.9%	1.0%	0.8%	1.0%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%
Stomachs, Heads, Chins	1.3%	2.0%	2.4%	2.5%	3.1%	2.6%	2.4%	3.3%	2.2%	3.2%	1.8%	2.9%	2.1%	3.4%	2.7%	3.4%	2.6%
Whole, Bled	1.9%	2.2%	0.8%	1.3%	1.2%	3.7%	1.5%	1.2%	1.1%	1.9%	0.4%	0.3%	1.0%	0.1%	0.3%	0.2%	1.1%
Total	100.0%																
Dollars per Pound (2019 \$)																	
Fillet	\$2.75	\$3.53	\$3.99	\$4.56	\$4.65	\$3.12	\$2.92	\$3.55	\$3.24	\$3.27	\$3.07	\$2.92	\$3.55	\$3.60	\$4.19	\$3.91	\$3.49
H&G	\$1.46	\$1.71	\$2.03	\$2.21	\$2.20	\$1.40	\$1.53	\$1.68	\$1.51	\$1.15	\$1.26	\$1.42	\$1.36	\$1.63	\$1.89	\$1.58	\$1.60
Meal, Oil, Bones	\$0.79	\$0.24	\$0.33	\$0.47	\$0.22	\$0.39	\$0.68	\$0.61	\$0.37	\$0.72	\$0.58	\$0.66	\$0.50	\$0.50	\$0.39	\$0.33	\$0.47
Milt	\$1.13	\$1.40	\$1.43	\$1.23	\$1.12	\$1.52	\$0.93	\$1.24	\$1.15	\$1.05	\$1.15	\$1.05	\$1.12	\$1.33	\$1.57	\$1.05	\$1.22
Other	\$0.82	\$0.86	\$0.79	\$1.55	\$1.49	\$1.28	\$1.16	\$0.93	\$0.94	\$0.77	\$0.73	\$0.94	\$0.91	\$0.75	\$0.95	\$0.86	\$0.93
Roe	\$1.22	\$1.41	\$2.10	\$1.86	\$1.72	\$0.90	\$0.72	\$0.78	\$0.94	\$1.04	\$1.10	\$0.83	\$0.68	\$0.72	\$1.27	\$0.89	\$1.18
Salted & Split, Split	\$2.00	\$2.02	\$2.29	\$2.64	\$1.82	\$0.90	\$1.25	\$1.50	\$1.56	\$1.14							\$2.05
Stomachs, Heads, Chins	\$1.84	\$2.02	\$1.35	\$1.23	\$0.98	\$0.99	\$1.18	\$1.31	\$1.12	\$0.50	\$0.65	\$0.87	\$0.99	\$0.83	\$0.84	\$0.86	\$1.04
Whole, Bled	\$0.67	\$0.71	\$0.77	\$0.97	\$0.64	\$0.66	\$0.57	\$0.42	\$0.55	\$0.52	\$0.68	\$0.54	\$0.75	\$0.90	\$0.80	\$0.74	\$0.65
Total	\$1.54	\$1.81	\$2.16	\$2.29	\$2.23	\$1.53	\$1.66	\$1.78	\$1.61	\$1.36	\$1.42	\$1.48	\$1.56	\$1.74	\$2.01	\$1.70	\$1.72

Source: AKFIN 2020; Source file is BS_PC0D_PROD(7-8-20)

Representatives of American Seafoods noted that discussions with potential buyers concerning BS and AI Pacific cod start several months before the season actually begins. It was noted that one of the most important factors of Pacific cod suppliers is being viewed as a reliable and consistent source of cod products from one year to the next. 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, the 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 loses value. Flesh quality decreases markedly in post-spawned fish, further decreasing the value.

2.6.8. Fishing Communities

A two-part approach was used in characterizing the communities engaged in or dependent on the BSAI Pacific cod fishery in ways that may be affected by the proposed action. First, tables based on existing quantitative fishery information were developed and are presented in Section 2.6.8.1 to identify patterns of engagement in and dependency on the BSAI Pacific cod fishery based on the distribution across communities of the sectors most likely to be directly affected by one or more of the proposed alternatives. This is consistent with the portion of the National Standard 8 guidelines that state:

To address the sustained participation of fishing communities that will be affected by management measures, the analysis should first identify affected fishing communities and then assess their differing levels of dependence on and engagement in the fishery being regulated (50 CFR 600.345²⁶).

The second approach involved selecting a subset of communities that, based on the results of the first approach, appear to be potentially substantially engaged in or substantially dependent on the relevant portions of the BSAI Pacific cod fishery for characterization of the specific community context of fishery. This is consistent with the portion of the National Standard 8 guidelines that state:

The best available data on the history, extent, and type of participation in these fishing communities in the fishery should be incorporated into the social and economic information presented in the FMP. The analysis does not have to contain an exhaustive listing of all communities that might fit the definition; a judgment can be made as to which are primarily affected (50 CFR 600.345).

This approach then qualitatively provides a context for the subsequent analysis of potential community impacts that may occur because of fishery management-associated changes to the locally present sectors in combination with other community-specific attributes and socioeconomic characteristics. The characterization of the relevant communities, appearing in Section 2.6.8.2, incorporates existing and easily accessible community descriptive information by reference to the extent feasible, which has been supplemented with limited phone and email contacts with individuals and entities to update existing information where needed.

Under National Standard 4, conservation and management measures shall not discriminate between residents of different states. If it becomes necessary to allocation or assign fishing privileges among

²⁶The National Standard 8 guidelines referenced in this SIA, current as of October 8, 2020, are from the Electronic Code of Federal Regulations (CFR) Title 50, Chapter VI, Part 600, Subpart D, Section 600.345 (cited as 50 CFR 600.345) are available at https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=6b0acea089174af8594db02314f26914&mc=true&r=SECTION&n=se50.12.600_1345 accessed 10/10/2020.

various U.S. fishermen, such an allocation shall be: (1) fair and equitable²⁷ to all such fishermen; (2) reasonably calculated to promote conservation; and (3) carried out in such a manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges. Among other National Standard 4 guidelines:

An allocation need not preserve the status quo in the fishery to qualify as “fair and equitable,” if a restructuring of fishing privileges would maximize overall benefits. The Council should make an initial estimate of the relative benefits and hardships imposed by the allocation, and compare its consequences with those of alternative allocation schemes, including the status quo. Where relevant, judicial guidance and government policy concerning the rights of treaty Indians and aboriginal Americans must be considered in determining whether an allocation is fair and equitable (50 CFR 600.325²⁸).

The proposed action alternatives do not change sector allocations in the BSAI Pacific cod fishery, in that the allocation of 22.1 percent of the BSAI non-CDQ Pacific cod TAC to the trawl CV sector (as shown in Figure 2-2) would remain unchanged. Further, the proposed alternatives are structured to result in fair and equitable distribution of access privileges within the sector through use of historical qualification periods to determine initial QS allocations. However, there is the distinct possibility that historically common patterns of annual reallocations between sectors, where an unused portion of the trawl CV allocation has typically been reallocated to the < 60' HAL/pot sector each year, would be diminished in amount if not discontinued altogether under some alternative, element, and option combinations or scenarios. This would not represent a change in the formal sector allocations, but it would be a change in historical patterns of use between sectors as seen over the 2004-2019 period. For this reason, the potential impacts to the < 60' HAL/pot sector are included in the consideration of fishing communities, along with community ties to Alaska Native entities, including federally recognized tribes, where relevant. No changes to CDQ program allocations, intended to benefit Alaska Native coastal communities in the BSAI region, would be made under any of the proposed alternatives, elements, or options.

Given that the proposed action alternatives are focused on changes internal to an existing sector allocation within the BSAI Pacific cod trawl fishery, no direct or indirect impacts on the subsistence harvest, sharing, and use of BSAI Pacific cod fishery are anticipated, unless explicitly noted otherwise in the discussions below. Similarly, no direct or indirect impacts to the BSAI Pacific cod sport fishery are anticipated, so no stand-alone discussions of the BSAI Pacific cod subsistence or sport fisheries are provided in the fishing communities analysis.

²⁷ If a LAPP is being established, MSA Section 303(b)(6) also requires that the Council (and the Secretary) take into account “the fair and equitable distribution of access privileges in the fishery” among a number of other factors (including present participation in the fishery; historical fishing practices in and dependence on, the fishery; the economics of the fishery; the capability of fishing vessels used in the fishery to engage in other fisheries; the cultural and social framework relevant to the fishery and any affected fishing communities; and, any other relevant factors).

²⁸ The National Standard 4 guidelines referenced in this SIA, current as of September 30, 2020, are from the Electronic Code of Federal Regulations (CFR) Title 50, Chapter VI, Part 600, Subpart D, Section 600.325 (cited as 50 CFR 600.325) are available at https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=6b0acea089174af8594db02314f26914&mc=true&r=SECTION&n=se50.12.600_1325 accessed 10/2/2020.

2.6.8.1. Quantitative Indicators of Community Fishery Engagement and Dependency

The sections below provide quantitative participation information, within the bounds of confidentiality restrictions, for the communities most directly engaged in and dependent on relevant sectors of the BSAI Pacific cod fishery. Specifically, the individual sections include a series of tables containing a range of quantitative information describing the distribution of sector-specific community engagement (or participation) in and dependency (or reliance) on the BSAI Pacific cod fishery for the following sectors:

- BSAI Pacific cod trawl CVs
- Shore-based processors operating in Alaska accepting BSAI trawl-caught Pacific cod deliveries
- BSAI Pacific cod HAL and pot < 60' CVs

Within this quantitative characterization of fishery participation, several simplifying assumptions were made. First, assignment of CVs to a region or community has been made based upon ownership address information as listed in the CFEC vessel registration files. Thus, some caution in the interpretation of this information is warranted. It is not unusual for vessels to have complex ownership structures involving more than one entity in more than one region. Further, the community of ownership address does not directly indicate where a vessel spends most of its time, purchases services, or hires its crew as, for example, some of the vessels with ownership addresses in the Pacific Northwest spend a great deal of time in Alaska ports and hire at least some crew members from these ports. The region or community of ownership address does, however, provide a rough indicator of the direction or nature of ownership ties (and a proxy for associated economic activity, as no existing datasets provide consistently collected time-series information on where CV expenditures on support services are made), especially when patterns are viewed at the sector or vessel class level. The trawl CV discussion includes the limited CV crew data that is available for this sector, which is useful in understanding the geographic footprint of sector employment and earnings (and potentially where earnings are at least in part spent).

Ownership location has been chosen for this analysis as the link of vessels to communities rather than other indicators, such as vessel homeport information, based on previous NPFMC FMP social impact assessment experience (e.g., AECOM 2010) that has indicated the problematic nature of existing homeport data. While CV ownership address is the primary link of vessels to communities used in the analysis, information on the geography of LLP license distribution is also presented. Specifically, LLP licenses actively used in the fishery have been assigned to communities based on license ownership address as it appears in the Alaska Regional Office RAM Program LLP license database to illustrate the differences in patterns of the two indicators. “Cross-walk” tables showing the correspondence of CV ownership address communities to LLP license ownership address communities as well as CV ownership address communities to CV homeports (similar to the tables showing correspondence of CV ownership address communities to crew residence communities) are also provided for the incremental information that they may provide.

For shore-based processors, regional or community designation was based on the operating location of the plant (rather than ownership address) to provide a relative indicator of the local volume of fishery-related economic activity, which can also serve as a rough proxy for the relative level of associated employment, income, and local government revenues. There are, however, considerable limitations on the data that can be utilized for these purposes, based on confidentiality restrictions. A prime example of this is where a community is the site of one or two shore-based processors active in a community in a given year. No information can be disclosed about the volume and/or value of landings in those communities. In the few cases where operational location information is known, floating processors are grouped with shore-based processors by community and that grouping is noted on the relevant table(s). In all other cases, floating processor activity in this analysis is associated with the Seattle MSA, which is the location of ownership address for all relevant floating processors.

As noted in Section 2.6.6.6, two C/Ps are qualified to act as motherships and regularly accept deliveries of BSAI Pacific cod from trawl CVs under Amendment 120, one of which is owned by a firm that is part of

the AFA C/P cooperative and the other of which is owned by firm that is part of the Amendment 80 cooperative program. As further noted in that same section, one of the C/Ps typically took deliveries from CVs that were owned by the same firm, while the other contracted with outside CVs to deliver Pacific cod. As there are only two entities involved, all volume and value data with respect to this sector are confidential. Given this constraint and the fact that both vessels are associated with the Seattle MSA, the “C/Ps acting as motherships” sector is not further considered in this community analysis, aside from noting the Seattle MSA linkage in relevant subsections below.

BSAI Pacific Cod Trawl Catcher Vessels

The following tables provide a series of quantitative indicators of sector engagement in and dependency on the BSAI Pacific cod trawl fishery, by community and/or regional geography depending on data confidentiality restrictions, for BSAI Pacific cod trawl CVs with local ownership addresses, as noted in the following paragraphs. For Alaska communities, overall community CV fleet dependency is also shown to the extent possible within data confidentiality restrictions.

Table 2-32 provides a count, by community of ownership address and year (2004-2019), of BSAI Pacific cod trawl CVs for all Alaska communities with any vessels active in the fishery during this time, as well as for the Seattle metropolitan area, as defined by the Seattle Metropolitan Statistical Area (Seattle MSA²⁹); Washington communities outside of the Seattle MSA combined; Newport, Oregon; Oregon communities other than Newport combined; and all other states/unknown combined. For each geography, annual average counts and percentages of the grand total are also provided, along with a count of unique vessels, which may be indicative of continuity of participation (or lack thereof) at the vessel level. As shown, vessel ownership among states is heavily concentrated in Washington, and specifically within the Seattle MSA, while within Alaska and Oregon, vessel ownership is concentrated in Kodiak and Newport, respectively.

Table 2-32 BSAI Pacific cod trawl CVs by community of vessel historical ownership address, 2004-2019 (number of vessels).

Geography	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Annual Average 2004-2019 (number)	Annual Average 2004-2019 (percent)	Unique Vessels 2004-2019 (number)
	Kodiak	3	3	0	0	1	0	1	6	7	5	2	3	3	6	6	7	3.1	5.7%
Sand Point	2	2	1	1	1	3	0	0	0	0	0	0	0	0	0	0	0.6	1.1%	3
Unalaska/Dutch Harbor	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1%	1
Anchorage/Girdwood	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.4%	2
Petersburg	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0.1	0.2%	1
Alaska Total	5	7	2	3	2	4	2	6	7	5	2	3	3	6	6	7	4.1	7.6%	17
Seattle MSA*	45	39	37	43	46	36	33	30	35	35	37	35	43	44	48	41	36.9	67.9%	78
Other Washington	8	2	4	6	4	5	3	5	2	4	2	2	2	2	2	3	3.3	6.1%	13
Washington Total	53	41	41	49	50	41	36	35	37	39	39	37	45	46	50	44	40.2	73.9%	86
Newport	11	10	9	10	10	8	7	8	8	8	6	6	7	7	6	6	7.5	13.7%	15
Other Oregon	4	3	2	0	1	0	1	0	1	1	1	1	1	2	2	3	1.4	2.5%	9
Oregon Total	15	13	11	10	11	8	8	8	9	9	7	7	8	9	8	9	8.8	16.2%	21
Other States/Unknown	4	3	2	2	2	1	2	1	1	0	0	1	0	0	1	1	1.2	2.3%	6
Grand Total	77	64	56	64	65	54	48	50	54	53	48	48	56	61	65	61	54.4	100.0%	113

*Seattle MSA includes all communities in King, Pierce, and Snohomish counties.

Note: Due to ownership movement between communities over the years shown, total unique catcher vessels per community may not sum to state or grand totals.

Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA

²⁹ The Seattle MSA encompasses all communities in King, Pierce, and Snohomish counties, Washington.

Outside of Kodiak, engagement of multiple Alaska communities in the BSAI Pacific cod trawl fishery through participation of vessels with local ownership addresses has declined over time. While two or, in one case, three Alaska communities had CVs with local ownership addresses participated in the fishery each year 2004-2010, no Alaska community outside of Kodiak has been listed as the ownership address of any BSAI Pacific cod trawl CVs in the most recent nine years covered by the data (2011-2019) and all have an annual average of less than one vessel active in the fishery over the span of years shown. Of the Alaska communities outside of Kodiak appearing in the data 2004-2010, Sand Point appears in six of those seven years and with more than one vessel active in the fishery for three of those years. In contrast, Kodiak had no local ownership address vessels active in the fishery in three of the seven years 2004-2010 but has had at multiple vessels active every year 2011-2019, with six or seven vessels active in five of those 10 years.

Table 2-33 provides BSAI Pacific cod trawl CV ex-vessel gross revenue information by ownership address community and year (2004-2019) to the extent possible within data confidentiality restrictions, along with annual averages in terms of inflation-adjusted dollars and percentages of the grand total for all geographies combined. Given the few CVs with ownership addresses outside of Kodiak, the Seattle MSA, and Newport, Oregon, little can be shown at the community level. The overall pattern of distribution of revenue is clear, however, with Alaska ownership address vessels accounting for about three percent of the grand total of annual average ex-vessel gross revenue, with Washington and Oregon ownership address vessels accounting for roughly three-quarters and one-fifth of all CV trawl-caught BSAI Pacific cod ex-vessel gross revenue, respectively.

Table 2-33 BSAI Pacific cod trawl CVs ex-vessel gross revenue by community of vessel historical ownership address, 2004-2019 (millions of 2019 real dollars).

Geography	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Annual Average 2004-2019 (\$ millions)	Annual Average 2004-2019 (percent)
Kodiak	**	\$1.02	\$0.00	\$0.00	*	\$0.00	*	\$0.46	\$1.62	\$1.17	*	\$0.16	\$0.34	\$1.13	\$1.26	\$1.04	\$0.55	2.32%
Other Alaska	*	\$0.55	*	\$0.13	*	\$0.53	*	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.14	0.58%
Alaska Total	\$0.45	\$0.32	*	\$0.13	*	\$0.53	*	\$0.58	\$1.57	\$1.14	*	\$0.16	\$0.48	\$1.44	\$1.49	\$1.04	\$0.68	2.89%
Seattle MSA***	\$14.07	**	\$18.74	\$24.19	\$28.62	\$10.93	\$10.24	\$14.19	**	\$14.38	**	**	**	**	**	\$13.02	\$16.37	69.54%
Other Washington	\$2.00	*	\$1.41	\$1.47	\$1.89	\$0.69	\$0.60	\$2.10	*	\$1.43	*	*	*	*	*	\$0.86	\$1.18	5.01%
Washington Total	\$16.07	\$12.81	\$20.16	\$25.67	\$30.51	\$11.62	\$10.84	\$16.29	\$20.51	\$15.81	\$18.22	\$13.20	\$18.27	\$17.53	\$19.42	\$13.88	\$17.55	74.55%
Newport OR	\$4.83	\$4.96	\$6.25	\$5.67	\$5.80	**	\$2.86	**	\$6.97	\$4.65	\$4.17	\$3.15	\$4.31	\$3.86	\$3.36	\$2.39	\$4.50	19.12%
Other OR & Other States	\$1.34	\$2.10	**	*	**	*	*	*	*	*	*	*	*	*	\$0.81	\$0.78	\$0.81	3.43%
Grand Total	\$22.69	\$20.19	\$27.97	\$32.00	\$39.04	\$15.26	\$14.52	\$23.25	\$30.16	\$22.12	\$22.84	\$16.66	\$23.39	\$23.40	\$25.09	\$18.10	\$23.54	100.00%

* Denotes confidential data.

** Data suppressed to protect confidential data in other cells.

***Seattle MSA includes all communities in King, Pierce, and Snohomish counties.

Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA

Table 2-34 provides information on BSAI Pacific cod trawl CV dependency on BSAI Pacific cod compared to all other areas, gear types, and species fished by those same vessels, as measured by percentage contribution to annual average ex-vessel gross revenue to the extent possible within data confidentiality restrictions. As shown, dependency on trawl caught BSAI Pacific cod ranged widely across geographies, but dependency is relatively modest for Alaska address vessels when compared to those from other states. This is consistent with the primary historical focus of Kodiak ownership address trawl vessels on GOA rather than BSAI trawl fisheries. It is important to note, however, that the importance of a fishery to the operations of vessels (and processors) is not just a function of percentage contribution to overall gross revenues as, for example, a fishery may contribute revenue during what would otherwise be a slow time of year, which could be important for covering fixed costs, helping to make or keep the vessel ready for the next major fishery, employment/retention of crew, and/or maintaining favorable business relationships with processors, among other factors. In addition to this type of diversity information being useful (in combination with the data presented in previous annual

participation and annual exvessel gross revenue tables) for understanding historical fishing practices in, and dependence on, the BSAI Pacific cod trawl CV fishery, it is also useful as one gauge of the existing capacity of fishing vessels used in the BSAI Pacific cod trawl fishery to engage in other fisheries.

Table 2-34 BSAI Pacific cod trawl CVs ex-vessel gross revenue diversification by community of vessel historical ownership address, all communities, 2004-2019 (millions of 2019 real dollars).

Geography	Annual Average Number of BSAI Pcod Trawl CVs 2004-2019	BSAI Pcod Trawl CVs Annual Average Ex-Vessel Gross Revenues from BSAI Pcod Only 2004-2019 (\$ millions)	BSAI Pcod Trawl CVs Annual Average Total Ex-Vessel Gross Revenues from All Area, Gear, and Species Fisheries 2004-2019 (\$ millions)	BSAI Trawl Pcod CVs BSAI Pcod Ex-Vessel Value as a Percentage of Total Ex-Vessel Gross Revenue Annual Average 2004-2019
Alaska Total	4.1	\$0.68	\$8.35	8.17%
Seattle MSA*	36.9	\$16.37	\$96.69	16.93%
Other Washington	3.3	\$1.18	\$4.14	28.44%
Washington Total	40.2	\$17.55	\$100.84	17.40%
Newport OR	7.5	\$4.50	\$19.37	23.24%
Other OR & Other States	2.6	\$0.81	\$6.02	13.43%
Grand Total	54.4	\$23.54	\$134.57	17.49%

*Seattle MSA includes all communities in King, Pierce, and Snohomish counties.
Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA

Table 2-35 provides information on overall community CV fleet dependency on trawl caught BSAI Pacific cod. This table includes all commercial fishing CVs, not just vessels that participated in the BSAI Pacific cod trawl fishery for those communities that had at least local ownership address BSAI Pacific cod trawl CV participating in the fishery in any year 2004-2019. It compares the ex-vessel revenue from trawl caught BSAI Pacific cod to ex-vessel revenue from all other areas, gear types, and species fished by all commercial fishing vessels with ownership addresses in that same community. As shown, for Alaska, that dependency is less than one percent.³⁰ In contrast, Newport, Oregon ownership address community fleet is relatively more dependent on the BSAI Pacific cod trawl fishery, as measured by contribution to total ex-vessel gross revenues, than the other communities or aggregations of communities shown.

Table 2-35 BSAI Pacific cod trawl CV and all CV ex-vessel gross revenue diversification by community of vessel historical ownership address, 2004-2019 (millions of 2019 real dollars).

Geography	Annual Average Number of BSAI Pcod Trawl CVs 2004-2019	Annual Average Number of All Commercial Fishing CVs in those Same Communities (the "Community CV Fleet") 2004-2019	All Commercial Fishing CVs Annual Average Ex-Vessel Gross Revenues from BSAI Pcod Trawl Only 2004-2019 (\$ millions)	All Commercial Fishing CVs Annual Average Total Ex-Vessel Gross Revenues from All Areas, Gears, and Species Fisheries 2004-2019 (\$ millions)	All Commercial Fishing Vessels BSAI Pcod Trawl Ex-Vessel Gross Revenue as a Percentage of Total Ex-Vessel Gross Revenue Annual Average 2004-2019
Alaska Total	4.1	878.5	\$0.68	\$281.27	0.24%
Seattle MSA*	36.9	381.3	\$16.37	\$625.41	2.62%
Other Washington	3.3	56.3	\$1.18	\$56.28	2.09%
Washington Total	40.2	437.5	\$17.55	\$681.69	2.57%
Newport OR	7.5	18.1	\$4.50	\$32.90	13.68%
Other OR and Other States	2.6	54.7	\$0.81	\$19.58	4.13%
Grand Total	54.4	1,388.8	\$23.54	\$1,015.44	2.32%

*Seattle MSA includes all communities in King, Pierce, and Snohomish counties.
Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA

³⁰ If the ex-vessel gross revenue data BSAI Pacific cod trawl vessels with Sand Point, Unalaska/Dutch Harbor, Anchorage/Girdwood, and Petersburg ownership address were removed from the Alaska data (as they were not active in the fishery in recent years) as well as the community fleet-level data for those communities and the just the ex-vessel gross revenue of Kodiak ownership address vessels active in the BSAI Pacific cod trawl fishery was compared against the larger Kodiak community fleet alone, the percentage dependency of the Kodiak community fleet alone would still be less than one percent.

BSAI Pacific Cod Trawl Catcher Vessel AFA Status

Table 2-36 provides information on the AFA status of BSAI Pacific cod trawl CVs by community and region. All else being equal, AFA status would likely reduce the vulnerability of individual vessels to adverse impacts, if any, of the proposed alternatives through co-op or other internal vessel class compensation mechanisms and/or separate accounting of PSC thresholds unique to that vessel class (thereby insulating these vessels somewhat from adverse consequences of actions of vessels outside of their restricted class over which they have very little influence or control). As shown, while the percentage of AFA vessels among local ownership address BSAI Pacific cod trawl CVs varies by geography, it is well over half for all geographies (other than the one-vessel residual “other states” category).

Table 2-36 BSAI Pacific cod trawl CV AFA program designation by community of vessel ownership address, 2019.

Geography	Number of BSAI Pcod Trawl CVs			Percent of BSAI Pcod Trawl CVs		
	Total CVs	AFA Designation		Total CVs	AFA Designation	
		Yes	No		Yes	No
Kodiak AK	7	4	3	100.0%	57.1%	42.9%
Seattle MSA*	41	34	7	100.0%	82.9%	17.1%
Other Washington	3	2	1	100.0%	66.7%	33.3%
Washington Total	44	36	8	100.0%	81.8%	18.2%
Newport	6	5	1	100.0%	83.3%	16.7%
Other Oregon	3	2	1	100.0%	66.7%	33.3%
Oregon Total	9	7	2	100.0%	77.8%	22.2%
Other States	1	0	1	100.0%	0.0%	100.0%
Total	61	47	14	100.0%	77.0%	23.0%

*Seattle MSA includes all communities in King, Pierce, and Snohomish counties.
Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA

BSAI Pacific Cod Trawl Catcher Vessel Crew

In the absence of Economic Data Report (EDR) data for BSAI Pacific cod trawl CV crew employment and earnings, GOA EDR data are used for crew on trawl CVs that reported EDR data for the GOA and operated in the both the BSAI and GOA in the years 2015 through 2019 (the only years for which data are available). Table 2-37 provides the number of vessels by community of ownership address for which these data exist.

Table 2-37 BSAI Pacific cod trawl CVs for which EDR crew data exist, by community of CV ownership address, 2015-2019 (number of vessels).

Geography	2015	2016	2017	2018	2019	Total Unique Vessels
Kodiak, Alaska	2	3	6	6	7	7
Seattle MSA, Washington	12	16	18	20	16	24
Other Washington	2	2	2	2	1	4
Lincoln County, Oregon	2	2	4	5	5	7
Other States	1	0	0	1	1	2
Grand Total	19	23	30	34	30	43

Source: GOA trawl EDR data.

Table 2-38 provides information on the number of vessels that were active in the BSAI Pacific cod trawl fishery for which EDR data exist compared to the total number of vessels in the fishery. As shown, in the three most recent years for which data are available, roughly half of the active vessels provided GOA

EDR crew information. It was assumed that these data are still useful for rough numbers of crew members for the vessels for which data exist, as individual vessels likely had similar crews for both the BSAI and GOA trawl groundfish fisheries. However, it is unknown how representative vessels that fish both the GOA and the BSAI are of vessels that only fish the BSAI. Further, no BSAI-specific crew earnings data are available for any of the vessels, including those that reported GOA trawl EDR data.

Table 2-38 BSAI Pacific cod trawl CVs for which EDR crew data exist, as a percentage of all active BSAI Pacific cod trawl CVs, by year, 2015-2019.

Active BSAI Pacific Cod Trawl Catcher Vessels	2015	2016	2017	2018	2019
Number of CVs included in existing (GOA Trawl) EDR data	19	23	30	34	30
Number of CVs not included in existing (GOA Trawl) EDR data	29	33	31	31	31
Total number of CVs	48	56	61	65	61
Percent of CVs included in existing EDR data	39.6%	41.1%	49.2%	52.3%	49.2%

Source: Previous tables.

Table 2-39 provides information on the correspondence of BSAI Pacific cod trawl CV ownership address community and the community of residence address provided by crew members on those vessels for the years 2015-2019 combined. As shown, 167 crew members reported being from 13 different Alaska communities, with the large majority (87 percent) working aboard either Kodiak (55 percent) or Seattle MSA (32 percent) ownership address vessels.³¹

³¹ For more detail on crew members by state and territory for the years 2015-2019 combined, see Table 7-1 (in Section 7.2). As shown in that table, crew members listed 21 states (and 1 territory) other than Alaska, Washington, and Oregon as their residence address over this period; total number communities as represented in the data by state is also provided.

Table 2-39 Crew members aboard BSAI Pacific cod trawl CVs for which EDR crew data exist by community of crew residence address and CV ownership address, all years 2015-2019 combined (number of distinct crew license numbers).

Crew Member Residence Address Community	Catcher Vessel Ownership Address Community					Grand Total
	Kodiak Alaska	Seattle MSA Washington	Other Washington	Lincoln Co. Oregon	Other States	
Kodiak	75	38	12	8	0	129
Chiniak	2	0	0	0	0	2
King Cove	0	1	0	0	0	1
Sand Point	0	2	0	0	0	2
Unalaska/Dutch Harbor	1	2	0	0	0	3
Kenai	0	1	0	0	0	1
Soldotna	0	2	0	0	0	2
Anchor Point	8	1	0	1	0	10
Anchorage/Girdwood	2	1	1	0	0	4
Palmer	4	3	0	2	0	9
Wasilla	0	0	0	1	0	1
Petersburg	0	3	0	0	0	3
Haines	0	0	0	1	0	1
Alaska Subtotal	92	54	13	12	0	167
Seattle MSA Washington	8	86	8	2	2	105
Other Washington	7	25	18	3	1	54
Washington Subtotal	15	111	26	5	3	159
Lincoln County Oregon	13	37	3	13	0	66
Other Oregon	11	19	1	6	1	38
Oregon Subtotal	24	56	4	19	1	104
Other States/Territories	12	46	1	1	1	61
Unknown	42	32	14	16	3	103
Grand Total	185	298	58	53	8	593

Source: GOA trawl EDR data.

Table 2-40 provides information on the correspondence of BSAI Pacific cod trawl CV ownership address community and the community of residence address provided by crew members on those vessels for 2019, the most recent year for which data are available.³² As shown, 63 crew members reported being from five different Alaska communities, with the large majority (72 percent) working aboard Kodiak ownership address vessels. Of the crew members from Kodiak, 74 percent worked aboard vessels with Kodiak ownership addresses. Of the crew members from Alaska communities other than Kodiak, five out of eight worked aboard vessels with Kodiak ownership addresses.³³

³² For information on the distribution of crew members by crew license type, see Table 7-4 (in Section 7.2), i.e., ADFG crew licenses or CFEC gear operator permits. Skippers are required to have gear operator permits, but more than one person with a gear operator permit may be working on a vessel at any one time, whether the person who holds the permit is acting as a regular crew member (as some individual captain one vessel and crew on others) or is a relief captain/crew member, or the like.

³³ For information on individual years 2015-2018 showing year-to-year variability, see Table 7-2 (in Section 7.2).

Table 2-40 Crew members aboard BSAI Pacific cod trawl CVs for which EDR crew data exist by community of crew residence address and CV ownership address, 2019 (number of distinct crew license numbers).

Crew Member Residence Address Community	Catcher Vessel Ownership Address Community					Grand Total
	Kodiak Alaska	Seattle MSA Washington	Other Washington	Lincoln Co. Oregon	Other States	
Kodiak	28	6	0	5	0	38
Unalaska/Dutch Harbor	1	0	0	0	0	1
Anchor Point	3	0	0	1	0	4
Palmer	1	0	0	1	0	2
Haines	0	0	0	1	0	1
Alaska Subtotal	33	6	0	8	0	45
Seattle MSA Washington	4	23	0	1	1	28
Other Washington	4	4	0	2	0	10
Washington Subtotal	8	27	0	3	1	38
Lincoln County Oregon	2	5	0	2	0	9
Other Oregon	2	5	0	2	0	9
Oregon Subtotal	4	10	0	4	0	18
Other States/Territories	3	12	0	1	0	16
Unknown	15	8	1	9	2	33
Grand Total	63	63	1	25	3	150

Source: GOA trawl EDR data

While the EDR crew data presented in this section are suggestive, overall the unavailability of BSAI-specific data in combination of the total unavailability of data for roughly half of the CVs that participated in the BSAI Pacific cod trawl fishery in recent years (and less, if any, in less recent years) is a substantive obstacle to a comprehensive analysis of the human dimensions of the fishery. For example, because the data in the tables in this section were derived from vessels that are dependent, to some extent, on GOA fisheries, the Alaska component of the crew may be less on the vessels for which crew data do not exist, resulting in an overstatement of Alaska crew address as a percentage for the overall fleet in the current tables. Without the data, however, those types of assumptions/conclusions remain speculative.

Cross-Cutting BSAI Pacific Cod Trawl Catcher Vessel Quantitative Community Engagement Indicators

In addition to being home to BSAI Pacific cod trawl CVs with local ownership addresses active in the fishery and/or being home to crew members serving on those vessels, communities may be associated with the fishery in several other ways. Two of these are being the community of ownership address of LLP licenses actively used in the fishery and/or being the homeport of CVs actively engaged in the fishery.

Table 2-41 provides information on the historical distribution of LLP licenses by community or region of ownership address. As with BSAI Pacific cod trawl vessel ownership, LLP license ownership among states is heavily concentrated in Washington, and specifically within the Seattle MSA, while within Alaska and Oregon, ownership is concentrated in Kodiak and Newport, respectively. Within Alaska, however, LLP license ownership address by community over time shows a different community pattern than was seen with CV ownership address by community over time.

Table 2-41 BSAI Pacific cod trawl CV active LLP licenses by year, by community of license historical ownership address, 2004-2019 (number of licenses).

Geography	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Annual Average 2004-2019 (number)	Annual Average 2004-2019 (percent)	Unique Licenses 2004-2019 (number)
Kodiak	3	2	0	0	1	0	1	5	6	4	0	2	1	4	4	5	2.4	4.0%	9
False Pass	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.3	0.5%	1
Sand Point	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1%	1
Homer	0	0	0	0	0	0	0	1	1	1	0	0	1	1	1	1	0.4	0.7%	1
Juneau/Douglas	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1%	1
Alaska Total	4	4	1	2	2	0	1	6	7	5	0	2	2	5	5	6	3.3	5.5%	11
Seattle MSA*	45	42	42	45	45	35	32	31	38	37	43	40	47	48	51	49	41.9	71.1%	90
Other Washington	3	4	4	3	4	4	3	4	4	6	3	3	3	4	1	3	3.5	5.9%	4
Washington Total	48	46	46	48	49	39	35	35	42	43	46	43	50	52	52	52	45.4	77.1%	90
Newport	9	7	7	7	8	7	7	7	7	7	6	6	7	6	6	7	6.9	11.8%	13
Other Oregon	5	4	1	2	3	1	1	2	2	1	2	2	2	2	2	2	2.1	3.6%	2
Oregon Total	14	11	8	9	11	8	8	9	9	8	8	8	9	8	8	9	9.1	15.4%	18
Other States/Unknown	5	2	3	2	1	1	1	1	1	0	0	0	0	0	1	1	1.2	2.0%	1.2
Grand Total	71	63	58	61	63	48	45	51	59	56	54	53	61	65	66	68	58.9	100.0%	108

*Seattle MSA includes all communities in King, Pierce, and Snohomish counties.

Note: Due to ownership movement between communities over the years shown, total unique LLP licenses per community may not sum to state or grand totals.

Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA

While Kodiak is the state center of ownership location in both CV ownership address and LLP license ownership address and in both instances the diversity of Alaska community participation declined over time, three of the four communities outside of Kodiak are different in the two cases. Anchorage/Girdwood, Petersburg, and Unalaska/Dutch Harbor,³⁴ which appear in the data as CV ownership address communities are absent in the active LLP license ownership community data. On the other hand, False Pass, Homer, and Juneau/Douglas, absent in the CV ownership address information, are shown as being communities with ownership addresses of LLP licenses actively used in the fishery. Sand Point appears in both ownership sets, but while it is a CV ownership address community in six years (2004-2009), it appears only as the ownership address community of one active LLP license in one year (2007). Further, while False Pass is shown as the ownership address of one active LLP license each year 2004-2008 and Juneau/Douglas appears as the ownership address of one active LLP license in one year (2005), no LLP licenses actively used in the fishery were shown as having an ownership address in any Alaska community in 2009 or 2014. After 2008, active LLP license ownership addresses within Alaska are limited to Kodiak and Homer. Aside from 2014, both Kodiak and Homer were the location of LLP licenses actively used in the BSAI Pacific cod trawl fishery each year 2011-2019, except 2015 when two Kodiak ownership address LLP licenses were the only Alaska ownership address licenses actively used in the fishery.

³⁴ In most Council social impact assessments and community analyses, the term “Unalaska” is typically used to refer to the City of Unalaska including its port of Dutch Harbor, which is fully encompassed within the municipal boundaries of the City of Unalaska. Within some fishery data sources, however, Unalaska and Dutch Harbor fishery statistics are reported separately, as there are separate Unalaska and Dutch Harbor mailing addresses and zip codes. In this RIR, those statistics are combined for reporting as they represent two components of the same community and the term “Unalaska/Dutch Harbor” is consistently used for the community to clearly signify that those separate data values have been combined. It is understood that use of the name “Unalaska” for the community is more technically accurate and otherwise preferred as the name for the community, especially by Alaska Native and other long-term residents of the community. No disrespect or discounting of those preferences is implied by the use of the term Unalaska/Dutch Harbor in this document.

Table 2-42 shows the correspondence between BSAI Pacific cod trawl CV ownership address community and community of ownership address of the LLP license or licenses used by those vessels in the BSAI Pacific cod trawl fishery in 2019, the most recent year for which data are available. In most instances, where more than one LLP license was used on a given vessel, those licenses had a common community of ownership address, with the few exceptions described in the table notes. The grand totals shown in this table, unlike the previous table, reflect the total count of active vessels that used the licenses rather than a total count of active licenses. As shown, patterns of correspondence between vessel and license ownership address vary by state. Alaska ownership address vessels were limited to Kodiak ownership addresses, but these seven vessels used LLP licenses with Kodiak (5), Homer (1), and Oregon (1) ownership addresses. All 44 Washington ownership address vessels used only Washington ownership address LLP licenses; the nine vessels with Oregon ownership addresses used LLP licenses with Oregon (6) and Washington (3) ownership addresses.

Table 2-42 Correspondence of community of vessel ownership address and community of LLP license ownership address of BSAI Pacific cod trawl CVs, 2019 (most recent data year).

Catcher Vessel Ownership Address	LLP License Ownership Address							Grand Total
	Alaska		Washington		Oregon		Other/ Unknown	
	Kodiak	Homer	Seattle MSA	Other Washington	Newport Oregon	Other Oregon		
Kodiak, Alaska	5	1	0	0	0	1	0	7
Seattle MSA*	0	0	38	3	0	0	0	41
Other Washington	0	0	2	1	0	0	0	3
Washington Total	0	0	40	4	0	0	0	44
Newport	0	0	1	0	5	0	0	6
Other Oregon	0	0	2	0	0	1	0	3
Oregon Total	0	0	3	0	5	1	0	9
Other States/Unknown	0	0	0	0	0	0	1	1
Grand Total	5	1	43	4	5	2	1	61

*Seattle MSA includes all communities in King, Pierce, and Snohomish counties.

Note: Due to ownership movement between communities, cell counts may not sum to state or grand totals. For vessels that utilized multiple licenses, data were cleaned by defaulting to the same community for all duplicates. In two instances, the license ownership communities differed for two licenses utilized by the same vessel. In one case, there was one Newport and one Other Oregon license address that was flagged as Newport for this table; in the other, there was one Seattle MSA and one Other Washington license address that was flagged as Seattle MSA for this table. In a separate situation, one LLP license appeared in one dataset with a Kodiak ownership address and another with an Anchorage/Girdwood ownership address; it was assigned a Kodiak address for this table based on a judgement call informed by general knowledge of the history of the license and the vessel with which it is associated.

Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA

Table 2-43 shows the correspondence between BSAI Pacific cod trawl CV ownership address community and the homeport of those vessels for 2019, the most recent year for which data are available. As shown, all vessels with Alaska ownership addresses are also homeported in Alaska and, for all but one, ownership address community and homeport are the same (Kodiak), with the exception being a vessel with a Kodiak ownership address and a homeport of Sand Point. For vessels with Oregon ownership addresses, all but one have homeports in Oregon (with the exception being a Newport ownership address vessel homeported in Kodiak). Of the 41 vessels with Seattle MSA ownership addresses, roughly one-quarter (10 vessels) are homeported in Alaska, with seven out of the 10 homeported in Kodiak. Of the total of 14 vessels homeported in Kodiak, more than half (eight vessels) have ownership addresses in the Pacific Northwest.

Table 2-43 Correspondence of community of vessel ownership address and homeport of BSAI Pacific cod trawl CVs, 2019 (most recent data year).

Catcher Vessel Ownership Address	Homeport										Grand Total
	Alaska						Washington		Oregon		
	Anchorage	Juneau	Kodiak	Petersburg	Sand Point	Unalaska/ Dutch Hbr	Seattle MSA	Other WA	Newport Oregon	Other OR	
Kodiak, Alaska	0	0	6	0	1	0	0	0	0	0	7
Seattle MSA*	2	1	7	0	0	2	28	1	0	0	41
Other Washington	0	0	0	0	0	0	2	1	0	0	3
Washington Total	2	1	7	0	0	2	30	2	0	0	44
Newport	0	0	1	0	0	0	0	0	4	1	6
Other Oregon	0	0	0	0	0	0	0	0	2	1	3
Oregon Total	0	0	1	0	0	0	0	0	6	2	9
Other States/Unknown	0	0	0	1	0	0	0	0	0	0	1
Grand Total	2	1	14	1	1	2	30	2	6	2	61

*Seattle MSA includes all communities in King, Pierce, and Snohomish counties.

Note: Due to ownership movement between communities, cell counts may not sum to state or grand totals.

Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA

Shore-based processors in Alaska accepting BSAI trawl-caught Pacific cod deliveries

The following tables provide a series of quantitative indicators of sector engagement in and dependency on the BSAI Pacific cod trawl fishery, by community and/or regional geography depending on data confidentiality constraints, for shore-based processors operating in Alaska, as noted in the following paragraphs. Overall community shore-based processor dependency (as measured in percentage of total ex-vessel value paid for all deliveries from all fisheries made to the relevant processors) is also shown to the extent possible within data confidentiality constraints.

Table 2-44 provides information on the distribution of relevant shore-based processors in Alaska communities active in the period 2004-2019. For the purposes of this portion of the analysis, relevant shore-based processors are defined as those shore-based entities (as identified by F_ID [intent to operate] and SBPR [shore-based processor]³⁵ codes in AKFIN data) accepting trawl-caught BSAI Pacific cod deliveries. As shown, five Alaska communities were the locations of relevant shore-based processing over this period, with processors in two of those communities accepting trawl-caught BSAI Pacific cod deliveries in each year included in the data (Unalaska/Dutch Harbor and Akutan), with one community (Unalaska/Dutch Harbor) having multiple processors do so in each year.³⁶

³⁵ "SBPR" is used as an abbreviation for "shore-based processor(s)" in tables (only) in this section. "FLPR" is used as an abbreviation for "floating processor(s)" in tables (only) in this section.

³⁶ Floating processor activity, where location of operation is known, is grouped with shore-based processors. As noted in Table 2-44, this was limited to King Cove only and for two years only. All other floating processors activity (i.e., where operating location is unknown) is attributed to the ownership address of the relevant floating processors, which without exception is the Seattle MSA.

Table 2-44 Shore-based processors in Alaska accepting trawl-caught BSAI Pacific cod deliveries by community of operation, 2004-2019 (number of processors).

Geography	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Annual Average 2004-2019 (number)	Annual Average 2004-2019 (percent)	Unique SBPRs 2004-2019 (number)
Unalaska/Dutch Harbor/Anchorage*	3	3	3	4	4	2	3	4	3	4	4	3	4	3	3	3	3.3	49.07%	6
Akutan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	14.81%	1
Adak	1	1	1	1	1	1	1	0	1	1	1	0	0	0	1	1	0.8	11.11%	5
King Cove**	2	2	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1.0	14.81%	2
Sand Point	1	1	1	1	1	1	0	1	0	1	0	1	0	0	1	1	0.7	10.19%	1
Grand Total	8	8	7	8	8	6	5	7	6	8	6	6	6	5	7	7	6.8	100.00%	15

*The Unalaska/Dutch Harbor SBPR count includes one SBPR shown in the data as operating in Anchorage in 2011 and another SBPR shown as operating in Anchorage in 2013 and 2014. In both cases these processors are known to have operated in Unalaska/Dutch Harbor.
 **The King Cove SBPR count includes one FLPR operating in the community in 2004 and 2005. All other FLPR data are attributed to Seattle (location of ownership address) due to a lack of operating location data.
 Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT

Table 2-45 provides information on the ex-vessel values associated with trawl-caught BSAI Pacific cod deliveries to shore-based processors by community and year (2004-2019) to the extent possible within data confidentiality constraints and taking into account that Akutan is grouped with Unalaska/Dutch Harbor based on the operational similarities between the large, multispecies, BSAI-oriented processing plants in the two communities. As shown, Unalaska/Dutch Harbor and Akutan combined accounted for approximately 70 percent of all deliveries of trawl-caught BSAI Pacific cod to shore-based processors, as measured by ex-vessel values paid, over this period.

Table 2-45 Ex-vessel values of trawl-caught BSAI Pacific cod deliveries to shore-based processors in Alaska by community of operation, 2004-2019 (millions of 2019 real dollars).

Community(ies)	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Annual Average 2004-2019 (number)	Annual Average 2004-2019 (percent)
Akutan/Unalaska/Dutch Harbor/Anchorage***	\$6.18	\$6.61	\$7.35	\$6.31	\$12.75	\$1.54	**	**	**	\$10.95	**	**	**	**	\$9.94	\$6.49	\$8.72	70.72%
Adak/King Cove****/Sand Point	\$7.41	\$4.89	\$4.44	\$11.39	\$6.57	\$5.43	*	*	*	\$2.21	*	*	*	*	\$6.04	\$4.13	\$3.61	29.28%
Grand Total	\$13.59	\$11.50	\$11.79	\$17.69	\$19.31	\$6.97	\$6.16	\$9.68	\$17.66	\$13.16	\$13.53	\$10.14	\$10.71	\$8.73	\$15.98	\$10.62	\$12.33	100.00%

*Confidential data suppressed.
 **Data suppressed to protect confidential data in other cells.
 ***The Unalaska/Dutch Harbor SBPR data includes one SBPR shown in the data as operating in Anchorage in 2011 and another SBPR shown as operating in Anchorage in 2013 and 2014. In both cases these processors are known to have operated in Unalaska/Dutch Harbor.
 ****The King Cove SBPR data includes one FLPR operating in the community in 2004 and 2005. All other FLPR data are attributed to Seattle (location of ownership address) due to a lack of operating location data.
 Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT

Table 2-46 provides information on average annual shore-based processor dependency on deliveries of trawl-caught BSAI Pacific cod compared to all area and species fisheries landings processed by those same processors for the years 2010-2019, as measured in percentage of ex-vessel values associated with deliveries made to the processors. As shown, of the deliveries made to the combined relevant Unalaska/Dutch Harbor and Akutan processors, approximately three percent of all ex-vessel values of landings of all species were associated with trawl-caught BSAI Pacific cod deliveries over that period, while for the processors in Adak, King Cove, and Sand Point combined, that figure was approximately four percent.

Table 2-46 Shore-based processors in Alaska accepting BSAI trawl-caught Pacific cod deliveries ex-vessel gross revenue diversity by community of operation, 2004-2019 (millions of 2019 real dollars).

Community(ies)	Annual Average Number of BSAI Trawl-Caught Pcod SBPRs 2004-2019	BSAI Pcod SBPRs Annual Average Ex-vessel Values Paid for BSAI Trawl-Caught Pcod Only 2004-2019 (\$ millions)	BSAI Pcod SBPRs Annual Average Total Ex-vessel Values Paid for All Area, Gear, and Species Fisheries 2004-2019 (\$ millions)	BSAI Pcod SBPRs Ex-Vessel Values Paid for BSAI Trawl-Caught Pcod as a Percentage of Total Ex-vessel Values Paid (all area, gear, and species fisheries) Annual Average 2004-2019
Akutan/Unalaska/Dutch Harbor/Anchorage*	4.3	\$8.72	\$281.62	3.10%
Adak/King Cove**/Sand Point	2.4	\$3.61	\$82.18	4.39%
Grand Total	6.8	\$12.33	\$363.80	3.39%

*The Unalaska/Dutch Harbor SBPR count includes one SBPR shown in the data as operating in Anchorage in 2011 and another SBPR shown as operating in Anchorage in 2013 and 2014. In both cases these processors are known to have operated in Unalaska/Dutch Harbor.

**The King Cove SBPR data includes the data from one FLPR operating in the community in 2004 and 2005. All other FLPR data are attributed to Seattle (location of ownership address) due to a lack of operating location data.

Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT

While the relatively modest dependency of the large, multi-species plants in Unalaska/Dutch Harbor and Akutan can be attributed to their diversified portfolio of processing activities, which include larger volume and higher value per unit volume fisheries, the situation with the Adak/King Cove/Sand Point grouping is more complicated. While separate data cannot be provided for these three communities, a general knowledge of the industry would suggest that trawl-caught landings of BSAI Pacific cod have been more substantial in Adak than the other two communities, based in part on the location of Adak relative to the fishery, and known differences in historical foci of the plants, with the King Cove and Sand Point plants having a large proportion of their efforts directed toward GOA fisheries, while the plant in Adak, as noted in multiple previous Council analyses, has had a substantial focus on BSAI Pacific cod during those years it has been operational.

Table 2-47 provides information on average annual total shore-based processor dependency on trawl-caught BSAI Pacific cod (all shore-based processors in the communities that had at least one shore-based processor that accepted trawl-caught BSAI Pacific cod deliveries, not just the shore-based processors that participated in that fishery) compared to all area and species fishery landings processed by all processors in the community(ies) for the years 2004-2019, within the constraints of confidentiality restrictions, as measured by ex-vessel values associated with those landings. As shown, for that span of years, trawl-caught BSAI Pacific cod ex-vessel value of landings accounted for about two percent of all shore-based processor ex-vessel value of landings for Unalaska/Dutch Harbor and Akutan combined, while for the other communities as a group that figure remained closer to four percent figure seen for only those plants directly engaged in the BSAI Pacific cod trawl fishery (reflecting the fact that for most years the communities included in the latter grouping each had a single active shore-based processor).

Table 2-47 All areas and species ex-vessel gross revenue diversity by community of operation for all shore-based processors (for Alaska communities with at least one SBPR accepting BSAI trawl-caught Pacific cod deliveries), 2004-2019 (millions of 2019 real dollars).

Community(ies)	Annual Average Number of BSAI Trawl-Caught Pcod SBPRs 2004-2019	Annual Average Number of All SBPRs in those Same Communities (the "Community SBPR Sector") 2004-2019	All Community SBPRs Annual Average Ex-vessel Values Paid for BSAI Trawl-Caught Pcod Only 2004-2019 (\$ millions)	All Community SBPRs Annual Average Total Ex-vessel Values Paid from All Area, Gear, and Species Fisheries 2004-2019 (\$ millions)	All Community SBPRs Annual Average BSAI Trawl-Caught Pcod Ex-vessel Values Paid as a Percentage of Total Ex-Vessel Values Paid (all area, gear, and species fisheries) Annual Average 2004-2019
Akutan/Unalaska/Dutch Harbor/Anchorage*	4.3	19.3	\$8.72	\$375.91	2.32%
Adak/King Cove**/Sand Point	2.4	4.8	\$3.61	\$101.76	3.55%
Grand Total	6.8	24.0	\$12.33	\$477.67	2.58%

*The Unalaska/Dutch Harbor SBPR count includes one SBPR shown in the data as operating in Anchorage in 2011 and another SBPR shown as operating in Anchorage in 2013 and 2014. In both cases these processors are known to have operated in Unalaska/Dutch Harbor.

**The King Cove SBPR data includes the data from one FLPR operating in the community in 2004 and 2005. All other FLPR data are attributed to Seattle (location of ownership address) due to a lack of operating location data.

Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT

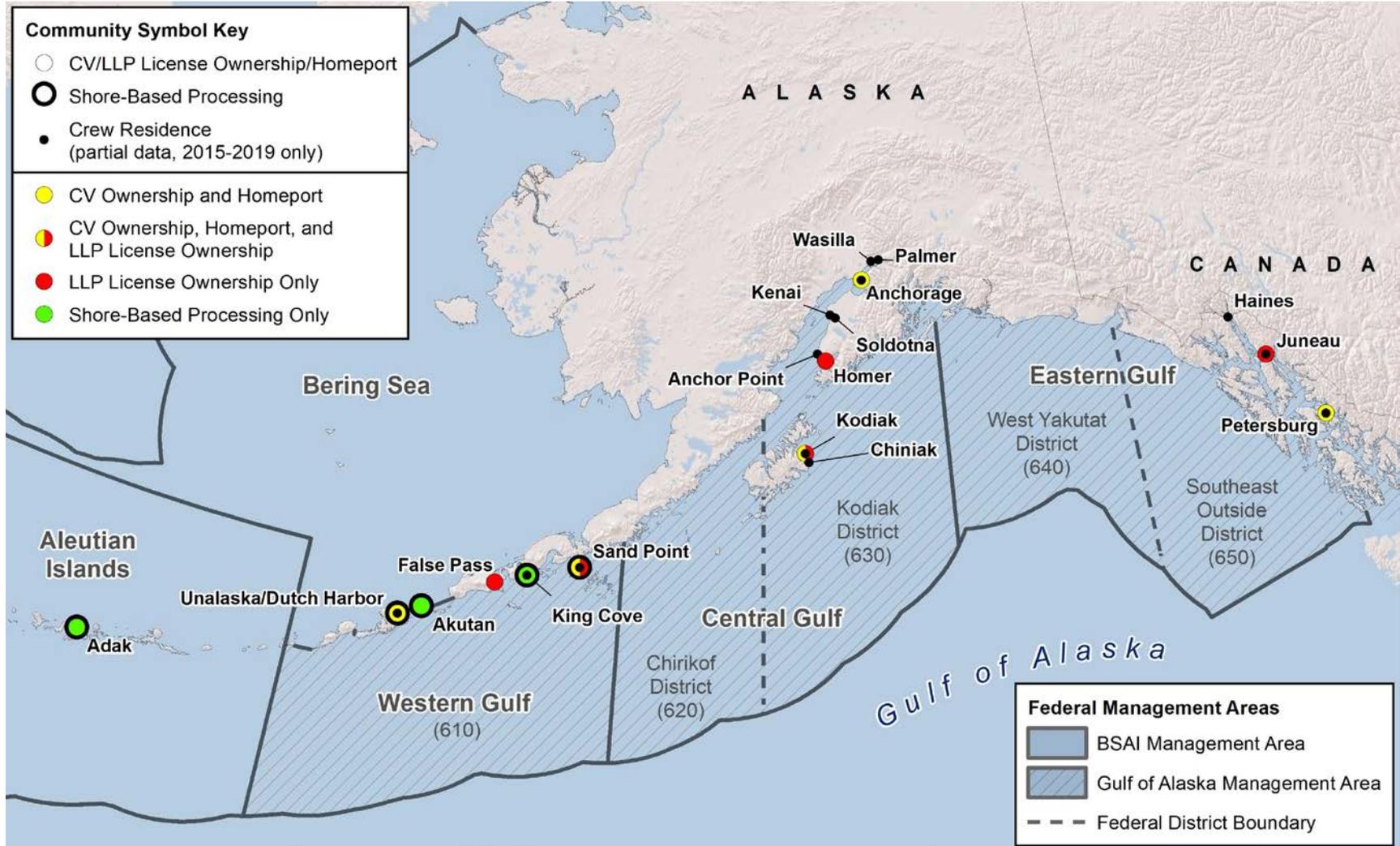
No EDR processing crew employment and earnings data similar to those available for shore-based processors accepting deliveries of trawl-caught GOA groundfish are available for shore-based processors

accepting deliveries of trawl-caught BSAI Pacific cod. Overall, the unavailability of these data is a substantive obstacle to a comprehensive analysis of the human dimensions of the fishery.

Summary of geographic distribution of Alaska community engagement in the BSAI Pacific cod CV trawl fishery

Figure 2-4 summarizes the “geographic footprint” of Alaska community engagement in the BSAI Pacific cod CV trawl fishery by participation type. Communities shown on the map are those that were: (1) the community of ownership address of CVs that made landings and/or LLP licenses that were used in the fishery one or more years 2004-2019; and/or (2) the location of one or more shore-based processors that accepted trawl caught deliveries of BSAI Pacific cod in one or more years 2004-2019; and/or (3) the community of residence address provided by crew members on BSAI Pacific cod trawl CVs that completed GOA trawl EDRs in one or more years 2015-2019; and/or (4) the homeport of BSAI Pacific cod trawl CVs active in the fishery in 2019.

Figure 2-4 Map of Alaska Community Engagement in the BSAI Pacific Cod CV Trawl Fishery by Engagement Type, 2004-2019



BSAI Pacific Cod Hook-and-Line and Pot < 60' Catcher Vessels'

The following discussion of the engagement of communities in the BSAI Pacific cod HAL and pot < 60' CV sector is included in this section (despite these sectors not being directly affected by the proposed alternatives) because one or more of the alternative/option packages may have the effect of lowering annual average of BSAI Pacific cod to the < 60' sectors from the trawl sector from their 2004-2019 historical levels. These regularly occurring if annually variable in scale reallocations have been utilized to by the < 60' fleet to access and harvest more than half of their total catch of BSAI Pacific cod over the 2004-2019 period, such that a substantial diminishment or effective elimination of these reallocations would likely result in substantial adverse consequences to individual participants in the < 60' sector and to one or more Alaska community small boat fleets

The following tables, in combination with the detailed tables in Section 7.3 that are referenced in this section, provide a series of quantitative indicators of sector engagement in and dependency on the BSAI Pacific cod HAL and pot < 60' fisheries, by community and/or regional geography depending on data confidentiality constraints. For Alaska communities, overall community CV fleet dependency is also shown to the extent possible within data confidentiality constraints. No data on crew employment, earnings, or community of residence are available for the BSAI Pacific cod HAL or pot < 60' fleets.

Table 2-48 provides a count, by community of ownership address and year (2004-2019), of BSAI Pacific cod HAL CVs < 60' for all Alaska communities with any vessels active in the fishery during this time, as well as for the Seattle MSA; Washington communities outside of the Seattle MSA as a group; all Oregon communities combined; and all other states/unknown combined. As shown, more Alaska communities (19) participated in this sector through active local ownership address CVs than in the BSAI Pacific cod CV trawl sector (five; see Table 2-32), but overall only two communities (or aggregation of communities) among the states involved averaged one or more vessels with local ownership addresses active on an annual average basis during this period: Unalaska/Dutch Harbor (2.8 vessels) and Kodiak (1.1 vessels). Both communities have seen a decline in participation in the most recent years covered by the data shown, with no vessels with Unalaska/Dutch Harbor ownership address participate in the < 60' HAL CV BSAI Pacific cod fishery in two of the most recent four years, and only one vessel participate in each of the other two years. No Kodiak ownership address vessels participated in the fishery in the most recent seven years covered by the data.

Table 2-48 BSAI Pacific cod HAL CVs < 60' by community of vessel historical ownership address, 2004-2019 (number of vessels).

FMA	Community [CDQ Group]	Alaska Borough or Census Area (CA)*	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Annual Average 2004-2019 (number)	Annual Average 2004-2019 (percent)	Unique Vessels 2004-2019 (number)
AI	Adak**	Aleutians West CA	0	1	1	1	1	1	0	1	0	1	0	0	0	0	0	0	0.4	4.7%	2
BS	Unalaska/Dutch Harbor***	Aleutians West CA	1	6	3	5	3	4	3	3	4	5	4	2	0	0	1	1	2.8	30.4%	13
BS	King Salmon [BBEDC]	BBB	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0.2	2.0%	1
BS	Mekoryuk [CVRF]	Bethel CA	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.1	0.7%	1
BS	Nome [NSEDC]	Nome CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	0.7%	1
BS	Akutan [APICDA]	AEB	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7%	1
CGOA	Kodiak	KIB	3	3	5	2	2	1	0	0	1	0	0	0	0	0	0	0	1.1	11.5%	10
CGOA	Port Lions	KIB	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7%	1
CGOA	Anchor Point	KPB	0	2	0	0	2	2	1	0	0	0	0	0	0	0	0	0	0.4	4.7%	3
CGOA	Homer	KPB	0	2	0	1	1	1	0	0	0	0	0	0	0	1	1	2	0.6	6.1%	7
CGOA	Nikolaevsk	KPB	0	0	1	0	0	1	0	1	1	0	0	0	0	0	0	0	0.3	2.7%	3
CGOA	Anchorage/Girdwood	MA	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7%	2
CGOA	Willow	MSB	0	0	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0.3	3.4%	2
CGOA	Cordova	Valdez-Cordova CA	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.2	2.0%	2
EGOA	Juneau/Douglas	CBJ	0	0	0	0	0	0	2	1	0	0	0	1	0	0	0	0	0.2	2.0%	3
EGOA	Ketchikan	KGB	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.2	2.0%	1
EGOA	Petersburg	PB	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.1	0.7%	1
EGOA	Sitka	CBS	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.1	1.4%	2
(Interior)	Delta Junction	SE Fairbanks CA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	0.7%	1
--	Seattle MSA Washington	--	2	0	1	1	2	0	1	1	1	0	1	1	0	1	1	1	0.9	9.5%	7
--	Other Washington	--	0	1	2	1	2	0	1	1	1	1	0	0	0	0	1	0	0.7	7.4%	7
--	Oregon	--	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.7%	1
--	Other	--	0	0	0	0	0	0	1	0	0	1	1	1	1	0	1	0	0.4	4.1%	4
GRAND TOTAL			7	18	16	14	19	13	9	8	8	10	6	5	1	2	5	7	9.3	100.0%	61

*Communities listed by census area are a part of the Unorganized Borough. Borough abbreviations: BBB = Bristol Bay Borough; AEB = Aleutians East Borough; KIB = Kodiak Island Borough; KPB = Kenai Peninsula Borough; MA = Municipality of Anchorage; MSB = Matanuska-Susitna Borough; CBJ = City and Borough of Juneau; KGB = Ketchikan Gateway Borough; PB = Petersburg Borough; CBS = City and Borough of Sitka.

**Adak is not a part of any CDQ entity, but is the only CQE community in the BSAI region.

***Unalaska is not a CDQ community, but is an ex-officio member of APICDA.

Note: Due to ownership movement between communities over the years shown, the number of vessels per community may not sum to grand totals.

Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA

Data confidentiality constraints limit the amount of revenue information that can be provided for the BSAI Pacific cod HAL < 60' sector on a community or even aggregated community basis outside of Unalaska/Dutch Harbor. Kodiak is the only other community for which data from any individual year are not confidential and then for only three years (2004-2006).

Tables that provide the additional detail on revenue and relative economic dependency are included in Section 7.3, but in summary, Unalaska/Dutch Harbor ownership address CVs that participated in this < 60' fishery sector over the period 2004-2019 generated approximately \$0.26 million in annual average ex-vessel gross revenue from the BSAI Pacific cod deliveries (Table 7-6), which accounted for about 23.5 percent of all ex-vessel gross revenues for these same vessels (Table 7-7). During this same period, the Unalaska/Dutch Harbor "community fleet" (all commercial fishing vessels participating in any area, gear, and species fisheries) annually averaged approximately \$4.8 million in ex-vessel gross revenue, of which HAL <60' sector-caught BSAI Pacific cod accounted for about 5.5 percent of the total combined revenue (Table 7-8). The annual average of 2.8 vessels active in the BSAI Pacific cod HAL < 60' fishery was approximately 14 percent of the annual average number of vessels (20.6) in the Unalaska/Dutch Harbor "community fleet" (Table 7-8).

Shore-based processing of deliveries of BSAI Pacific cod from the HAL < 60' sector throughout the years 2004-2019 occurred in Unalaska/Dutch Harbor³⁷ and Akutan, along with 11 of those 16 years in Adak. In addition, in 2019 only, shore-based processing occurred in Nome. Except for Nome, shore-based processing of trawl-caught BSAI Pacific cod commonly occurred in these same BSAI communities (and no other BSAI communities) during the same period. For this reason, any effective redistribution of historical levels of catch (as opposed to historical levels of allocation) of BSAI Pacific cod between trawl and HAL < 60' vessel sectors that could be reasonably foreseeable under at least some of the proposed alternative and option combinations (if historically common annual levels of roll-overs from the trawl sector to the HAL < 60' sector were to decrease) would likely be neutral from a shore-based processor perspective at the BSAI community or BSAI community group level (because the trawl and HAL < 60' CV sectors deliver to the same shore-based processors the same BSAI communities). That outcome would, of course, not be neutral from a community fleet level perspective, as the pattern distribution of the sectors across Alaska communities are quite different.

Table 2-49 provides a count, by community of ownership address and year (2004-2019), of BSAI Pacific cod pot CVs < 60' for all Alaska communities with any vessels active in the fishery during this time, as well as for the Seattle MSA; Washington communities outside of the Seattle MSA as a group; Oregon communities combined; and all other states/unknown combined. As shown, more Alaska communities (15) participated in this sector through active local ownership address CVs than in the BSAI Pacific cod CV trawl sector (five; see Table 2-32), but overall only two communities (or aggregation of communities) among the states involved averaged two or more vessels with local ownership addresses active on an annual average basis during this period: Unalaska/Dutch Harbor (3.9 vessels), Kodiak (5.5 vessels), and "other Washington" (2.1 vessels). Communities, or groups of communities, that averaged one or more vessels active in this < 60' sector annually included Homer (1.9 vessels), Wasilla (1.1 vessels), and the Seattle MSA (1.3 vessels). The number of vessels participating in the fishery annually has shown a general upward trend over the years 2004-2019 and/or a distinct uptick in the most recent years for three of the four noted Alaska communities (with the exception being Unalaska/Dutch Harbor); notable recent year increases in participation in the sector have also been seen in King Cove, Sand Point, Seward, Anchorage/Girdwood, and Petersburg.

³⁷ The Unalaska/Dutch Harbor SBPR data includes one SBPR shown in the data as operating in Anchorage in 2011 and another SBPR shown as operating in Anchorage in 2013 and 2014. In both cases these processors are known to have actually operated in Unalaska/Dutch Harbor.

Table 2-49 BSAI Pacific cod pot CVs < 60' by community of vessel historical ownership address, 2004-2019 (number of vessels).

FMA	Community (CDQ Group)	Alaska Borough or Census Area (CA)*	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Annual Average 2004-2019 (number)	Annual Average 2004-2019 (percent)	Unique Vessels 2004-2019 (number)	
			BS	Unalaska/Dutch Harbor**	Aleutians West CA	1	5	7	4	4	4	3	4	2	3	4	5	5	4	4	3	3.9
BS	St. Paul (CBSFA)	Aleutians West CA	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.1	0.3%	1	
WGOA	King Cove	AEB	2	1	0	2	0	0	0	0	0	0	0	0	0	0	0	3	3	0.7	3.2%	5
WGOA	Sand Point	AEB	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0.2	0.9%	2	
CGOA	Kodiak	KIB	5	5	5	6	5	2	4	5	6	5	5	4	6	6	9	10	5.5	25.9%	17	
CGOA	Homer	KPB	0	0	0	1	1	0	0	0	2	2	3	2	5	4	5	6	1.9	9.1%	8	
CGOA	Kenai	KPB	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0.2	0.9%	1	
CGOA	Seward	KPB	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0.5	2.4%	1	
CGOA	Chignik Lagoon	LPB	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3%	1	
CGOA	Anchorage/Girdwood	MA	0	0	0	0	1	0	0	0	0	0	0	0	0	1	3	3	0.5	2.4%	4	
CGOA	Wasilla	MSB	0	0	0	0	0	0	1	1	2	2	2	2	2	2	2	2	1.1	5.3%	2	
EGOA	Juneau/Douglas	CBJ	0	0	0	0	1	1	1	0	0	0	1	1	1	1	0	1	0.5	2.4%	5	
EGOA	Ketchikan	KGB	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.3%	1	
EGOA	Klawock	Prince of Wales-Hyder CA	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0.1	0.6%	1	
EGOA	Petersburg	PB	1	1	0	0	0	0	1	0	0	1	0	2	3	2	3	4	1.1	5.3%	6	
--	Seattle MSA Washington	--	1	0	0	0	1	1	0	1	1	4	3	2	2	2	1	2	1.3	6.2%	6	
--	Other Washington	--	1	0	1	2	1	4	3	3	5	2	1	1	1	0	4	5	2.1	10.0%	13	
--	Oregon	--	0	0	1	2	2	2	0	0	0	2	1	0	0	0	0	0	0.6	2.9%	4	
--	Other	--	0	1	0	0	0	0	0	0	1	1	0	0	1	3	3	2	0.8	3.5%	6	
GRAND TOTAL			11	13	16	17	16	17	14	15	20	24	21	21	27	26	39	43	21.3	100.0%	79	

*Communities listed by census area are a part of the Unorganized Borough. Borough abbreviations: AEB = Aleutians East Borough; KIB = Kodiak Island Borough; KPB = Kenai Peninsula Borough; LPB = Lake and Peninsula Borough; MA = Municipality of Anchorage; MSB = Matanuska-Sustna Borough; CBJ = City and Borough of Juneau; KGB = Ketchikan Gateway Borough; PB = Petersburg Borough.

**Unalaska is not a CDQ community, but is an ex-officio member of APICDA.

Note: Due to ownership movement between communities over the years shown, the number of vessels per community may not sum to grand totals.

Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA

Data confidentiality constraints limit the amount of revenue information that can be provided for the BSAI Pacific cod pot < 60' sector on a community or even aggregated community basis outside of Unalaska/Dutch Harbor and Kodiak, and even in those two communities data are confidential for two years (2004 and 2012) and one year (2009), respectively. The only other Alaska communities with data for one or more years that are not confidential are King Cove (2018 and 2019), Homer (2014 and 2016-2019) and Petersburg (2016 and 2018-2019).

Tables that provide the additional detail on revenue and relative economic dependency are included in Section 7.3, but in summary:

- Unalaska/Dutch Harbor ownership address CVs that participated in BSAI Pacific cod pot < 60' sector over the period 2004-2019 generated approximately \$0.97 million in annual average ex-vessel gross revenue from the BSAI Pacific cod deliveries (Table 7-9), which accounted for about 46.5 percent of all ex-vessel gross revenues for these same vessels (Table 7-10). During this same period, the Unalaska/Dutch Harbor “community fleet” (all commercial fishing vessels participating in any area, gear, and species fisheries) annually averaged approximately \$4.8 million in ex-vessel gross revenue, of which pot <60' sector-caught BSAI Pacific cod accounted for about 20.2 percent of the total combined revenue of the Unalaska/Dutch Harbor “community fleet” (Table 7-11). The annual average of 3.9 vessels active in the BSAI Pacific cod pot < 60' fishery made up approximately 19 percent of the annual average number of vessels (20.6) in the Unalaska/Dutch Harbor “community fleet” (Table 7-11).
- Kodiak ownership address CVs that participated in BSAI Pacific cod pot < 60' sector over the period 2004-2019 generated approximately \$3.06 million in annual average ex-vessel gross revenue from the BSAI Pacific cod deliveries (Table 7-9), which accounted for about 42.7 percent, respectively, of all ex-vessel gross revenues for these same vessels (Table 7-10). During

this same period the Kodiak “community fleet” (all commercial fishing vessels participating in any area, gear, and species fisheries) annually averaged approximately \$126.5 million in ex-vessel gross revenue, of which pot <60’ sector-caught BSAI Pacific cod accounted for about 2.4 percent of the total combined revenue of the “community fleet” (Table 7-11). The annual average of 5.5 vessels active in the BSAI Pacific cod pot < 60’ fishery made up approximately 2.1 percent of the annual average number of vessels (260) in the Kodiak “community fleet” (Table 7-11).

Shore-based processing of deliveries of BSAI Pacific cod from the pot < 60’ sector throughout the years 2004-2019 occurred in BSAI communities of Unalaska/Dutch Harbor³⁸ and Akutan, along with eight of those 16 years in Adak. Shore-based processing of trawl-caught BSAI Pacific cod commonly occurred in these same BSAI communities. In addition, shore-based processing of pot < 60’ sector caught BSAI Pacific cod occurred in one or more years in the GOA communities of King Cove (9 of the 16 years), Kodiak (2014, 2015, and 2017), Sand Point (2006 and 2019), and False Pass (2019). In King Cove and Sand Point, shore-based processing of trawl-caught BSAI Pacific cod commonly occurred in these same communities, but trawl-caught BSAI Pacific cod was not processed in Kodiak or False Pass in any year 2004-2019. In general, processing volumes and values of BSAI Pacific cod deliveries made by trawl vessels and pot < 60’ vessels to shore-based processors in the GOA communities as a group were modest compared to those made to shore-based processors in the BSAI communities as a group.

In terms of overall relative scale of the BSAI Pacific cod HAL < 60’, pot < 60’, and trawl CV sectors as measured in 2004-2019 annual average ex-vessel gross revenues (including vessels from all regions and states and including all deliveries in the BSAI Pacific cod fishery, not just those to shore-based processors), the combined HAL and pot sectors averaged approximately \$10.81 million per year, about 6.4 percent (\$0.69 million, Table 7-6) of which was attributed to the HAL < 60’ sector and 93.6 percent (\$10.11 million, Table 7-9) was attributed to the pot < 60’ sector. During this same period, the annual average ex-vessel gross revenues from BSAI Pacific cod fishery deliveries by trawl CV sector was approximately \$23.54 million (Table 2-33). The smaller scale of the < 60’ sector fisheries does not, however, mean they are unimportant at the local sector or local fleet level for some communities.

Looking at a combination of the BSAI Pacific cod HAL and pot < 60’ fisheries, for Unalaska/Dutch Harbor ownership address vessels, these fisheries accounted for roughly one-quarter and one-half, respectively, of the total ex-vessel gross revenues of the vessels participating in those fisheries. Looking at the Unalaska/Dutch Harbor local ownership address “community fleet” as a whole, a relatively small fleet composed of relatively small vessels, these two fishery sectors together accounted for one-quarter of all ex-vessel gross revenues for the entire local fleet 2004-2019.

For Kodiak, with a local ownership address “community fleet” including many more (and many larger) vessels than the Unalaska/Dutch Harbor “community fleet,” the contribution of the BSAI Pacific cod HAL and pot < 60’ fisheries combined over the years 2004-2019 accounted for less than three percent of the total “community fleet” ex-vessel gross revenues. However, the \$3.06 million in ex-vessel gross revenues generated on an annual average basis 2004-2019 for BSAI Pacific cod landings by the Kodiak ownership address pot < 60’ sector (Table 7-11) was over five times greater than the approximately \$0.55 million in ex-vessel gross revenues generated on an annual average basis for BSAI Pacific cod landings by the Kodiak ownership address trawl sector over this same period (Table 2-33).

It is clear that the reallocations of BSAI Pacific cod due to reallocations from the trawl sector to the < 60’ sectors, which over the period 2004-2019 ranged from 1,247 mt (2005) to 7,500 mt (2014) per year (Table 2-25), are important to those same local sectors and community fleets. These reallocations allowed the combined HAL and pot < 60’ CVs to access and harvest an annual average of 221 percent of their

³⁸ The Unalaska/Dutch Harbor SBPR data includes one SBPR shown in the data as operating in Anchorage in 2011 and another SBPR shown as operating in Anchorage in 2013 and 2014. In both cases these processors are known to have actually operated in Unalaska/Dutch Harbor.

initial BSAI Pacific cod allocation over the years 2004-2019, ranging from 141 percent (2009) to 305 percent (2019) in any given year.

2.6.8.2. The Community Context of the BSAI Pacific Cod Trawl Fishery

The among Alaska communities, Unalaska/Dutch Harbor, Akutan, Adak, and Kodiak (and, to a lesser extent, King Cove and Sand Point) appear to potentially be substantially engaged in or dependent on portions of the BSAI Pacific cod fishery. Extensive descriptive information is available and readily accessible for each of these communities in documents prepared in whole or in part to support the Council's management decision making process for other actions. These include the 2005 Comprehensive Baseline Commercial Fishing Community Profiles for Unalaska, Akutan, King Cove, and Kodiak³⁹ and the 2008 parallel volume that includes Sand Point and Adak.⁴⁰ While these sources are now somewhat dated, they represent the most current comprehensive fishing-oriented profiles available. Council social impact assessments SIAs containing more recent if less broadly comprehensive information on these communities include the 2020 BSAI Halibut ABM of PSC Limits SIA,⁴¹ the 2017 BSAI Crab Rationalization 10-year program review SIA,⁴² the 2017 Central GOA Rockfish Program Review SIA,⁴³ and the 2016 GOA Trawl Bycatch Management Analysis SIA,⁴⁴ among others. The detailed community descriptions in those documents are incorporated by reference rather than recapitulated or summarized here. The following sections focus on the key points of engagement and dependency of these communities with respect to the relevant sectors of the BSAI Pacific cod fishery.

Table 2-50 provides an overview of more recent demographic characteristics for Unalaska/Dutch Harbor, Akutan, Adak, Kodiak, King Cove and Sand Point than are available in the resources noted above as incorporated by reference. Also included in this table are False Pass and Homer, communities noted below as having at least limited and/or recent direct engagement in the fishery, as well as Atka, which may benefit from AI processor provisions, should Element 6 of the suite of alternatives, elements, and options be included in the ultimately adopted preferred alternative. Table 2-51 provides updated data on school enrollments in those same communities, for both kindergarten through 12th grade (KG-12) and pre-kindergarten through 12th grade (PK-12), by community for the 2019-2020 school year, the most recent year for which data are available. Table 2-52 provides an institutional summary for those same communities, including borough and municipal incorporation type information, status as an Alaska Native village under the Alaska Native Claims Settlement Act (ANCSA), federally recognized tribe status, and CDQ membership status.

³⁹ https://www.npfmc.org/wp-content/PDFdocuments/catch_shares/AKCommunityProfilesVol1.pdf

⁴⁰ https://www.npfmc.org/wp-content/PDFdocuments/catch_shares/AKCommunityProfilesVol2.pdf

⁴¹ <https://meetings.npfmc.org/CommentReview/DownloadFile?p=c4ce1ca1-e8d9-4625-a6d4-03122725ebc0.pdf&fileName=C6%20Appendix%201%20Halibut%20ABM%20DEIS%20SIA.pdf>

⁴² https://www.npfmc.org/wp-content/PDFdocuments/catch_shares/Crab/AppendixA-SocialImpactAssessment.pdf

⁴³ https://www.npfmc.org/wp-content/PDFdocuments/catch_shares/Rockfish/CGOA_RockfishReview_SIA1017.pdf

⁴⁴ https://www.npfmc.org/wp-content/PDFdocuments/catch_shares/GOAtrawlSIA.pdf

Table 2-50 Selected demographic characteristics: Alaska communities engaged in the BSAI Pacific cod CV fishery 2004-2019, Atka, and the State of Alaska

Community	2010 Decennial Census Data				2018 American Community Survey Data				
	Total Population	Alaska Native/ Native American Residents (percent of total population)	Minority* Residents (percent of total population)	Residents Living in Group Quarters** (percent of total population)	Per Capita Income (dollars)	Median Household Income (dollars)	Number of Family House- holds	Median Family Income (dollars)	Low-Income*** Residents (percent of total population)
Adak	326	5.5%	81.9%	66.6%	\$28,529	\$71,667	22	\$63,750	26.6%
Atka	61	95.1%	95.1%	0.0%	\$28,066	\$51,875	7	--	17.1%
Unalaska/Dutch Harbor	4,376	6.1%	66.3%	48.0%	\$37,404	\$92,273	589	\$97,344	7.2%
Akutan	1,027	5.5%	90.8%	91.2%	\$31,040	\$31,250	37	\$38,125	17.8%
False Pass	35	77.1%	80.0%	0.0%	\$43,494	--	14	\$114,375	0.0%
King Cove	938	38.4%	89.9%	46.7%	\$31,236	\$75,000	175	\$77,188	15.2%
Sand Point	976	39.0%	86.1%	35.9%	\$32,266	\$69,063	280	\$77,778	16.6%
Kodiak	6,130	9.9%	62.7%	1.3%	\$31,942	\$71,554	1,247	\$75,417	9.5%
Homer	5,003	4.1%	11.7%	0.8%	\$34,176	\$59,837	1,411	\$79,960	8.9%
State of Alaska	626,932	14.1%	37.1%	1.8%	\$35,874	\$76,715	167,633	\$90,284	10.8%

*Defined as all persons other than those self-identified being in both "white" and "non-Hispanic" census categories.

**Defined as "other noninstitutional facilities," which excludes institutionalized populations, college/university student housing, and military quarters.

***Defined as those persons living below the poverty threshold by the U.S. Census Bureau in the 2014-2018 American Community Survey. As a point of reference, a family of four (two adults and two children) had a poverty threshold of \$25,926 in 2019.

Source: US Census 2010; US Census 2019.

Table 2-51 School total enrollments, 2019/2020 school year (as of October 1, 2019), Kindergarten-Grade 12 and Pre-Kindergarten-Grade 12, by community for Alaska communities engaged in the BSAI Pacific cod CV fishery 2004-2019 and Atka

Community	School District	School	Total KG-12	Total PK-12
Adak	Aleutian Region School District	Adak School	18	19
Atka	Aleutian Region School District	Yakov E. Netsvetov School	10	10
Unalaska	Unalaska City School District	Eagle's View Elementary School	238	238
Unalaska	Unalaska City School District	Unalaska Jr/Sr High School	174	174
Akutan	Aleutians East Borough School District	Akutan School	20	20
False Pass	Aleutians East Borough School District	False Pass School	6	7
King Cove	Aleutians East Borough School District	King Cove School	82	87
Sand Point	Aleutians East Borough School District	Sand Point School	111	120
Kodiak	Kodiak Island Borough School District	East Elementary	258	314
Kodiak	Kodiak Island Borough School District	Main Elementary	216	216
Kodiak	Kodiak Island Borough School District	North Star Elementary	230	230
Kodiak	Kodiak Island Borough School District	Peterson Elementary	245	268
Kodiak	Kodiak Island Borough School District	Kodiak Middle School	628	628
Kodiak	Kodiak Island Borough School District	Kodiak High School	475	475

Source: <https://education.alaska.gov/data-center>, accessed 8/3/2020.

Table 2-52 Community institutional summary: Alaska communities engaged in the BSAI Pacific cod CV fishery 2004-2019 and Atka

Community	Alaska Native Community Name (Language)	Borough	Municipal Government	Incorporation Type (and Date)	ANCSA Community	ANCSA Regional Corporation	ANCSA Village Corporation	Federally Recognized Tribe	CDQ Community (Group)
Adak	Adaax (Unangan Aleut)	Unorganized Borough	City of Adak	2nd Class City (2001)	No	Aleut Corporation	--	--	No
Atka	Abx'ax' (Unangan Aleut)	Unorganized Borough	City of Atka	2nd Class City (1988)	Yes	Aleut Corporation	Abxam Corporation	Native Village of Atka	Yes (APICDA)
Unalaska	Iluulux' (Unangan Aleut)	Unorganized Borough	City of Unalaska	1st Class City (1942)	Yes	Aleut Corporation	Ounalashka Corporation	Qawalangin Tribe of Unalaska	No*
Akutan	Achan-ingiiga (Unangan Aleut)	Aleutians East Borough	City of Akutan	2nd Class City (1979)	Yes	Aleut Corporation	Akutan Corporation	Native Village of Akutan	Yes (APICDA)
False Pass	IsanaX (Unangan Aleut)	Aleutians East Borough	City of False Pass	2nd Class City (1990)	Yes	Aleut Corporation	Isanotski Corporation	Native Village of False Pass	Yes (APICDA)
King Cove	Agdaagux' (Unangan Aleut)	Aleutians East Borough	City of King Cove	1st Class City (1947)	Yes	Aleut Corporation	The King Cove Corporation	Agdaagux Tribe of King Cove**	No
Sand Point	Not Available	Aleutians East Borough	City of Sand Point	1st Class City (1978)	Yes	Aleut Corporation	Shumagin Corporation	Qagan Tayagungin Tribe of Sand Point Village***	No
Kodiak	Sun'aq (Sugt'stun)	Kodiak Island Borough	City of Kodiak	Home Rule City (1940)	Yes	Koniag, Inc.	Natives of Kodiak, Incorporated	Sun'aq Tribe of Kodiak	No

*Although Unalaska is not a CDQ community, it is an ex-officio member of APICDA.

**There are two federally recognized tribes located in the contemporary community of King Cove. In addition to the tribe noted above, the Native Village of Belkofski is also present in the community.

***There are three federally recognized tribes located in the contemporary community of Sand Point. In addition to the tribe noted above, Pauloff Harbor Village and the Native Village of Unga are also present in the community.

Source: DCRA Community Database, <https://dcra-cdo-dcoed.opendata.arcgis.com/> Accessed 10/6/2020.

Unalaska/Dutch Harbor, Akutan, and Adak

The communities of Unalaska/Dutch Harbor, Akutan, and Adak over the years 2004-2019 were directly engaged in the BSAI Pacific cod trawl fishery primarily as the location of shore-based processing operations that accepted deliveries of trawl-caught BSAI Pacific cod. Aside from one vessel in 2007 with an Unalaska/Dutch Harbor ownership address, no BSAI Pacific cod trawl CVs with ownership addresses in any of these communities participated in the fishery in any year 2004-2019 nor were any LLP licenses with ownership addresses in any of these communities used aboard vessels active in the fishery during that period. While together the shore-based processors in Unalaska/Dutch Harbor and Akutan accounted for approximately 70 percent of all trawl-caught BSAI Pacific cod CV deliveries, a general knowledge of the fishery would suggest that the large plants in these communities are relatively less economically dependent on these deliveries than is the plant in Adak during the years it has operated, given the more diversified portfolio of the much larger Unalaska/Dutch Harbor and Akutan plants, which is not to say the fishery is unimportant to the annual operational rounds of those plants as, for example, a fishery may also be valuable for providing income and employment opportunities for processing crews during an otherwise slow time of the year, a chance to recover at least a portion of fixed costs during that time, and/or opportunities for maintaining positive business relationships with CVs with which the plant may have ongoing ties.

As noted in the previous section, shore-based processing of deliveries of BSAI Pacific cod by the HAL < 60' fleet over the years 2004-2019 took place almost exclusively in Unalaska/Dutch Harbor and Akutan. Shore-based processing of deliveries by BSAI Pacific cod by the pot < 60' fleet also took place in Unalaska/Dutch Harbor and Akutan in the BSAI region (and, to a lesser extent, in King Cove, Sand Point, and Kodiak in the GOA region).

Also as noted in the previous section, no BSAI Pacific cod HAL and/or pot < 60' CVs active in the fishery 2004-2019 had Akutan ownership addresses and only one Adak ownership address vessel participated in the HAL portion of that sector during that same period (specifically in seven out of the nine years 2005-2013). In contrast, a substantial portion of the Unalaska/Dutch Harbor ownership address CV fleet participated in both the HAL and/or pot components of the < 60' fishery each year 2004-2019.

While Unalaska/Dutch Harbor participates at an industrial scale in all of the major BSAI fisheries through the locally operating shore-based processing sector and support service sectors, the local CV fleet is composed of relatively small vessels that are relatively few in number. The revenues generated by the HAL and pot < 60' CVs in the BSAI Pacific cod fisheries are substantial not just for the vessels directly involved but also at the Unalaska/Dutch Harbor "community fleet" level.

Unalaska, traditionally an Aleut community, has become a relatively large, plural community with population growth that has accompanied port and fisheries-related development. Despite being an ANCSA village and having a federally recognized tribe, Unalaska did not qualify for CDQ membership based in part on having previously developed harvesting or processing capability sufficient to support substantial groundfish participation in the BSAI. It is, however, an *ex-officio* member of the Aleutian Pribilof Island Community Development Association (APICDA) CDQ group, a status that facilitates the participation of Unalaska residents in a range of APICDA programs. While the Unalaska/Dutch Harbor local commercial fishing fleet is typically represented in the Council and other regulatory processes by the Unalaska Native Fishermen's Association which, according to tribal leadership has a close working relationship with the Qawalangin Tribe of Unalaska, membership is not limited to those residents of Alaska Native descent. The demographics of the owners and crew of the specific < 60' HAL/pot vessels that would potentially experience adverse impacts under one or more of the proposed alternatives are unknown, but a general knowledge of the fleet would suggest that its demographics are largely reflective of the general/residential population of the community as a whole.

Adak is also a relatively diverse community with a shore-based processor and is still transitioning from its days as a relatively large military base in the 1990s to a small civilian Alaskan community. While not an ANCSA community or the location of a federally recognized tribe, Adak does have strong ties to the Aleut Corporation (AC), which is the ANCSA regional corporation, and its subsidiaries, which have been heavily involved with the conversion of the former military installation into a civilian community with a local economy based on commercial fishing and maritime support services. The AC and its subsidiaries own much of the infrastructure in the community, including the building that houses seafood processing operations, and are otherwise directly involved in fishery issues as the recipient of a directed fishery allocation of AI pollock to support the economic development of the community of Adak. While not a CDQ community, Adak is the only community outside of the GOA with a Community Quota Entity (CQE). The local CQE, the Adak Community Development Corporation, is involved with range of fishery issues, including (1) managing the community's 10 percent allocation of the Western Aleutian golden king crab quota initially allocated under the BSAI crab rationalization program to aid in the development of seafood harvesting and processing activities within the community and (2) increasing Adak ownership of IFQ in the halibut and sablefish fisheries through the CQE program. The City of Adak is financially involved in the local seafood processing plant as it bought processing equipment from a former plant operator and then financed the sale of the gear to the most recent plant operator, which ceased operations in June, 2020.

The community of Akutan is somewhat unique demographically since it is the home of a large shore-based processor and the demographics of the processing workforce residing in company housing at the plant site tend to overshadow those of the comparatively small, predominately Alaska Native population residing within the traditional community footprint. The dual nature of the community demographics and socioeconomic attributes is reflected in the history of the community involvement in the CDQ program. Initially (in 1992), Akutan was deemed not eligible for participation in the CDQ program as the community was home to "previously developed harvesting or processing capability sufficient to support substantial groundfish participation in the BSAI..." though the community met other qualifying criteria. The Akutan Traditional Council subsequently initiated action to show that large industrial enclave-style development of the locally operating shore-based processor was essentially socially and economically separate and distinct from the traditional community of Akutan. With the support of APICDA and others,

Akutan was successful in obtaining CDQ community status in 1996 and became a member community of APICDA.

Since becoming the sites of shore-based processing operations, Unalaska/Dutch Harbor, Akutan, and Adak have historically had a substantial proportion of their populations living in group quarters, and the percentage of minority residents in all three communities has been much higher than the percentage of Alaska Native residents alone. One specific demographic challenge faced by Adak and Akutan has been retaining a large enough number of families with children to qualify for state funding of a school in the community (which requires a minimum of 10 students). The loss of any families with school age children from the community raises concerns about the ability to keep the school open which, were they to close, would make retention of other families with school age children in the community all the more difficult.⁴⁵

With respect to local economies, the importance of commercial fishing for Unalaska/Dutch Harbor cannot be overstated, as Unalaska/Dutch Harbor has ranked as the number one U.S. port in volume of landings since 1992 and has ranked second in value of landings (behind New Bedford, Massachusetts) since 2000. In recent years, employment statistics for Unalaska/Dutch Harbor have shown that the top three employers in the community were seafood processing companies, and that their employees accounted for over half of all employment in the city. The support service sector for the commercial fishing fleet is by far the most developed in the BSAI region, and Unalaska and firms dependent on the fisheries, such as stevedoring and shipping, regularly rank as some of the largest employers. There is no other community in the region with the level of development or the range of support services provided to the various fishery sectors operating in the BSAI region, which include accounting and bookkeeping, banking, construction and engineering, diesel sales and service, electrical and electronics services, freight forwarding, hydraulic services, logistical support, marine pilots/tugs, maritime agencies, gear replacement and repair, vessel repair, stevedoring, vehicle rentals, warehousing, and welding, among others (AECOM 2010; NOAA 2014).

Akutan, in contrast, has seen little in the way of fishery support service development, but the local processing operation accounts for a large percentage of local private sector employment and income opportunities. Adak also has few support capabilities relatively to those available in Unalaska/Dutch Harbor aside from its deep water port, a fueling station capable of accommodating large vessels, and the ability to support larger-scale aircraft operations at its airport than any other civilian community west of Cold Bay which, along with the local housing supply, has been used to facilitate fishing vessel crew transfers among other logistical fishery support functions.

Table 2-53 provides information on City of Unalaska tax revenue deriving from sources directly related to fishing activities (the city raw seafood tax, the state shared fisheries business tax, and the state shared fisheries resource landing tax) compared to all general fund revenues received by the city for fiscal years 2010-2019. As shown, for the City of Unalaska, between roughly 37 percent and 50 percent of all general fund revenues in any given year derive from direct fishery revenue sources. These figures do not take into account revenue from other taxes and fees from activities in the community that are fishing related (e.g. property taxes paid by fisheries businesses, fuel transfer tax revenue, and harbor fee revenue, among others).

⁴⁵ In the case of Adak, it is known that following the closure of the local processing plant in 2020, a family with four school age children has left the community (Minor, personal communication, 8/6/2020), moving the number of potential school enrollees closer to the minimum required for state funding.

Table 2-53 City of Unalaska selected fisheries-related general fund revenues, fiscal years 2010-2019.

Fiscal Year	Revenue (dollars) by Direct Fishery Revenue Source				All General Fund Revenue	Direct Fishery Revenue Source Total as a Percent of All General Fund Revenue
	Direct Fishery Revenue Source					
	City Raw Seafood Tax	Shared State Fisheries Business Tax	Shared State Fisheries Resource Landing Tax	Direct Fishery Revenue Source Total		
FY 2010	\$3,594,173	\$4,547,084	\$4,676,603	\$12,817,860	\$29,604,371	43.3%
FY 2011	\$5,371,768	\$3,199,290	\$3,531,739	\$12,102,797	\$29,152,912	41.5%
FY 2012	\$5,260,999	\$4,143,777	\$3,469,263	\$12,874,039	\$31,634,417	40.7%
FY 2013	\$4,784,198	\$4,398,441	\$4,898,543	\$14,081,182	\$32,609,892	43.2%
FY 2014	\$4,449,921	\$4,377,934	\$6,974,887	\$15,802,742	\$34,376,971	46.0%
FY 2015	\$4,981,770	\$3,639,448	\$5,014,309	\$13,635,527	\$34,525,170	39.5%
FY 2016	\$5,123,372	\$4,099,315	\$3,034,438	\$12,257,125	\$30,723,626	39.9%
FY 2017	\$4,657,385	\$4,276,287	\$8,272,661	\$17,206,333	\$34,371,441	50.1%
FY 2018	\$4,475,150	\$4,014,323	\$4,532,106	\$13,021,579	\$30,300,957	43.0%
FY 2019	\$4,761,506	\$3,528,499	\$5,220,958	\$13,510,963	\$36,419,248	37.1%

Source: City of Unalaska, Alaska. Comprehensive Annual Financial Reports, Fiscal Years 2010-2019.
<https://www.commerce.alaska.gov/dcra/dcrepoeext/Pages/FinancialDocumentsLibrary.aspx>. Accessed 4/25/2020.

Table 2-54 provides information on City of Akutan tax revenues deriving from direct fishery revenue sources (the city raw seafood tax, the state shared fisheries business tax, and the state shared fisheries resource landing tax) compared to all general fund revenues received by the city for fiscal years 2010-2019. As shown, for the City of Akutan, between roughly 75 percent and 99 percent of all general fund revenues in any given year derive from direct fishery revenue sources.

Table 2-54 City of Akutan selected fisheries-related general fund revenues, fiscal years 2010-2019.

Fiscal Year	Revenue (dollars) by Direct Fishery Revenue Source				All General Fund Revenue	Direct Fishery Revenue Source Total as a Percent of All General Fund Revenue
	Direct Fishery Revenue Source					
	City Raw Seafood Tax	Shared State Fisheries Business Tax	Shared State Fisheries Resource Landing Tax	Direct Fishery Revenue Source Total		
FY2010	\$753,127	\$1,088,369	\$307,561	\$2,149,057	\$2,588,527	83.0%
FY 2011	\$1,222,653	\$827,408	\$154,758	\$2,204,819	\$2,926,637	75.3%
FY 2012	\$1,385,057	\$853,570	\$244,134	\$2,482,761	\$3,077,710	80.7%
FY 2013	\$1,663,209	\$1,186,396	\$178,611	\$3,028,216	\$3,831,293	79.0%
FY 2014	\$1,715,128	\$1,217,118	\$157,540	\$3,089,786	\$3,602,184	85.8%
FY 2015	\$1,774,963	\$1,029,663	\$69,412	\$2,874,038	\$3,418,630	84.1%
FY 2016	\$2,098,763	\$943,814	\$173,049	\$3,215,626	\$3,253,634	98.8%
FY 2017	\$2,044,698	\$1,082,206	\$210,114	\$3,337,018	\$3,784,609	88.2%
FY 2018	\$1,985,328	\$1,358,949	\$4,916	\$3,349,193	\$3,796,184	88.2%
FY 2019	\$2,101,784	\$1,097,955	\$163,372	\$3,363,111	\$3,887,032	86.5%

Note: in 2013, the City of Akutan raised its local fish tax from 1.0 to 1.5 percent.
Source: City of Akutan, Alaska Basic Financial Statements, Required Supplementary Information, Additional Supplementary Information, and Compliance Reports, fiscal years 2010-2013 and 2015-2019; Certified Financial Statement, fiscal year 2014.
<https://www.commerce.alaska.gov/dcra/dcrepoeext/Pages/FinancialDocumentsLibrary.aspx>. Accessed 9/15/2020.

Table 2-55 provides information on City of Adak tax revenues deriving from direct fishery revenue sources (the city raw seafood tax, the state shared fisheries business tax, and the state shared fisheries resource landing tax) compared to all general fund revenues received by the city for fiscal years 2010-2019. As shown, for the City of Adak, between roughly 25 percent and 49 percent of all general fund revenues in any given year derive from direct fishery revenue sources

Table 2-55 City of Adak selected fisheries-related general fund revenues, fiscal years 2010-2019.

Fiscal Year	Revenue (dollars) by Direct Fishery Revenue Source						Direct Fishery Revenue Source Total	All General Fund Revenue	Direct Fishery Revenue Source Total as a Percent of All General Fund Revenue
	Direct Fishery Revenue Source								
	City Raw Seafood Tax	State Fisheries Business Tax from DOR	State Fisheries Resource Landing Tax from DOR	State Fisheries Business Tax from DCCED	State Fisheries Resource Landing Tax from DCCED	Direct Fishery Revenue			
FY 2010	na	\$311,439	\$97,736	\$308,178	\$0	\$717,353	\$1,464,483	49.0%	
FY 2011	na	\$13,567	\$54,949	\$98,973	\$92,919	\$260,408	\$1,015,485	25.6%	
FY 2012	na	\$143,848	\$40,219	\$122,743	\$165,964	\$472,774	\$1,916,341	24.7%	
FY 2013	\$108,094	\$75,469	\$61,035	\$145,816	\$115,360	\$505,774	\$1,507,930	33.5%	
FY 2014	\$140,193	\$168,370	\$86,452	\$139,135	\$111,999	\$646,149	\$1,410,574	45.8%	
FY 2015	\$65,349	\$122,489	\$54,660	\$108,405	\$40,443	\$391,346	\$1,310,497	29.9%	
FY 2016	\$76,313	\$67,968	\$1,683	\$110,149	\$14,351	\$270,465	\$1,084,898	24.9%	
FY 2017	\$108,602	\$44,636	\$103,209	\$82,413	\$158,858	\$497,718	\$1,208,202	41.2%	
FY 2018	\$290,839	\$34,908	\$74,247	\$121,121	\$79,832	\$600,947	\$1,549,197	38.8%	
FY 2019	\$330,883	\$34,131	\$161,256	\$73,844	\$121,952	\$722,066	\$1,478,153	48.8%	

Source: City of Adak, Alaska. Annual Consolidated Financial Statements Fiscal Years 2010-2019.
<https://www.commerce.alaska.gov/dcr/dcrarepoext/Pages/FinancialDocumentsLibrary.aspx>. Accessed 9/15/2020.

Kodiak

Kodiak over the years 2004-2019 was directly engaged in the BSAI Pacific cod trawl fishery primarily as a community of ownership address for BSAI Pacific cod trawl CVs and LLP licenses used in the fishery. While four other Alaska communities appear in the BSAI Pacific cod trawl fishery data as having CVs with local ownership addresses active in the fishery for between one and six years during the seven year span 2004-2010, all Alaska address ownership of trawl CVs active in the fishery was exclusive to Kodiak for the most recent nine years covered by the data (2011-2019). A similar, if less complete and more recent level of consolidation of Alaska community of ownership address of LLP licenses used in the BSAI Pacific cod trawl CV fleet has also occurred. While three other Alaska communities appear in the data as being communities of ownership address of LLP licenses used in the BSAI Pacific cod trawl CV fishery in the five years 2004-2008, Alaska community(ies) of ownership address of LLP licenses used in the fishery 2009-2019 have been limited to Kodiak, or Kodiak and Homer, in the nine out of 11 years during that period when any Alaska ownership address LLP licenses were used in the fishery.

Kodiak, with a 2010 census population of 6,130, is a relatively large community by Alaska standards, the home of a large CV fleet, and the location of operation of a large shore-based processing sector. While the community is the node for engagement Alaska ownership address vessels within the BSAI Pacific cod trawl CV sector, this engagement is modest at the community level relative to the engagement its local fleet in other fisheries. Although individual vessel operations vary in their fishery portfolios and the focus of their fishing efforts shows considerable year-to-year variability, the level of economic dependency of Kodiak ownership address trawl CVs as a group on the BSAI Pacific cod fishery is less than 10 percent as measured by relative contribution to average annual ex-vessel gross revenues 2004-2019. While not an insignificant amount, it reflects a heavier focus on GOA rather than BSAI fisheries.

Kodiak ownership address BSAI Pacific cod < 60' pot CVs are more numerous than Kodiak ownership address BSAI Pacific cod trawl CVs, their annual average ex-vessel gross revenues from the BSAI Pacific cod fishery is higher than their trawl vessel counterparts, and their economic dependency on the BSAI Pacific cod fishery, as measured by a greater than 40 percent contribution to their annual average total ex-vessel gross revenue as group, is also higher than the analogous figure for their trawl vessel counterparts. No shore-based processors in Kodiak accepted deliveries of trawl caught BSAI Pacific cod in the years 2004-2019, but some accepted deliveries of pot caught BSAI Pacific cod from vessels in the < 60' sector, although these were modest in comparison to the deliveries to Kodiak shore-based processors from GOA

fisheries (and in comparison to pot caught BSAI Pacific cod deliveries from the < 60' sector to shore-based processors in the BSAI region itself).

Kodiak has a robust, well-developed fishery support services sector. This sector provides services to not only to the local fleet, including BSAI Pacific cod trawl and pot < 60' vessels, but to vessels from other communities working in a wide range of fisheries as well.

Sand Point and King Cove

Sand Point and King Cove have somewhat similar types of engagement in the BSAI Pacific cod trawl CV fishery and BSAI Pacific cod pot < 60' CV fishery. Sand Point was linked to the trawl fishery through local ownership addresses of CVs in the six years 2004-2009 (including multiple vessels in three of those years), but has not been the ownership address of any BSAI Pacific cod trawl CVs in the most recent 10 years covered by the data used for this analysis (2010-2019). Sand Point was also the ownership address of one LLP license used in the BSAI Pacific cod fishery for one year during this period (2007), but in no other year 2004-2019. King Cove was not the community of ownership address for any BSAI Pacific cod trawl CVs, or of any LLP licenses used in that fishery in any year 2004-2019.

Both Sand Point and King Cove were, however, the location of shore-based processors accepting trawl-caught deliveries of BSAI Pacific cod regularly over the period 2004-2019, with the processor in Sand Point accepting deliveries in 11 out of those 16 years and the processor in King Cove accepting deliveries in 14 of those 16 years. The value of these deliveries was modest compared to other deliveries accepted at these plants over that time span, as both plants are largely focused on GOA fisheries rather than BSAI fisheries.

Sand Point and King Cove were both communities of ownership address for BSAI Pacific cod pot < 60' CVs both early and late in the 2004-2019 period. Sand Point was the ownership address of two unique vessels, one of which was active in that fishery in each of three years: 2009, 2018, and 2019. King Cove was the ownership address of five unique vessels, one of which was active in that fishery in 2005, two in 2004 and 2007, and three each in 2018 and 2019. Shore-based processors in both Sand Point and King Cove commonly accepted deliveries of BSAI Pacific cod from vessels in the pot < 60' sector over the 2004-2019 period, although these were modest in comparison to the deliveries to shore-based processors in both communities from GOA fisheries (and in comparison to pot caught BSAI Pacific cod deliveries from the < 60' sector to shore-based processors in the BSAI region itself).

Sand Point and King Cove, with 2010 census populations of 976 and 938 persons respectively, are similarly sized and situated communities, with both located in the Aleutians East Borough and both having relatively large and robust multi-species local fishing fleets for their size. While the engagement in and dependency on the BSAI Pacific cod trawl CV, BSAI Pacific cod pot < 60' CV, and shore-based processing sectors compared to their engagement in and dependency on other, primarily GOA fisheries, the diversification of engagement and dependency of the local fleet and processing sectors represented by these activities is valued in communities that are acutely aware of the long-term adaptive importance of employment and income plurality strategies at the individual entity and community level in communities and a region employment and income opportunities, and the natural resources and outside funding mechanisms upon which they are based are subject to both short- and long-term fluctuations in availability and abundance.

Other Alaska Communities

False Pass, among other Alaska communities in terms of engagement in the BSAI Pacific cod fishery stands out as being the community of ownership address for an LLP license used in the BSAI Pacific cod trawl CV sector in each of the five years 2004-2008 and as being the community of operation of a shore-based processor that accepted BSAI Pacific cod deliveries from the < 60' pot CV sector in 2019, coincident with substantial processing capacity increase in the community (with the opening of one new plant and the expansion of an existing plant). Atka, while not directly engaged in the BSAI Pacific cod

trawl fishery over the years 2004-2019, stands out as a community that would potentially benefit were Element 6, AI Processor Provisions, to be included in an ultimately selected preferred alternative. Atka has experienced the closure of Atka Pride Seafoods, the local processing plant that was a 50/50 joint venture between APICDA and the Atka Fishermen's Association. It was not open in 2018 or 2019 due to a combination of factors including lowered halibut quotas, competition with the processing operation in Adak, and other factors not directly related to fishing conditions, according to APICA leadership.

Both False Pass and Atka are small, predominantly Alaska Native communities, are ANCSA villages, have federally recognized tribes, and are CDQ communities and members of APICDA. Both False Pass and Atka are facing the demographic challenge of retaining a large enough number of families with children to qualify for state funding of a local school. False Pass dipped below the threshold in the 2019/2020 school year, while Atka had the minimum number of students to reach the threshold that same year.⁴⁶

Homer also stands out as a community of ownership address location of one LLP used in the Pacific cod trawl CV sector in seven out of the last nine years covered by the data used for this analysis (2011-2019). It was also the community of ownership address of an annual average 2004-2019 of 1.9 and 0.6 BSAI Pacific cod < 60' pot and HAL vessels, respectively, which represent the highest levels of engagement in those sectors among Alaska communities outside of Unalaska/Dutch Harbor and Kodiak in both instances.

Pacific Northwest Communities

The Seattle MSA, with a population of over 3.4 million persons in 2010, is the community most substantially engaged in many of the important North Pacific fisheries in general and the BSAI Pacific cod trawl CV fishery in particular (as measured by absolute participation numbers of vessels and crew, as well as volume and value of landings from those vessels). Conversely, this area is among the least substantially dependent of the engaged communities on those fisheries, based on the fishing employment and earnings numbers and the overall economic value of those fisheries relative to the size of the overall Seattle metropolitan area labor pool and the scale, diversity, and resilience of its economy.

While community level dependence on the BSAI Pacific cod trawl fishery sectors relevant to this analysis is not a salient issue for the Seattle MSA, the scale of Seattle MSA engagement in the fishery is profound, as is the importance to some individual operations. In the BSAI Pacific cod trawl CV sector, for the years 2004-2019, on an average annual basis, Seattle MSA ownership address vessels accounted for approximately 70 percent of all vessels and approximately 70 percent of all ex-vessel gross revenues. For Newport, local ownership address vessels accounted for approximately 14 percent of all vessels and approximately 20 percent of all ex-vessel gross revenues over this same period.

As BSAI Pacific cod CV ownership in Alaska was consolidating toward Kodiak over the years 2004-2019, ownership outside of Alaska was consolidating toward the Seattle MSA in those same years. While ownership remains concentrated in Newport as well as in the Seattle MSA, declines in ownership were seen in all communities or aggregates of communities outside of Alaska except the Seattle MSA over the 2004-2019 period, including Newport. The pattern of concentration of engagement in the Pacific Northwest readily apparent in the BSAI Pacific cod CV sector is not seen in the BSAI Pacific cod HAL and pot < 60' CV sector.

While not the location of shore-based processing of BSAI Pacific cod caught by either the trawl CV or HAL/pot < 60' CV sectors, the Seattle MSA is the location of regional or company headquarters for several the processing firms engaged in the BSAI Pacific cod fishery through ownership of shore-based processing plants operating in Alaska that routinely accepted BSAI Pacific cod deliveries from trawl CVs

⁴⁶ Not obtaining state funding may not mean the immediate closure of a local school, as local school districts can choose to fully fund schools if they are able to do so. The experience of school districts in the region, however, would suggest that this is at best a temporary measure and one that is not sustainable over the longer term.

as well as HAL and pot < 60' CVs. The Seattle MSA is also the center of ownership of floating processors (for which operating location data are largely unavailable) that have processed a substantial amount of the overall catch from both CV sectors. As noted in Section 2.6.6.1, over the period 2004 through June 2020, floating processors had largest number of deliveries annually of BSAI Pacific cod by the trawl CV sector than the shore-based processing plant or plants operating in any Alaska community. Additionally, the Seattle MSA is also the ownership address for both of the C/Ps that are qualified to act as motherships under Amendment 120 and regularly take CV trawl caught deliveries of BSAI Pacific cod. As also noted in Section 2.6.6.1, over the period 2004 through June 2020, the two C/Ps acting as motherships together had more deliveries annually of BSAI Pacific cod by the trawl CV sector than taken by the shore-based plant or plants in all but one community in Alaska.

Further, the Seattle MSA has extensive fishery support services available, as does the Newport/Lincoln County, Oregon area to a lesser degree, including some types or scale of services unavailable anywhere in Alaska. The Seattle MSA in particular is an important supplier of logistical services to the fleet, including corporate headquarters support, shipyard services, other repairs and maintenance, and supplies, as well as other services support, including the provision of financial, legal, and other services; marketing; and product shipment and storage (NOAA 2014). From an outside perspective, the Seattle fleet(s) and support operations might be considered components of interest-based rather than place-based communities; from the Seattle perspective, however, Seattle has been and remains a place-based North Pacific fishing community (NOAA 2014).

2.6.9. Safety Considerations

See Section 2.8.7 for a description of safety considerations for the proposed PCTC Program.

2.7. Elements and Options

The proposed PCTC Program would assign BSAI trawl CV Pacific cod harvest shares based on legal landings of targeted BSAI Pacific cod authorized by a valid LLP license. The proposed program considers allocations of QS to groundfish LLP licenses based on the harvest of targeted BSAI Pacific cod during the qualifying years. The action also considers allocating harvest shares to a processor permit based on processing history of BSAI Pacific during the qualifying years. In addition, this action would yield an exclusive harvest privilege for a portion of the trawl CV sector's BSAI Pacific cod ITAC allocation for use in a PCTC Program cooperative or a limited access fishery.

The proposed PCTC Program considers two different cooperative approaches: 1) two cooperatives, one for AFA vessels and one for non-AFA vessels (Element 1, Option 1), or 2) voluntary harvester cooperatives in association with a legally permitted processor (Element 1, Option 2). Based on the Council's proposed action, any LLP license assigned to a vessel that authorized that vessel's legal landings of targeted trawl CV BSAI Pacific cod during the qualifying years is eligible to receive QS (Element 2.1). To determine QS, the Council included three different year combinations based on targeted BSAI Pacific cod landings (Element 2.2, Options 1-3) and a fourth option that would blend both catch history and sideboard history⁴⁷ for AFA BSAI Pacific cod sideboarded vessels only (Element 2.2, Option 4). The Council included an option to allocate only A season and B season QS, leaving the C season as a limited access fishery available to any vessel with an eligible groundfish LLP license and appropriate endorsements (Element 2.5).

With regards to halibut and crab PSC, the Council has included an option that would continue to utilize the current harvest specifications process to determine the amount of halibut and crab PSC that would be apportioned to the Pacific cod trawl limited access fishery (Element 3, Option 1). Halibut PSC (745 mt) is

⁴⁷ Sideboard history refers to the leasing of Pacific cod sideboard limits within AFA cooperatives. The intent is to devise a system where both the person leasing the Pacific cod and the person harvesting the Pacific cod divide the resulting QS so that a portion of the QS is attached to the LLP licenses of both the person leasing out the Pacific cod (the lessor) and the person harvesting the Pacific cod (the lessee) at the time of initial allocation.

currently assigned to the trawl limited access sector and is further divided by fishery with 391 mt designated for use in the BSAI Pacific cod fishery for the 2019 fishing year. The Pacific cod halibut PSC limit is shared by the trawl CV sector and AFA catcher processor sector. Recognizing there may be a need for the trawl CVs to have their own portion of Pacific cod, the Council included a suboption to establish a trawl CV Pacific cod halibut PSC apportionment based on historic use between trawl CV sector and the AFA catcher processor sector (Element 3, Option 1, Suboption). The Council also included an option to reduce the halibut and crab PSC apportionment to the BSAI trawl CV Pacific cod sector by 10% to 25% (Element 3, Option 2).

The Council included options to limit spillover effects from the PCTC Program on GOA fisheries. These options include sideboard limits for non-exempt AFA LLP licenses and CVs (Element 4, Option 1) and non-AFA LLP licenses (Element 4, Option 3) based on their GOA catch history during the BSAI Pacific cod qualifying period. Element 4, Option 2 addresses how AFA vessels that are exempt from GOA sideboards under that program could continue to be exempted from GOA sideboards in the proposed Pacific cod LAPP. Element 4, Option 3 describes GOA sideboards and sideboard exemptions for non-AFA LLP licenses. Those LLP licenses would be subject to GOA sideboard limits based on their GOA catch (other than harvests permitted under the Rockfish Program) during the qualifying years. The Council did include a provision to exempt non-AFA CVs from BSAI Pacific cod GOA sideboards if their qualifying BSAI Pacific cod history was less than a yet to be determined threshold amount (Element 4, Option 3, suboption).

Included in the Council's elements and options were provisions addressing processing sector issues. These include allowing all processors with an eligible federal processor permit to process BSAI Pacific cod (subject to eligibility requirements under the April 2019 Council action to limit catcher processors acting as motherships) (Element 5.1); a limit on targeted BSAI Pacific cod that can be delivered to trawl C/Ps acting as a mothership (Element 5.2), and allocating harvest shares to onshore and offshore processors for use in a PCTC Program cooperative (Element 5.3). The percent of total QS allocated to eligible processors ranges from 5% to 30%.

The Council included provisions to promote sustained participation of Aleutian Islands (AI) processors and communities (Element 6). Option 1 requires the cooperative(s) to reserve a set-aside ranging from 10% to 25% of the BSAI trawl CV A season harvest amount for delivery to a shoreplant in the AI management region. Option 2 would issue annual harvest quota, the lesser of 5,000 mt or 5.5% of the total BSAI trawl CV Pacific cod quota, to the plant operator if the community of Adak or Atka files a notice of intent to process.

The Council also included transferability provisions. Specifically, Element 7 notes that QS is attached to the LLP license and are non-severable from the LLP license. Transfer of an LLP license eligible for this program results in the transfer of any program eligibility, QS associated with the LLP, and sideboard limitations (Element 7.1). Allocations based on processing history will be issued as separate quota permits and use and transfer restrictions on these processor cooperative shares, if selected, will be determined at a later date (Element 7.2).

With regards to ownership and use caps, the Council included options for ownership and use caps for harvester-issued (Element 8.1) and processor-issued cooperative shares (Element 8.3), vessel use caps (Element 8.2), and a plant level processing cap (Element 8.4). The Council included options to grandfather persons over the harvester-issued and processor-issued use caps and the processing cap. The Council motion did not include a grandfather provision option for the vessel use cap.

Finally, the Council included elements to address cooperative provisions (Element 9), share duration (Element 10), monitoring (Element 11), reporting and program review (Element 12), cost recovery (Element 13), and gear conversion to fish BSAI Pacific cod trawl CV quota with pot gear (Element 14).

In preparing the analysis of the elements and options staff found several clarifications/issues that the Council should address during the December 2020 meeting. In addition, to complete the analysis of the elements and options for the December 2020 initial review, staff made several assumptions with regards to some of the clarifications/issues that the Council should review in December. A summary list of these clarifications/issues and staff assumptions are provided in Table 2-2.

2.7.1. Element 1 – Cooperative Style Systems

This element defines the cooperative style for the proposed PCTC Program. There are currently two options under consideration. Option 1.1 would only allow two cooperatives to form, one for AFA vessels and one for non-AFA vessels. Under this option, eligible LLP licenses could choose not to join a cooperative and instead participate in the limited access fishery. Option 2.1, in contrast, would allow more than two cooperatives to form. But unlike Option 1.1, Option 2.1 cooperative formation must be in association with a legally permitted processor. The language for Element 1 considered by the Council is provided below.

Option 1.1: One cooperative will be formed for AFA vessels and one cooperative will be formed for non-AFA vessels.

Each eligible license will be eligible for one cooperative and must join that cooperative to participate in the Pacific cod cooperative fishery.

Cooperative requires membership of 80% of the eligible catch history for that cooperative.

Vessels and LLP licenses that do not join a cooperative would be eligible to fish in a limited access fishery. Harvest and PSC in the limited access fishery would be limited to the Pacific cod and halibut and crab PSC that would have been issued to cooperatives had the eligible LLP license joined a cooperative.

Suboption 1.1.1: Reduce halibut and crab PSC apportionment to the BSAI trawl CV limited access fishery by 25% to 40%.

Option 1.2: Voluntary harvester cooperatives with no minimum number of licenses required.

Holders of qualified LLP licenses must join a cooperative annually in association with a licensed processor (FFP) to harvest allocations of Pacific cod. Harvesters may change cooperatives and cooperative associations may change annually without penalty.

No limitation on the number of LLP license holders or eligible catch history needed to form a cooperative.

No limitation on the number of cooperatives that may form.

Suboption 1.2.1: A minimum of three LLP license holders are needed to form a cooperative

Suboption (applicable to Options 1.1 and 1.2): inter-cooperative formation is allowed.

2.7.1.1. Option 1.1 – AFA and non-AFA cooperatives

The first option would authorize two cooperatives: one for AFA trawl CVs and one for non-AFA trawl CVs. Under this option, to participate in the PCTC Program fishery, an eligible LLP licenses would be required to join a single cooperative based on the vessel that is named on the LLP license and its AFA/non-AFA authorization. A cooperative would be formed if at least 80 percent⁴⁸ of the total eligible

⁴⁸ The motion is specific to catch history assigned to LLP licenses and not QS issued. Because the motion refers to 80 percent of the qualifying catch history assigned to LLP licenses in that sector, staff assumes that any QS assigned to processors under Element 5.3 would not be included in this calculation as part of the numerator or denominator. If

catch history assigned to the eligible LLP licenses (defined in Element 2) joined the cooperative. The AFA vessels and non-AFA vessels would form their cooperative independently of each other. Based on staff's understanding of the option, a person owning both an AFA vessel and a non-AFA vessel would be required to join the AFA cooperative for the AFA vessel and the non-AFA cooperative for the non-AFA vessel. Note, to be clear, Option 1.1 does not require a processor association to form a cooperative.

Trawl CVs and the eligible LLP licenses to which the vessel is assigned that do not join the cooperative would be eligible to fish in the limited access fishery based on the QS⁴⁹ assigned to the eligible LLP license attached to the vessel. Halibut and crab PSC limits for the trawl CV limited access sector would depend on how these PSC limits are apportioned to the trawl CV sector (Element 3). If halibut PSC is not apportioned specifically to the trawl CV sector, the trawl CVs that do not join a cooperative would be sharing the halibut PSC limit with the two trawl CV cooperatives (if formed) and the AFA C/Ps. If halibut PSC is assigned to the trawl CV sector, then the trawl CVs that do not join a cooperative would be assigned halibut PSC based on the qualifying Pacific cod QS assigned to the LLP license currently on the vessel (Element 9). Included as a suboption to Element 1 is a reduction in halibut and crab PSC apportioned to the limited access fishery for those trawl CVs and their attached eligible LLP licenses that do not join a cooperative. The PSC reductions under consideration range from 25 percent to 40 percent of the amount assigned to the limited access fishery.

Note that the apportionment of halibut and crab PSC limits for qualified LLP licenses that elect to join the limited access fishery instead of cooperative and the PSC reduction suboption in Element 1, Option 1.1 for limited access fishery participants may not function as intended. Currently, halibut and crab PSC limits for the BSAI Pacific cod fishery is shared by the trawl CV sector and the AFA C/P sector. The sharing of halibut and crab PSC limits by all trawl CVs and AFA C/Ps in the BSAI Pacific cod fishery prevents apportioning PSC limits to qualified LLP license holders that elect to participate in the CV limited access trawl fishery, trawl CV cooperative members, and the AFA C/P vessels. The sharing of PSC also inhibits reducing the trawl CV limited access PSC limits without reducing the PSC limits for all trawl CVs and AFA C/Ps sharing the PSC limits. In addition, **the current language in Element 3 provides a suboption to apportion only halibut PSC limits to the trawl CV sector for the BSAI Pacific cod fishery but does not apportion crab PSC limits for the trawl CV sector. As a result, even if halibut PSC is apportioned to the trawl CV sector for the Pacific cod fishery, the crab PSC reduction for qualified LLP license holders that elect to participate in the limited access fishery may not function as intended.** The suboption in Element 3 would have to be revised to apportion Pacific cod crab PSC limits to the trawl CV sector in order for the crab PSC limit reductions for qualified LLP licenses that participate in the limited access fishery to function.

Element 1.1 defines a cooperative structure that would only allow AFA vessels to be in one cooperative and non-AFA vessels to be in the other. LLP licenses do not have an AFA or non-AFA endorsement and LLP licenses can be transferred to different vessels after approval of the transfer application by NMFS AKR RAM Division. Transfer of LLP licenses to and from an AFA vessel to a non-AFA vessel when determining the 80 percent threshold for cooperative formation can be problematic. There are at least two approaches that could be used to calculate the 80 percent threshold

this assumption is not the intent of the Council, additional direction on how to treat that QS derived from processing activity is needed. Options that could be considered include 1) any QS assigned to an AFA processor would be considered AFA QS and any QS assigned to a non-AFA processor would be non-AFA QS or 2) harvest shares issued to processors would be determined to be AFA or non-AFA depending on the cooperative they are assigned by the processor. This QS would need to be assigned to the appropriate cooperative and could only be harvested by members of that cooperative, unless transferred. Whether the processors assign the QS to a cooperative or not could increase their negotiating power under the two-cooperative model.

⁴⁹ Qualifying catch history that is assigned to an LLP license to determine the percentage of the fishery associated with the LLP license is QS.

for cooperative formation⁵⁰. The first approach would be to annually assign an eligible LLP license and its QS to the appropriate cooperative based on the vessel that is named on the license at the time of cooperative formation. In other words, an LLP license that names an AFA trawl CV would be considered an AFA LLP license for that year and the QS assigned to that license would count towards AFA cooperative formation. The second approach would be to apply a permanent endorsement to eligible LLP licenses at the time of implementation of the program. The endorsement would define the LLP license as AFA or non-AFA (for the purpose of Pacific cod trawl cooperative formation only) and would be determined based on the vessel named on the eligible LLP license at the time of the initial QS application. The benefit of this one-time endorsement approach is the calculations necessary for cooperative formation would be a relatively easy process, since NMFS would not need to determine if the LLP license is AFA or non-AFA on an annual basis. The drawback with this approach is the loss of LLP license flexibility since regardless of what vessel the LLP license is assigned it will always have the same AFA/non-AFA designation. That designation will restrict the LLP license to either being assigned to the AFA or non-AFA cooperative. Further, if the Council's intent is to only allow AFA and non-AFA vessels in their respective cooperative, the license endorsement should reflect the class of vessel it is currently assigned. Assuming that is the Council's intent, the Council should clarify which approach to use for calculating cooperative formation. If the LLP license endorsement concept is utilized, the Council may also wish to clarify its intent regarding how the endorsement is intended to limit both LLP licenses and vessels during cooperative formation. For example, if the second option is selected and an LLP license is defined as non-AFA but is assigned to an AFA vessel after implementation, the LLP license could be assigned to the non-AFA cooperative, but the AFA vessel could not be assigned to the cooperative as a vessel that is eligible to fish CQ. Non-AFA vessels in the non-AFA cooperative, whether owned by the firm that owns the non-AFA LLP license or not, would be allowed to harvest the CQ based on contracts between members. The converse could happen within an AFA cooperative.

Table 2-56 provides the number of qualified licenses, total qualifying catch history, and 80 percent of the total qualifying history, and 80 percent converted to 2020 based on BSAI Pacific cod TAC for the trawl CV Pacific cod allocation by AFA and non-AFA trawl CVs under each of the qualifying year options. Note the number of qualified LLP licenses by AFA and non-AFA and the total qualifying history in Table 2-56 do not match the total number of qualified LLP licenses and qualifying catch history in Table 2-57, Table 2-58, and Table 2-59 since not all the qualified LLP licenses have an AFA or non-AFA vessel currently assigned to the LLP license. Since a vessel is not assigned to a qualified LLP license, these eligible LLP licenses were not included in Table 2-56.

Looking at the catch qualifying years 2014-2019 for all three seasons with the no drop years option included, there were 86 total qualified LLP licenses of which 68 were assigned to an AFA vessel with 27,407 mt of qualifying catch history and 15 were assigned to non-AFA vessels with 6,573 mt of qualifying catch history. To form a cooperative under Option 1.1, AFA vessels would need 80 percent the their total qualifying history, which when converted to the 2020 trawl CV Pacific cod allocation which would have been 21,746 mt to form a cooperative, while the non-AFA would need 5,215 mt to form a cooperative.

⁵⁰ Both the options assume that each LLP license is assigned to a vessel at the time of initial or annual application. Based on the 2020 LLP license file there are LLP licenses that appear to qualify for Pacific cod QS that are not currently assigned to a vessel. Under this circumstance the Council would need to define how to designate the LLP license. Options could include allowing the current LLP license holder to choose the designation or basing the designation on whether the vessel used to make the qualifying landings was AFA or non-AFA.

Table 2-56 Number of qualified licenses, total qualifying catch history, and 80% of total qualifying history, and 80% converted to 2020 trawl CV Pacific cod allocation by AFA and non-AFA trawl CVs for each qualifying year options

Options	Qualifying year/drop year suboptions	Total number of qualified LLP licenses	Trawl CV sector	Number of qualified LLP licenses by AFA/non-AFA vessel	Total qualifying history by AFA/non-AFA vessel (mt)	80% of total qualifying history by AFA/non-AFA vessel (mt)	80% converted to 2020 TAC by AFA/non-AFA vessel (mt)
Option 2.2.1 (with C-season)	2014-2019 (no drop)	86	AFA	68	27,407	21,925	21,746
			Non-AFA	15	6,573	5,258	5,215
	2014-2019 (drop 1)		AFA	68	31,268	25,015	21,688
			Non-AFA	15	7,603	6,083	5,274
	2014-2019 (drop 2)		AFA	68	35,579	28,463	21,622
			Non-AFA	15	8,786	7,029	5,340
Option 2.2.1 (without C-season)	2014-2019 (no drop)	85	AFA	67	27,289	21,831	22,148
			Non-AFA	15	5,930	4,744	4,813
	2014-2019 (drop 1)		AFA	67	31,128	24,902	22,078
			Non-AFA	15	6,885	5,508	4,884
	2014-2019 (drop 2)		AFA	67	35,403	28,322	22,032
			Non-AFA	15	7,921	6,337	4,929
Option 2.2.2 (with C-season)	2009-2019 (no drop)	93	AFA	72	26,100	20,880	20,693
			Non-AFA	16	6,817	5,453	5,405
	2009-2019 (drop 1)		AFA	72	28,285	22,628	21,354
			Non-AFA	16	7,400	5,920	5,587
	2009-2019 (drop 2)		AFA	72	30,519	24,415	21,351
			Non-AFA	16	7,990	6,392	5,590
Option 2.2.2 (without C-season)	2009-2019 (no drop)	92	AFA	71	26,011	20,809	21,726
			Non-AFA	16	6,242	4,994	5,214
	2009-2019 (drop 1)		AFA	71	28,187	22,550	21,671
			Non-AFA	16	6,854	5,483	5,269
	2009-2019 (drop 2)		AFA	71	30,410	24,328	21,649
			Non-AFA	16	7,433	5,946	5,292
Option 2.2.3 (with C-season)	2004-2019 (no drop)	108	AFA	84	25,642	20,514	21,991
			Non-AFA	16	5,944	4,755	5,097
	2004-2019 (drop 1)		AFA	84	27,168	21,735	21,975
			Non-AFA	16	6,322	5,058	5,114
	2004-2019 (drop 2)		AFA	84	28,690	22,952	21,944
			Non-AFA	16	6,725	5,380	5,144
Option 2.2.3 (without C-season)	2004-2019 (no drop)	108	AFA	84	25,416	20,333	22,264
			Non-AFA	16	5,507	4,405	4,824
	2004-2019 (drop 1)		AFA	84	26,927	21,542	22,241
			Non-AFA	16	5,868	4,694	4,847
	2004-2019 (drop 2)		AFA	84	28,432	22,745	22,200
			Non-AFA	16	6,260	5,008	4,888

Source: AKFIN July 2020

Originating excel file is BSAI_PCOD_LAPP_Coop_Split(7-31-20)

Although this option would authorize two cooperatives, this option has some similarities with a single cooperative structure since the cooperatives would be AFA and non-AFA specific and would require 80 percent of the total eligible LLP licenses' QS attached to the vessels for each group to form a cooperative. This option may make transferability simpler, as inter-cooperative transfers of BSAI Pacific cod allocation or halibut and crab PSC limits could be reduced relative to the voluntary harvester cooperative

option. NMFS will need to approve these inter-cooperative transfers. However, it could also be challenging for the AFA and non-AFA fleets to agree on terms for their perspective cooperative.

Under a single cooperative for each fleet, eligible license holders would either join the appropriate cooperative or elect to participate in the limited access fishery. It is anticipated that qualified license holders would elect to participate in the limited access pool under two conditions. The first condition is that they would be able to generate less profit within the cooperative than they expect to be able to generate in the limited access fishery. It is likely those who choose to participate in the limited access will have relatively small catch history of BSAI Pacific cod during the time period that defines the cooperative allocations relative to their catching ability in the limited access fishery. Their prospects in the limited access fishery, however, depend on others with substantial catch history choosing not to join a cooperative. Persons with substantial catch histories may choose not to join a cooperative if the terms offered by the cooperative membership disadvantage certain members of the cooperative. This is unlikely to occur since the Council typically requires that all eligible persons are allowed to join a cooperative under the same terms and conditions as the other members.

The dynamics of cooperative formation could also be affected by the requirement to reserve 10 percent to 25 percent for each cooperative's A-season allocation of BSAI Pacific cod to be delivered to AI shoreplants (Element 6, Option 6.1). Relative to staying in the open access fishery where an AI shoreplant requirement is currently not included, this requirement could deter some holders of eligible LLP licenses from joining a cooperative if terms of joining the cooperative require some portion of the LLP licenses' catch history to be harvested in the AI for delivery to AI shoreplants. Alternatively, cooperatives could agree in their contract how the AI deliveries would be addressed. Allowing some members to fish their entire allocation in the BS while other members focus more heavily on the AI. For the AFA cooperative, this would likely be less of an issue given there are AFA harvesters that routinely participate in the AI shoreplant fishery and thus would likely be willing to participate in the AI shoreplant fishery assuming the AI shoreplant allows similar levels of profitability as delivering to BSAI plants or floating processors. However, for the non-AFA cooperative there are likely fewer harvesters with AI shoreplant fishery history so some non-AFA harvesters might see the required AI shoreplant fishery as a cost that is more significant when determining whether to join the cooperative.

The second reason a person may choose not to join a cooperative is the inability to agree to the terms and conditions defined in the cooperative agreement that do not directly impact profits. For example, a participant may not want to be involved in the internal cooperative politics, adhere to the cooperative's reporting requirements or may have other philosophical differences with a majority of the members of the cooperative or simply may not want to be of a cooperative. However, because profits will ultimately determine whether most members of the sector will join the cooperative, balancing the power between the owners and their competing interests is a critical part of developing a cooperative structure.

The power to enact change in a cooperative agreement depends, in part, on the requirements for cooperative formation. Within a program that allows only a single cooperative for each group of vessels, changing the percentage of eligible catch history that must join for cooperative formation will shift power among license holders. For example, if 100 percent of the total QS issued to LLP licenses for each group is required for cooperative formation, the majority of vessel group could be forced to accept more demands of license holders that hold out from initially joining the cooperative. If the demands by the license holders that are resisting signing the cooperative agreement are too burdensome, the cooperative simply would not form. This scenario may not be a great hardship on eligible license holders who feel they have little to gain from a cooperative but could be very costly for eligible license holders that would benefit from joining the cooperative.

Fishing in a share-based fishery, such as a cooperative, is expected to increase profits for participants enough to allow for some compromise between the majority and minority views. The majority may be willing to concede some of the increase in profits to the demands of the other eligible licenses holders to

attain the benefits from cooperative fishing. On the other hand, qualified license holders that have less to gain from a slower paced fishery would likely want to require a higher percentage of the sector for cooperative formation. The ability to veto cooperative formation would increase their power to negotiate terms and conditions in the cooperative agreement that they could not otherwise.

As the percentage of eligible QS necessary for cooperative formation is reduced from 100 percent, the power structure within the group changes from being in the hands of those that have agreed to the terms of the cooperative and those that have not. This is relevant to Option 1, which would require 80 percent of the eligible QS assigned to the LLP licenses that are attached to the AFA and non-AFA vessels in each group for the formation of cooperatives. This dynamic is important because before those license holders with the necessary 80 percent eligible QS have agreed to the formation of a cooperative, those license holders that have not agreed to the terms of the cooperative wield greater power in the cooperative negotiations. However, after the eligible license holders with the necessary 80 percent of eligible QS for the group have agreed to form a cooperative, those that have not joined the cooperative suddenly have very little leverage in cooperative negotiations. In this case, the eligible license holders that have not joined the cooperative may have to agree to the terms negotiated by the other license holders of the cooperative or be excluded from its membership. Once the threshold for formation is reached, the bargaining power of those individuals holding an eligible license that have not agreed to the term's decreases, and the bargaining power of the members of the cooperative increases. For a cooperative to form, those wishing to establish the cooperative need to offer terms that are satisfactory to induce eligible license holders with the 80 percent of eligible QS necessary to establish a cooperative to join that cooperative. This general principle holds for any percentage and should result in a cooperative structure that more closely reflects the views of the majority (relative to requiring 100 percent membership) as the percentage required for formation declines toward 50 percent. When selecting the minimum percentage of eligible QS required for cooperative formation, the Council should consider the effect of the selected percentage on the relative bargaining power of the majority in comparison to the minority.

A likely incentive for holders of eligible LLP licenses to join a cooperative is the potential reduction in halibut and crab PSC limits applied to limited access participants. As part of the option to not join a cooperative and instead participate in the limited access fishery, the Council has included a suboption to reduce the halibut and crab PSC limits for limited access fishery participants as incentives for cooperative formation from 25 percent to 40 percent. Depending on the halibut PSC rate of the harvesters that choose to participate in the open access fishery, the reduction in the PSC limit for limited access participants could increase the chances that they are closed to directed fishing prior to harvesting all of the Pacific cod assigned to the open access directed fishery.

Under this Option 1.1, eligible harvesters would receive exclusive allocations that are defined by civil contracts that can only be accessed through cooperative membership. Cooperatives members will have the flexibility of delivering to multiple processors. Despite this flexibility, it is likely that established relationships with processors will have an important influence on harvester delivery choices. Technical efficiency in processing should improve as processors are better able to schedule crews to process landings. Allocative efficiency should also increase as processors improve product quality and produce higher quality products that cannot be produced under the current fishery status. However, processors may experience little improvement in their overall efficiency under this option because of their relatively weak negotiating position in the market for landings. Instead, cooperative members should receive most of the benefits of these improvements through exvessel price negotiations. Notwithstanding the relatively strong position fishermen may have under this option, processors should obtain normal profits from their processing and in some cases may be able to use relationships in other fisheries to leverage their negotiating position. This discussion does not take into account Elements 5 and 6, which allocate harvest shares to processors. The allocation of harvester shares to processors would provide for a stronger negotiating position for processors allocated harvester shares since these shares could be used as an incentive for harvester deliveries to that processor.

2.7.1.2. Option 1.2 – Voluntary harvester cooperatives with processor association

The second option would require cooperative formation in association with a legally permitted processor to harvest its annual BSAI Pacific cod allocation assigned to the eligible LLP licenses. Holders of an eligible LLP license under this option could not compete to fish their LLP license's QS in the limited access fishery. They must join a cooperative to access the QS on the LLP license. The Council has identified two options for multiple cooperatives. Under one option, there is no limitation on the number of eligible LLP license holders or percentage of catch history necessary to form a cooperative, while the second option would require three eligible LLP licenses to form a cooperative. Harvesters would have full discretion to choose a cooperative initially and may freely move among cooperatives annually thereafter. Cooperatives are free to associate with any licensed processor without forfeiture or penalty. A licensed processor includes shoreside processors, stationary floating processors, motherships, and C/Ps⁵¹. Shoreside processors and stationary floating processors⁵² require a Federal Processor Permit (FPP), while motherships and C/Ps require a Federal Fishing Permit (FFP). **However, the language in Option 1.2 only defines a licensed processor as those with an FFP, which includes only motherships and C/Ps, but does not include shoreside processors and stationary floating processors which require an FFP. To include shoreside processors and stationary floating processors, Option 1.2 would need to be modified to read ...in association with a licensed processor (FFP and FPP) to harvest allocations of Pacific cod.**

Option 1.2 would require no minimum number of LLP license holders or LLP licenses to form a cooperative. In other words, at its most basic level, a cooperative could form with just one LLP license holder with one eligible LLP license in association with a licensed processor. As noted in Element 2, the number of qualified LLP licenses ranges from 86 using 2014 through 2019 qualifying years to 108 using 2004 through 2019 qualifying years. Despite the large number of qualified LLP licenses, it is likely there will be far fewer cooperatives than possible with no minimum number of LLP licenses or LLP license holders given the potential ease of an intra-cooperative transfers among members of the cooperative. In addition, processor associations would also likely limit the number of potential cooperatives formed. Although there is no limitation on the number of cooperatives a processor may association with, the complexities associated with a cooperative agreement would likely result in a processor association with only one cooperative.

Included in Element 1 is Suboption 1.2.1, which would require a minimum of three LLP license holders to form a cooperative. Although not defined in Suboption 1.2.1, it is assumed that an LLP license holder is the licensee name provided on the most recent LLP license available via the Restricted Access Management (RAM) LLP license file. However, as noted in the LLP license file, one person could hold multiple LLP licenses and each LLP license could have a different licensee name and one LLP license holder could hold more than one LLP license. In other words, a single person could have three LLP licenses with three different licensee names thus meeting the cooperative formation requirement of three LLP licenses holders under Suboption 1.2.1 and still have a single person cooperative. Although the simplest approach is to utilize the licensee name on the LLP license file, **if the Council's intent is to have a minimum of three unique holders (persons) to form a cooperative, then the Council could apply the "10 percent ownership threshold rule" to determine a unique person.** The "10 percent ownership threshold rule" states that when a person owns or controls 10% or more of another entity, that entity is owned by that person. Using license holder addresses as a proxy for affiliation, recognizing that not all LLP licenses are filed using the same address, 2014 through 2019 yielded 31 unique addresses of the 85 eligible LLP licenses, 2009 through 2019 yielded 33 unique addresses of the 93 eligible LLP licenses, and 2004 through 2019 yielded 35 unique addresses of the 108 eligible LLP licenses. Based on these unique addresses, the number of potential cooperatives that could

⁵¹ C/Ps may be limited by previous Council actions in their ability to act as a mothership in the BSAI trawl CV Pacific cod fishery.

⁵² Processing vessel that operate solely within Alaska State waters.

be formed using the “10 percent ownership threshold rule, range from 10 to 11 cooperatives, assuming the license holder addresses is fair proxy for the number of unique qualified LLP license holders. Because some processors would have more than three LLP license holders that deliver to them, based on past delivery patterns, the number is expected to be less than the theoretical maximum. Despite the potential number of cooperatives that could form under Suboption 1.2.1, requiring three LLP license holders to form a cooperative could be a potential barrier for a new processor entering the BSAI Pacific cod trawl CV fishery. If a processor can only secure two eligible LLP license holders, the cooperative may not form using Suboption 1.2.1.

Under a multiple cooperative formation option, the bargaining power changes during the cooperative formation process. In general, the smaller the number of LLP licenses holders or licenses or the percent of QS necessary to form a cooperative, the easier it is to form a cooperative. Neither option precludes other holders of eligible LLP licenses from joining a cooperative once formed if they agree to the terms of the cooperative’s bylaws. Lower LLP license holder thresholds for cooperative formation increases the opportunity of sector participants (particularly those with less common views of circumstances) to join a cooperative. The holders of the most divergent views can review the terms and conditions of each cooperative agreement to determine which best meets their needs. Holders of eligible LLP licenses that do not like the conditions for membership in cooperatives that have formed could form their own cooperative or attempt to find other eligible LLP license holders willing to form a separate cooperative. Any cooperatives that form would need to reach an agreement with a processor. Because processors may not wish to be associated with multiple cooperatives if it results in an increased reporting burden and increase quota transfer costs, they may help to limit the number of cooperatives that form. Alternatively, an eligible LLP license holder with some benefit to offer a cooperative could use competing cooperatives to negotiate more favorable terms and conditions than could be negotiated under a structure that accommodates only a single cooperative for each trawl CV fleets as proposed in Option 1.1.

The terms⁵³ of the cooperative agreement, and consequently, the cooperative and processor association are subject to negotiation between the cooperative members and the processor. Given the flexibility of the harvesters to move among cooperatives and cooperatives to change associations (such as delivery requirements or terms) the terms of the cooperative will be fully voluntary, and harvesters could receive compensation for concessions. Business relationships are likely to be important factors that affect cooperative and processor association choices.

Given the potential number of cooperatives that could form under Option 1.2, the complexity of monitoring requirements by NOAA Fisheries will likely increase under this option. Sideboards, allocation of harvest shares to processors, AI processor provisions, transferability, and gear conversion options currently under consideration in the trawl CV cooperative program will also add to management and monitoring burdens. It is possible that staffing needs will increase, or staff responsibilities will expand for NOAA Fisheries staff, since they are responsible for monitoring catch on a cooperative level, performing transfers of quota between cooperatives, and notifying enforcement if quotas have been exceeded. Especially at the onset of the program, including rulemaking, database coding, and other implementation components.

2.7.1.3. Suboption 1.2.2 – Inter-cooperative formation

To address some of the burden on the agency, Element 1 includes a suboption that is applicable to both the AFA/non-AFA cooperative style (Option 1.1) and multiple cooperative system style (Option 1.2) that would authorize the use of inter-cooperative formation (a civil contract that defines how cooperatives will work together). A similar inter-cooperative agreement is currently utilized by the BS pollock cooperatives under the AFA, which shifts a large portion of the administrative and monitoring obligations to the

⁵³ Within the limits that the cooperatives are intended to only conduct and coordinate harvest activities of the members (Element 9).

industry with agency oversight. A similar system could be developed for the trawl CV cooperative program to reduce the agency management and monitoring burden. Therefore, shifting a portion of the management and monitoring burden to the cooperatives, has the potential for a multiple cooperative structure to increase certain management and enforcement costs while reducing others. Increases in management, enforcement, and data collection costs are subject to cost recovery as described in Element 13.

2.7.1.4. Conclusion

In considering the rules governing cooperative formation, the Council should closely assess the distribution of leverage created by two different cooperative style systems under consideration. The establishment of a member threshold for cooperative formation will have distribution effects within the sector. A two-cooperative system could simplify management oversight by NOAA Fisheries. The two-cooperative system, however, could have some pitfalls. A single cooperative system for each fleet could result in no cooperative fishing, if the 80 percent catch history threshold cannot be reached by either class, effectively negating any potential benefit that could arise from this program. A two cooperative style system also could provide some sector members with negotiating leverage that is disproportionate to the benefits they bring to the cooperative. This effect could be particularly problematic in a system that is intended to reward certain characteristics (i.e., historic participation, efficient operations, low PSC bycatch rates). While multiple cooperative systems could address some of these distributional concerns, additional management burdens could be more costly, but this model has been effective in the Inshore AFA and the CGOA Rockfish Programs.

2.7.2. Element 2 – Allocation to LLP Licenses

Element 2 provides direction on LLP license eligibility and how the initial allocation of harvest shares would be assigned. In addition, Element 2 includes options for 1) allocation of harvest shares when LLP licenses are stacked on a trawl CV, 2) allocation of and use of harvest shares between the AI and BS, 3) allocation of harvest shares to LLP license for only A and B seasons, 4) management of species not allocated to the cooperatives.

2.1. Eligibility – Any LLP license assigned to a vessel that authorized that vessel’s legal landings of targeted trawl catcher vessel BSAI cod during the qualifying years is eligible to receive harvest shares.

2.2. Harvester Allocations – Eligible LLP licenses must be assigned to a cooperative to receive annual Pacific cod quota. The sector’s harvest shares will be allocated to eligible LLP licenses, with each LLP license’s allocation based on the Pacific cod catch history (legal landings) of targeted BSAI cod authorized by that LLP license during the following qualifying years:

Option 2.2.1: 2014 - 2019

Option 2.2.2: 2009 –2019

Option 2.2.3: 2004 –2019

Option 2.2.4: Allocations based on a blend of catch history and AFA sideboard history

Suboptions to credit catch history/sideboard at:

Suboption 2.2.4.1: 50%/50%

Suboption 2.2.4.2: 80%/20%

Suboption 2.2.4.3: 20%/80%

Suboptions (applicable to Options 2.2.2.1 – 2.2.2.4):

Suboption 2.2.1: Drop 1 Year

Suboption 2.2.2: Drop 2 Years

2.3. Catch history is attached to the LLP license at the time of harvest. If multiple licenses authorized catch by a vessel, in the absence of agreement of the license holders at the time of application, history will be:

Option 2.3.1: divided equally between those licenses.

Option 2.3.2: assigned to an LLP license by the owner of the vessel that made the catch.

2.4. Annual quota will be issued to each license based on its share of the total qualifying BSAI trawl catcher vessel catch history. Allocations will not be designated for harvest in a management area (i.e., BS or AI) but may be harvested from either area.

2.5. Option to allocate A and B season BSAI trawl CV Pacific cod only:

A and B season TACs (after deduction of the ICAs) will be allocated to cooperatives as annual cooperative quota (and to seasonal limited access fisheries, if applicable). Annual cooperative allocations (and seasonal limited access allocations, if applicable) attributable to each LLP license will be that LLP license's proportional share of the total qualifying Pacific cod history.

Staff should analyze distributional impacts of this option based on differential catch histories in the A and B season.

The C season allocation will remain 15 percent and remain a limited access fishery to any vessel with an eligible groundfish LLP license with an applicable area endorsement. The C season limited access fishery will be managed as currently by NMFS, including management of incidental catches of Pacific cod in other directed fisheries. C season TAC (and A and B season ICAs) that NMFS projects to go unused are subject to reallocation to other sectors under current reallocation rules.

2.6 All species not allocated to cooperatives will be managed by maximum retainable amounts (MRAs), as under current management.

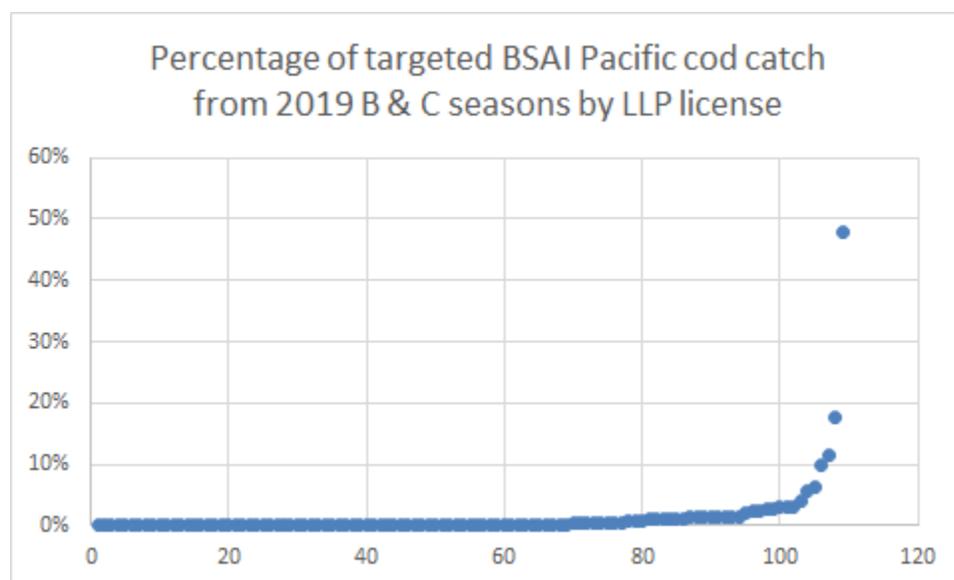
Before analyzing Element 2, some discussion of the intent and potential impact of the control date approved for this amendment is necessary. At its February 2019 meeting the Council approved a control date of February 7, 2019, as part of its motion to prepare the trawl CV cooperative scoping paper (see Section 2.3). That paper was considered at the Council's October 2019 meeting when it developed the current BSAI Pacific cod trawl CV motion that includes elements, options, and alternatives for development of the proposed LAPP. The Council's October 2019 motion did not include or reference the control date approved during the February 2019 meeting. If the Council intended to include the February 7, 2019 control date in the development of the LAPP, the Council could clarify its intent and the control date could be included in the next iteration of the analysis.

Control dates are often utilized to dampen the effect of speculative entry into a fishery while the Council considers a rationalization program that is based on catch history. It is recognized that control dates do not obligate the Council to use catch history up to the control date. The control date also does not prohibit the Council from considering and including history after the control date. As with any action, the Council will need to articulate why a specific time period was selected to determine catch history as part of the proposed LAPP.

If the Council determines it is appropriate to include the February 7, 2019 control date after initial review of the amendment package, the analysis will be adjusted to clarify, where appropriate, the impacts of the control date. Given that the 2019 A-season was closed on February 1, the impacts of the control date would be limited to the B-season, which was open for only one day, and the C-season, which closed on regulation on November 1. A total of 67 LLP licenses targeted BSAI Pacific cod during the 2019 A-season, 42 LLP licenses were used to target BSAI Pacific cod during the 2019 B-season, and 6 LLP

licenses were used to target BSAI Pacific cod during the 2019 C-season.⁵⁴ Given that the February 7, 2019, control date occurs after the A-season fishery closed, only the 43 LLP licenses activity for the B-season and C-season would qualify for additional catch history. CAS data indicate that 3,801mt of Pacific cod was harvested during the 2019 BSAI Pacific cod B and C seasons. Figure 2-5 indicates that including the 2019 BSAI Pacific cod target catch made during the B and C seasons accounted for greater than 10 percent of the total catch history associated with four LLP licenses, while the remaining 39 LLP licenses that were used to fish after the control date accounted for less than 10 percent. Because the catch after the control date was not 100 percent of any LLP licenses' history, there were no LLP licenses that were only credited with catch history after the control date. All of the LLP licenses that qualify under the proposed LAPP but did not target BSAI Pacific cod after the control date would have their CQ reduced by about 0.7 percent (using the 2004 through 2019 period) to 1.8 percent (using the 2014 through 2019 period) by including the 2019 catch after the control date. Their CQ would be reduced because the number of QS issued would increase by that percentage.

Figure 2-5 Percentage of targeted BSAI Pacific cod catch from 2019 B and C seasons by qualified LLP license



2.7.2.1. Element 2.1 and 2.2

Options 2.2.1 through 2.2.3 – Non-blended allocation

To maximize the success of the proposed cooperative structure, holders of the eligible LLP licenses that are authorized to target trawl CV BSAI Pacific cod would be allocated QS for use in a cooperative. By providing each eligible LLP license holder harvest QS for use in a cooperative, the race for fish for the trawl CV sector would be reduced significantly thus improving safety and efficiency. Element 2 provides the direction and options for calculating BSAI trawl CV Pacific cod QS for each eligible LLP license. Specifically, Element 2.1 addresses LLP license eligibility in combination with Element 2.2, which provides three different sets of years used to determine eligible LLP licenses. An eligible LLP license is any LLP license that authorized that vessel's legal landings of targeted trawl CV BSAI Pacific cod during the qualifying years. Targeted Pacific cod catch history during each of the qualifying years would be assigned to the LLP license as QS. Trawl vessels that hold a valid LLP license to use trawl gear in the BSAI but the LLP license does not qualify to receive harvest QS could still harvest Pacific cod as

⁵⁴ One of the LLP licenses that targeted BSAI trawl CV Pacific cod in the 2019 C season was not used in that fishery during the 2019 B season. Therefore, the total number of LLP licenses used in the B and C seasons was 43.

incidental catch in other fisheries, but they would not be allowed to harvest Pacific cod in the directed BSAI trawl CV fishery under a cooperative, unless the vessel was assigned to a cooperative and leased CQ from other members. If it is the Council's intent to prohibit vessels whose LLP license is not issued QS from being members of a cooperative, the Council should state that intent.

Table 2-57, Table 2-58, and Table 2-59 show the number of qualified LLP licenses under each of the three options (Options 2.2.1-2.2.3) with drop year suboptions and with and without the C-season catch history included. The tables also show the distribution of qualified catch history by quintile, the percent of the trawl CV BSAI Pacific cod allocation by quintile, the average annual percent of BSAI Pacific cod allocation and the average 2019 allocation per qualified LLP license by quintile. These results in this section do not include potential reductions in qualified catch history from allocating a percent of QS to eligible processors which would be transferred to CV owners/operators in the cooperative to harvest (Elements 5 and 6). See Section 2.7.5 and Section 2.7.6 for qualified catch history for qualified LLP licenses and eligible processors.

Overall, more qualifying years yields a greater number of qualified LLP licenses. Specifically, of the total 115 trawl CV endorsed LLP licenses noted in Table 2-5, Option 2.2.1 (2014-2019) with C-season results in 86 LLP licenses qualifying and without C-season results in 85 LLP licenses qualifying, Option 2.2.2 (2009-2019) with C-season qualifies 93 LLP licenses and without C-season qualifies 92 LLP licenses, and Option 2.2.3 (2004-2019) qualifies 108 LLP licenses with C-season and without C-season. Most of this increase in qualified LLP licenses as the qualifying years increase occurs in the 0-250 mt qualified catch quintile. For example, as noted in Table 2-57, the 2014-2019 option with no drop years and with C-season catch included results in 34 qualified LLP licenses in the 0-250 mt quintile, while 2004-2019 option with no drop years and with C-season catch included shows 61 qualified LLP licenses in the 0-250 mt quintile.

In comparing the distribution of qualified LLP licenses by quintile, there are a greater number of qualified LLP licenses at the lowest quintile group than at the highest quintile group under every qualifying year option/drop year suboption with and without C-season included. For example, Option 2.2.1 with the no drop year suboption and with the C-season included, 34 LLP licenses qualify with less than 250 mt of qualifying landings each, which, when aggregated, amounts to 3,502 mt qualifying landings. On average, each qualified LLP license in this quintile group would be allocated 0.30 percent of the trawl CV BSAI Pacific cod allocation each year. Applying that average allocation to the 2019 Pacific cod trawl CV sector allocation (35,660 mt) for example would have resulted in each of the 34 qualified LLP licenses being allocated on average 106 mt of BSAI Pacific cod in 2019. In contrast, six LLP licenses qualify with greater than 1,000 mt of qualifying landings. In aggregated, the qualified landings of these six qualified LLP licenses totaled 6,432 mt. On average, each of the six qualified LLP licenses would be allocated 3.11 percent of the annual trawl CV BSAI Pacific cod allocation. Applying the average sector allocation for these six qualified LLP licenses to the 2019 Pacific cod trawl CV sector allocation (35,660 mt), each of these six LLP licenses would have been allocated on average 1,107 mt of BSAI Pacific cod.

Table 2-57 Option 2.2.1 - total number of qualified LLP licenses, and the number of qualified LLP licenses, average qualified landings (mt), allocation percent, average percent of allocation per qualified LLP license, and average allocation (mt) using 2019 TAC grouped by quintile of mt per LLP license

Options	Qualifying year/drop year suboptions	Qualifying licenses	Quintile grouping by qualifying landings (mt)	Number of qualified LLPs	Total qualifying landings (mt)	Allocation percent	Average allocation per qualifying LLP license	Average allocation using 2019 TAC (mt)
Option 2.2.1 (with C-season)	2014-2019 (no drop)	86	0-250	34	3,502	10%	0.30%	106
			250-500	26	10,089	29%	1.12%	401
			500-750	13	8,246	24%	1.84%	655
			750-1,000	7	6,254	18%	2.59%	923
			>1,000	6	6,432	19%	3.11%	1,107
	2014-2019 (drop 1)		0-250	31	3,372	9%	0.28%	98
			250-500	19	7,228	18%	0.96%	343
			500-750	19	11,340	29%	1.51%	539
			750-1,000	9	8,085	20%	2.27%	811
			>1,000	8	9,498	24%	3.00%	1,071
	2014-2019 (drop 2)		0-250	26	2,780	6%	0.24%	84
			250-500	19	7,292	16%	0.85%	303
			500-750	19	11,714	26%	1.36%	487
			750-1,000	8	6,383	14%	1.77%	630
			>1,000	14	17,011	38%	2.69%	959
Option 2.2.1 (no C-season)	2014-2019 (no drop)	85	0-250	33	3,460	10%	0.31%	94
			250-500	28	11,023	33%	1.17%	353
			500-750	12	7,740	23%	1.91%	579
			750-1,000	8	7,219	21%	2.67%	810
			>1,000	4	4,316	13%	3.20%	969
	2014-2019 (drop 1)		0-250	31	3,598	9%	0.30%	91
			250-500	18	6,941	18%	1.00%	302
			500-750	20	11,865	31%	1.53%	465
			750-1,000	9	8,048	21%	2.31%	701
			>1,000	7	8,206	21%	3.03%	919
	2014-2019 (drop 2)		0-250	25	2,775	6%	0.25%	76
			250-500	19	7,603	17%	0.90%	273
			500-750	21	13,124	29%	1.40%	426
			750-1,000	7	5,625	13%	1.81%	547
			>1,000	13	15,382	35%	2.66%	806

Source: AKFIN, December 2019

Table originates from Excel file BSAI_PCOD_LAPP_Option1(12-19-19)-1

Table 2-58 Option 2.2.2 - total number of qualified LLP licenses, and the number of qualified LLP licenses, average qualified landings (mt), allocation percent, average percent of allocation per qualified LLP license, and average allocation (mt) using 2019 TAC grouped by quintile of mt per LLP license

Options	Qualifying year/drop year suboptions	Qualifying licenses	Quintile grouping by qualifying landings (mt)	Number of qualified LLPs	Total qualifying landings (mt)	Allocation percent	Average allocation per qualifying LLP license	Average allocation using 2019 TAC (mt)
Option 2.2.2 (with C-season)	2009-2019 (no drop)	93	0-250	45	4,101	12%	0.27%	97
			250-500	20	7,257	22%	1.08%	385
			500-750	13	7,808	23%	1.79%	637
			750-1000	10	8,715	26%	2.59%	925
			>1000	5	5,720	17%	3.40%	1,214
	2009-2019 (drop 1)		0-250	42	3,721	10%	0.24%	87
			250-500	18	6,169	17%	0.94%	335
			500-750	17	10,224	28%	1.65%	589
			750-1000	9	8,177	22%	2.49%	889
			>1000	7	8,146	22%	3.19%	1,139
	2009-2019 (drop 2)		0-250	39	3,349	9%	0.22%	78
			250-500	19	6,518	17%	0.87%	311
			500-750	16	9,763	25%	1.55%	553
			750-1000	9	7,950	20%	2.25%	801
			>1000	10	11,765	30%	2.99%	1,066
Option 2.2.2 (no C-season)	2009-2019 (no drop)	92	0-250	44	4,061	12%	0.28%	85
			250-500	20	7,228	22%	1.10%	333
			500-750	14	8,337	25%	1.81%	548
			750-1000	9	7,622	23%	2.57%	779
			>1000	5	5,686	17%	3.45%	1,047
	2009-2019 (drop 1)		0-250	41	3,680	10%	0.25%	76
			250-500	18	6,135	17%	0.95%	289
			500-750	18	10,805	30%	1.68%	508
			750-1000	9	8,100	23%	2.51%	762
			>1000	6	7,069	20%	3.29%	998
	2009-2019 (drop 2)		0-250	38	3,304	9%	0.22%	68
			250-500	19	6,480	17%	0.88%	267
			500-750	17	10,408	27%	1.58%	480
			750-1000	9	7,843	20%	2.25%	683
			>1000	9	10,639	28%	3.06%	926

Source: AKFIN, December 2019

Table originates from Excel file BSAI_PCOD_LAPP_Option2(12-23-19)

Table 2-59 Option 2.2.3 - total number of LLP qualified licenses, and the number of LLP qualified licenses, average qualified landings (mt), allocation percent, average percent of allocation per qualified LLP license, and average allocation (mt) using 2019 TAC grouped by quintile of mt per LLP license

Options	Qualifying year/drop year suboptions	Qualifying licenses	Quintile grouping by qualifying landings (mt)	Number of qualified LLPs	Total qualifying landings (mt)	Allocation percent	Average allocation per qualifying LLP license	Average allocation using 2019 TAC (mt)
Option 2.2.3 (with C-season)	2004-2019 (no drop)	108	0-250	61	4,443	14%	0.22%	80
			250-500	22	8,002	25%	1.12%	400
			500-750	13	8,351	26%	1.98%	706
			750-1000	8	6,851	21%	2.64%	941
			>1000	4	4,790	15%	3.69%	1,317
	2004-2019 (drop 1)		0-250	59	4,217	12%	0.21%	74
			250-500	22	8,016	23%	1.06%	378
			500-750	13	8,372	24%	1.87%	668
			750-1000	10	8,782	26%	2.55%	910
			>1000	4	5,011	15%	3.64%	1,299
	2004-2019 (drop 2)		0-250	59	4,518	12%	0.21%	75
			250-500	19	6,977	19%	1.01%	360
			500-750	12	7,259	20%	1.66%	593
			750-1000	12	10,381	29%	2.38%	848
			>1000	6	7,251	20%	3.32%	1,184
Option 2.2.3 (without C-season)	2004-2019 (no drop)	108	0-250	62	4,628	14%	0.23%	70
			250-500	22	8,103	25%	1.14%	344
			500-750	13	8,323	26%	1.97%	598
			750-1000	7	5,953	18%	2.62%	795
			>1000	4	4,764	15%	3.67%	1,113
	2004-2019 (drop 1)		0-250	59	4,165	12%	0.21%	62
			250-500	23	8,373	24%	1.06%	321
			500-750	13	8,307	24%	1.86%	563
			750-1000	9	7,872	23%	2.54%	771
			>1000	4	4,983	14%	3.62%	1,098
	2004-2019 (drop 2)		0-250	59	4,462	12%	0.21%	63
			250-500	20	7,360	20%	1.01%	307
			500-750	12	7,237	20%	1.66%	502
			750-1000	12	10,413	29%	2.38%	723
			>1000	5	6,188	17%	3.40%	1,031

Source: AKFIN, December 2019

Table originates from Excel file BSAI_PCOD_LAPP_Option3(12-23-19)

Option 2.2.4 – Blend Allocation for LLP Licenses Currently on AFA Sideboard Vessels with 1997 History

An issue that has been identified during preliminary discussions of the cooperative program is how to address BSAI Pacific cod sideboard limit transfers that have occurred within AFA cooperatives via civil contracts as these transfers could be considered in determining allocations under this proposed action. AFA cooperatives can harvest BSAI Pacific cod up to given amount. That amount is established as a percentage of the BSAI ITAC based on AFA CV Pacific cod history. This amount was established in the implementation of the AFA and is considered a sideboard. Once in an AFA cooperative, the cooperative members may determine how to harvest the available Pacific cod. Those decisions have resulted in cooperative members creating civil contracts to lease Pacific cod to facilitate its efficient harvest.

To address BSAI Pacific cod transfers that have occurred within the AFA cooperatives, the Council included Option 2.2.4 for analysis. Specifically, this option is for those eligible LLP licenses affiliated with AFA vessels restricted by BSAI Pacific cod sideboard limits. These LLP licenses may be allocated a portion of the trawl CV sector’s QS using a blend of AFA sideboard history based BSAI Pacific cod catch history from 1997 and targeted BSAI Pacific cod during the qualifying years (Options 2.2.1-2.2.3). The blend amounts are 50 percent/50 percent, 80 percent/20 percent, and 20 percent/80 percent. Option 4 is not intended to be used for LLP licenses affiliated with AFA sideboard exempt CVs and non-AFA CVs; this option would only impact AFA non-exempt sideboarded CVs. The allocation to these LLP licenses would be based on the Pacific cod catch history of targeted BSAI Pacific cod authorized by that LLP license during the qualifying years (Options 2.2.1-2.2.3).

As noted, some AFA CVs were subject to BSAI Pacific cod sideboards while other AFA trawl CVs were exempt from these sideboard limits. The AFA final rule exempted certain AFA CVs that had relatively small pollock fishing history and that showed significant economic dependence on BSAI Pacific cod. For AFA CVs to receive an exemption from BSAI Pacific cod sideboards, they had to have 1) made 30 or more legal landings in the BSAI directed fishery for Pacific cod from 1995 to 1997, 2) averaged annual BS pollock landings less than 1,700 mt from 1995 to 1997, and 3) be less than 125 ft in length. In addition, the Council recommended that all AFA CVs with mothership (MS) endorsements be exempt from Pacific cod sideboard measures after March 1 of each year. Of the 112 permitted AFA CVs that were initially permitted, 10 were exempt from the BSAI Pacific cod sideboard limits under the landings and vessel size criteria, as are the 19 vessels that are members of the MS sector, after March 1 of each fishing year.⁵⁵ The remaining 83 AFA CVs are subject to BSAI Pacific cod sideboard limits. Pacific cod harvest caught by exempt AFA CVs as a percentage of the Pacific cod harvest of all AFA CVs has ranged from a low of 30 percent in 2003 to a high of 36 percent in 2011, and overall shows a slight increasing trend.⁵⁶

These sideboard limits were established to protect the interests of fishermen and processors who do not directly benefit from those fishermen and processors who received exclusive harvesting and processing privileges under the AFA. Table 2-60 provides the sideboard ratios for BSAI Pacific cod and the 2020 sideboard limits.

Table 2-60 AFA sideboard limits for BSAI Pacific cod

Target species and gear	Area/Season	Sideboard ratio ¹	2020 TAC ² (mt)	2020 sideboard limit (mt)
Pacific cod trawl gear CV	BSAI Jan 20 - Apr 1	0.8609	20,156	17,352
	BSAI Apr 1 - Jun 10	0.8609	2,996	2,579
	BSAI Jun 10 - Nov 1	0.8609	4,086	3,518

Source: NMFS

¹Determined using a ratio of 1997 AFA CV catch to 1997 TAC

² BSAI Pacific cod is multiplied by the remainder of the TAC of that species after the subtraction of the CDQ reserve under § 679.20(b)(1)(ii)(C).

Based on the 2019 LLP license file, there were nine active LLP licenses with an AFA CV BSAI Pacific cod exempt flag and 90 active LLP licenses with an AFA endorsement without a BSAI Pacific cod exempt flag. Table 2-118 breaks out the target catch of BSAI Pacific cod by these three trawl CVs classes of vessel.

In looking at Option 2.2.4 for purposes of analysis and implementation, this option uses the 1997 BSAI Pacific cod catch history by AFA trawl CV sideboard vessels, which is a vessel-based history, to blend eligible catch history determined from Element 2, Options 2.2.1-2.2.3. Since the LLP license program was implemented January 1, 2000, there was no authorizing LLP license assigned to an AFA trawl CV

⁵⁵ Northern Economics, Inc., 2017

⁵⁶ Northern Economics, Inc., 2017

sideboarded vessel during 1997 that could be blended with qualified catch history from Options 2.2.1-2.2.3. As a result, Option 2.2.4 within the context of an LLP license-based program, will not function without some method of applying a vessel's 1997 catch history to an eligible LLP license.

In addition, staff does not have access to cooperative contracts or individual contracts that provide information on the terms and conditions of transfers that have occurred. The data available only indicates how much catch was associated with an LLP license or a vessel. The data do not provide any information on how the cooperative determined how much Pacific cod the member would be allowed to harvest. If the intention is to have the trawl CV cooperative program be based solely on LLP licenses, there is not a straightforward solution for integrating 1997 vessel catch data with LLP license-based allocations. Some LLP licenses have been transferred between vessels throughout the time the LLP license was issued and there is no way to know which landing is from a sideboard that was leased, and which was not. **There are at least three distinct points in time that blending of the 1997 sideboard history with the eligible catch history from Options 2.2.1-2.2.3 can occur. They include 1) blending history when the LLP license was on the sideboarded vessel during the PCTC Program qualifying years defined in Options 2.2.1-2.2.3, 2) blending the history for LLP licenses that are on the sideboarded vessels at the time of final implementation of the PCTC Program, or 3) blending the history of those LLP licenses that were generated based on the catch history of sideboarded vessels at the time the LLP license was initially issued.**

Given that blending the 1997 vessel sideboard history with the eligible LLP license catch history from Options 2.2.1-2.2.3 and applying that catch history to the LLP license currently assigned to a sideboarded vessel is likely the cleanest and most transparent approach, this was the approach used for this analysis. This approach is likely better suited for addressing the transferability of LLP licenses. During the 20 years since implementation of the LLP licenses, originally issued LLP licenses could have been transferred several times. As a result, blending the eligible catch history currently assigned to the sideboarded vessels at the time of implementation of the PCTC Program is the cleanest and most transparent approach. To eliminate the effects of differing TACs between 1997 and the qualifying time periods from Options 2.2.1-2.2.3, the 1997 sideboard catch history was scaled to the catch history from Options 2.2.1-2.2.3. Table 2-61, Table 2-62, and Table 2-63 show the total number of qualified LLP licenses in addition to the distribution of qualified catch history at the quintile level when blending 1997 sideboard history from Options 2.2.1-2.2.3 for sideboarded AFA CVs. Given that there are 54 permutations under Option 2.2.4, the tables below provide allocation information with all three seasons only.

Table 2-61 Blended Option 2.2.1 (with C-season) total number of qualified licenses, average landings, allocation percent, average allocation per LLP license and average allocation using 2019 TAC

Options	Qualifying year/drop year suboptions	Qualifying licenses	Quintile grouping by qualifying landings (mt)	Number of qualified LLPs	Total qualifying landings (mt)	Allocation percent	Average allocation per qualifying LLP license	Average allocation using 2019 TAC (mt)
Option 2.2.1 (with C-season) 50%SB/50%QS blend	2014-2019 (no drop)	119	0-250	70	7,601	20%	0.29%	102
			250-500	27	10,890	29%	1.06%	379
			500-750	13	7,788	21%	1.58%	563
			750-1000	4	3,540	9%	2.33%	831
	>1000		5	8,142	21%	4.29%	1,530	
	2014-2019 (drop 1)		0-250	61	6,104	14%	0.23%	82
			250-500	28	11,027	25%	0.91%	324
			500-750	18	10,726	25%	1.37%	490
			750-1000	5	4,262	10%	1.97%	701
	>1000		7	11,249	26%	3.71%	1,321	
	2014-2019 (drop 2)		0-250	54	5,255	11%	0.20%	70
			250-500	27	10,484	21%	0.79%	280
500-750		21	12,441	25%	1.20%	428		
750-1000		8	6,547	13%	1.66%	591		
>1000	9	14,687	30%	3.30%	1,178			
Option 2.2.1 (with C-season) 80%SB/20%QS blend	2014-2019 (no drop)	119	0-250	66	6,836	18%	0.27%	97
			250-500	34	13,553	36%	1.05%	374
			500-750	10	5,975	16%	1.57%	561
			750-1,000	4	3,455	9%	2.28%	811
	>1,000		5	8,142	21%	4.29%	1,530	
	2014-2019 (drop 1)		0-250	57	5,462	13%	0.22%	79
			250-500	37	14,172	33%	0.88%	315
			500-750	13	8,243	19%	1.46%	521
			750-1,000	6	5,244	12%	2.02%	719
	>1,000		6	10,246	24%	3.94%	1,404	
	2014-2019 (drop 2)		0-250	54	5,550	11%	0.21%	74
			250-500	33	13,396	27%	0.82%	293
500-750		18	11,611	23%	1.31%	465		
750-1,000		5	4,246	9%	1.72%	613		
>1,000	9	14,612	30%	3.29%	1,172			
Option 2.2.1 (with C-season) 20%SB/80%QS blend	2014-2019 (no drop)	119	0-250	67	5,133	14%	0.20%	72
			250-500	26	10,033	26%	1.02%	362
			500-750	14	8,410	22%	1.58%	564
			750-1000	7	6,243	16%	2.35%	838
	>1000		5	8,142	21%	4.29%	1,530	
	2014-2019 (drop 1)		0-250	65	5,459	13%	0.19%	69
			250-500	23	9,532	22%	0.96%	341
			500-750	17	10,673	25%	1.45%	516
			750-1000	6	5,338	12%	2.05%	732
	>1000		8	12,366	29%	3.56%	1,271	
	2014-2019 (drop 2)		0-250	60	5,133	10%	0.17%	62
			250-500	18	7,155	14%	0.80%	287
500-750		21	12,776	26%	1.23%	439		
750-1000		8	6,342	13%	1.60%	572		
>1000	12	18,008	36%	3.04%	1,083			

Source: AKFIN, April 2020

Table originates from Excel file BSAI_PCOD_LAPP_blend(3-31-20) and BSAI_PCOD_LAPP_blend(6-18-20)

SB - 1997 sideboard history; QS - quota share from qualifying years

Table 2-62 Blended Option 2.2.2 (with C-season) total number of qualified licenses, average landings, allocation percent, average allocation per LLP license and average allocation using 2019 TAC

Options+A52:100	Qualifying year/drop year suboptions	Qualifying licenses	Quintile grouping by qualifying landings (mt)	Number of qualified LLPs	Total qualifying landings (mt)	Allocation percent	Average allocation per qualifying LLP license	Average allocation using 2019 TAC (mt)
Option 2.2.2 (with C-season) 50%SB/50%QS blend	2009-2019 (no drop)	124	0-250	75	7,092	19%	0.26%	92
			250-500	29	11,390	31%	1.07%	381
			500-750	10	5,909	16%	1.61%	573
			750-1,000	4	3,334	9%	2.27%	808
			>1,000	6	9,053	25%	4.10%	1,463
	2009-2019 (drop 1)		0-250	73	7,197	18%	0.25%	88
			250-500	26	10,376	26%	1.00%	357
			500-750	15	8,963	23%	1.50%	535
			750-1000	4	3,640	9%	2.28%	814
			>1000	6	9,661	24%	4.04%	1,441
	2009-2019 (drop 2)		0-250	71	7,335	17%	0.24%	86
			250-500	23	9,176	21%	0.93%	331
			500-750	18	10,716	25%	1.39%	494
			750-1000	5	4,470	10%	2.08%	742
			>1000	7	11,259	26%	3.74%	1,335
Option 2.2.2 (with C-season) 80%SB/20%QS blend	2009-2019 (no drop)	124	0-250	73	7,152	19%	0.27%	95
			250-500	32	12,155	33%	1.03%	368
			500-750	9	5,224	14%	1.58%	563
			750-1,000	4	3,194	9%	2.17%	774
			>1,000	6	9,053	25%	4.10%	1,463
	2009-2019 (drop 1)		0-250	70	6,995	18%	0.25%	89
			250-500	32	12,444	31%	0.98%	348
			500-750	12	7,242	18%	1.51%	540
			750-1,000	4	3,494	9%	2.19%	782
			>1,000	6	9,661	24%	4.04%	1,441
	2009-2019 (drop 2)		0-250	65	6,306	15%	0.23%	81
			250-500	36	13,756	32%	0.89%	317
			500-750	11	7,354	17%	1.56%	555
			750-1,000	6	5,312	12%	2.06%	735
			>1,000	6	10,228	24%	3.97%	1,415
Option 2.2.2 (with C-season) 20%SB/80%QS blend	2009-2019 (no drop)	124	0-250	77	5,957	16%	0.21%	75
			250-500	21	8,150	22%	1.06%	376
			500-750	13	7,656	21%	1.60%	571
			750-1,000	6	4,905	13%	2.22%	793
			>1,000	7	10,111	27%	3.93%	1,401
	2009-2019 (drop 1)		0-250	72	5,207	13%	0.18%	65
			250-500	20	7,084	18%	0.89%	317
			500-750	18	10,660	27%	1.49%	530
			750-1,000	7	6,096	15%	2.19%	780
			>1,000	7	10,788	27%	3.87%	1,380
	2009-2019 (drop 2)		0-250	69	4,930	11%	0.17%	59
			250-500	21	7,516	17%	0.83%	297
			500-750	18	11,006	26%	1.42%	508
			750-1,000	8	7,086	16%	2.06%	735
			>1,000	8	12,417	29%	3.61%	1,289

Table 2-63 Blended Option 2.2.3 (with C-season) total number of qualified licenses, average qualified landings, allocation percent, average allocation per LLP license and average allocation using 2019 TAC

Options	Qualifying year/drop year suboptions	Qualifying licenses	Quintile grouping by qualifying landings (mt)	Number of qualified LLPs	Total qualifying landings (mt)	Allocation percent	Average allocation per qualifying LLP license	Average allocation using 2019 TAC (mt)
Option 2.2.3 (with C-season) 50%SB/50%QS blend	2004-2019 (no drop)	128	0-250	82	8,008	23%	0.28%	99
			250-500	27	10,566	30%	1.11%	395
			500-750	11	6,854	19%	1.77%	630
			750-1,000	3	2,777	8%	2.62%	935
			>1,000	5	7,086	20%	4.02%	1,432
	2004-2019 (drop 1)		0-250	77	7,225	19%	0.25%	89
			250-500	31	12,017	32%	1.04%	369
			500-750	11	7,000	19%	1.70%	606
			750-1,000	3	2,676	7%	2.38%	850
			>1,000	6	8,507	23%	3.79%	1,351
	2004-2019 (drop 2)		0-250	75	7,162	18%	0.24%	86
			250-500	31	11,738	30%	0.96%	341
500-750		11	7,389	19%	1.70%	605		
750-1,000		4	3,359	8%	2.12%	756		
>1,000		7	9,941	25%	3.59%	1,279		
Option 2.2.3 (with C-season) 80%SB/20%QS blend	2004-2019 (no drop)	128	0-250	78	7,747	22%	0.28%	100
			250-500	32	11,647	33%	1.03%	368
			500-750	10	6,205	18%	1.76%	627
			750-1,000	3	2,606	7%	2.46%	878
			>1,000	5	7,086	20%	4.02%	1,432
	2004-2019 (drop 1)		0-250	73	6,945	19%	0.25%	91
			250-500	36	13,154	35%	0.98%	348
			500-750	10	6,319	17%	1.69%	602
			750-1,000	4	3,528	9%	2.36%	841
			>1,000	5	7,479	20%	4.00%	1,425
	2009-2019 (drop 2)		0-250	70	6,610	17%	0.24%	85
			250-500	37	13,185	33%	0.90%	321
500-750		10	6,673	17%	1.69%	601		
750-1,000		5	4,247	11%	2.15%	765		
>1,000		6	8,875	22%	3.74%	1,332		
Option 2.2.3 (with C-season) 20%SB/80%QS blend	2004-2019 (no drop)	128	0-250	84	6,709	19%	0.23%	81
			250-500	20	7,993	23%	1.13%	404
			500-750	15	9,649	27%	1.82%	650
			750-1,000	3	2,703	8%	2.55%	911
			>1,000	6	8,236	23%	3.89%	1,387
	2004-2019 (drop 1)		0-250	79	5,839	16%	0.20%	70
			250-500	24	9,307	25%	1.04%	369
			500-750	12	7,620	20%	1.70%	605
			750-1,000	7	5,977	16%	2.28%	814
			>1,000	6	8,683	23%	3.87%	1,379
	2004-2019 (drop 2)		0-250	79	6,226	16%	0.20%	71
			250-500	21	7,836	20%	0.94%	336
500-750		13	8,587	22%	1.67%	595		
750-1,000		8	6,826	17%	2.16%	769		
>1,000		7	10,114	26%	3.65%	1,301		

Source: AKFIN, April 2020

Table originates from Excel file BSAI_PCOD_LAPP_blend(3-31-20) and BSAI_PCOD_LAPP_blend(6-18-20)

SB - 1997 sideboard history; QS - quota share from qualifying years

One of the effects of blending the 1997 sideboard history with the qualifying catch history from Options 2.2.1 through 2.2.3 is the addition of LLP licenses that would qualify based solely on leasing their sideboard limits to other AFA vessel operators. These additional LLP licenses are the result of AFA sideboarded vessels with 1997 Pacific cod history that focused on pollock instead of continuing to target Pacific cod. These new additional LLP licenses are therefore not included as eligible licenses in Table 2-57, Table 2-58, and Table 2-59, but are included in Table 2-61, Table 2-62, and Table 2-63 because of their 1997 Pacific cod fishery activity. The number of additional LLP licenses that would qualify for QS

under the blend option vary depending on the qualifying year option. As noted in Table 2-64, blending Option 2.2.1 with 1997 sideboard history generates 33 additional LLP licenses, blending Option 2.2.2 generates 31 additional LLP licenses, and blending Option 2.2.3 generates 20 additional LLP licenses. As noted in Table 2-65, crediting 80 percent of 1997 sideboard history when blending with catch history from qualifying years in Options 2.2.1 through 2.2.3 generates the largest allocation for the additional LLP licenses. This means that under Option 2.2.1 (2014-2019) for example, a total of 90 LLP licenses would receive a blended allocation. Of those 90 LLP licenses receiving a blended allocation, 33 LLP licenses that were added under the blend option would receive 16 percent of the total trawl CV allocation (under a blend option of 80 percent of sideboard history/20 percent of catch history from qualifying years Options 2.2.1-2.2.3) despite these LLP licenses having no qualifying landings during the 2014 through 2019 catch history years, while the other 57 LLP licenses receiving a blended allocation, would receive 38 percent of the total trawl CV allocation (see Table 2-64 for LLP license counts and Table 2-65 for percent of total). The remaining 29 LLP licenses which are non-AFA vessels and AFA sideboard exempt vessels that receive non-blended allocation, would receive the remaining 46 percent of the total trawl CV allocation.

Table 2-64 Number of qualified LLP licenses grouped by blended and non-blend BSAI Pacific cod qualifying catch history using 1997 sideboard history and catch history from Options 2.2.1 through 2.2.3

Option	Blended catch history			Non-blended catch history		Total LLP qualified licenses
	Total number of LLP licenses with blended catch history	Number of additional LLP license from 1997 sideboard history	Number of existing LLP licenses that qualify under the non-blend option	Number of sideboard exempt LLP licenses	Number of non-AFA LLP licenses	
2014-2019 (no drop) 2014-2019 (drop1) 2014-2019 (drop2)	90	33	57	14	15	119
2009-2019 (no drop) 2009-2019 (drop1) 2009-2019 (drop2)	93	31	62	15	16	124
2004-2019 (no drop) 2004-2019 (drop1) 2004-2019 (drop2)	95	20	75	15	18	128

Source: AKFIN, June 2020

Table originates from Excel file BSAI_PCOD_LAPP_blend(6-18-20)

Table 2-65 Percent of qualifying BSAI Pacific cod catch history grouped by blended and non-blend BSAI Pacific cod qualifying catch history using 1997 sideboard history and catch history from Options 2.2.1 through 2.2.3

Option	Blended catch history using 20%/SB/80%/QS			Blended catch history using 80%/SB/20%/QS			Blended catch history using 50%/SB/50%/QS			Non-blended catch history	
	Blended total as a % of total catch history	% of total catch history for additional LLP licenses from 1997 sideboard history	% of total for existing LLP licenses that qualify under the non-blend option	Blended total as a % of total catch history	% of total catch history for additional LLP licenses from 1997 sideboard history	% of total for existing LLP licenses that qualify under the non-blend option	Blended total as a % of total catch history	% of total catch history for additional LLP licenses from 1997 sideboard history	% of total for existing LLP licenses that qualify under the non-blend option	% of total for exempt LLP licenses	% of total for non-AFA LLP licenses
2014-2019 (no drop)	54%	4%	50%	54%	16%	38%	54%	10%	44%	20%	26%
2014-2019 (drop1)	54%	4%	49%	54%	16%	38%	54%	10%	44%	21%	26%
2014-2019 (drop2)	53%	4%	49%	53%	16%	38%	53%	10%	43%	21%	26%
2009-2019 (no drop)	51%	4%	47%	51%	14%	37%	51%	9%	42%	22%	27%
2009-2019 (drop1)	51%	4%	47%	51%	14%	37%	51%	9%	42%	22%	27%
2009-2019 (drop2)	51%	4%	47%	51%	14%	37%	51%	9%	42%	22%	27%
2004-2019 (no drop)	54%	3%	51%	54%	8%	46%	54%	6%	48%	21%	25%
2004-2019 (drop1)	54%	3%	51%	54%	8%	46%	54%	6%	48%	21%	25%
2004-2019 (drop2)	54%	3%	51%	54%	8%	46%	54%	6%	48%	21%	25%

Source: AKFIN, June 2020

Table originates from Excel file BSAI_PCOD_LAPP_blend(6-18-20)

If the Council moves forward with Option 2.2.4, it will need to specify that additional LLP licenses allocated catch history under Option 2.2.4 are eligible LLP licenses for the PCTC Program. In all, there are 90 BSAI Pacific cod sideboard trawl CVs that targeted BSAI Pacific cod in 1997. Currently, LLP licenses without Pacific cod target history during the qualifying years under Options 2.2.1-2.2.3 would not qualify to receive QS under Option 2.2.4 unless the eligibility language in Element 2.1 is modified. **Language that could be used to modify Element 2.1 to allow AFA sideboarded vessels with 1997 Pacific cod catch history but without qualifying target Pacific cod during the qualifying years (Options 2.2.1-2.2.3) is provided below in bold:**

2.1 Any LLP license assigned to a vessel that authorized that vessel’s legal landings of targeted trawl catcher vessel BSAI cod during the qualifying years **or any LLP license, as of Feb 7, 2019 (control date), assigned to an AFA trawl CV (or it’s replacement) that had BSAI Pacific cod catch in 1997** that was used to determine the AFA Pacific cod sideboard limit is eligible to receive harvest shares.

2.7.2.2. Reported catch without an LLP license

The PCTC Program proposes allocating harvest shares to valid LLP licenses that were authorized to legally harvest BSAI Pacific cod from Federal or parallel fisheries during the qualifying years. Reviewing the CAS data used for this analysis indicates that there were reported catches by vessels that do not have an LLP license number listed in those data. This section is developed to show the magnitude of the issue and allow the Council to provide direction on how these landings should be treated in the analysis and when persons apply for an initial allocation of QS for their LLP licenses.

Table 2-66 provides a summary of the reported retained catch and number of CVs associated with CAS data that did not include an LLP license number. Most of the reported retained catch that was not associated with an LLP license was harvested in the AI. Depending on the qualifying years selected between 65 percent and 70 percent of that catch was associated with a vessel that did not have an LLP

license with an AI trawl endorsement, but did have a transferrable less than 60 ft. or greater than or equal to 60 ft. AI trawl endorsement⁵⁷. The transferable endorsement may have allowed the vessel to legally fish in the area with trawl gear for Pacific cod, but the permanent LLP license did not. The question that needs to be addressed is how to treat that catch at the time of initial allocation. Because the QS derived from the catch history is not identified as BS or AI quota, it could be issued to the LLP license currently assigned to the harvesting vessel and the LLP license holder would be required to have a BS or AI trawl endorsement on that license or have an AI transferable endorsement to fish the QS in the AI. Alternatively, the catch history could be attached to the transferable endorsement that allowed the legal harvest of the Pacific cod. This approach could create unintended consequences and increase the value of those transferable permits. If the history is not assigned to those transferrable endorsements, those endorsements will no longer have any value beyond allowing certain vessels without a trawl endorsed LLP license to catch PCTC Program CQ for a cooperative in the AI when they could not otherwise. If the QS is assigned to the transferrable endorsement, any person that is qualified to hold an LLP license could acquire the endorsement and assign it to a cooperative and fish the resulting CQ on another vessel of any size. This may reduce the benefits that were originally intended. However, there is nothing that would prevent a similar situation from occurring if it were assigned to the LLP license with a MLOA of 60 ft. Once in the cooperative, nothing would prevent the CQ derived from the LLP license from being fished on any vessel within the cooperative as long as the vessel was under the vessel use cap. The holder of the CQ would benefit as would the harvester and the costs to harvest the CQ may be less than using the smaller vessel. Negative impacts will most likely accrue to the crew of the smaller vessel if they lose crew shares associated with that Pacific cod harvest.

Table 2-66 Reported retained catch by vessels that did not have an LLP license number listed in the CAS data

Landings/Vessels	AI	BS	BSAI
2004-2019: % of landings	6.62%	0.03%	1.69%
2004-2019: Vessels	24	6	30
2009-2019: % of landings	4.65%	c	0.95%
2009-2019: Vessels	14	2	16
2014-2019: % of landings	6.15%	c	0.82%
2014-2019: Vessels	8	1	9

Source: AKFIN summary of CAS data

The remaining catch that is not assigned an LLP license number in the CAS data will likely need to be addressed at the time of initial allocation. Almost all of that catch is reported to have been harvested by vessels with other LLP licenses that did not have the correct area endorsement or they reported most of their catch in that area in a GHL fishery, but some was listed as the open access fishery. In some cases, it appears the vessel had an LLP license with the correct area endorsement at some point during the fishing year and the information needs to be corrected in the CAS data. In other cases, the catch may need to be reviewed to determine if it should be reclassified as a GHL fishery harvest versus a parallel fishery harvest. It is assumed that any parallel fishery harvest that was taken when the vessel did not have a valid LLP license on the vessel would not count toward the CVs catch history.

2.7.2.3. Element 2.3 – Stacked LLP Licenses

Because a vessel may be assigned to more than one LLP license, commonly known as “stacking”, Element 2.3 includes two options to address assigning catch shares to an eligible LLP license when there is more than one eligible LLP license assigned to a trawl CV. There a variety of reasons a vessel may be

⁵⁷ ([R:\FMPs\Amendments \(Gfish\)\COMBINED\AM9282\AMD 92-82 pr.pr \(November 24, 2008\).doc](R:\FMPs\Amendments (Gfish)\COMBINED\AM9282\AMD 92-82 pr.pr (November 24, 2008).doc)).

assigned to more than one LLP license. For example, two LLP licenses could have a suite of different endorsements that provide the vessel operator greater flexibility in how the vessel is used.

Option 2.3.1 would divide the catch history equally between the qualifying LLP licenses that authorized the vessel's legal landings of targeted trawl CV BSAI Pacific cod during the qualifying years. This means that both LLP licenses have the area and gear endorsements required to harvest the reported Pacific cod catch. Under this option, neither the vessel owner nor the LLP license holder would have the authority to determine how the history is divided. The catch shares would be divided equally between each LLP license. If only one of the LLP licenses authorized the catch, then all the history would be assigned to that LLP license. This method is likely the easiest to implement because it could be done using only catch data without applications from the vessel owners.

Option 2.3.2 would authorize the owner of the vessel that made the catch to assign catch shares to the eligible LLP licenses. This option would only apply if more than one LLP license would allow the legal catch. The option gives more power to the vessel owner versus the LLP license holder if the ownership of the LLP license changes or the LLP license holder was not the owner of the vessel when the landings were made. To illustrate this dynamic, a vessel owner is the holder of two LLP licenses to which the vessel is assigned. The vessel owner sells one of the LLP licenses to another firm. When the catch shares are assigned to an eligible LLP license, the vessel owner could assign all of the catch history to the LLP license it still holds. The buyer of the LLP license would not receive any catch shares associated with the LLP license from the time when it was held by previous owner.

In those cases where a vessel is assigned to multiple LLP licenses, the vessel's area specific catch history will be attributed according to the LLP license's area endorsement. In other words, BS catch history will be assigned to the LLP license with the BS endorsement and AI catch history will be assigned to the LLP license with the AI endorsement. If there are multiple BS endorsements or AI endorsements on the vessel, catch history will be assigned to the LLP license based on the either Option 2.3.1 or Option 2.3.2.

While the stacking of LLP licenses and the distribution of catch shares does not apply to most qualified LLP licenses, it is an important decision point to the individuals and firms that are subject to the decision. Table 2-67 provides a list of trawl CVs with multiple LLP licenses by area endorsement. In all three qualifying year options, the number of trawl CVs with multiple LLP licenses is the same, 9 trawl CVs with 21 LLP licenses that accounts for approximately 22 percent of BSAI Pacific cod allocation. Of those 21 LLP licenses, 20 are endorsed for the BS, while 10 are endorsed for the AI.

Table 2-67 Trawl CVs with multiple LLP licenses by area endorsement

Vessel	Total LLP licenses on vessel	BS trawl endorsements		AI trawl endorsement	
		No	Yes	No	Yes
1	4		4	2	2
2	3		3	2	1
3	2	1	1		2
4	2		2	2	
5	2		2	2	
6	2		2		2
7	2		2	1	1
8	2		2	2	
9	2		2		2

Source: AKFIN, April 2020

Table originates from Excel file BSAI_PCOD_Stacked(4-8-20)

2.7.2.4. Element 2.4 – Issuance of Annual Quota

The Council included Element 2.4 to provide direction that each license will be issued CQ based on its share of the QS. CQ would be not designated at the seasonal or management area level. The cooperatives would be required to ensure they do not exceed annual allocation limits for BS and AI and do not exceed the seasonal limits, which are 74 percent for the A-season, 11 percent for the B-season, and 15 percent for the C-season. 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. Any unfished cooperative quota would need to be fished in the area that remains open to Pacific cod directed fishing. Cooperative management provides the greatest level of flexibility for the cooperatives to efficiently manage their annual quota within seasonal and area constraints.

In the case of trawl CVs and the eligible LLP licenses to which they are assigned that elect not to join a cooperative and instead fish in the limited access fishery under Option 1.1, the Pacific cod that would have been issued to a cooperative, less any reductions imposed for the limited access fishery, would be assigned to the limited access fishery. NMFS will manage the limited access fishery as it currently does with regard to season apportionments. It also means that if the apportionment to the sector is too small to manage, the fishery may not be opened to directed fishing and the seasonal apportionments would not apply to that sector. NMFS will only open a directed fishery if it anticipates the effort will not exceed the available harvest in a 24-hour period.

Finally, during the October 2019 meeting, the Council requested that the analysis included the potential impacts of adjusting seasonal harvest percentages for the BSAI Pacific cod trawl CV sector fishery on Steller sea lions (SSL). Currently, the proposed action for the PCTC Program would leave in place the existing trawl CV seasonal limits, which are 74 percent for the A-season, 11 percent for the B-season, and 15 percent for the C-season. Any adjustments to these percentage amounts via this proposed action or a trailing amendment would require consideration of SSL protection measures. Table 5 to 50 CFR 679 outlines SSL protection areas in the Pacific cod fishery. Any change to the season dates or percentages would require consultation under section 7 of the Endangered Species Act (ESA). For further information concerning the effects of this action on SSL and other marine mammals, see Section 3.5.

In general, adequate prey availability for SSL is especially important in early winter, a sensitive period for SSL foraging, particularly around rookeries and major haulouts. If adjustments in the seasonal dates or harvest percentages combined with the development of the BSAI Pacific cod Cooperative Program results in no change in temporal fishing patterns as they currently are under status quo, there would likely be no effect to the prey availability to SSL, and thus no effect to SSL. If adjusting the seasonal dates or harvest percentages combined with development of the BSAI Pacific cod Cooperative Program resulted in a shift in harvest that decreased prey availability to SSL, it could result in an adverse effect to the SSL in the BSAI. In particular, if adjusting the seasonal harvest percentages combined with the BSAI Pacific cod Cooperative Program resulted in greater harvest effort in the winter cod fishery, especially early winter, a higher potential for greater adverse effect on SSL could exist. Further, the larger the adjustment of seasonal harvest percentages, the greater the potential for a larger negative effect on SSL, especially if the harvest continued at a greater rate than status quo into early winter. For further information on this issue, see Section 3.5.

The intent of the existing SSL protection measures is also to maintain spatial dispersion of the fishery to avoid negatively affecting prey availability to SSL. Therefore, effects of the adjusting seasonal dates or harvest percentages on spatial dispersion of the fishery would follow a similar trajectory of impact on SSL as would the effects on temporal dispersion. If the adjustment of seasonal harvest percentages combined with development of the BSAI Pacific cod Cooperative Program caused a greater spatial harvest concentration relative to the status quo, the potential exists for adverse effects to SSL, particularly closer to critical habitat and areas closed for SSL protection.

Overall, the temporal affects resulting from the PCTC Program would likely lengthen the winter cod fishery, so it is comparable to the years prior to 2017. Since 2017, the length of the A-season winter cod

fishery has steadily compressed due primarily to significantly lower BSAI and GOA Pacific cod TACs and increased effort in the fishery. The proposed cooperative structure is expected to provide the fleet the opportunity to slow the pace of the fishery and spread removals over a longer period, relative to the status quo. However, the fleet would still be expected to try to harvest the majority of the A-season allocation when the Pacific cod are aggregated to reduce cost and increase efficiency. The timing of the spawning aggregations would continue to be a primary determinate of when the fishery takes place. However, some changes to spatial dispersion of harvest related to the development of the BSAI Pacific cod trawl CV Cooperative Program, would be expected. For example, Element 6 would require the cooperatives to reserve a portion of their annual Pacific cod quota for delivery to AI shoreplants. Since most of the Pacific cod quota reserved for deliver to AI shoreplants would be harvested in the AI, Element 6 could change spatial dispersion between the AI and BS relative to historical patterns. In addition, harvesters would continue to fish where the Pacific cod aggregations occur. Those aggregations and areas that result in lower rates of halibut PSC are anticipated to be primary determinates of where the fishery would take place in the BS and the AI. Nevertheless, adjusting seasonal dates or harvest percentages, whether or not combined with these anticipated temporal and spatial changes of the BSAI Pacific cod trawl CV fishery would require a consultation under section 7 of the ESA.

2.7.2.5. Element 2.5 – Cooperatives for A and B season only

Element 2.5 provides an option to only allocate A-season and B-season QS to eligible LLP licenses leaving the 15 percent allocation of C-season as a limited access fishery for any vessel assigned to an eligible groundfish LLP license with applicable area endorsements. The C-season limited access fishery will be managed as it is currently by NMFS, including management of incidental catches of Pacific cod in other directed fisheries. C-season TAC and A-season and B-season ICAs that NMFS projects to go unused are subject to reallocation to other sectors under current reallocation rules. **If the Council intends to include any unused A-season and B-season cooperative quota in the limited access C-season fishery, the Council will need to modify the motion to include rolling unused A-season and B-season cooperative quota into the C-season limited access fishery. In addition, any remaining unused A-season and B-season cooperative quota that was not used in the C-season limited access fishery would be subject to reallocation to other sectors under current reallocation rules.**

Under Element 2.5, eligible LLP licenses must be assigned to a cooperative to receive annual A-season and B-season cooperative quota. Annual cooperative allocations attributable to each qualified LLP license will be that LLP license's proportional share of the total qualifying Pacific cod history. Based on the language in Element 2.5, C-season catch history is excluded in calculating qualified LLP license's proportional share of the total qualifying Pacific cod history.

Allocations of Pacific cod to the fishery sectors are apportioned by seasons. The trawl CV sector allocation is apportioned among three seasons that correspond to the A-season, B-season, and C-season portions of the year.

- A-season runs from January 20 – April 1 and is allocated 74 percent of the sector allocation.
- B-season runs from April 1 – June 10 and is allocated 11 percent of the sector allocation.
- C-season runs from June 10 – November 1 and is allocated 15 percent of the sector allocation.

Table 2-120 shows that about 89 percent of the BSAI Pacific cod catch for the trawl CV sector was taken in the A-season from 2004 through April 10, 2020. On an annual basis, the catch ranged from 100 percent in 2020 to about 82 percent in 2018, which indicates that majority of the catch is always in the A-season. Catch in the B-season averages 9.6 percent of the BSAI Pacific cod catch from 2004 through April 10, 2000, while catch in the C-season averaged 1.9 percent during the same period.

As noted in Table 2-57, Table 2-58, Table 2-59, allocating only A-season and B-season BSAI Pacific cod to qualified LLP licenses relative to allocating all three seasons results in one less eligible LLP license under Option 2.2.1 (2014-2019) and Option 2.2.2 (2009-2019). In other words, one LLP license was assigned to a vessel that fished only the BSAI Pacific cod C-season during the qualifying years for Option 2.2.1 (2014-2019) and Option 2.2.2 (2009-2019), and therefore that one LLP license would not qualify under these two qualifying year options. In addition, excluding C-season catch history when calculating total qualifying history would change some LLP licenses share of QS since they were used on trawl CVs that targeted BSAI Pacific cod during the C-season. Since this option does not include C-season history in the cooperative program, those LLP licenses with C-season catch history would see a reduction in their QS relative to the option that includes all three seasons in the qualifying history. As noted in Table 2-68, the number of affected LLP licenses ranges from a low of 13 under Option 2.2.1 (2014-2019) with no drop years to a high of 33 under Option 2.2.3 (2004-2019) drop one year or drop two years. Most of the LLP licenses affected when C-season is excluded from qualifying history would see a decline of less than 10 mt of qualifying catch per LLP license, which is less than 0.01 percent of their total allocation. Significantly fewer LLP licenses would see a decline greater than 50 mt of qualifying catch if C-season were excluded, which is less than one percent of their total allocation for most of these LLP licenses.

Table 2-68 Number of qualified LLP licenses that would receive reduced qualified catch history when BSAI Pacific cod C-season is excluded

Difference in qualified catch	2014-2019			2009-2019			2004-2019		
	No drop	Drop 1	Drop 2	No drop	Drop 1	Drop 2	No drop	Drop 1	Drop 2
< 10 mt difference	8	7	8	13	13	13	20	21	19
10 mt ≤ and ≤ 50 mt difference	*	*	4	5	4	4	7	7	9
> 50 mt difference	*	*	3	3	4	4	5	5	5
Total LLP licenses	13	14	15	21	21	21	32	33	33

Source: AKFIN, December 2019

Table originates from Excel file BSAI_PCOD_LAPP_Option1(12-19-19)-1, BSAI_PCOD_LAPP_Option2(12-19-19), BSAI_PCOD_LAPP_Option3(12-19-19)

* Denotes confidential data

An impact of managing the 15 percent BSAI Pacific cod C-season trawl CV sector allocation as a limited access fishery instead of allocating it as annual cooperative quota to cooperatives and any remaining A and B season ICAs is the potential for inseason reallocation to other sectors, primarily the <60 ft HAL and pot CV sector. On average from 2010 through 2018, the vast majority of trawl CV sector allocation was harvested in the A-season at 78.5 percent followed by the B-season at 8.4 percent and the C-season at 1.6 percent. Leaving the C-season as limited access combined with any remaining ICA would likely result in some portion of the remaining TAC and ICA being reallocated to other sectors. Table 2-69 shows the initial and final BSAI Pacific cod allocations for the trawl CV sector. Trawl CVs did not have their own allocation until 1997. The current allocation of 22.1 percent of the non-CDQ fishery has been in place since 2008. From 2008 through 2018 between 2,200 mt (2018) and 11,370 mt (2015) have been reallocated away from the sector. Over those 11 years the reallocations away from the sector averaged 5,235 mt. However, in the three most recent years the reallocation has been less than the average. Relatively strong Pacific cod prices and markets as well as a declining TAC may play a role in less Pacific cod being rolled over to other sectors.

Table 2-69 BSAI Pacific cod initial allocation (mt), final action (mt), and final allocation as a percent of initial allocation

Year	Initial allocation (mt)	Final allocation (mt)	Reallocations (mt)	Final allocation as a % of initial allocation
2004	46,844	40,717	-6,127	87%
2005	44,779	35,847	-8,932	80%
2006	41,251	33,824	-7,427	82%
2007	37,110	34,110	-3,000	92%
2008	33,692	30,842	-2,850	92%
2009	34,841	29,740	-5,101	85%
2010	33,309	28,175	-5,134	85%
2011	44,987	39,897	-5,090	89%
2012	51,509	47,749	-3,760	93%
2013	51,312	43,812	-7,500	85%
2014	50,107	43,107	-7,000	86%
2015	49,224	37,854	-11,370	77%
2016	49,638	45,138	-4,500	91%
2017	47,246	44,163	-3,083	93%
2018	40,227	38,027	-2,200	95%
2019	35,660	31,690	-3,970	89%

Source: NMFS, Sustainable Fisheries

In contrast, including C-season as annual cooperative quota to cooperatives would likely reduce the amount of inseason reallocations from the trawl CV sector as well as change the timing of those inseason reallocations to later in the year. The amount of Pacific cod that may be rolled over if C-season is included as cooperative quota would likely decline since the cooperatives would be more deterministic in their effort in the Pacific cod fishery by cooperating to more efficiently harvest Pacific cod. In addition, under a cooperative structure, if there is any Pacific cod available when the cooperatives finish their fishing, it would not be available until the cooperative fishing years ends on November 1 for the trawl CV sector or when the cooperatives check out of the fishery.

2.7.2.6. Element 2.6 – Management of groundfish species not allocated

Since allocations of BSAI Pacific cod to eligible LLP licenses is specific to target Pacific cod only and not incidental Pacific cod, Element 2.6 clarifies that groundfish bycatch in the Pacific cod fishery as well as Pacific cod in other groundfish fisheries will rely on traditional bycatch management tools like an ICA and MRAs, while for other groundfish species not allocated, MRAs would continue to be used. For incidental catch of Pacific cod, NMFS would establish an ICA that would be deducted prior to QS distribution to cooperatives. The ICA amount would be based on the intrinsic Pacific cod bycatch rates in the Pacific cod fishery and other BSAI trawl CV fisheries, TACs of Pacific cod and other groundfish fisheries, and whether it is a harvest specification ICA or an inseason ICA. The amount of the ICA will be determined on an annual basis and established as an amount of Pacific cod in metric tons. Setting the ICA in metric tons annually provides inseason management the flexibility to adjust the ICA based on the changes in BSAI groundfish TACs and expected incidental catch rates in trawl CV fisheries.

Given that incidental catch of Pacific cod would be accounted for by qualified LLP licenses outside the cooperative, there is the potential that cooperative vessels could intentionally top off on incidental Pacific cod while fishing in other groundfish fisheries. As shown in Table 11 to 50 CFR §679, the MRA of Pacific cod as incidental catch in other BSAI directed fisheries (basis species) is set at 20 percent. As a result, those cooperative members that routinely fish in other groundfish fisheries could purposely increase their incidental harvest of BSAI Pacific cod up the 20 percent MRA. If incidental catch of BSAI Pacific cod by cooperative vessels increases such the NMFS has to increase the ICA to account for this

intended effort by cooperative vessels, there is the potential that the BSAI Pacific cod allocations to the cooperatives will be reduced.

In addition to an ICA, the current MRA amounts in the targeted Pacific cod fishery will provide management control of other groundfish. MRA regulations at 50 CFR §679.20(e) establish the calculation method and set individual MRAs for groundfish species, when directed fishing for that species is closed. The MRA is calculated as a percentage of the retained amount of a species closed to directed fishing, relative to the retained amount of basis species or basis species groups open for directed fishing. All MRA accounting is computed based on round weight equivalent. Amounts that are caught in excess of the MRA percentage must be discarded.

MRAs are the primary tool NMFS uses to regulate the catch of species closed to directed fishing. NMFS closes directed fishing to avoid reaching a TAC (typically established for conservation reasons), reaching an amount or percentage of groundfish TAC included in the annual harvest specifications for a gear and species or species group, or when a directed fishery has attained a prohibited species catch limit (e.g., halibut PSC mortality limits). When NMFS prohibits directed fishing for a groundfish species, retention of incidental catch of that species is allowed up to an MRA calculated amount.

The MRA tables for both BSAI and GOA (Tables 10 and 11 to 50 CFR part §679) are provided in Appendix 7.1 of this document. These tables show retainable proportions of incidental catch species, relative to basis species open to directed fishing. The MRA table is a matrix of proportions representing a range of rates of expected or accepted incidental catch of species closed to directed fishing, relative to target species. As a management tool, MRAs rely on the ability of the vessel operator to selectively catch groundfish species. The species open for a directed fishery are called the basis species in the MRA regulations. Groundfish species not open for a directed fishery are the incidental catch species. The MRA percentages are intended to slow the rate of harvest of a species when insufficient TAC amounts are available to support a directed fishery.

Except for Pacific cod, there appears to be limited opportunities for qualified trawl CVs utilizing the benefits of a cooperative program to strategically target incidental catch species. For most groundfish species, the additional flexibility to “top off” early in a fishing trip is not expected to affect groundfish stocks. For some groundfish species though, the greater flexibility to “top off” for a species in combination with other factors like low OFL, ABC, and TAC relative to high total catch could increase the risk of exceeding the ABC and TAC. However, as noted in Table 11 to 50 CFR §679, the MRAs for these at-risk species in the BSAI are set extremely low to discourage “top off” fishing.

One change may occur to current management measures for non-allocated species. That change is imposing harvest limits for GOA species on LLP licenses assigned PCTC Program QS and the vessels that made those landings of targeted trawl CV BSAI Pacific cod. Element 4 (Section 2.7.4) in this document discusses the issue of limiting the LLP licenses and the vessels they are/were assigned when harvesting in GOA fisheries. That section also provides information on the potential impacts. This element is not intended to supersede other current regulations for other LLP licenses not authorized by the PCTC Program. Element 2.6 is simply intended to state that harvests by vessels and LLP licenses outside the trawl CV sector will continue to be managed as open access, cooperatives, or IFQ fisheries, based on the regulations currently in place for those fisheries.

2.7.3. Element 3 – Prohibited Species Catch Limits

Element 3 identifies two different approaches for apportioning PSC limits. The first approach would use the current methodology, which relies on the halibut PSC assigned to the trawl limited access sector that is further divided by fishery during harvest specifications (Option 3.1). Under this option, the trawl CV sector would not have a dedicated apportionment of halibut and crab PSC for use at the cooperative level. The second approach would apportion only halibut PSC based on historic use between the trawl CV and the AFA C/P sectors (Suboption 3.3.1). However, if the Council selects the AFA and non-AFA

cooperative structure (Option 1.1) along with a reduction of halibut and crab PSC limit for those LLP license holders that opt out of the cooperatives and instead participate in the limited access fishery, then Suboption 3.1.1 would need to be modified to apportion crab PSC between the trawl CV and the AFA C/P sectors. Without this modification to Element 3 Option 1, the cooperatives members, non-cooperative LLP license holders, and the AFA C/P sector would be sharing the BSAI Pacific cod apportioned crab PSC limit. Under those circumstances, NMFS could not reduce the crab PSC limit just for qualified LLP license holders that elect to participate in the limited access sector. Finally, Element 3 also includes a reduction in halibut and crab PSC apportionments for the BSAI trawl CV sector ranging from 10 percent to 25 percent (Option 3.2). If the PSC limits are shared with the AFA C/P sector, the reductions would apply to all sectors fishing under the PSC limit.

The annual crab and halibut PSC available to the BSAI trawl catcher vessel Pacific cod sector will be as follows:

Option 3.1: Status quo methodology

Suboption 3.1.1: Establish trawl CV Pacific cod halibut PSC apportionment based on historic use between the trawl CV sector and the AFA C/P sector.

Option 3.2: Reduce halibut and crab PSC apportionment to BSAI trawl CV Pacific cod sector that would be harvested under a status quo methodology by 10% to 25%.

2.7.3.1. Option 3.1 – Status quo methodology

Currently, 50 CFR §679.21(b)(2) and (e)(5) authorizes NMFS, based on Council recommendations, to establish seasonal apportionments of halibut and crab PSC amounts for the BSAI trawl limited access fisheries in order to maximize the ability of the fleet to harvest the available groundfish TAC and to minimize bycatch. The factors considered annually are (1) seasonal distribution of prohibited species, (2) seasonal distribution of target groundfish species relative to prohibited species distribution, (3) PSC bycatch needs on a seasonal basis relevant to prohibited species biomass and expected catches of target groundfish species, (4) expected variations in bycatch rates throughout the year, (5) expected changes in directed groundfish fishing seasons, (6) expected start of fishing effort, and (7) economic effects of establishing seasonal prohibited species apportionments on segments of the target groundfish industry. Based on these criteria, the Council recommends, and NMFS approves the seasonal PSC apportionments to maximize harvest among fisheries and seasons while minimizing bycatch of PSC.

Effective May 27, 2016, Amendment 111 to the BSAI FMP reduced the halibut PSC limits in the BSAI groundfish fisheries. The FMP amendment set the annual halibut PSC limit for the BSAI at 3,515 mt, a 21 percent reduction from the previous limit (50 CFR §679.21(b)(1)). That halibut PSC limit is further allocated to the following BSAI fishing sectors based on regulations in (50 CFR §679.21(b)(1).

315 mt (9.0 percent) as the PSQ reserve for use by the groundfish CDQ program,
1,745 mt (49.6 percent) for the Amendment 80 sector,
745 mt (21.2 percent) for the BSAI trawl limited access sector, and
710 mt (20.2 percent) for the BSAI non-trawl sector.

Halibut PSC assigned to the trawl limited access sector, which is composed of the trawl CV sector and the AFA C/P sector, is further divided by fishery, with 391 mt (52.5 percent) of the sector allocation designated for use in the BSAI Pacific cod fishery (see Table 2-70). The apportionment of the BSAI trawl limited access sector halibut PSC between the different fisheries is determined during the harvest

specification process. The halibut PSC limit for the trawl BSAI trawl limited access sector is an annual limit that is not apportioned by season.

Table 2-70 Final 2020 halibut PSC allowance (mt) for the BSAI trawl limited access sector

BSAI trawl limited access fisheries	Halibut (mt)
Yellowfin sole	150
Rockfish (April 15-Dec 31)	4
Pacific cod	391
Pollock/Atka mackerel/other species	200

Source: Annual specifications (2020)

In addition to the halibut PSC limits for the trawl limited access sector, both AFA CVs and AFA C/Ps, sectors that share the trawl limited access sector PSC limits, also have PSC sideboard limits established at the onset of the AFA Program. Those PSC sideboard limits, are based on the percentage of PSC limits used from 1995 through 1997 for AFA C/Ps and the percentage of PSC limits used in 1997 for the AFA CVs. Specifically, for halibut PSC the AFA trawl CV sideboard limit in the BSAI Pacific cod target fishery is capped at 887 mt (Table 22 in 85 FR 13573, March 9, 2020), and the AFA C/P limit is capped at 286 mt (Table 20 in 85 FR 13572, March 9, 2020), but is not apportioned at target species level. Prior to the implementation of Amendment 80 in 2008, halibut and crab PSC limits were apportioned to all BSAI trawl fisheries by target fishery categories, and PSC sideboards were calculated using a historic ratio. After the implementation of Amendment 80, PSC limits for BSAI trawl fisheries are further apportioned between the Amendment 80 fleet and AFA fleet while still maintaining the calculation for PSC sideboards based on a historic ratio. As a result, the BSAI trawl limited access halibut PSC limit for the Pacific cod target category is smaller than the AFA CV sideboard PSC limit, meaning that the AFA CV sideboard limit is no longer constraining.

In order to reduce halibut PSC, both groups work closely with NMFS and cooperatively manage their halibut PSC limit to minimize their halibut PSC mortality to the extent practicable. The AFA CVs cooperatives utilize a Catcher Vessel Intercooperative Agreement that requires all vessels in the BS Pacific cod fishery to use halibut excluder devices, use a codend with a mesh size no smaller than 7 inches, and not fish at night when halibut bycatch is higher. The agreement also includes allocation, monitoring, and compliance of the BSAI sideboard limits and PSC caps.

Table 2-71 provides the halibut PSC limit apportioned to the BSAI Pacific cod fishery for the trawl limited access sector from 2008 through 2019 and the halibut PSC limit for the BSAI Pacific cod fishery for all trawl sectors from 2004 through 2007. Table 2-71 also provides reported halibut mortality in the BSAI Pacific cod target fishery for the trawl limited access sector participants. As seen from Table 2-71, the trawl CV sector accounted for 98 percent of the total halibut mortality utilized by the trawl CV and AFA C/P sectors in the BSAI Pacific cod target fishery from 2004 through 2019, while the AFA C/P sector accounted for 3 percent of the halibut mortality.⁵⁸

⁵⁸ The calculated percentages were 97.5 percent CV and 2.5 percent C/P. As a result rounding to the nearest whole number, the two numbers sum to 101 percent.

Table 2-71 Trawl limited access halibut PSC limit and reported halibut mortality by trawl CV and AFA trawl C/P sectors in the non-CDQ BSAI Pacific cod target fishery from 2004 through 2019

Year	Halibut PSC limit (mt)*	Reported halibut mortality (mt)				Percent of total halibut utilized in the BSAI Pacific cod target fishery by trawl CV and AFA C/P sectors	
		Trawl CV	AFA trawl C/P	Total	Total percent utilized	Trawl CV	AFA trawl C/P
2004	1434	443	12	455	32%	97%	3%
2005	1434	596	54	650	45%	92%	8%
2006	1434	586	34	620	43%	95%	5%
2007	1334	427	25	452	34%	94%	6%
2008	585	291	2	293	50%	99%	1%
2009	508	181	2	183	36%	99%	1%
2010	453	255	1	256	57%	99%	1%
2011	453	238	2	239	53%	99%	1%
2012	453	429	0	429	95%	100%	0%
2013	453	309	1	310	68%	100%	0%
2014	453	281	8	289	64%	97%	3%
2015	453	236	4	240	53%	98%	2%
2016	391	294	10	304	78%	97%	3%
2017	391	221	17	238	61%	93%	7%
2018	391	205	10	214	55%	95%	5%
2019	391	352	9	361	92%	98%	2%

Source: NMFS for PSC limits. AFA C/P - Pollock Conservation Cooperative Reports; Trawl CV - AKFIN, April 2020, Sector_PSC 4-16-20)

*Prior to 2008, halibut PSC limit was apportioned to all trawl vessels.

For crab PSC which includes Red king crab (Zone 1), *C. opilio* Bycatch Limitation Zone (COBLZ), and *C. bairdi* (Zone 1 and Zone 2), PSC limits are established for the trawl limited access sector, which is composed of the trawl CV sector and the AFA C/P sector (see Figure 2-6 and Figure 2-7). Like halibut, crab PSC limits are further apportioned by directed fishery. If a specific crab bycatch cap is reached by the trawl limited access sector in any fishery, the vessels subject to that limit would be required to move out of the applicable crab savings area when participating in a fishery subject to that PSC limit.

Like halibut PSC, both AFA CV and AFA C/P sectors are also restricted by AFA crab PSC sideboard limits. The AFA CV crab PSC sideboard limits, which are not apportioned at the target fishery level, are established as 29.9 percent for red king crab Zone 1, 16.8 percent of the *C. opilio* crab PSC, 33 percent of the *C. bairdi* crab in Zone 1, and 18.6 percent of the Zone 2 *C. bairdi* crab PSC each year. The AFA C/Ps crab sideboard limits, which are also not apportioned at the target fishery level, are 0.7 percent for red king crab Zone 1, 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.

Figure 2-6 Zone 1 and 2 area for closures (BBRKC and EBS Tanner crab)

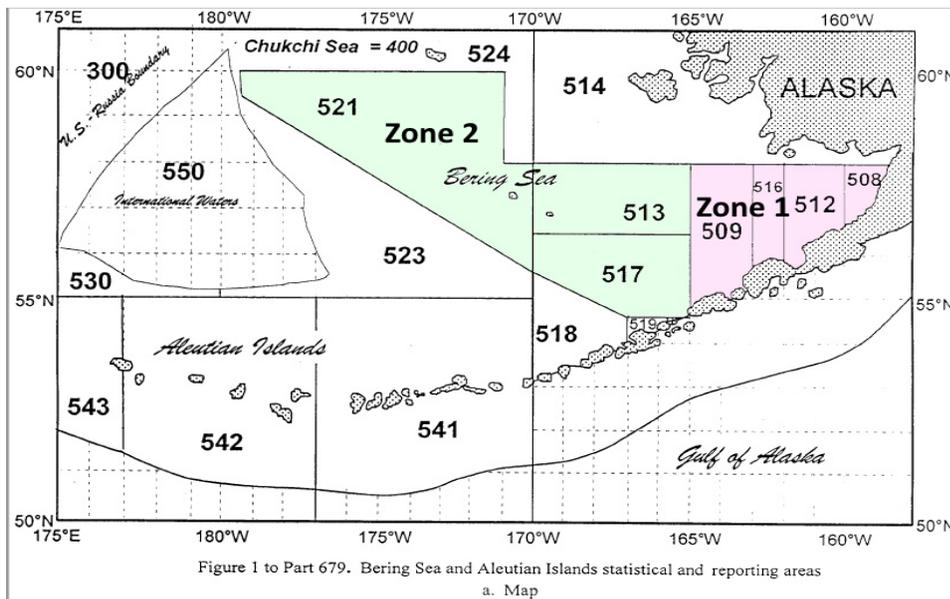


Figure 2-7 C. opilio Bycatch Limitation Zone (COBLZ)

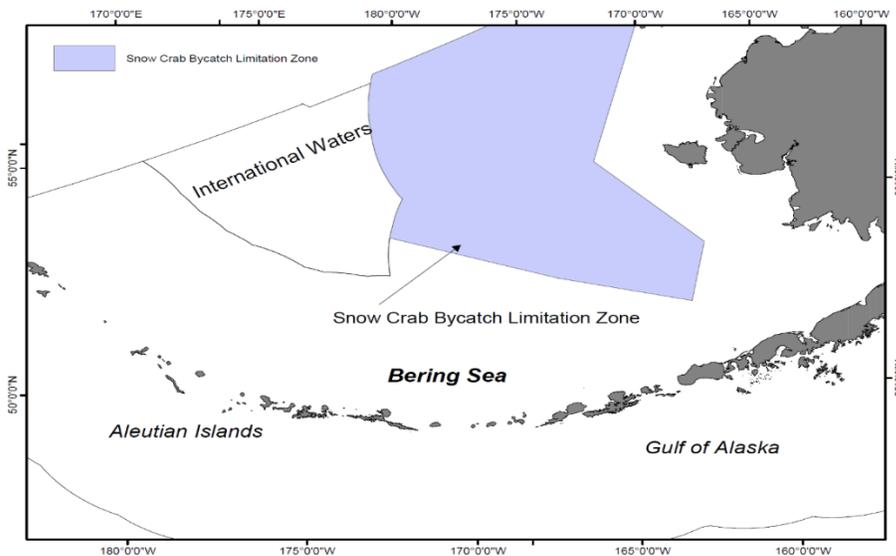


Table 2-72, Table 2-73, Table 2-74, and Table 2-75 provides the annual crab PSC allowances (animals), mortality (animals), and the percent of allowance utilized for the BSAI Pacific cod trawl limited access fishery for both the trawl CV sector and the AFA C/P sector.

Crab mortality by species for the AFA C/P sector in the targeted BSAI Pacific cod fishery could not be provided since the number of AFA C/Ps participating in that fishery was less than three for all years except 2007 and 2012. However, the Pollock Conservation Cooperative reports provide annual crab mortality by species in the targeted BSAI Pacific cod fishery for the AFA C/P sector, but the crab mortality is not broken out by zone.⁵⁹ Nevertheless, as indicated in Table 2-72, Table 2-74, Table 2-73, Table 2-74, and Table 2-75 crab mortality for the AFA C/P sector is very limited throughout 2004-2019.

⁵⁹ <https://www.npfmc.org/cooperative-reporting/>

Overall, the combined annual crab mortality for both trawl CV and AFA C/P sectors is significantly lower than the crab PSC limits for the BSAI Pacific cod trawl limited access sector.

Table 2-72 Red king crab (Zone 1) PSC limit (animals), mortality (animals), and the percent of limit utilized for the BSAI Pacific cod trawl limited access sectors from 2004 through 2019

Year	PSC limit (animals)	Trawl CV mortality		AFA C/P mortality	
		Mortality (animals)	Percent of limit	Mortality (animals)	Percent of limit
2004*	26,563	467	1.76%	384	1.45%
2005*	26,563	2,963	11.16%	75	0.28%
2006*	26,563	22	0.08%	7	0.03%
2007*	26,563	25	0.09%	21	0.08%
2008	6,000	1,198	19.96%	60	1.00%
2009	6,000	475	7.92%	0	0.00%
2010	6,000	437	7.28%	25	0.42%
2011	6,000	2,110	35.16%	51	0.85%
2012	2,954	316	10.68%	0	0.00%
2013	2,954	2	0.08%	0	0.00%
2014	2,954	587	19.87%	0	0.00%
2015	2,954	60	2.02%	0	0.00%
2016	2,954	585	19.81%	13	0.44%
2017	2,954	361	12.22%	0	0.00%
2018	2,954	200	6.78%	0	0.00%
2019	2,954	469	15.88%		

Source: NMFS for PSC limits, AFA C/Ps - Pollock Conservation Cooperative Reports 2004-2018; Trawl CVs - AKFIN January 2020
BSAI_PCOD_PSC (1-14-20)

*Prior to 2008, crab PSC limit was apportioned to all trawl vessels.

Table 2-73 C. opilio (COBLZ) PSC limit (animals), mortality (animals), and the percent of limit utilized in the directed BSAI Pacific cod fishery for the trawl limited access sectors from 2004 through 2019

Year	PSC limit (animals)	Trawl CV mortality		AFA C/P mortality	
		Mortality (animals)	Percent of limit	Mortality (animals)	Percent of limit
2004*	124,736	86	0.07%	1178	0.94%
2005*	139,331	59	0.04%	116	0.08%
2006*	184,402	12	0.01%	996	0.54%
2007*	120,712	89	0.07%	681	0.56%
2008	50,000	349	0.70%	0	0.00%
2009	50,000	251	0.50%	0	0.00%
2010	50,000	14	0.03%	0	0.00%
2011	95,523	42	0.04%	0	0.00%
2012	80,799	0	0.00%	0	0.00%
2013	120,705	321	0.27%	0	0.00%
2014	129,000	2,291	1.78%	207	0.16%
2015	126,994	71	0.06%	0	0.00%
2016	54,298	5	0.01%	15	0.03%
2017	105,008	0	0.00%	0	0.00%
2018	105,182	0	0.00%	0	0.00%
2019	98,959	4,140	4.18%		

Source: NMFS for PSC limits, AFA C/Ps - Pollock Conservation Cooperative Reports 2004-2018; Trawl CVs - AKFIN January 2020
BSAI_PCOD_PSC (1-14-20)

*Prior to 2008, crab PSC limit was apportioned to all trawl vessels.

Table 2-74 C. bairdi (Zone 1) PSC limit (animals), mortality (animals), and the percent of limit utilized in the directed BSAI Pacific cod fishery for the trawl limited access sectors from 2004 through 2019

Year	PSC limit (animals)	Trawl CV mortality		AFA C/P mortality	
		Mortality (animals)	Percent of limit	Mortality (animals) ¹	Percent of limit
2004*	183,112	14,313	7.82%	1223	0.67%
2005*	183,112	33,343	18.21%	919	0.50%
2006*	183,112	12,107	6.61%	2,803	1.53%
2007*	183,112	14,326	7.82%	1,360	0.74%
2008	60,000	25,897	43.16%	324	0.54%
2009	60,000	4,729	7.88%	79	0.13%
2010	50,816	16,420	32.31%	5	0.01%
2011	50,816	8,809	17.33%	380	0.75%
2012	60,000	3,146	5.24%	0	0.00%
2013	60,000	3,022	5.04%	80	0.13%
2014	60,000	4,048	6.75%	1,016	1.69%
2015	60,000	5,195	8.66%	30	0.05%
2016	50,816	8,183	16.10%	0	0.00%
2017	50,816	7,617	14.99%	148	0.29%
2018	50,816	1,474	2.90%	148	0.29%
2019	60,000	2,221	3.70%		

Source: NMFS for PSC limits, AFA C/Ps - Pollock Conservation Cooperative Reports 2004-2018; Trawl CVs - AKFIN January 2020
BSAI_PCOD_PSC (1-14-20)

*Prior to 2008, crab PSC limit was apportioned to all trawl vessels.

¹ AFA C/Ps cooperative reports aggregate C. bairdi Zone 1 and Zone 2

Table 2-75 C. bairdi (Zone 2) PSC limit (animals), mortality (animals), and the percent of limit utilized in the directed BSAI Pacific cod fishery for the trawl limited access sectors from 2004 through 2019

Year	PSC limit (animals)	Trawl CV mortality		AFA C/P mortality	
		Mortality (animals)	Percent of limit	Mortality (animals) ¹	Percent of limit
2004*	324,176	29,808	9.20%	1223	0.38%
2005*	324,176	23,275	7.18%	919	0.28%
2006*	324,176	42,387	13.08%	2,803	0.86%
2007*	324,176	13,379	4.13%	1,360	0.42%
2008	50,000	8,170	16.34%	324	0.65%
2009	50,000	1,586	3.17%	79	0.16%
2010	42,424	4,818	11.36%	5	0.01%
2011	42,424	3,166	7.46%	380	0.90%
2012	50,000	4,343	8.69%	0	0.00%
2013	50,000	2,981	5.96%	80	0.16%
2014	50,000	4,110	8.22%	1,016	2.03%
2015	50,000	4,656	9.31%	30	0.06%
2016	42,424	2,806	6.61%	0	0.00%
2017	34,848	1,561	4.48%	148	0.42%
2018	42,424	471	1.11%	148	0.35%
2019	49,999	315	0.63%		

Source: NMFS for PSC limits, AFA C/Ps - Pollock Conservation Cooperative Reports 2004-2018; Trawl CVs - AKFIN January 2020
BSAI_PCOD_PSC (1-14-20)

*Prior to 2008, crab PSC limit was apportioned to all trawl vessels.

¹ AFA C/Ps cooperative reports aggregate C. bairdi Zone 1 and Zone 2

Typically, in other Council developed catch share programs, PSC along with target species are apportioned at the cooperative level. With each cooperative getting their own allocation of halibut and

crab PSC allowance, the cooperatives no longer would be limited by the PSC usage of vessels outside the cooperatives closing their fishery prematurely. In addition, this approach may create personal incentive to keep PSC rates low, as this would allow cooperatives the ability to continuing harvesting Pacific cod when other cooperatives reach their limit. Depending on the program's structure, it would also allow cooperative members to transfer PSC, and individuals could be compensated for low PSC usage.

However, if the Council utilizes only Option 3.1 without the Suboption 3.1.1, NMFS cannot apportion halibut or crab PSC at the individual cooperative level (Element 9), because both trawl CV and AFA C/P sectors share the trawl limited access sector halibut and crab PSC limits. Instead, this option would rely on the trawl CV sector and the AFA C/P sector negotiating halibut and crab PSC limit apportionments for the Pacific cod target fishery via an intercooperative agreement. Under an intercooperative agreement, both sectors would have their own halibut and crab PSC allowances established and enforced through civil contracts. If the overall sector limit is reached the fishery (for halibut PSC) or area (crab PSC) would be closed to directed fishing, but the persons with excessive PSC usage could be held accountable under the civil contracts for damages to other members. This method would not hold persons that chose to fish in the limited access fishery accountable for high PSC usage, since they would not be a signatory to the intercooperative agreement.

Although leaving the apportionment of trawl limited access sector halibut and crab PSC limits between fishery categories and between the trawl CV and AFA C/P sectors may provide some flexibility for the two sectors to accommodate changes in halibut and crab PSC needs, there is the potential that one or both sectors could try to apply leverage in negotiating halibut and crab PSC limits for the sector. This could jeopardize some of the potential successes of cooperative fishing. If, for example the two sectors are not able to reach an agreement on the halibut PSC apportionment, it is possible that both sectors could be closed prematurely due to exceeding the halibut PSC limit in the Pacific cod fishery. However, vessels operators would likely avoid bycatch to the extent practicable when fishing under a LAPP.

Selection of the two cooperative style system (Option 1.1) allows qualified LLP license holders to opt out of joining a cooperative and instead participate in the limited access fishery, with all three user groups sharing the halibut and crab PSC limits. Allowing qualified LLP license holders to opt out of a cooperative could reduce any benefits accrued by not apportioning halibut and crab PSC limits between the trawl CV and AFA C/P sectors. Given the potential for more than one qualified LLP license holder to opt out of joining a trawl CV cooperative and instead participate in the trawl CV limited access fishery, halibut and crab PSC usage by these participants could increase enough to close the BSAI Pacific cod cooperative and sector fisheries prior prematurely.

Finally, given that trawl limited access sector apportionments of halibut and crab PSC limits between the different fishery categories could also vary from year-to-year based on industry negotiations during harvest specifications process, halibut and crab PSC limits apportioned to the Pacific cod fishery could potentially vary enough to negatively influence cooperative fishing. However, the value of the Pacific cod fishery will likely provide incentives to ensure that sufficient PSC is allocated to the fishery to prevent it from closing under normal circumstances. Stakeholders in the Pacific cod fishery that also participate in other trawl limited access fisheries may also be aware that reductions in halibut PSC usage will be realized under the PCTC Program. If current levels of halibut PSC are not anticipated to constrain their PCTC Program cooperative, they could negotiate during the annual harvest specifications process to reduce the amount of halibut assigned to the Pacific cod fishery and increase the amount of halibut PSC assigned to other BSAI trawl limited access fisheries in which they participate in where harvesting the TAC could be limited by halibut PSC.

2.7.3.2. Suboption 3.1.1 – Establish trawl CV Pacific cod halibut PSC apportionment

The suboption would apportion halibut PSC limits apportioned to the Pacific cod fishery between the trawl CV sector and the AFA C/P sector based on historic use by the two sectors, while crab PSC limits would continue to be apportioned to the trawl limited access sector. Of the halibut and crab PSC limits,

apportioning halibut PSC amongst the trawl CV sector and the AFA C/P sector is likely more crucial for each cooperative to have greater control over their own fishing plan. For example, in 2012 and 2019, over 90 percent of the halibut PSC limit apportioned to the trawl limited access sector was utilized. Without apportioning the trawl limited access sector halibut PSC limits between the two sectors, those years with high halibut PSC could negatively influence cooperative fishing and thus reduce some of the benefits of the PCTC Program, especially if the high rates of PSC usage are unavoidable due to changes in certain biological conditions. However, as stated earlier, if the high rates are a result of the fishing behavior by certain individuals, they could be held accountable through an intercooperative agreement.

PSC limits that are sub-divided may have a greater negative impact on certain cooperatives that have relatively high use rates since they need to stay within their limit and individuals within the cooperatives have individual contractual limits established through the cooperative contract. Crab PSC usage by the trawl CV sector and the AFA C/P sector in the targeted BSAI Pacific cod fishery has been well below the trawl limited access sector limits. Based on historic usage, there is likely less potential for cooperative fishing to be disrupted by constraining crab PSC limits. Crab PSC limits are area specific and only close specific areas to directed fishing and not the Pacific cod fishery, as would occur when the halibut PSC limit is reached. As a result, it may not be necessary to apportion crab PSC at the sector level currently, but if crab stocks decline or crab PSC limits decline in the future, it may become necessary to apportion crab PSC limits between the two sectors so as not to negatively influence cooperative fishing.

Apportioning halibut and crab PSC along with a target species at the cooperative level is typical in other Council-developed LAPPs. With each cooperative receiving their own apportionment of halibut and crab PSC allowance, the cooperatives no longer are concerned with the halibut and crab PSC of other vessels outside the cooperatives closing their cooperative fishery prematurely. Moreover, it may create individual incentives to keep halibut and crab PSC rates low, as this would allow cooperatives the ability to continuing harvesting Pacific cod.

Development of the PCTC Program is expected to reduce cooperative participant's halibut PSC usage. Participants with exclusive shares will have time to be more selective in determining when, where, and how to harvest their allocation and thereby potentially reduce their halibut PSC usage and rates. This reduction in halibut PSC usage and bycatch rates from LAPPs is apparent in the Amendment 80 Program and the Central GOA Rockfish Program. As noted in the 2014 Amendment 80 program review (NPFMC, 2014), halibut PSC and bycatch rate in the Amendment 80 fisheries has declined since implementation of Amendment 80 program in 2008. The 2017 Central GOA Rockfish Program Review (NPFMC, 2017) notes that PSC and bycatch rates have also declined under the Pilot Program and the Rockfish Program. Halibut rates before the Pilot Program ranged from 1.5 to 3.0 kg of halibut per metric ton of total groundfish basis species. After the Pilot Program was implemented the rates decreased to about 0.25 kg of halibut per metric ton of total groundfish basis species each year. This indicates that the structure of the LAPP allowed harvesters to implement fishing strategies to reduce halibut PSC rates. The actual reduction in PSC usage that will occur under the PCTC Program is not known. In addition to the inherent reductions in PSC that may be attainable through cooperative management, the Council is considering alternatives that specifically create PSC limit reductions.

Under this Suboption 3.1.1, the trawl limited access sector halibut PSC limit for the Pacific cod fishery will be apportion between the trawl CV and AFA C/P sector based on the historical use of halibut PSC between the two sectors. **The suboption is silent on the years that would define historic use, so the qualifying years in Element 2, Options 2.2.1-2.2.3 were used. The option is also silent on the computation of the percentage of PSC usage by two sectors over the qualifying years in Element 2, Options 2.2.1-2.2.3.** Two approaches for computing this percentage could be used. The first approach is to average the annual percent of halibut PSC usage. The second approach is to average the total halibut PSC usage by the sector over all of the qualifying years. In almost all cases, the results of the two approaches yield the same average percent. The only difference is the 2004-2019 qualifying year option where the average of the annual percent yields one percent more halibut for the trawl CV sector relative to

the average of the total halibut PSC usage. Given the two approaches yield nearly identical results, staff utilized the first approach, the average of the annual percent. Finally, to allow the PSC allocation to fluctuate from year-to-year depending on how much of the 745 mt apportioned to the trawl limited access sector is apportioned to the Pacific cod fishery, the halibut PSC limit for each sector should be stated as a percent of the available halibut PSC.

Table 2-76 presents the average historical halibut PSC use between the trawl CV and AFA C/P sector in relation to the total BSAI Pacific cod halibut PSC apportionment that was used by the two sectors during the qualifying years from Element 2, Options 2.2.1-2.2.3. Of the total halibut PSC apportioned to the BSAI Pacific cod trawl limited access sector during 2014 through 2019 (Element 2, Option 2.2.1) that was used by the two sectors, the trawl CV sector accounted for 96 percent and AFA C/P sector account for 4 percent. During the 2009-2019 period (Element 2, Option 2.2.2), the trawl CV’s historical portion of the total halibut PSC usage in the Pacific cod fishery was 98 percent, while the AFA C/P’s historical portion was 2 percent. Finally, during 2004-2019 period (Element 2, Option 2.2.3), the trawl CV’s historical portion of the total halibut PSC usage in the Pacific cod fishery was 97 percent, while the AFA C/P sector’s historical portion was 3 percent.

Given the historic Pacific cod harvests and halibut PSC usage by the trawl CV sector in the BSAI Pacific cod fishery, the halibut PSC allocation percentages under this option appear to be sufficient to allow the harvest of the sector’s BSAI Pacific cod allocation. Assuming 391 mt of halibut PSC allowance is apportioned to the trawl limited access sector BSAI Pacific cod fishery, the trawl CV sector, using percentages calculated from this option (Table 2-76), would range from 377 mt to 382 mt of the halibut allowance. In relation to the halibut PSC used by the trawl CV sector in the BSAI Pacific cod fishery, they would have been constrained only once since 2008. In 2012, the trawl CV sector reported 429 mt of halibut mortality.

Although in most years the AFA C/P sector would also be apportioned sufficient halibut PSC to allow the sector to harvest to fully harvest its allocation of BSAI Pacific cod, there is some potential the sector could be constrained by halibut PSC limits. For example, the sector reported 17 mt of halibut mortality in 2017, which is greater than halibut PSC limit that would be apportioned to the sector under this option. However, there is some potential that a specific apportionment of halibut PSC to the AFA C/P sector that is not shared with the trawl CV sector could facilitate improved management of halibut bycatch enough to reduce the potential for a constrain BSAI Pacific cod target fishery in most cases.

Table 2-76 Percent of halibut PSC by the trawl CV and AFA C/P sectors while targeting BSAI Pacific cod relative to the total halibut PSC used by the two sectors in BSAI Pacific cod target fishery using Element 2, Options 2.2.1-2.2.3 qualifying years

Qualifying years	Trawl CV halibut PSC limit		AFA C/P halibut PSC limit	
	Historical percentage	Sector halibut PSC apportionment based on 391 halibut limit	Historical percentage	Sector halibut PSC apportionment based on 391 halibut limit
Option 2.2.1 (2014-2019)	96%	377	4%	14
Option 2.2.2 (2009-2019)	98%	382	2%	9
Option 2.2.3 (2004-1019)	97%	379	3%	12

2.7.3.3. Option 3.2 – Reduced halibut and crab PSC apportionment

Option 3.2 would reduce the allocation of halibut and crab PSC to the trawl CV sector for use in the BSAI Pacific cod target fishery by 10 to 25 percent. The language in the option makes it clear that the reduction in the PSC allocation for the trawl CV sector does not affect the AFA C/P sector. **However, this option would not function as intended since the status quo methodology for apportioning halibut and crab PSC limits to the BSAI Pacific cod trawl limited access sector is shared by the trawl CV and the AFA C/P sectors.** Any reduction in the halibut and crab PSC limits apportioned to the BSAI Pacific cod trawl limited access sector would reduce halibut and crab PSC limits for both the trawl CV and AFA C/P

sectors. To reduce the halibut and crab PSC allocations to the trawl CV sector only, the language in Option 3.2 would need to be revised so that the halibut and crab PSC reductions reference Suboption 3.1.1 rather than status quo methodology. Further, Suboption 3.1.1 language needs to be modified to include apportionment of crab PSC limits to the trawl CV sector for use in the BSAI Pacific cod target fishery if the Council intends to reduce crab PSC apportioned for the sector.

As an example of the impacts the halibut PSC reductions would have, Table 2-77 shows halibut PSC allocation to the trawl CV sector for use in the BSAI Pacific cod target fishery (after removing the historical usage by the AFA C/P sector). Considering a 10 percent reduction, the trawl CV sector would receive between 86 percent and 88 percent of their halibut PSC depending on the catch history years selected. Assuming the current 391 mt halibut PSC apportionment to the BSAI Pacific cod trawl limited access sector, the trawl CV sector would be allocated, at a 10 percent reduction, between 339 mt and 344 mt of the halibut PSC for use in their BSAI Pacific cod target fishery. At a 10 percent reduction in halibut PSC, the sector would have been constrained in 2012 and 2019. Looking at 25 percent reduction of the historical allocation of halibut PSC, the trawl CV sector would receive between 72 percent and 74 percent of their halibut PSC allocation. In relation to the 391 mt halibut PSC that is apportionment to the BSAI Pacific cod trawl limited access sector, the trawl CV sector would be allocated between 283 mt to 287 mt of their halibut PSC for use in the BSAI Pacific cod target fishery. At a 25 percent reduction in halibut PSC, the sector would have been constrained in 2008, 2012, 2013, and 2019.

Finally, the option currently envisioned by the Council, intends to leave the excess halibut PSC limit, resulting from the 10 percent to 25 percent reduction, in the water and not allocate this excess amount to other sectors or fisheries. However, since the trawl limited access sector halibut PSC limit apportioned at the fishery level is determined during harvest specifications, there is the potential that the trawl CV sector could negotiate a higher halibut PSC limit for the BSAI Pacific cod fishery to minimize the impacts of this halibut PSC reduction. To eliminate this potential, halibut PSC apportioned to the trawl CV sector for use in the BSAI Pacific cod target fishery could be set in regulations at a specific amount. The disadvantage of setting a specific halibut PSC limit is the lack of flexibility to adjust the PSC limits based on changes in BSAI Pacific cod and other groundfish TACs.

Table 2-77 Reductions in halibut PSC allocations for trawl CV sector for use in the BSAI Pacific cod target fishery

Qualifying years	Historical percentage	10% of the halibut PSC allocation to the trawl CV sector	15% of the halibut PSC allocation to the trawl CV sector	20% of the halibut PSC allocation to the trawl CV sector	25% of the halibut PSC allocation to the trawl CV sector
Option 2.2.1 (2014-2019)	96%	86%	82%	77%	72%
Option 2.2.2 (2009-2019)	98%	88%	83%	78%	74%
Option 2.2.3 (2004-1019)	97%	87%	82%	78%	73%
Qualifying years	PSC apportionment based on 391 halibut limit	10% of the halibut PSC allocation (mt)	15% of the halibut PSC allocation (mt)	20% of the halibut PSC allocation (mt)	25% of the halibut PSC allocation (mt)
Option 2.2.1 (2014-2019)	377	339	320	301	283
Option 2.2.2 (2009-2019)	382	344	325	306	287
Option 2.2.3 (2004-1019)	379	342	323	304	285

2.7.4. Element 4 – Gulf of Alaska Sideboards

Option 4.1: AFA LLP licenses or CVs will be sideboarded as to all Gulf of Alaska (GOA) fishing activity, except for the CGOA Rockfish Program, based on their Gulf catch history during the BSAI Pacific cod qualifying period.

Option 4.2: AFA GOA-Exempt CVs will not be permitted to transfer their BSAI cod history on their respective LLP license as a condition of continuing to benefit from its GOA exemption.

Suboption 4.2.1: AFA GOA Exempt CVs with LLP licenses of less than a threshold amount of qualifying BSAI cod history may transfer their BSAI cod history and continue to benefit from GOA exemption.

Option 4.3: Non-AFA LLP licenses would be sideboarded in the GOA (with the exception of the CGOA Rockfish Program) based on their GOA catch history during the qualifying years with the exception that those non-AFA CV with less than a threshold amount of qualifying BSAI cod history, which would be exempt from the sideboard limitation.

Suboption: Any eligible CV LLP license that opts out of the BSAI Pacific cod program at implementation of the program will be exempt from GOA sideboards created by this program (one-time option).

Allowing the trawl CV sector to form cooperatives to manage their BSAI Pacific cod allocation should better optimize their fishery. The increased flexibility in planning their fishery year is expected to enable companies to alter their historic fishing patterns and improve their production efficiency. However, the flexibility that allows the trawl CVs to change their fishing patterns could also give them a competitive advantage over other participants in the GOA groundfish fisheries that remain open access. For example, if members of the trawl CV sector can decide the best time and most efficient vessels to fish their BSAI Pacific cod allocation, it may provide them opportunities to expand their participation in GOA groundfish fisheries.

Under status quo, the trawl CV sector may not have had the opportunity to participate in those GOA groundfish fisheries at the level now possible with cooperative management because of conflicts between the BSAI Pacific cod season and GOA groundfish seasons. Under a cooperative program, the cooperative members' participation in the BSAI Pacific cod fishery would be limited by QS, the restrictions on their LLP license and its associated endorsements, the allowance of halibut and crab PSC, and fishing schedule conflicts.⁶⁰ Expanding their participation in other fisheries not directly allocated among to the trawl CV sector could result in other participants having less available to harvest. Historical participants in those other fisheries may feel they are disadvantaged as a result of the cooperative. As a result, these historical participants may request that protective harvest limits (i.e., "sideboards") be placed on the trawl CV sector participating in cooperatives to restore the balance that existed prior to the PCTC Program cooperatives forming.

Sideboard limits would allow the cooperative members to catch up to their "historic" amounts of species they harvest in non-rationalized GOA groundfish fisheries. Sideboard limits are not an allocation. They are a limit on the maximum amount of a species that a catch share program participant can catch. Members of PCTC Program cooperatives are not guaranteed that amount of catch. They must compete against other participants to catch the fish before the TAC is harvested. Cooperative sideboard limits were first developed as part of the AFA, and since then, have been included in the Crab Program, Amendment 80 Program, and the Central GOA Rockfish Program. Given that similar impacts could result from allowing cooperatives to form PCTC Program fishery, the Council has included options to establish sideboard limits for the PCTC Program.

To address concerns about the cooperative program having an advantage spilling into fisheries that are not included in the catch share program, the Council included options to limit these spillover effects from the PCTC Program on GOA fisheries. These options include sideboard limits for AFA LLP licenses or CVs and non-AFA LLP licenses based on their GOA catch history during the qualifying period in Options 2.2.1 through 2.2.3 that would be applied to annual GOA TACs. GOA sideboard limits would not be a guaranteed amount since vessels outside the PCTC Program could harvest the entire amount of fish

⁶⁰ These conflicts could include biological factors such as spawning aggregations at given times of the year and bycatch interactions.

available. In addition, the Council has also included an option for those AFA vessels that are exempt from AFA GOA sideboards to continue to be exempted from GOA sideboards under the PCTC Program.

Staff Note: The interactions between sideboard limits that have been developed for various LAPPs in the North Pacific have become complex and each new program generates a greater management and enforcement burden. Information presented in this section shows the complexity of the sideboards, as they relate to GOA fisheries, and provides some recommendations on how a sideboard structure could be developed for the proposed PCTC Program. Based on discussions between NOAA Fisheries and Council staff, after the Council selects its preliminary preferred alternative (PPA), it may be possible to simplify the sideboard structure for the PCTC Program, beyond the discussion provided in this section. For example, one idea that has been discussed is implementing a sideboard for pollock, possibly Pacific cod, and halibut PSC. Depending on how the PPA is structured, limiting the sideboard to those species may provide sufficient protection for the GOA stakeholders that are not a participant in the PCTC Program. In this example, the halibut PSC sideboard would limit the amount of the deep-water and shallow-water species complexes that may be taken. These species that are open to directed fishing, other than Pacific cod in most years, are limited by halibut PSC and not the TAC. Pacific cod harvests occur early in the year and the value of the fishery historically ensured that sufficient halibut PSC was made available to harvest the TAC. Flatfish species harvested by trawl CVs have historically been limited by halibut PSC and not TAC, so a halibut PSC sideboard limit may act as a sufficient sideboard protection. Mid-water pollock harvests are not limited by halibut PSC, so a pollock sideboard may be needed to limit effort in that fishery beyond the limits currently in place for other LAPP participants.

2.7.4.1. Summary of existing GOA sideboards

It is important to understand how GOA sideboard limits that may be established under the PCTC Program integrate with the existing GOA harvester sideboard limits. This section provides a description of the GOA halibut PSC limits for vessels using trawl gear and GOA harvester sideboard limits that originated from the AFA Program, BSAI Crab Program, and the CGOA Rockfish Program.

The FMP and regulations require that the Council and NMFS consider the following information in seasonally apportioning halibut PSC limits: (1) Seasonal distribution of halibut; (2) seasonal distribution of target groundfish species relative to halibut distribution; (3) expected halibut bycatch needs on a seasonal basis relative to changes in halibut biomass and expected catch of target groundfish species; (4) expected bycatch rates on a seasonal basis; (5) expected changes in directed groundfish fishing seasons; (6) expected actual start of fishing effort; and (7) economic effects of establishing seasonal halibut allocations on segments of the target groundfish industry. Section 50 CFR §679.21(d)(4)(iii) and (iv) specifies that any underages or overages of a seasonal apportionment of a halibut PSC limit will be added to or deducted from the next respective seasonal apportionment within the fishing year.

AFA Program

When the AFA Program was implemented in 2000, AFA vessel owners received fixed allocations of BS pollock. With the fixed pollock allocations, companies could effectively consolidate or otherwise improve the efficiency of their BS pollock operations, thereby AFA vessel owners could potentially expand into other fisheries that would not otherwise have been available. To limit these expansions, the AFA directed the Council to develop and recommend conservation and management measures necessary to protect other fisheries from potential adverse impacts from the AFA Program. As a result, harvesting and processing restrictions, known as sideboards, on AFA vessels in groundfish, crab, and scallop fisheries in the BSAI (excluding pollock) and GOA were created (Section 211 of the AFA). In addition, specified restrictions for prohibited species, as well as harvesting and processing limits for BSAI crab species for AFA vessels were created.

In the GOA, AFA CVs are divided into two categories, those vessels subject to sideboard limits and those vessels exempt from sideboard limits. The limits are calculated based on the catch histories of the non-

exempt AFA CVs. Specifically, the sideboard ratio is aggregated retained catch for each groundfish species or species group during 1995 through 1997 period relative to the sum of the TACs for the species or species group. An inter-cooperative agreement divides the sideboard limits among the cooperatives and sets penalties for exceeding the limits.

The Council provided an exemption for AFA CVs that demonstrated dependence on GOA fisheries, while having limited history in the BSAI pollock fishery. Although not incorporated in regulation, the Council recommended and approved the exemption with the understanding that no GOA sideboard-exempt vessel would lease its BS pollock in a year that it exceeds its GOA average harvest level from 1995 through 1997. To ensure that the Council's intent is satisfied, the Catcher Vessel Inter-Cooperative Agreement binds vessels to this limitation.

The sideboard limit for halibut PSC is calculated based on the retained groundfish catch by AFA sideboarded CVs in the shallow-water and deep-water complex from 1995 through 1997 relative to total retained catch in the shallow-water⁶¹ and deep-water⁶² complex. Under the sideboard limits, fisheries in the applicable complex are closed for the remainder of a season, once NMFS determines that the sideboard will be reached. Any unused halibut PSC sideboard limit in one season may be rolled to the next season. Conversely, if a seasonal apportionment of a trawl halibut PSC limit is exceeded, the overage is deducted from the apportionment for the next season during the current fishing year. A substantial number of AFA vessels receive allocations under the Rockfish Program (and an associated halibut PSC allowance), so the limited access deep-water complex fisheries are closed to AFA vessels during the third season.

CV sideboard limits for both groundfish and prohibited species apply only to AFA vessels that are not exempt from the specific sideboard limits. The AFA Program established two classes of exempted AFA CVs: 1) those exempt from sideboard limits in the BSAI Pacific cod fishery, and 2) those exempt from sideboard limits in the GOA groundfish fisheries.

NMFS manages the AFA sideboard limits. The agency makes an initial determination at the beginning of the fishing year regarding the fisheries in which AFA vessels are likely to participate, based on historical participation (sideboard ratios), TACs, prohibited species catch (PSC) limits, and other apportionments and regulations. The sideboard limit ratios were calculated as percentages of the TAC based on the aggregate retained catch by AFA vessels of the sideboard species from 1995 to 1997. The ratio remains the same year-to-year but is applied to the current year's ITACs to determine the yearly sideboard limit.

To streamline and simplify NMFS's management of AFA groundfish sideboard limits, regulations were published under 84 FR 2723, which became effective on March 11, 2019. AFA regulations required NMFS to calculate numerous sideboard limits as part of the annual BSAI and GOA harvest specifications process and publish those limits in the **Federal Register**. Simultaneously, NMFS would prohibit directed fishing for the majority of the groundfish species subject to these sideboard limits because most sideboard limits are too small each year to support directed fishing. Vessels subject to sideboard limits in the final rule are now prohibited from directed fishing for those species in regulation (50 CFR §§ 679.20(d)(1)(iv)(D) and 50 CFR §680.22(e)(1)(i) and (iii) and Tables 54, 55, and 56 to 50 CFR §679). See Table 2-78 for the 2020 non-exempt AFA CV groundfish sideboard limits in the GOA and Table 2-79 for the non-exempt AFA CVs halibut PSC sideboard limits in the GOA. Table 2-80 provides a list of those GOA groundfish species that are prohibited to directed fishing by AFA CVs. Note that AFA CVs qualified for the CGOA Rockfish Program with Rockfish Program QS are not restricted by AFA sideboard limits for primary and secondary Rockfish Program species while checked into Rockfish Program.

⁶¹ Shallow-water complex is composed of pollock, Pacific cod, shallow-water flatfish, flathead sole, Atka mackerel, skates, and other species (sculpins, sharks, and octopuses).

⁶² Deep-water complex is composed of sablefish, rockfish, deep-water flatfish, rex sole, and arrowtooth flounder.

NMFS issued a final rule implementing Amendment 109 to the GOA FMP with effective date of January 1, 2021 (85 FR 38093, June 25, 2020), to change CGOA and WGOA Pacific cod seasonal apportionments. The proposed amendment increases the trawl CV sector's A-season TAC while proportionally decreasing the sector's B-season TAC. Amendment 109 would also combine the CGOA and WGOA trawl CV pollock fishery A-season and B-season into a single season (redesignated as the A-season) and the C-season and D-season into a single season (redesignated as the B-season), and change the annual start date of the redesignated pollock B-season from August 25 to September 1. Amendment 109 is scheduled to be implemented in 2021.

Table 2-78 2020 GOA non-exempt AFA CV groundfish sideboard limits

Target Species	Apportionments by season/gear	Area/component	Sideboard ratio ¹	2020 TACs (mt)	2020 sideboard limit (mt)
Pollock	A Season Jan 20 - Mar 10	Shumagin (610)	0.6047	517	313
		Chirikof (620)	0.1167	18,757	2,189
		Kodiak (630)	0.2028	5,783	1,173
	B Season Mar 10 - May 31	Shumagin (610)	0.6047	517	313
		Chirikof (620)	0.1167	18,757	2,189
		Kodiak (630)	0.2028	5,783	1,173
	C Season Aug 25 - Oct 1	Shumagin (610)	0.6047	9,070	5,485
		Chirikof (620)	0.1167	6,739	786
		Kodiak (630)	0.2028	9,248	1,875
	D Season Oct 1 - Nov 1	Shumagin (610)	0.6047	9,070	5,485
Chirikof (620)		0.1167	6,739	786	
Kodiak (630)		0.2028	9,248	1,875	
Annual	WYK (640)	0.3495	5,554	1,941	
	SEO (650)	0.3495	10,148	3,547	
Pacific cod	A Season Jan 1 - Jun 10	W	0.1331	1,246	166
		C	0.0692	2,284	158
	B Season Sept 1 - Dec 31	W	0.1331	830	110
		C	0.0692	1,522	105
Shallow-water flatfish	Annual	W	0.0156	13,250	207
		C	0.0587	27,732	1,628
Deep-water flatfish	Annual	C	0.0647	1,948	126
		E	0.0128	5,716	73
Rex sole	Annual	C	0.0384	8,579	329
Arrowtooth flounder	Annual	C	0.028	68,669	1,923
Flathead sole	Annual	C	0.0213	15,400	328
Pacific ocean perch	Annual	C	0.0748	23,678	1,771
		E	0.0466	6,123	285
Northern Rockfish	Annual	C	0.0277	3,178	88

Source: Table 18 of the Final 2020 and 2021 Harvest Specification

¹Determined using a ratio of 1995 to 1997 AFA CV catch to 1995 to 1997 TAC

Table 2-79 2020 non-exempt AFA CVs halibut PSC sideboard limits in the GOA

Trawl season	Halibut PSC complex	Sideboard ratio ¹	2020 total halibut PSC limit (mt)	2020 sideboard limit (mt)
First seasonal allowance (Jan 20 - Apr 1)	Shallow-water	0.34	384	131
	Deep-water	0.07	135	9
Second seasonal allowance (Apr 1 - Jul 1)	Shallow-water	0.34	85	29
	Deep-water	0.07	256	18
Third seasonal allowance (Jul 1 - Sep 1)	Shallow-water	0.34	121	41
	Deep-water	0.07	341	24
Fourth seasonal allowance (Sep 1 - Oct 1)	Shallow-water	0.34	53	18
	Deep-water	0.07	75	5
Fifth seasonal allowance (Oct 1 - Dec 31)	All targets	0.205	256	52
Annual	Total shallow-water		643	219
	Total deep-water		807	56
	Grand total, all season and categories		1,706	327

Source: Table 20 of the Final 2020 and 2021 Harvest Specification

¹Determined using a ratio of 1995-1997 AFA CV retained catch in the PSC target category to 1995-1997 total retained catch

Table 2-80 AFA CV GOA sideboard species for which directed fishing is prohibited

Target species	Area
Pacific cod	Eastern inshore Eastern offshore
Shallow-water flatfish	Eastern
Deep-water flatfish	Western
Rex sole	Western Eastern
Arrowtooth flounder	Western Eastern
Flathead sole	Western Eastern
Pacific ocean perch	Western
Northern rockfish	Western
Dusky rockfish	Western Central Eastern
Demersal shelf rockfish	SEO district
Sablefish	Western Central Eastern
Shorthead rockfish	Western Central Eastern
Rougheye rockfish	Western Central Eastern
Thornyhead rockfish	Western Central Eastern
Other rockfish	Central Eastern
Atka mackerel	GOA
Big skate	Western Central Eastern
Longnose skate	Western Central Eastern
Other skates	GOA
Sharks	GOA
Squids	GOA
Octopuses	GOA

Source: Prohibit Directed Fishing For AFA Program and Crab Rationalization Program Groundfish Sideboard limits in the BSAI and GOA (84 FR 2723, Feb 2, 2019)

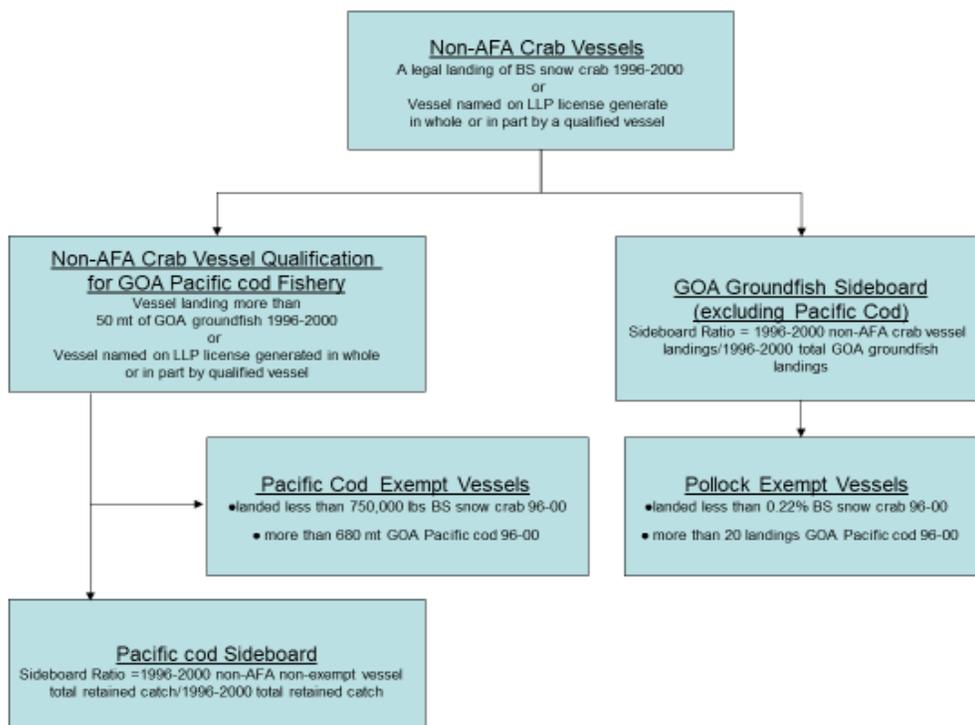
The AFA CV cooperatives (including the inshore cooperatives, as well as the Mothership Fleet Cooperative and the High Sea Catchers' Cooperative) divide the harvest limits among themselves, and each cooperative apportions its allocations among member vessels. Because the sideboard harvest limits apply to all non-exempt AFA CVs across the three AFA sectors, the Catcher Vessel Inter-cooperative agreement was created to divide the limits among cooperatives, set penalties for exceeding the limits, and to monitor sideboard species transfers between cooperatives. The cooperative structure provides a mechanism for AFA CVs to manage the harvest of sideboard limits through civil contracts.

Crab Program

Knowing that the harvesters in the crab fisheries may alter fishing patterns to increase catch in other fisheries, the Council included sideboard limits on catches of GOA groundfish for vessels and licenses with BS snow crab history that contributed to an initial quota share allocation (see Figure 2-8). Sideboards under the program also prohibit participation in the GOA Pacific cod fisheries by vessels with BS snow crab history that contributed to a crab quota allocation and that landed less than 50 mt of groundfish harvested in the GOA during the BS snow crab qualifying period (January 1, 1996, and December 31, 2000). In addition, vessels with limited BS snow crab and demonstrated GOA Pacific cod dependence are exempt from GOA Pacific cod sideboard limits. Specifically, the qualification criteria for exemption of GOA Pacific cod sideboards is if the catch history of the vessel is less than 750,000 lbs. of BS snow crab from 1996 to 2000 and more than 680 mt of GOA Pacific cod during the same qualifying years. To qualify for an exemption from GOA pollock sideboards, the catch history of the vessel must be less than 0.22 percent of all BS snow crab landings from 1996 to 2000 and the vessel must have made 20 landings of pollock harvested from the GOA during the same qualifying years.

Sideboard limits are based on GOA groundfish and GOA Pacific cod retained catch by the crab vessels that are subject to the sideboard limits during the snow crab qualifying period. In other words, the sideboard limit calculation does not include history from sideboard exempt crab vessels. Since LLP licenses can move among vessels, it is possible that the sideboard limits on a vessel could differ from those associated with the LLP license assigned to that vessel. In these cases, the more restrictive sideboard is applied. Finally, since vessels participating in the AFA are already subject to sideboards in GOA groundfish fisheries, those vessels are exempt from these crab program sideboards.

Figure 2-8 Diagram of non-AFA crab vessel sideboard limits for the GOA



CGOA Rockfish Program

The CGOA Rockfish Program also includes sideboard limits that apply to federally permitted vessels fishing in federal waters and waters adjacent to the CGOA when the harvest of rockfish primary species (Pacific Ocean Perch (POP), Northern rockfish, and dusky rockfish) by that vessel are deducted from the federal TAC. Sideboards limit both the LLP license with rockfish QS assigned to it, and the vessel used to make legal landings of rockfish QS.

Rockfish Program sideboards are in effect from July 1 through July 31. Sideboard measures are in effect only during the month of July when the CGOA rockfish fisheries were traditionally open and vessel operators had to choose between fishing in the GOA rockfish fisheries and other fisheries (salmon) that were open to directed fishing.

Specific to rockfish qualified CVs, they are prohibited from fishing for the primary rockfish species in the West Yakutat District (WYAK) and Western GOA (WGOA) during July. Instead of utilizing small sideboard limits, the CV sector sideboard limits instead prohibit directed fishing for the primary rockfish species, which eases the management burden and reduces the observer coverage and costs associated with sideboard fisheries for the sector. Rockfish qualified CVs are also prohibited from directed fishing in any target fishery in the deep-water complex (except for CGOA rockfish) but can direct on target fisheries in the shallow-water complex during July. Deep-water complex includes arrowtooth flounder, deep water flatfish, and rex sole fisheries, while shallow-water complex includes pollock, Pacific cod, shallow-water flats, flathead sole, Atka mackerel, and other species. These restrictions were implemented to limit the ability of rockfish qualified CVs in these fisheries because they had not historically harvested these species in July. As a result, rockfish qualified CVs are limited to fishing species in the shallow-water complex during the month of July.

Two exemptions from sideboards were included under the Rockfish Program. The first applies to CVs and LLP licenses that applied to be permanently exempted from the Rockfish Program and choose not to

receive rockfish QS for which they would have otherwise qualified. The second exemption is specific to AFA CVs that are subject to AFA GOA sideboard limits. These vessels, of which there are four, are exempt because the Council believed these CVs did not need further limit since it determined that the AFA GOA sideboards limits effectively constrained AFA CVs from expanding their ability to harvest in other fisheries. Imposing additional sideboard limits would have been duplicative and unnecessary.

2.7.4.2. Option 4.1 – AFA LLP licenses or CVs GOA sideboard limits

Option 4.1 would limit GOA AFA LLP licenses or AFA CVs with sideboards in the GOA groundfish fisheries including GOA halibut PSC based on their GOA catch history during the qualifying period (Options 2.1.1-2.1.3). This limit would not extend if these vessels or LLP licenses fish in the CGOA Rockfish Program. However, as noted in the analysis of Element 1, Option 1.1, **there is no AFA endorsement on LLP licenses, so restricting LLP licenses based on AFA endorsement is not possible, unless the Council defines an AFA linkage to LLP licenses. Since this PCTC Program is an LLP license-based program, the option could be revised to sideboard the LLP licenses that allowed AFA CVs to generate qualifying BSAI Pacific cod catch history.**

The option implies that the sideboard would only limit the LLP license or the vessel. Except for the AFA Program, the CGOA Rockfish Program, Amendment 80 Program, and the Crab Program included sideboard limits for both LLP licenses and vessels. By limiting both LLP licenses and vessels, both LLP licenses and vessels are preventing from increasing their catch in other fisheries. **If the intent was to limit LLP licenses or the CVs, then the motion is sufficient, but if the Council intends to limit both LLP licenses and CVs, then the motion will need a slight modification.**

In addition, Option 4.1 is not specific to non-exempt AFA CVs and the LLP licenses on those vessels or exempt AFA CVs and the LLP licenses on those vessels. Option 4.1 only states that AFA LLP licenses or AFA CVs will be sideboarded in the GOA. Since Option 4.2 and Suboption 4.2.1 address GOA sideboard exempt status for exempt AFA CVs, staff assumes that Option 4.1 addresses only non-exempt AFA CVs.

Another issue with Option 4.1 has to do with excluding CGOA Rockfish Program fishing activity generated by specific vessels and LLP licenses when calculating the GOA sideboard limits. As noted in the July 2017 AFA Program Review, there were 9 non-exempt AFA CVs that received CGOA Rockfish Pilot Program permits during the years of the program (2007 through 2011). In 2012, the CGOA Rockfish Program replaced the Pilot Program. Under the new program, different qualifying years were used causing five of the nine non-exempt AFA CVs to no longer qualify. **Given that two of the three qualifying year options (Options 2.2.2 and 2.2.3) used to calculate the GOA sideboard limits encompass the years during the Pilot Program and the years during the CGOA Rockfish Program, there are at least two approaches for calculating the Rockfish Program fishing activity.** One approach is to utilize the CGOA rockfish fishing activity from all nine non-exempt AFA CVs that qualified for the Pilot Program from 2007-2011 combined with the CGOA fishing activity from the four non-exempt AFA CVs that qualified for the Rockfish Program from 2012-2019. The other approach would be to use only the CGOA fishing activity from the four qualified non-exempt AFA CVs during the Pilot Program years and the Rockfish Program years. **The first approach was selected because it excluded the catch of all vessels when participating in the Rockfish Pilot Program and Rockfish Program. Staff felt this best captured the intent of the Council to exclude catch from the sideboard limit that was taken in the CGOA rockfish fishery by trawl gear.** If only the catch of the four currently active vessels was excluded, it would reduce the amount of catch taken in the CGOA rockfish fishery and, therefore, result in a larger sideboard limit. While this may seem contradictory, it is because the catch in the CGOA rockfish fishery is being deducted from the total catch by these vessels or LLP licenses in the GOA (the catch is deducted from total GOA catch by these vessels when determining the sideboard limit). **The Council may wish to provide direction that this method best meets its intent.**

The next set of figures (Figure 2-9, Figure 2-10, and Figure 2-11) provide a visual of the different GOA sideboard limits by catch share program from the perspective of the non-exempt AFA CVs. Each shaded column represents a different sideboard restriction, with the extreme left representing the AFA sideboards (which were the first sideboards) while the extreme right represents the proposed new sideboards created in Option 4.1.

For example, starting with the extreme left column, there are 82 non-exempt AFA CVs that are restricted by GOA sideboards. Note that AFA GOA sideboard limits are not applied to LLP licenses. The next column to the right represents the Crab Program sideboards in the GOA that apply to both vessels and LLP licenses. Since none of the 82 non-exempt AFA CVs and their associated LLP licenses are qualified to participate in the Crab Program, they are not restricted by GOA Crab Program sideboard limits and thus labeled as non-Crab Program CVs and LLP licenses. The next column represents CGOA Rockfish Program sideboards. Of the 82 non-exempt AFA CVs and their associated LLP licenses labeled as non-Crab Program CVs and LLP licenses, three non-exempt AFA CVs qualify for the CGOA Rockfish Program and are restricted by CGOA Rockfish Program sideboard limits while the remaining 79 non-exempt AFA CVs are not qualified to participate in the CGOA Rockfish Program and are not restricted by CGOA Rockfish Program sideboard limits.

The final column represents the new GOA sideboard limits created under Option 4.1. Depending on the qualifying years from Element 2, the number of BSAI Pacific cod Cooperative Program qualified non-exempt AFA CVs varies. Using 2014 through 2019 qualifying years, 45 of the 79 non-exempt AFA CVs that did not qualify for the CGOA Rockfish Program qualified for the BSAI Pacific cod Cooperative Program in addition to all three non-exempt AFA CVs that qualified for the CGOA Rockfish Program (see Figure 2-9). Expanding the qualifying years to include 2009 through 2019 increased the number of non-exempt AFA CVs that qualified for the BSAI Pacific cod Cooperative Program to 51 CVs, 48 vessels from the non-qualified CGOA Rockfish Program and all three of the CVs that qualified from the CGOA Rockfish Program (see Figure 2-10). Finally, using 2004 through 2019 qualifying years increased the number of non-exempt AFA CVs qualified for the BSAI Pacific cod Cooperative Program to 62 CVs, three CVs that qualified for the CGOA Rockfish Program and 59 CVs that did not qualified for the CGOA Rockfish Program (see Figure 2-11).

Figure 2-9 Diagram of existing GOA sideboards in combination with proposed GOA sideboards for non-exempt AFA trawl CVs (Option 4.1) using qualifying years 2014-2019

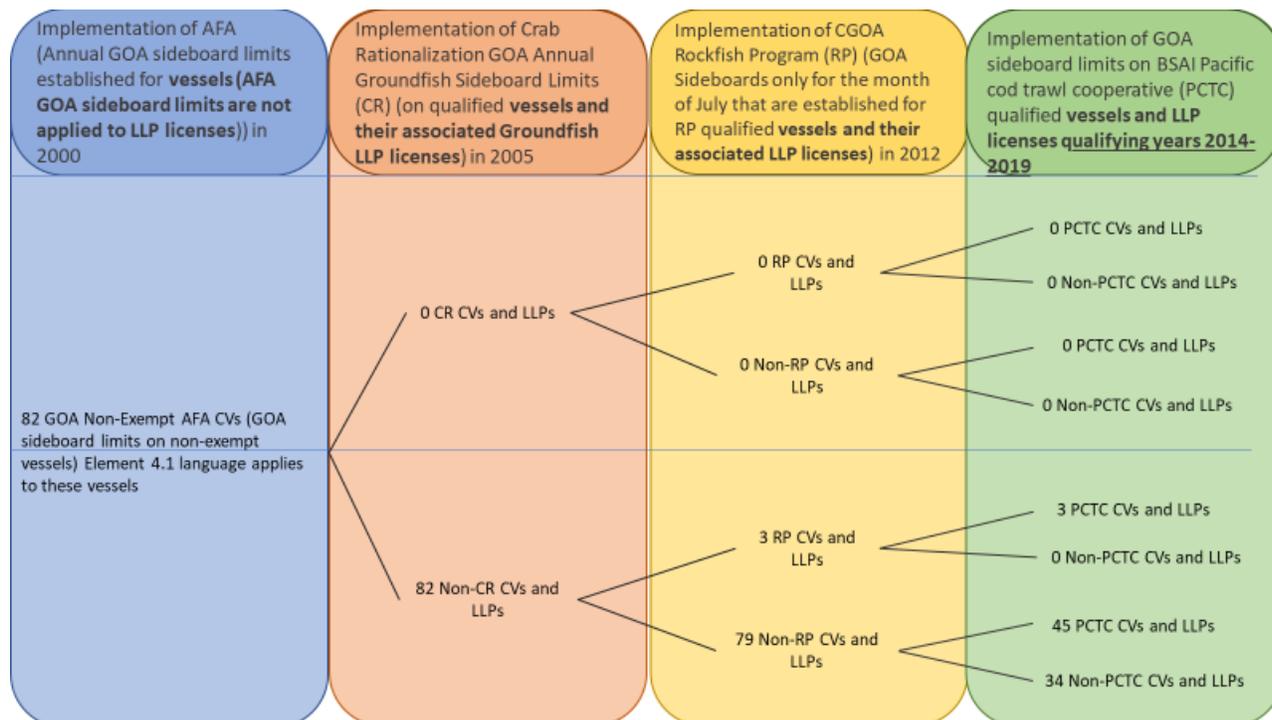


Figure 2-10 Diagram of existing GOA sideboards in combination with proposed GOA sideboards for non-exempt AFA trawl CVs (Option 4.1) using qualifying years 2009-2019

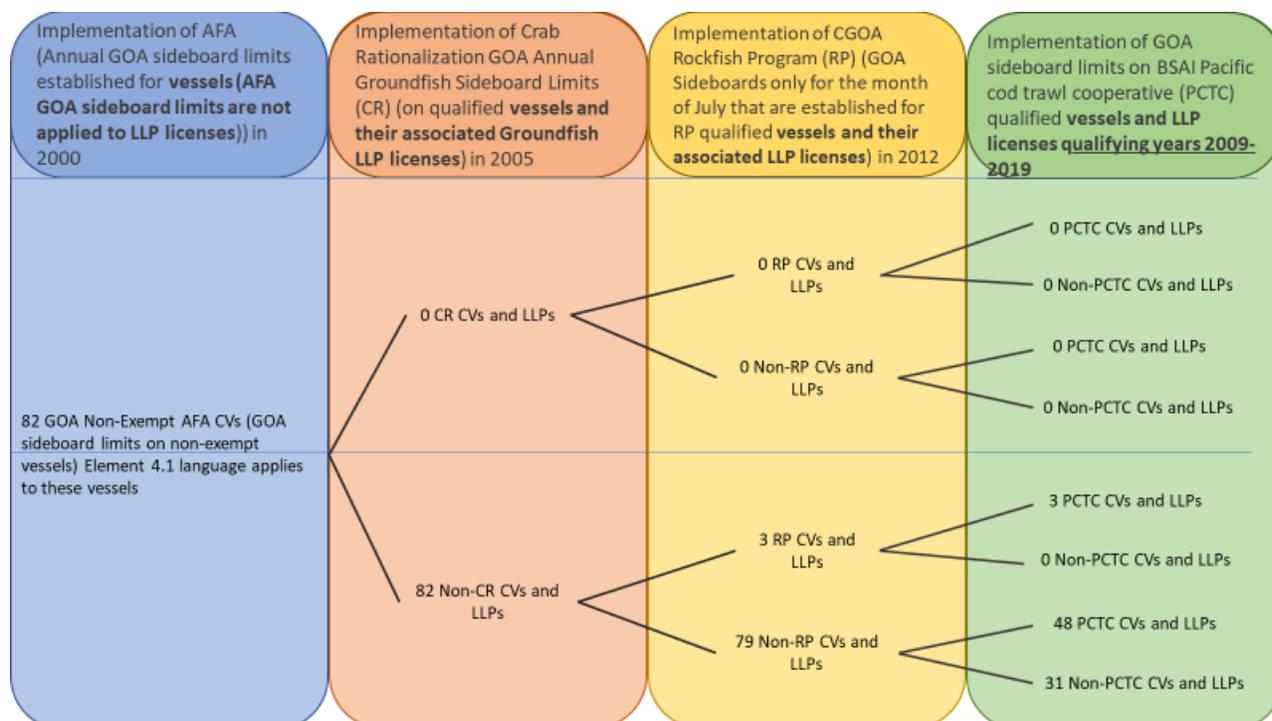
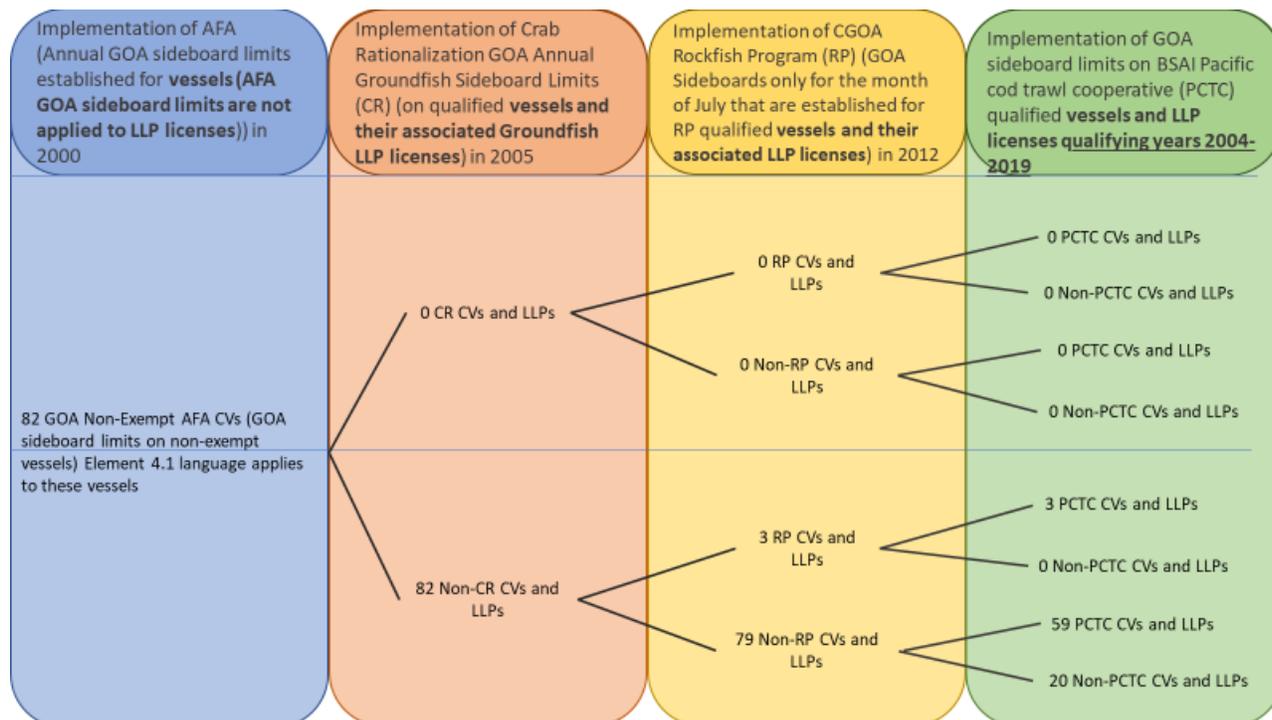


Figure 2-11 Diagram of existing GOA sideboards in combination with proposed GOA sideboards for non-exempt AFA trawl CVs (Option 4.1) using qualifying years 2004-2019



Both vessels and LLP licenses are often sideboarded by Council developed catch share programs. However, since the non-exempt AFA CVs already have existing GOA sideboard limits from the AFA Program (see Table 2-78 and Table 2-79), the Council could choose to keep the existing non-exempt AFA sideboards. This approach is the simplest since it does not require additional sideboard limits for the vessels. With the development of the PCTC Program this approach potentially could result in expanded harvest of these sideboard restricted fisheries. Table 2-81 provides annual sideboard limits, sideboard harvest, percent of sideboard limit harvested, and total harvest by all vessels except the Pacific cod fishery which is managed by sector allocations.⁶³ Also included in the table is the average sideboard harvested from 2004-2008, 2009-2013, and 2014-2019. As noted in Table 2-81, the non-exempt AFA CVs harvested less than the sideboard limit. As noted in the AFA Program Review (NPFMC, 2017), the GOA pollock is the primary sideboard fishery for the non-exempt AFA CVs. On average, eight vessels participated in the directed fishery for pollock from 2001 to 2015. The GOA Pacific cod fishery was a distant second ranging from one to four vessels. For the remaining GOA sideboard fisheries, fishing activity by non-exempt AFA CVs was non-existent or low with only one or two vessels inconsistently participating in these fisheries. In summary, only utilizing the existing non-exempt AFA sideboards for PCTC Program qualified non-exempt AFA CVs could create opportunity for vessels to expand their fishing effort in the GOA sideboard fisheries.

⁶³ Since 2012, the GOA Pacific cod fishery has been managed using sector allocations. In the Western GOA, the trawl CV sector is allocated 27.70% for the A-season and 10.70% for the B-season. In the Central GOA, the trawl CV sector is allocated 21.13523% for the A-season and 20.44888% for the B-season.

Table 2-81 GOA sideboard limits, sideboard harvest, and percent of sideboard limit harvested

Species		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Average sideboard usage		
																			2004-2008	2009-2013
Pollock	Sideboard limit (1,000 mt)	24	30.9	29.3	24.5	20.2	16.4	27	28.9	33.9	29.7	41.1	41.2	41.2	38.8	41.3	36.0	25.8	27.2	39.9
	Cooperative report harvest (1,000 mt)	6.7	7.9	6.9	6.3	3.2	1.9	5.6	4.4	6.6	12.6	13.1	15.1	13.6	13.6	9.5	5.5	6.2	6.2	11.7
	% of sideboard limit harvested	28	25	24	26	16	11	21	15	19	42	31	36	33	35	23	15	23.8	21.6	28.9
Pacific cod	Sideboard limit (1,000 mt)	4.3	4.0	4.9	4.9	4.8	3.8	5.3	5.8	5.8	5.4	5.8	6.8	4.3	4.8	1.2	1.1	4.6	5.2	4.0
	Cooperative report harvest (1,000 mt)	0.4	0.5	0.2	0.6	0.3	0.3	0.9	1.0	0.3	0.4	0.9	0.7	0.3	1.0	0.0	0.2	0.4	0.6	0.5
	% of sideboard limit harvested	8	12	3	12	7	8	17	18	5	7	16	10	7	21	0	18	8.4	11.0	12.0
Arrowtooth flounder	Sideboard limit (1,000 mt)	0.8	0.8	0.8	1.0	1.0	0.9	0.9	0.9	2.1	2.1	2.1	2.1	2.1	2.1	1.4	2	0.9	1.4	2.0
	Cooperative report harvest (1,000 mt)	0.0	0.1	0.2	1.0	0.8	0.7	0.4	0.7	0.1	0.5	0.8	0.5	0.1	1.1	0.5	0.6	0.4	0.5	0.6
	% of sideboard limit harvested	2	14	26	102	79	83	49	80	6	25	38	25	5	52	36	30	44.6	48.6	31.0
Pacific ocean perch	Sideboard limit (1,000 mt)	1.0	1.0	1.0	1.1	1.1	0.8	1.0	0.9	1.0	1.0	1.2	1.3	1.5	1.5	1.8	1.7	1.0	0.9	1.5
	Cooperative report harvest (1,000 mt)	0.4	0.3	0.2	0.6	0.4	0.3	0.0	0.4	0.0	0.5	0.8	0.6	0.1	0.2	0.2	0.0	0.4	0.2	0.3
	% of sideboard limit harvested	38	30	23	59	36	33	2	47	1	53	65	47	7	13	11	2	37.2	27.2	24.2
Shallow-water flatfish	Sideboard limit (1,000 mt)	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	1.3	1.1	1.0	1.1	1.3	1.3	1.7	1.8	0.9	1.0	1.4
	Cooperative report harvest (1,000 mt)	0.0	0.0	0.0	0.4	0.1	0.1	0.1	0.1	0.2	0.2	0.4	0.2	0.1	0.1	0.0	0.4	0.1	0.1	0.2
	% of sideboard limit harvested	0	0	0	40	12	10	10	7	12	8	30	17	8	9	1	22	10.4	9.4	14.4
Northern rockfish	Sideboard limit (1,000 mt)	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Cooperative report harvest (1,000 mt)	0.0	0.1	0.0	0.3	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
	% of sideboard limit harvested	20	57	0	199	189	94	1	81	1	3	16	6	4	5	11	20	93.0	36.0	10.4
Rex sole	Sideboard limit (1,000 mt)	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2
	Cooperative report harvest (1,000 mt)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
	% of sideboard limit harvested	0	0	1	8	9	18	37	35	3	54	138	20	2	11	13	13	3.6	29.4	33.0
Deep-water flatfish	Sideboard limit (1,000 mt)	0.2	0.3	0.3	0.4	0.5	0.5	0.2	0.2	0.2	0.3	0.4	0.4	0.3	0.29	0.3	0.3	0.3	0.3	0.3
	Cooperative report harvest (1,000 mt)	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04	0.0	0.0	0.0	0.0	0.0
	% of sideboard limit harvested	2	0	0	4	1	1	9	5	0	0	0	0	0	14	4	0	1.4	3.0	3.1
Flathead sole	Sideboard limit (1,000 mt)	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.4	0.3	0.3	0.3	0.36	0.33	0.3	0.4	0.2	0.2	0.3
	Cooperative report harvest (1,000 mt)	0	0	0	0.1	0.1	0	0.1	0.1	0	0	0	0	0.03	0.06	0.1	0.1	0.0	0.0	0.0
	% of sideboard limit harvested	1	12	2	37	53	17	78	64	12	0	0	0	9	19	19	25	21.0	34.2	11.8

Source: AFA Catcher Vessel Intercooperative reports from 2004 through 2020.

To limit non-exempt AFA CVs from utilizing the increased flexibility to harvest more of the existing GOA AFA sideboard limits, new sideboard limits that apply to both non-exempt AFA CVs and the LLP licenses that authorized BSAI Pacific cod qualified catch history could be developed. Given that Option 4.1 is silent on whether discards are included and whether the denominator used is catch or ITAC to calculate GOA groundfish sideboard limits, the method used to create the original non-exempt AFA sideboard limits was utilized. This sideboard calculation was aggregate retained catch of non-exempt AFA CVs of each sideboard species or species group relative to the sum of the TACs for these species or species groups. The qualifying years from Element 2, Options 2.2.1 through 2.2.3 were used for the calculations. In addition, all CGOA Rockfish Program fishing activity by qualified non-exempt AFA CVs when participating in the Rockfish Pilot Program and the Rockfish Program was removed from the sideboard calculations. With the exception of CGOA Northern rockfish and POP which are managed via the CGOA Rockfish Program, the sideboard fisheries listed in Table 2-78 are the only GOA sideboard fisheries that are open for directed fishing by the non-exempt AFA CVs and therefore are the only sideboard limits calculated for Option 4.1. Table 2-82 provides the calculated non-exempt AFA trawl CV GOA groundfish sideboard ratios along with 2020 sideboard limits that would result from those ratios for Option 4.1. GOA groundfish sideboard species listed in Table 2-80 have been insufficient for a sideboard fishery since implementation in 2000. As a result, directed fishing for the species list in Table 2-80 would remain unchanged under Option 4.1.

As shown in Table 2-82, the calculated sideboard limits for non-exempt AFA trawl CVs that qualify to participate in the PCTC Program are lower than the existing non-exempt AFA sideboard limits. These lower sideboard limits shown in Table 2-82 are due to the limited fishing activity by non-exempt AFA CVs in these sideboard fisheries during the qualifying years (see Table 2-81). With the exception of species noted in bold font in Table 2-82, which include C-season and D-season Shumagin (610) pollock, all four seasons of Chirikof (620) and Kodiak (630) pollock, CGOA shallow-water flatfish, and CGOA arrowtooth flounder, the remaining sideboard species have insufficient limits to allow directed fishing. To streamline sideboard limits and ease management burden, sideboard species with insufficient limits could be closed to directed fishing via a prohibition in regulation rather than closing annually during harvest specification process. In addition, given the reduced sideboard limits for those species with sufficient limits for a fishery, it is likely NMFS would require intercooperative management of these fisheries in order for the species to be open for directed fishing.

Table 2-82 GOA groundfish sideboard ratios (aggregate retained catch/TAC) and estimated sideboard limit (mt) using 2020 TACs for qualified non-exempt AFA CVs and the eligible LLP licenses authorizing BSAI Pacific cod catch history under each of the qualifying year options from Element 2

Target Species	Apportionments by season/gear	Area/component	Sideboard ratio ¹	Existing 2020 sideboard limit (mt)	Option 1 (2014-2019)		Option 2 (2009-2019)		Option 3 (2004-2019)	
					Sideboard ratio	New 2020 sideboard limit (mt)	Sideboard ratio	New 2020 sideboard limit (mt)	Sideboard ratio	New 2020 sideboard limit (mt)
Pollock	A Season Jan 20 - Mar 10	Shumagin (610)	0.6047	411	0.038	20	0.057	30	0.077	40
		Chirikof (620)	0.1167	2,554	0.062	1,158	0.063	1,188	0.062	1,154
		Kodiak (630)	0.2028	573	0.093	537	0.090	523	0.075	435
	B Season Mar 10 - May 31	Shumagin (610)	0.6047	411	0.038	20	0.057	30	0.077	40
		Chirikof (620)	0.1167	2,554	0.062	1,158	0.063	1,188	0.062	1,154
		Kodiak (630)	0.2028	573	0.093	537	0.090	523	0.075	435
	C Season Aug 25 - Oct 1	Shumagin (610)	0.6047	5,618	0.038	344	0.057	518	0.077	695
		Chirikof (620)	0.1167	788	0.062	416	0.063	427	0.062	414
		Kodiak (630)	0.2028	1,896	0.093	859	0.090	837	0.075	696
	D Season Oct 1 - Nov 1	Shumagin (610)	0.6047	5,618	0.038	344	0.057	518	0.077	695
Chirikof (620)		0.1167	788	0.062	416	0.063	427	0.062	414	
Kodiak (630)		0.2028	1,896	0.093	859	0.090	837	0.075	696	
Annual	WYK (640)	0.3495	1,610	0.020	109	0.026	142	0.025	141	
	SEO (650)	0.3495	3,066	0.000	0	0.000	0	0.000	0	
Pacific cod	A Season Jan 1 - Jun 10	W	0.1331	542	0.007	9	0.009	11	0.007	9
		C	0.0692	303	0.011	26	0.011	25	0.008	18
	B Season Sept 1 - Dec 31	W	0.1331	361	0.007	6	0.009	7	0.007	6
		C	0.0692	202	0.011	17	0.011	16	0.008	12
Shallow-water flatfish	Annual	W	0.0156	207	0.000	0	0.000	0	0.000	0
		C	0.0587	1,530	0.011	305	0.010	290	0.008	219
Deep-water flatfish	Annual	C	0.0647	226	0.002	3	0.002	4	0.001	3
		E	0.0128	73	0.000	0	0.000	0	0.000	0
Rex sole	Annual	C	0.0384	321	0.013	113	0.014	118	0.009	81
Arrowtooth flounder	Annual	C	0.028	1,920	0.010	694	0.010	704	0.009	592
Flathead sole	Annual	C	0.0213	328	0.006	98	0.007	101	0.006	87
Pacific ocean perch	Annual	E	0.0466	256	0.013	82	0.011	68	0.015	91

Source: AKFIN, April 2020

Table originates from Excel file Non-Exempt AFA GOA Sideboard Calculations and BSAI_PCOD_LAPP_GOA_SB_LANDINGS(4-10-20)

Bold font denotes sideboard fisheries likely to be open for directed fishing

¹Determined using a ratio of 1995 to 1997 AFA CV catch to 1995 to 1997 TAC

Note that the recent SOC approval of Amendment 109 to the FMP for Groundfish of the GOA would modify the final sideboard limits for the Pacific cod and pollock fisheries. Specifically, the action will modify CGOA and WGOA Pacific cod seasonal apportionments to increase the trawl CV sector's A-season TAC while proportionally decreasing the sector's B season TAC. The amendment will also implement a regulatory change to combine the CGOA and WGOA trawl CV pollock fishery A and B seasons into a single season (redesignated as the A-season) and the C and D seasons into a single season (redesignated as the B-season) and change the annual start date of the redesignated pollock B-season from August 25 to September 1.

Like groundfish sideboards, both vessels and LLP licenses are also restricted by PSC usage sideboards. As the Council contemplates developing new GOA halibut PSC sideboard limits for non-exempt AFA CVs to address increased flexibility from development of the PCTC Program, it should be noted there are existing GOA halibut PSC sideboard limits for the non-exempt AFA CVs. The GOA halibut PSC sideboard limit is based on the aggregate retained groundfish catch by non-exempt AFA CVs in each PSC target category from 1995 through 1997 divided by the retained catch of all vessels in that fishery from 1995 through 1997 (50 CFR §679.64(b)(4)(ii)). Table 2-79 provides the GOA halibut PSC sideboard limits for the non-exempt AFA CVs for 2020 and 2021 fishing seasons. As for GOA halibut PSC sideboard usage for non-exempt AFA CVs, the low numbers of vessels participating in the various seasons result in the data being largely confidential. Because of these disclosure issues, tables showing

non-exempt AFA CV PSC usage by season and target category are not provided. It was noted in the July 2017 AFA Program Review that in no year between 2003 and 2015 were annual AFA halibut PSC sideboard limits in the GOA exceeded.⁶⁴ On average, non-exempt AFA CVs caught 9.4 to 41.2 percent of their annual halibut PSC limits for shallow-water and deep-water targets, respectively.⁶⁵

In developing new GOA halibut PSC sideboard limits for the non-exempt AFA CVs, staff relied on the same AFA calculation but with qualifying catch years from Element 2. In other words, the sideboard limit would be based on aggregate retained groundfish catch by non-exempt AFA CVs in each PSC target category divided by the aggregated retained groundfish catch of all vessels in each PSC target category. Since CGOA Rockfish Program qualified non-exempt AFA CVs along with other qualified non-AFA trawl CVs participating in a rockfish cooperative receive 117.3 mt of the third season (July 1 through August 1) deep-water species fishery halibut PSC apportionment, CGOA Rockfish Program fishing activity for these AFA CVs will not be included in the halibut PSC sideboard calculation for the third quarter deep-water PSC target category. Table 2-83 provides the sideboard limit calculations for halibut PSC.

Table 2-83 GOA halibut PSC sideboard ratios (directed catch/total directed catch) for eligible LLP licenses used on non-exempt AFA vessels at the time of implementation under each of the qualifying year options from Element 2

Trawl season	Halibut PSC complex	Existing non-exempt AFA CV halibut PSC sideboard ratio ¹	Existing 2020 Sideboard limit (mt)	Option 1 (2014-2019) sideboard ratio		Option 2 (2009-2019) sideboard ratio		Option 3 (2004-2019) sideboard ratio	
				Sideboard ratio	2020 sideboard limit (mt)	Sideboard ratio	2020 sideboard limit (mt)	Sideboard ratio	2020 sideboard limit (mt)
First seasonal allowance (Jan 20 - Apr 1)	Shallow-water	0.34	131	0.039	15	0.042	16	0.047	18
	Deep-water	0.07	9	0.037	5	0.020	3	0.019	3
Second seasonal allowance (Apr 1 - Jul 1)	Shallow-water	0.34	29	0.077	7	0.069	6	0.072	6
	Deep-water	0.07	18	0.059	15	0.055	14	0.051	13
Third seasonal allowance (Jul 1 - Sep 1)	Shallow-water	0.34	41	0.047	6	0.058	7	0.065	8
	Deep-water	0.07	24	0.000	0	0.000	0	0.038	13
Fourth seasonal allowance (Sep 1 - Oct 1)	Shallow-water	0.34	18	0.068	4	0.078	4	0.076	4
	Deep-water	0.07	5	0.047	4	0.064	5	0.052	4
Fifth seasonal allowance (Oct 1 - Dec 31)	All targets	0.205	52	0.082	21	0.086	22	0.094	24

Source: PC_HLBT_PSC(4-24-20)

¹Determined using a ratio of 95-97 non-exempt AFA CV catch in each PSC target category divided by the 95-97 retained catch of all vessels in that fishery

In comparing the existing halibut PSC sideboard limits with the new halibut PSC sideboard limits calculated using the qualifying year options from Element 2, the new halibut PSC sideboard limits are in all cases smaller than the existing sideboard limits. The reduced halibut PSC sideboard limits are likely, in many cases, are insufficient for directed fishing, which could impact the two possible non-pollock groundfish sideboard fisheries, shallow-water flatfish and arrowtooth flounder. Low halibut PSC sideboard limits in Table 2-83 would not impact the pollock sideboard fisheries in Table 2-82, since trawl vessels using pelagic trawl gear are not closed to directed pollock fishing when the halibut PSC limits specified for shallow-water species are reached (50 CFR §679.21(d)(6)). Nevertheless, despite calculated halibut PSC sideboards being severely limited for most directed fishing opportunities, the Council may want to publish the halibut PSC sideboard limits annually so as not to limit cooperatives from

⁶⁴ Seasonal limits were exceeded an estimate five times, but the overages were covered by unused apportionments in prior seasons.

⁶⁵ Averages do not include halibut PSC taken in the combined species fisheries fifth season.

determining how to utilize potential GOA groundfish sideboard fisheries while staying within their halibut PSC mortality limit.

Finally, given that Element 1, Option 1.1 provides the opportunity for eligible LLP licenses holders to fish in the limit access sector rather than join a cooperative, it is unclear if these LLP licenses would be restricted by GOA sideboard limits for both GOA groundfish and halibut PSC. Having both cooperative and non-cooperative members sharing the same sideboard limits could reduce the benefits that cooperative members are able to generate from the cooperative program. Since the sideboard limit is not a guarantee, vessels outside the cooperative could harvest the sideboard limit thereby reducing the amount of fish that could be caught by the cooperative. Therefore, in other limited access programs, those that elect to join the limited access fishery are generally not subject to sideboard limitations since they are not benefiting from a rationalization program. Therefore, it may make sense to allow holders of eligible LLP licenses that opt out of cooperative formation to not be subject to any groundfish and PSC sideboard limitations. To address the possibility of different eligible LLP licenses fishing in the limited access sector on annual basis, groundfish and halibut sideboard ratios would be calculated with all eligible LLP licenses minus those LLP licenses that permanently opt out of the PCTC Program at implementation of the program. Generating an updated sideboard ratio for those that join a cooperative on annual basis would be burdensome.

Sideboard management for non-qualified non-exempt AFA CVs

As noted in Figure 2-9, Figure 2-10, and Figure 2-11, the number of non-exempt AFA CVs and their associated LLP licenses that did not qualify for the BSAI Pacific cod trawl CV catch share program ranges between 19 CVs using qualifying years 2004 through 2019 and 34 CVs using qualifying years 2014-2019. These non-qualified non-exempt AFA CVs would continue to be restricted by the existing non-exempt AFA vessel sideboard limits. However, if the more restrictive sideboards provided in Table 2-82 apply to the qualified non-exempt AFA CVs and their associated LLP licenses, the existing non-exempt AFA sideboard limits for the non-qualified CVs would be significantly less restrictive since only the non-qualified CVs could continue to harvest under the existing non-exempt AFA sideboard limits.

Recognizing the increased GOA sideboard opportunity by the non-qualified non-exempt AFA CVs, the Council has three approaches in addressing the issue. The first approach, which is the simplest, is to leave the existing non-exempt AFA sideboard limits unchanged. Obviously, this would provide the greatest fishing opportunity for the non-qualified vessels since the sideboard activity for PCTC Program qualified non-exempt AFA CVs would apply to the new sideboard limits only under this approach. Sideboard activity by the non-qualified non-exempt AFA CVs would apply only to the existing AFA sideboard limits.

The second approach would also leave the existing non-exempt AFA sideboard limits unchanged for non-qualified vessels but instead sideboard activity by PCTC Program qualified non-exempt vessels would be deducted from both the existing non-exempt AFA sideboard limits and the new non-exempt AFA sideboard limits created in Option 4.1. This approach would reduce the fishing opportunity for the non-qualified vessels relative to the first approach but would still provide greater fishing opportunities for the non-qualified vessels relative to the third approach.

The third approach is to recalculate the existing non-exempt AFA sideboard limits based on the 1995-1997 fishing history for the non-qualified non-exempt AFA CVs. The recalculated sideboard limit would be based on the same 1995 to 1997 aggregate retained catch history relative to the 1995-1997 TAC for the 34 non-qualified vessels based on 2014-2019 qualifying years from Element 2. Using 2014 through 2019 qualifying years provides largest number of non-qualified non-exempt AFA CVs, which would provide the largest sideboard ratio of the three qualifying year options. Table 2-84 provides the recalculated GOA sideboard limits, which with only one trawl CV of the 34 non-qualified vessels results in five species with sideboard ratios but those amounts are all confidential. Note that Table 2-84 does not include CGOA POP

and Northern rockfish sideboard limits since these species are fully allocated to the CGOA Rockfish Program.

The recalculated sideboard limits are insufficient for directed fishing for all the current sideboarded species. Given that recalculated sideboard limits are insufficient for a directed fishery, the Council could prohibit directed fishing for the sideboard species through regulations rather than closing these fisheries annually during the harvest specification process. Looking at 2017 through 2019, GOA sideboard fishing activity by the 34 non-qualified vessels depicted in Table 2-84, closing the GOA sideboard fisheries would have limited impact on these vessels. In general, the number of non-qualified vessels participating the sideboard fisheries ranges from zero to two, while the average retained catch by these vessels are all confidential.

Table 2-84 Existing GOA groundfish sideboard limits, recalculated GOA groundfish limits for non-exempt AFA CVs that do not qualify for PCTC Program using 2014-2019 qualifying year option from Element 2, and vessel count and retained catch during 2017-2019

Target Species	Apportionments by season/gear	Area/component	Existing sideboard ratio ¹	2020 sideboard limit (mt) using existing ratio	Recalculated sideboard ratio ²	2020 sideboard limit (mt) using recalculated ratio	Vessel count of non-qualified non-exempt AFA CVs 2017-2019	Average retained catch of non-qualified non-exempt AFA CVs 2017-2019
Pollock	A Season Jan 20 - Mar 10	Shumagin (610)	0.6047	313	0	0	0	0
		Chirikof (620)	0.1167	2,189	0	0	1	*
		Kodiak (630)	0.2028	1,173	0	0	0	0
	B Season Mar 10 - May 31	Shumagin (610)	0.6047	313	0	0	0	0
		Chirikof (620)	0.1167	2,189	0	0	2	*
		Kodiak (630)	0.2028	1,173	0	0	2	*
	C Season Aug 25 - Oct 1	Shumagin (610)	0.6047	5,485	0	0	0	0
		Chirikof (620)	0.1167	786	0	0	0	0
		Kodiak (630)	0.2028	1,875	0	0	0	0
	D Season Oct 1 - Nov 1	Shumagin (610)	0.6047	5,485	0	0	0	0
Chirikof (620)		0.1167	786	0	0	2	*	
Kodiak (630)		0.2028	1,875	0	0	2	*	
Annual	WYK (640)	0.3495	1,941	0	0	0	0	
	SEO (650)	0.3495	3,547	0	0	0	0	
Pacific cod	A Season Jan 1 - Jun 10	W	0.1331	166	0	0	0	0
		C	0.0692	158	*	*	2	0
	B Season Sept 1 - Dec 31	W	0.1331	110	0	0	1	*
		C	0.0692	105	0	0	2	*
Shallow-water flatfish	Annual	W	0.0156	207	0	0	0	0
		C	0.0587	1,628	0	0	2	*
Deep-water flatfish	Annual	C	0.0647	126	*	*	0	0
		E	0.0128	73	0	0	0	0
Rex sole	Annual	C	0.0384	329	*	*	3	*
Arrowtooth flounder	Annual	C	0.028	1,923	*	*	3	*
Flathead sole	Annual	C	0.0213	328	*	*	3	*
Pacific ocean perch	Annual	E	0.0466	285	0	0	0	0

Source: NMFS, Non-Exempt AFA GOA sideboard calculations, and BSAI_PCOD_LAPP_GOA_SB_LANDINGS(4-16-20)(1) and BSAI_PCOD_LAPP_GOA_SB_LANDINGS(4-21-20)

* Denotes confidential data

¹Determined using a ratio of 1995 to 1997 AFA CV catch to 1995 to 1997 TAC for all non-exempt AFA trawl CVs

²Determined using a ratio of 1995 to 1997 AFA CV catch to 1995 to 1997 TAC for non-exempt AFA trawl CVs that did not qualify for the BSAI Pacific cod Cooperative Program using 2014-2019 qualifying year option from Element using 2014-2019

Recalculated GOA halibut PSC sideboard limits for the non-qualified non-exempt AFA CVs are also developed. The recalculated GOA halibut PSC sideboard limit would be based on the aggregate retained groundfish catch by non-qualified non-exempt AFA CVs in each PSC target category from 1995 through 1997 divided by the retained catch of all vessels in that fishery from 1995 through 1997. Table 2-85 provides the recalculated halibut PSC sideboard limits for non-qualified non-exempt AFA CVs. As shown in Table 2-85, the recalculated halibut PSC sideboard limits are likely insufficient to allow for a

groundfish sideboard directed fishery for non-qualified non-exempt AFA CVs. The combination of both insufficient halibut PSC sideboard limits and GOA groundfish sideboard limits (Table 2-84) would likely result NMFS closing the sideboard fisheries for the non-qualified non-exempt AFA CVs.

Table 2-85 Existing GOA halibut PSC sideboard limits and recalculated GOA halibut PSC sideboard limits for non-exempt AFA CVs that do not qualify for PCTC Program using 2014-2019 qualifying year option from Element 2

Trawl season	Halibut PSC complex	Existing non-exempt AFA CV halibut PSC sideboard ratio ¹	Existing 2020 Sideboard limit (mt)	Option 1 (2014-2019) sideboard ratio	
				Sideboard ratio	2020 sideboard limit (mt)
First seasonal allowance (Jan 20 - Apr 1)	Shallow-water	0.34	131	0.007	3
	Deep-water	0.07	9	0.000	0
Second seasonal allowance (Apr 1 - Jul 1)	Shallow-water	0.34	29	0.011	1
	Deep-water	0.07	18	0.000	0
Third seasonal allowance (Jul 1 - Sep 1)	Shallow-water	0.34	41	0.000	0
	Deep-water	0.07	24	0.000	0
Fourth seasonal allowance (Sep 1 - Oct 1)	Shallow-water	0.34	18	0.000	0
	Deep-water	0.07	5	0.000	0
Fifth seasonal allowance (Oct 1 - Dec 31)	All targets	0.205	52	0.016	4

Source: TCCP_RETAINED_GF_COMPLEX_NONQUALAFA(5-18-20)

¹Determined using a ratio of 95-97 non-exempt AFA CV catch in each PSC target category divided by the 95-97 retained catch of all vessels in that fishery

2.7.4.3. Option 4.2 – AFA GOA-exempt CVs LLP license restriction

Option 4.2 would prohibit GOA sideboard exempt AFA CVs (from this point forward now referred to as exempt AFA CVs) from transferring their BSAI Pacific cod catch history on their LLP licenses as a condition of continuing to benefit from the AFA GOA sideboard exemption. Suboption 4.2.1 would authorize exempt AFA CVs to transfer their qualifying BSAI Pacific cod history and maintain their GOA sideboard exempt status if the LLP license is less than a specific threshold amount that has yet to be determined.

Given that qualified BSAI Pacific cod catch history cannot be severed from the LLP license (Element 7.1), staff interprets the language in this option and suboption to mean that exempt AFA CVs would be prohibited from transferring their BSAI Pacific cod CQ to maintain the vessel’s GOA sideboard exempt status for that year. In other words, if the exempt AFA CV does transfer their BSAI Pacific cod CQ, the vessel would be restricted by GOA sideboard limits during those years it was transferred. If this is the intent of Element 4, Option 2 and its suboption, the language should be modified to state:

Option 4.2: AFA GOA-Exempt CVs will not be permitted to **lease their BSAI Pacific cod cooperative quota** ~~transfer their BSAI cod history on their respective LLP~~ as a condition of continuing to benefit from its **AFA GOA sideboard** exemption.

Suboption 4.2.1: AFA GOA Exempt CVs with LLP licenses of less than a threshold amount of qualifying BSAI Pacific cod history may ~~transfer~~ **lease** their BSAI Pacific cod cooperative quota ~~history~~ and continue to benefit from **the AFA GOA sideboard** exemption.

Option 4.2 language is unclear on what the ramifications of leasing BSAI Pacific cod CQ other than exempt AFA CVs would not benefit from GOA sideboard exemption. Requiring exempt AFA CVs be restricted by GOA sideboards if they lease their BSAI Pacific cod CQ would likely not work since any

GOA sideboard would have to be based on the GOA groundfish fishing activity by all exempt AFA CVs while the sideboard limit would apply only to those exempt AFA CVs that lease their CQ. As a result, the sideboard limit that applies to the exempt AFA CVs that lease BSAI Pacific cod CQ would likely not be restrictive. Additionally, tracking and monitoring of BSAI Pacific cod CQ leases by exempt AFA CVs could likely only be accomplished by the cooperatives. NMFS does not have the ability to track leasing of BSAI Pacific cod CQ by exempt AFA CVs during the fishing year. As part of an annual cooperative report the Council is considering as part of the PCTC Program (Element 12), the Council could require all cooperatives report leased BSAI Pacific cod CQ by exempt AFA CVs during the fishing year. Of course, a cooperative report is once a year so is limited in its ability as a tracking and monitoring tool. Nevertheless, requiring cooperatives to monitor exempt AFA CVs to ensure they do not lease their BSAI Pacific cod CQ while benefiting from sideboard exemptions along with including any leasing activity by exempt AFA CVs in their annual report is likely the only method available to ensure compliance.

The Council's difficulty in trying to develop limitations for exempt AFA CVs for this action is similar to when the Council tried to restrict exempt AFA CVs from leasing their BS pollock during development of the AFA. The Council provided an exemption for AFA CVs that demonstrated dependence on GOA fisheries and did not have historical dependence in the BSAI pollock fishery. Although not incorporated in regulations, the Council ultimately recommended and approved the exemption with the understanding that no GOA sideboard exempt AFA CVs would lease its BS pollock in a year that it exceeds its GOA average harvest level from 1995 through 1997. To ensure that Council's intent is satisfied, the Catcher Vessel Inter-Cooperative Agreement prohibits leasing their BS pollock CQ and harvest GOA groundfish in excess of their individual GOA catch history during 1995-1997. The Catcher Vessel Intercooperative agreement does, however, allow for small amount of GOA exempt vessel pollock to be harvested by other under typical "sweep up" harvesting conditions (amounts less than one trip). Overall, all exempt AFA CVs continue to meet the BS pollock harvest/leasing conditions annually. Given the success of the Council's original intent of BS pollock harvest/leasing limitation, if the Council were to continue to pursue Option 4.2, the same approach could be utilized for exempt AFA CVs, which could be successful since these GOA sideboard exempt AFA vessels are the same group of vessels that would continue to be exempt from the GOA sideboards.

Table 2-86 provides the number of qualified exempt AFA CVs and the percent of BSAI Pacific cod qualifying history assigned to qualified LLP licenses authorizing GOA sideboard exempt AFA CVs. Looking at allocations with C-season included, under Option 2.2.1 (2014-2019), the number of qualified exempt AFA CVs is 12 with the aggregate percent of qualified catch history ranging from 13.7 percent (no drop year) to 15 percent (drop two years). Option 2.2.2 (2009-2019) would qualify 14 exempt AFA CVs with an aggregate range of qualifying catch history from 13 percent (no drop year) to 13.5 percent (drop two years). Option 2.2.3 (2004-2019) would qualify 16 exempt AFA CVs with an aggregate range of qualifying catch history from 12.2 percent (no drop year) to 12.3 percent (drop two years). Comparing the percent of qualifying catch history with and without C-season shows that without C-season included generally increases the aggregate qualifying catch history for the qualified exempt AFA CVs by 0.2 to 0.3 percent.

Table 2-87 and Table 2-88 provided annual retained catch and average retained catch of GOA pollock, Pacific cod, and other aggregated groundfish fisheries from 2004 through 2019 by the PCTC Program qualified exempt AFA CVs based on 2004-2019 qualifying year option. Data was included only for the 2004 through 2019 qualifying year option since it provides the broadest impact on the GOA groundfish fisheries relatively to other two qualifying year options, and the catch data for the other two qualifying years options would be masked to prevent divulging confidential data. As indicated in Table 2-88, the CGOA pollock fishery was the primary GOA fishery for the qualified exempt AFA CVs followed by CGOA Pacific cod, flatfish, and rockfish fisheries.

Table 2-86 Number of PCTC Program qualified exempt AFA CVs and the average percent of BSAI Pacific cod qualifying history assigned to the LLP licenses authorizing GOA sideboard exempt AFA CVs

Qualifying catch year options	Number of exempt AFA CVs qualified for the TCCP	Percent of qualified catch history (with C-season)		
		No drop	Drop 1	Drop 2
Option 2.2.1 (2014-2019)	12	13.7%	14.3%	15.0%
Option 2.2.2 (2009-2019)	14	13.0%	13.2%	13.5%
Option 2.2.3 (2004-2019)	16	12.2%	12.3%	12.3%
Qualifying catch year options	Number of exempt AFA CVs qualified for the TCCP	Percent of qualified catch history (without C-season)		
		No drop	Drop 1	Drop 2
Option 2.2.1 (2014-2019)	12	14.0%	14.5%	15.2%
Option 2.2.2 (2009-2019)	14	13.3%	13.5%	13.7%
Option 2.2.3 (2004-2019)	16	12.4%	12.5%	12.6%

Source: BSAI_PCOD_LAPP_COOP_SPLIT (3-6-20)

Table 2-87 Number of GOA sideboard PCTC Program qualified exempt AFA CVs (using 2004-2019 qualifying year option) that are active in the GOA groundfish fisheries from 2004 through 2019

Year	Pollock		Pacific cod		Atka mackeral	Flatfish	Rockfish	Sablefish
	CGOA	WGOA	CGOA	WGOA				
2004	13	1	13	1	5	13	13	12
2005	13	1	13	1	5	13	13	13
2006	13	0	13	0	5	13	13	13
2007	13	0	13	0	7	13	12	10
2008	13	0	13	0	3	13	13	12
2009	13	0	13	0	5	13	12	9
2010	12	0	12	0	5	12	12	9
2011	12	0	13	0	2	13	12	8
2012	13	0	13	0	2	13	13	9
2013	13	0	13	0	0	13	13	4
2014	13	0	13	0	2	13	13	7
2015	13	0	13	0	11	13	13	11
2016	13	0	13	0	9	13	13	12
2017	13	1	13	1	4	13	13	12
2018	15	1	14	1	3	15	15	14
2019	13	2	13	2	7	13	13	11

Source: tccp_exempt_goa_landings(4-29-20)

Table 2-88 Retained catch (mt) and average retained catch (mt) for GOA sideboard PCTC Program qualified exempt AFA CVs (using 2004-2019 qualifying year option) in the GOA groundfish fisheries from 2004 through 2019

Year	Pollock		Pacific cod		Atka mackeral	Flatfish	Rockfish	Sablefish
	CGOA	WGOA	CGOA	WGOA				
2004	11,521	*	4,505	*	1	1,327	2,510	145
2005	13,181	*	2,926	*	1	2,290	2,081	127
2006	15,699	0	1,703	0	10	4,517	2,104	114
2007	13,963	0	1,198	0	4	3,304	35	7
2008	14,877	0	2,952	0	0	6,513	122	7
2009	8,449	0	2,168	0	2	4,810	47	9
2010	16,473	0	4,479	0	0	3,757	51	15
2011	19,358	0	3,592	0	*	5,539	124	31
2012	22,976	0	2,483	0	*	2,917	87	5
2013	24,574	0	1,627	0	0	3,461	140	4
2014	40,618	0	1,207	0	*	3,358	116	16
2015	46,701	0	1,424	0	2	1,809	70	17
2016	47,758	0	885	0	156	2,955	218	48
2017	52,420	*	747	*	41	2,002	291	26
2018	41,737	*	209	*	13	981	474	7
2019	27,902	*	73	*	6	617	252	4
Average 2004-2008	13,848	*	2,657	*	3	3,590	1,370	80
Average 2009-2013	18,366	0	2,870	0	0	4,097	90	13
Average 2014-2019	42,856	*	757	*	36	1,954	237	19

Source: tccp_exempt_goa_landings(4-29-20)

* Denotes confidential information

The Council included Suboption 4.2.1 that would authorize exempt AFA CVs to transfer their qualifying BSAI Pacific cod history and maintain their GOA sideboard exempt status if the LLP license is less than

a specific threshold amount. Since prohibiting exempt AFA CVs from leasing their BSAI Pacific cod CQ to continue benefiting from GOA sideboard exemption would likely not work as a regulation, Suboption 4.2.1 would also likely be better suited as an element of an inter-cooperative agreement. To provide some context on the appropriate threshold an inter-cooperative agreement could utilize to authorize leasing of BSAI Pacific cod qualifying history while still maintaining the vessels GOA sideboard exemption status, staff has included Table 2-89, Table 2-90, and Table 2-91. These tables provide average percent of BSAI Pacific cod qualifying catch history for LLP licenses authorizing GOA sideboard exempt AFA CVs grouped by the percent of qualified catch history for each of the qualifying year options (2.2.1, 2.2.2, and 2.2.3).

Table 2-89 Average percent of qualified BSAI Pacific cod catch history for PCTC Program qualified LLP licenses authorizing GOA sideboard exempt AFA CVs grouped by percent of qualified catch history under Option 2.2.1 (2014-2019) with and without C-season included

Percent of qualified catch history	Number of qualified exempt AFA CVs	Option 2.2.1 (with C-season)			Option 2.2.1 (without C-season)		
		2014-2019 (no drop)	2014-2019 (drop 1)	2014-2019 (drop 2)	2014-2019 (no drop)	2014-2019 (drop 1)	2014-2019 (drop 2)
≥1%	5	2.29%	2.39%	2.49%	2.33%	2.43%	2.53%
<1% but ≥ 0.20%	4	0.48%	0.50%	0.53%	0.49%	0.51%	0.55%
<0.20%	3	0.11%	0.11%	0.13%	0.11%	0.12%	0.13%

Source:BSAI_PCOD_LAPP_COOP_SPLIT(3-6-20)

Table 2-90 Average percent of qualified BSAI Pacific cod catch history for PCTC Program qualified LLP licenses authorizing GOA sideboard exempt AFA CVs grouped by percent of qualified catch history under Option 2.2.2 (2009-2019) with and without C-season included

Percent of qualified catch history	Number of qualified exempt AFA CVs	Option 2.2.2 (with C-season)			Option 2.2.2 (without C-season)		
		2009-2019 (no drop)	2009-2019 (drop 1)	2009-2019 (drop 2)	2009-2019 (no drop)	2009-2019 (drop 1)	2009-2019 (drop 2)
≥1%	4	2.41%	2.32%	2.24%	2.46%	2.36%	2.29%
<1% but ≥ 0.10%	6	0.46%	0.44%	0.43%	0.47%	0.45%	0.44%
<0.10%	4	0.06%	0.06%	0.06%	0.06%	0.05%	0.05%

Source:BSAI_PCOD_LAPP_COOP_SPLIT(3-6-20)

Table 2-91 Average percent of qualified BSAI Pacific cod catch history for PCTC Program qualified LLP licenses authorizing GOA sideboard exempt AFA CVs grouped by percent of qualified catch history under Option 2.2.3 (2004-2019) with and without C-season included

Percent of qualified catch history	Number of qualified exempt AFA CVs	Option 2.2.3 (with C-season)			Option 2.2.3 (without C-season)		
		2004-2019 (no drop)	2004-2019 (drop 1)	2004-2019 (drop 2)	2004-2019 (no drop)	2004-2019 (drop 1)	2004-2019 (drop 2)
≥1%	3	2.48%	2.31%	2.16%	2.53%	2.36%	2.20%
<1% but ≥ 0.10%	8	0.45%	0.42%	0.39%	0.46%	0.43%	0.40%
<0.10%	5	0.06%	0.06%	0.05%	0.06%	0.05%	0.05%

Source:BSAI_PCOD_LAPP_COOP_SPLIT(3-6-20)

2.7.4.4. Option 4.3 – Non-AFA LLP license GOA sideboard limits

Option 4.3 would limit non-AFA LLP licenses that are qualified for the BSAI Pacific cod Cooperative Program with GOA groundfish and halibut PSC sideboards. Non-AFA LLP licenses qualified for the CGOA Rockfish Program would not be restricted by sideboard limits for the CGOA Rockfish Program primary and secondary species. The option includes an exception for non-AFA CVs with less than a threshold amount of qualifying BSAI Pacific cod history that would exempt these CVs from GOA groundfish and halibut PSC sideboard limits.

Given that LLP licenses are not endorsed as AFA or non-AFA (see Element 1, Option 1.1 discussion), restricting LLP licenses based on a non-AFA endorsement is not possible, unless the Council establishes a linkage between the LLP license and non-AFA trawl CV named on that LLP license. Recognizing this limitation, the option could be revised to sideboard LLP licenses that authorize BSAI Pacific cod qualifying catch history by non-AFA trawl CVs.

In addition, the option is unclear if sideboard limits apply to non-AFA trawl CVs in addition to the qualified LLP licenses. **Since the Council has generally always included sideboard limits for both vessels and LLP licenses when developing a catch share program, staff will assume that non-AFA trawl CVs authorized by qualified LLP licenses will also be restricted by GOA sideboard limits.**

Option 4.3 is silent on the years used to calculate the GOA sideboard limits, so staff utilized the three qualifying year options in Element 2 (Option 2.2.1, 2.2.2, and 2.2.3).

Table 2-92 and Table 2-93 provide estimates of the GOA groundfish sideboards based on the retained catch of non-AFA CVs divided by the total retained catch of vessels and retained catch of non-AFA CVs divided by TAC using the qualifying year options from Element 2. As seen in the two different sideboard approaches, the use of retained catch of non-AFA CVs relative to TAC in the denominator results in a larger sideboard limit in those cases where the fishery is not fully utilized. Prime examples include shallow-water flatfish, rex sole, arrowtooth flounder, flathead sole, and POP. As result, species/area fisheries sufficient for a sideboard fishery using TAC in the denominator would likely be limited to pollock, CGOA Pacific cod, shallow-water flatfish, rex sole, arrowtooth flounder, and flathead sole. All other species/area fisheries would be closed to directed fishing annually due to insufficient sideboard limits.

For those GOA species/area combination with sideboard ratios of zero, these species/area combinations were not included in Table 2-92 and Table 2-93 since there would be insufficient sideboard limits for these fisheries. Table 2-94 lists those species/areas with sideboard ratios equal to zero. In addition, many of the rockfish sideboard limits as well as WGOA sablefish, WGOA deep-water flatfish, WGOA big skates, WGOA longnose skate, and octopus shown in Table 2-92 and Table 2-93 could be continually insufficient for a directed fishing. As a result, these sideboard fisheries could be closed annually to directed fishing. Since these species/area sideboard limits would likely be continually closed to directed fishing prior to the fishing season, the Council could prohibit directed fishing for these fisheries through regulations rather than requiring NMFS to close these fisheries annually during the harvest specification process.

Table 2-92 GOA sideboard estimates based on retained catch of non-AFA CVs divided by total retained catch of all vessels

Species	Area	2014-2019		2009-2019		2004-2019	
		Retained catch of qualified non-AFA CVs/total retained of all vessels		Retained catch of qualified non-AFA CVs/total retained of all vessels		Retained catch of qualified non-AFA CVs/total retained of all vessels	
		Ratio	2020 sideboard limit (mt)	Ratio	2020 sideboard limit (mt)	Ratio	2020 sideboard limit (mt)
Pollock	Shumagin (610)	0.246	4,718	0.217	4,162	0.217	4,162
	Chirikof (620)	0.140	7,650	0.144	7,816	0.144	7,816
	Kodiak (630)	0.127	3,373	0.132	3,509	0.132	3,509
	WYK	0.282	1,567	0.272	1,509	0.272	1,509
Pacific Cod	W	0.029	60	0.028	58	0.042	86
	C	0.055	209	0.057	215	0.045	171
Sablefish	W	0.007	13	0.003	7	0.002	5
	C	0.010	68	0.008	49	0.005	32
Shallow-water flatfish	W	0.060	797	0.063	831	0.074	981
	C	0.132	3,652	0.154	4,273	0.150	4,173
Deep-water flatfish	W	0.028	6	0.044	10	0.051	11
	C	0.086	167	0.181	353	0.173	338
Rex sole	W	0.056	164	0.071	206	0.106	307
	C	0.106	906	0.112	964	0.112	961
Arrowtooth flounder	W	0.091	1,322	0.108	1,568	0.117	1,696
	C	0.109	7,463	0.127	8,752	0.126	8,687
	WYK	0.013	87	0.267	1,841	0.212	1,462
Flathead sole	W	0.082	708	0.106	914	0.109	939
	C	0.078	1,208	0.093	1,427	0.091	1,401
POP	W	0.400	575	0.356	512	0.567	815
	WYK	0.250	368	0.456	670	0.456	670
Northern rockfish	W	0.074	84	0.069	78	0.098	111
Shortraker rockfish	C	0.039	11	0.030	9	0.025	7
	E	*	*	0.010	4	0.008	3
Dusky rockfish	W	0.115	89	0.100	78	0.100	78
	C	0.057	157	0.059	163	0.059	163
Rougheye rockfish	W	0.019	3	0.033	5	0.027	5
	C	0.058	27	0.055	25	0.049	22
	E	0.013	7	0.026	15	0.020	11
Thornyhead rockfish	C	0.009	8	0.015	14	0.013	12
	E	0.000	0	0.003	3	0.003	2
Other rockfish	CG & WG	0.006	5	0.007	7	0.006	6
	WYK	0.000	0	0.002	1	0.002	1
Atka Mackerel	GOA	0.065	196	0.078	235	0.079	236
Big skates	W	0.015	11	0.013	10	0.020	15
	C	0.047	74	0.059	92	0.054	85
Longnose skate	W	0.011	2	0.005	1	0.007	1
	C	0.042	79	0.065	122	0.057	106
Other skates	GOA	0.013	11	0.019	16	0.015	13
Sculpin	GOA	0.032	165	0.052	272	0.055	286
Shark	GOA	0.018	150	0.022	178	0.022	181
Octopus	GOA	0.005	4	0.004	4	0.009	9

Source: BSAI_PCOD_LAPP_GOA_NONAFA_LANDINGS(5-5-20)

* Denotes confidential data

Table 2-93 GOA sideboard estimates based on retained catch of non-AFA CVs divided by the TAC

Species	Area	2014-2019		2009-2019		2004-2019	
		Retained catch of qualified non-AFA CVs/total retained of all vessels		Retained catch of qualified non-AFA CVs/total retained of all vessels		Retained catch of qualified non-AFA CVs/total retained of all vessels	
		Ratio	2020 sideboard limit (mt)	Ratio	2020 sideboard limit (mt)	Ratio	2020 sideboard limit (mt)
Pollock	Shumagin (610)	0.224	4,299	0.185	3,550	0.170	3,255
	Chirikof (620)	0.111	6,053	0.120	6,555	0.104	5,639
	Kodiak (630)	0.126	3,347	0.130	3,445	0.107	2,853
	WYK	0.086	477	0.118	653	0.102	568
Pacific Cod	W	0.029	59	0.029	59	0.041	85
	C	0.051	192	0.059	223	0.043	162
Sablefish	W	0.005	9	0.002	5	0.001	3
	C	0.009	59	0.006	41	0.004	25
Shallow-water flatfish	W	0.001	9	0.001	9	0.001	16
	C	0.013	372	0.028	788	0.022	596
Deep-water flatfish	W	0.001	0	0.001	0	0.001	0
	C	0.002	3	0.006	11	0.004	7
Rex sole	W	0.001	2	0.001	2	0.001	2
	C	0.016	135	0.018	158	0.013	109
Arrowtooth flounder	W	0.003	46	0.005	68	0.005	79
	C	0.019	1,335	0.027	1,855	0.023	1,569
	WYK	0.000	0	0.002	11	0.001	9
Flathead sole	W	0.001	11	0.002	20	0.003	26
	C	0.007	115	0.011	176	0.012	178
POP	W	0.006	8	0.004	5	0.007	11
	WYK	0.007	10	0.041	61	0.034	50
Northern rockfish	W	0.000	0	0.000	0	0.001	1
Shortraker rockfish	C	0.014	4	0.009	3	0.007	2
	E	*	*	0.003	1	0.002	1
Dusky rockfish	W	0.002	1	0.002	1	0.002	1
	C	0.002	5	0.002	4	0.002	4
Rougheye rockfish	W	0.002	0	0.002	0	0.002	0
	C	0.010	4	0.007	3	0.006	3
	E	0.003	2	0.008	4	0.006	4
Thornyhead rockfish	C	0.003	3	0.005	4	0.003	3
	E	0.000	0	0.001	1	0.001	0
Other rockfish	CG & WG	0.000	0	0.002	2	0.001	1
	WYK	0.000	0	0.000	0	0.000	0
Atka Mackerel	GOA	0.006	18	0.005	16	0.006	17
Big skates	W	0.003	2	0.002	1	0.002	2
	C	0.034	53	0.048	75	0.033	52
Longnose skate	W	0.003	0	0.002	0	0.002	0
	C	0.013	24	0.023	43	0.017	32
Other skates	GOA	0.006	5	0.009	8	0.007	6
Sculpin	GOA	0.005	24	0.008	42	0.008	44
Shark	GOA	0.006	48	0.006	47	0.006	48
Octopus	GOA	0.001	1	0.001	1	0.003	2

Source: BSAI_PCOD_LAPP_GOA_NONAFA_LANDINGS(5-5-20)

* Denotes confidential data

Table 2-94 Non-AFA CV GOA species that have sideboard ratios equal to zero

Species	Area
Pollock	SEO
Pacific cod	E
Sablefish	WYK SEO
Shallow-water flats	WYK SEO
Deep-water flats	WYK SEO
Rex sole	WYK SEO
Arrowtooth flounder	SEO
Flathead sole	WYK SEO
POP	SEO
Northern rockfish	E
Shortraker rockfish	W
Dusky rockfish	WYK SEO
DSR	SEO
Thornyhead rockfish	W
Other rockfish	SEO
Big skates	E
Longnose skates	E
Squid	GOA

Note that the Amendment 109 to the FMP for Groundfish of the GOA modifies the final sideboard limits for the Pacific cod and pollock fisheries. Specifically, the action modifies CGOA and WGOA Pacific cod seasonal apportionments to increase the trawl CV sector's A-season TAC while proportionally decreasing the sector's B season TAC. The amendment also implements a regulatory change to combine the CGOA and WGOA trawl CV pollock fishery A and B seasons into a single season (redesignated as the A-season) and the C and D seasons into a single season (redesignated as the B-season) and change the annual start date of the redesignated pollock B-season from August 25 to September 1. The purpose of Amendment 109 and the regulatory change is to reduce operational and management inefficiencies in the CGOA and GOA trawl CV Pacific cod and pollock fisheries.

Option 4.3 would also develop GOA halibut PSC sideboard limits for the PCTC Program qualified non-AFA trawl CVs. Two approaches are considered to estimate sideboard amounts. The first approach is based on aggregate retained groundfish catch by the PCTC Program qualified non-AFA trawl CVs in each PSC fishery category during the three qualifying year options from Element 2 relative to the aggregated retained catch by all vessels in each of the PSC fishery category during the same qualifying years. This is the same approach used for non-exempt AFA trawl CVs halibut PSC sideboard limits in that it does not base the halibut PSC sideboard limit on actual halibut PSC usage, which would favor vessels with high halibut bycatch rates. The results of the calculations are shown in Table 2-95.

The second approach bases the halibut PSC sideboard limits on historical halibut usage of PCTC Program qualified non-AFA trawl CV group relatively to the total halibut PSC used by all vessels. Table 2-96

shows the percentage of the halibut sideboard limit and the metric tons of halibut PSC mortality, respectively. The maximum amount of halibut mortality that could be available to the eligible non-AFA trawl CV group in this option reflects the amount of halibut PSC used by these operations to harvest non-Rockfish Program GOA groundfish. It is not possible to determine if the amount of halibut mortality is too large, or too small for future needs. However, cooperative formation is expected to help the eligible non-AFA trawl CV group improve PSC bycatch usage in the rationalized BSAI Pacific cod fishery.

Table 2-95 GOA halibut PSC sideboard limits for PCTC Program qualified non-AFA based on retained catch of qualified vessels divided by retained catch of all vessels CVs during the three qualifying year options from Element 2

Trawl season	Halibut PSC complex	Option 1 (2014-2019) sideboard ratio		Option 2 (2009-2019) sideboard ratio		Option 3 (2004-2019) sideboard ratio	
		Sideboard ratio	2020 sideboard limit (mt)	Sideboard ratio	2020 sideboard limit (mt)	Sideboard ratio	2020 sideboard limit (mt)
First seasonal allowance (Jan 20 - Apr 1)	Shallow-water	0.137	53	0.139	53	0.141	54
	Deep-water	0.097	13	0.135	18	0.130	18
Second seasonal allowance (Apr 1 - Jul 1)	Shallow-water	0.146	12	0.154	13	0.150	13
	Deep-water	0.110	28	0.115	29	0.124	32
Third seasonal allowance (Jul 1 - Sep 1)	Shallow-water	0.190	23	0.180	22	0.175	21
	Deep-water	0.017	6	0.225	77	0.168	57
Fourth seasonal allowance (Sep 1 - Oct 1)	Shallow-water	0.172	9	0.173	9	0.177	9
	Deep-water	0.135	10	0.164	12	0.157	12
Fifth seasonal allowance (Oct 1 - Dec 31)	All targets	0.181	46	0.175	45	0.178	46

Source: TCCP_RETAINED_GF_COMPLEX(5-15-20)

Table 2-96 GOA halibut PSC sideboard limits for PCTC Program qualified non-AFA CVs based on their GOA halibut PSC usage relatively to the total halibut PSC utilized by all vessels during the three qualifying year options from Element 2

Trawl season	Halibut PSC complex	Option 1 (2014-2019) sideboard ratio		Option 2 (2009-2019) sideboard ratio		Option 3 (2004-2019) sideboard ratio	
		Sideboard ratio	2020 sideboard limit (mt)	Sideboard ratio	2020 sideboard limit (mt)	Sideboard ratio	2020 sideboard limit (mt)
First seasonal allowance (Jan 20 - Apr 1)	Shallow-water	0.11	44	0.11	43	0.09	36
	Deep-water	0.07	9	0.08	11	0.08	11
Second seasonal allowance (Apr 1 - Jul 1)	Shallow-water	0.07	6	0.07	6	0.07	6
	Deep-water	0.11	27	0.12	31	0.11	29
Third seasonal allowance (Jul 1 - Sep 1)	Shallow-water	0.00	0	0.03	3	0.05	5
	Deep-water	0.12	41	0.17	59	0.15	52
Fourth seasonal allowance (Sep 1 - Oct 1)	Shallow-water	0.06	3	0.09	5	0.07	4
	Deep-water	0.17	12	0.14	11	0.13	10
Fifth seasonal allowance (Oct 1 - Dec 31)	All targets	0.062	16	0.081	21	0.084	21

Source: PC_HLBT-PSC(5-14-20)

Option 4.3 includes an exemption from GOA sideboards for those non-AFA trawl CVs with less than a threshold amount of qualifying BSAI Pacific cod history. It is assumed that a non-AFA trawl CV that is exempt from GOA groundfish sideboards would also be exempt from GOA halibut PSC sideboards. If the GOA sideboard exemption is selected, the historical catch of the exempted vessels will not contribute to the sideboard allocation calculations and the future catch of this vessel will not count against the

sideboard limits. In general, sideboard exemptions apply to LLP licenses and vessels that have a preponderance of economic dependence on those fisheries which could be restricted by sideboard limits relative to the QS the LLP licenses and vessels would receive under a LAPP. For example, under Amendments 61/61/13/8, the Council recommended that certain AFA CVs that have relatively low pollock fishing history and show a significant economic dependence on GOA groundfish fisheries be exempt from GOA sideboard limits. For AFA CVs to receive an exemption from GOA groundfish sideboard limits, they had to have averaged less than 1,700 mt of BS pollock landings from 1995 through 1997, be less than 125 feet in length, and make 40 or more landings of GOA groundfish from 1995 through 1997.

To assist in setting a threshold to exempt non-AFA CVs from GOA sideboard limits, Table 2-97 provides the number of PCTC Program qualified LLP licenses on non-AFA CVs with GOA groundfish retained catch by their BSAI Pacific cod catch level. Given the limited number of qualified LLP licenses, data was aggregated at the BSAI Pacific cod catch level to prevent disclosing confidential information. In all, there were eight PCTC Program qualified LLP licenses on non-AFA CVs that also have GOA groundfish catch. The analysis limits its focus to those PCTC Program qualified LLP licenses with GOA groundfish retained but had less than 200 mt of BSAI Pacific cod catch history, which is approximately 0.5 percent of the catch history. The number of PCTC Program qualified LLP licenses with less than 200 mt of BSAI Pacific cod catch history and had GOA groundfish catch is three LLP licenses using 2014 through 2019, four LLP licenses using 2009 through 2019, and five LLP licenses using 2004 through 2019, respectively. The minimum amount of aggregated GOA retained groundfish catch by these LLP licenses was 9,888 mt under each of the three qualifying year options, while the maximum GOA retained groundfish catch was 28,214 mt under the 2014-2019 qualifying year option and 31,449 mt under the other two qualifying year options. The average GOA retained groundfish catch ranged from 16,152 mt for each of the three qualified LLP licenses for the 2014-2019 qualifying year option to 19,412 mt for the five qualified LLP licenses for the 2004-2019 qualifying year option.

Table 2-97 Number of PCTC Program qualified LLP licenses on non-AFA CVs and their GOA groundfish retained catch activity by BSAI Pacific cod catch history

BSAI Pacific cod catch history (mt)	Number of qualified LLP licenses on non-AFA CVs with GOA retained groundfish catch	Minimum GOA retained groundfish catch (mt)	Maximum GOA retained groundfish catch (mt)	Average GOA retained groundfish catch (mt)
2014-2019 no drop (with C-season)				
0-200	3	9,888	28,214	16,152
200-1000	5	3,396	31,779	24,349
Total	8	3,396	31,779	21,275
2009-2019 no drop (with C-season)				
0-200	4	9,888	31,449	16,319
200-1000	4	3,396	31,779	21,207
Total	8	3,396	31,779	21,275
2004-2019 no drop (with C-season)				
0-200	5	9,888	31,449	19,412
200-700	3	3,396	31,779	16,812
Total	8	3,396	31,779	21,275

Source: TCCP_GOA_GF_QUAL(5-19-20)(1)

2.7.4.5. Element 4 Suboption

As part of Element 4, the Council included a suboption that would exempt eligible LLP license from GOA sideboards if the holder of the license opts out of the PCTC Program at implementation. This would be a one-time option that must be selected during the initial application period for QS. Those that opt out of the PCTC Program would be exempt from GOA groundfish and halibut PSC sideboards created by this program. The suboption is not specific to AFA or non-AFA trawl CVs. The suboption would likely have limited value for GOA sideboard exempt AFA trawl CVs since they are already exempt from GOA sideboards. As for non-exempt AFA, three LLP licenses have less than 200 mt of BSAI Pacific cod catch history have also been active in the GOA groundfish fisheries. However, opting out of the PCTC Program for these LLP licenses also has limited value since the vessels are already restricted by AFA GOA groundfish and halibut PSC sideboards. If, however, the Council elects to replace existing AFA GOA sideboard limits for PCTC Program qualified non-exempt AFA vessels with new more restrictive GOA sideboard limits (see the discussion concerning Option 4.1), some holders of LLP licenses with limited BSAI Pacific cod QS and high dependence on GOA groundfish could opt out of the program.

As for eligible LLP licenses currently on non-AFA trawl CVs, those with limited BSAI Pacific cod QS while having a large dependence on GOA groundfish fisheries could benefit from the suboption. In general, LLP licenses that have a small amount of BSAI Pacific cod QS, and therefore a very limit dependence on BSAI Pacific cod relative to their economic dependence on the GOA groundfish activity may see some advantage of opting out of the PCTC Program. See Table 2-97 which shows the number of PCTC Program qualified LLP licenses on non-AFA trawl CVs with GOA groundfish retained catch but with less than 200 mt of BSAI Pacific cod catch history. However, it is likely that if the Council exempts LLP licenses assigned to non-AFA trawl CVs with less than a threshold amount of BSAI Pacific cod catch history from GOA sideboards, the holders of these LLP licenses would not opt out of the PCTC Program since they are already exempt from GOA sideboards.

2.7.5. Element 5 – Processor and Community Provisions

5.1. No closed class of processors; all processors with an eligible FPP are eligible to process BSAI Pacific cod (subject to eligibility requirements under the April 2019 Council action to limit catcher processors acting as motherships).

5.2. Limit (sideboard) on directed BSAI Pacific cod that can be delivered by trawl CVs to eligible C/Ps acting as motherships. The sideboard would be based on BSAI Pacific cod processing history by eligible C/Ps during qualifying years under Element 2.

5.3. Allocation of harvest shares to processors (option: only applicable to Bering Sea processors and eligible C/Ps if different AI shoreside protections are selected under element 6):

Onshore and offshore processors (Option: subject to eligibility requirements under the April 2019 Council action to limit catcher processors acting as motherships) that have history of processing in the federal BSAI Pacific cod trawl CV fishery will be eligible to receive a percentage of total harvesting shares based on each onshore processor's and offshore processor's processing history. To be used, the processor's harvest shares would be transferred to the CV cooperative. *Additional restrictions on use of this quota must be developed through further analysis.*

Percent of harvest shares and PSC to be allocated to eligible processors:

- Option 5.3.1:** 5%
- Option 5.3.2:** 10%
- Option 5.3.3:** 15%
- Option 5.3.4:** 25%
- Option 5.3.5:** 30%

Suboption: Harvest shares only

Processing history years to receive harvest shares are the same as harvester years in Element 2.

This element includes different processing provisions being considered under the PCTC Program. Element 5.1 specifies that the Council's intent is to not limit participation of processors, with the exception of C/Ps as described in Section 5.2 That section defines specific limitations on mothership activity⁶⁶ by C/Ps. The Council included Element 5.3 that would allocate harvester shares to processors and identifies a framework for that allocation. Element 5.3 has an option that would exclude C/Ps with processing history that did not qualify under BSAI FMP Amendment 120 and it has an option to only apply to BS processors if AI shorebased processor provisions are selected under Element 6.

2.7.5.1. Element 5.1 – No closed class of processors

Element 5.1 states that there will not be a closed class of processors. Any shorebased processor with a valid FPP, and all other required permits, would be allowed to process BSAI Pacific cod harvested under the proposed PCTC Program structure up to the processor use cap (see Element 8.4) or from CVs that may participate in a limited access fishery. Processors would also be allowed to take deliveries from other harvest sectors that have a Pacific cod apportionment. In addition, any processing vessel that **is not** a C/P that holds a valid FFP and has all other required permits would be allowed to process Pacific cod harvested under the proposed cooperative structure up to the processor use cap (see Element 8.4) or from CVs that may participate in a limited access fishery. C/Ps that qualify to act as a mothership for Pacific cod in the BSAI, under BSAI Amendment 120, will be allowed to process BSAI Pacific cod from the directed trawl CV sector fisheries, but the total amount may be more limited by processing sideboards (Element 5.2) on Pacific cod than they are by processor use caps noted in Element 8.4. Finally, C/Ps that do not qualify to act as a mothership for Pacific cod in the BSAI, under BSAI FMP Amendment 120, may not be allowed to take directed Pacific cod cooperative or limited access deliveries from the BSAI fishery. Element 5.3 includes an option for the Council to determine if only the two C/Ps that qualify, under BSAI FMP Amendment 120, are allowed to be allocated QS based on their processing history or all C/Ps that took qualifying deliveries may be allocated QS. If all C/Ps are allocated harvest shares based on their processing history, that allocation could not be harvested by C/Ps. The allocation is from the trawl CV sector apportionment and must be harvested by vessels acting as a CV. The C/P firms that do not qualify to process BSAI Pacific cod under the April 2019 Pacific cod mothership action could not process any harvest shares they are allocated (as a result of owning qualified CVs or through processor allocations), unless BSAI FMP Amendment 120 regulations are modified, because they were prohibited from doing so under that action. The only use for that allocated Pacific cod would be to assign it to a trawl CV the firm owns (if they own a trawl CV) and deliver it to an eligible processor, or lease the CQ to an unaffiliated trawl CV for delivery to an eligible processor.

Data presented in this section shows the amount of Pacific cod processed, number of processors, and sector for the years 2004 through 2019. Only BSAI Pacific cod harvested in the trawl CV Pacific cod target fishery are included in the summaries. Processors that only took deliveries of BSAI Pacific cod taken incidentally in other target fisheries are excluded. Those data are not included because those processors will still be allowed to take incidental Pacific cod deliveries under the proposed PCTC Program. Those catches will be deducted from the ICA(s), depending on how the Council structures the program, that is (are) deducted from the ITAC(s) before the cooperative allocations are made.

Table 2-98 provides a count of the years processing firms were active (took targeted Pacific cod deliveries harvested from the BSAI). These counts represent all the processing firms that were reported in the CAS

⁶⁶ The limitation is referred to as a "sideboard" limit on the amount of BSAI Pacific cod that C/Ps acting as a mothership are allowed to process. Processing sideboards have been implemented by the Council in the past (e.g., § 679.64: AFA inshore processor and AFA mothership crab processing sideboard limits).

data. In addition to these counts, there were small amounts of deliveries in 2015 and 2017 that did not list a processor in the data but did list a harvest vessel. The total amount of those deliveries was 156 mt. Those counts and data are excluded from the summaries in this section, since they are relatively small amounts and cannot be attributed to a processing firm.

Table 2-98 Active processor counts during the three qualifying periods

Firm	2004-2019	2009-2019	2014-2019
1	1	1	1
2	1	1	0
3	1	1	1
4	1	0	0
5	1	1	1
6	2	2	2
7	2	0	0
8	2	0	0
9	3	3	1
10	3	3	3
11	4	4	4
12	4	4	4
13	6	1	0
14	8	7	4
15	14	9	5
16	14	11	6
17	15	10	6
18	15	10	6
19	16	11	6
20	16	11	6
21	16	11	6
22	16	11	6
Active Processor Counts	22	19	17

Source: AKFIN Summary of CAS data. BSAI_PCOD_LAPP_Processors(4-9-20): Procs Years Active

Data in this section are reported at the firm level and not the plant level. Firms that had more than one plant active in a year are only reported as the firm being active that year and not a count of each plant⁶⁷. Data are reported at the firm level because it is assumed that processors will operate their plants in a rational manner and will have the ability to move both quota and harvest vessels that deliver to them between plants as needed. It is also assumed that any processing sideboards that are implemented will be implemented and tracked at the firm level, like under the Central GOA Rockfish Program.

In total, there were 22 different firms that reported taking targeted BSAI Pacific cod deliveries from trawl CVs that were fishing in the BSAI Federal or parallel fisheries during the 2004 through 2019 period. Deliveries from State of Alaska GHF fisheries were excluded because future deliveries from those fisheries are not directly regulated by the proposed action.

Three of the firms only took deliveries from 2004 through 2008 and five firms only took deliveries from 2004 through 2013. These firms may not qualify for an allocation of processor harvest quota (PHQ) since they were not active during some of the qualifying periods. Some of the processors that were active may also not qualify if they are no longer a “person” as defined in regulations. This issue is discussed in greater detail later in this section of the paper.

The 22 firms that were active during the period operated 35 different processing facilities, 14 shorebased plants and 21 processing vessels (see Table 2-99). The processing vessels included inshore floating

⁶⁷ Plant refers to the each shorebased processing plant, floating processor, C/P, and true mothership that processed Pacific cod harvested from the BSAI and has an intent to operate number. A firm may own or control more than one physical processing plant.

processors, true motherships (vessels that only act as an at-sea mothership during the entire year), and C/Ps acting as motherships. Vessels were aggregated into a single group so that catch information could be reported. Without the aggregations, the information most years before 2016 would be considered confidential. Shoreside plants locations (city as reported in the Intent to Operate files) were located in Adak, Akutan, Anchorage, Unalaska/Dutch Harbor, King Cove, and Sand Point. Vessel’s Intent to Operate city was primarily reported as Seattle. However, Unalaska/Dutch Harbor, King Cove, Kirkland, Renton, and Tacoma were also listed sporadically in the data.

Table 2-99 Targeted BSAI trawl CV Pacific cod landings from federal and parallel fisheries by plant, plant type and year

Processing Plants	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Shoreside Plants																	
Pacific cod (mt)	20,765	18,025	13,436	16,151	13,980	12,039	11,615	15,173	24,051	23,313	22,817	19,581	19,110	14,712	19,750	13,837	278,354
Processing Plants	7	7	7	8	8	6	5	7	6	8	6	6	6	5	7	7	14
Floaters, Motherships, & C/Ps																	
Pacific cod (mt)	16,442	12,895	16,140	12,515	13,548	13,688	13,270	19,427	15,868	15,666	15,925	12,000	21,736	22,577	13,959	12,492	248,149
Processing Plants	7	5	4	4	6	4	5	6	5	5	4	4	11	11	12	11	21
Total Pacific cod (mt)	37,207	30,920	29,576	28,666	27,528	25,727	24,885	34,599	39,919	38,979	38,743	31,581	40,846	37,289	33,709	26,329	526,503
Total Processing Plants	14	12	11	12	14	10	10	13	11	13	10	10	17	16	19	18	35

Source: AKFIN Summary of CAS data. BSAI_PCOD_LAPP_Processors(4-9-20): Vessels and Shoreside

All of the firms and the plants that took trawl deliveries of BSAI Pacific cod in the previous tables, as well as any other processor⁶⁸ that obtain the required permits and certifications and have not processed BSAI Pacific cod from the target fishery in past years, could take deliveries of BSAI Pacific cod from trawl CVs in the future. The information presented above is provided to show historical participation and is not intended to predict the number of processors that may be active in the future.

2.7.5.2. Element 5.2 – Limits on deliveries of BSAI Pacific cod to eligible C/Ps acting as motherships

Element 5.2 would establish a sideboard limitation on the amount of BSAI Pacific cod that may be delivered to eligible C/Ps. While the structure of the provision would limit the amount of BSAI Pacific cod that CVs may deliver to these C/Ps, the total amount of deliveries by those CVs could be greater, if they also deliver to other shorebased or floating processors not subject the C/P limitation. A limit on the amount of Pacific cod that may be delivered to an eligible C/P, established in regulation, would be managed as a maximum amount the qualified C/Ps may accept and not an allocation to that sector⁶⁹. The C/Ps would need to arrange deliveries with CVs which, under a LAPP, could ensure that they receive the maximum they are allowed on an annual basis.

Any sideboard limit that is established would be calculated using the same qualifying years that are established under Element 2. The sideboard amount would be calculated for either all C/Ps or only those C/Ps qualified to take deliveries under BSAI FMP Amendment 120. If the sideboard limit only applies to qualified C/Ps, the sideboard would be calculated and applied to those firms. Based on the analysis that was approved to limit the number of C/Ps that may take deliveries of Pacific cod when acting as a mothership, two C/Ps would qualify. One of the C/Ps is owned by an Amendment 80 firm. The second C/Ps is owned by a firm that has C/Ps that qualify for the AFA pollock allocation.

Table 2-100 shows the estimated processing sideboard limits when they can be presented under the confidentiality restrictions. Processing sideboard limits for all C/Ps are estimated to be range between 13

⁶⁸ Except C/Ps that are prohibited from acting as a mothership when processing Pacific cod harvested from the BSAI.

⁶⁹ The sideboard limit defined under Element 5.2 is not specific to Pacific cod allocated to cooperatives. It is assumed that the limit would apply to BSAI Pacific cod deliveries based on whether they were derived from QS or not. This means that if the QS is calculated using targeted catch of Pacific cod only directed catch of Pacific cod would count against the limit. If total catch of Pacific cod is used for the allocation, no ICA is removed and all catch of Pacific cod is deducted from the cooperative allocation or limited access fishery, then the processing sideboard limit would include both directed and incidental catch of Pacific cod.

percent and 17 percent of the total processing history for trawl CV deliveries of targeted BSAI Pacific cod harvested from the federal or parallel fisheries. Under each option, processing sideboard amounts can always be presented for all C/Ps. However, processing sideboard limits established for the two C/Ps that qualify to act as a mothership under BSAI FMP Amendment 120 is confidential. This complicates providing quantitative information on the size of the processing sideboard limit and how it could be divided between the two firms that qualify. Establishing processing sideboards for the two qualified C/Ps based on catch history also means that the sideboard amounts cannot be published in the regulations or otherwise made public after the program is implemented. While not an option under consideration by the Council, a processing sideboard amount could be established that is not based on processing history of the two firms, but instead is an amount determined to be appropriate and justified by the Council. That processing sideboard limit could be published in regulation and be known publicly.

Table 2-100 Estimated C/Ps processing sideboard limits based on the Element 2 qualifying years processing history.

C/P Sideboards	Annual			Exclude C Season		
	2014-2019	2009-2019	2004-2019	2014-2019	2009-2019	2004-2019
All C/Ps	16.9%	16.1%	13.7%	16.7%	15.5%	13.3%
2 Qualified C/Ps	c	c	c	c	c	c

Source: BSAI_PCOD_LAPP_Processors(4-9-20):CP sideboards

If the C/P firms do not establish an agreement for the amount of Pacific cod that each firm would take from the CV sector, it could result in a race to process the sideboard limit. Should the firms agree on a division of the sideboard limit through a civil contract or other agreement, it could eliminate the race to process Pacific cod by those C/Ps. The owners of the C/Ps would still need to make an agreement with members of the CV sector to deliver an amount equal to their portion of the sideboard limit established under the agreement. The likelihood of the two firms being able to come to an amicable agreement is not known.

Because of the different business models employed by the C/P firms that process Pacific cod, some firms would likely be content to have the sideboard limit based on the amount of Pacific cod allocated to LLP licenses they own/control. Other firms that do not own or control CVs would likely want a sideboard limit that, at a minimum, is approximately equal to the amount CVs that have traditionally delivered to them are allocated.

CVs delivering to C/Ps could be limited to those vessels⁷⁰ owned by their firm, if they hold sufficient CV Pacific cod quota, as defined under Element 2, to allow the C/P to process their sideboard limit. If CVs associated with the C/P firm do not hold sufficient quota, they would be allowed to contract with any CV that holds quota to deliver up to their sideboard limit. CVs that are most likely to deliver to C/Ps are those that have had past business relationship with the processing firm. Deliveries from those vessels could also include C/Ps negotiating single deliveries from a CV if their traditional processor does not have the capacity and they have an agreement in place allowing those types of deliveries.

If CVs that traditionally delivered to C/Ps cannot make those deliveries under the proposed C/P sideboard limits or past actions by the Council, they would be expected to contract with an inshore cooperative that offered the best overall contract terms. Those terms could include a variety of incentives in addition to the exvessel price paid for the fish. For example, it could include opportunities to lease fish from or to other cooperative members, attractive delivery schedules, the opportunity to deliver species other than Pacific cod, etc.

⁷⁰ It could also be limited to the CQ associated with the LLP licenses the firm owns.

CVs that are allocated more Pacific cod than their C/P is allowed to process may be required to join a CV cooperative with their C/P and then have the cooperative lease a portion of the quota to a cooperative that is not constrained by the processing sideboard limit. This transfer would be necessary since it is assumed that CVs cannot assign their QS to more than one cooperative. If they joined a CV cooperative with a C/P and the combined CQ of the cooperative was more than could be processed under the sideboard limit, an inter-cooperative transfer would be required to utilize all the fish. The cooperative, and the CV operator that holds the CQ, could be placed in a relatively weak bargaining position if members of the other cooperative knew that they had to accept a price offered or forego the harvest of that fish.

2.7.5.3. Element 5.3 – Allocation of harvest shares to processors

Element 5.3 would allocate a percentage of the available harvest quota to processors that took BSAI Pacific cod deliveries during the qualifying years. The primary options would allocate both Pacific cod and the associated PSC species⁷¹ to processors. If the suboption is selected, processors would only be allocated Pacific cod without any associated PSC species. All the PSC species allocated to processors would be issued in the same proportion as divided among harvesters.

An example of how the Pacific cod and halibut PSC may be allocated is provided. If an LLP license was issued 2 percent of the Pacific cod quota and processors were also allocated a proportional amount of PSC, then the LLP license would be issued 2 percent of each PSC species that is assigned. Not selecting the suboption to allocate only Pacific cod to processors means that PSC would be issued as a percentage relative to all the Pacific cod quota issued to both harvesters and processors. If the processors did not receive an apportionment of the PSC limit, then the LLP license holders would receive a percentage of the available PSC limit that is equal to the percentage of BSAI Pacific cod they are issued relative to the total amount of BSAI Pacific cod issued to all LLP license holders (excludes the amount of Pacific cod quota issued to processors).

In general, PSC has value, and that value increases as it has a greater constraint on the harvest of Pacific cod. If processors do not control an amount of PSC that can be distributed to the CVs they allocate their PHQ, it could reduce their market power. The overall impact of the decision is expected to have the greatest impact if the PSC is divided among smaller groups of harvesters (cooperatives with smaller allocations). If only an AFA and non-AFA cooperative are formed, the PSC will be allocated between those two groups and the larger allocation to each may result in PSC limits that are less constraining. If many cooperatives form and a processor does not attract as many vessels to join (or as much CQ) relative to what they receive, their CVs may need to realize lower PSC rates than other cooperatives to harvest the entire Pacific cod allocation. In other words, not including the PSC allocation to processors may result in the relative rates of PSC for Pacific cod harvests assigned to different cooperatives not being equal. If CVs can harvest the Pacific cod using less PSC, they may be attracted to a processor that can offer more CQ than the processor they are associated.

Both the onshore and offshore processors could be eligible to receive harvester quota. Any C/P that is issued harvest quota must assign that quota to a CV cooperative, and cannot harvest the quota with a C/P. All other processors must also allocate the harvest quota they are issued to a CV cooperative before it may be used. However, there is nothing in the current suite of options that would prevent CVs owned or controlled by the processor from harvesting all or part of the processor's allocation.

The percentage of harvest quota that could be assigned to processors at the time of initial allocation range from zero, if this element is not included as part of the preferred alternative, up to 30 percent. Information on limitations of transfers and their impact on the sector is described in Element 7 of this proposed action.

⁷¹ Currently the language in Element 3 would not allow allocation of crab PSC since the element does not provide for the apportionment of crab PSC at the sector level (trawl CV and AFA CP).

Pacific Council Experience

Background

In 2011, the Pacific Fishery Management Council (PFMC) under Amendment 20 to their groundfish FMP, transitioned from a limited entry trawl sector commercial fishery to a catch share system. The catch share program consists of cooperatives for the mothership and C/P fleets that target and process Pacific whiting at-sea, and an individual fishing quota (IFQ) program for the shorebased trawl fleet that targets both Pacific whiting and a wide range of other groundfish species. The following information was adapted from the PFMC analysis of the whiting fishery (PFMC, 2010). Specifically, the discussion and justification that resulted in the PFMC selecting the option to allocated 20 percent of the harvesting quota to shorebased processors. The action under consideration by the Council could allocate harvesting shares to both shorebased and at-sea processors, which differs from the model developed for the whiting fishery. Appendix A of that action provides a more detailed discussion of market power which is included by reference (PFMC, 2010).

The PFMC began considering harvest share allocations to processors as the NPFMC considered them as options in previous LAPPs (e.g. the Rockfish Program). The MSA LAPP provisions in Section 303A(c)(5)(A) require that the Council ensure fair and equitable initial allocations, including consideration of (1) current and historic harvests, (2) employment in the harvesting and processing sectors, (3) investments in and dependence on the fishery, and (4) the current and historical participation of fishing communities.

Congress specifically instructed the PFMC to fully analyze alternative program designs, including LAPPs that allocate quota to harvest fish to both harvesters and processors. Much of the PFMC's discussion surrounding an allocation to processors involved the impact of the both status quo and trawl rationalization on market power. It was noted that the U.S. economy relies on competition and on individuals and businesses acting in their own self-interest for growth, innovation, price setting, and the allocation of resources. There was a sentiment by some stakeholders that government should not interfere in business competition unless it is necessary for the public benefit. During its discussion it was noted that the PFMC already interfered with harvesting businesses because of problems identified relative to conservation and management both in the non-whiting and whiting fishery. When the PFMC intervened in harvesting, it could not avoid interfering with the processing businesses by changing the basic bargaining dynamics in the raw fish product market. While exvessel price negotiations are between the harvesters and processors, the PFMC felt it could not ignore how fishery management actions might influence those negotiations.

Some PFMC members opposed any allocation to processors because they believed it would have an adverse effect on market power (increasing market power for processors) and that there were ways to address concerns about community stability, other than by allocating to processors. They noted that even if processors received no QS, after initial allocation processors would likely be in a position to control quota shares through the initial allocations to vessels they own or control, or by purchasing quota in the market to achieve the balance of power they consider more favorable. This type of consolidation can be addressed through ownership and use caps, to make sure the balance does not swing too far in one direction. Others were concerned about small processors and expressed concern that not allocating harvest shares to processors might cause more consolidation and a further decline in the number of buyers, increasing the power of remaining processors. In its preliminary preferred alternative (PPA), the PFMC recommended giving processors 20 percent of the shoreside allocation of QS for all species except bycatch taken in the shoreside whiting fishery.

Determining the Percentage Allocation of Whiting to Processors

PFMC members noted the difficulty of determining the correct percentage for a possible QS allocation to processors. The option for a 50 percent allocation of whiting QS to processors seemed like far too much. When a 20 percent option was proposed, some Council members felt that when the 20 percent allocation

to processors was combined with a 10 percent allocation for adaptive management, and considering that some processors would receive QS for the permits they hold, the amount remaining for harvesters would be insufficient. In selecting its PPA Council members noted that the case for providing QS to whiting processors seemed to be relatively clear but it was less clear for non-whiting processors. For whiting processors, the switch from a derby fishery would immediately result in some of the processing capacity becoming surplus. The shift from two-month cumulative limits to IFQs would not affect the non-whiting processors in the same way. However, with respect to non-whiting processors there was concern for small processors' ability to compete with larger processors. The 20 percent approach chosen for the whiting and non-whiting PPA was believed by some to be a fair middle ground for public review and comment.

In its final preferred alternative, after further review of the analysis and public testimony, the PFMC recommended giving processors 20 percent of the QS only for shoreside whiting and no QS for shoreside non-whiting. In taking this action, PFMC members expressed their concern that an initial allocation of QS to non-whiting processors would add too much to the market power of shoreside non-whiting processors. They noted that there was already considerable consolidation among processors, particularly relative to the number of vessels operating in the fishery. Providing processors with an initial allocation would be expected to further increase consolidation and market power. Additionally, the argument that the larger processors also held vessel permits that would provide them with QS was determined to be an important consideration. At the same time, PFMC members continued to be concerned with the impact of the program on smaller processors. It was noted that if an allocation of non-whiting QS to processors were to be made, that the appropriate amount might be 10 percent of the QS. Instead, the PFMC favored providing a 10 percent allocation for adaptive management. The adaptive management program (AMP) could be used not only to provide some amount of certainty and security to the larger processors, but also to provide flexibility to tailor a program that would provide some protection to smaller processors. Because the AMP allocation has served as a pass-through to harvesters, it has been difficult politically to "reallocate" that quota. To date the quota has continued to pass-through to harvesters, because the PFMC has not been provided sufficient evidence to persuade it members to vote to reallocate the AMP quota to other stakeholders, including processors, that could show proof that the program had caused sufficient harm to justify a reallocation.

With respect to the decision to allocate 20 percent of the whiting QS to processors, differing conditions between the whiting and non-whiting sectors were noted. In particular it was noted that the size of the shoreside whiting fleet was expected to be very small (only 20 vessels), providing the fleet with greater market power relative to the three major whiting buyers than would be experienced by the non-whiting fleet relative to the major buyers of non-whiting species.⁷² While the shoreside whiting fleet position would be strong, the analysis predicted that, with the move from a whiting derby fishery to an IFQ program, the amount of processing capital needed in the whiting fishery would decline by 30 to 50 percent, and that competition among whiting processors would tend to increase in order to continue to attract deliveries to their facilities,⁷³ leading to a decrease in their market power. In contrast to whiting, the non-whiting trawl fishery was not a derby style system; it was managed with two-month cumulative trip limits. Therefore, the shift to IFQs will not create a sudden increase in the amount of excess processing capacity. Even with a 20 percent allocation of whiting QS to processors, the PFMC believed it may be uncertain whether the initial allocation of whiting QS to processors will offset whiting harvester gains in market power, relative to status quo. An initial allocation of whiting QS to processors was determined to function as a means of guaranteeing supply for processors, granting processors some

⁷² These conditions are more similar to the BSAI Pacific cod trawl CV fishery than the non-whiting fishery conditions were (two-month openings and trip limits) at the time the program was implemented.

⁷³ Processors invest in excess capacity to compete with other processors for deliveries by being able to handle peak volumes during the derby fishery. When the derby is over, much of the capital then remains idle. The move to a LAPP will slow the pace of the fishery resulting in substantial unneeded processor capital. Excess harvesting capacity may also exist in the harvesting sector. Under a LAPP structure the harvesting vessel owners could be compensated to not participate in the fishery by leasing CQ.

leverage in bargaining power as they can “hold out” against harvesters, and providing an incentive to make necessary capital investments to increase product recovery yield.

The analysis conducted by the PFMC to allocate harvester quota to processors considered a slightly broader range (0 percent to 50 percent) than the Council is considering (0 percent to 30 percent) under the BSAI Pacific cod action. Economic analysis considered for the whiting fishery and the BSAI Pacific cod fishery rely on the same discussion of changes in market power that can result from allocation of harvest shares to harvester only or both harvesters and processors. Both Councils have agreed that an allocation of harvest shares to processors that is greater than 30 percent would likely result in the balance of power being shifted too far toward the processing sector.⁷⁴ However, the available economic data do not provide sufficient information to select a point estimate on the continuum of 0 percent to 30 percent that would result in the optimum balance of market power between the two sectors. Models have been developed and published that attempt to determine a Pareto optimal solution. Papers that describe those models include the works of Matulich, et al (2010), Matulich (2010), Matulich (2009) and Matulich (2008). The data to estimate quasi-rents for processors and harvesters are not available to staff to make those calculations. Those models have never been utilized by the Council to determine distribution of quota between harvesters and processors. Even if that information were available for one year, it may not hold in other years, as the overall North Pacific management structure and world markets change. Through their consideration of the issues, the PFMC ultimately determined that some allocation of harvest shares to processors was warranted in the whiting fishery, but not the non-whiting fisheries. Determining the appropriate percentage using economic information available to staff was not possible. The PFMC ultimately selected 20 percent, in large part, due to a substantial group of harvesters and processors testifying together in support of that allocation percentage.

It was noted earlier that the PFMC has not utilized any of the AMP quota to address unforeseen negative impacts on the processing sector. That quota has been used as a pass-through allocation to the harvesting sector. This may indicate that a 20 percent allocation of harvesting quota to processors was sufficient to balance market power in the whiting fishery, after the fishery management structure was changed to a LAPP. It may also indicate that both sectors feel the risk of reconsidering the allocation percentage is greater than any expected benefit they would receive.

Acquisition of Additional Harvest Shares

On the West Coast, ownership by processors allocated whiting quota has increased from 20 percent at initial allocation to 23 percent in 2016. These processors currently own quota shares for non-whiting species as well. The 5-year review of the program indicated that there is evidence that shorebased processors use their quota to support bargaining relationships with vessels to secure deliveries.⁷⁵

In addition to the change in market power the proposed allocation of harvest shares has on the CV sector, allocation of harvest shares to processors will also result in distributional effects. Those impacts will likely vary by firm and will depend on how any PHQ issued to processors is redistributed back to the CVs.

Use of Processor Owned Harvest Quota

The Council’s option indicates that to be used, the PHQ “would be transferred to the CV cooperative.” This language appears to both answer and raise questions. It answers the question that processors cannot assign the PHQ to the limited access sector for any LLP license holder in the CV sector harvest and that it cannot be used by any other gear type (unless pot gear is allowed through the gear conversion options). It

⁷⁴ The PFMC noted that in their deliberation and the Council did not include an option that was greater than 35 percent to be considered.

⁷⁵<https://www.pcouncil.org/documents/2017/01/rawl-catch-share-review-main-document.pdf/>

also indicates that it cannot be treated as IFQ and assigned to individual vessels outside of an NMFS approved cooperative.

A question left unanswered is if the two-cooperative model (Option 1.1) is developed for AFA and non-AFA CVs and a processor assigns PHQ to (and takes deliveries from) both cooperatives, what role can processors play within a cooperative that has multiple processors as a member? For example, a processor may have taken deliveries from both AFA and non-AFA vessels, because of historical relationships. Processors would probably like the flexibility to assign PHQ to both. Whether the processor is allowed to participate in one or both cooperatives, the processor will need to notify NMFS regarding the assignment of the PHQ prior to allocation of CQ. The date would be expected to correspond to the date that CVs notify NMFS of their intent to join a specific cooperative, prior to the start of the fishing year. After the PHQ is assigned to a cooperative, the processors in that cooperative would need to negotiate with CVs in the cooperative to establish delivery terms and conditions. Processors would not be allowed to negotiate those terms with other processors taking deliveries from the CVs.

If the cooperative structure allows CVs to join a cooperative in association with a specific processor (e.g. the Rockfish Program model), then it is assumed that the processor will assign all of their CQ to that cooperative. The CQ could then be reallocated within the cooperative to member vessels or transferred to another cooperative. Civil contracts would define the rules of how the cooperative operates and how any reallocations are authorized and compensated within the cooperative.

However, if a processor was eligible to receive PHQ - based on processing trawl caught BSAI Pacific cod during the qualifying years – but did not associate with any CV cooperative, that processor could lose its eligibility to receive harvesting shares, since the PHQ must be assigned to a CV cooperative. If the processor only assigned their PHQ to a cooperative as a lease without planning to process the fish, how that processor would be compensated and the terms and conditions they would have the authority to negotiate could be limited. The processor would need to negotiate lease values, but it would not be allowed to discuss exvessel prices paid to the CV by the other processor as part of the lease price determination within the cooperative structure. Those negotiations would need to take place between individual harvesters and processors.

Once the processor's harvest shares are assigned to a cooperative, the quota could be distributed for harvest in a number of ways that would benefit the processor and some or all member CVs. The distribution would depend on how the processor determines it best achieves its overall goals.

While the discussion provided is intended to consider some possible distributions of CQ, it is likely that the relationships established between harvesters and processors over the years will substantially influence where the majority of harvesters will deliver in the future.

- Distributing CQ so that member vessels have approximately an amount of available CQ that as they would have had before the processor's harvest shares were deducted.
- Assigning more CQ to vessels the processor owns or controls.
- Using the quota as bonus to entice new members to join.
- Trading Pacific cod quota for deliveries of other species (i.e., pollock, crab, other groundfish).

The first bullet above would essentially reallocate CQ to the harvesters in the same proportion that was forgone to fund the processor's harvest allocation. Depending on the amount of CQ held by the processor and the CQ held by the members, the amount each harvester may receive may differ from their percentage of catch history. For example, if the processor holds more CQ than the percentage the member harvesters gave up to fund the allocation, the processor could give its cooperative members more fish than they would have had otherwise. The converse is also true. Processors that have less CQ than their associated CV gave up could not reallocate them all enough CQ to replace the foregone harvesting shares allocated to processors. That could create an incentive for one or more CVs to move to a cooperative the following year where the processor could provide better compensation. All else being equal, the allocation of

processor quota would tend to exert pressures to keep the market share of each processor about the same under the cooperative structure as occurred during the qualifying years. Long-standing working relationships between a harvester and processor will also be a factor when an LLP license holder determines which cooperative to join. Both these factors may result in the cooperative's composition closely resembling the groupings of vessels/LLP licenses with processors that occurred under the limited access fishery.

Under the second bullet, processors could allocate all or a greater portion of their harvest shares to vessels they own or control. This approach would only be available to processors that own or control harvest vessels. Approximately, two of the processors that would qualify for CQ own CVs that deliver to them. The approach would allow the firm to capture economic rents from the CQ at both the exvessel and first wholesale levels. If crew are compensated based on the exvessel value of Pacific cod delivered and the exvessel value of fish delivered to the processor is undervalued, it could put downward pressure on crew compensation. In addition, if crew are in a weaker bargaining position, it could result in their receiving a small percentage of the total exvessel value. CVs that are not owned or controlled by the processor may be less likely to agree to those terms and conditions when the cooperative is formed. Because they would have the opportunity to change cooperatives on an annual basis, they would have the opportunity to negotiate for better contract terms and conditions with a different cooperative.

The third bullet could provide incentives for LLP license holders to join their cooperative. However, any additional benefits that could be offered to a vessel/LLP license holder outside the cooperative would come at the expense of the current member's opportunity to access PHQ. If a person perceived that they would have better opportunities in another cooperative, as a result of a similar offer, it could result in current members leaving the cooperative. As stated before, the outcome that is expected is that CV operators will, for the most part, continue business partnerships with their historical partner, with the processor using the PHQ to maintain market power that more closely represents historical levels than under a cooperative without PHQ being allocated.

The fourth bullet describes processors bartering their Pacific cod quota for other species. The PFMC found evidence that processors barter to purchase quota (trading units of other quota species). Processors as well as processor-owned vessels traded quota with independent vessels. Between 2011 and 2015, 13 percent of transfers were recorded as barter and 6 percent listed as either cash sale or cash and barter, and 81percent listed as "other." Often the trades were determined to be complex and non-cash arrangements. As a result, the 5-year review of the program determined it was difficult to assess how quota trading is affecting the profitability of shorebased processors. These complications also made it difficult to assess the effect of the 20 percent whiting allocation on the profitability of the shorebased processors receiving the allocation.

Estimates of the number of processors that qualify for PHQ under Element 5.3 are presented in Table 2-101. The table also provides an estimate of the total amount of targeted Pacific cod that was delivered to the qualified processors over the time period considered. The table is divided temporally with the top portion of the table including targeted Pacific cod catch for the entire year and the bottom part excluding C-season catch. This was done to match the options considered under Element 2. One firm that qualified using annual data does not qualify when the C-season data is not included, regardless of the years selected for the qualifying period. The information in the two parts of the table are not considered confidential because more than three processor's data were excluded by removing the C-season data, even though only one processor only had taken deliveries during the C-season.

Table 2-101 Number of processing firms that qualify and the total processing history under Element 5.3

Seasons	Processors	Option 5.3 (2014-2019)		Option 5.3 (2009-2019)		Option 5.3 (2004-2019)	
		Includes all C/Ps	Includes only qualified C/Ps	Includes all C/Ps	Includes only qualified C/Ps	Includes all C/Ps	Includes only qualified C/Ps
All	Processors #	16	13	16	13	18	14
	Quantity (mt)	206,019	196,284	362,060	347,975	481,678	467,231
Excludes C	Processors #	15	12	15	12	16	13
	Quantity (mt)	201,428	191,908	354,732	340,862	471,060	456,832

Source: AKFIN file BSAI_PCOD_LAPP_Processors(4-9-20):Qualified Processor t2

To produce Table 2-101, staff made assumptions that the Council will need to confirm or modify. Those assumptions are described below along with a discussion of how the issues, when appropriate, were addressed in the whiting cooperative program.

1. It was assumed that processors that are no longer active (no longer hold an FPP) would not be issued PHQ. The processing history associated with those processors would be deducted from the total when distributing PHQ. If this is not the intent of the Council, additional direction to staff is required. Some of the issues to be considered are described below.

What happens to the history of processors that are no longer active? On the harvest side, allocations are made to LLP licenses that are transferred and held by new owners that often purchase the catch history associated with the LLP license as part of the civil transaction. Processors do not have a similar transferrable license and the motion indicates that a new permit will be generated that will be assigned the QS. Processors are required to have various state and federal permits, but those have varied over time based on the entity that was accountable for paying taxes or the entity that applied for the permit. Those permits are less durable or expire when the ownership changes.

The Pacific Council under their whiting program attributed history to the receiver reported on the landing receipt (i.e., the entity responsible for filling out the state fishticket), except history may be reassigned to an entity not on the landings receipt, if parties agree or through an agency appeals process (this could address issues like custom processing agreements). The intent of this option is to provide an opportunity for catch history to be assigned to the entity that actually processed the fish. For shorebased processors, allocations go to the processing business and successor in interest will be recognized. NMFS developed the criteria for use in determining the successor in interest with respect to the entities listed on the landing receipts or otherwise eligible for an initial QS allocation based on being the first processor of the fish. The Pacific Council discussed what constituted a business for the purpose of successor-in-interest but left it to NMFS to determine. The Pacific Council did state:

"Transfer of physical assets alone should not be considered a basis for successor in interest. Business relationships such as transfer of the company name and customer base might be reasonable evidence of successor in interest."

The provisions related to successor in interest affects objectives related to fairness, equity, and net benefits. These provisions were developed with the intent of allocating to the entity that is currently active in the processing sector and most closely associated with the historic buying and/or processing activity. To the degree that the history reflects ongoing dependence and business activity, this approach is expected to minimize the number of transactions needed to get the QS into the hands of those who qualify. Processors may potentially use the PHQ on their own vessels or as leverage in negotiations with vessels delivering to them. Disputes, fairness, and equity concerns are most likely to arise in situations where some assets of one processing entity

have been transferred to another, but both remain active in the industry. For example, a portion of the customer base was transferred, or one trademark or name under which a business operates was conferred but not another. Resolution of these issues in a fair and equitable manner that also minimizes disruption will depend in part on criteria that were left to NMFS to develop. Since that structure has already been developed it is assumed that a similar structure could be implemented by NMFS for this program.

2. The application for an FFP notes that “only persons who are U.S. Citizens are authorized to receive or hold a Federal Fisheries Permit (FFP).” A person applying to receive the LLP license must be a U.S. Citizen or U.S. corporation, partnership, association, or other non-individual entity to be eligible to receive a license. Staff assumes that to receive the new Processor Permit to hold PHQ the processor must be a U.S. corporation, partnership, association, or other non-individual entity. This would allow U.S. firms that are subsidiaries of foreign firms to apply for and receive PHQ. However, if processor ownership and use caps are established based on ownership and control rules the limits would need to be at the level of the foreign firm.

Table 2-102 shows the percentage of PHQ that would be allocated to groupings of processing firms based on processing history during the qualifying years. Firms were grouped relative to their processing history during the period and seasons considered. In each case, the top four firms were grouped together, the fifth through eighth firms were grouped together, and the ninth through 12th firms were grouped together. Because a different number of firms were active during the various periods, the bottom four through 6 firms were grouped together to meet the confidentiality thresholds for aggregation. Firms may change groupings depending on the qualifying history years and seasons selected.

Processor groupings indicate that the top four firms, in aggregate, would always be allocated between 71.7 percent and 75.5 percent of the PHQ. The bottom four to six firms would always be allocated 0.5 percent or less of the PHQ, in aggregate. Firms five through 8 would be allocated about 20 percent of the PHQ, in aggregate. Finally, firms nine through 12 would be allocated about 5 percent of the PHQ, in aggregate. In other words, the top eight firms are allocated about 95 percent of the PHQ under each of the options considered.

Table 2-102 Percentage of PHQ allocated to processing firms by grouping

Processing Firms	2014-2019 All Seasons	2009-2019 All Seasons	2004-2019 All Seasons
Top 4 firms	72.1%	75.0%	75.5%
Firms 5 - 8	21.3%	19.6%	19.7%
Firms 9 - 12	6.3%	5.1%	4.3%
Bottom 4 to 6 Firms	0.4%	0.3%	0.5%
	2014-2019 A & B Seasons	2009-2019 A & B Seasons	2004-2019 A & B Seasons
Top 4 firms	71.7%	74.6%	75.5%
Firms 5 - 8	21.7%	20.0%	19.7%
Firms 9 - 12	6.3%	5.1%	4.3%
Bottom 4 to 6 Firms	0.3%	0.3%	0.5%

Source: BSAI_PCOD_LAPP_Processors(4-9-20): Processing history groupings

Allocating PHQ based on processing history will benefit processors that receive PHQ but will create an additional impediment for processors to enter the fishery that are not initially issued PHQ (or are issued a very small amount). Entry will be more difficult because they will have less market power than processors that are issued PHQ. They will also not have the ability to leverage that PHQ to access capital that may be necessary to participate in the fishery; they also will not be able to use initially issued PHQ to attract CVs to deliver. Any percentage of PHQ allocated to processors could essentially be used as a bonus to CVs to attract deliveries. For example, a processor could tell its CV fleet for each 100 lbs. of

Pacific cod they deliver, based on CQ they brought into the cooperative, they would be granted the privilege to harvest an additional 20 lbs. using PHQ issued to the processor. A processor that does not hold quota would not be able to offer that bonus. The incentives processors without PHQ could offer are a better exvessel price or better delivery terms. Both could reduce value a processor derives from a pound of Pacific cod delivered.

Overall, a CV's decisions on where to deliver will primarily depend on past business relationships and who offers the best terms and delivery conditions. For CVs that are already in pollock cooperatives those relationships could play a strong role on which cooperative the CV will join for Pacific cod. For vessels outside of the pollock fishery, traditional delivery patterns for Pacific cod and they agreements to delivery other species will play a role in determining cooperative affiliation.

2.7.6. Element 6 – Aleutian Islands Processor Provisions

Option 6.1: Require the cooperative(s) to reserve a set-aside for delivery to a shoreplant in the Aleutian Island management region. The amount of the set-aside will be 10% to 25% of the BSAI CV trawl directed A season harvest amount.

Suboption: The set-aside will be reduced by any amount Adak/Atka processors receive as a direct allocation of harvesting shares pursuant to this LAPP Program, regulation or legislation.

Option 6.2: In any year when the community of Adak or Atka files a notice of intent to process, annual harvest quota shall be issued to the plant operator designated in that notice of intent. In the event, one community issues a notice, the lesser of 5,000 mt or 5.5% of the total BSAI trawl CV Pacific cod quota (prior to allocations based on harvesting or processing histories) (1,961 mt in 2019) shall be issued to the plant. In the event both communities issue a notice the allocation shall be divided equally between two plants.

Suboption 6.2.1: Allocations are transferrable between qualified entities.

Annual Aleutian Islands community shore plant allocations shall be transferable to any cooperative(s) (and between cooperatives) for harvest by member vessels that are assigned an AI trawl CV LLP eligible under this program. Quota shall be harvestable exclusively in the AI and any catch must be landed to the shore plant operated by the annual quota recipient (i.e., plant operator).

In the event any Aleutians community shore plant allocation is not fully harvested by March 21, that unharvested allocation will expire and an amount of annual quota equivalent to the unharvested portion will be reissued to cooperatives (holders of LLP licenses with BS and AI harvest history in proportion to their annual allocations).

Suboption 6.2.2: If the community of Adak and Atka files a notice of intent to process, annual harvest quota should be issued to an entity representing the community designated in the notice of intent.

Two options, with suboptions, are considered in this section. Option 6.1 would require that cooperatives reserve a percentage of their allocation to be delivered to AI shoreplants. This quota is referred to as the AI CQ reserve. Option 6.2 would allocate the lesser of 5,000 mt or 5.5 percent of the total annual trawl CV Pacific cod CQ to the operator(s) of AI shoreplants. This quota is referred to as AI delivery quota (AIDQ), because it must be harvested from the AI and delivered to an AI shoreplant.⁷⁶ One of the primary differences between the two approaches is that under Option 6.1 QS is issue to the LLP license associated

⁷⁶ It is also assumed that trawl CVs would be required to harvest the AI CQ reserve from the AI, but it is not explicitly stated in the motion.

with qualifying catch and the CQ derived from those QS are issued to cooperatives. The cooperatives (individually or through an inter-cooperative agreement), through agreements with the AI shoreplant determine how the reserve is delivered. Quota shares under Option 6.2 are held by NOAA Fisheries and the annual CQ is issued to an eligible AI shoreplant operator. The shoreplant operator holds the CQ and determines how to distribute it to the harvest vessels. As a result of the two structures, it is expected that entities that are initially issued the quota may have slightly more market power when negotiating the terms of delivery, including who will deliver the Pacific cod.

2.7.6.1. Option 6.1 – Cooperative required set-aside for AI shoreplants

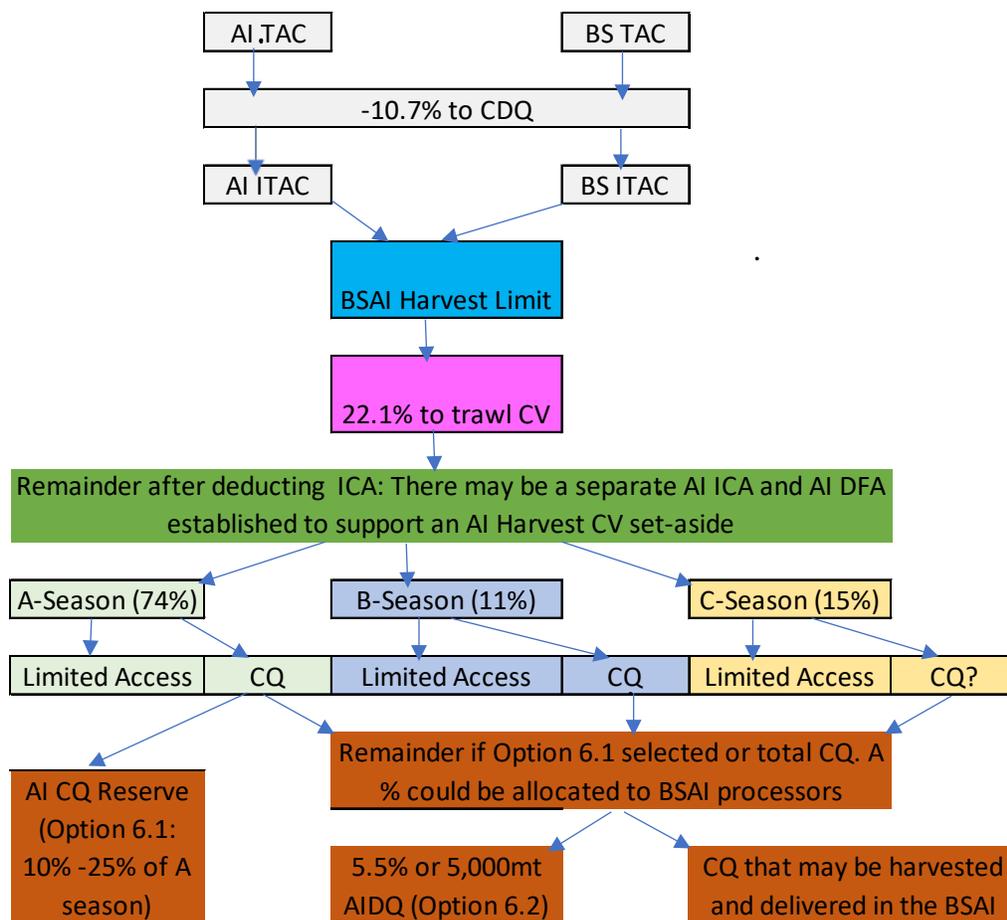
Option 6.1 would impose a requirement that a predefined percentage (10 percent to 25 percent) of the BSAI trawl CV sector A season Pacific cod apportionment must be reserved by cooperatives to be delivered to an AI shoreplant. The structure of this action would be different than, Amendment 113 that attempted to establish a set-aside of 5,000 mt from the trawl CV A season BSAI sector apportionment that had to be delivered to an “AI shoreplant.” Because the proposed structure would require that the cooperatives ensure that a percentage of their allocation is reserved for delivery to specific processors, some regulations that were vacated under Amendment 113, would need to be modified or deleted from statutes to account for the changes.

Figure 2-12 provides a brief overview of the BS and AI Pacific cod fishery apportionments that may be established under Option 6.1 and Option 6.2. As is currently prescribed in the specifications process, NMFS deducts the community development quota (CDQ) allocation from the AI and BS TACs to determine the ITAC for each area. ITACs for the two areas are combined to establish the non-CDQ harvest limit for all sectors. Trawl CV vessel are apportioned 22.1 percent of the non-CDQ harvest limit. ICAs are established as necessary to support incidental catch of Pacific cod in trawl CV directed fisheries other than Pacific cod. The remaining amount is divided between the three fishing seasons. Depending on the program structure selected by the Council, the A-season directed fishing allowance (DFA) would then be apportioned to a limited access fishery (if qualified LLP licenses are not assigned to a cooperative) and an allocation of CQ for a cooperative program fishery. Cooperatives would be responsible for assuring that no more than 75% to 90% of the CQ derived from the A-season apportionment would be delivered to non-AI shoreplants, if Option 6.1 is selected. The box that shows the “remainder of Option 6.1 selected or total CQ. A % could be allocated to BSAI processors” captures three different issues.

1. It is the remainder of CQ that would be issued after the IA CQ reserve is issued.
2. The amount of CQ available as represented by the box could include both BSAI CQ and AIDQ (Option 6.2).
3. Finally, the CQ could include any allocation to BSAI processors defined in Option 5.3.

How those various allocations and apportionments will be established, implemented, and managed will be discussed throughout this section of the document.

Figure 2-12 Apportionment of the BS and AI TACs



The structure of the BSAI Pacific cod fishery is complex and directly impacts deliveries that are available to the AI shoreplants in a given year. The AI CQ reserve would ensure a minimum amount of CQ harvested during the BSAI Pacific cod trawl CV A season could only be delivered to shoreplants in the AI management region. Reserve amounts would be established on an annual basis depending on the size of the BSAI ITAC. Whether these requirements are in place or not, it is likely some portion of the AI Pacific cod harvested by the trawl CV sector would be delivered to AI shoreplants if their market is competitive with offshore and non-AI shoreplant markets and the trawl CV fishery is open long enough for the AI fishery to be conducive to fishing. The amount of those deliveries may not be sufficient to sustain the viability of the plants' operations over the long-term. As noted in Amendment 113 analysis, the Adak shoreplant was able to attract trawl CV deliveries of AI Pacific cod by the trawl CV sector even when offshore and non-AI shoreplants were also operating in the AI Pacific cod fishery. Additionally, the recent Council action to limit Amendment 80 and AFA C/Ps acting as motherships from receiving BSAI non-CDQ Pacific cod deliveries from trawl CVs would likely increase the potential for trawl CV deliveries of AI Pacific cod to AI shoreplants by reducing the number of potential markets for trawl CV harvested AI Pacific cod.

BSAI Amendment 113 was implemented for the start of the 2017 fishing year but was vacated as a result of the March 21, 2019 U.S. District Court (Court) opinion. Specifically, the Court found NMFS had not demonstrated the rule implementing Amendment 113 was reasonably calculated to promote conservation consistent with National Standard 4, and that NMFS could not show consistency with National Standard 8 because in the Court's view the rule allocates fishery resources to two particular communities.

Because the Court vacated the rule, the Council and NMFS may take action to implement a new set of regulations that are similar to those vacated under Amendment 113 but are consistent with the Court's opinion. Option 6.1 could meet those criteria. The new rulemaking would need to reauthorize portions of the regulations that were vacated by the Court's action that are necessary to implement a new action. For example, Amendment 113 defined an "AI shoreplant" to mean a processing facility that is physically located on land west of 170° W. longitude within the State of Alaska (State). Defining AI shoreplants was necessary because the existing term "shoreside processor" in 50 CFR §679.2 can include processing vessels that are moored or otherwise fixed in a location (i.e., stationary floating processors), but not necessarily located on land. When Amendment 113 was vacated, the regulations, which were implemented in 2017, no longer apply. As a result, implementing the proposed regulation would require reauthorizing some of those vacated regulations, like the definition of an AI shoreplant. The Council could include in the proposed action an alternative to remove or replace extraneous Amendment 113 FMP language. The regulations that were implemented for Amendment 113 as defined in the Final Rule⁷⁷ implementing the action are listed below.

- Define the term "Aleutian Islands shoreplant" in regulation.

The definition used in the example above would need to be reinstated as it was previously defined if the AI set-aside proposed under Option 6.1 or the PCTC Program allocation under Option 6.2 with the AI shoreplant delivery requirement was selected as part of the Council's action.

- Calculate and define the amount of the AI Pacific cod TAC available as a DFA and the amount that will be available as an ICA.

Under Amendment 113, NMFS annually specified an ICA and a DFA derived from the AI Pacific cod non-CDQ TAC. Each year, during the annual harvest specifications process described at 50 CFR §679.20(c), NMFS would specify an amount of AI Pacific cod that NMFS estimates would be taken as incidental catch when directed fishing for non-CDQ groundfish other than Pacific cod in the AI. This amount would be the AI ICA and would be deducted from the AI non-CDQ TAC. The amount of the AI non-CDQ TAC remaining after subtraction of the AI ICA would be the AI DFA.

NMFS specified the AI ICA and DFA to clearly establish the amount of AI Pacific cod that would be used to determine the amount of the AI CV Harvest Set-Aside. The specification also provides the public with notification of the amount of the AI non-CDQ TAC that is available for directed fishing prior to the start of the fishing season to aid in the planning of fishery operations. The AI DFA is the maximum amount of Pacific cod available for directed fishing by all non-CDQ fishery sectors in all seasons in the AI. Under the proposed action, this would include any directed trawl CV catches delivered to AI shoreplants under the AI CV harvest set-aside, limited access fishery, and CQ deliveries to processors.

Although the amount of the AI ICA may vary from year to year, NMFS specified an AI ICA of 2,500 mt for 2017, 2,500 mt for 2018, and 2,500 mt for 2019. NMFS determined that these amounts were needed to support incidental catch of Pacific cod in other AI non-CDQ directed groundfish fisheries. In future years, if these regulations are reimplemented, NMFS would specify the AI ICA in the annual harvest specifications based on recent and anticipated incidental catch of AI Pacific cod in other AI non-CDQ directed groundfish fisheries.

- Limit the amount of A-season (from January 20 until April 1) Pacific cod that may be harvested by the trawl CV sector in the BS prior to March 21 (BS Trawl CV A-Season Sector Limitation).

As described in this section, the regulatory change would not be needed to be reimplemented under Option 6.1 or Option 6.2. The change may only be necessary if the cooperative fishery and the limited access fishery are accounted for differently than described. As shown in the figure above, there are two

⁷⁷ <https://www.federalregister.gov/d/2016-28152/p-28>

potential components of the directed BSAI Pacific cod trawl fishery under this action the PCTC Program fishery and the limited access fishery. Allocations to the limited access fishery can be harvested and delivered in either the BS or AI. The PCTC Program allocations would be structured so that a maximum of 75% to 90% of the A-season apportionment could be delivered to a non-AI shoreplant. The portion of the CQ that is delivered to the AI shoreplants could only be harvested from the AI and delivered to the AI shoreplants that are eligible to receive those fish. The trawl CV limited access fishery, if one were to develop, would not be limited by requirements to deliver a portion of their A-season catch to an AI shoreplant since the motion is specific to cooperatives implementing a reserve to be delivered. The limited access fishery would not be operating under a cooperative structure and would not be required to deliver any portion of their catch to an AI shoreplant.

To help ensure that the stakeholders in the AI are provided an opportunity to utilize a given percentage of the Pacific cod A-season trawl CV sector allocation, the Council is considering sub-dividing the trawl CV BSAI Pacific cod A-season apportionment so that a minimum of 10 percent to 25 percent would be available to trawl CVs that deliver to AI shorebased processing plant. AI shoreplants that may be capable of receiving AI Pacific cod from trawl CVs are located in the communities of Adak and Atka. Although the Atka shoreplant has not received and processed AI Pacific cod from trawl CVs, the shoreplant in Adak has received and processed relatively large amounts of Pacific cod. Section 2.7.1 of the Amendment 113 RIR provided details on the delivery and processing of AI Pacific cod that could be published under the current confidentiality regulations (NMFS, 2016).

Since 2008, except for 2018 and 2019, AI fishing communities, and specifically the community of Adak and its shoreplant, have seen a decrease in the amount of Pacific cod being delivered to their plant from the federal component of the fishery. The amount of Pacific cod delivered to AI shoreplants has been highly variable, which is not conducive to stable shoreside operations. Several factors have contributed to this instability, and therefore the reason to consider this action, including decreased Pacific cod biomass in the AI subarea; the establishment of separate OFLs, ABCs, and TACs for Pacific cod in the BS and the AI; changing Steller sea lion protection measures; and changing fishing practices in part resulting from rationalization programs that allocate catch to specific fishery participants.

Recent history of the AI Pacific cod fishery indicates that from 2008 through 2017, trawl CVs have primarily delivered their catch of AI Pacific cod to a small group of C/Ps that operate as motherships. As deliveries of AI Pacific cod harvest from trawl CVs to C/Ps operating as motherships have increased in recent years, the amount of trawl CV harvest delivered to AI shoreplants has decreased. Additionally, C/Ps operating as motherships and other floating processors have demonstrated the capacity to process the entire TAC of Pacific cod in the AI in years when no AI shoreplant is in operation. From 2018 through 2019 C/Ps acting as a mothership and other floating processors agreed to stand-down to allow the AI shoreplant to accept deliveries that were generally in-line with the 5,000 mt set-aside envisioned under Amendment 113. Additional information regarding the fishery was provided in the discussion paper presented at the December 2019 Council meeting under agenda item D-3 (NPFMC, 2019). After that action was vacated and the pace of the fishery continued to increase in 2020, the fleet was unable or unwilling to agree to a stand-down and the amount of trawl CV Pacific cod delivered to the AI shoreplant from the federal and parallel fisheries decrease substantially. The Adak plant was still able to access deliveries from the State GHL AI Pacific cod fishery.

The intent of proposed Option 6.1 is to revise the Amendment 113 regulatory concept so that deliveries to the AI shoreplants would approach a defined target level. Those Pacific cod deliveries would be determined to be necessary to mitigate the risk that trawl CVs that deliver to AI shoreplants, AI shoreplants, and the communities in which they are located would be preempted from participating in the AI Pacific cod fishery by processors that are not defined as an AI shoreplant. The AI CQ harvest reserve could be considered an important component of the amendment package because:

- the Pacific cod allocation for the BSAI trawl CV sector has been significantly lower in recent years and the pace of the BSAI trawl CV sector apportionment harvest has increased
- the rationalization programs, and particularly the Amendment 80 Program, have allowed an influx of processing capacity into the AI Pacific cod fishery
- and AI communities and shoreplants (Adak) have received almost all of their total first wholesale gross revenue from AI Pacific cod.

The action is intended to provide balance between the stakeholders in the BSAI trawl CV sector. The action does not modify existing harvest allocations to the nine BSAI Pacific cod sectors defined in 50 CFR §679.20(a)(7)(ii)(A). Although the nine non-CDQ sectors would continue to receive their existing harvest allocations of BSAI Pacific cod, each sector's ability to harvest a portion of its BSAI Pacific cod allocation in the AI may be affected. The impacts are most likely to occur as a result of fewer reallocations of Pacific cod deriving from the trawl CV sector and less AI Pacific cod being available for other sectors to harvest.

This proposed action requires that some or all of the AI DFA be reserved for harvest by vessels fishing CQ under the PCTC Program and delivering their catch to AI shoreplants for processing. NMFS would account for harvest and processing of AI Pacific cod under the AI CQ reserve separate from, and in addition to, its accounting of AI Pacific cod catch by the nine non-CDQ fishery sectors established in 50 CFR §679.20(a)(7)(ii). Because of this separate accounting, the AI CQ reserve would not increase or decrease the amount of BSAI Pacific cod allocated to any of the non-CDQ fishery sectors. The AI CQ reserve would apply from January 1 through the end of the Trawl CV BSAI Pacific cod A-season.

When the AI CQ reserve is set equal to the AI DFA, directed fishing for Pacific cod in the AI may only be conducted by PCTC Program vessels that deliver their catch of AI Pacific cod to AI shoreplants for processing. All other sectors would be prohibited from directed fishing for Pacific cod in the AI. PCTC Program vessels that do not want to deliver their directed catch of AI Pacific cod to AI shoreplants for processing, or do not have a market with an AI shoreplant, would be prohibited from directed fishing for Pacific cod in the AI when the AI CQ reserve is in effect. These vessels would be permitted to conduct directed fishing for groundfish other than Pacific cod in the AI when the AI CQ reserve is in effect, and their incidental harvests of Pacific cod would accrue toward the AI ICA. AI Pacific cod taken as part of the ICA does not need to be delivered to an AI shoreplant.

When the AI DFA is greater than the AI CQ reserve amount, the difference between the DFA and the AI CQ reserve 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. This difference was called the "AI Unrestricted Fishery" under Amendment 113. C/Ps would be permitted to conduct directed fishing for Pacific cod in the AI and process that directed catch as long as the AI Unrestricted Fishery is open to directed fishing. NMFS would determine whether the AI Unrestricted Fishery is sufficient to support a directed fishery and would notify the public through a notice in the Federal Register.

Trawl CVs that choose to operate in the limited access fishery could also fish in either the BS or AI. Any Pacific cod catch from the directed fishery, if Pacific cod is open to directed fishing by these trawl CVs, could be delivered to any processor eligible to take deliveries. If trawl CVs in the limited access fishery choose to deliver to an AI shoreplant, it could potentially increase the overall amount of Pacific cod delivered to the AI shoreplants. However, because the limited access fishery is expected to be small or non-existent and the majority of catch would probably be delivered to BS processors, the overall impact would be minor.

- Set aside some or all of the AI Pacific cod non-CDQ DFA for harvest by vessels directed fishing for AI Pacific cod and delivering their catch for processing by AI shoreplants from January 1 to March 15 (AI CV Harvest Set-Aside).

This regulation would not be necessary. There would no longer be a requirement that some or all of the AI set-aside must be delivered to the AI shoreplant by March 15 as was required under Amendment 113. Because the March 15 date is no longer a part of the proposed action it is not needed to enforce the proposed regulations.

- Require that either the City of Adak or the City of Atka annually notify NMFS of its intent to process AI Pacific cod during the upcoming fishing year in order for the AI CQ reserve to be effective in the upcoming fishing year.

This regulation would be necessary under the proposed action to allow NMFS to determine whether the AI CQ reserve is necessary under Option 6.1 or the allocation of AIDQ is needed under Option 6.2. It would require that either the City Manager of the City of Adak or the City Administrator of the City of Atka notify NMFS of the city's intent to support an active AI shoreplant to process AI Pacific cod in the upcoming fishing year. If neither city notifies NMFS in accordance with regulatory requirements described below, the AI CQ reserve would not be in effect for the upcoming fishing year and the trawl CV cooperative are not limited in the amount of Pacific cod they may harvest from either the BS or AI, except as controlled by the area ITACs and the sector apportionment.

Regulations would require annual notification to NMFS in the form of a letter or memorandum signed by the City Manager of Adak or the City Administrator of Atka stating the city's intent to support an active AI shoreplant to process AI Pacific cod in the upcoming fishing year. This signed letter or memorandum is the official notification of intent. The official notification of intent must be postmarked no later than October 31 of the year prior to fishing. The official notification of intent must be submitted to the NMFS Alaska Regional Administrator by certified mail through the United States Postal Service. The City Manager of Adak or City Administrator of Atka must also submit an electronic copy of the official notification of intent and the certified mail receipt with postmark via email to NMFS no later than October 31. Email submission of electronic copies of the official notification of intent and the certified mail receipt with postmark would provide NMFS with the timely information it needs to manage the upcoming fisheries. Email notification is in addition to notification via certified U.S. Mail and does not replace the requirement for notification through the U.S. Postal Service.

A city's notification of intent to process AI Pacific cod must contain the following information: Date, name of city, a statement of intent to process AI Pacific cod, statement of calendar year during which the city intends to process AI Pacific cod, and the signature of and contact information for the City Manager or City Administrator of the city whose local AI shoreplant is intending to process AI Pacific cod.

On or shortly after November 1 each year the Regional Administrator would send a signed and dated letter either confirming receipt of the city's notification of their intent to process AI Pacific cod, or informing the city that notification was not received by the deadline.

Based on the final rule that was published for Amendment 113, the notification requirement was required from either Adak or Atka and not another city that might have an AI shoreplant in the future to make the set-aside available for processing by any shoreplant west of 170° W. longitude in the AI. When the rule was implemented the Council recognized that only the City of Adak and the City of Atka could be prepared to process AI Pacific cod; therefore, the Council specified that the notification requirement would only be required from either Adak or Atka and not another city that might have an AI shoreplant in the future. The Council could consider requiring notification from additional AI cities with shoreplants capable of accepting AI trawl CV deliveries in the future if they develop and the need arises.

- Remove the BS Trawl CV A-Season Sector Limitation and the AI CV Harvest Set-Aside if less than 1,000 metric tons (mt) of the harvest set-aside is delivered to (i.e., landed at) AI shoreplants on or before February 28, or if the harvest set-aside is fully taken before March 15.

This regulation would need to be removed since it is no longer necessary to account for the removal of the 1,000 mt landing requirement by February 28 or the removal of the BS Trawl CV A-Season Sector Limitation on March 15. Both regulations that were vacated are no longer necessary under the proposed actions because the options under consideration do not include a requirement that 1,000 mt of the set-aside be landed by February 28. As envisioned under this action, there will not be a BS Trawl CV A-Season Sector Limitation.

The action would need to add a regulation that would allow any portion of the unused AI CQ reserve or AIDQ to be reallocated to eligible LLP license holders with BS and AI catch history that are members of a BSAI Pacific cod cooperative. The date established for the AIDQ is March 21; the date for the AI CQ reserve is not included in the Council motion but it could be March 21, the end of the A-season (from which the reserve was deducted), or when the cooperative fishery ends. The cooperative fishery could end either after the B-season or after the C-season, depending on the options selected by the Council.

The unharvested AIDQ (allocated under 6.2) would expire on March 21 and an amount of annual quota equivalent to the unharvested Pacific cod would be reissued to all eligible holders of LLP licenses with BS and AI harvest history in proportion to their annual allocations. The AI CQ reserve (that may be established under 6.1) could have an expiration date that has yet to be defined by the Council. Since the requirement to receive a percentage of the reallocation is that the LLP license holder has harvest history in both the BS and AI Pacific cod fishery (it assumed that it would have to have occurred during the qualifying period for QS), any LLP license holder with only BS or AI qualifying history would not be eligible for a portion of the reallocation. **The Council should confirm that is its intent.** Table 2-103 shows the number of LLP licenses that have reported catch history in both the BS and AI during the selected qualifying periods. Depending on the qualifying years selected, the percentage of the total LLP licenses that fished both areas ranged from 17 percent (15 LLP licenses) to 26 percent (28 LLP licenses) of the total that were active. Based on the Council's current language, those are the only LLP licenses that would be allowed to receive a portion of reallocation. The reported LLP license counts exclude the CAS data where the LLP license field was left blank. A preliminary review of the data indicates that as many as 13 additional LLP licenses may qualify as fished both areas, depending on how the blank LLP license number is treated in terms of applying catch history to licenses.

Table 2-103 Number of LLP licenses that have reported catch history in both the BS and AI during the qualifying catch years from Element 2 (Option 2.2.1 through Option 2.2.3)

	2004-2019	2009-2019	2014-2019
LLP licenses used in BS & AI	28	22	15
Total LLP licenses used	108	93	86
Percent used in both areas	26%	24%	17%

Source: AKFIN summary of CAS data: BSAI_TRW_LLP_PCODLANDINGS(4_10_20)

The proposed action includes the reallocation of AIDQ on March 21 to prevent the stranding of AI non-CDQ Pacific cod TAC, in years the AIDQ is not fully harvested.⁷⁸ Allowing the reallocation of CQ to these LLP license holders is allowed to help ensure that OY is better achieved as part of the proposed program. It is assumed that because the AI CV Harvest Set-Aside was deducted from the A-season apportionment that any CQ that is reapportioned would be available for harvest during any fishing season.

The proposed action is silent on the treatment of the AI CQ reserve if it is not harvested by March 21. The Council could also consider reallocating any CQ reserve remainder to the eligible PCTC Program LLP

⁷⁸ It may be appropriate to provide NMFS the discretion of whether to reallocate Pacific cod to the TCPC if only a small amount of the set-aside is unharvested. Regulations would not define the amount of Pacific cod that is necessary to trigger a TCPC reallocation, but it would be left to the discretion of the NMFS Alaska Regional Administrator. The Regional Administrator could also be granted the authority to reallocate the unused set-aside to any other BSAI trawl CV use if it is determined to be the best use by the Regional Administrator.

license holders on a date selected by the Council or indicate that it would grant the NMFS Regional Administrator the authority to determine where and whether to reallocate the fish after that date based on the conditions of all sectors that utilize BSAI Pacific cod in directed or incidental fisheries.

Based on the recent court decision that vacated Amendment 113, when building the record for Option 6.1 and/or Option 6.2 the Council should explain how the action is consistent with National Standard 8. In doing so, the Council should consider the Court's ruling that National Standard 8 cannot serve as a justification for allocating Pacific cod to AI communities. Although the Council designed Amendment 113 as an allocation among harvesters and Amendment 113 directly distributed fishery resources only to CVs intending to deliver to AI shoreplants, the Court determined that based on the record for Amendment 113, it appeared the intent of the program was to allocate resources to two specific fishing communities. In the Court's view, NMFS "converted National Standard 8's mandate that [NMFS] take into account impacts on affected fishing communities when pursuing the MSA's conservation objectives into a tool to affirmatively reallocate fishing privileges to benefit specific fishing communities."

The Council should also consider explaining how the action is designed to provide benefits and/or stability to both harvesters and fishery-dependent communities. In doing so it could explain how it is responsive to changes in management regimes that necessitate putting protections in place. For example, the action requires participating CVs to deliver a defined portion of the overall A-season BSAI Pacific cod catch to AI shoreplants because the timing of the BS and AI Pacific cod fisheries, the compressed timing of the fishery, and the structure of the trawl CV apportionment create incentives for the entire trawl CV apportionment to be harvested from the BS and delivered to plants closer to the BS fishing grounds. The AI fishery is then left for, primarily freezer longliners to harvest and process the catch at-sea. Together these factors, make it impossible for the trawl CVs that are dependent on the AI fishery and the AI shoreplants to effectively compete for a sufficient share of the sector's allocation to conduct viable fishing operations.

The rationale for creating the AI CQ reserve for the benefit of stakeholders in the trawl CV sector of AI Pacific cod fishery is being considered by the Council because of the overall structure of the BSAI Pacific cod fishery and the Council's desire to consider some protections for those AI stakeholders. BSAI Pacific cod is allocated to the trawl CV sector at an amount equal to 22.1 percent of the combined BSAI ITAC. Trawl CVs may harvest some or all of the sector's A-season (74 percent of the annual amount) allocation in either the BS or AI, as long as the fishery remains open to directed fishing in that area. The fishery would remain open as long as the seasonal apportionment of Pacific cod has not been determined to be harvested; the fishery would be closed to directed fishing when the seasonal apportionment for that area is projected to be taken. Because the trawl CV sector traditionally begins fishing in the BS and the seasons have been open for a shorter time in recent years, it has been possible for the entire trawl CV sector A-season apportionment to be taken before trawl CVs begin fishing in the AI area. In that instance, the trawl CVs and shorebased processors that have been dependent on the fishery, in the recent past, would not be allowed to fish in the AI during the A-season, even if the overall AI Pacific cod fishery remains open to other sectors that have not fully harvested their sector allocation. The remaining AI TAC would need to be taken by trawl C/Ps, freezer longliners, pot gear vessels, jig vessels, and longline CVs. The freezer longline vessels have the largest allocation and would be most likely to harvest any remaining AI A-season ITAC. The only sectors that would deliver to the AI shoreplants are the pot, jig, and longline CVs and the amount they would deliver may not be sufficient to keep the shoreplants viable. The trawl CVs that may be more reliant on the AI than the BS may have limited opportunities to fish in the AI if the sector's apportionment is taken before the Pacific cod aggregate in the AI, allowing for lower costs to harvest the Pacific cod. Under the proposed allocation structure, the PCTC Program and limited access fisheries would have allocations that would allow the AI set-aside to be taken in the AI, unless trawl CVs or any other gear type harvested the AI ITAC before the AI set-aside could be taken. This possibility would be eliminated if the AI DFA was reduced by an amount equal to the AI trawl CV harvest set-aside to prevent other sectors from harvesting the entire AI ITAC before the set-aside is harvested.

Another factor that could limit Pacific cod harvests in the AI area is the halibut PSC limits that are implemented for the BSAI Pacific cod trawl CV fishery. Halibut PSC limits are established for the BSAI and if the cooperatives or the limited access fishery take the entire limit in the BS it would also prohibit cooperatives from delivering directed fishery BSAI Pacific cod to any processor.

Halibut PSC limits have not constrained the AI trawl CV sector fishery in the past, and it is anticipated that halibut usage under the PCTC Program may decline, but has been a concern in some years when the PSC limit was almost taken in the A-season before the Pacific cod sector allocation was taken. A discussion of halibut PSC limits and the division of those limits between trawl CVs and trawl C/Ps was provided under Element 3 (Section 2.7.3).

Allocation of halibut PSC among the trawl CV components of the BSAI Pacific cod fishery is not specifically addressed under Element 6. However, it is assumed that under Option 6.1 cooperatives would try to avoid halibut PSC to ensure the cooperative would be able to harvest their entire allocation. If halibut PSC do limit cooperatives or the limited access fishery from harvesting BSAI Pacific cod, it is expected to have greater impacts on later season fisheries than the A-season. Recall that the halibut PSC limit is an annual allocation and is not divided by seasons. Therefore, it is likely that the B-season and C-season would be impacted before the AI fishery, unless the value of AI fishery to harvesters is less than the B-season or C-season fisheries.

The simplest way for halibut PSC to be managed is to allocate all the PSC as described under Suboption 3.1.1 and letting the cooperatives manage its usage. If the Council wanted to ensure that some PSC was reserved for use in the AI fishery, it would need to define a mechanism to allocate it among CQ holders. The following example is used for illustrative purposes to show one way of calculating the amount that could be considered for the CQ reserve and is not intended to indicate a preferred alternative by the Council. It is intended to show the relative amount of halibut PSC that could be used to support an AI fishery if allocations are made to support an AI fishery. In this example, if 15 percent of the BSAI Pacific cod trawl CV A-season sector allocation is apportioned to the AI CQ reserve fishery, it means that 11.1 percent of the annual BSAI Pacific cod trawl CV sector allocation is apportioned to the AI CQ reserve fishery. Table 2-104 shows the amount of halibut PSC reserve that would be proportional to a 11.1 percent of the sector apportionment. Recall that the halibut PSC limit is currently set as a combined limit for both the trawl CV and trawl C/P sectors. Table 2-104 considers a range of 50 percent to 100 percent of the halibut PSC limit being apportioned to the trawl CV sector. Again, this range was arbitrarily selected by the analyst to facilitate the discussion and does not represent a range that is being considered by the Council. If 90 percent of the trawl BSAI Pacific cod halibut PSC limit was selected and an equal proportion of the halibut PSC limit and the Pacific cod ITAC were apportioned to the trawl CV sector, it means that a 39.1 mt halibut PSC limit would be apportioned as the AI CQ reserve. That halibut PSC limit would be used to support the AI CQ reserve fishery. During years the entire halibut PSC limit is not taken it could be either left in the water to benefit the halibut biomass or could be reapportioned to qualified LLP license holders after March 21 when the Pacific cod is reapportioned.

Table 2-104 Range of possible halibut PSC limit apportionments assigned to the AI set-aside Pacific cod trawl CV fishery.

A-season trawl CV cod allocated to the AI shoreplants	% of annual BSAI trawl CV cod allocation assigned to AI set-aside fishery	Metric tons of halibut apportioned to AI set-aside based on % of 391mt of trawl limited access halibut PSC limit assigned to CVs					
		50%	60%	70%	80%	90%	100%
10%	7.4%	14.5	17.4	20.3	23.1	26.0	28.9
11%	8.1%	15.9	19.1	22.3	25.5	28.6	31.8
12%	8.9%	17.4	20.8	24.3	27.8	31.2	34.7
13%	9.6%	18.8	22.6	26.3	30.1	33.9	37.6
14%	10.4%	20.3	24.3	28.4	32.4	36.5	40.5
15%	11.1%	21.7	26.0	30.4	34.7	39.1	43.4
16%	11.8%	23.1	27.8	32.4	37.0	41.7	46.3
17%	12.6%	24.6	29.5	34.4	39.4	44.3	49.2
18%	13.3%	26.0	31.2	36.5	41.7	46.9	52.1
19%	14.1%	27.5	33.0	38.5	44.0	49.5	55.0
20%	14.8%	28.9	34.7	40.5	46.3	52.1	57.9
21%	15.5%	30.4	36.5	42.5	48.6	54.7	60.8
22%	16.3%	31.8	38.2	44.6	50.9	57.3	63.7
23%	17.0%	33.3	39.9	46.6	53.2	59.9	66.5
24%	17.8%	34.7	41.7	48.6	55.6	62.5	69.4
25%	18.5%	36.2	43.4	50.6	57.9	65.1	72.3

Table 2-105 provides a summary of the BSAI Pacific cod fishery TACs, ITACs, and trawl CV apportionments for the years 2003 through 2020. Information in the far righthand column shows the percentage of the BSAI A season trawl CV apportionment that would be needed annually and on average to allocate 5,000 mt to the AI shoreplant(s). The percentage ranges from 13.1 percent to 24.7 percent of the trawl CV A season apportionment, with an average of 16.2 percent. The 10 percent to 25 percent allocation range being considered by the Council would allocate from 3,088 mt to 7,721 mt, on average.

Table 2-105 BSAI TAC, ITAC, trawl CV sector total and A season apportionments (mt), and percentage of A season, 2003 through 2020

Year	TAC	ITAC	ITAC as % of TAC	CV % of ITAC	Trawl CV annual apportionment total	Trawl CV A season apportionment	10% of A season	25% of A season	% to equal 5,000 mt
2003	207,500	191,938	92.5%	22.1%	42,418	31,390	3,139	7,847	15.9%
2004	215,500	199,338	92.5%	22.1%	44,054	32,600	3,260	8,150	15.3%
2005	206,000	190,550	92.5%	22.1%	42,112	31,163	3,116	7,791	16.0%
2006	194,000	174,067	89.7%	22.1%	38,469	28,467	2,847	7,117	17.6%
2007	170,720	157,916	92.5%	22.1%	34,900	25,826	2,583	6,456	19.4%
2008	170,720	152,453	89.3%	22.1%	33,692	24,932	2,493	6,233	20.1%
2009	176,540	157,916	89.5%	22.1%	34,899	25,826	2,583	6,456	19.4%
2010	168,780	150,975	89.5%	22.1%	33,365	24,690	2,469	6,173	20.3%
2011	227,950	203,559	89.3%	22.1%	44,987	33,290	3,329	8,323	15.0%
2012	261,000	233,073	89.3%	22.1%	51,509	38,117	3,812	9,529	13.1%
2013	260,000	232,180	89.3%	22.1%	51,312	37,971	3,797	9,493	13.2%
2014	253,894	226,727	89.3%	22.1%	50,107	37,079	3,708	9,270	13.5%
2015	249,422	222,734	89.3%	22.1%	49,224	36,426	3,643	9,106	13.7%
2016	251,519	224,606	89.3%	22.1%	49,638	36,732	3,673	9,183	13.6%
2017	239,399	213,784	89.3%	22.1%	47,246	34,962	3,496	8,741	14.3%
2018	203,831	182,021	89.3%	22.1%	40,227	29,768	2,977	7,442	16.8%
2019	180,689	161,355	89.3%	22.1%	35,659	26,388	2,639	6,597	18.9%
2020	138,839	123,983	89.3%	22.1%	27,400	20,276	2,028	5,069	24.7%
Average						30,883	3,088	7,721	16.2%
Std Dev						5,251	525	1,313	

Source: NMFS annual specifications

The suboption under Option 6.1 would reduce the amount assigned as AI CQ reserve using the percentage formula by any amount Adak/Atka processors receive as a direct allocation of harvesting shares under the PCTC Program, AIDQ, or through other legislation. This indicates that Option 6.1 could be established in conjunction with Option 6.2 and/or Element 5.3. If more than one option was selected the amounts would be cumulative, but never exceed the maximum established under either Option 6.1 or Option 6.2.

The impacts of the proposed action on National Standard 4 are most likely to occur under Option 6.2 but could also occur under Option 6.1. Option 6.2 would provide the trawl CV sector the tools needed to promote conservation by encouraging a rational, more easily managed use of the resource. The proposed LAPP program established under this action and the specific provision defined under Option 6.2 for the AI would provide an allocation alternative that could slow the pace of the fishery and promote conservation.

Option 6.1 could provide similar conservation savings since the vessels delivering to AI shoreplants are able to use or manage the AI CQ reserve as part of their individual allocation. AI shoreplants should be able to work with the harvest fleet to establish a rational delivery pattern that would allow the processing plant to produce higher quality products than when the harvest vessels are competing for a share of the catch and delivering Pacific cod the plant in a more compressed time period. A set delivery pattern for vessels in the fleet would allow the capacity of the CV fleet to more closely match the target level of delivery, since vessel operators would know the amount of catch that is expected to be delivered over a given period of time. If a vessel can operate efficiently within the constraints established, they may work towards developing a market with the AI shoreplant.

Enforcement of agreed upon provisions would be done through civil contracts and not by state or federal enforcement agencies. During years that more than one AI shoreplant would operate this model would require agreement between harvesting vessels that have a market with one or both processors. This would add a layer of complexity to the negotiations which may be difficult to overcome. It would be incumbent on harvesters to negotiate the delivery contracts since the ability of the processors to be part of these

agreements are limited by other regulatory restrictions to negotiate terms of delivery with another processor. However, AI processors are expected to acquire information through their CV fleet that would aid in the development of contracts to facilitate harvest deliveries.

2.7.6.2. Option 6.2 – Annual allocation of BSAI quota to an AI shoreplant operator

Option 6.2 would establish an annual allocation of quota to an AI shoreplant operator when the city of Adak or Atka files a complete and approved intent to process application with NMFS. This type of cooperative quota is referred to in the paper as AI delivery quota (AIDQ). AIDQ would be assigned as a percentage of the annual trawl CV catch limit. The allocation is an annual allocation, so the harvest privilege is issued as pounds of quota and the underlying QS, that is a long-term harvest privilege, is not held by the plant operator. Under the proposed structure NMFS would hold the QS and issue the resulting pounds of quota to the processor operator, unless the suboption is selected to issue the annual quota to the entity representing the community listed on the intent to process. That quota could be in the form of CQ with similar characteristics established under Option 6.2 for other cooperatives that form or could be treated as an individual fishing quota (IFQ) that is held by the processor operator, depending on whether the AI shoreplants form a cooperative(s). If treated as IFQ, the Council's program defines whether the quota would count towards use caps. Ownership caps would not be impacted because NMFS would hold the QS units associated with the AIDQ, so no ownership of the underlying AIDQ fishing privilege could be permanently transferred. Only the annual fishing privilege and the use of that privilege on an annual basis.

Table 2-106 shows the amount of AIDQ that would be allocated to AI shoreplant operators when the allocation is set at 5.5 percent of the annual BSAI trawl CV sector apportionment. The calculation is provided for each year from 2003 through 2020 to show the variation in the trawl CV sector apportionment and how it would have impacted a 5.5 percent allocation of AIDQ. Information in the far-right side column reports the difference between the AIDQ at 5.5 percent of the annual BSAI trawl CV sector apportionment and 5,000 mt since the option allocates the lesser of the two amounts. The bottom rows of the table are presented to show the average allocation that would have resulted over the period considered and one standard deviation from the mean over the period.

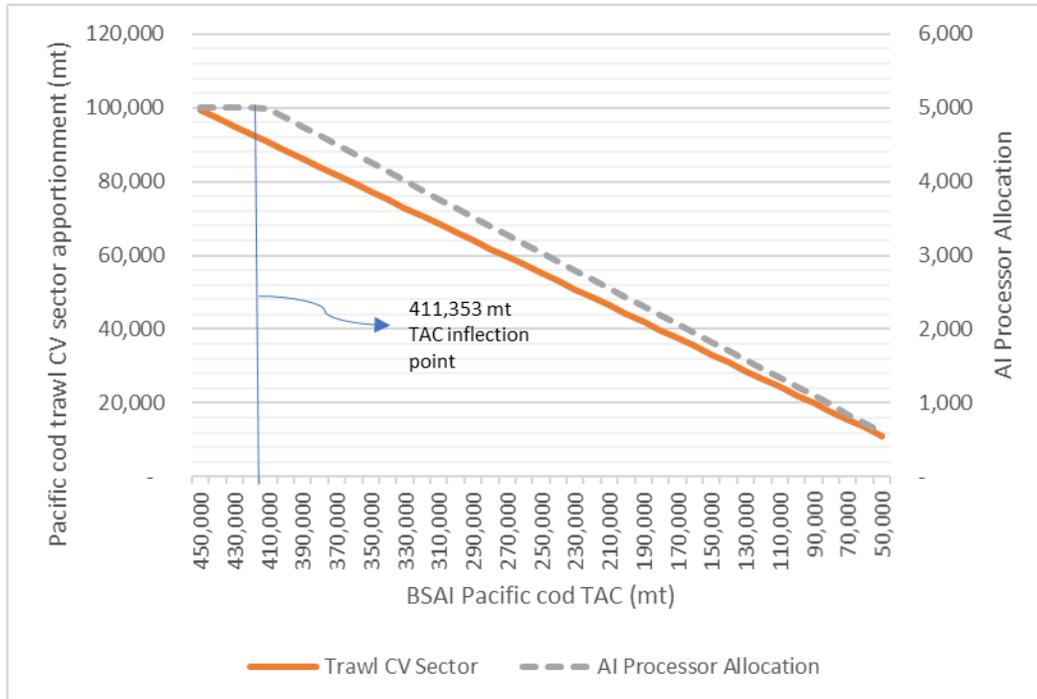
Table 2-106 Estimated AIDQ allocation under ITACs established from 2003 through 2020

Year	TAC	ITAC	ITAC as % of TAC	CV % of ITAC	CV total (mt)	mt at 5.5%	% of trawl CV to equal 5,000 mt	mt difference between 5,000mt and 5.5%
2003	207,500	191,938	92.5%	22.1%	42,418	2,333	11.8%	2,667
2004	215,500	199,338	92.5%	22.1%	44,054	2,423	11.3%	2,577
2005	206,000	190,550	92.5%	22.1%	42,112	2,316	11.9%	2,684
2006	194,000	174,067	89.7%	22.1%	38,469	2,116	13.0%	2,884
2007	170,720	157,916	92.5%	22.1%	34,900	1,919	14.3%	3,081
2008	170,720	152,453	89.3%	22.1%	33,692	1,853	14.8%	3,147
2009	176,540	157,916	89.5%	22.1%	34,899	1,919	14.3%	3,081
2010	168,780	150,975	89.5%	22.1%	33,365	1,835	15.0%	3,165
2011	227,950	203,559	89.3%	22.1%	44,987	2,474	11.1%	2,526
2012	261,000	233,073	89.3%	22.1%	51,509	2,833	9.7%	2,167
2013	260,000	232,180	89.3%	22.1%	51,312	2,822	9.7%	2,178
2014	253,894	226,727	89.3%	22.1%	50,107	2,756	10.0%	2,244
2015	249,422	222,734	89.3%	22.1%	49,224	2,707	10.2%	2,293
2016	251,519	224,606	89.3%	22.1%	49,638	2,730	10.1%	2,270
2017	239,399	213,784	89.3%	22.1%	47,246	2,599	10.6%	2,401
2018	203,831	182,021	89.3%	22.1%	40,227	2,212	12.4%	2,788
2019	180,689	161,355	89.3%	22.1%	35,659	1,961	14.0%	3,039
2020	138,839	123,983	89.3%	22.1%	27,400	1,507	18.2%	3,493
Average					41,734	2,295	12.0%	2,705
Std Dev					7,096	390		

The values have a normal distribution indicating that about 68 percent of the values are within plus or minus one standard deviation of the average (mean) and about 95 percent of the values are within two standard deviations of the average. Based on data from the 2003 through 2020 fisheries, we would expect the AIDQ to fall between 1,515 mt and 3,075 mt about 95 percent of the time.

Figure 2-13 shows the trawl CV sector apportionment and the resulting AIDQ that would be allocated, based on 5.5 percent of the trawl CV sector apportionment being allocated as AIDQ. Because the AIDQ is limited to the 5,000 mt under the proposed alternatives, the AIDQ flattens out after the combined BSAI TACs reach 411,353 mt. At the current combined TAC of 138,000 mt the AIDQ would be 1,507 mt., or about 3,500 mt below the 5,000 mt limit imposed under the action.

Figure 2-13 Option 6.2 – 5.5 percent AIDQ allocations by TAC and trawl CV sector apportionment



AIDQ allocated under this provision must be harvested from the AI and delivered to the AI shoreplant whose operator was initially issued the quota. CQ issued under Option 2.2 would not have an AI delivery requirement but could be delivered to an AI shoreplant if the cooperative members agreed to the delivery conditions. NMFS would need to be able to track the AIDQ separately from the CQ issued under Option 2.2. This is necessary to ensure that AIDQ is harvested from the AI and delivered to an AI shoreplant.

Any constraints placed upon AIDQ quota is expected to reduce its market value relative to other BSAI CQ that may be transferred. AIDQ value is expected to be lower if there are higher costs to harvest the fish in the AI and/or lower exvessel prices are paid by plant because of harvest timing, product quality, or limited competition to purchase the fish. These limitations are expected to result in this quota having a lower value than other CQ that may be harvested from either the BS or AI and delivered to any processor that has the required state and federal permits necessary to take groundfish deliveries. The Council is also considering a suboption that would allow AIDQ to be transferred to any cooperative and be delivered to a processor that is not an AI shoreplant. Implementing that suboption is expected to allow the AIDQ to have a market value similar to the general CQ that is transferred.

Depending on how the contracts for those transfers are constructed and the agreements between the communities applying for the quota and the AI shoreplant operators, this would determine the benefits that accrue to the plant operator versus the community. For example, if once the plant operator is issued the AIDQ and they have total control over its use and receive all the revenue generated from the quota, they could capture all the revenue from transfers. It would also mean that the community could lose any tax revenue and employment benefits that are derived from landing the fish in the community. If on the other hand the community retains some authority over the use and sale of the AIDQ, it could generate some value from any sale of the AIDQ that could partially or fully off-set the fish not being landed and processed in the community.

Whether the Council will recommend allocating CQ on a seasonal basis has not been determined. The Council requested that staff consult with NMFS to determine whether seasonal allocations of quota would be required to protect Stellar Sea Lions given that the cooperative structure is expected to slow the pace of

the fishery and 74 percent of the sector's allocation is available for harvest in the A season. The question essentially is if up to a 5.5 percent AIDQ derived from the trawl CV annual apportionment could trigger a consultation of the Steller sea lion protection measures if it was all delivered in the A-season or would the cooperatives need to reduce their other A-season catch to account for those deliveries. The 5.5 percent AIDQ accounts for 1.2 percent⁷⁹ of the overall BSAI Pacific cod fishery and about 7.4 percent of the trawl CV A-season.

The AFA and Amendment 80 cooperative programs do not assign quota by seasons. Cooperatives are responsible for ensuring that seasonal limits are not exceeded. That structure would provide the greatest flexibility to the fleet to determine which vessels would harvest quota at specific times of the year. If the seasonal allocations are determined to be necessary, the CQ will have both seasonal and potentially area delivery requirement designations assigned. Those designations will need to be tracked by NMFS to ensure that all cooperatives are harvesting appropriate amounts of their quota during the seasons and delivering them to the allowed processors.

2.7.7. Element 7 – Transferability

7.1. Catch histories are attached to LLP licenses and are non-severable from the LLP. Transfer of an LLP license eligible for this program results in the transfer of any program eligibility and catch history/harvest shares associated with the LLP.

7.2. Allocations based on processing history are issued as separate permits. *To be analyzed: Use and transfer restrictions on processor cooperative shares if selected (e.g., options for restrictions on use on company-owned vessels, transferability restrictions).*

7.3. Annual allocations of Pacific cod and PSC are transferable between cooperatives.

7.4. Post-delivery transfers of cooperative quota are permitted, but must be completed by December 31 (i.e., prior to annual cooperative quota expiring).

This section addresses the transferability of the PCTC Program privileges, as required under the MSA. Element 7.1 states that catch histories are attached to LLP licenses and are non-severable. Transfers of an LLP license that receives QS under the PCTC Program would result in the transfer of any program eligibility and the catch history/QS associated with the LLP license. Element 7.2 would establish permits that allocations based on processing history are issued. The Council has not included options for restricting initial allocations of harvest shares or the permit established under this action to processors at this time but has indicated that the analysis should include a discussion of different use and transfer restrictions. Element 7.3 would allow for annual allocations of Pacific cod and PSC to be transferable between cooperatives. Element 7.4 would allow post-delivery transfers of CQ between cooperatives prior to December 31. This provision would allow cooperatives to cover any overage before the end of the calendar year without incurring a violation.

LLP license transfers are considered, for administrative purposes, permanent transfers. In general, transfers of LLP licenses are done through NMFS RAM and occur when the LLP licenses are not actively fishing. The primary reasons to use transfers are to remove or add a vessel to the LLP license, to change the ownership of an LLP license, or an operation of law, such as a court order. Inter-cooperative CQ transfers are annual transfers of a fishing privilege and will be developed as part of the cooperative provisions established by the Council based on its intent for transfer flexibility.

⁷⁹ AIDQ as a percentage of the overall BSAI Pacific cod fishery (0.012 = .221 * .055)

Example from the CGOA Rockfish Program

This section summarizes how transfers occur in the CGOA Rockfish Program. The CGOA Rockfish Program is an LLP-based program and is very similar to the proposed PCTC Program structure. QS can be transferred permanently, by selling the LLP license. Additionally, CQ can be transferred on an annual basis (leased) both within the cooperative and between cooperatives. NMFS RAM approves transfers of QS when LLP licenses are sold and CQ transfers that are between cooperatives. NMFS does not approve transfers that take place within a cooperative during the fishing year. NMFS will review the data at the end of the year to ensure the cooperative did not harvest more than their allocation or that use caps were not exceeded by vessels within the cooperative.

In the CGOA Rockfish Program, an LLP license holder that is eligible for the program would be permitted to transfer the LLP license and all its endorsements and assigned catch history. The transfer includes any privilege to participate in the CGOA Rockfish Program and any other privilege that is associated with or arises from holding the license. The interest in the CGOA Rockfish Program that is derived from the license is not severable from the license, or divisible. Any transfers of annual CQ allocations would be temporary transfers of that single year's allocation. A person holding an LLP license that is eligible for the CGOA Rockfish Program may transfer that LLP license. That transfer will effectively transfer all history associated with the LLP license and any privilege to participate in CGOA Rockfish Program that might be derived from the LLP. If an LLP license is transferred between cooperatives, the cooperative manager sends NMFS an updated cooperative agreement indicating changes in LLP license ownership.

The Rockfish Program permits post-delivery transfers of CQ. There are no limits on the number or magnitude of post-delivery transfers. All post-delivery transfers must be completed by December 31. However, no cooperative vessel will be permitted to begin a fishing trip, unless the cooperative holds unused CQ.

2.7.7.1. Element 7.1 - Harvester privilege transfers

The provisions in Elements 7.1 and 7.3 provide guidance on how the Council would like to handle transfers. Element 7.1 would create restrictions on the severability of the catch history and resulting QS from the LLP license. Any transfers of the LLP license via a sale, are considered permanent transfers, and would result in the transfer of eligibility of harvesting within the catch share program as well as the catch history or QS associated with the LLP license.

Keeping the catch history and program allocations associated with an LLP license is consistent with other catch share programs, like the CGOA Rockfish Program. Allowing persons to sever the catch history and program allocations associated with the LLP license would be complicated and expensive to transfer, for both the process of approving the transfer and the programming ramifications. The transaction would require approval from NMFS and would only be official after NMFS receives the application and approves the transfer. Allowing catch history and the resulting quota to be separated from an LLP license could also foster consolidation of the BSAI Pacific cod CV fleet. The issue of non-severability of catch history from an LLP license and its impact on consolidation was discussed in Amendment 111 to reauthorize the GOA Rockfish Program (NPFMC, 2020).

Cooperatives would be permitted to engage in the temporary transfer of CQ. Transfers of this nature would be for a single year's annual allocation, with the QS remaining with the LLP license.

CQ allocated to a cooperative by NMFS would be based on the LLP license assigned to the cooperative on an annual basis. The LLP license holder would be allowed to change cooperatives annually. Once CQ is assigned to a cooperative, NMFS would need to approve transfers to another cooperative to accurately account for the harvest a cooperative may take in a given year.

Ownership and use caps would limit any trawl CV from catching more than a specified percentage of the Pacific cod allocation to the sector. An option could be selected to grandfather vessels that historically

exceeded that limit. No cooperative would be permitted to hold or use in excess of a defined percentage of the trawl CVs sector's allocation, while no entity would be permitted to hold or use in excess of a defined percentage of the trawl CV sector's allocation. This cap would be applied to limit the number of shares that a person could bring to a cooperative, either through holding an LLP license or through inter-cooperative leasing. Finally, when the Council developed the CGOA Rockfish Program it established a one-way transfer of quota from the offshore sector to the onshore sector. This was implemented to protect the shoreplants in Kodiak and the community of Kodiak. The PCTC Program considers limits on the amount of Pacific cod that may be delivered to C/Ps acting as a MS and the number of C/Ps that may take deliveries (as defined under Amendment 120/108). This action does not define any other limitations that would prevent vessels that earned catch history by delivering to a shorebased processor from moving that catch off-shore through transfers of the LLP license to CVs associated with the offshore processing sector or through inter-cooperative transfers of CQ.

2.7.7.2. Element 7.2 - Processor Privilege Transfers

Element 7.2 creates a new permit for processors to which the processor allocations, based on processing history, would be issued. Two types of transfers should be considered. The first is transfers of QS that is assigned to the new processor permit. It is assumed that these permits would only be able to be held by processors, unless the Council indicated that transfer to harvesters or another defined person is allowed. The second type of transfer is the transfer of annual CQ derived from the QS units that are held. CQ would be transferred to either cooperatives or vessels within cooperatives that would then harvest and deliver the Pacific cod to the processor holding the QS or a different processor, depending on the contracts developed.

NMFS has issued permits to inshore processors, including AFA permits that were based on a one-time application. It is assumed that a similar structure would be used to create the permits that may be assigned processor privileges. NMFS will issue to an owner of a shoreside processor, stationary floating processor, mothership, or C/P a BSAI Pacific cod processors harvest share permit upon receipt and approval of a completed application. That permit would be assigned the processor harvesting QS units based on the qualifying processing history of the applicant. Once the processing QS is assigned to the permit, the QS would be non-severable (**Council needs to verify staff assumption**), as it is for the harvesting sector allocation of QS attached to LLP licenses. The permit could be transferred with all QS that is attached, as long as the buyer meets the criteria established by the Council to hold that permit. On an annual basis, the holder of the permit would be issued CQ that could be transfer to a CV operator within a cooperative. The CV operator could be affiliated, through ownership linkages, with the processing plant, unless the Council prohibits transfers of CQ to processor owned vessels. The permit would be subject to holding and use caps, which are discussed in Element 8.

The Council needs to decide if the new processor permits that are assigned QS would be transferrable to harvesters, processors, or any other entity that did or did not receive an initial allocation under the PCTC Program. For example, could processor issued QS be held by an entity that does not harvest or process Pacific cod (e.g. communities or NGOs), or could the initially issued processor, harvest allocation permits be sold only to harvesters or processors.

Previous Councils have requested that use and transfer restrictions on processor cooperative shares be analyzed. Specifically, Council's requested that options for restrictions on use on company-owned vessels and transferability restrictions be considered.

In Amendment 88 to implement the CGOA Rockfish Program, transferability of processor allocations was analyzed. Harvest shares held by processors included the following transfer options:

- Option 1: Those processors, at the plant level, who were initially issued harvest shares.
- Option 2: Those processors who have processed at least 100 metric tons to 250 metric tons of rockfish, delivered by catcher vessels, within any 2-year period during the new program.
 - Suboption 1: a shore-based processing facility in the City of Kodiak.

Suboption 2: to a shoreside processing facility.

Option 3: a holder of a CGOA Rockfish Program eligible CV LLP license.

Similar provisions might be selected for the Pacific cod fishery. In the CGOA Rockfish Program example, the limitations on holding QS were structured so that only past or current participants could hold the permit. Relative to the Pacific cod fishery under consideration, similar options may include holders of a Pacific cod processing permit, processors that received a given level and duration of deliveries from the limited access fishery, or a person that holds a LLP license with valid Pacific cod QS attached would be eligible to purchase a processing permit issued under this action. The Council could also consider broadening the list of eligible permit holders to include new entrants into the fishery that have not been active in the processing of BSAI trawl CV Pacific cod in the recent past, communities that are the home of processors, and/or any other entity selected by the Council. The Council could also consider specific restrictions on the types of processors that could purchase the permits. For example, the Council could prohibit C/Ps, motherships, processor operators that do not have a shorebased plant located in the BSAI region, and/or floating processors from receiving the permits by transfer. Some⁸⁰ or all of these processors would still be eligible to process Pacific cod allocated under the program. However, they could be limited in their ability to hold harvest shares issued to processors.

Should the Council adopt allocations of harvest shares to processors and allow their transfer, it could provide an additional means for LLP license holders to consolidate QS. While it is likely that most transfers of processor allocations will be to another processor, with the sale of all processing interests associated with the Pacific cod fisheries, it is unlikely that a processor would permanently transfer the permit, if it intended to remain an active participant in the fishery. In addition, if a processor intended to exit the Pacific cod fishery, it is likely that the processor would keep all associated assets, including any permits and their QS holdings together in the sale. Consequently, only if sales to other processors are not permitted, or the processor acquiring the interests of a processor is limited by a share cap, would transfers likely to be made to harvesters. In these instances, it is likely that the transfers would be made to harvesters that have associations with the acquiring processor, to increase the potential for that processor to continue to receive landings from the shares. If share transfers to processors are not permitted, over time, all harvest shares can be expected to gravitate to LLP license holders. It should be noted that this transition may take several years, as processors are unlikely to transfer the shares, as long as they remain in the Pacific cod fishery. In addition, it is possible that some of the LLP license holders may also have processing interests in the fisheries.

The transfer of CQ derived from processor issued quota could be to either cooperatives or individual CV operators that would then assign the quota to a cooperative. Requiring the processor to assign the CQ to a cooperative is the most direct and least complicated method, especially if the voluntary cooperative model is selected. Each processor would assign the CQ to the cooperative they are associated with and the cooperative agreement would define how that CQ is distributed among the CVs. Once the CQ is in the cooperative it may be difficult for NMFS or other stakeholders outside of the cooperative to track how that specific CQ is used. If the Council wanted to limit the use of that CQ within the cooperative⁸¹ it would likely need to base those limitations on the relative amount of CQ a LLP license holder brings into the cooperative initially or through vessel use caps defined under Element 8.

2.7.7.3. Element 7.3 - Pacific cod and PSC CQ are transferrable between cooperatives

This provision would allow the transfer of PCTC Program Pacific cod and PSC CQ between cooperatives that receive an annual allocation of Pacific cod CQ prior to the start of the fishing year. To encourage cooperative formation, the CGOA Rockfish Program relaxed cooperative formation requirements that were established under the Rockfish Pilot Program. The minimum number of LLP licenses with affixed

⁸⁰ Certain C/Ps may not be eligible to act as a mothership based on previous Council actions.

⁸¹ For example, limitations on the amount of this CQ that could be used on processor owned vessels or any other object the Council may establish.

rockfish QS required to form a cooperative was eliminated. However, CGOA Rockfish program CQ may only be transferred to a cooperative with a minimum of two LLP licenses. There was no requirement that the LLP licenses are held by different persons. These changes were implemented to encourage cooperative formation by providing greater flexibility to transfer CQ to meet operational demands while providing some limits on the CQ being treated as IFQ. **The Council defines the cooperative provisions under Element 1 and Element 9. The rules regarding the number of LLP licenses required to form a cooperative are appropriately defined in Element 1.**

As described earlier in this section, NMFS would need to approve any inter-cooperative transfers. Intra-cooperative transfers by members of a cooperative would be managed by the cooperative through civil contracts. To monitor use caps, inter-cooperative transfers of CQ would need to be conducted through individuals. Persons receiving an initial allocation in excess of the use cap may would be grandfathered at the level of the allocation, if the Council selects that option. They would not be allowed to acquire additional CQ through inter-cooperative leasing.

Inter-cooperative transfers allow the fishery to be conducted in a more rational manner and may improve the net benefits derived from the program. These transfers must meet any rules established by the members of the cooperative and depending on the structure of the cooperatives that are established an associated processor.

Transfers would be limited by any cooperative use caps that are imposed on cooperatives and potentially vessel use caps if those are a limiting factor. If a cooperative has reached a cooperative use cap, individuals within that cooperative would not be allowed to acquire additional CQ through an inter-cooperative transfer. If a cooperative over-harvested the amount of CQ it holds and was at the cooperative use cap prior to beginning the fishing trip, it would be subject to a potential enforcement action because it could not contract for post-delivery transfers since the cooperative did not have available unharvested quota prior to the start of the fishing trip.

2.7.7.4. Element 7.4 - Post-Delivery Transfers

Like the CGOA Rockfish Program (NPFMC, 2011), Element 7.4 would include a provision that permits post-delivery transfers of CQ that must be completed prior to the annual CQ expiring. If this option is not included, all overages are subject to an enforcement action and penalty when they occur. Enforcement actions and penalties are at the discretion of agency enforcement officers and attorneys. Since, the program has not been implemented, it is difficult to predict the extent to which participants will harvest more than their allocations of Pacific cod or PSC species. As each cooperative approaches its allocation limit, it is increasingly likely that some overage could occur.

End of year consolidation will be driven, in part, by the requirement that a vessel not begin a fishing trip without unharvested CQ of all species allocated under the program. Allocations will likely be consolidated in one or two cooperatives with harvesters in those cooperatives making ‘sweep up’ trips, to complete the season’s harvests. Although consolidation of allocations in one or two cooperatives can be used to avoid overages, it is anticipated that unintentional small overages may occur.

Based on the option, there would be no limits on the number or magnitude of post-delivery transfers. No cooperative vessel under this catch share program would be permitted to begin a fishing trip unless the cooperative holds unused cooperative quota that could be made available to the vessel in the event they need it. This restriction prevents a cooperative from not having enough quota at the end of the year. The intent of this provision is to improve cooperative flexibility, reduce potential violations from overages, reduce enforcement costs, and allow more complete harvests of the cooperative’s allocation. The transfer would need to be completed by December 31, prior to the cooperative quota expiring for the year.

Despite the absence of limits, the provision is likely to be used in a limited way. Participants are only likely to rely on the provision for unintended small overages. Analysts do not have data for overages because the existing fishery is not currently allocated quota. In the CGOA Rockfish Program, this

provision is used if an overage occurred. Overage not covered with a transfer and, thus, subject to penalty, should be fewer. Finally, requiring the overage to be covered on or before December 31 of the year in which the overage occurred could lead the cooperative to unreasonably delay finding shares to cover the overage, which could result in some uncovered overages. On the other hand, the potential cost of overage penalties is likely to deter most cooperatives from delaying coverage of an overage. Delaying obtaining a post-delivery transfer needed to coverage an overage until shares are unavailable for that transaction is unlikely to be a persistent problem.

If no post-delivery transfers are permitted, cooperatives that have an overage at the time of landing cannot make a transfer to cover that overage. Processors are generally unaffected by this provision, since the overage charged to the harvester will not affect the processor's operations. Minor changes in the enforcement burdens are expected if the provision is not implemented, as a few overages are likely to occur unless cooperative are very conservative in their harvest strategies.

Based on an expectation that limited overages would occur and the likelihood that this action would provide additional opportunities for cooperatives to settle their quota accounts after a landing, it will reduce the risk of enforcement actions that result from overages. The option would establish a flexible system of post-delivery transfers to cover overages. Limits on the amount and number of transfers are based on the amount of unused CQ that a cooperative holds. However, the cooperatives are likely to rely on the provision for unintended small overages. In most cases, these transfers could be prearranged through an inter-cooperative agreement. Overage not covered with a transfer by December 31 are subject to penalty. However, the post-delivery transfer option should reduce the number of penalties. The development of an inter-cooperative agreement is expected to contribute to relatively stable and predictable price for post-delivery transfers. Although, based on the existing inter-cooperative agreements, punitive lease rates may apply to large overages. Lease rates for minor, infrequent overages are likely to be at a reduced rate.

Processors are likely to participate in the negotiation of these prearranged transfers. A processor is unlikely to approve a transfer that it views as significant and adverse, in the absence of compensation. This negotiating power is expected to be higher if they are allocated CQ that is designated to be fished in a cooperative. Although this processor involvement is likely to complicate transactions for harvesters, the need for processor consent will ensure that transfers are not detrimental to processors.

The increase in administrative and record keeping requirements to address post-delivery transfers is likely to be small. Yet, changes in the timing of administrative decisions and processes may pose challenges. In general, NMFS will oversee CQ accounts and usage, maintaining a record of any overage. Instead of referring overages to NMFS OLE immediately, that notice would be deferred until after December 31. The burden of these notices is expected to be minor. Overall, allowing post-delivery transfers should reduce the number of enforcement actions prosecuting overages.

A minor overall net benefit to the Nation is likely to arise from this action. The action is likely to reduce the number of overages, by allowing participants to use post-delivery transfers to balance catch quota accounts. The risk of increasing the magnitude of any overage is also limited, since enforcement actions and the associated penalties are expected to deter overharvest of allocations. The action has the potential to reduce administrative and enforcement costs, by reducing the number of enforcement actions for overages.

2.7.8. Element 8 – Ownership and Use Caps

8.1. Harvester-issued cooperative shares: No person may hold or use more than ___ percent of the Pacific cod cooperative quota or PSC apportionment issued:

Option 8.1.1. Using the individual and collective rule or

Option 8.1.2. Using 10% ownership threshold or management and control for assigning quota to a holder's/entity's cap.

Suboption 8.1. Persons over the cap at the time of implementation are _____ grandfathered.

8.2. No vessel may harvest more than ___ percent of the annual Pacific cod cooperative quota or PSC apportionment issued in the fishery.

8.3. Processor-issued cooperative shares: No person may hold or use more than ___ percent of the Pacific cod cooperative quota or PSC apportionment:

Option 8.3.1. Using the individual and collective rule or

Option 8.3.2. Using 10% ownership threshold or management and control for assigning quota to a holder's/entity's cap.

Suboption 8.3. Persons over the cap at the time of implementation are _____ grandfathered.

8.4. No processing facility may process more than ___percent of the Pacific cod cooperative quota.

Suboption 8.4. Processing facilities over the cap are grandfathered.

Similar to other rationalization actions of the Council, this cooperative program includes options to limit excessive accumulation of shares in the PCTC Program. For the CV harvest sector, options limit QS holdings, CQ use, and vessel CQ use. For processors, options limit harvest shares holdings and processing activity.

Ownership and use caps are typically implemented to prevent a single person, vessel or processing facility from harvesting, processing, or controlling an excessive amount of the LAPP shares. Ownership and use caps under Element 8 would be imposed to limit consolidation of both harvesters and processors in the BSAI trawl CV sector. In development of previous LAPPs, the Council tried to balance the goals of improving economic efficiency, maintaining employment opportunities for crew, and providing financially affordable access opportunities for new participants. The Council could consider specific goals and objectives they would like to achieve in development of the PCTC Program, including consolidation and economic efficiencies. This action could incentivize the stacking of LLP licenses on vessels, processor permits, and the consolidation of ownership. Given the potential for consolidation of harvesting and processing privileges, all LAPPs must consider excessive share provisions as the program develops.

Section 303A(c) of the MSA requires that the Council must consider excessive consolidation in the harvesting and processing sectors to ensure that LAPP permit holders do not acquire an excessive share in the program by:

1. Establishing a maximum share, expressed as a percentage of the total limited access privileges, that a limited access privilege holder is permitted to hold, acquire, or use; and
2. Establishing any other limitations or measures necessary to prevent an inequitable concentration of limited access privileges.

The Council must determine both the rationale for its ownership and use caps and the appropriate level of those caps necessary to serve those ends. In assessing the caps, the participation patterns of LLP license holders, vessels, and processors should be kept in mind. Participants have historically participated in several different fisheries throughout the year. Consolidation could have benefits, allowing greater specialization, improving production techniques, quality of landings, and potentially reducing bycatch and PSC.

Under the rules creating caps on share use and holdings, no person could hold LLP licenses or processor permits that, collectively, or within their own class, have associated shares in excess of the specific

threshold. Persons would also be prohibited from acquiring additional CQ arising from shares in excess of the threshold. Vessel and processing caps are interpreted similarly, such that no vessel/processor can harvest/process BSAI Pacific cod derived from shares in excess of the threshold.

Individual ownership and use caps for both CVs and processors may be calculated using either the “individual and collective rule” or the “10 percent ownership threshold rule.” The “individual and collective rule” defines how much of the sector’s catch history a person may use or hold is calculated. For example, persons that own 100 percent of an eligible LLP license or processing permit would be assigned 100 percent of the license’s history toward their use cap. If they hold 50 percent of the license, they are credited with holding 50 percent of the history assigned to that license. The “10 percent ownership threshold rule” states that when a person owns or controls 10 percent or more of another entity, all the quota and quota used by those entities is counted against their caps. For example, if an entity owns 20 percent of another firm, 100 percent of the quota used/owned by the two firms is counted against their caps. Once the person is assigned an amount of quota equal to the maximum excessive shares cap, that person would not be allowed to acquire any additional amount of the sector’s allocation.

Individual, vessel, and processing caps may include an option to grandfather any individual, vessel, or processor respectively that historically exceeded the cap. Such a provision would allow all individuals, vessels, and processors to maintain activity at the level of their initial allocations. Individuals, vessels, and processors over the cap at the initial allocation would not be allowed to acquire additional harvest shares, unless they divest of their initial allocation to a point at which they fell below the use cap. At that time, they would be permitted to acquire harvest privileges, until they reached the excessive share cap. If the option to grandfather allocations above the excessive share cap is not adopted, individuals who would receive initial allocations greater than the cap would not be allocated the portion over the cap. Unless the LLP license or processor permit is transferred to a person able to comply with the cap, that portion of the allocation would be redistributed, in proportion to qualifying history, to other eligible persons in the sector. Since vessels do not receive allocations, in the absence of a grandfather clause, all vessels (including any vessel historically harvesting in excess of the cap) would be prohibited from harvesting over the cap in the future. A vessel cap grandfather provision could be implemented by applying the grandfather to the license. So, any vessel using a license that received in allocation in excess of the cap would be permitted to harvest an amount up to the allocation derived from the LLP license.

Several factors could be used to assess whether excessive share caps on share-holdings and use will serve the objective of the Council. The number of participants that would remain in the sector if all participants buy or lease shares up to the cap would illustrate the potential limit on concentration of shares. The number of historical participants in the fisheries receiving allocations provides some indication of the number of participants that these fisheries may support and some, albeit crude, insight into whether the cap is consistent with past participation levels. Also, since allocations might be a reflection of historical participation, the number of persons that would receive allocations at or above the cap provides some insight into whether the cap is consistent with historical participation. However, it is understood that a qualification period that covers multiple years will likely allow more LLP licenses, vessels, and processors to qualify to participate than have ever participated in a single year.

The analysis below is intended to provide the Council with a discussion of the options under consideration, and available data that might form the basis for a decision of acceptable ownership and use caps. The information is based on caps selected for other LAPPs in the North Pacific and CAS data used for this proposed amendment.

Table 2-107 provides an overview of existing catch share programs and their ownership and use caps. Each of these programs varies in the number of participants, most relevant program objectives, and monitoring of accumulation.

Table 2-107 Ownership and use caps by catch share program

	Program goals most relevant excessive share provisions	Cap on individual share-holdings/use	Cooperative, "sector," or vessel, or entity share cap	Processing share cap	Grandfather clause	Monitoring accumulation limit compliance
IFQ Halibut and Sablefish	<ul style="list-style-type: none"> - Maintain fleet profile and historical business practices. - Limit consolidation to prevent excessive share accumulation and limit economic displacement. - Provide real-time data to support monitoring and compliance, resource assessment and industry self-management. 	<ul style="list-style-type: none"> - No one can hold more than 0.5% to 1.5% of halibut or sablefish shares in combinations of areas. - Ownership, not control based, evaluated using "individual and collective" calculation. - Block caps limit the number of indivisible groups of units (by species, area). Max is 3 halibut, 2 sablefish blocks if no unblocked is held. 	<ul style="list-style-type: none"> - Entity caps on QS holdings. - Percent of TAC caps for annual vessels landings. 	N/A (no processing shares in this fishery).	Yes	<ul style="list-style-type: none"> - NMFS approves all transfers, subject to holdership limits. - QS-holding entities must annually disclose ownership/membership to support cap computations.
AFA Pollock	To limit the degree of consolidation that could occur.	17.5%	Excessive harvesting share limit more than 17.5% of the pollock directed fishery allocations.	30% cap on processing shares.	N/A	<ul style="list-style-type: none"> - Vessel owners required to submit information on quota holdings annually. - Cooperatives distribute allocations among member vessels and oversee individual vessel harvests with contractually defined and privately administered penalties for violations of the cooperative agreement.
BSAI Crab		1 to 10% cap varies by fishery	<ul style="list-style-type: none"> - No cap for harvest share holdings by cooperatives. - 2 to 20% cap if operating outside of a cooperative (varies by fishery). 	30% cap on processing shares by fishery at the firm level	Yes	Vessel owners required to submit information on quota holdings annually.

	Program goals most relevant excessive share provisions	Cap on individual share-holdings/use	Cooperative, "sector," or vessel, or entity share cap	Processing share cap	Grandfather clause	Monitoring accumulation limit compliance
Amendment 80	Moderate potential adverse effects of consolidation of fishing operations on participants (loss of crew employment), while recognizing economic efficiencies to Amendment 80 QS holders.	A person may not individually or collectively hold or use more than 30% of the aggregate Amendment 80 QS units initially assigned to the Amendment 80 sector and resulting CQ.	-No cap for cooperatives -An Amendment 80 vessel may not be used to catch an amount of species greater than 20% of the aggregate Amendment 80 sector's species ITACs.	N/A	Yes	Vessel owners required to submit information on quota holdings annually.
CGOA Rockfish	To limit the degree of consolidation that could occur in the Central GOA rockfish fisheries.	For primary species a person cannot hold or use 4% of the QS assigned to the CV sector or 40% of the QS assigned to the C/P sector.	For primary species: 30% of QS assigned to CV sector for CV cooperatives, 8% CV sector CQ, 60% C/P sector CQ.	For primary species, Pacific cod, and sablefish separately 30% CV sector CQ for processors.	Yes	Vessel owners required to submit information on quota holdings annually.

In the CGOA Rockfish Program, which has similar elements to those being proposed for the PCTC Program, caps apply to CVs, catcher/processors, cooperatives, and processors. Use caps apply to CQ issued to cooperatives. Ownership and control caps apply to quota issued to LLP licenses and the owners of the LLP licenses. Processor caps limit the amount of CQ a processor may accept. In addition, the CGOA Rockfish Program included a grandfather provision that allowed persons whose initial allocation of QS and resulting CQ that was in excess of the use caps to retain that amount. A CGOA Rockfish harvester may not hold more than 4 percent of the aggregate rockfish primary species assigned to the CV sector. A CV may not harvest more than 8 percent of the quota of rockfish primary species during a calendar year. A CGOA Rockfish Program processor may not receive or process more than 30 percent of the quota allocated to the CV sector. Catcher vessel rockfish cooperatives are limited to not using more than 30 percent of the quota allocated to the CV sector. This cap is slightly larger than the greatest potential allocation to a single cooperative, so historically, no group of vessels that could enter into a cooperative could have harvested in excess of the cap, and no processor has historically processed in excess of the cap amount. The CGOA Rockfish Program cooperative use cap limits the degree of consolidation of fishing harvests by any one cooperative through the leasing of annual harvest privilege among cooperatives. The extent to which the cap prevents consolidation under the limited processor entry alternative prevents consolidation to an extent that no fewer than four cooperatives would exist and fish allocations under the program, or no fewer than four processors would participate in the fishery. Six processors have adequate processing to qualify for the CGOA Rockfish Program.

In other catch share programs, NMFS requires cooperatives to submit information through an annual cooperative application, which is required prior to receiving their annual allocation of cooperative quota. NMFS RAM receives the annual cooperative applications in addition to cooperative transfer requests and annual catch reports. NMFS uses the information in these forms to enforce and track use cap provisions.

The use caps determined by the Council in most of the catch share programs in the North Pacific are programmed into the permit application. If cooperative members attempt to go over the cap, there is an error message flagging that the cooperative member is over their allowed use cap prior to NMFS RAM issuing their quota. This flag would allow the cooperative to adjust their holding or use to remain under the holding or use cap.

Due to limited company ownership data, it is not possible to determine all ownership affiliations for this action beyond looking for companies with the same name and address. Instead, the Council and NMFS can monitor ownership affiliation annually through the information required in the annual cooperative application. The Council would need to provide rationale on why they are requesting the level of detail from LLP license ownership. Elaborate holding and use caps in the regulations may not accurately reflect NMFS's ability to enforce or track owner affiliations. NMFS is reliant on the information that supplements the cooperative applications and are limited in resources on verifying these relationships.

2.7.8.1. Element 8.1 - Harvesting Ownership Caps

Under Element 8.1, a person could not hold more than a percentage specified by the Council with the suboption that if at the time of initial allocation, they held more than the percentage set by the Council they would be grandfathered. In other words, it is assumed that under Element 8.1 persons would not be allowed to acquire any more quota if they are over the cap at the time of initial allocation, but they would be allowed to hold and use all the QS they are initially issued. In this option, the person receiving the initial allocation would be grandfathered in over the cap, but the cap would prevent the LLP license owner from purchasing or leasing quota after the initial allocation as long as they are above the ownership cap.

To determine the specified percentage that the ownership cap would apply, the Council should consider past harvesting patterns associated with each LLP license. Since the LLP license system has been in effect, a person may not own more than 10 LLP licenses. Since LLP licenses can be stacked on a vessel, it is assumed that the ownership caps would be smaller than the vessel harvesting caps. The number of participants in the fishery historically would provide some indication of the number of participants that the fishery has supported, and it would provide insight into whether the caps are consistent with past participation levels.

To provide this information, targeted BSAI Pacific cod catch by LLP licenses was aggregated for qualifying catch history years under Option 2.2.1, Option 2.2.2, Option 2.2.3 (described in Section 2.7.2 under Element 2) in Table 2-108. Since information is not available showing the percentage of ownership of any LLP license by person, LLP license holder addresses were used in the table as the best available proxy for affiliation to understand existing ownership, with the caveat that not all LLP licenses are filed using the same address. In other words, some LLP licenses would be centrally managed by one company and other LLP licenses would be managed separately, which means that LLP license owners may be undercounted or overcounted. Even though Options 2.2.1-2.2.3 vary slightly, the average between the three options is a reasonable proxy for estimating the number of LLP license holders that would be allocated quota initially under this action. Options 2.2.1-2.2.3 are similar enough to provide information for the Council to develop holdings and use caps.

To understand Table 2-108, consider the caps for Option 2.2.1. The top five average LLP license holders caught 8.8 percent of the total BSAI Pacific cod catch. If the holding and use cap was set at 5 percent, 37 LLP license holders would be subject to the selected cap (not grandfathered) and 6 would be grandfathered at their initial allocation. If the holding and use cap was set at 12%, all 43 LLP license holders would be subject to the established cap, and no grandfather provision would be implemented. Setting a cap this high provides a greater ability of transferring CQ within a cooperative compared to a lower cap, but it also provides a greater opportunity for excessive consolidation. If the holding and use cap was set at 1%, only 19 LLP license holders would be subject to the initial caps and 24 LLP holders would be grandfathered at their initial allocation. Setting a cap at such a low level would inhibit the

transfer of CQ between cooperatives, since many of the individuals within the cooperative would not be allowed to participate in those transfers. That limitation would reduce benefits of the cooperative structure related to the movement of quota to efficiently harvest the annual allocations. This highlights the balance that must be struck between setting a cap too high and allowing excessive consolidation and setting the cap too low and limiting the benefits of the cooperative structure more than necessary to achieve the Council's goals and objectives for the program.

Table 2-108 LLP license holders not grandfathered and grandfathered under Element 2.2, Options 2.2.1 through 2.2.3

Percent of BSAI Pacific cod catch	Option 2.2.1		Option 2.2.2		Option 2.2.3	
	Sum of LLP license holders not grandfathered	Sum of LLP license holders grandfathered	Sum of LLP license holders not grandfathered	Sum of LLP license holders grandfathered	Sum of LLP license holders not grandfathered	Sum of LLP license holders grandfathered
0-1%	19	24	21	25	25	25
1-2%	28	15	32	14	34	16
2-3%	32	11	35	11	39	11
3-4%	36	7	40	6	44	6
4-5%	37	6	40	6	44	6
5-6%	39	4	41	5	45	5
6-7%	39	4	42	4	46	4
7-8%	40	3	43	3	46	4
8-9%	40	3	44	2	48	2
9-10%	41	2	44	2	48	2
10-11%	43	0	45	1	49	1
11-12%	43	0	46	0	50	0

Source: AKFIN, Feb 2020; Source file is BSAI_PCOD_LAPP_Option2(2-20-20)

2.7.8.2. Element 8.2 - Vessel Harvesting Use Caps

Element 8.2 defines the proposed vessel use cap. A vessel use cap restricts the quota that can be consolidated and harvested on one vessel during the year. This excessive share measure is a tool the Council may consider if it wanted to limit the level of consolidation of vessels actively fishing that could occur or as a provision to protect, among other things, captain/crew employment. Without use caps, LLP owners could potentially work together within a cooperative and fish several persons' shares on a single vessel. This consolidation could have a ripple effect on skippers and crew resulting in loss of employment since fewer vessels would be operating. Crew shares could also diminish on the vessels used to harvest the CQ if shares are concentrated onto fewer vessels and those vessel owners must also pay out lease rates in addition to crew shares. Reductions in the number of CVs that are active in the fishery could also impact communities that provide services for these vessels, placing downward pressures on sales tax, support service employment, and usage fees for local waterfront facilities.

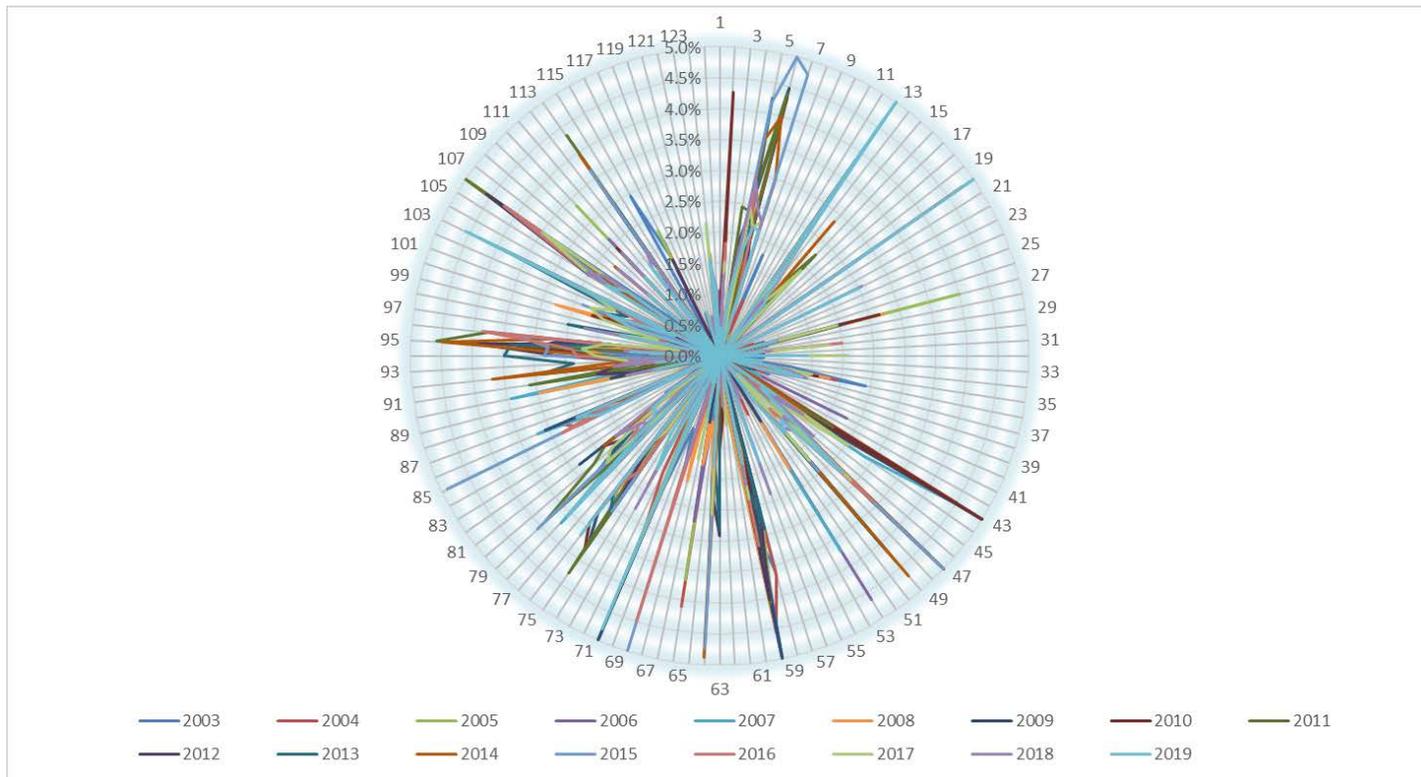
Without a use cap the amount of Pacific cod CQ harvested on a single trawl CV in this BSAI would be highly influenced by economies of scale. In other words, vessels that gear up for the BSAI Pacific cod fishery, would be used in that fishery for a longer period of time to reduce costs associated with changing fisheries.

Unless the use cap is very restrictive, it is expected to allow some consolidation to occur within the fleet. Consolidation is most likely to occur in the AFA fleet where vessel operators already lease Pacific cod within the pollock cooperatives. This practice is expected to continue or expand when LLP license holders are issued Pacific cod QS in addition to their pollock allocations that are assigned to their vessels.

Most of the cooperative programs in the North Pacific include a vessel harvesting cap. Programs with vessel harvesting caps include the AFA, Amendment 80 and CGOA Rockfish Program. The Crab Rationalization Program did not have a vessel harvesting cap for vessels in a cooperative. At the time the Crab Rationalization Program was being developed it was understood that the fleet was highly over capitalized and consolidation was an expected outcome as the fleet capacity adjusted to better match the decreased GHGs and increased effort that is often associated with fisheries when rationalization is considered. The analysis below provides an evaluation of the distribution of harvest across the BSAI Pacific cod trawl CV sector to help understand what percentage of the fishery was taken by vessels in the past.

Figure 2-14 shows the percentage of the BSAI trawl CV Pacific cod target fishery that was harvested by vessel on an annual basis for the years 2003 through 2019. Harvests by vessels that were greater than 5 percent of the total were truncated at 5 percent to protect confidential information. Each line extending from the center of the figure represents the catch of a vessel. The length of the line shows the percentage of the annual total harvested by the vessel. In summary the figure shows that few vessels ever harvested more than 5 percent of the annual total. A limit of 5 percent would have constrained certain vessels in some years and in some years no vessels reached that level of harvest.

Figure 2-14 Percentage of BSAI trawl CV Pacific cod target fishery harvested by trawl CVs, 2003 through 2019



Considering the historical use of vessels to generate the projected initial allocations under Element 2.2.1, Element 2.2.2, and Element 2.2.3, between from five to seven vessels harvested 3 percent or more of the qualifying catch history. Setting a vessel use cap at 3 percent would ensure that a minimum of 34 CVs must be used to harvest the entire allocation, without a grandfather provision. Grandfathering CVs over that limit would slightly reduce the number of CVs required to harvest the entire allocation.

Figure 2-15 shows the average percentage of the targeted BSAI Pacific cod trawl CV sector allocation harvested by the top three producing vessels on an annual basis, over the years 2003 through 2019. The average annual percentages were sorted from low to high and plotted as a scatter diagram. The top three CVs during the years averaged from under 3.5 percent of the total to about 7.5 percent. The broad range in the percentage of catch by the top three producing vessels varies for a variety of reasons including the sector’s annual allocation, exvessel prices for Pacific cod, the number of vessels participating, the season length, and regulatory changes that occurred over the period considered.

Figure 2-15 Average percentage of BSAI trawl CV Pacific cod target fishery harvested by the top three producing trawl CVs, 2003 through 2019

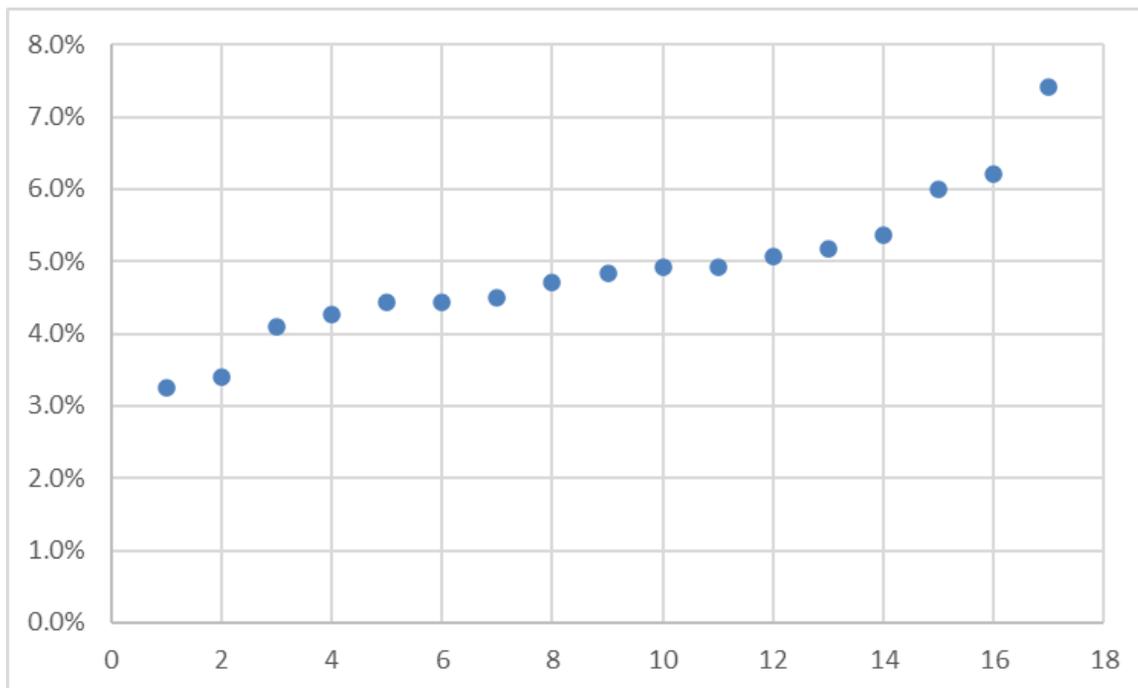


Figure 2-16 is presented to provide a comparison of the BSAI Pacific cod ITAC, number of active CVs targeting BSAI Pacific cod, average percentage of the three highest producing CVs during the year, and the nominal exvessel price for Pacific cod. Information provided in the figure indicates that there is no consistent, direct correlation between the ITAC or the number of vessels that participate in a year and the percent of the total sector's harvest taken by the top three producing vessels. The exvessel price per pound (nominal) does track more closely with the number of vessels that participate. Indicating that in years when the price is higher more vessels are attracted to the fishery. This analysis does not consider costs of production during the years, but it is worth noting that 2008 was a year when fuel costs were very high and increased prices were often offered to help offset the relatively high variable costs that year.

Figure 2-16 BSAI Pacific cod ITAC, trawl CVs targeting BSAI Pacific cod, and average percent of top three trawl CVs, 2003 through 2019

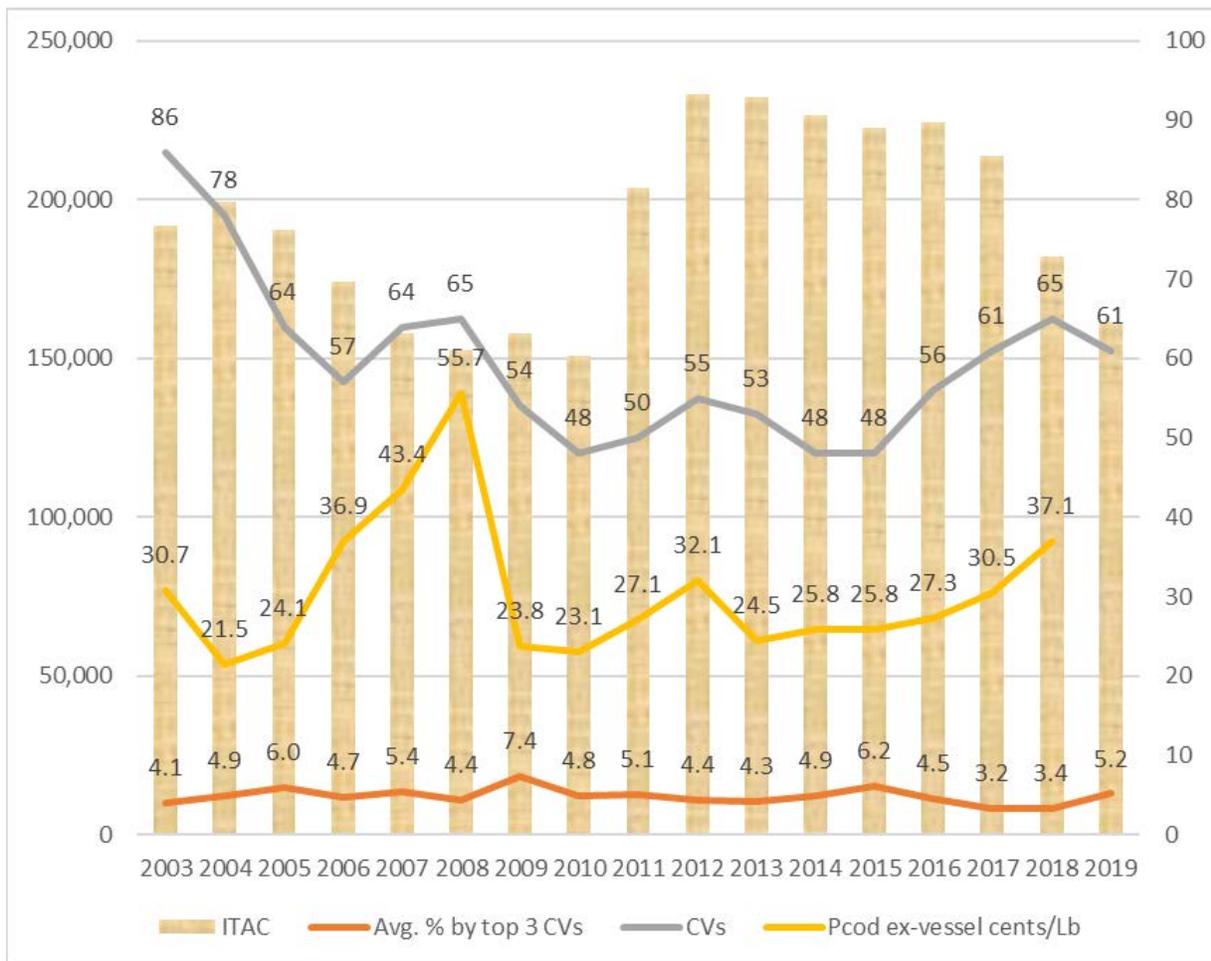


Table 2-109 shows the calculated correlation of the variables presented in Figure 2-16 over the years 2003 through 2018. Data for 2019 was excluded because exvessel value was not available. The values show a weak to moderate negative correlation between the average percentage of the top three CVs and the other variables considered

Table 2-109 Correlation of variables presented in Figure 2-16

	ITAC	Avg. % by top 3 CVs	CVs	Pcod ex-vessel cents/Lb
ITAC	1.00			
Avg. % by top 3 CVs	-0.24	1.00		
CVs	-0.21	-0.29	1.00	
Pcod ex-vessel cents/Lb	-0.45	-0.31	0.23	1.00

Because of the variability in the percentage of catch by the top producing vessels on an annual basis and our lack of information to forecast future vessel harvests, selecting a vessel cap will depend on the size of the fleet the Council hopes to maintain under the proposed PCTC Program.

The cooperative structure should allow cooperative members to determine whether to fish or lease their CQ to generate value, so it is expected that exvessel price will be less of a factor (positive correlation) when determining to fish with a vessel or lease CQ in a cooperative. Higher exvessel prices are also

expected to be reflected in the lease rates, which means that cooperative members may not need to fish their CQ to benefit from higher exvessel prices.

Finally, implementing a vessel use cap will have the greatest impact on the vessel operators that are most dependent on the Pacific cod fishery. Vessel operators that have a more diverse harvest portfolio are more likely to fish Pacific cod as a supplement to their other fisheries. For example, AFA vessels that prefer to focus on the pollock fishery (lease their Pacific cod quota) or CVs that primarily fish in the GOA may not be close to the vessel cap and may have the opportunity to lease CQ to use on their vessel. Whereas a vessel that was highly focused on the Pacific cod fishery may be less able to lease additional CQ, especially in years of low BSAI Pacific cod ITACs, to extend its fishing season.

2.7.8.3. Element 8.3 - Holding and Use Caps of Harvest Issued to Processors

Staff Comment: Element 8.3 is defined in the motion as processor-issued cooperative harvest shares. Staff has interpreted that language to mean any harvest shares initially issued to processors on a processor permit that is defined under Element 5.3. The language could also be interpreted more broadly to also include any CQ that is derived from processors holding LLP licenses. General concepts described in this section could be applied to either interpretation, but the Council should clarify its intent to aid the discussion and implementation of the program. It should also be noted that broadening the definition will require additional consideration of linkages between processors and firms that hold LLP licenses and the implications of using the “individual and collective rule” or the “10% ownership and control threshold” to determine the ownership and use caps at the firm level.

Element 8.3 would define processor-issued cooperative share caps that limit the percent of that class of shares a person could hold. This cap would be applied at the firm level (not the plant level). The initial allocation of harvest shares to processors is defined under Element 5.3. The caps considered in this section would be applied to any harvest quota initially allocated under that provision.

Under this element, the Council would need to determine the cap amount, which could be based on qualifying years determined at initial allocation. For example, the Council could make the cap based on a maximum percentage of the harvest shares initially issued to processors, set a cap that allows for some consolidation by all processors, or set a more restrictive cap and grandfather processors that are over the initial allocation.

Under any option, once a processor reaches the proposed cap or a grandfather limit, if one is implemented, the firm would be unable to hold or use any more of the harvest quota initially issued to processors. However, other processors would be allowed to purchase additional amounts of this quota until they reached the cap.

Under the Rockfish Program, a processor use cap of 30% was established at the firm level. That cap is similar but not exactly the same as either processor use cap described in Element 8.3 or Element 8.4 of this program. If Element 8.3 ownership and use caps are defined as all CQ issued, they would be applied the same, but the size of the caps may be changed to better reflect conditions in the PCTC Program.

Processing ownership caps would need to take into account that the number of processors is significantly smaller than harvesters. It is expected that using averages of the largest processors over several years to determine a cap it would smooth out historical processors who vary their Pacific cod production annually. Also, because the number of processors is small, data confidentiality will limit the amount of information that can be presented. Ownership data at the processor level is difficult and often impossible to determine and as a result it is difficult to analyze the impacts of various caps. In addition, processors may choose to put LLP license they may own or control under different individuals' names, reducing the ability to discern ownership. Use caps, under Element 8.4 would help reduce the unintended consolidation at the firm level by also placing caps on individual processing plants. This concept is similar to the QS ownership caps and vessel use caps considered in the CV sector.

As shown in Element 5.3 the top four processing firms account for about 75% of the targeted BSAI trawl CV Pacific cod processing history during the qualifying years considered. Those percentages are shown as an average of the four firms in Table 2-110. Because the values are averages, some of the four firms processed either a higher or lower percentage of the total than the average. Selecting the average percentage as the hold and use cap would mean that one or two processors would be over the cap and would need to be grandfathered in above the cap or be forced to divest from some of its initial allocation of harvest shares. Confidentiality restrictions prohibit the analysts from providing greater detail.

Table 2-110 Average percentage of processing history of top four processing firms

Processing Firms	2014-2019	2009-2019	2004-2019
All Seasons	18.0%	18.7%	18.9%
A & B Seasons	17.9%	18.7%	18.9%

Source: BSAI_PCOD_LAPP_Processors(4-9-20); Processing history groupings

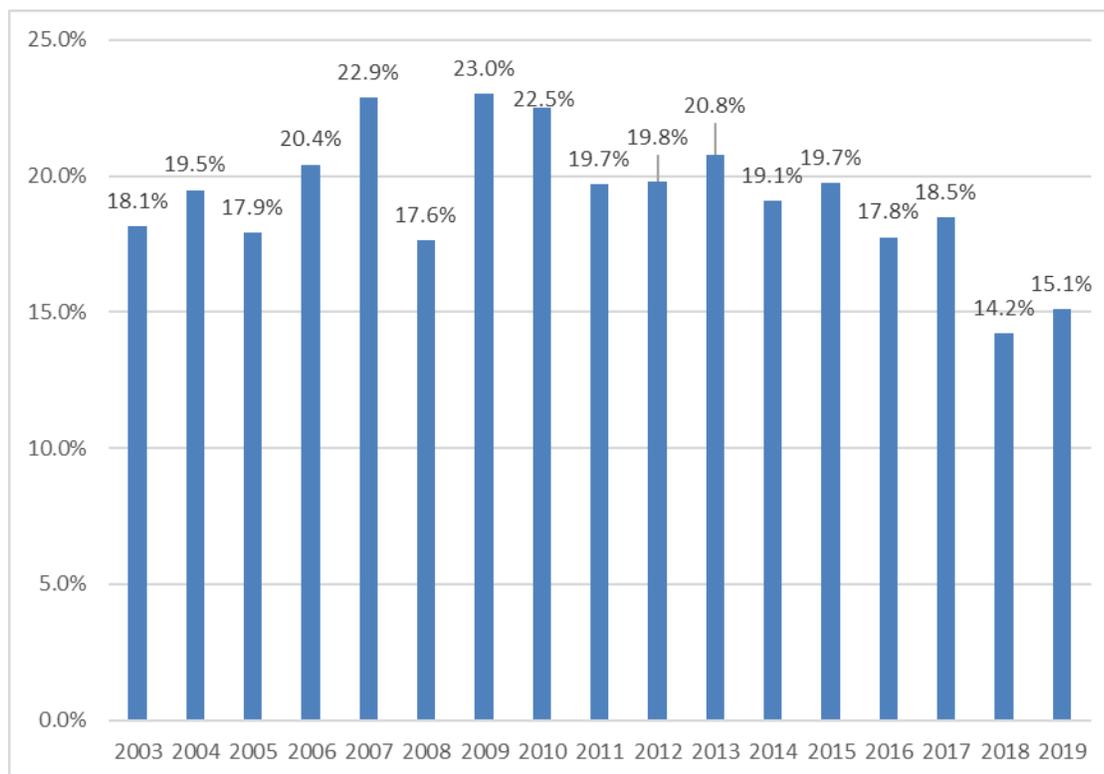
Caps on ownership and use of harvesting shares issued to processors could be used to prevent consolidation of market power in a few firms. Share concentration could influence the market power of processors with respect to harvesters. Caps could also facilitate a market for new entrants.

2.7.8.4. Element 8.4 - Processing Use Caps

Element 8.4 would create processing use caps at the plant (facility) level. These use caps would be protection against excessive share usage by any processing plant and would be calculated based on use of all CQ issued under the PCTC Program and not just harvest shares initially issued to processors as described in Element 8.3. Because it applies to the amount of Pacific cod allocated as part of the PCTC Program that can be processed at a plant, it could prevent a processing firm that operates more than one plant from consolidating all its activity in fewer plants and it could prevent the owner of any plant from expanding its usage of PCTC Program beyond a predetermined acceptable level.

Figure 2-17 shows the annual average deliveries of BSAI targeted trawl CV Pacific cod to the top three processing plants. Changes in the fishery and regulations mean that the top three plants are not always the same each year. Information in the figure shows that over the period 2003 through 2019, the top three plants taking deliveries took between 14.2 percent and 23 percent of the total. The variability of about 9 percent of the total over the period shows that changes in competition, regulations, and the amount of fish available on an annual basis strongly influences how concentrated the processing component of the fishery is among the top plants. Also recall that because the percentages listed represent the average of the three plants that took the most Pacific cod, one of the firms could have a much higher percentage of the total than the average and without the grandfather provision would be required to reduce its reliance on the trawl CV Pacific cod fishery. Without the grandfather provision, the largest processor at the time of initial allocation would be most constrained by processing use caps.

Figure 2-17 Annual average of top three plants processing of targeted BSAI Pacific cod trawl CV deliveries, 2003 through 2019



Flexibility during the year would give processors the ability to move around the Pacific cod quota and to allow vessels to enter and exit relationships with processors. Because the program does not include a cooperative use cap, that concept that was included in other LAPPs would not limit the degree of consolidation of fishing harvests by any one cooperative through the leasing of annual harvest privilege among cooperatives. As a result, it is the facility cap that will primarily limit cooperative size if Element 1.2 is selected as the cooperative model for the PCTC Program.

The plants that are most likely to be impacted by this action are those that are closest to the fishing grounds and are most attractive delivery locations for harvesters. This could include certain shorebased plants located in Akutan, Adak, and Unalaska/Dutch Harbor, as well as vessels with capacity to process above the cap. At this time, no differentiation has been made regarding plant use caps for different classes of processors, meaning that shoreplants, floating processors, motherships, and C/Ps acting as a mothership would all operate under the same caps.

2.7.9. Element 9 - Cooperative Provisions

Annual cooperative applications must be filed on or before ____ of the preceding year.

Cooperatives shall be formed by qualified LLP licenses with Pacific cod history. Each LLP license is eligible to join one cooperative. A vessel assigned a qualified LLP license is a member of that LLP license’s cooperative. A vessel may join a single cooperative.

Cooperatives are intended only to conduct and coordinate harvest activities of members and are not FCMA cooperatives.

Membership agreements will specify that processor affiliated members cannot participate in any price setting negotiations, except as permitted by antitrust laws.

Each cooperative will receive annual cooperative quota allocations of Pacific cod and apportionments of halibut and crab PSC based on members' qualifying catch histories (and processing histories, if applicable) to be harvested in accordance with the harvest cooperative agreement. The sector's halibut and crab PSC will be apportioned to cooperatives in proportion to their members' Pacific cod qualifying catch histories (and processing histories, if applicable).

Option: Maintain crab PSC limits at the sector level.

Element 9 describes cooperative provisions for the cooperatives, including the annual cooperative applications. The Council has included a cooperative reporting requirement under Element 12, which is in addition to the information requested under Element 9 in this section.

Each cooperative would be required to file an annual cooperative application to receive an annual allocation. The Amendment 80 cooperative application must be submitted annually and received by NMFS no later than 1700 hours A.L.t. on November 1 of the year prior to the year for which the applicant wishes to participate in an Amendment 80 fishery, or if sent by U.S. mail, the application must be postmarked by that time. AFA inshore cooperative applications are due December 1 of the year prior to the year for which the cooperative permit will be in effect. Therefore, NMFS recommends that the PCTC Program cooperative applications be submitted by November 1 to the Regional Administrator so that RAM has time to receive and process these applications in addition to the cooperative applications from other LAPPs.

Cooperatives are formed by qualified LLP license holders with Pacific cod QS assigned to their LLP license. Each LLP license may be assigned to one cooperative. A vessel designated on a qualified LLP license is a member of that LLP license's cooperative. Vessels that are not designated on a qualified LLP license may also be allowed to join a cooperative, based on the provisions outlined in the cooperative's civil contract and approval by NMFS of the cooperative membership application. An LLP license and a vessel may only join one PCTC Program cooperative. Cooperatives are intended only to conduct and coordinate harvest activities of members and are not FCMA cooperatives. The Council was provided a discussion paper during 2006 that described the authority.⁸² That paper stated that:

“harvesters would be permitted to join a cooperative that would coordinate the harvest of the allocations of its members. If not properly defined, the function of these cooperatives has the potential to raise antitrust concerns. The general activity of these cooperatives is the harvest of fish... The creation of a harvest cooperative necessarily raises the question of whether the cooperative would qualify for the antitrust exemption of the Fishermen's Collective Marketing Act. Under the terms of all of the alternatives, processor affiliated vessels (i.e., vessels owned or controlled by a processor) are qualified for harvest cooperative membership. Allowing or requiring harvest cooperative membership by these entities likely disqualifies that cooperative from the antitrust exemption of the FCMA, limiting the activities that the cooperative can engage in. As a result, a harvest cooperative clearly cannot engage in negotiations of the price or terms of delivery of catch to a processor... provide that processor affiliates cannot participate in price negotiations... In a prior action (the rockfish pilot program), the Council similarly clarified the nature of cooperatives by including the following two provisions: The cooperatives formed under this program are harvest associations that are intended only to conduct and coordinate harvest activities of their members and are not FCMA cooperatives. Processor affiliated vessels will be permitted to join harvest cooperatives to the extent permitted by antitrust laws. Cooperative membership agreements will specify that processor affiliated harvesters cannot participate in price setting negotiations except as permitted by general antitrust law.”

⁸² <https://www.npfmc.org/wp-content/PDFdocuments/meetings/GOAntitrust406.pdf>

Based on previous guidance as presented above, membership agreements will specify that processor affiliated members cannot participate in any price setting negotiations, except as permitted by antitrust laws. Cooperative agreements are valid for one calendar year.

Each cooperative will receive annual cooperative quota allocations of Pacific cod and apportionments of halibut and crab PSC if it is assigned to cooperatives based on members' qualifying catch histories (and processing histories, if applicable) to be harvested in accordance with the harvest cooperative agreement. The allocation of Pacific cod quota is described in detail under Element 2. Allocations of halibut and crab PSC to cooperatives are described in detail under Element 3 which notes that it would require additional Council action to first divide those PSC limits between the trawl CV sector and the AFA C/P sector before the PSC limits could be allocated to the PCTC Program. Note that Element 3 currently does not provide a framework for apportioning crab PSC to the trawl CV sector.

Cooperative applications are used by NMFS to manage the fishery and monitor for ownership and use cap overages. For example, each calendar year NMFS must determine the tonnage of Pacific cod that will be assigned to participants in a Pacific cod cooperative. To make that calculation, LLP license holders must assign their LLP license(s) to a Pacific cod cooperative in order to participate in the PCTC Program. After the assignments are made, RAM Division can then allocate Pacific cod to cooperatives, and apportion PSC to cooperatives if applicable. Pacific cod quota may only be fished through cooperative membership.

Cooperatives are intended only to conduct and coordinate fishing of their members' allocations. The cooperative's members would be jointly and severally liable for the harvest of the cooperative's allocation. A cooperative may include fishing practice codes of conduct in its membership agreement.

The option included in Element 9 would maintain the current crab PSC limit division at the sector level. Staff assumes since crab PSC is currently apportioned at the trawl limited access sector and not at the sector level, the option would maintain crab PSC at the trawl limited access sector. This issue was described in detail in Element 3. Based on that discussion, the crab PSC limit would not be divided further to specify a limit for either the trawl CV sector or the cooperatives within that sector. The reader is referred to that section for additional discussion and justification for not subdividing the PSC limit further.

2.7.10. Element 10 - Share duration

All allocations and allowances under this program are revocable privileges that 1) may be revoked, limited or modified at any time; 2) shall not confer any right of compensation to the holder, if they are revoked limited, or modified, and; 3) shall not create or be construed to create any right, title or interest in or to any fish before the fish is harvested by the holder.

The duration of all harvest shares and associated PSC apportionments is 10 years. These permits will be renewed before their expiration, unless revoked, limited, or modified.

Under Section 303A of the Magnuson-Stevens Act, a LAPP permit is a permit issued for a period of not more than 10 years that will be renewed before the end of that period, unless it has been revoked, limited, or modified. NMFS would renew the permits under the proposed action without the Council initiating a formal analysis to reauthorize the PCTC Program.

In general, the Council when developing LAPP programs has not included sunset dates. The one exception, the CGOA Rockfish Program implemented in 2012 had a sunset date of 10 years. That program had to be reauthorized by the Council before it expired or the program would have lapsed and management of the CGOA rockfish fishery would have returned to limited entry under the LLP. The program had been reviewed two years prior to the reauthorization process, as required under the Magnuson-Stevens Act, and based on the sufficient information in the review, the program was

determined to be providing the intended benefits to stakeholders. Because the review process for other LAPPs under the Council's authority are also detailed and provide similar information on how the LAPP is functioning, the Council has determined that the required LAPP review will provide the information necessary to determine if the proposed PCTC Program is operating as intended, needs to be modified, or should be eliminated under the Council's normal regulatory recommendation authority.

During reauthorization of the CGOA Rockfish Program in January 2020, the Council did not recommend a sunset date. The Council noted in reauthorizing the CGOA Rockfish Program that inclusion of a sunset date creates considerable time and expense associated with reauthorizing a LAPP when it is schedule to sunset. These costs are in addition to the required program reviews established in Section 303A of the MSA. In addition, including a sunset date could have various consequences for the program, including affecting the value of the licenses that qualify for the program since the longer-term exercise of the fishing privilege associated with the license will be uncertain. The NRC study (NRC, 1999) points out that LAPPs that are stable and in which persons are able to make long-term investments will achieve greater benefits. While the Magnuson-Stevens Act provides that LAPPs create a revocable privilege that is not permanent, the creation of long-term interests is argued by some to create a stewardship and conservation interest by giving participants a more direct stake in the condition of the stock.

2.7.11. Element 11 – Monitoring – NMFS

All vessels in the program will be in the full coverage program (100% observer or electronic monitoring coverage category) (if applicable). NMFS will develop monitoring and enforcement provisions necessary to track quota, harvest, and use caps. The Council authorizes NMFS to report weekly vessel-level bycatch information as authorized under MSA Sec 402(b)(2)(A).

This section describes monitoring requirements under the status quo for the BSAI Pacific cod trawl CV and shoreside processors, outlines monitoring considerations under existing LAPP's, and describes NMFS's expectations for monitoring under the proposed action. Currently, participants in the pacific cod trawl CV fishery are in the partial coverage category with the exception of vessels which request to opt into the full coverage category and those participating in other LAPPs with full coverage requirements, such as the AFA Program. Under the proposed PCTC Program, all vessels would be in the full observer coverage category.

Current Monitoring Requirements

Under current monitoring requirements (see 50 CFR §679.51(a)(1)), Pacific cod trawl CVs designated on a Federal Fisheries Permit (FFP) when directed fishing for groundfish in federally managed or parallel fisheries in the BSAI are in the partial coverage category. Each year, the Annual Deployment Plan (ADP) describes the science-driven method for deployment of observers on vessels in the partial coverage category (50 CFR §679.51(a)) in the Pacific halibut and groundfish fisheries off Alaska. Since 2013, observer coverage rates in the partial coverage category have ranged from approximately 14.8 to 28 percent for trawl CVs and 4 to 16 percent for pot CVs (Table 1-1, NMFS, 2019).

NMFS has the flexibility to deploy observers when and where they are needed based on an Annual Deployment Plan (ADP) that is developed in consultation with the Council. The deployment of observers in the partial coverage category is funded through a system of fees based on the gross ex-vessel value of retained groundfish and halibut in fisheries that are not in the full coverage category. At the time of the Observer Program restructuring, the Council and NMFS determined that partial observer coverage was sufficient for BSAI trawl CVs that are operating outside of the AFA directed pollock fishery (NMFS, 2016).

After the implementation of the restructured Observer Program in 2013, NMFS allowed the owners of BSAI trawl CVs in the partial observer coverage category to volunteer on an annual basis for full

observer coverage during all times that they participate in BSAI trawl fisheries. Individuals who made this choice were typically owners of AFA CVs that participate in the BSAI limited access Pacific cod trawl fishery to better manage Pacific halibut PSC limits within their cooperatives. In 2016, NMFS published a regulatory amendment to implement this annual request in regulation. There is no restriction on which CV owners may request full observer coverage for all directed fishing, nor is there alteration of existing observer coverage requirements for CVs delivering unsorted codends to a mothership in the BSAI (81 FR 67113, 30 September 2016).

Recordkeeping and Reporting

Under current recordkeeping and reporting requirements, active trawl CVs that have an FFP and are ≥ 60 ft. LOA must maintain a trawl gear Daily Fishing Logbook (DFL). Required information for each haul must be recorded within the specified reporting time limit 50 CFR §679.5(c)(4)(ii)(A) and for at least one or more logheets per day for identification, catch-by-haul, discard or disposition, and delivery information specified in regulations at 50 CFR §679.5(c)(4)(v), (vi), (viii), and (x). Instead of a DFL, a CV trawl operator may voluntarily use a combination of eLandings and NMFS-approved CV trawl gear electronic logbook (ELB). The operator must notify NMFS of the intent to use an ELB instead of a DFL prior to participating in the fishery (50 CFR §679.5(f)(1)(iii)), or if the operator is unable to submit logbook information within the reporting timeline (50 CFR §679.5(f)(2)). For landing reports, processors that receive groundfish from CVs with an FFP are required to submit daily reports using eLandings or an alternative NMFS-approved software (50 CFR §679.5(e)(5)).

Monitoring Considerations under the Proposed PCTC Program

Under existing LAPPs, CVs with transferable PSC allocations such as AFA BSAI pollock and the Central GOA Rockfish Program are in the full coverage observer category. These programs are defined through regulation in 50 CFR §679.51(2)(i)(C). Under current regulations for communications and observer data entry (50 CFR §679.51(e)(1)(iii)), CVs that are greater than or equal to 125', those participating in the Central GOA Rockfish Program, or those participating in the AFA BSAI pollock fishery under 125' must provide a computer to deployed observers with NMFS-approved data entry software (ATLAS) and effective transmission capabilities. With the exception of CVs under 125', all other CVs must have a communication device which allows for direct data transmission to a NMFS host computer. Therefore, the proposed LAPP would likely change monitoring requirements for participating trawl CVs to:

- Full observer coverage (carry an observer on all trips):
- Retain all allocated groundfish species;
- After sampling is completed by an observer, discard all PSC;
- Computer with ATLAS and at-sea transmission capabilities for observers to enter, transmit data, and communicate with NMFS
- Deliver all catch to a processor that has a NMFS-approved CMCP

The Council motion specified a goal that all vessels under this program would be in the full coverage category. NMFS concurs with this recommendation, as it would be necessary to monitor at-sea discards and obtain data to estimate PSC.

The computer, ATLAS, and transmission capabilities allow observers to communicate with and transmit data to NMFS. The ATLAS software contains business rules that perform many quality control and data validation checks, which dramatically increase the quality of the preliminary observer data when it is submitted. Transmitting data electronically, instead of via fax, reduces the time before the observer data are available for management by a week or more. Under this program, real-time accounting of halibut PSC would be important. Additionally, observer onboard vessels with the ATLAS software have the

ability to communicate with Observer Program staff in near real time to address questions regarding sampling as well as notify staff of potential compliance concerns.

Vessels would procure observer services by contracting directly with a permitted observer provider as required at 50 CFR §679.51(d)(1) and would pay the full cost of observer coverage. All vessels participating in this program would be required to provide communication equipment to facilitate timely electronic data entry and transmission to NMFS. Implementation of this cooperative program would not modify the observer coverage exception specified at 50 CFR §679.50(a)(2), that exempts trawl CVs from observer coverage requirements when delivering unsorted codends to a mothership.

Landings by trawl CVs under this program would not be subject to the partial coverage observer fee specified at 50 CFR §679.55(f) and vessel owners and operators would not be required to log fishing trips in the ODDS Program as required for vessels in the partial coverage category of the Observer Program.

Under a cooperative program, procurement of observer services for vessels participating in this program would shift from the partial coverage category service delivery model (Federal Contract and fee system) to the full coverage (pay-as-you-go) service delivery model.

Implementation Considerations

Establishing a new catch share program creates new demands for enhanced catch accounting, monitoring, and enforcement beyond managing catch limits at a fishery or sector level. Management of catch limits to a cooperative are enforced through regulatory provisions that prohibit the cooperative from exceeding its allocations, therefore a more comprehensive catch monitoring (e.g., 100% observer coverage) and accounting approach is justified. This is particularly true when groundfish catch or PSC data collected by observers are used as a basis for enforcement action should an entity exceed a catch limit. The catch of most target species is readily determined using observer and landings data because target species must be retained, landed, and sold for the vessel owner to receive earnings from the catch. However, PSC generally is required to be discarded and PSC often limits the catch of economically valuable target species. The greater the potential to limit the target species catch, the greater the incentive created to not have PSC identified and estimated.

Depending upon the scope of the cooperative based management program recommended by the Council, and the remaining trawl fisheries in the BSAI, the regulations authorizing trawl CVs to annually request placement in the full coverage category may no longer be needed. The Council could consider if the implementation of this cooperative based management program removes the need for these regulations authorizing trawl CVs to annually request to be in the full coverage category.

Depending upon how the Council approaches Element 14, Gear Conversion, monitoring requirements would need to be developed for vessels using pot gear to harvest allocated species.

Electronic Monitoring

NMFS is committed to the use of electronic technologies in fishery dependent data collection to collect timely, cost-efficient data needed to manage US federal waters fisheries. In Alaska, NMFS and the Council have been on a path of integrating electronic technology into fisheries monitoring programs for many years.

Developing and implementing technology requires careful thought. Consideration of cost must extend beyond the acquisition of the technology and provide for infrastructure necessary to support the technology into the future, and to adapt and evolve as technology advances. Decisions about where and what to invest in represent strategic choices. Successful development and implementation of electronic monitoring/electronic reporting (EM/ER) depends on engagement of both agency and industry stakeholders and technology needs to be assessed in multiple phases including: research and development; operational testing in a wider component of the fishery; development of performance standards and vessel operator responsibilities; and development and implementation of regulations.

In June 2013, NMFS presented an EM/ER strategic plan (Loefflad et al., 2014, Appendix A) to the Council. The document provided a vision for integrating electronic technologies, goals and objectives, and the specific actions that it will take to achieve the vision. The Council adopted the strategic plan as a guidance document for incorporating EM into the Observer Program.

In 2018, NMFS completed a significant milestone in the Alaska Region Electronic Technologies Implementation Plan (NMFS, 2015) by implementing regulations under Amendment 114 to the FMP for groundfish of the BSAI management area to allow EM as an alternative monitoring option to carrying an observer for small fixed gear vessels in the partial coverage category of the North Pacific Observer Program. At the February 2018 Council meeting, the Council passed a motion that shifted the focus of the EM Workgroup from a fixed gear to a trawl gear EM committee to develop EM for use in the trawl fisheries and establish EM and observer tasking priorities. This motion stated that the council recommends the following order of priority for the EM projects:

1. Deck sorting of halibut PSC with EM for compliance monitoring (Implemented in January, 2020)
2. Evaluation of alternative sampling methods for salmon on CGOA Rockfish trawl CVs
3. Full retention on AFA Pollock CVs with EM compliance
4. Full retention on WGOA pollock trawl CVs with EM compliance
5. Implementation of EM on fixed gear CVs

As of August 2020, the status of priority projects were as follows: Priority 1 was implemented in January 2020; Priority 2 is still in development, however, some of the efforts have shifted to using AI to identify salmon in pollock deliveries; Priorities 3 and 4 were combined which resulted in an EFP issued January 6, 2020 to evaluate the efficacy of EM systems and shoreside observers for pollock CVs using pelagic trawl gear in the eastern BS and GOA. The typical species composition of total catch in pelagic trawl fisheries is ~99% target species with typically less than 1% non-target species. These conditions are ideal for testing compliance monitoring for a specific requirement approach to EM such as maximum retention (Section 2.1.1. of the Alaska Region Electronic Technologies Implementation Plan, NMFS, 2015). The vessels participating in the EFP are required to retain all harvest with a few exemptions that mostly support typical vessel operations.

Maximized retention allows for any necessary collection of biological sampling (e.g., otoliths, length weights, etc.) during offload by a human observer at a shoreside facility. This data collection supports stock assessments and precise accounting of PSC. Any at-sea discard under the exemptions listed in the EFP are recorded in the logbook that is reported via elandings. This allows for catch estimation through industry reporting and EM data provides a check to make sure vessels were compliant with maximized retention and that allowable species discards are accurately recorded in the logbook.

With nearly a year in testing EM on pelagic trawl vessels, there have been many successes, however, there are also challenges that need to be resolved. The EFP allows for opportunities to learn and adapt to challenges with the input from partners that test and implement a complex monitoring program. These EM learning opportunities will continue as the project progresses and expands. The successes are due to the diligent effort of our partners working toward a common goal established by the Council and taking the time necessary to identify challenges, learn, adapt and design an EM option that works for all the various partners and provides the data necessary to implement a future pelagic trawl EM option. There are several complex challenges that need to be addressed in order for an EM option to be successful in Pacific cod trawl fisheries and maintain the data necessary for stock assessment and management.

Non-pelagic trawl fisheries typically have more bycatch than pollock directed fisheries. Vessel operators typically sort and discard unwanted bycatch species. Sorting of catch at sea presents a challenge for EM systems. EM systems used in lieu of observers do not allow for the collection of biological samples during the fishing trip. Collection of these needed data occurs during the offload. Allowing sorting and discards would likely introduce bias, impact the accuracy of species composition, and limit the

availability of biological samples collected for stock assessment. As a result, the current EM option used for trawl fisheries relies on maximized retention in order to allow for these data to be collected.

While other Regions have explored EM options to estimate discards at sea on trawl vessels, these programs are relatively new, deal with smaller amounts of catch, and have many restrictions in order to collect the necessary data. One method of estimating discards is to include a single chute to discard unwanted species individually. This method would likely not work in high volume North Pacific fisheries. Therefore, at this time, any approach to EM that allows (extensive at-sea) sorting is not recommended.

Another challenge of implementing EM involves the estimation of halibut mortality. Under a maximum retention and a compliance monitoring approach, 100% of halibut would be retained for observers to collect data necessary for estimation of halibut PSC. During the development of the Trawl EM EFP program for pelagic trawl pollock CVs (Trawl EM Cooperative Research Plan, May 2019), maximum retention of trawl-caught halibut was a highlighted concern. However, halibut bycatch rarely occurs in pelagic pollock fisheries. The small amounts of incidentally caught halibut were more of a concern for how to apply PSC restrictions (50 CFR §679.21(a)(2)) and the Prohibited Species Donation (PSD) program (50 CFR §679.26) under the proposed EFP. Pacific cod fisheries have higher halibut PSC rates, therefore, maximum retention would be more of a concern by increasing overall halibut mortality. No discard mortality rate would be applied to estimated PSC and all halibut caught incidentally would be considered dead.

The development of a Trawl EM program for a non-pelagic trawl (NPT) fishery is several steps further down the road of where the Council, EM Trawl committee, NMFS and industry partners are currently at in the development of Trawl EM options. It is a shared goal to further develop EM options for trawl fisheries, but it requires careful consideration of issues that may impact the data we use for management. It is typical for the development of a complex EM option to take several years to develop, test and regulate. This is likely not within the same timeframe as the Council envisions for implementation of a Pacific cod LAPP program. NMFS is concerned that attempting to implement a EM program without this process would not be successful. Therefore, it is recommended that the Council select a monitoring option that does NOT include EM at this time.

NMFS is optimistic that most of these challenges can be addressed with further development of trawl EM in the North Pacific in partnership with the fishing industry. NMFS recommends the council first indicate to the EM Trawl committee that expanding EM into Pacific cod trawl fisheries is a priority, then allow the development process that has shown to be successful in implementing EM in other North Pacific fisheries to tackle these issues.

Shoreside Processors

Under the proposed PCTC Program, with the exception of accounting for PSC, which must be discarded at sea, all other catch accounting for allocated species would take place at the shoreside processing facilities. Catch would be required to be sorted and weighed, by species, on a State of Alaska approved scale. It would be important for NMFS to ensure that adequate measures are in place to facilitate catch accounting. In other rationalized fisheries where catch accounting takes place on shore, NMFS has required that processors operate under an approved Catch Monitoring Control Plan (CMCP). The CMCP would be developed by the processor and approved by NMFS. It would detail a series of performance standards ensuring that all delivered catch is accurately sorted and weighed by species.

2.7.12. Element 12 - Reporting and Program Review

Each cooperative shall annually produce a report for the council describing its performance in the preceding year.

Per the Magnuson Stevens Act, a formal detailed review of the program shall be undertaken 5 years after implementation, with additional reviews, at a minimum, each seven years thereafter.

Cooperative Reports

In the last two decades, the Council has developed and/or considered developing several cooperative based LAPP programs. As part of those cooperative programs, the Council required that cooperatives submit an annual written report detailing specific information on the structure, function, and operation of the cooperatives. These reports are intended to be a resource for the Council to track the effectiveness of the cooperative and their ability to meet the Council's goals. Additionally, they are a tool for the cooperatives to provide feedback on the programs. In the recent past, cooperative reports have been presented by the various cooperative managers during the April Council meetings.

Regulations require annual written reports for each of the following LAPPs:

- Amendment 80,
- and Central GOA Rockfish Program.

Regulation provides a framework for the minimum required information for most of the reports, while the Council has the flexibility to augment this framework with additional information requests that may be pertinent to current issues in the fishery.

Any requests, deletions, and/or clarifications of information provided in the cooperative reports (voluntary or otherwise), must comply with the Paperwork Reduction Act (PRA), which requires Federal agencies (1) to seek public comment on proposed collections and (2) to submit proposed collections for review and approval by the Office of Management and Budget (OMB). OMB reviews agency information collection requests for approval and disapproval. The PRA should not discourage the Council from making requests for voluntary cooperative information to be included in future cooperative reports. Rather, this guidance advises the Council to pursue voluntary information requests in a deliberative manner, providing clear explanation of the objective of the new information. Council and NMFS staff will track these Council information requests and submit the necessary PRA paperwork to OMB, so a clear explanation for requests is helpful.

Included is a table summarizing current regulatory reporting requirements for existing cooperative reports, PRA authorized information collections, and information the Council requested be voluntarily provided. This information should be useful in determining required information to be included in the BSAI Pacific cod Cooperative Program cooperative report.

During the reauthorization of the CGOA Rockfish Program, the Council requested that regulations that required an annual cooperative report be submitted to NMFS. Instead, the Council may request that the Rockfish Program cooperatives continue to voluntarily provide annual reports to the Council. For this action, the Council should consider what information they would like to see from cooperatives and if the information must also be submitted to NMFS (and required in regulations) if the agency does not use that cooperative report to actively manage the fishery.

Program Review

The PCTC Program would have an indefinite duration as defined under Element 10 (subject to modification as the Council deems necessary). Program reviews are required under the Magnuson-Stevens Act and would be conducted 5 years after implementation and every 7 years thereafter, coinciding with the fishery management plan policy review. Reviews would be designed to attempt to objectively measure the success of the program by addressing issues raised in the amendment's problem statement and the standards set forth in the Magnuson-Stevens Act, including the impact of this action on

harvesting and processing sectors, and fishery dependent communities. After reviewing the impacts of the program, the Council would have the option of taking any necessary and appropriate action to modify or end the program.

Review of a PCTC Program can be important to stakeholders, including the Council, to understanding the program's success. A review process would allow for a full evaluation of whether the program is serving intended objectives and could provide guidance to the Council for revising the program to mitigate harmful or unexpected consequences. Early review of a program can be used to determine that the program is functioning as intended. Periodic reviews can be used to determine whether circumstances have changed in a fishery that would justify amending a management program. A well conducted and fully evaluated review often requires extensive staff time and Council time. Reviews are important to ensuring the success of management programs but should be undertaken on a schedule such that the need and utility of the information in the review are likely to outweigh the costs. Note that the program review would not include Economic Data Report (EDR) information since the Council has not requested EDR program for this cooperative program.

Cooperative program	Required information	Voluntary information	Deadline	Recipient
<p>AFA Cooperative Report</p>	<p><i>Established in 50 CFR §679.61(f) as well as Section 210(a)(1)(B) of the AFA:</i></p> <ul style="list-style-type: none"> ▪ Allocation of pollock and sideboard species to cooperative ▪ Sub-allocations of pollock and sideboard species on a vessel-by-vessel basis ▪ Retained and discarded catch on an area-by-area and vessel-by-vessel basis ▪ Method used to monitor fisheries ▪ Actions taken by cooperative against members that exceed catch or bycatch ▪ The total weight of pollock landed outside the State of Alaska on a vessel-by-vessel basis ▪ Number of salmon taken, by species and season ▪ Each vessel's number of appearances on the weekly "dirty 20" lists for non-Chinook salmon 	<ul style="list-style-type: none"> ▪ AFA exempt vessel activity in the GOA ▪ Inter-temporal harvest information ▪ Voluntary presentation at April Council meeting 	<p>April 1st</p>	<p>NPFMC</p>
<p>Central GOA Rockfish Cooperative Report</p>	<p><i>Established in 50 CFR §679.5(r)(6)(i):</i></p> <ul style="list-style-type: none"> ▪ Cooperative's quota and sideboard limit ▪ Actual retained and discarded catch of Cooperative's retained and discarded catch of CQ and sideboard limit by statistical area and vessel-by-vessel basis ▪ Method used by cooperative to monitor fisheries ▪ Actions taken by cooperative in response to members that exceeded their catch allowance 	<ul style="list-style-type: none"> ▪ Inter-temporal harvest information ▪ Monthly Chinook bycatch numbers by stock of origin (pull from NMFS in-season management reports) ▪ Use consistent terminology ▪ Voluntary presentation at April Council meeting 	<p>December 15st</p>	<p>NMFS</p>
<p>Amendment 80 Cooperative Report</p>	<p><i>Established in 50 CFR §679.5(s)(6)(i):</i></p> <ul style="list-style-type: none"> ▪ Actual retained and discarded catch of CQ and GOA sideboard limit by area and by vessel ▪ Information on the directed and bycatch species transfers by species, amount, and date ▪ Method used to monitor fisheries ▪ Actions taken by co-ops against members that exceed assigned CQ ▪ The percent of groundfish retained by the cooperative relative to aggregate groundfish retained by all Amendment 80 co-ops ▪ Results from a third-party audit on cooperatives annual groundfish retention 	<ul style="list-style-type: none"> ▪ Catch information from the Northern Bristol Bay Trawl Area ▪ A retrospective indication of Amendment 80 catch capacity ▪ Inter-temporal harvest information ▪ Voluntary presentation at April Council meeting 	<p>March 1st</p>	<p>NMFS</p>

2.7.13. Element 13 - Cost recovery

A fee, not to exceed 3% of the exvessel value, will be charged on all program landings to cover the actual costs directly related to the management, data collection, and enforcement of the program.

Section 304(d)(2) of the Magnuson-Stevens Act authorizes and requires NMFS to recover the actual costs directly related to the management, data collection, and enforcement of any LAPP. The PCTC Program is subject to cost recovery because it is defined as a LAPP under Section 303(A) of the Magnuson-Stevens Act.

Program costs directly related to the management, data collection, and enforcement of this LAPP are the incremental costs that would not have been incurred except for the PCTC Program. Cost recovery fees do not increase agency budgets or expenditures. The fee only offsets funds that would otherwise have not been realized except for management of the PCTC Program. As a result, no budgetary advantage is gained by agencies (NMFS, 2019b).

The PCTC Program would be authorized by section 303A of the MSA. The quota issued to under the PCTC Program would qualify as a permit (per MSA 303A(b)(1)) and would give the permittee exclusive access to those fish while the permit is held. The permit would be an annual allocation for all recipients, except if the Council allocates AIPQ. Should the Council design the program to include fishing quota issued to the operator of an AI Processor that would only be held until March 21, any AIPQ used would be subject to cost recovery. The processor would have an exclusive right to use its AIPQ, meaning it would be subject to cost recovery. After March 21, NMFS would revoke the permit and reallocate the quota share to a Pacific cod trawl CV cooperative, giving another entity exclusive access. The cooperative receiving the CQ would then be subject to cost recovery for any of the reallocated quota used by their members.

Any participant granted a limited access privilege would be responsible for cost recovery fees. Specifically, cost recovery fee regulations would require the person⁸³ documented on the PCTC Program CQ permit as the person that must comply with the cost recovery requirements. Transfer of, or non-renewal of CQ or QS, does not change the cost recovery requirements for the permit holder. In addition, changes in the membership of the BSAI Pacific cod cooperative does not affect the CQ permit holder's cost recovery fee liability requirements. In the case of the PCTC Program, QS holders may join a cooperative and receive an exclusive harvest privilege, even if those participants choose not to fish in a cooperative. Participants fishing under a cooperative would be subject to cost recovery fees based on their catch as would persons that fish in the limited access fishery based on their CQ assigned to that fishery. Those participants that do not fish under a CQ permit (i.e., those LLP holders that opt-out of the PCTC Program) would not be subject to cost recovery fees.

Fee liability determination.

- (i) Each PCTC Program cooperative will be subject to an PCTC Program fee liability for any BSAI Pacific cod debited from its PCTC Program allocation during a calendar year.
- (ii) The fee liability assessed to an PCTC Program permit holder will be based on the proportion of the PCTC Program Pacific cod debited from that PCTC Program's Pacific cod fishery allocation relative to all PCTC Program CQ harvested during a calendar year as determined by NMFS.
- (iii) NMFS will provide a fee liability summary letter to each designated representative by December 1 of each year. The summary will explain the PCTC Program fee liability determination including the current

⁸³ It is anticipated that cooperatives will be assigned the CQ permit and will be responsible for the cost recovery fee. The person subject to the cost recovery fee will be reviewed after the Council selects a PPA.

fee percentage and details of BSAI Pacific cod pounds debited from the PCTC Program fishery allocation by permit, species, date, and price. NMFS will calculate and announce the PCTC Program fee percentages in a Federal Register notice by December 1 of the year in which the BSAI Pacific cod PCTC Program landings are made. The process will be the same as used to determine pollock standard exvessel prices for AFA inshore cooperatives. A single PCTC Program fee percentage will be calculated for all cooperatives. NMFS will apply the calculated PCTC Program fee percentages to the exvessel value determined for all BSAI Pacific cod landings that are deducted from the cooperative's allocation during the current year. NMFS would calculate PCTC Program direct program costs through an established, systematic accounting system for the Federal fiscal year (FY), which is October 1 through September 30. NMFS tracks internal program costs as well as program costs from the Alaska Fisheries Science Center (AFSC), and the ADFG.

Examples of the types of tasks that would likely be included under the PCTC Program direct program costs are:

- maintenance of electronic reporting systems, including the catch accounting system (AKRO, ADF&G),
- programming and web design for online applications (AKRO),
- determination of annual cooperative allocations of cooperative fishing quota (CQ) and prohibited species catch (PSC) (AKRO),
- issuance of (CQ), responding to questions about CQ applications (AKRO),
- transfers of CQ, responding to questions about transfers (AKRO),
- observer debriefing (AFSC),
- catch monitoring control plan specialist (AKRO),
- monitor cooperative fisheries CQ and PSC, answer questions on cooperative activities, respond to data requests (AKRO),
- determination of standard exvessel prices using COAR data (AKRO),
- fee determination and collection process (AKRO),
- cost recovery report (AKRO), and
- analysis and rulemaking activities (AKRO).

Using the actual program costs provided by agencies that incur recoverable costs, a four-step annual process that is undertaken by NMFS:

- 1) Calculate the total incremental costs incurred to manage and enforce the fishery.
- 2) Calculate the total value of the fishery.
- 3) Divide the total costs in step one by the total fishery value in step two to determine the fee percentage.
- 4) Apply the fee percentage to each permit holder's catch and invoice each permit holder.

The fee must be paid for the previous year prior to RAM issuing CQ to a cooperative for the upcoming year. If the fee is not paid the QS holder will forgo their allocation of CQ. Also, NOAA Fisheries cannot assess penalties until at least 30 days after a payment is due.

A summary of the important dates and actions are presented in the table below.

Table 2-111: Important cost recovery fee actions and dates

Action	Timing
Pacific Cod Fishing Occurs	January 20 through end of B or C season (depends on option selected)
Recoverable Costs determined	Based on costs from (October 1 through September 30)
AKRO Calculates and Publishes Standard Exvessel Price and Fee Percentage	On or Before December 1
Fee Submission Deadline	On or Before December 31

If the result of the recoverable costs is a calculated fee greater than 3 percent of the exvessel value of the allocated species, the agencies would be required to make up the cost difference from their annual operating budgets. The 3 percent limit was implemented to ensure that the costs passed on to industry were not overly burdensome to industry but required QS holders to incur some of the increased costs to provide the fleet a benefit.

Market and stock uncertainties, as well as variation in management costs, mean that the fees may not precisely cover management costs. TAC announcements for the fisheries are not made until after the fee percentage is set. In addition, exvessel prices will fluctuate with market conditions, so the basis that the fee percentage is applied to will change throughout the season. There has been at least one instance in the halibut and sablefish program where the IFQ holders were issued a refund, because it was determined they had paid more than required. The IFQ holders were given the option of applying the overage to the next years fee or requesting a refund.

Owners of vessels utilized to harvest Pacific cod that are allocated under a LAPP may benefit from reduced harvesting costs, higher exvessel prices, greater asset value, and increased safety, relative to management prior to the LAPP being implemented. Monitoring and enforcement of the LAPP often increases costs to agencies tasked with overseeing the harvest. Under the cost recovery program, some of the benefits generated under the LAPP that result in increased revenue will be transferred to management agencies to offset some or all of their increased costs associated with the overseeing the programs. It is assumed that the overall benefits of the LAPP outweigh the additional costs incurred, including the cost recovery fee.

NMFS typically generates a cost recovery report for each program that is subject to cost recovery. In most fisheries NMFS is required to provide the report. For example, regulations at 50 CFR 679.66(g) state that for the AFA program, “each year, NMFS will publish a report describing the AFA Cost Recovery Fee Program.” The requirement is often placed in regulation at the request of stakeholders to ensure that NMFS must provide the report, even though, NMFS has voluntarily provided the report for fisheries it was not required to by regulation (e.g., the CGOA Rockfish Program).

2.7.14. Element 14 - Gear Conversion

Pacific cod allocations associated with trawl CV license may be fished with pot gear. A pot endorsement is not necessary, but the LLP license must have the appropriate area endorsement. Harvest would continue to be deducted from the annual trawl cooperative quota account to which the LLP is assigned⁸⁴ and will not affect sector allocations.

The Council has discussed the issue of allowing BSAI Pacific cod CQ, based on CV trawl catch history or processing history, to be harvested using pot gear. CQ derived from LLP licenses or processor permits assigned to a PCTC Program cooperative could be harvested by vessels that are members of the cooperative with either trawl or pot gear. The vessel would not be required to have a pot gear endorsement on the LLP license assigned to their vessel, but the vessel would be required to have an area

⁸⁴ The first part of this sentence was inadvertently not included in the final motion. Recognizing the omission, staff adjusted the final motion to reflect the complete sentence.

endorsement for the area (BS or AI) where they are fishing and have sufficient cooperative quota to be fished.

Based on the 2020 LLP license file, there are 50 CV LLP licenses that are endorsed to fish in the BS or AI for Pacific cod with pot gear. A total of 47 LLP licenses are only endorsed for the BS, two are endorsed for both the BS and AI, and one is only endorsed in the AI. None of the trawl CV LLP licenses with an AI or BS area endorsement have a pot gear endorsement in the BS or AI. Depending on how the Council structures the provision it could allow pot vessels to join a cooperative for the purpose of leasing CQ and fishing it with pot gear, remove a pot gear endorsement requirement to allow any of the trawl CVs that are fishing in the cooperative program to deploy pot gear to harvest Pacific cod, or both. CVs that are not currently equipped to use pot gear would have greater costs associated with converting their vessel and purchasing gear than vessels that are already configured for pot gear. This additional cost may result in consolidation of CQ on vessels that are configured for pot gear, to the extent persons wish to utilize the provision.

Catch accounting issues

The use of pot gear to harvest trawl CV BSAI Pacific cod quota will not affect sector allocations. Allocations to the BSAI trawl CV Pacific cod sector will be the same regardless of whether the resulting CQ is harvested with trawl gear or pot gear. NMFS will continue to manage the CQ assigned to a PCTC Program cooperative based on the catch of the PCTC Program cooperative member vessels when they are checked into the cooperative.

For in-season management to correctly account for PCTC Program landings of Pacific cod it will be necessary to establish notification requirements that would identify whether a vessel is in a PCTC Program cooperative and what gear is being used. Since gear is always reported in CAS data, quota monitors and managers would use this data to identify which gear was used to harvest Pacific cod. Enforcement personnel would need to have documentation of whether a vessel may legally fish the cooperative allocation with pot gear. That could be provided by the NMFS RAM Program or through a requirement that the vessel carry and have available for enforcement personnel documents that show their cooperative membership and status.

BSAI Pacific cod catch by a vessel using either trawl or pot gear when fishing in the PCTC Program cooperative would be deducted from that cooperative's allocation. If a vessel checked out of their PCTC Program cooperative, the vessel would be required to have a pot gear endorsement on their LLP license to fish in a BSAI Pacific cod pot gear fishery that is open to directed fishing. That catch would be deducted from the appropriate pot gear sector apportionment. CVs using trawl gear would be limited to fishing Pacific cod through a cooperative or a limited access fishery if they are not in a cooperative.

Since the sector allocations are not altered in this gear conversion element under consideration, it is assumed that the PCTC Program quota cannot be permanently converted to a pot sector allocation. That decision means that gear conversion is an annual decision of how CQ will be used within a cooperative, not a one-time decision to convert PCTC Program QS to be only fished with pot gear in the future. Any allocation to the trawl limited access fishery may not be harvested with pot gear. This decision would not limit future Council actions if it develops a BSAI Pacific cod pot LAPP. If a Pacific cod pot gear LAPP is developed, the Council could address limitations on transfers of CQ and/or QS between the PCTC Program cooperative and any pot gear cooperatives that may form after that program is developed.

Catch accounting issues specific to PSC are discussed later in this Element. The discussion of PSC was included there because other Council decisions impact the management and accounting for PSC.

Cost recovery issues

Cost recovery regulations require that the cost recovery fee is based on the exvessel value of the allocated fish harvested under the PCTC Program. Without gear conversion the exvessel value information

collected would be based on the average (standardized) exvessel value of trawl deliveries of Pacific cod. Including pot deliveries in the program means that a standardized price would need to be established for both pot and trawl gear deliveries. This will likely increase the cost of the program and the fees collected somewhat, since it is assumed that pot gear deliveries of Pacific cod will command a higher exvessel value and there is additional staff and industry time to submit and compile the two prices. If few pot vessels participate in the program, NMFS may be limited by confidentiality regulations on the catch, price, and delivery information that can be reported publicly.

In summary, allowing pot gear to be used to harvest Pacific cod under this program will likely increase the cost of the program and the fees collected somewhat. The cost of establishing two standardized prices for Pacific cod, one for trawl gear and one for pot will not have a substantial impact on costs but is expected to take some additional agency time. The monitoring, enforcement, and management costs may increase. The costs will be greater if more vessels are allowed to harvest the CQ with pot gear and RAM must approve more CQ transfers. The CAS would also need to be modified to determine whether pot gear deliveries are attributed to the appropriate pot gear sector or the trawl CV sector.

PSC issues

Allowing quota holders to utilize pot gear may provide the sector greater flexibility to meet a primary objective of this action, to reduce halibut PSC and to better utilize available halibut PSC. Information presented in Table 2-112 and Table 2-113 are provided as a summary of PSC mortality in the BSAI Pacific cod fishery by the trawl CV and pot CV $\geq 60'$ sectors. In addition, Table 2-114 provides annual and average bycatch rates by crab species for non-pelagic trawl and pot gears from 2016 through August 2020. The information in the tables show that the use of pot gear has historically resulted in much lower halibut mortality in total and as a rate⁸⁵ to Pacific cod harvest. The tables also show that pot gear has historically resulted in large amounts of crab mortality in total and the crab bycatch rate in the BSAI Pacific cod fishery using pot gear is higher relative to non-pelagic trawl gear. Based on the information presented in the tables, using pot gear to harvest BSAI Pacific cod CQ could result in lower amounts of halibut PSC but higher amounts of crab PSC relative to trawl gear harvesting the same amount of CQ.

In ongoing research, NOAA Fisheries Bycatch Reduction Engineering Program provided a grant for Alaska Bering Sea Crabbers, Bering Sea Fisheries Research Foundation, and the Natural Resources Consultants with support from several partners to conduct lab and field experiments to develop and test the effectiveness of crab bycatch reduction in a variety of pot gear modifications. As indicated in the August 2020 BREP Project Update, preliminary lab results show that the use of sock tunnels combined with slick ramps shows promise in reducing red king crab bycatch. Field testing of pot gear modifications for Pacific cod pots will start in September 2020.

Table 2-112 Summary of BSAI trawl CV PSC mortality

Species	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Halibut mortality (mt)	440	596	586	427	291	181	255	238	429	309	281	236	294	221	205	352	140
Red King crab	467	2,963	22	25	1,249	475	437	2,109	316	2	587	60	585	361	200	466	178
C. bairdi	44,794	57,138	56,284	28,355	34,632	6,778	21,714	12,206	8,035	6,313	8,304	10,247	11,069	9,201	1,945	2,849	2,210
C. opilio PSC (COBLZ)	86	59	12	89	349	251	14	42	0	321	2,291	71	5	0		4,144	0
Other C. opilio	4,924	6,485	18,274	8,406	17,657	8,144	4,003	5,702	5,902	4,814	1,640	1,072	30	701	760	275	2,315
Chinook	2,147	1,867	1,421	3,577	1,609	904	1,045	404	775	862	1,243	1,164	1,902	1,550	385	1,108	175
Non-chinook	742	556	1,409	720	69	53	17	84	5	143	546	294	136	84	1	156	0

Source: AKFIN June 2020; Table originates from file Sector_PSC(6-25-20)

⁸⁵ Rates are not directly shown for halibut but can be inferred from the information presented.

Table 2-113 Summary of CV PSC mortality for the pot CV ≥ 60' sector

Species	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Halibut mortality (mt)	1.64	1.65	1.71	0.21	2.23	0.09	1.20	3.29	2.15	0.61	0.43	0.47	0.70	0.62	0.17	0.81	0.58
Red King crab	408	2,994	3,652	22,733	20,358	1,437	1,069	7,866	1,834	22,430	19,061	19,875	309	8,716	242,567	35,040	2,381
C. bairdi	25,294	92,528	211,226	430,990	839,641	267,264	198,074	114,981	43,355	62,215	108,234	148,669	48,736	133,249	154,486	26,783	18,328
C. opilio PSC (COBLZ)	1,000	7,377	7,120	229,603	51,793	6,520	17,333	258	1	0	0	0	0	1,396	25	0	0
Other C. opilio	44,602	76,200	189,097	556,794	235,668	61,927	261,829	41,494	7,363	4,744	29,101	35,710	1,334	27,631	2,579	1,076	6,392
Chinook	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-chinook	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Source: AKFIN June 2020; Table originates from file Sector_PSC(6-25-20)

Table 2-114 Historical bycatch rate and average bycatch rate of crab PSC for non-pelagic trawl gear and pot gear from 2016 through August 21, 2020

Crab species	Gear type	2016	2017	2018	2019	2020	2016-2020 average crab PSC rate
Bristol Bay red king crab	Non-pelagic trawl	0.57	1.02	0.56	1.19	1.03	0.85
	Pot	0.98	1.08	14.69	2.14	0.62	4.26
Eastern Bering Sea snow crab	Non-pelagic trawl	0.12	0.12	1.41	0.74	0.73	0.62
	Pot	0.19	0.94	0.48	0.25	0.69	0.50
Eastern Bering Sea Tanner crab	Non-pelagic trawl	0.41	0.47	0.31	0.32	0.51	0.40
	Pot	3.96	4.30	3.67	1.76	2.10	3.24
Other Tanner crab	Non-pelagic trawl	0.92	0.85	2.63	1.34	6.15	2.02
	Pot	1.04	0.09	1.34	2.03	0.05	0.85

Source: AKFIN Aug 2020; Data originates from CRAB_PSC(8-21-20)

Discard mortality rates of halibut by gear type are presented in the annual specifications 85 FR 13570 (09 March 2020). Table 2-115 shows the halibut DMR for the 2020 fishing year. The DMR for non-pelagic trawl gear is about twice as large as the pot gear rate and the pelagic trawl DMR for halibut is 100 percent. Pot gear DMR for halibut is set at 27 percent for the 2020 and 2021 fishing years.

Table 2-115 2020 and 2021 Pacific Halibut Discard Mortality Rates (DMR) for the BSAI

Gear	Sector	Halibut discard mortality rate (percent)
Pelagic trawl	All	100
Non-pelagic trawl	Mothership and catcher/processor	75
Non-pelagic trawl	Catcher vessel	58
HAL	Catcher/processor	9
HAL	Catcher vessel	9
Pot	All	27

Source: 85 FR 13570 (09 March 2020)

As part of any gear conversion option, the Council must address how PSC will be deducted from the accounts used to determine the limits imposed on certain groups of vessels. Pot gear is currently exempt from halibut PSC limits. This is due to the typically low rates of halibut PSC associated with pot gear landings. The Council could allow pot gear used to harvest BSAI trawl CV quota to be exempt from halibut PSC limits to mirror the management of pot PSC. This could create a situation in which a PCTC Program cooperative has utilized all of their halibut PSC limit or the trawl CV sector overall is closed due to halibut usage and the cooperative(s) chooses to use pot gear to harvest the remainder of the CQ quota.

Monitoring issues

The Council would need to determine if vessels opting for Pacific cod pot trips would have different monitoring requirements. Typically, trawl LAPPs in Alaska waters require that CVs have 100 percent observer coverage to accurately account for quota harvest. **Whether these same monitoring provisions will apply to vessels using pot gear is a decision that needs to be addressed.**

Another issue to consider is that electronic monitoring (EM) could possibly be available for pot vessels prior to an EM program for the trawl sector. There remains a lot of uncertainty regarding the timing of when the EM programs will be fully implemented. EM is also an issue that will need to be addressed in the context of this provision as more information becomes available.

See Section 2.7.11 for more detailed information on monitoring and enforcement for the proposed PCTC Program.

Location of fishing and gear interactions

Since 2004, approximately 60 trawl CVs named on PCTC Program qualified LLP licenses have used pot gear for use in crab fisheries (although this number of trawl CVs has declined to 15 in the last 10 years). As noted above, none of the trawl CV LLP licenses with an AI or BS area endorsement have a pot gear endorsement in the BS or AI, but a pot endorsement is not necessary to fish in the crab fisheries. Nevertheless, it is possible that many of the 60 trawl vessels named on PCTC Program qualified LLP licenses could employ pot gear depending on the conditions. This level of pot fishing may go beyond the Council's intent of Element 14 and would likely cause gear interactions.

Gear conversion could have implications on where fishing occurs in terms of State or Federal waters, including potential interactions with vessels currently utilizing pot and HAL gear. Gear interactions may be greatest (based on past years distribution of Pacific cod) in the BS area North of Unimak Island where vessels focus their fishing effort when Pacific cod congregate. Changing weather conditions may impact

where Pacific cod congregate in the future and as a result where gear interactions are most likely to take place.

Figure 2-18 shows the areas where pot gear was used to harvest BSAI Pacific cod in 2019, while Figure 2-19 shows the same information but for trawl gear. The areas where trawl and pot gear catch overall lap North of Unimak Island are where gear interactions are expected to most likely occur.

Figure 2-18 Catch by location for the 2019 Pacific cod pot fishery in the Bering Sea and Aleutian Islands

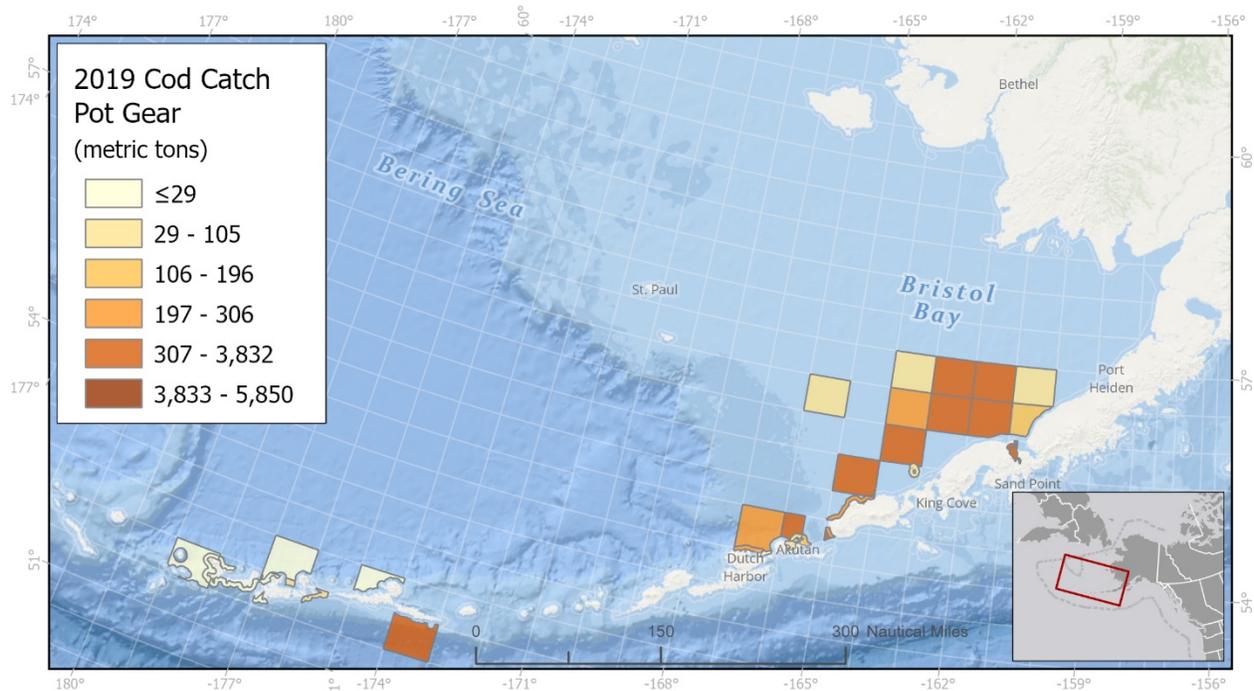
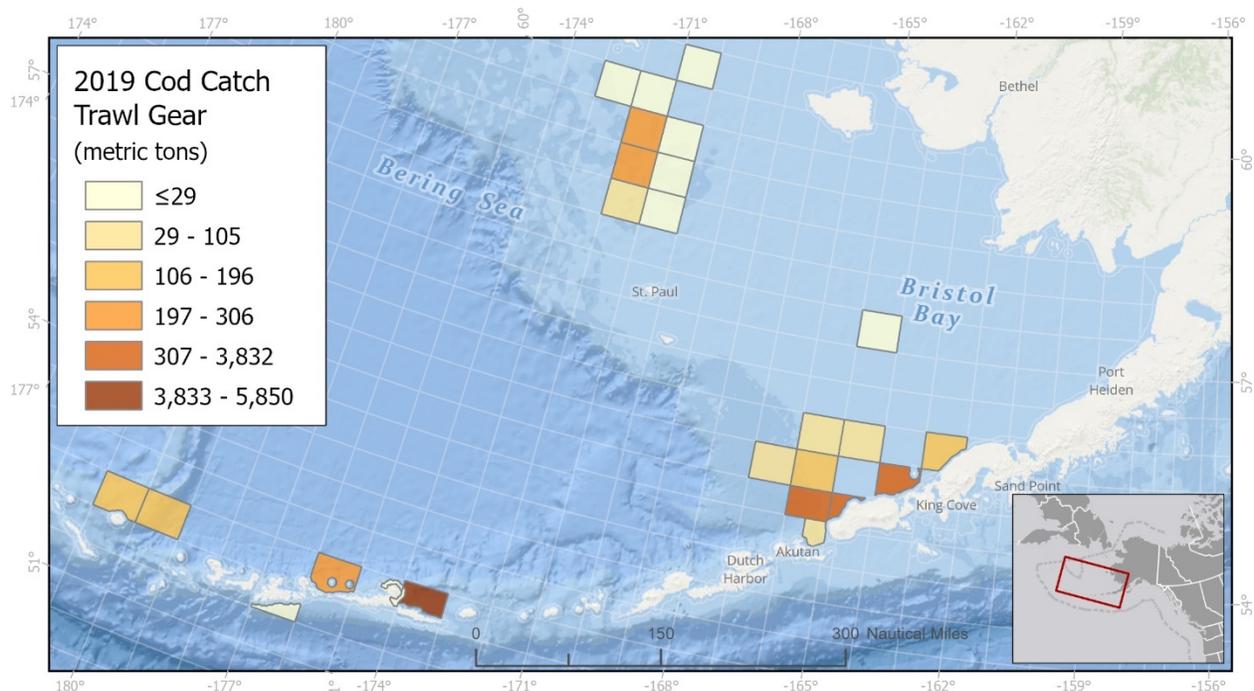


Figure 2-19 Catch by location for the 2019 Pacific cod trawl fishery in the Bering Sea and Aleutian Islands



Source: AKFIN, September 2020

Value of the fishery

Allowing vessels to harvest the PCTC Program CQ with pot gear is expected to generate a higher exvessel price. During 2018, Pacific cod harvested with pot gear generated a nominal exvessel price of \$0.412 per pound versus \$0.342 per pound for trawl caught Pacific cod. That is about a 20 percent premium for pot gear caught Pacific cod compare to trawl caught Pacific cod. While the exvessel price of Pacific cod is higher when harvested with pot gear, primarily because of fish quality, information to determine the relative profitability of the two fisheries is not available. Costs of production on a per pound basis are often stated to be lower in the trawl fishery compared to non-trawl fisheries, but comparable quantitative production costs are not available.

Catch composition

The species composition of landings in the directed Pacific cod fishery differs between vessels using pot gear and vessels using trawl gear. Pot gear tends to be more selective with the groundfish catch being almost all Pacific cod. The discard mortality rates of some species taken as incidental catch in the pot fishery is also lower than in the trawl fishery. Table 2-116 provides catch composition for pot and trawl gear during the 2015 through 2019 fishing year for the BSAI Pacific cod target fishery. For both gears, Pacific cod made up over 90 percent of the target Pacific cod fishery. Pot gear also had 1.96 percent of other groundfish which consisted mostly of octopus and sculpin and 0.75 percent of flatfish which consisted of mostly yellowfin sole. In addition to Pacific cod, trawl gear also had 2.5 percent of flatfish which consisted mostly of rock sole, skates, and yellowfin sole, 2.2 percent of pollock, and 1.4 percent of other groundfish.

Table 2-116 Catch composition in the BSAI Pacific cod target fishery from 2015 through 2019 for pot gear and trawl gear

Species	Pot gear		Trawl gear	
	Total catch from 2015-2019	Percent of total from 2015-2019	Total catch from 2015-2019	Percent of total from 2015-2019
Atka mackerel	40	0.03%	254	0.14%
Flatfish	916	0.75%	4,609	2.51%
Other groundfish	2,380	1.96%	2,482	1.35%
Pacific cod	117,969	97.17%	172,132	93.78%
Pollock	56	0.05%	3,958	2.16%
Rockfish	19	0.02%	109	0.06%
Sablefish	23	0.02%	5	0.00%
Total	121,402	100.00%	183,549	100.00%

Source: AKFIN Sept 2020; Data originates from CV_PCOD_TGT_CatchComposition(9-2-20)

Vessels that may be used

It is assumed that if the PCTC Program CQ is harvested with pot gear it may only be harvested by CVs deploying pot gear. This would ensure that the fishery is not harvested by pot C/Ps when it has been designated as a CV fishery at the time of initial allocation. CVs (including vessels that have PCTC Program QS assigned to their LLP license and those that do not) that are less than 60' LOA and greater than or equal to 60' LOA would be allowed to use pot gear to harvest CQ with approval from a cooperative, even though those two classes of pot gear vessels fish off different allocations in their directed Pacific cod fishery. **If that is not the intent of the Council, it should be clarified and the discussion should be expanded to include impacts on the various classes of pot gear vessels and the processing sectors.**

The Council will need to clarify whether the fishery would operate under trawl seasons or pot fishing season. Without further direction from the Council it is assumed that any use of PCTC Program CQ would be allowed starting January 20th of each year. Allowing the vessels to start fishing January 1 with pot gear could impact the dates the cooperative allocations must be filed and processed to ensure that allocations to cooperatives are completed prior to the January 1 start date of the pot fishery as opposed to the January 20 start date of the trawl fishery.

2.8. Expected Effects of the Alternatives

This section describes the economic and distributional effects that might be expected to occur as a result of the PCTC program. The intent of this action is to improve the prosecution of the fishery through promoting safety and stability in the harvesting and processing sectors, increasing the value of the fishery, providing for the sustained participation of fishery dependent communities, and insuring the sustainability and viability of the resource.

Assessing the effects of the alternatives, elements, and options involves some degree of speculation. In general, the effects arise from the actions of individual participants in the fisheries, under the incentives created by different alternatives and options. Predicting these individual actions and their effects is constrained by incomplete information concerning the fisheries, including the absence of complete economic information and well-tested models of behavior under different institutional structures. In addition, exogenous factors, such as stock fluctuations, market dynamics, and macro conditions in the global economy, will influence the response of the participants under each of the alternatives, elements, and options.

This section provides the analysis of Alternative 1 (status quo), and two strawman alternatives. Although the alternatives to the status quo differ in several respects, the primary difference is in the cooperative structures. Alternative 2a is a cooperative alternative that would allow only two cooperatives to be formed within the sector: a cooperative for the AFA trawl CVs and a cooperative for the non-AFA trawl CVs. Alternative 2b is a cooperative structure that would allow voluntary harvester cooperatives with no minimum number of licenses required but could only form in association with a licensed processor. The specific differences of these strawman alternatives are described in Table 2-1.

2.8.1. Effects on Harvester Participation and Fishing Practices

Patterns and levels of harvester participation and fishing practices in the BSAI Pacific cod trawl CV fishery is likely to vary under the different alternatives. Under the no action alternative participation and fishing practices are unlikely to change from the existing fishery, which is described in 2.8.1.1. Under the cooperative program alternatives, participation and fishing practices may be expected to result in some notable differences in participation and fishing practices, which are described in Section 2.8.1.2 and Section 2.8.1.3.

2.8.1.1. Alternative 1: Status quo (No Action)

Harvest participation and fishing practices in the BSAI Pacific cod fishery for the trawl CV sector under Alternative 1 are likely to be similar to current participation and fishing practices. The trawl CV sector includes all trawl CVs assigned an LLP license with an endorsement to fish with trawl gear in the BS and/or AI. The trawl CV sector includes trawl CVs that are issued an AFA permit for eligibility to participate in the directed BSAI pollock fishery and those trawl CVs that are not issued an AFA permit. For the AFA CVs, most vessels rely almost exclusively on pollock harvested in the BS, while Pacific cod is the second most important species in terms of volume for these vessels. The non-AFA trawl CVs are not eligible to participate in the directed BSAI pollock fishery. Vessels in this group are typically between 60 ft and 125 ft but occasionally vessels < 60 ft participate in the sector. The non-AFA trawl CVs rely on BSAI Pacific cod, the GOA groundfish fishery, halibut IFQ using longline gear, and State of Alaska commercial salmon seine fisheries. For more general information concerning the trawl CV sector, see Section 2.6.6.1.

Table 2-117 shows annual targeted Pacific cod catch by LLP licenses associated with AFA and non-AFA vessels from 2004 through April 10, 2019. The table also provides the annual percent of BSAI Pacific cod landed, number of LLP licenses, number of vessels, and number of processing plants. From 2004 through April 10, 2020, the non-AFA vessels harvested on average 16.2 percent of the BSAI Pacific cod from the trawl CV sector allocation, while the AFA vessels harvested on average 83.8 percent. Prior to 2008, the non-AFA CVs harvested 10 percent or less of the trawl CV allocation, but since 2008 these vessels have harvested nearly 15 percent or greater of the sector's catch. During this same period, a total of 19 LLP licenses were used on 35 non-AFA vessels with an annual range of between 6 and 13 LLP licenses. In total, 110 LLP licenses were used on 115 AFA vessels over that same period and the annual number used ranged from a low of 38 in 2010 to high of 65 in 2004. Variation in the number of vessels and LLP licenses that were active in the Pacific cod fishery during a year was driven by many factors including exvessel Pacific cod prices, TACs, other fishing opportunities, and various management measures considered to limit participation in the BSAI Pacific cod fishery.

The total number of processors, as noted Table 2-117, during 2004 through April 10, 2020, that received targeted BSAI Pacific cod from both non-AFA CVs and AFA CVs combined was 35. As noted in the Table 2-118, the total number of processors has consisted of 14 shoreside processors, 11 C/Ps acting as motherships, and 10 floaters and true motherships during the 2004 through April 2020 period.

Starting in 2020, only two C/Ps are eligible to operate as motherships receiving and processing Pacific cod from CVs directed fishing in the BSAI non-Community Development Quota Pacific cod trawl fishery under BSAI FMP Amendment 120 (84 FR 70064, December 20, 2019). One is owned by a firm that is a part of the AFA C/P cooperative and the other is owned by a firm that is part of the Amendment 80

cooperative program. One of the C/Ps typically took deliveries from CVs that were not owned by the firm. The other contracted with CVs to deliver Pacific cod.

Table 2-118 shows the annual amount of BSAI Pacific cod reported in the CAS data as being caught in the Pacific cod target fishery or other target fisheries and the total amount of Pacific cod harvested that is deducted from the BSAI trawl CV sector allocation. From 2004 through 2020, incidental catch of Pacific cod ranged from about 7.5 percent to about 16.9 percent of the total Pacific cod catch, with an average of 11.8 percent. The incidental catch of Pacific cod average was 4,350 mt, with a range of 2,815 mt to 6,144 mt annually.

The trawl CV sector participates in the AI Pacific cod fishery on a regular basis. The trawl CV sector allocation may be harvested in either the BS or the AI under status quo, which allows flexibility for the sector. 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. Table 2-119 provides harvests of targeted BSAI Pacific cod in the both BS and AI from 2004 through April 10, 2020. As a percent of total non-CDQ BSAI Pacific cod catch for the sector, the AI fishery has declined from its peak in 2009. The number of trawl CVs during 2004 through April 10, 2020 that harvested targeted AI Pacific cod fishery has also declined. The largest number of trawl CVs harvesting AI Pacific cod was 33 in 2007, while the lowest number of trawl CVs was zero in 2020. The highest amount of Pacific cod harvested in the AI was 15,057 mt in 2009, while the lowest amount of AI Pacific cod was 0 mt in 2020. Although fishing was open in both the AI and the BS, in 2020, no harvest occurred in the AI since trawl CV harvesters focused all other their catch in the BS Pacific cod fishery.

Table 2-119 also provides the number of processors by type that targeted BS and AI Pacific cod. In total, from 2004 through April 2020 there were 10 shoreside processors, four C/Ps acting as motherships, and five floaters and true motherships that targeted AI Pacific cod. During that same period, 10 shoreside processors, 11 C/Ps acting as motherships, and 9 floaters and true motherships targeted BS Pacific cod.

Table 2-117 Targeted trawl CV sector BSAI Pacific cod landings 2004 through April 10, 2020

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total ¹
	Non-AFA																	
Landed catch (mt)	3,783	2,086	1,991	2,288	4,079	4,488	5,029	7,695	7,151	6,832	6,136	7,916	6,810	6,642	8,057	4,559	3,613	89,946
Landed catch (%)	10.2%	6.7%	6.7%	8.1%	14.8%	17.5%	20.2%	22.2%	17.9%	17.5%	15.8%	25.1%	16.7%	17.7%	23.9%	17.3%	16.8%	16.2%
LLP licenses	7	7	7	10	10	7	8	12	11	11	6	8	9	12	14	13	9	19
Vessels	16	11	9	15	13	14	11	12	11	11	6	8	9	12	17	14	9	35
	AFA																	
Landed catch (mt)	33,424	28,834	27,585	26,109	23,449	21,221	19,855	26,905	32,768	32,147	32,606	23,667	34,036	30,801	25,651	21,770	17,876	464,967
Landed catch (%)	89.8%	93.3%	93.3%	91.9%	85.2%	82.5%	79.8%	77.8%	82.1%	82.5%	84.2%	74.9%	83.3%	82.3%	76.1%	82.7%	83.2%	83.8%
LLP licenses	65	57	53	52	55	42	38	39	50	45	48	46	53	53	53	56	47	95
Vessels	62	53	48	49	52	40	37	38	44	42	42	40	47	49	48	47	42	80
	Total																	
Landed catch (mt)	37,207	30,920	29,576	28,397	27,528	25,709	24,885	34,599	39,919	38,979	38,743	31,583	40,846	37,443	33,709	26,329	21,489	554,913
LLP licenses	72	64	59	61	64	49	46	51	60	56	54	54	62	65	67	69	56	110
Vessels	78	64	57	64	65	54	48	50	55	53	48	48	56	61	65	61	51	115
Processors	14	12	11	12	14	10	10	13	11	13	10	11	17	17	19	18	**	35

Source: TCCP_Overview (6-4-20)(1), BSAI_TRW_LLP_PCODLANDINGS2(4-10-20) Workbook, and for processor count BSAI_PCOD_LAPP_Processors(4-9-20)

** Denotes data by processor type was not yet available.

¹Given 2020 processor type data is not yet available, aggregated counts by processor type does not equal total processor count.

Table 2-118 Targeted and incidental catch of Pacific cod in BSAI by trawl CV sector 2004 through April 10, 2020

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total ¹
	Target																	
Landed catch (mt)	37,207	30,920	32,440	29,150	28,090	25,904	25,283	34,622	40,797	38,979	39,093	31,741	41,716	37,443	33,709	26,329	21,489	554,913
Landed catch (%)	91.2%	86.8%	89.5%	91.2%	89.6%	87.6%	88.9%	87.1%	86.3%	89.4%	92.5%	84.3%	91.2%	85.9%	89.4%	83.6%	83.1%	88.2%
LLP licenses	72	64	59	61	64	49	46	51	60	56	54	54	62	65	67	69	56	110
Vessels	78	64	57	64	65	54	48	50	55	53	48	48	56	61	65	61	51	115
Processors	14	12	11	12	14	10	10	13	11	13	10	11	17	17	19	18	**	35
Shoreside	7	7	7	8	8	6	5	7	6	8	6	6	6	5	7	7	**	14
C/P acting as mothership	3	1	1	2	3	2	2	3	3	2	2	2	7	8	9	8	**	11
Floaters and true motherships	4	4	3	2	3	2	3	3	2	3	2	2	4	3	3	3	**	10
	Incidental																	
Landed catch (mt)	3,610	4,705	3,791	2,815	3,255	3,663	3,158	5,124	6,453	4,630	3,180	5,913	4,005	6,144	3,980	5,149	4,373	73,948
Landed catch (%)	8.8%	13.2%	10.5%	8.8%	10.4%	12.4%	11.1%	12.9%	13.7%	10.6%	7.5%	15.7%	8.8%	14.1%	10.6%	16.4%	16.9%	11.8%
LLP licenses	95	96	91	96	95	94	95	93	96	94	97	98	100	98	99	97	93	116
Vessels	92	91	87	91	91	90	91	89	92	88	90	90	92	92	90	88	85	108
Processors	14	12	13	12	14	11	13	11	11	11	11	16	18	16	19	21	**	24
Shoreside	6	6	7	7	7	6	5	6	6	6	5	6	6	5	6	6	**	7
C/P acting as mothership	0	1	0	1	1	1	2	1	1	1	2	5	8	8	8	9	**	11
Floaters and true motherships	5	3	3	2	2	2	4	2	2	2	2	2	2	2	3	2	**	7
	Total																	
Landed catch (mt)	40,817	35,625	36,231	31,965	31,346	29,568	28,440	39,746	47,250	43,609	42,273	37,654	45,721	43,587	37,689	31,479	25,861	628,861
LLP licenses	111	111	108	112	111	109	105	108	111	108	105	107	109	108	111	108	100	129
Vessels	115	109	104	112	108	110	103	104	105	101	98	99	100	102	105	100	92	136
Processors	20	18	16	16	20	15	14	17	16	16	15	20	22	21	23	24	**	35
Shoreside	7	7	7	8	8	7	6	7	7	8	7	6	7	5	7	7	**	14
C/P acting as mothership	3	1	1	2	3	2	2	3	3	2	2	6	8	9	10	9	**	11
Floaters and true motherships	7	7	5	4	5	4	4	5	4	4	4	4	5	5	4	4	**	10

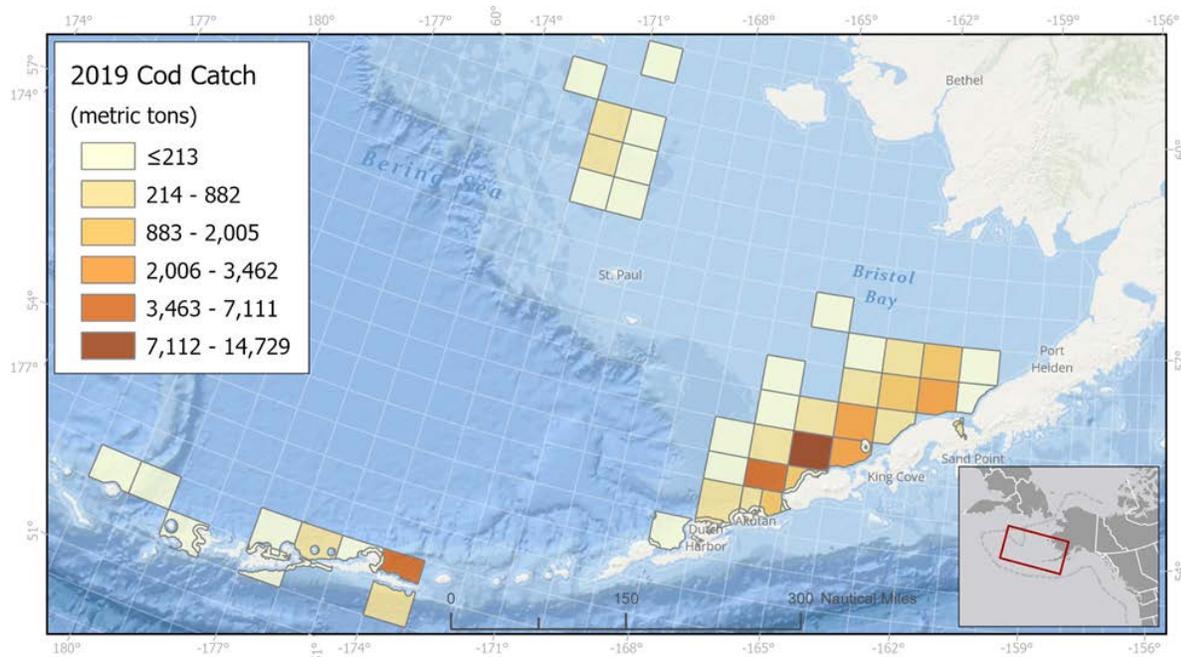
Source: TCCP_Overview (6-4-20)(1), BSAI_TRW_LLP_PCODLANDINGS2(4-10-20) Workbook, and for processor count BSAI_PCOD_LAPP_Processors(4-9-20)

** Denotes data by processor type was not yet available.

¹Given 2020 processor type data is not yet available, aggregated counts by processor type does not equal total processor count.

Figure 2-20 shows catch of BSAI Pacific cod by statistical area during the 2019 fishing season. As can be seen in the figure, catch of trawl CV Pacific cod was concentrated most heavily just north of Unimak Island. Table 2-119 provides annual trawl CV harvest of targeted Pacific cod in the BS and AI from 2004 through April 2020 and. Overall, the AI accounted for 24 percent of the combined harvest of targeted Pacific cod with 32 LLP licenses and 57 vessels, while the BS accounted for the remaining 76 percent with 105 LLP licenses and 107 vessels. In total, there were 19 processors that received deliveries of targeted AI Pacific cod from trawl CVs of which 10 were shoreside and nine non-shoreside. In the BS, there were a total of 30 processors that received targeted BS Pacific cod from trawl CVs of which 10 were shoreside and 20 were non-shoreside.

Figure 2-20 Catch of BSAI Pacific cod by statistical area for the 2019 fishing season



Sections 2.6.1 shows that the management of BSAI Pacific cod fishery is complicated by the structure of the fishery and separate BSAI Pacific cod allocations for nine sectors. The allocations to these nine sectors are calculated using the combined BS and AI ITACs with all sectors subject ITAC limits established for the BS and AI. This management structure and combined ITAC for sector allocations could result in the BS ITAC being harvested and sectors with any remaining Pacific cod available being required to harvest those fish in the AI. During years when the AI set-aside was in place, it forced the trawl CV sector to harvest up to 5,000 mt of their sector allocation in the AI. This created inefficiencies for components of the sector that would prefer to harvest or process fish in the BS. It benefited the AI shoreplant that was processing Pacific cod harvested from the AI and the small group of CVs that had a market to deliver Pacific cod to that plant. It also meant that the trawl CV sector would harvest less of the BS ITAC, leaving that fishery open longer and available to be fished by the other eight Pacific cod sectors. Because the AI set-aside is no longer in place, the trawl CV sector may now harvest any amount of their sector apportionment from the BS, as long as the BS ITAC has not been fully taken. When combined with BS Pacific cod catch from other sectors, increasing the trawl CV catch from the BS could result in the BS ITAC closing before all sectors have harvested their allocations, which would force those sectors to fish in the AI or not fish at all. Depending on the processors operating in the AI, small CVs may need to find a market with a floating processor because of safety reasons or technical efficiency losses associated with delivering to other GOA or BS shoreplants. Overall, forcing CV sectors to fish in the AI would negatively impact BS shoreplants.

Allocations of Pacific cod to the non-CDQ fishery sectors are apportioned by seasons. The trawl CV sector allocation is apportioned among three seasons.

- A-season is January 20 – April 1 and is allocated 74 percent of the sector allocation
- B-season is April 1 – June 10 and is allocated 11 percent of the sector allocation
- C-season is June 10 – November 1 and is allocated 15 percent of the sector allocation

Table 2-120 shows that about 89 percent of the BSAI Pacific cod catch for the trawl CV sector was taken in the A-season from 2004 through April 10, 2020. On an annual basis, the catch ranged from 100 percent in 2020 to about 82 percent in 2018, which indicates that majority of the catch is always in the A-season. Catch in the B-season averages 9.6 percent of the BSAI Pacific cod catch from 2004 through April 10, 2000, while catch in the C-season averaged 1.9 percent during the same period.

Also shown in the Table 2-120 are the number of LLP licenses and trawl CVs that targeted BSAI Pacific cod on annual basis. During the 2004 through April 10, 2020, 108 LLP licenses and 112 trawl CVs harvested targeted BSAI Pacific cod in A-season, 91 LLP licenses and 93 trawl CVs in the B-season harvested targeted BSAI Pacific cod, and 35 LLP license and 32 trawl CVs harvested targeted BSAI Pacific cod in the C-season.

Table 2-120 also includes the number of processors that received targeted BSAI Pacific cod on annual basis from 2004 through April 10, 2020. In the A-season there were 32 processors, the B-season had 24 processors, and the C-season had 15 processors. All seasons combined, the total number of processors receiving targeted BSAI Pacific cod was 35.

The length of the BSAI Pacific cod fishery for the trawl CV sector has compressed in recent years. Table 2-121 provides a summary of the closure and opening dates for the BSAI Pacific cod trawl CV fishery. The BSAI trawl CV fishery is opened to fishing on January 20 and closes by regulation on November 1. Except for 2014 and 2015, the trawl CV sector has been restricted to bycatch-only retention status (directed fishing closures) at some point during the A-season every year from 2005 through 2019. The A-season fishery in the BS has ranged from 60 days in 2009 to 12 days in 2019. 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 was closed on March 9th and February 23rd, respectively. The earliest closure for the non-CDQ trawl CV sector during the A-season was February 1, 2019 in the BS; the 2020 BS fishery closed to directed fishing on February 16th. Although fishing was open in both the AI and the BS, in 2020, no harvest occurred in the AI. After two days of fishing, the fleet organized a voluntary stand down due to high halibut PSC rates. No fishing occurred again until February 9. Although the fishery was open for 28 days, fishing only occurred for 10 days due to the voluntary stand down for halibut PSC. After the completion of A-season it was determined there was not enough TAC available to prosecute a B season fishery and the fishery did not open. Typically, the B-season is only open from one week to a few days in recent years.

Table 2-119 Trawl CV sector harvests of targeted BSAI Pacific cod in the BS and AI 2004 through April 10, 2020

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total ¹
AI																		
Landed catch (mt)	*	7,973	9,771	13,607	14,496	15,057	12,665	7,535	6,964	5,120	4,554	*	5,811	2,539	5,254	6,474	0	133,994
Landed catch (%)	*	25.8%	30.1%	46.7%	51.6%	58.1%	50.1%	21.8%	17.1%	13.1%	11.6%	*	13.9%	6.8%	15.6%	24.6%	0.0%	24.1%
LLP licenses	15	13	16	22	22	18	20	14	15	7	6	4	10	5	11	11	0	32
Vessels	21	16	25	33	31	26	24	14	17	7	6	4	11	5	15	12	0	57
Processors	6	5	5	9	9	6	6	4	6	3	3	2	3	3	5	4	**	19
Shoreside	2	2	2	5	3	2	2	0	2	1	1	0	0	0	3	2	**	10
C/P acting as mothership	2	1	1	2	3	2	2	3	3	1	1	2	3	3	1	1	**	4
Floaters and true motherships	2	2	2	2	3	2	2	1	1	1	1	0	0	0	1	1	**	5
BS																		
Landed catch (mt)	23,768	22,947	22,670	15,544	13,595	10,847	12,617	27,088	33,833	33,859	34,539	29,005	35,906	34,904	28,454	19,855	21,489	420,919
Landed catch (%)	63.9%	74.2%	69.9%	53.3%	48.4%	41.9%	49.9%	78.2%	82.9%	86.9%	88.4%	91.4%	86.1%	93.2%	84.4%	75.4%	100.0%	75.9%
LLP licenses	63	60	54	51	49	34	30	48	55	52	52	54	57	63	63	64	56	107
Vessels	62	56	50	49	47	32	29	47	51	50	46	48	52	59	58	56	51	105
Processors	10	10	10	9	11	7	6	11	9	11	9	11	17	17	18	17	**	30
Shoreside	6	6	6	7	7	5	4	7	5	7	5	6	6	5	6	6	**	10
C/P acting as mothership	1	1	1	0	1	0	0	1	2	1	2	2	7	8	9	8	**	11
Floaters and true motherships	3	3	3	2	3	2	2	3	2	3	2	2	4	3	3	3	**	9
Total																		
Landed catch (mt)	*	30,920	32,440	29,150	28,090	25,904	25,283	34,622	40,797	38,979	39,093	*	41,716	37,443	33,709	26,329	21,489	554,913
LLP licenses	72	64	59	61	64	49	46	51	60	56	54	54	62	65	67	69	56	110
Vessels	78	64	57	64	65	54	48	50	55	53	48	48	56	61	65	61	51	115
Processors	14	12	11	12	14	10	10	13	11	13	10	11	17	17	19	18	**	35
Shoreside	7	7	7	8	8	6	5	7	6	8	6	6	6	5	7	7	**	14
C/P acting as mothership	3	1	1	2	3	2	2	3	3	2	2	2	7	8	9	8	**	11
Floaters and true motherships	4	4	3	2	3	2	3	3	2	3	2	2	4	3	3	3	**	10

Source: TCCP_Overview (6-4-20)(1), BSAI_TRW_LLP_PCODLANDINGS2(4-10-20) Workbook, and for processor count BSAI_PCOD_LAPP_Processors(4-9-20)

*Denotes confidential data

** Denotes data by processor type was not yet available.

¹Given 2020 processor type data is not yet available, aggregated counts by processor type does not equal total processor count.

Table 2-120 Targeted catch of Pacific cod in BSAI by trawl CV sector by season 2004 through April 10, 2020

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total ¹
A Season																		
Landed catch (mt)	32,050	27,564	27,965	24,685	24,696	22,621	25,161	31,865	33,865	33,515	35,097	28,532	36,953	34,805	27,637	22,528	21,489	491,028
Landed catch (%)	86.1%	89.1%	86.2%	84.7%	87.9%	87.3%	99.5%	92.0%	83.0%	86.0%	89.8%	89.9%	88.6%	93.0%	82.0%	85.6%	100.0%	88.5%
LLP licenses	62	62	56	55	58	43	46	48	57	52	50	53	58	61	63	67	56	108
Vessels	67	62	54	52	59	49	48	47	52	49	46	47	53	57	61	58	51	112
Processors	12	12	11	11	12	10	10	12	11	12	10	10	16	17	18	16	**	32
B Season																		
Landed catch (mt)	2,516	*	*	4,364	3,358	*	*	1,962	6,318	*	*	1,415	3,044	2,547	*	3,370	0	53,190
Landed catch (%)	6.76%	*	*	14.97%	11.95%	*	*	5.67%	15.49%	*	*	4.46%	7.30%	6.80%	*	12.80%	0.00%	9.59%
LLP licenses	43	36	42	40	46	30	2	32	35	23	18	19	32	27	32	42	0	91
Vessels	42	35	41	49	50	31	2	31	33	21	15	18	27	26	33	38	0	93
Processors	8	8	8	10	10	6	1	10	8	7	6	4	11	12	12	13	0	24
C Season																		
Landed catch (mt)	2,641	*	*	101	37	*	*	796	614	*	*	1,794	1,719	91	*	431	**	10,692
Landed catch (%)	7.10%	*	*	0.35%	0.13%	*	*	2.30%	1.51%	*	*	5.65%	4.12%	0.24%	*	1.64%	**	1.93%
LLP licenses	17	3	2	5	6	1	1	4	7	3	3	5	4	8	2	6	**	35
Vessels	16	3	2	4	6	1	1	4	7	3	3	4	4	8	2	5	**	32
Processors	8	2	1	3	3	1	1	3	3	1	2	4	5	5	2	3	**	15
Annual Total																		
Landed catch (mt)	37,207	30,920	32,440	29,150	28,090	25,904	25,283	34,622	40,797	38,979	39,093	31,741	41,716	37,443	33,709	26,329	21,489	554,913
LLP licenses	72	64	59	61	64	49	46	51	60	56	54	54	62	65	67	69	56	110
Vessels	78	64	57	64	65	54	48	50	55	53	48	48	56	61	65	61	51	115
Processors	14	12	11	12	14	10	10	13	11	13	10	11	17	17	19	18	**	35

Source: TCCP_Overview(6-4-20)(1) & BSAI_TRW_LL_PCODLANDINGS2 target_incidental(4-10-20) Workbook

*Denotes confidential data

** Denotes data not yet available

Table 2-121 Closure and opening dates (days) for the BSAI Pacific cod trawl CV sector, 2003 through 2020 B-season

Year	A-Season: 20 Jan - Apr 1	B-Season: 1 Apr - 10 Jun			C-Season: 10 Jun - Nov 1
2004	Cl 23-Mar (62)	Cl 4-Apr (3)	Op 10-Apr	Cl 13-Apr (3)	Cl-Nov 1, REG (144)
2005	Cl 13-Mar (52) Op 29-Mar (3)	Cl 10-Jun, REG (71)			Cl 18-Aug, HAL (69)
2006	Cl 8-Mar (47)	Cl 6-Apr (5)	Cl 8-Jun, HAL		Op 19-Jul, HAL
2007	Cl 12-Mar (51)	Cl 9-Apr (8)			Cl 29-Sep, HAL (111) Cl 31-Aug (43)
2008	Cl 6-Mar (45)	Cl 4-Apr (3)			Cl-Nov 1, REG (144)
2009	Cl 21-Mar (60)	Cl 5-Apr (4)			Cl-Nov 1, REG (144)
2010	Cl 12-Mar (51)	Cl 1-Apr (0)			Cl-Nov 1, REG (144)
2011	Cl 26-Mar (65)	Cl 4-Apr (3)	Op 9-Apr	Cl 12-Apr (3) Op 15-Apr	Cl-Nov 1, REG (144)
2012	Cl 29-Feb (39) Op 29-Mar (3)	Cl 15-Apr (14)			Cl-Nov 1, REG (144)
2013	Cl 11-Mar (50)	Cl 10-Jun, REG (71)			Cl-Nov 1, REG (144)
2014	Cl 16-Mar (55)	Cl 10-Jun, REG (71)			Cl-Nov 1, REG (144)
2015	Cl 27-Feb (38)	Cl 10-Jun, REG (71)			Cl-Nov 1, REG (144)
2016	Cl 9-Mar (48)	Cl 4-Apr (3)	Op 11-Apr	Cl 4-May (23)	Cl-Nov 1, REG (144)
2017	Cl 23-Feb (34)	Cl Apr 3 (2)			Cl-Nov 1, REG (144)
2018	Cl 11-Feb (22-BS), Cl 4-Mar (43-BSAI)	Cl Apr 3 (2)			Cl-Nov 1, REG (144)
2019	Cl 1-Feb (12 BS)	Cl Apr 2 (1)			Cl-Nov 1, REG (144)
2020	Cl 16-Feb (28)	Cl 1-Apr (0)			TBA

Source file: Season length table

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

Numbers reported in parentheses are the days the fishery was open to directed fishing prior to closure

All openings and closures are because of TAC unless otherwise noted

Despite the level of harvest capacity by the trawl CV sector in the BSAI Pacific cod fishery, this sector routinely does not harvest its entire annual allocation. A primary reason for not harvesting all their allocation is the limited aggregation of Pacific cod later in the year. Fishermen have indicated that it is hard to find aggregations of Pacific cod in sufficient amounts to warrant trawling after mid-April. This lack of aggregation of BSAI Pacific cod later in the year is reflected in Table 2-122 which provides initial allocation and final allocation along with the reallocation amounts of BSAI Pacific cod for the trawl CV sector. Also included in the table is the final allocation as a percent of the initial allocation of BSAI Pacific cod for the trawl CV sector on annual basis from 2004 through 2019. This same information is also provided in Figure 2-21. Throughout every year in the timeseries, some portion of unharvest Pacific cod has been reallocated from the trawl CV sector. From 2004 through 2019 between 2,200 mt (2018) and 11,370 mt (2015) have been reallocated away from the sector. Over those 16 years the reallocations from the trawl CV sector averaged 5,440 mt. However, in the three most recent years the reallocation has been less than the average. Relatively strong Pacific cod prices and markets as well as a declining TAC may play a role in less Pacific cod being reallocated to other sectors. In general, reallocation of BSAI Pacific cod from the trawl CV sector are combined with other reallocations of other sectors (AFA C/P and jig) and are reapportioned to the HAL/pot CV < 60 ft and HAL C/P sectors during the fall fishery.

Table 2-122 BSAI Pacific cod trawl CV initial allocation (mt), final action (mt), and final allocation as a percent of initial allocation

Year	Initial allocation (mt)	Final allocation (mt)	Reallocations (mt)	Final allocation as a % of initial allocation
2004	46,844	40,717	-6,127	87%
2005	44,779	35,847	-8,932	80%
2006	41,251	33,824	-7,427	82%
2007	37,110	34,110	-3,000	92%
2008	33,692	30,842	-2,850	92%
2009	34,841	29,740	-5,101	85%
2010	33,309	28,175	-5,134	85%
2011	44,987	39,897	-5,090	89%
2012	51,509	47,749	-3,760	93%
2013	51,312	43,812	-7,500	85%
2014	50,107	43,107	-7,000	86%
2015	49,224	37,854	-11,370	77%
2016	49,638	45,138	-4,500	91%
2017	47,246	44,163	-3,083	93%
2018	40,227	38,027	-2,200	95%
2019	35,660	31,690	-3,970	89%

Source: NMFS, Sustainable Fisheries

Figure 2-21 Annual BSAI Pacific cod trawl CV initial allocation (mt), final action (mt), and final allocation as a percent of initial allocation

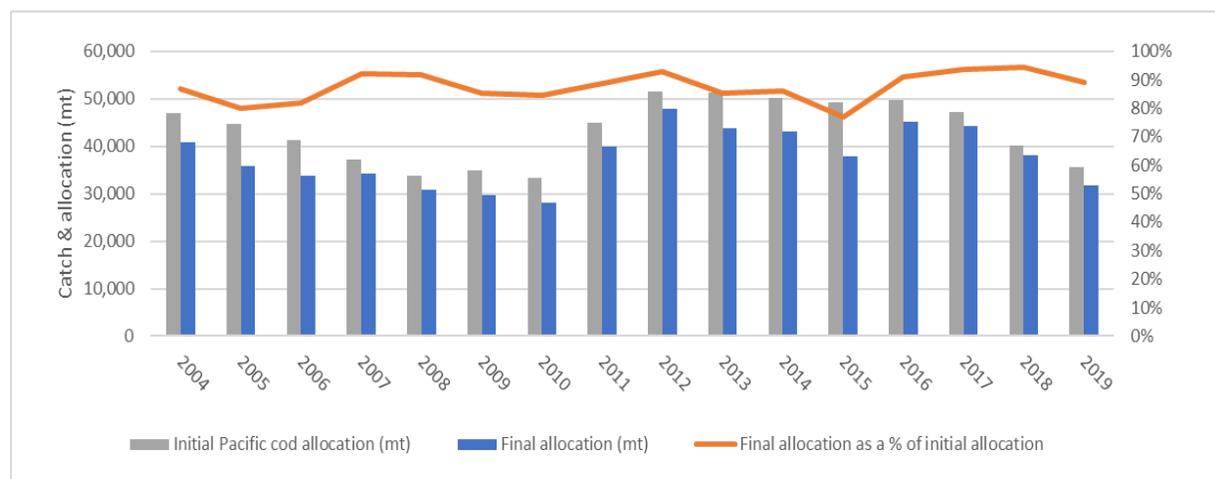


Table 2-123 shows the reallocation summary for the HAL/pot CV < 60 ft sector. The sector has received a reallocation of Pacific cod each year since 2004 and the reallocation to the sector has been at least 4,000 mt every year since 2010. In the five most recent years reported in the table, the reallocation amount had ranged from 5,000 mt to 7,500 mt.

Table 2-123 BSAI Pacific cod initial allocation, final allocation, reallocation amount, and final allocation as a percent of initial allocation for the HAL/pot CV < 60 ft sector

Year	Initial allocation (mt)	Final allocation (mt)	Reallocations (mt)	Final allocation as a % of initial allocation
2004	1,416	2,961	1,545	209%
2005	1,354	2,601	1,247	192%
2006	1,246	3,242	1,996	260%
2007	1,121	2,928	1,807	261%
2008	3,033	5,210	2,177	172%
2009	3,127	4,434	1,307	142%
2010	2,998	5,509	2,511	184%
2011	4,055	9,005	4,950	222%
2012	4,645	8,880	4,235	191%
2013	4,627	9,177	4,550	198%
2014	4,518	12,018	7,500	266%
2015	4,438	10,630	6,192	240%
2016	4,476	10,674	6,198	238%
2017	4,259	9,271	5,012	218%
2018	3,627	8,748	5,121	241%
2019	3,214	9,800	6,586	305%

Source: NMFS, Sustainable Fisheries

Table 2-124 shows that from 2004 through 2019, 183 unique CVs reported making Pacific cod landings in the HAL/pot CV <60 ft sector allocation. The number of vessels participating ranged from a low of 23 in 2004 to a high of 60 in 2019. On average these vessels harvested 104 percent of the sector's final allocation (after reallocations). This information indicates these vessels are likely dependent on reallocation to the sector. The sector does not have seasonal allowances. Nevertheless, there appears to be a gradual shortening of the initial fishing period when the sector harvests its initial allocation. Prior to 2006, the sector did not have its first closure before April. Between 2006 and 2014, the sector's first closure occurred in March. Since 2014, the sector's first closure is early February. Once the sector has harvested its initial allocation, reallocations from other sectors can open the fishery as early as late April or early May. Another typically period of reallocations that can allow the sector to target BSAI Pacific cod is mid-August to early September. Typically, the fall reallocation is sufficient to allow the fishery to remain open for the remainder of the year.

Under status quo alternative, it is likely reallocations from the trawl CV sector to other sectors including the HAL/pot CV <60 ft sector will likely continue, but would likely see reduced reallocations amounts due to lower BSAI Pacific cod TACs and the continued strength in Pacific cod market. In addition, the HAL/pot CV <60 ft sector will likely continue to see harvest levels far greater than their BSAI Pacific cod allocation amount as this sector receives continued reallocations.

Table 2-124 HAL/pot < 60 ft sector BSAI Pacific cod harvest and final sector allocation 2004 through 2019

Year	Reported harvest (mt)	Final allocation (mt)	Percent harvested	Vessel count
2004	3,230	2,961	109%	23
2005	3,231	2,601	124%	38
2006	3,924	3,242	121%	45
2007	3,595	2,928	123%	50
2008	5,132	5,210	98%	55
2009	4,657	4,434	105%	43
2010	5,534	5,509	100%	39
2011	8,053	9,005	89%	39
2012	8,894	8,880	100%	38
2013	9,482	9,177	103%	37
2014	12,449	12,018	104%	26
2015	10,038	10,630	94%	32
2016	10,309	10,674	97%	34
2017	9,955	9,271	107%	33
2018	8,585	8,748	98%	46
2019	8,864	9,800	90%	60

Source: AKFIN, Source file is Sector_Landings (6-25-20)

2.8.1.2. Alternative 2a: Two Cooperative Model

Alternative 2a would only authorize one cooperative for AFA trawl CVs and one cooperative for non-AFA trawl CVs. To participate in the PCTC Program fishery, an owner of an AFA or non-AFA vessels and eligible LLP licenses that name those vessels would be required to join the appropriate cooperative. A cooperative would be formed if at least 80 percent of the total eligible catch history assigned to the eligible LLP licenses (defined in Element 2) joined the cooperative and would not include QS assigned to processors as part of the 80 percent calculation. The AFA vessels and non-AFA vessels would form their cooperatives independently of each other.

Harvest allocations within Alternative 2a are based on targeted BSAI Pacific cod history during the A and B seasons only from 2014 through 2019 with no drop years. As noted in Table 2-57, of the 115 LLP licenses with trawl CV endorsements, 85 LLP licenses would receive an allocation of BSAI Pacific cod for use in a cooperative while 30 LLP license would not receive BSAI Pacific cod allocations. These 30 LLP licenses that do not qualify for a BSAI Pacific cod allocation could continue to authorize trawl CVs to fish in other BSAI groundfish fisheries and harvest Pacific cod incidentally in the non-Pacific cod directed groundfish fisheries, but they would not authorized trawl CVs to target BSAI Pacific cod. All the A-season and B-season BSAI Pacific cod trawl CV allocation would be assigned to these 85 qualified LLP licenses, after deducting for an BSAI Pacific cod ICA. The 15 percent C-season allocation would remain as a trawl CV limited access fishery.

Since the structure of the PCTC Program under Alternative 2a only allocates targeted BSAI Pacific cod rather than allocate both target and incidental catch to the cooperatives, NMFS would be required to manage incidental catch of BSAI Pacific cod in other BSAI groundfish fisheries by cooperative vessels and vessels authorized by non-qualified LLP licenses. This increases the management burden on NMFS, while also reducing some of the potential efficiency gained by cooperative management of incidental catch. See Section 2.8.3 for further information on effects of Alternative 2a on the incidental catch of BSAI Pacific cod.

Of the 85 qualified LLP licenses under Alternative 2a, 67 LLP licenses authorizing AFA trawl CVs could receive up to 82 percent of the BSAI Pacific cod QS for an AFA cooperative, while 15 LLP licenses authorizing non-AFA trawl CVs could receive up to 18 percent of the QS for a non-AFA cooperative. To form a BSAI Pacific cod cooperative under Alternative 2a, each cooperative would require 80 percent of

their qualifying history to join the cooperative. As noted in Table 2-56, an AFA cooperative using current LLP licenses using 2020 BSAI Pacific cod trawl CV sector allocation would require 21,805 mt of the CQ assigned to LLP licenses for authorization, while the non-AFA cooperative would require 5,230 mt of the CQ assigned to LLP licenses for authorization.

Under the two-cooperative alternative, eligible license holders would either join the appropriate cooperative or elect to participate in the limited access fishery. Under Alternative 2a, it is anticipated that qualified license holders would elect to participate in the limited access pool under two conditions. First, license holders that expect to generate less profit within the cooperative than they would generate in the limited access fishery would be more apt to stay in the limited access fishery. For example, license holders with relatively small amounts of QS may see little advantage to joining the cooperative. Their prospects in the limited access fishery, however, depend on others with substantial catch history choosing not to join a cooperative. Additionally, license holders with substantial QS may choose not to join a cooperative if the terms offered by the cooperative membership disadvantage certain members of the cooperative. However, this second reason will likely be a rare occurrence since Alternative 2a allows all eligible persons to join a cooperative under the same terms and conditions as the other members.

Cooperative formation under Alternative 2a could also be affected by the requirement to reserve 25 percent of each cooperative's A-season allocation of BSAI Pacific cod to be delivered to AI shoreplants. Specifically, if the terms of joining the cooperative require some portion of the LLP licenses CQ to be harvested in the AI for delivery to AI shoreplants when the majority of the license holder's history has been BS, the license holder could perceive a higher cost in the cooperative relative to the limited access fishery. Cooperatives could agree in their contract to provide some flexibility to allow some members to fish their entire allocation in the BS while other members focus more heavily on the AI. For the AFA cooperative, the 25 percent set-aside for AI shoreplants would likely be less of an issue given there are AFA harvesters that routinely participate in the AI shoreplant fishery and thus would likely be willing to participate in the AI shoreplant fishery, assuming the AI shoreplant contracts provide similar levels of profitability and uncertainty as delivering to BSAI plants or floating processors. However, for the non-AFA cooperative there are likely fewer harvesters with AI shoreplant fishery history so some non-AFA harvesters might see the required AI shoreplant fishery as a cost that is more significant when determining whether to join the cooperative.

As described under the No Action alternative, the structure of the BSAI Pacific cod fishery could result in the BS ITAC being harvested and all sectors that are open to directed Pacific cod fishing being required to fish any available sector apportionments in the AI. Under Alternatives 2a and 2b, the nine sectors apportioned BSAI Pacific cod could be impacted. Alternative 2a and Alternative 2b include a set-aside that may only be harvested from the AI and delivered to an AI shoreplant. The requirement that the cooperatives harvest and deliver a portion of their CQ within the AI benefits other sectors that would prefer to fish more of their Pacific cod apportionment in the BS, but is expected to reduce benefits to the trawl CVs and processors that operate in the BS. Processors would likely lose some of the Pacific cod they would have otherwise processed within a cooperative, especially if that BS catch is then taken by members of the HAL C/P, Pot C/P, or trawl C/P sectors. Trawl CV cooperative members would need to coordinate within and between cooperatives to ensure that the AI set-aside is addressed. If the cooperative did not address the issue through an inter-cooperative agreement, it could in rare occasions later in the fishing year, result in the cooperatives racing to harvest their CQ in the BS before the ITAC is taken. This would eliminate some of the benefits that are expected to be generated by the cooperative program's structure. Not allocating the C-season apportionment to the cooperative program under Alternative 2a may reduce the impacts of trawl CVs harvesting more of the ITAC in the BS⁸⁶, especially since the trawl CV sector has not typically harvested all of their allocation under the Status Quo. Any unused C-season

⁸⁶ Assuming that seasonal apportionments will be the same under the cooperative system as the status quo.

Pacific cod could be used by sectors that have traditionally fished in the AI later in the year (HAL C/Ps and Pot vessels).

A second reason a license holder may choose not to join a cooperative under Alternative 2a is the inability to agree to the terms and conditions defined in the cooperative agreement that do not directly impact profits. For example, a participant may not want to be involved in the internal cooperative politics, adhere to the cooperative's reporting requirements or may have other philosophical differences with a majority of the members of the cooperative or simply may not want to be of a cooperative. However, because profits will ultimately determine whether most members of the sector will join the cooperative, balancing the power between the owners of harvesters and processors and their competing interests is a critical part of developing a cooperative structure.

Under Alternative 2a, 80 percent of the eligible QS assigned to the LLP licenses that are attached to the AFA and non-AFA vessels in each group are required for the formation of cooperatives. License holders that control the necessary 80 percent of eligible QS must agree to the formation of a cooperative. Those license holders that have not agreed to the terms of the cooperative wield greater power in the cooperative negotiations until 80 percent of the eligible QS agree to cooperative formation. After the eligible license holders with the necessary 80 percent of eligible QS for the group have agreed to form a cooperative, those that have not joined the cooperative have very little leverage in cooperative negotiations. Therefore, under Alternative 2a, eligible license holders that have not joined the cooperative have to agree to the terms negotiated by the other license holders of the cooperative or remain in the BSAI trawl limited access fishery.

Under Alternative 2a, eligible harvesters would receive exclusive allocations that are defined by civil contracts that can only be accessed through cooperative memberships. Depending on the structure of the cooperative contracts, cooperatives members will have the flexibility of delivering to multiple processors. Despite this flexibility, it is likely that established relationships with processors will have an important influence on harvester delivery choices. Allocation of 15 percent harvester shares to processors under this alternative would also provide for a stronger negotiating position for processors allocated harvester shares since these shares could be used as an incentive for harvester deliveries to that processor. Technical efficiency in processing should improve as processors are better able to schedule crews to process landings. Allocative efficiency should also increase as processors improve product quality and produce higher quality products that cannot be produced under the current fishery status.

Alternative 2a includes a 25 percent reduction in halibut and crab PSC limits to eligible LLP licenses that choose to remain in the limited access fishery rather than join a cooperative. However, given that Alternative 2a does not apportion halibut and crab PSC between trawl CV and AFA C/P sectors and would therefore not apportion PSC at cooperative level, it is not possible to reduce the halibut and crab PSC limit for those eligible LLP licenses that choose to remain in the limited access fishery.

A variety of factors, including bycatch avoidance, ease in transferring harvest privileges, and the potential use of pot gear may lead to changes in the geographic distribution and timing of harvest. However, the harvests will continue to be highly influenced by the timing and location of spawning aggregations. Nevertheless, cooperative harvest privileges under Alternative 2a could result in less motivation to "race for fish," allowing harvesters to time fishing operations in a manner that more closely optimizes timing of harvest of BSAI Pacific cod, which in turn would likely lengthen the fishery for A-season and B-season. As noted in the discussion concerning season length in Section 2.8.1.1, the length of the BSAI Pacific cod fishery for the trawl CV section has compressed from a 40 day to 60 day A-season fishery to less than two-week fishery in recent years. Under a compressed Pacific cod fishery, harvesters and processors attempt to maintain market share. As a result, quality could suffer because of the rapid rate of harvest and processing, which leads to the production of relatively lower value and lower quality products. In addition, harvesters are less focused in reducing PSC and safety could be comprised to some degree. Eliminating the race for fish would likely lengthen the duration of the fishery which should slow the flow

of Pacific cod through processing plants, increasing product quality, which increases returns from the fishery. In addition, harvesters would likely take steps to reduce PSC and improve safety.

Alternative 2a would likely result in efficiency improvement that would arise from technical efficiency gains from slowing, or otherwise optimizing fishing within a cooperative structure. As noted above, in a slower fishery, participants are expected to be better able to modify fishing activities to some degree, which would allow harvesters to focus their efforts toward harvesting allocations in a manner that improves technical efficiencies—reducing inputs, harvesting a greater share of the allocation, and increasing the quality of Pacific cod deliveries leading to higher gross revenue per vessel and per-vessel profits. In addition, participants will be free to consolidate fishing up to the use cap and/or vessel cap limits, which for this alternative is 5 percent for ownership and use based on the individual and collective rule and 5 percent use caps for each vessel. These caps provide opportunity for fleet consolidation. At a 5 percent ownership and use cap, 4 LLP license holders, aggregated by 2020 LLP license holder's address, would be grandfathered at their initial allocation and therefore could not acquire additional allocation, whereas 39 LLP licenses holders⁸⁷ could acquire additional allocation up to the 5 percent cap. At a vessel cap of 5 percent, the BSAI Pacific cod fishery could be harvested by 20 vessels, which provides ample opportunity for fleet consolidation. Historically, the number vessels that harvested greater than 5 percent of the annual BSAI Pacific cod target catch ranged from zero vessels to four vessels from 2004 through April of 2020. Overall, consolidating catch of Pacific cod on fewer vessels would likely reduce costs since only the most efficient vessels would likely remain in the fishery. Cooperative management would also likely result in trawl CVs that are Pacific cod focused, especially in the AFA sector where two of the primary BSAI trawl CV fisheries would be conducted under a cooperative structure.

In general, harvesting the BSAI trawl CV sector allocation under a cooperative structure is expected to reduce the amount of Pacific cod initially allocated to the trawl CV sector that would be unharvested and reallocated to other sectors later in the year. Exclusive CQ provides the ability for cooperatives to better manage their allocation and limit seasonal reallocations that typically occur in the fishery. However, since Alternative 2a would only allocate A-season and B-season as QS to eligible LLP licenses leaving the 15 percent C-season trawl CV sector allocation as a limited access fishery, there is likely more potential for reallocation than Alternative 2b. As noted in the Table 2-120, on average from 2004 through 2019, the vast majority of trawl CV sector allocation was harvested in the A-season at 88.5 percent followed by the B-season at 9.6 percent and the C-season at 1.9 percent. The relatively large proportion of Pacific cod harvested in the A-season and B-season is primarily due to the large spawning aggregations that typically occur from late February or early March through early to mid-April. Identified major spawning areas include north of Unimak Island, in the vicinity of the Pribilof Islands, at the shelf break near Zhemchug Canyon, and adjacent to islands in the central and western Aleutian Islands along the continental shelf (NPFMC, 2019). Following the winter spawning aggregation, Pacific cod will migrate to summer feeding grounds resulting in a lower level of aggregation resulting in a reduction in the sector's catch per unit effort (CPUE). With a lower CPUE, many of the trawl CVs forgo fishing in the C-season due to the higher marginal cost of fishing for a fix quantity of Pacific cod relative to fishing in the A and B seasons. Overall, cooperative management would be expected to reduce the amount of reallocations from the trawl CV sector to other sectors, but leaving the C-season as limited access under Alternative 2a would likely result in some portion of the remaining TAC and ICA being reallocated to other sectors after the B-season.

The likelihood of continued reallocation of Pacific cod TAC to other sectors in the fall under Alternative 2a could be crucial for a fall HAL/pot CV 60 ft sector fishery. As noted in Table 2-124, the HAL/pot CV < 60 ft sector has received a reallocation of Pacific cod each year since 2004 and the reallocation to the sector has been at least 4,000 mt every year since 2010. In the five most recent years, the reallocations have ranged from 5,000 to 7,500 mt. Most of the HAL/pot CV < 60 ft reallocation is funded in part by the

⁸⁷ LLP licenses with no owner address listed were not included in these counts.

trawl CV sector. The reallocation from the trawl CV sector to other sectors generally occurs in the mid-August to early September. It is expected that the allocation under the cooperative program would not occur until after the C-season opens on June 10, which could fall in the time frame reallocations have occurred in the past. Typically, the fall reallocation from the trawl CV sector is usually enough to allow the HAL/pot CV < 60 ft sector to remain open during the fall. Based on testimony from some HAL/pot CV < 60 ft sector participants during previous Council meetings, the fall reallocation of Pacific cod is an important revenue source for those sector participants active in the fall Pacific cod fishery. In general, it is likely that under Alternative 2a, some portion of the C-season Pacific cod allocation that would be managed as a limited access fishery instead of allocated as CQ to cooperatives will remain unharvested by the trawl CV sector and therefore be reallocated to other sectors in the fall.

The implementation of the PCTC Program will result in additional costs to the fleet including the 3 percent of exvessel value cost recovery fee, potentially increased monitoring and enforcement costs, additional costs associated with cooperative reports, and costs associated with creating and operating the cooperative. These costs are expected to be less than benefits gained through improved technical efficiency.

2.8.1.3. Alternative 2b: Multiple Cooperative Model

Alternative 2b would authorize multiple voluntary cooperatives in association with a legally permitted processor. The alternative would have no minimum number of LLP licenses or holders for cooperative formation. Holders of an eligible LLP license must join a cooperative to access the QS assigned to the LLP license. Harvesters have full discretion to choose a cooperative initially and may freely move among cooperatives annually thereafter. Cooperatives are free to associate with any legally licensed groundfish processor without forfeiture or penalty. A licensed processor includes shoreside processors, floating processors operating in protected bays and inlets, motherships operating at sea, and qualified C/Ps.

Alternative 2b would not require a minimum number of LLP license holders or LLP licenses to form a cooperative but would require an association with a licensed processor. In other words, at its most basic level, a cooperative could form with just one LLP license holder with one eligible LLP license in association with a licensed processor. Despite the large number of qualified LLP licenses, it is likely that under Alternative 2b there would be far fewer cooperatives than possible given the potential ease of an intra-cooperative transfers among members of the cooperative. Although there is no limitation on the number of cooperatives a processor may associate with, the complexities associated with a cooperative agreement would likely result in a processor association with only one cooperative and therefore would likely limit the number of potential cooperatives formed.

Harvest allocations within Alternative 2b are based on targeted BSAI Pacific cod history during all three seasons from 2004 through 2019 and includes the option to drop two-years in the allocation calculations. As noted in Table 2-59, of the 115 LLP licenses with trawl CV endorsements, 108 LLP licenses would be allocated all A, B and C-season trawl CV BSAI Pacific cod sector allocation, after the ICA is deducted, for use in a cooperative while seven LLP licenses would not receive any BSAI Pacific cod allocations. These seven LLP licenses could continue to authorize trawl CVs to fish in other BSAI groundfish fisheries, for which they are eligible, and harvest Pacific cod incidental in the non-Pacific cod directed groundfish fisheries but would not be authorized to target BSAI Pacific cod.

As with Alternative 2a, the structure of the PCTC Program under Alternative 2b only allocates targeted BSAI Pacific cod rather than allocate both target and incidental catch to the cooperatives. To accommodate this management structure, NMFS would be required to manage incidental catch of BSAI Pacific cod in other BSAI groundfish fisheries by cooperative vessels and the seven trawl CVs authorized by non-qualified LLP licenses. This increases NMFS management burden while also reducing some of the potential efficiency gained by cooperative management of incidental catch. See Section 2.8.3 for further information on effects of Alternative 2b on the incidental catch of BSAI Pacific cod.

Under Alternative 2b, eligible harvesters would receive exclusive allocations from the cooperative that are defined by civil contracts that can only be accessed through cooperative membership. Cooperative members will have the flexibility of delivering to multiple processors, within the bounds of the civil contracts established within the cooperative. Despite this flexibility, it is likely that established relationships with processors will have an important influence on market power between harvesters and processors. Given that Alternative 2b would not allocate harvester shares to processors, this alternative relative to Alternative 2a provides less market power influence for processors. The shift in market power is expected to allow harvesters to negotiate higher gross exvessel prices relative to either the No Action alternative or Alternative 2a. For a more detailed discussion concerning the processors' influence on market power, see Section 2.8.2.

Under a multiple cooperative formation alternative, the bargaining power changes during the cooperative formation process. In general, the smaller the number of LLP licenses holders or licenses or the percent of QS necessary to form a cooperative, the easier it is to form a cooperative. The alternative does not preclude other holders of eligible LLP licenses from joining a cooperative once formed if they agree to the terms of the cooperative's bylaws. Since this alternative does not require a threshold number of LLP licenses to form a cooperative, the alternative relative to Alternative 2a provides greater opportunity of sector participants (particularly those with less common views of circumstances) to join a cooperative. The holders of the most divergent views can review the terms and conditions of each cooperative agreement to determine which best meets their needs. Holders of eligible LLP licenses that do not like the conditions for membership in cooperatives that have formed could form their own cooperative or attempt to find other eligible LLP license holders willing to form a separate cooperative. Any cooperatives that form would need to reach an agreement with a processor. Because processors may not wish to be associated with multiple cooperatives if it results in an increased reporting burden and increase quota transfer costs, they may help limit the number of cooperatives that form. Alternatively, an eligible LLP license holder with sufficient quota to offer a cooperative could use competing cooperatives to negotiate more favorable terms and conditions than could be negotiated under the two-cooperative Alternative 2a.

The terms⁸⁸ of the cooperative agreement under this alternative, and consequently, the cooperative and processor association are subject to negotiation between the cooperative members and the processor. Given the flexibility of the harvesters to move among cooperatives and cooperatives to change associations (such as delivery requirements or terms), the terms of the cooperative will be fully voluntary, and harvesters could receive compensation for concessions. Business relationships are likely to be important factors that affect cooperative and processor association choices.

A variety of factors under Alternative 2b, including bycatch avoidance, ease in transferring harvest privileges, and the potential use of pot gear may lead to changes in the geographic distribution and timing of harvest. However, harvest will continue to be highly influenced by the timing and location of spawning aggregations during A and B seasons. In general, cooperative harvest privileges under Alternative 2b could result in less motivation to "race for fish," allowing harvesters to time fishing operations in a manner that more closely optimizes timing of harvest of BSAI Pacific cod. This in turn would likely lengthen the fishery for A-season and B-season, as well as harvest more of the C-season fish when compared to Alternative 1. As noted in the discussion concerning season length in Section 2.8.1.1, the length of the BSAI Pacific cod fishery for the trawl CV section has compressed from a 40 to 60 day A-season fishery to less than two-week fishery in recent years. Under a compressed Pacific cod fishery, harvesters and processors attempt to maintain market share. As a result, quality often suffer because of the rapid rate of harvest and processing, which leads to the production of relatively lower value and lower quality products. In addition, harvesters are less focused in reducing PSC and safety could be compromised to some degree. Eliminating the race for fish would likely lengthen the duration of the fishery which should slow the flow of Pacific cod through processing plants, increasing product quality,

⁸⁸ Within the limits that the cooperatives are intended to only conduct and coordinate harvest activities of the members (Element 9).

which increases returns from the fishery. In addition, harvesters would likely take steps to reduce PSC and improve safety.

Alternative 2b would also likely result in efficiency improvement that would arise from technical efficiency gains from slowing, or otherwise optimizing fishing within a cooperative structure. As noted above, in a slower fishery, participants are expected to be better able to modify fishing activities to some degree, which would allow harvesters to focus their efforts toward harvesting allocations in a manner that improves technical efficiencies—reducing inputs, harvesting a greater share of the allocation, and increasing the quality of Pacific cod deliveries leading to both higher gross revenue per vessel and per-vessel profits, all else being equal. In addition, participants will be free to consolidate fishing up to the ownership and use cap and/or vessel cap limits, which for this alternative is 2 percent for ownership and use based on individually and collective rule and 2 percent use caps for each vessel. These caps provide opportunity for fleet consolidation, but less than Alternative 2a. At a 2 percent ownership and use cap, 14 LLP license holders, aggregated by 2020 LLP license holder's address, would be grandfathered at their initial allocation and therefore could not hold additional allocations, whereas 34 LLP license holders⁸⁹ could acquire additional allocation up to the 2 percent cap.

At a vessel cap of 2 percent, the BSAI Pacific cod fishery could be harvested by 50 vessels, which provides opportunity for fleet consolidation but less consolidation than Alternative 2a. Historically, the number vessels that harvested greater than 2 percent of the annual trawl CV sector BSAI Pacific cod target catch ranged from 19 to 28 vessels from 2004 through April of 2020. Overall, consolidating catch of Pacific cod on fewer vessels would likely reduce costs since only the most efficient vessels would likely remain in the fishery. Cooperative management would also likely result in trawl CVs that are Pacific cod focused, especially in the AFA sector where two of the primary BSAI trawl CV fisheries would be conducted under a cooperative structure. This could be effective in harvesting more of the C-season allocation relative to Alternative 1.

In general, harvesting the BSAI trawl CV sector allocation under a cooperative structure is expected to reduce the amount of Pacific cod initially allocated to the trawl CV sector that would be unharvested and reallocated to other sectors later in the year. Exclusive CQ provides the ability for cooperatives to better manage their allocation and limit seasonal reallocations and seasonal overages that currently occur in the fishery. In addition, unlike Alternative 2a which did not include C-season CQ and the ability to harvest CQ with pot gear, this alternative would allocate C-season as CQ to the cooperatives and does include the ability to harvest CQ with pot gear. The combination of these factors combined with advantage of cooperative management will likely result in limited reallocation of Pacific cod from the trawl CV sector to other sectors.

As noted in the Table 2-120, on average from 2004 through 2019, the vast majority of trawl CV sector allocation was harvested in the A-season at 88.5 percent followed by the B-season at 9.6 percent and the C-season at 1.9 percent. The large proportion of Pacific cod harvested in the A-season and B-season is primarily due to the large spawning aggregations that typically occur from late February or early March through early to mid-April. Following the winter spawning aggregation, Pacific cod tend to migrate to summer feeding grounds resulting in a lower level of aggregation. With lower levels of aggregation, CPUE is reduced for the sector during the C-season the BSAI trawl CV sector has historically harvested on average 1.9 percent of the total annual BSAI Pacific cod target catch from 2004 through April 2020 (Table 2-120). However, with C-season allocated as CQ, cooperatives can be more deterministic in their effort in the Pacific cod fishery by cooperating to more efficiently harvest Pacific cod. Because effort can be coordinated under cooperative management, they can match effort to the amount of Pacific cod available without exceeding their allocation. Currently, NMFS estimates the amount of catch per day based on total effort in the fishery and close the fishery to directed fishing before the sector allocation is

⁸⁹ LLP licenses with no owner address listed where not included in these counts.

fully harvested. Cooperative management would allow members of the cooperative to harvest more of their allocation through control of individual vessels as opposed to NMFS management.

Alternative 2b would allocate the C-season trawl CV Pacific cod apportionment to the cooperatives. This could increase effort during the C-season in the BS and could potentially close the BS to directed Pacific cod fishing for all sectors. This issue was discussed in more detail under the Status Quo and Alternative 2a impacts above. The reader is referred to those sections.

Also potentially reducing the amount of Pacific cod reallocations from the trawl CV sector is the use of pot gear to harvest CQ under Alternative 2b. As noted in Section 2.7.14, CQ derived from LLP licenses or processor permits assigned to a cooperative could be harvested by vessels that are members of the cooperative with pot gear. In addition, pot CVs could be allowed to harvest CQ with approval from a cooperative, even though these vessels fish off different allocations in their directed Pacific cod fishery. Although the use of pot gear to harvest CQ needs further Council development to identify the impacts to reallocation of trawl CV sector Pacific cod to other sectors, the use of pot gear to harvest CQ will likely further reduce reallocations to other sectors. Gear conversion under Alternative 2a and the C-season allocation combined with the benefits of cooperative management, there would likely be little or no trawl CV Pacific cod reallocation to other sectors in the fall under Alternative 2b which would have a negative effect on sectors that rely on these reallocations, particularly the HAL/pot CV 60 ft sector fishery.

The implementation of the PCTC Program will result in additional costs to the fleet including the 3 percent of exvessel value cost recovery fee, potentially increased monitoring and enforcement costs, additional costs associated with cooperative reports, and costs associated with creating and operating the cooperative. These costs are expected to be less than benefits gained through improved technical efficiency.

2.8.2. Effects on Processors

There is an expectation that the PCTC Program will impact processors as well as harvesters. The structure of the LAPP and the first wholesale markets for Pacific cod harvested under the program will, in part, determine the impacts of the program on processors relative to the No Action alternative. It is also anticipated that not all processors, within and across sectors, will be impacted the same and those impacts could be either positive or negative depending on the program's structure.

2.8.2.1. Alternative 1: Status quo (No Action)

Processing participation and practices under the No Action alternative are likely to be similar to current participation and processing practices. Shorebased processor participation will occur primarily at Akutan, Unalaska/Dutch Harbor, Adak, King Cove and Sand Point plants that are situated relatively close to the fishing grounds (See 2.6.6.5). The activity is expected to be most concentrated in Akutan and Unalaska/Dutch Harbor, especially during years the AI shoreplants are not active or protected through a set-aside of a specified amount of the AI TAC that may only be delivered to those plants. Floating processors operating in the BS and AI are also expected to be active and operating in protected bays and inlets close to the fishing grounds, as they have been in the past (see Section 2.6.6.5). Floating processors have been operated by two firms since 2004, with one firm's floating processors participating in the past two years. C/Ps acting as a mothership will be limited to the two vessels that are qualified and permitted to take BSAI Pacific cod deliveries from trawl CVs under Amendment 120 to the BSAI FMP (see Section 2.6.6.6). The three AFA motherships have not been active in the fishery since 2016 and are not expected to increase participation in the future (see Section 2.6.6.7).

In the current fishery, shorebased processors negotiate exvessel prices, provide markets and other services for harvesting vessels under conditions where neither has protected access to a predetermined amount of the BSAI trawl CV sector apportionment. This results in harvesters catching as much Pacific cod as they can before the fishery is closed to directed fishing and has resulted in short processing seasons (see Section 2.8.1.1). Because, shorebased processors race to process landings in an attempt maintain market

share while producing sufficiently high-quality products. Quality may suffer because of the rapid rate of harvest and processing, which leads to the production of relatively lower value and lower quality products. These issues are compounded when the Pacific cod TACs are low and the A-season is short and there is increased pressure to ensure the plant is able to meet contracts to deliver a specific amount of product to clients.

For shorebased processors to compete in the fast-paced fishery, they have invested in production capacity to process high volumes of Pacific cod in a short period of time. Investments were used to modernize and increase capacity in recent years at their Pacific cod plants and Pacific cod processing lines (see Section 2.7.5.3). Once the fish is processed, processors then sell their Pacific cod products into the world whitefish market where it competes with other whitefish species and products. The types and quality of their products will impact the first wholesale price they receive for their production (see Section 2.6.7). The shifts in supply associated with Pacific cod harvested by the BSAI trawl CV sector are expected to have minimal impacts on the world market supply of whitefish.

All else being equal, BSAI Pacific cod processors are expected to have the ability to utilize their market power to influence exvessel prices more than they can use their market power to change whitefish prices established at the first wholesale level. However, BSAI shorebased processors often have a relatively long partnership with many of the vessels that deliver Pacific cod to them and some processors have an ownership interest in some of the vessels that deliver to them. Relationships with the “independent” CVs are often established across more than one fishery. For example, AFA vessels may be in a pollock cooperative with the same processor they deliver Pacific cod. Shorebased processors and their harvesting fleets that have a business relationship that spans additional fisheries may not negotiate Pacific cod exvessel prices in a vacuum that does not consider the broader business relationships. Because of those boarder relationships the shoreplants may not have as much market power over their fleet as they would if the Pacific cod fishery was their only business interaction with their CV fleet.

Floating processors that process in protected bays close to the fishing grounds have historically taken deliveries from the BSAI Trawl CV sector and some activity by this sector is expected to continue under the status quo. Two firms have been the primary operators of vessels in this sector (see Section 2.6.6.5). One firm has operated a single floating processor and a second firm has operated as many as four vessels in the fishery since 2003. This firm has not been active in the fishery since 2018. The firm with the single vessel that operates has continued to be active in the fishery and also operates at least one shoreplant that takes deliveries of BSAI Pacific cod from trawl CVs. This vessel is expected to continue to operate under the No Action alternative. The vessels operated by the other firm would only reenter the fishery if they are operated by a new entity. Information cannot be presented on the amount of fish delivered to this sector or their production because only two firms participated.

Under the No Action alternative, two C/Ps acting as a mothership will be permitted to take deliveries of BSAI Pacific cod harvested under the directed fishery of Trawl CV sector apportionment. These C/Ps currently produce mostly whole and head and gut products. Catcher processors are likely to continue producing these products, processing catch shortly after it is caught. Most vessels in the sector are equipped for producing a few minimally processed product forms because of size limitations for the plant, it is unlikely that any of these vessels will change plant configurations to process higher-valued, more highly processed product forms. All other trawl C/Ps will be prohibited from processing Pacific cod harvested from the directed BSAI Pacific cod trawl CV sector fishery.

Catcher vessels that deliver Pacific cod to the C/Ps may be owned by the same firm or owned by a different firm and contracted to deliver some or all of their Pacific cod catch to the C/P. Because of the structure of the Pacific cod fishery where C/Ps have their own allocation, it is anticipated that the vessels in the sector will supplement the C/P allocation and process as much of the trawl CV sector A-season allocation as their plant has capacity to process while the fishery is open to directed fishing and catch rates make the fishery viable. Given the current duration of the fishery this is anticipated to take place

over a two to three-week period starting when the BSAI is opened to directed trawl fishing on January 20th. Harvests are expected to be in the BS and occur later in the winter in the AI. The C/Ps processing participation in the AI will be highly dependent on whether the AI shoreplant(s) notify NMFS of their intent to process AI Pacific cod and there is a set-aside (that would need to be defined) in place that year or if the BS ITAC is closed to directed fishing for all sectors⁹⁰. If there is a set-aside that is comparable to that in place under BSAI Amendment 113, the C/Ps will have minimal opportunities to process Pacific cod as a MS in the AI. When the AI shoreplant(s) are not operating during a year, the C/Ps have traditionally participated in the AI and could process a substantial portion of the AI TAC.

The three AFA true motherships have had very limited participation in the BSAI Pacific cod fishery since 2003. These vessels are not expected to be consistent or substantial participants in the BSAI Pacific cod fishery in the future because of their reliance on the BS pollock and West Coast whiting fisheries. The timing of the two fisheries and the AFA sideboard restrictions, among other things, limit their ability to expand operations in the BSAI Pacific cod fishery.

2.8.2.2. Alternative 2a: Two Cooperative Model

The PCTC Program may result in a wide range of impacts to shorebased processors, floating processors operating in protected waters, AFA true motherships operating at sea, and C/Ps acting as a mothership. Effects of the proposed program will vary depending on the specific elements that are included in the program. Two strawman alternatives were developed to highlight the impacts of selecting certain elements. Once the Council selects a preliminary preferred alternative that alternative will be analyzed in detail and compared to the alternatives currently considered, unless they are modified by the Council.

Alternative 2a elements that are expected to have the greatest impacts on the various processing components of the fishery include Element 1 (the cooperative style), Element 5 (processor and community provisions), Element 6 (AI Processor Provisions), Element 7 (transferability), Element 8 (ownership and use caps), Element 10 (share duration), and Element 11 (monitoring and enforcement).

A program that only has two cooperatives, an AFA and non-AFA cooperative, will potentially reduce the need for NMFS to approve transfers between cooperatives. AFA vessels and perhaps the processors associated with the pollock cooperatives will also benefit from inter-cooperatives agreements that are already in place for the pollock fishery. However, this cooperative style may require that a processor has some type of association with both the AFA and non-AFA cooperative. Processors will hold QS that must be assigned to vessels that could potentially be in both cooperatives. How that CQ will be assigned by cooperative will require additional analysis or the processor will be limited to only one cooperative but could utilize inter-cooperative transfers that would require NMFS approval.

Staff note: There are issues associated with how processors will be allowed to operate within the two cooperative model that the Council has not had the opportunity to consider and provide staff guidance. Because of the complexities that these decisions could create or resolve relative to the administration and impacts of the program, this impact analysis will be completed after the Council is able to provide further direction.

In general, the effects on shoreplants may include some or all of the list below.

1. Increased cost for raw fish because harvests are allocated QS.
2. Potential regional shifts in landings under the control of processors.
3. Increase in the processing of bycatch in the Pacific cod target fishery could occur because processors may have more time to process the catch.
4. Lower cost of production in the Pacific cod fishery could occur due to better timing of deliveries, longer season length, and increased harvest and more utilization of processing capital to improve the Pacific cod production lines.

⁹⁰ See the discussion in the harvester impacts section.

5. Increased compliance costs could occur if first receivers must pay for the cost of shoreside catch monitors to observe offloading of CQ.
6. Consolidation could occur across shoreside processing firms or within firms, reducing total capital costs and improving technical efficiencies.

In terms of division of rents associated with the PCTC Program, Peña-Torres et. al. (2019) examined the collective bargaining efforts of small distinct units of fishermen with a monopsony-like buying sector. The study found that regional exvessel price increases occurred only when fishermen were able to achieve better organized fishermen's associations. This would be expected to occur when harvesters are granted a specific harvest privilege under the proposed PCTC Program structure. Blomquist et al (2015) also found that fishery regulations might not only affect the harvest fleet, but also the relation between fisheries and exvessel prices. His paper estimated the price effects of management reform in the Swedish Baltic Sea cod fishery. Vessels were given annual non-transferable catch quotas and it was estimated that the new management system altered the bargaining power between harvesters and processors in the exvessel market for fish. The authors used a difference-in-differences estimation approach and found that harvesters improved their bargaining power and were paid a higher price. However, the price increase was estimated to be small, about 2% of the pre-reform price.

Other economic literature has analyzed the effect of LAPPs, with harvest privileges exclusively assigned to harvesters, on rent distribution between harvesters and processors (Matulich, Mittelhammer, and Reberte 1996; Matulich and Clark 2003; Hackett et al. 2005; McEvoy et al. 2009). The literature published by these authors indicates that since LAPPs are expected to reduce the rate of harvesting, over-capitalized (sunk capital) processors will bid up the exvessel price of fish, thus transferring some or all of the LAPP generated rent gains to the harvest sector. Additional research associated with this literature indicates that depending on the degree to which production in the fishery is dominated by a few large firms on the supply and demand sides and the sunk cost of capital invested in the fishery, price bargaining between harvesters and processors will determine how much each side receives from LAPP driven rents (Fell and Haynie 2011; Blomquist, Hammarlund, and Waldo 2015).

In general, the impacts of Alternative 2a on the C/Ps acting as a mothership include the following.

1. Maintaining processor endorsements that define which C/Ps may act as a MS for BSAI Pacific cod are anticipated to define which entities may continue to accept deliveries of CQ. This will likely give these entities some certainty over delivery volumes, depending on agreements within that sector and the level of the processing limits are imposed on the sector.
2. Vertical integration with their CVs fleet will give certain processing entities more control over deliveries from CVs.
3. The amount of processing capacity in the fishery is expected to remain the same due to the limitations on who may participate. Reductions in process capacity would only occur if the two participants were to reach an agreement to remove one of the endorsed C/Ps and that is not expected to occur under the current or foreseeable structure of the fishery.
4. The cost of processing Pacific cod may decline because of increased season length and the ability to participate so that deliveries are timed to better match production capacity.
5. Improving the technical efficiency within this sector is dependent on whether the two firms are able to reach an agreement on how to divide the cap on the amount of processing history they are granted under Element 5 based on history defined under Element 2. If the two firms are able to agree on how to divide the Pacific cod to sector is allowed to process, they could achieve allocative efficiencies when processing their allocation. If the two firms cannot reach an agreement, they may compete to process as much of the limit as they can before it is reached and lose some of the allocate efficiencies associated with a LAPP. Reaching an agreement between the two qualified C/Ps may be complicated because one is in an AFA cooperative and the other an Amendment 80 cooperative. Being in separate cooperatives for their other fisheries will limit

the give and take that can occur when negotiating how to divide the Pacific cod that is available to process.

Although the C/P product mix may not change substantially from the status quo under this alternative, it is possible that some improvement in quality may be made by the two firms that qualify to act as a mothership. Generally, C/Ps produce a relatively high-quality product, so the ability to make quality improvements may be limited. One of the C/Ps has produced fillets and if they are able to reach an agreement and can slow the pace of the fishery, they could increase their fillet production, depending on the relative wholesale markets for the various products. The Pacific cod deliveries taken by the other firm will continue to be processed into H&G products, unless the plant is modified.

Floating processors operating in protected bays and inlets produce both fillets and H&G products. If these vessels are given additional time to process, they could increase the amount of higher valued and more processed products they produce, given the market for various products. These vessels could also improve their technical efficiency by reducing costs and producing more and higher quality products.

A substantial impact of allocating harvest shares to processors is where the processing history of the firms that are no longer active is allocated. The analysis does not go into detailed business relations that are not reported in the public data, but if the history is not allocated it would benefit the remaining active processors. If it has been sold and that sale is recognized by the Council and NMFS as transferring processing history, it would benefit the firms that holds that history.

The current motion does not limit the number of processors that may take deliveries from BSAI trawl CVs harvesting Pacific cod in the directed fishery. The extent to which new processors are able to enter the fishery depends on the loyalty of current processor's fleets and the structure of the proposed program. The CVs will need to consider the interaction of their participation in the BSAI Pacific cod fisheries with their participation in other fisheries. Overall, it is possible that some harvesters that participate in diverse fisheries throughout the year could choose to remain with a processor offering lower Pacific cod prices, if lower revenues for Pacific cod were to be compensated for by increased revenues from landings in other fisheries or other operational considerations provided by the processor (e.g., fuel, storage, or pre-season loans).

The structure of the proposed program could also give current processors a substantial advantage if they are allocated harvest shares based on their processing history. As described in Section 2.7.5.3, processors could utilize that quota to retain their current fleet or attract new vessels. Processors that do not have access to quota initially allocated to them may be at a distinct disadvantage. They would not be able to provide enticements of additional CQ to their fleet if they deliver to them, unless the processor were able to purchase quota. Acquiring that quota would incur a substantial cost that would reduce the overall profitability of the processor if it was not passed on to the fleet through lower exvessel prices. Providing lower exvessel prices would create a disincentive for vessels to deliver to the processor if profits from increased landings did not offset the lower gross exvessel price they receive for their deliveries.

Processing by shore-based plants under this alternative can be expected to change from the status quo. Share allocations to cooperatives should provide the ability to improve quality of landings. These quality improvements should provide processors with the ability to pursue higher revenue products. Whole and head and gut products are the leading products of shore-based plants over the 2004 through 2019 period, but fillet production has increased since 2009 and has overtaken H&G as the leading product form (see Table 2-125). However, the most recent years of data (2018 and 2019) indicate that fillet production as a percentage of the total decreased relative to the years 2016 and 2017. That reduction may be in part driven by the increased pace and shortened season length those years, reducing the time processors have to process the deliveries. As processors have more time to process deliveries the amount of Pacific cod processed into fillets and other high value products may increase relative to current levels. In addition to the time available to process Pacific cod, the first wholesale price for various products will determine the products produced. Processors are expected to make rational economic decisions and will provide the

products that are most profitable within the production constraints they operate. Therefore, even though recovery rates may be substantially lower and production costs higher for fillet production, the expected return on these higher valued products may be sufficient to warrant increasing fillet production, if quality can be maintained.

Table 2-125 Shorebased processors percentage of net weight produced by each Pacific cod product form, 2004 through 2019

Products	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Fillet	22%	26%	27%	17%	16%	39%	32%	33%	29%	36%	35%	33%	49%	48%	39%	43%	32%
H&G	48%	44%	47%	61%	54%	15%	38%	39%	46%	33%	39%	42%	18%	12%	29%	21%	38%
Meal, Oil, Bones	5%	4%	3%	2%	9%	15%	8%	5%	4%	5%	6%	4%	7%	7%	5%	5%	6%
Milt	3%	5%	5%	3%	5%	4%	4%	4%	4%	5%	4%	4%	5%	7%	7%	6%	5%
Other	4%	4%	4%	3%	4%	8%	8%	8%	8%	11%	7%	9%	15%	15%	12%	15%	8%
Roe	5%	6%	7%	6%	6%	7%	6%	6%	5%	7%	8%	6%	5%	6%	7%	7%	6%
Salted & Split, Split	10%	7%	4%	2%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Stomachs, Heads, Chins	2%	2%	2%	4%	4%	9%	3%	4%	2%	2%	1%	1%	1%	4%	1%	3%	3%
Whole, Bled	2%	2%	1%	0%	0%	1%	1%	1%	0%	2%	1%	0%	0%	0%	0%	0%	1%
Grand Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: AKFIN summary of CAS data.

Certain C/Ps produce almost exclusively H&G products. Slowing the delivery schedule may allow these processors to increase the quality of the finished product. However, the limited space on these vessels and equipment needed to process other species, limits their ability to process Pacific cod into fillets or other higher valued product forms. As a result, even under the proposed PCTC Program they are expected to continue producing H&G products that will be further processed at secondary processors either inside or outside the U.S.

C/Ps and floating processor that produce fillets and H&G products are in a better position to expand their production of higher valued products under Alternative 2a, relative to the No Action alternative. These firms could benefit from producing higher quality products and more diverse product forms. Production of the various product forms produced by vessels that are qualified and took trawl CV deliveries of Pacific cod are presented in Table 2-126. The information in that table shows that in recent years close to 70 percent or more of the net product weight⁹¹ produced by these vessels was H&G and less than 13 percent fillets.

Table 2-126 Floating processors, C/Ps, and Motherships percent of Pacific cod products produced, 2004 through 2019

Products	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Fillet	23%	22%	35%	22%	24%	38%	27%	15%	10%	16%	11%	4%	12%	12%	12%	9%	15%
H&G	55%	50%	31%	43%	49%	30%	51%	67%	73%	65%	74%	82%	74%	72%	69%	76%	66%
Meal, Oil, Bones	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Milt	1%	5%	7%	7%	7%	6%	6%	5%	5%	3%	3%	6%	5%	7%	8%	6%	5%
Other	6%	9%	14%	16%	8%	9%	8%	5%	4%	5%	4%	1%	4%	4%	3%	3%	5%
Roe	9%	9%	10%	10%	9%	9%	8%	5%	7%	7%	7%	6%	4%	5%	8%	5%	7%
Stomachs, Heads, Chins	1%	1%	1%	1%	1%	1%	1%	2%	1%	1%	1%	0%	0%	1%	0%	0%	1%
Whole, Bled	5%	5%	2%	0%	2%	7%	0%	0%	1%	3%	0%	0%	1%	0%	0%	0%	1%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Since the fishery was prosecuted over a very short period in the past and will be prosecuted under an extended season under this alternative, it is likely that competition for landings would develop between existing processors and perhaps new entrants. Although competition should exist in the market for landings, harvesters are likely to time landings to accommodate processing schedules; behavior which processors should reward, in turn, with higher exvessel prices. This timing of landings could be critical to processors meeting some market demands and minimizing labor costs by utilizing the available labor. Given the location of the processors it is expected that they may face insurmountable logistic challenges to develop more challenging markets (such as the fresh market). These processors are likely to produce

⁹¹ The percentages reported are in product weight and do not account for product recovery weights of the various product forms or the production of ancillary products to the primary product.

more high-quality products, such as frozen fillets, but may also be expected to balance the potential costs of production of other product forms against their current production strategy.

The ability of AI processors to access a given amount of AI Pacific cod will depend on the set-aside. Alternative 2a would create a set-aside that is equal to 25 percent of the BSAI A-season apportionment. The set-aside would only be established during years when an AI shoreplant notified NMFS of their intent to process AI Pacific cod from the trawl CV sector. Establishing the AI set-aside will benefit the AI shoreplants by ensuring the entire BSAI Pacific cod trawl CV A-season apportionment is not harvested in the BS prior to the AI fishery being viable. AI processor allocations will impact other processors in the sector. C/Ps and floating processors have been the primary processors of the AI trawl CV Pacific cod when the Adak plant was not active. Limiting the number of C/Ps that may act as a mothership would benefit the owners of the two C/Ps that qualify, especially during years when the AI shoreplants do not notify NMFS of their intent to process AI Pacific cod. C/Ps would likely move to the AI to process Pacific cod after they process the Pacific cod that is available to them in the BS. The amount available to them will depend on the number of vessels delivering to them and whether the proposed action implements a limit on the amount of Pacific cod that may be delivered to C/Ps acting as a mothership.

The processor's ownership caps for the entity would be set at 25 percent of the BSAI Pacific cod trawl CV QS. Harvest shares issued to processors would be included in the calculation of the ownership cap as well as QS issued to CVs owned or controlled by the processor, using the 10 percent ownership threshold rule. Entity level use caps would also be set at 25 percent and be based on the total amount of BSAI trawl CV CQ issued. Plant level use cap would be set at 20 percent of the BSAI Pacific cod trawl CV CQ. Both the ownership and use caps would include a grandfather provision. The ownership grandfather limit would be capped at the firm's initial allocation. The firm would not be allowed to own or control any additional quota unless they divested and were under the ownership cap established for all other processors. This would allow a firm to operate as they had in the past but would not allow the firm to expand its operation. At a maximum, the 25 percent cap, without consideration of the grandfather provision would allow four firms to process the entire trawl CV sector allocation. Depending on the size of the grandfather provisions that firms could utilize that number may be reduced by a maximum of one. However, given the action does not limit the number of processors that may operate in the fishery and the various components of the processing sector, it is anticipated that there will be more than four firms operating on an annual basis. It is anticipated that at-least one firm would be constrained by the cap.

The grandfather limit for the use cap would be established based on the firm/plants greatest annual percentage of usage during the qualifying period. As discussed earlier, the use cap at the firm level would allow a minimum four firms to process all the CQ. The plant level use cap would allow a minimum of five plants to process all of the CQ. It is anticipated that there will be more firms and plants that are operational during a year than the minimum allowed. The proposed caps would be established based on the Council's knowledge of the fishery and are responsive to the MSA requirements to consider establishing ownership and use caps as part of the development of a LAPP to prevent excessive consolidation of the fishery.

Transferability of QS and CQ will also impact processors. Alternative 2a would issue processors harvest shares equal to 15 percent of the total QS issued. The quota would be assigned to a new permit and the permit would be held by the processor. CQ derived from the QS would be assigned to CVs in the cooperative that the processor is associated. The exact requirements for who may hold the permits and whether the QS may be sub-divided after the initial allocation have not been defined. These issues will require additional analysis after they are developed. The more flexibility that processors have to transfer the QS and CQ will benefit their bargaining power relative to making the QS non-transferable or imposing very restrictive transfer limits that define who may hold the QS and use the CQ.

Longer share duration will create more certainty within the program and allow processors to better plan long-term goals and objectives for the fishery. Processors that are fairly certain that the program will

function a certain way over a long time period are more likely to adjust the processing operation to fit that model to improve the technical efficiency of the firm. If processors are uncertain about how the fishery will change in the near future, they may be less likely to adjust their plants to process a specific amount of throughput to produce higher valued, high quality products at the least cost. Instead, they may continue to keep sufficient capacity to process high daily volumes of Pacific cod required under the current No Action alternative. Like in the harvest sector, the longer more certain planning horizon allows the decision makers to create a more informed and hopefully better business plan than when operating under the uncertainty of how much of the trawl CV sector apportionment they will be able to process during the year.

2.8.2.3. Alternative 2b: Multiple Cooperative Model

Alternative 2b elements that are expected to have the greatest impacts on the various processing components, that differ from those realized under Alternative 2a, are Element 2 (the cooperative style), Element 5 (processor and community provisions), Element 6 (AI Processor Provisions), and Element 8 (ownership and use caps). Processing practices under this alternative should be similar to those under the previous alternative. Under this alternative, each eligible LLP license holder would be permitted to join a cooperative in association with the processor of its choice. Processor eligibility would be based on being legally permitted to process groundfish in the BSAI. A harvester/processor association would be voluntary based on agreements reached between qualified trawl CV LLP license holders and the processor. The association would be similar to that currently used in the CG Rockfish Program⁹² where a CV annually joins a cooperative with an associated processor. The cooperative rules are established and enforced through civil contracts. Once a qualified LLP license holder joins a cooperative all of the CQ derived from the aggregate LLP licenses is assigned to that cooperative and may only be harvested by vessels associated with the cooperative. CQ may only be transferred for use by vessels in another cooperative if approved by NMFS through the formal transfer of CQ process established.

It is assumed that the harvesters and processors would, in general, maintain their current associations. The cooperative model assumes that an LLP license holder will join a cooperative and all of its CQ will be assigned to the cooperative. Civil contracts will define the latitude that harvesters have to deliver their catch to processors. It is assumed that the majority of the catch would be delivered to the processor that the vessels in the cooperative delivered in the recent past, but there may be some flexibility to deliver to other processors.

The Pacific cod fishery is different than the CG Rockfish Program fishery because the Pacific cod fishery is prosecuted in both the BS and AI. Some CVs have fished in both areas and delivered to different processors, especially during years the AI set-aside was in place. Under Alternative 2b the less of 5.5 percent of the BSAI trawl CV sector allocation or 5,000 mt would be available only for delivery to AI shoreplants and is not transferable. If trawl CVs are only allowed fish for one cooperative during the year the owners of the vessels would need to decide if they were going to assign their LLP license to a cooperative that fished primarily in the BS or assign their LLP license to an AI shoreplant and be allowed to access some of the quota assigned to the AI shoreplant. If the AI shoreplant was able to attract CVs and the quota assigned to their LLP license it could increase the amount of Pacific cod delivered to the plant. CVs this could create opportunities to attract CVs to the AI shoreplants cooperative at the expense of BS plants, C/Ps acting as motherships, and floating processors. Since these processors are not issued harvest quota based on their processing history under Alternative 2b, the AI shoreplants would have the advantage of being able to offer member CVs additional Pacific beyond the amount the CVs bring into the cooperative.

Alternative 2b would not impose a Pacific cod sideboard limit on C/Ps acting as a mothership. Only two C/Ps would only be allowed to act as a mothership under this option, but they would be allowed to

⁹² <https://meetings.npfmc.org/CommentReview/DownloadFile?p=cf763028-9d80-4bcb-8b3e-ee521edfbaec.pdf&fileName=C3%20Rockfish%20Reauthorization%20Analysis.pdf>

process as much of the quota as they are able to have delivered to them. The amount of CQ they process would come from the CVs that are members of their cooperative and any one-off deliveries they could attract from other cooperative vessels. One C/P firm owns the CVs that have delivered much of the catch its C/P processed during the qualifying period. The other C/P contract with CVs that were not owned by the same firm. It is likely that both firms would seek to increase the deliveries to their C/P either through getting CVs to join their cooperative or by picking landings from CVs that are part of another cooperative. NMFS would need to approve CQ transfers between the cooperative to account for any one-off landings and the civil cooperative contacts would need to allow the vessel to make the delivery to a different cooperative. Any additional Pacific cod the two C/Ps could attract would benefit them, at the expense of the other processors if they had the capacity to process those fish.

A processing cap is intended to prevent excess consolidation of processing under the program. Under Alternative 2b, no processor would be permitted to process in excess of 10 percent of the sector's Pacific cod CQ, unless they were grandfathered above the cap. Because the processors are not initially allocated harvesting shares based on their processing activity during the qualifying period, they would not receive an initial allocation and are therefore not subject to an ownership cap of harvest shares derive from processing activity during the qualifying period. If the processor owned harvest vessels that do receive an initial allocation the firm would be subject to the same ownership and use caps that apply to any other firm that holds QS. Processor would be subject to processing use caps that are established at 10 percent of the annual allocation, with a grandfather provision for those plants or firms that processed in excess of the limit during the qualifying period. Alternative 2b states that the cap would be calculated using the individual and collective rule. Meaning that if a firm owned 20 percent of a plant they would be "charged with 20 percent" of the Pacific cod processing from trawl CVs that occurred at the plant. The sum of all the Pacific cod processing by all their plants could not exceed the limit. Typically, in the North Pacific, the 10 percent ownership and control rule is applied to processing limits. That may also be more appropriate in this fishery.

The 10 percent processing cap would be applied at both the firm and plant level. This would disadvantage larger processors that operate mor than one plant. The grandfather provision would cap these firms at their historic level (it is assumed that is the maximum annual amount that occurred during the qualifying period). If the vessels in their fleet (cooperative) are allocated more quota than that limit, some vessels in the cooperative would be required to deliver a portion of their catch to a different processor. A limit of 10 percent of the sector allocation is expected to be constraining on two or more firms in the Pacific cod fishery, depending on the years selected. The Council may also need to consider an exemption for the AI shoreplant if the BSAI TACs are low and plant is allocated close to the 5,000 mt limit. Without the exemption or a different grandfather calculation, the AI shoreplant may be prohibited from processing their entire set-aside.

Alternative 2b is expected to result in higher exvessel prices being paid to CVs relative to either the No Action alternative or Alternative 2a (that allocates harvest shares to processors). Alternative 2b would allocate all of the harvest shares to the CV sector, except the amount up to 5,000 mt of the BSAI trawl CV sector apportionment that could be under the control of the AI shoreplants in years they operate. The issue of changes in bargaining power between harvesters and processors, when QS is only issued to harvesters, was discussed under the Alternative 2a. Those same factors result in the exvessel price being driven up as processors bid to attract CVs LLP license holders to join the cooperative they are associated. The increased exvessel prices would shift some portion of the rents achieved under from the PCTC Program from the processors to the harvest sector. The shift of rents would benefit the harvest sector about could eliminate or reduce the economic benefits the processors derive from the PCTC Program, relative to Alternative 2a.

The overall benefits the processing sector is expected to derive from the program are projected to be less than under Alternative 2a, for processors that would have been granted harvest shares. Processors that would not have been granted harvest shares, but wish to enter the fishery, may be in a better position to

compete with existing processors under Alternative 2b. Under Alternative 2b, processors that wish to enter the fishery would not be competing with processors that can offer incentives associated with additional fish that were initially allocated to the processors. Alternative 2a established an allocation of 15 percent of the available Pacific cod to processors that processed BSAI trawl CV Pacific cod during the qualifying years. The 15 percent would be divided among the active processors based on the proportion of the BSAI trawl CV sector Pacific cod they processed during that period. Processors that would not have access to that initial allocation, may need to offer other incentives, e.g. a higher exvessel price, to attract deliveries. This competitive disadvantage would likely hamper new entry into the processing sector relative to the status quo or Alternative 2b.

Because the Alternative 2b cooperative structure differs from the structure under Alternative 2a, it is possible that some processing differences could arise. In general, technical efficiency gains should be similar to those realized under the other CV alternative, as processing can be slowed and landings can be better timed. Processors are likely to compete for landings on a regular basis in terms of prices paid and in developing the terms of the cooperative agreement, which is subject to the processor's approval. However, some processors may aggressively pursue any available market for higher valued products, while others will show less interest in extracting maximum gross revenues from Pacific cod landings, particularly if their processing of those landings could interfere with their operations in other fisheries. So, processing under this alternative should resemble that of Alternative 2a. Processors with the time and space/equipment to produce products that take more time and cost but command a higher market price would do so if it increases economic profits. Those processors that are limited in the types of products their plants can produce would focus their efforts on producing less processed and lower valued products but emphasize improving quality to capture premium market prices for those products.

The cooperative provisions (Element 9), share duration (Element 10), monitoring (Element 11), reporting and review (Element 12), and cost recovery (Element 13) are expected to be the same under Alternative 2a and Alternative 2b. Processors will need to provide any reports that are required under the program, abide by the monitoring and enforcement provisions established, and pay any portion of the cost recovery fee they are subject to under the program. These provisions will increase costs, but the benefits of the program are still expected to offset any increased costs that result from these elements of the program.

2.8.3. Effects on Bycatch (PSC and Groundfish)

2.8.3.1. Alternative 1: Status quo (No Action)

PSC

As noted in Section 2.7.3.1, 50 CFR §679.21(b)(2) and (e)(5) authorizes NMFS, based on Council recommendations, to establish seasonal apportionments of halibut and crab PSC amounts for the BSAI trawl limited access fisheries in order to maximize the ability of the fleet to harvest the available groundfish TAC and to minimize bycatch. Looking first at halibut PSC, 745 mt is apportioned to the trawl limited access sector each year. Of the 745 mt available for the trawl limited access sector, currently 391 mt is apportioned to the Pacific cod fishery, while the remaining amount is apportioned between the yellowfin sole, rockfish, and pollock/Atka mackerel/other species fisheries. The apportionment of the BSAI trawl limited access sector halibut PSC between the different fisheries is determined during the harvest specification process.

The trawl limited access sector includes the trawl CV sector (AFA and non-AFA trawl CVs) and the AFA C/P sector. Given the trawl limited access sector is composed of AFA vessels (AFA trawl CVs and AFA C/Ps), both sectors have historically utilized their cooperative managed pollock fishery to work closely with NMFS to manage their halibut and crab PSC usage to minimize their halibut and crab PSC mortality in other groundfish fisheries including Pacific cod. In recent years, this has become more important for halibut PSC. As noted in Table 2-71, bycatch increased in 2019 as trawl CV harvesters attempted to harvest a share of the BSAI Pacific cod sector allocation. This has resulted in the fleet in recent years increasing their halibut avoidance measures to reduce halibut PSC and bycatch of other species. For

example, the fleet has fished at night when halibut bycatch is historically higher. The fleet has also reduced the use of gear modifications that are more selective but may have lower harvest rates. In addition, in 2020, the trawl CV sectors organized a voluntary stand down in the A-season Pacific cod fishery due to high halibut PSC rates. Given the importance of reducing halibut PSC, the trawl CV sector will likely continue to utilize these halibut PSC avoidance measures in addition to continually seeking better ways to reduce halibut PSC.

For crab PSC which includes Red king crab (Zone 1), *C. opilio* Bycatch Limitation Zone (COBLZ), and *C. bairdi* (Zone 1 and Zone 2), PSC limits are established for the trawl limited access sector, which is composed of the trawl CV sector and the AFA C/P sector (see Figure 2-6 and Figure 2-7). Like halibut, crab PSC limits are further apportioned by directed fishery. If a specific crab bycatch cap is reached by the trawl limited access sector in any fishery, the vessels subject to that limit would be required to move out of the applicable crab savings area when participating in a fishery subject to that PSC limit.

Table 2-72, Table 2-73, Table 2-74, and Table 2-75 provides the annual Red king crab (Zone 1) PSC allowances (animals), mortality (animals), and the percent of allowance utilized for the BSAI Pacific cod trawl limited access fishery for both the trawl CV sector and the AFA C/P sector. As indicated in the tables, crab mortality for the trawl CV sector is limited throughout 2004-2019 and would likely continue this trend in the future under the status quo alternative.

Groundfish

NMFS monitors harvests that occur while vessels are directed fishing for Pacific cod (specifically targeting and retaining Pacific cod above specific threshold levels) to include bycatch of other groundfish species, NMFS also monitors 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 pollock directed fishery). NMFS takes appropriate management measures, such as closing directed fishing to ensure that total directed fishing and incidental fishing harvests do not exceed the TACs. In addition, bycatch is also limited by MRAs, and ICAs. MRAs limit groundfish harvested incidentally to a directed fishery. ICAs are used to accommodate incidental catch of a species in other directed fisheries. In all likelihood, the use of MRAs and ICAs as tools for managing the groundfish fisheries under status quo would continue with similar results in limiting groundfish bycatch in the BSAI Pacific cod trawl CV fishery under the status quo alternative.

2.8.3.2. Alternative 2a: Two Cooperative Model

PSC

As part of Alternative 2a, annual crab and halibut PSC available to the two cooperatives would be based on the current management. In other words, crab and halibut PSC would not be apportioned between the trawl CV sector and the AFA C/P sector. Typically, in catch share programs PSC along with target species are apportioned at the cooperative level. With each cooperative getting their own allocation of halibut and crab PSC allowance, the cooperatives no longer would be limited by the PSC usage of vessels outside the cooperatives closing their fishery prematurely. In addition, this approach may create personal incentive to keep PSC rates low, as this would allow cooperatives the ability to continuing harvesting Pacific cod when other cooperatives reach their limit. Depending on the program's structure, it would also allow cooperative members to transfer PSC, and individuals could be compensated for low PSC usage.

Under Alternative 2a, NMFS cannot apportion halibut or crab PSC at the individual cooperative level (Element 9), because both trawl CV and AFA C/P sectors share the trawl limited access sector halibut and crab PSC limits. Instead, Alternative 2a would rely on the trawl CV sector and the AFA C/P sector negotiating halibut and crab PSC limit apportionments for the Pacific cod target fishery via an intercooperative agreement. Under an intercooperative agreement, both sectors would have their own halibut and crab PSC allowances established and enforced through civil contracts. If the overall sector limit is reached, the fishery (for halibut PSC) or area (crab PSC) would be closed to directed fishing, but

the persons with excessive PSC usage could be held accountable under the civil contracts for damages to other members. This method would not hold persons that chose to fish in the limited access fishery accountable for high PSC usage, since they would not be a signatory to the intercooperative agreement.

Although leaving the apportionment of trawl limited access sector halibut and crab PSC limits between fishery categories and between the trawl CV and AFA C/P sectors may provide some flexibility for the two sectors to accommodate changes in halibut and crab PSC needs, there is the potential that one or both sectors could try to apply leverage in negotiating halibut and crab PSC limits for the sector. This could jeopardize some of the potential successes of cooperative fishing under Alternative 2a. If, for example the two sectors are not able to reach an agreement on the halibut PSC apportionment, it is possible that both sectors could be closed prematurely due to exceeding the halibut PSC limit in the Pacific cod fishery. However, vessels operators would likely avoid bycatch to the extent practicable when fishing under this alternative.

Increasing the complexity of sector negotiations of halibut and crab PSC, Alternative 2a would allow qualified LLP license holders to opt out of joining a cooperative and instead participate in the limited access fishery resulting in three user groups (eligible trawl CVs, opt out trawl CVs, and AFA C/Ps) sharing the halibut and crab PSC limits. Allowing qualified LLP license holders to opt out of a cooperative under Alternative 2a could reduce any benefits accrued by not apportioning halibut and crab PSC limits between the trawl CV and AFA C/P sectors. Given the potential for more than one qualified LLP license holder to opt out of joining a trawl CV cooperative and instead participate in the trawl CV limited access fishery under this alternative, halibut and crab PSC usage by these participants could increase enough to close the BSAI Pacific cod cooperative and sector fisheries prior prematurely.

In addition, given that trawl limited access sector apportionments of halibut and crab PSC limits between the different fishery categories noted in Table 2-70 could also vary from year-to-year based on industry negotiations during harvest specifications process, halibut and crab PSC limits apportioned to the Pacific cod fishery could potentially vary enough to negatively influence cooperative fishing between the trawl CV sector and the AFA C/P sector under Alternative 2a. However, the value of the Pacific cod fishery will likely provide incentives to ensure that sufficient PSC is allocated to the fishery to prevent it from closing under normal circumstances. Stakeholders in the Pacific cod fishery that also participate in other trawl limited access fisheries may also be aware that reductions in halibut PSC usage will be realized under Alternative 2a. If current levels of halibut PSC are not anticipated to constrain their fishing under Alternative 2a, they could negotiate during the annual harvest specifications process to reduce the amount of halibut assigned to the Pacific cod fishery and increase the amount of halibut PSC assigned to other BSAI trawl limited access fisheries in which they participate where harvesting the TAC could be limited by halibut PSC.

Overall, Alternative 2a would likely reduce halibut and crab PSC through cooperative fishing with cooperative members, the other trawl CV cooperative, and the AFA C/P sector. Cooperative fishing would likely provide benefits in terms of allowing flexibility to avoid periods of high bycatch rates and changes in gear configuration and elimination of night fishing which also have shown to reduce halibut bycatch mortality.

Groundfish

Under Alternative 2a, targeted BSAI Pacific cod catch history would be assigned to qualified LLP licenses. Incidental BSAI Pacific cod by trawl CVs authorized by a PCTC Program qualified LLP license under Alternative 2a when directed fishing in other fisheries would be accounted for by an ICA monitored by NMFS. In addition, trawl CVs that hold a valid LLP license for use trawl gear in the BSAI could still harvest Pacific cod as incidental catch in other fisheries, but they would not be allowed to harvest Pacific cod in the targeted fishery. To manage groundfish bycatch in the Pacific cod fishery as well as Pacific cod in other groundfish fisheries, NMFS will rely on traditional bycatch management tools like MRAs and an ICA. For incidental catch of Pacific cod, NMFS would establish an ICA that would be deducted prior to

QS distribution to cooperatives. The ICA amount would be based on the intrinsic Pacific cod bycatch rates in other BSAI trawl CV fisheries, TACs of the other groundfish fisheries, and whether it is a harvest specification ICA or an inseason ICA. The amount of the ICA will be determined on an annual basis and established as an amount of Pacific cod in metric tons. Setting the ICA in metric tons annually provides inseason management the flexibility to adjust the ICA based on the changes in BSAI groundfish TACs and expected incidental catch rates in trawl CV fisheries.

Given that Alternative 2a would account for incidental Pacific cod by qualified LLP licenses outside the cooperative, there is the potential that cooperative vessels could intentionally top off on incidental Pacific cod while fishing in other groundfish fisheries. As shown in Table 11 to 50 CFR §679, the MRA of Pacific cod as incidental catch in other BSAI directed fisheries (basis species) is set at 20 percent. As a result, those cooperative members that routinely fish in other groundfish fisheries could purposely increase their incidental harvest of BSAI Pacific cod up the 20 percent MRA. If incidental catch of BSAI Pacific cod by cooperative vessels increases such the NMFS has to increase the ICA to account for this intended effort by cooperative vessels, there is the potential that the BSAI Pacific cod allocations to the cooperatives will be reduced.

In addition to an ICA, the current MRA amounts in the targeted Pacific cod fishery will provide management control of other groundfish. Under this alternative, there appears to be limited opportunities for qualified trawl CVs utilizing the benefits of a cooperative program to strategically target incidental catch species. For most groundfish species, the additional flexibility to “top off” early in a fishing trip is not expected to affect groundfish stocks. For some groundfish species though, the greater flexibility to “top off” for a species in combination with other factors like low OFL, ABC, and TAC relative to high total catch could increase the risk of exceeding the ABC and TAC. However, as noted in Table 11 to 50 CFR §679, the MRAs for these at-risk species in the BSAI are set extremely low to discourage “top off” fishing.

In all likelihood, the use of MRAs and ICAs as tools for managing the groundfish fisheries under Alternative 2a would continue with similar results in limiting groundfish bycatch in the BSAI Pacific cod trawl CV fishery under this alternative.

2.8.3.3. Alternative 2b: Multiple Cooperative Model

PSC

Alternative 2b would apportion only halibut PSC limits between the trawl CV sector and the AFA C/P sector based on historic use by the two sectors, while crab PSC limits would continue to be apportioned to the trawl limited access sector. Of the halibut and crab PSC limits, apportioning halibut PSC amongst the trawl CV sector and the AFA C/P sector is more likely to be a necessary step to allow each cooperative to have greater control over their own fishing plan.

Apportioning halibut along with a target species at the cooperative level is typical in other Council-developed LAPPs. With each cooperative receiving their own apportionment of halibut PSC allowance, the cooperatives no longer are concerned with the halibut PSC of other vessels outside the cooperatives closing their cooperative fishery prematurely. Moreover, it may create individual incentives to keep halibut PSC rates low, as this would allow cooperatives the ability to continuing harvesting Pacific cod.

Alternative 2b is expected to reduce cooperative participant’s halibut PSC usage. Participants with exclusive shares will have time to be more selective in determining when, where, and how to harvest their allocation and thereby potentially reduce their halibut PSC usage and rates. The actual reduction in PSC usage that will occur under this alternative is not known.

Under Alternative 2b, the trawl limited access sector halibut PSC limit for the Pacific cod fishery will be apportion between the trawl CV and AFA C/P sector based on the historical use of halibut PSC between the two sectors. Table 2-76 shows the historical percent of halibut PSC utilized by the trawl CV sector was 96 percent during the 2014 through 2019 qualifying years, while the historical percent for the AFA

C/P sector was 4 percent. Assuming 391 mt of halibut PSC allowance is apportioned to the trawl limited access sector BSAI Pacific cod fishery, the trawl CV sector would be apportioned 377 mt of the halibut allowance, while the AFA C/P sector would be apportioned 14 mt. In relation to the halibut PSC used by the trawl CV sector in the BSAI Pacific cod fishery, they would have been constrained only once since 2008. In 2012, the trawl CV sector reported 429 mt of halibut mortality. Whereas the AFA C/P sector would have been constrained only one year also. In 2017, the sector reported 17 mt of halibut mortality.

Alternative 2b would also allow quota holders to utilize pot gear to harvest their CQ, which may provide the trawl CV sector greater flexibility to reduce halibut PSC and to better utilize available halibut PSC.

The information presented in Table 2-112 and Table 2-113 show that the use of pot gear has historically resulted in much lower halibut mortality in total and as a rate⁹³ to Pacific cod harvest. However, as noted in Table 2-114, the annual and average crab bycatch rates for pot gear relative to non-pelagic trawl gear is greater. Based on the information presented in these tables, using pot gear to harvest BSAI Pacific cod CQ would likely result in lower amounts of halibut PSC but higher amounts of crab PSC relative to trawl gear harvesting the same amount of CQ.

Overall, given the historic Pacific cod harvests and halibut PSC usage by the trawl CV and AFA C/P sectors in the BSAI Pacific cod fishery, the halibut PSC allocation percentages under this option appears to be sufficient to allow the harvest of both sector's BSAI Pacific cod allocation. In addition, the alternative would likely reduce halibut PSC but could increase crab PSC. Cooperative fishing under this alternative would allow more flexibility to avoid periods of high bycatch rates, allow for changes in gear configuration, and eliminate the need for night fishing which has shown to reduce halibut bycatch mortality.

Groundfish

Under Alternative 2b, just like Alternative 2a, targeted BSAI Pacific cod catch history would be assigned to qualified LLP licenses. To manage groundfish bycatch in the Pacific cod fishery as well as Pacific cod in other groundfish fisheries, NMFS will rely on traditional bycatch management tools like an ICA and MRAs. For incidental catch of Pacific cod, NMFS would establish an ICA that would be deducted prior to QS distribution to cooperatives. The ICA would be set up just like Alternative 2a in that it would be based on intrinsic Pacific cod bycatch rates in other BSAI trawl CV fisheries, TACs of the other groundfish fisheries, and whether it is a harvest specification ICA or an inseason ICA. The ICA would be determined on an annual basis to provide inseason management flexibility. The ICA would also account for the MRA amounts of Pacific cod in other target fisheries.

In addition, the MRA amounts in the targeted Pacific cod fishery will provide management control of other groundfish. Under this alternative, there appears to be limited opportunities for qualified trawl CVs utilizing the benefits of a cooperative program to strategically target incidental catch species. For most groundfish species, the additional flexibility to "top off" early in a fishing trip is not expected to affect groundfish stocks. For some groundfish species though, the greater flexibility to "top off" for a species in combination with other factors like low OFL, ABC, and TAC relative to high total catch could increase the risk of exceeding the ABC and TAC. However, as noted in Table 11 to 50 CFR §679, the MRAs for these at-risk species in the BSAI are set extremely low to discourage "top off" fishing.

Overall, the use of MRAs and ICAs as tools for managing the groundfish fisheries under Alternative 2b would continue with similar results in limiting groundfish bycatch in the BSAI Pacific cod trawl CV fishery and would not differ in effects with Alternative 2a.

⁹³ Rates are not directly shown for halibut but can be inferred from the information presented.

2.8.4. Effects on Other Groundfish Fisheries

2.8.4.1. Alternative 1: Status Quo (No Action)

Sideboards are the primary management tool utilized in the North Pacific to limit those receiving QS from expanding into other fisheries at levels that exceed their historic participation. Under status quo, existing sideboard limits, as described in Section 2.7.4.1, from the AFA Program, BSAI Crab Program, and the CGOA Rockfish Program would continue to limit groundfish bycatch and PSC. In the BSAI, there is the AFA Pacific cod trawl gear CV sideboard limit and the AFA yellowfin sole sideboard limit. As noted in Section 12.2.1 of the July 2017 AFA Program Review, the BSAI Pacific cod fishery is the primary sideboard fishery in which AFA CVs have historically participated. The sideboard limit for AFA CVs is 86.09 percent of the trawl CV apportionment of the BSAI Pacific cod ITAC. Between 2004 and 2019, approximately 56 percent of the sideboard limited was harvested. Under the status quo alternative, this percentage trend would likely continue or increase as BSAI Pacific cod TACs continue to decline in the future.

AFA also includes a CV sideboard limit for participation in the BSAI yellowfin sole fishery. An AFA trawl CV sideboard ratio of 0.0647 is set for years in which the ITAC falls below 125,000 mt. This prevents the AFA trawl CVs from exceeding a harvest level based on historical catch by this sector in years when the yellowfin sole TAC is relatively low. Since the Amendment 80 sector was allocated yellowfin sole, this relaxation of the sideboard in years where the TAC is above 125,000 mt is meant to facilitate a directed fishing opportunity for this AFA sector. Since 2008, the yellowfin sole ITAC has been greater than 125,000 mt every year, so yellowfin sole sideboard limits have not applied.

In the GOA, as noted in Table 2-81, AFA sideboard restricted trawl CVs on average have harvested far less than their limit during 2004 through 2019. For example, the primary GOA sideboard fishery for this group of vessels is pollock. This group of AFA vessels has harvested on average between 22 percent of the GOA pollock sideboard limit during the 2009 through 2013 year and 29 percent of the GOA pollock sideboard limit during the 2014 through 2019 years. By comparing the average harvest between the three sets of years, changes in harvest are noticeable. For example, the average harvest for pollock during 2014 through 2019 is 29 percent, which is a slightly higher average compared to the 2009 through 2013 average of 22 percent. Other sideboard fisheries showing an increased average in more recent years is rex sole and shallow-water flatfish. Showing a lower average include arrowtooth flounder, Pacific ocean perch, northern rockfish, and flathead sole. In general, one of the primary reasons AFA vessels do not harvest a greater share of the sideboard limit is likely due conflicts between the BSAI Pacific cod season and GOA groundfish seasons. Given these continued seasonal conflicts, it is likely harvest of GOA AFA trawl CV sideboard fisheries would likely continue at similar rates under the status quo alternative.

2.8.4.2. Alternative 2a: Two Cooperative Model

Under Alternative 2a, the existing non-exempt AFA CV groundfish and halibut PSC sideboard limits developed as part of the AFA Program (see Table 2-78 and Table 2-79) are utilized. Since these sideboard limits were developed during a period of higher harvest relative to harvest during 2014 through 2019, and these sideboard limits only restrict AFA vessels, Alternative 2a could result in expanded harvest in these sideboard restricted fisheries. As noted in Table 2-81, the non-exempt AFA CVs harvested on average significantly less than the aggregated pollock sideboard limits. By utilizing the existing AFA sideboard limits for the GOA groundfish and halibut PSC, Alternative 2a could allow non-exempt AFA CVs vessels named on an Alternative 2a eligible LLP license the flexibility to focus their harvesting capacity in the GOA groundfish fisheries relative to status quo alternative.

Alternative 2a would also prohibit GOA sideboard exempt AFA CVs from transferring their BSAI Pacific cod catch history on their LLP licenses as a condition of continuing to benefit from the AFA GOA sideboard exemption. Given that requiring exempt AFA CVs be restricted by GOA sideboards if they lease their BSAI Pacific cod CQ would likely not work as intended (see Section 2.7.4.3), Alternative 2a would likely have to rely on cooperatives to monitor exempt AFA CVs to ensure they do not lease their

BSAI Pacific cod CQ while benefiting from sideboard exemptions. This approach is similar to how the Council addressed exempt AFA CVs from leasing their BS pollock during development of the AFA. Although not incorporated in regulations, the Council recommended and approved the AFA GOA sideboard exemption with the understanding that no GOA sideboard exempt AFA CV would lease its BS pollock in a year that the vessel exceeds its GOA average harvest from 1995 through 1997. Given the success of the Council's original intent of BS pollock harvest/leasing limitation, utilizing the same approach for exempt AFA CVs under Alternative 2a would likely be successful since these GOA sideboard exempt AFA CVs are the same group of vessels that would continue to be exempt from GOA sideboards.

Alternative 2a would also limit non-AFA LLP licenses and vessels that are qualified for the BSAI Pacific cod Cooperative Program with GOA groundfish and halibut PSC sideboards. Overall, many of the GOA species/area sideboard ratios would be insufficient for a sideboard fishery. As a result, several sideboard fisheries under this alternative would be closed annually to directed fishing. Species/area fisheries sufficient for a sideboard fishery would likely be limited to pollock, CGOA Pacific cod, shallow-water flatfish, rex sole, arrowtooth flounder, and flathead sole.

2.8.4.3. Alternative 2b: Multiple Cooperative Model

Alternative 2b would include new GOA sideboard limits non-exempt AFA CVs. The sideboard calculated using aggregate retained catch of non-exempt AFA CVs of each sideboard species or species group relative to the sum of the TACs for these species or species groups. The 2004 through 2019 qualifying years were used for the calculations. As shown in Table 2-82, the calculated sideboard limits for non-exempt AFA trawl CVs that qualify to participate under this alternative are lower than the existing non-exempt AFA sideboard limits. These lower sideboard limits shown in Table 2-82 are due to the limited fishing activity by non-exempt AFA CVs in these sideboard fisheries during the qualifying years (see Table 2-81). With the exception of species noted in bold font in Table 2-82, which include C-season and D-season Shumagin (610) pollock, all four seasons of Chirikof (620) and Kodiak (630) pollock, CGOA shallow-water flatfish, and CGOA arrowtooth flounder, the remaining sideboard species have insufficient limits to allow directed fishing. Given the reduced sideboard limits for those species with sufficient limits for a fishery, it is likely NMFS would require intercooperative management of these fisheries in order for the species to be open for directed fishing.

Like groundfish sideboards, both vessels and LLP licenses would also be restricted by PSC usage sideboards under Alternative 2b. The sideboard limit would be based on aggregate retained groundfish catch by non-exempt AFA CVs in each PSC target category divided by the aggregated retained groundfish catch of all vessels in each PSC target category. Table 2-83 provides the sideboard limit calculations for halibut PSC.

In comparing the existing halibut PSC sideboard limits with the new halibut PSC sideboard limits calculated using the qualifying year options from Element 2, the new halibut PSC sideboard limits are in all cases smaller than the existing sideboard limits. The reduced halibut PSC sideboard limits are likely, in many cases, insufficient for directed fishing, which could impact the two possible non-pollock groundfish sideboard fisheries, shallow-water flatfish and arrowtooth flounder. Low halibut PSC sideboard limits in Table 2-83 would not impact the pollock sideboard fisheries in Table 2-82, since trawl vessels using pelagic trawl gear are not closed to directed pollock fishing when the halibut PSC limits specified for shallow-water species are reached (50 CFR §679.21(d)(6)). Nevertheless, despite calculated halibut PSC sideboards being severely limited for most directed fishing opportunities, published halibut PSC sideboard limits annually may be necessary so as not to limit cooperatives from determining how to utilize potential GOA groundfish sideboard fisheries while staying within their halibut PSC mortality limit.

Alternative 2b would also prohibit GOA sideboard exempt AFA CVs from transferring their BSAI Pacific cod catch history on their LLP licenses as a condition of continuing to benefit from the AFA GOA

sideboard exemption. This is option is same as Alternative 2a. Given that requiring exempt AFA CVs be restricted by GOA sideboards if they lease their BSAI Pacific cod CQ would likely not work as intended (see Section 2.7.4.3), Alternative 2b would allow for cooperatives to monitor exempt AFA CVs to ensure they do not lease their BSAI Pacific cod CQ while benefiting from sideboard exemptions. Given the success of the Council's original intent of BS pollock harvest/leasing limitation, utilizing the same approach for exempt AFA CVs under Alternative 2b would likely be successful since these GOA sideboard exempt AFA CVs are the same group of vessels that would continue to be exempt from GOA sideboards.

Alternative 2b would also limit non-AFA LLP licenses and vessels that are qualified for the BSAI Pacific cod Cooperative Program with GOA groundfish and halibut PSC sideboards. Overall, many of the GOA species/area sideboard ratios would be insufficient for a sideboard fishery. As a result, these sideboard fisheries under this alternative would be closed annually to directed fishing.

2.8.5. Effects on Fishing Communities

Differential effects on fishing communities will be driven by the specific nature of engagement in and dependency on the BSAI Pacific cod trawl fishery through locally active relevant components of affected vessel, processor, and support service sectors, as well as the socioeconomic characteristics of the community itself that shape vulnerability and resiliency. Additionally, several of the elements and option combinations of the proposed alternatives could function as community protection measures including, for example:

- Element 2, Allocation to LLP Licenses, which includes a non-severability provision that would, in turn, serve to limit consolidation.
- Element 4, Gulf of Alaska Sideboards, which could serve to protect Gulf community fleets from increased competition resulting from rationalization of the Pacific cod fishery in the BSAI.
- Element 5, Processor and Community Provisions, which could serve to stabilize landings in communities with a previous history of BSAI Pacific cod processing.
- Element 6, Aleutian Islands Processor Provisions, which would potentially have beneficial impacts to communities in the western Aleutian Islands region and potentially have adverse impacts to communities in other regions.
- Element 7, Transferability, which through the inability to sever catch histories from LLP licenses may serve to help limit consolidation of catch history associated quota between communities.
- Element 8, Ownership and Use Caps, which could potentially help limit consolidation of harvesting and processing activity between communities.

Given the complexity of these interactions and the myriad potential combinations of elements and options within the range of alternatives, this section highlights some of the main types of potential community impacts at a general level in advance of the selection of a PPA.

2.8.5.1. Alternative 1: Status Quo (No Action)

Existing trends in the pattern of community engagement in and dependency on the fishery are likely to continue. The community of ownership address for most LLP licenses (and trawl CVs) would remain in the Pacific Northwest in general with the largest concentrations, by far, in the Seattle MSA and in Newport, Oregon. For Alaska fishing communities engaged through local address ownership of LLP licenses (and trawl CVs), consolidation of engagement into fewer communities occurred over the 2004-2019 era, resulting in all Alaska ownership address LLP licenses and BSAI Pacific cod trawl CVs being held in two communities (Kodiak and Homer) and one community (Kodiak), respectively. Deliveries of trawl-caught BSAI Pacific cod would likely continue to be made to shore-based processors operating in Unalaska/Dutch Harbor, Akutan, and Adak (when operating); floating processors; and, in more limited amounts and in some years, to shore-based processors operating in King Cove and Sand Point. Private

sector support services (outside of those provided by processing entities) within the BSAI region would remain largely concentrated in Unalaska/Dutch Harbor

2.8.5.2. Alternatives 2a and 2b

The anticipated effects on fishing communities are likely to be broadly similar under the two strawman alternatives, so the discussion of potential impacts of the alternatives has been combined, with particularly important differences to communities noted where relevant. Overall patterns of community engagement are unlikely to fundamentally change based on either of the qualifying year range options included Alternatives 2a and 2b, as the predominance of Seattle MSA and, to a lesser degree, Newport as a proportion of overall engagement fluctuates relatively little. However, while Alternatives 2a and 2b feature bookend ranges of qualifying years (2014-2019 with no drop and 2004-2019 with a two year drop, respectively), depending on the qualifying period ultimately selected for the PPA under Element 2, Option 2.2.1 (2014-2019), Option 2.2.2 (2009-2019), or Option 2.2.3 (2004-2019), the consolidation of Alaska community engagement that occurred over the 2004-2019 era would potentially be reflected to a greater or lesser degree in the patterns of allocation to LLP licenses with history gained while affiliated with different communities. The greater the depth of the qualifying period, the greater the diversity of the Alaska community base of the allocation qualification history, as noted immediately below.

- Under Option 2.2.1 (included in Alternative 2a), allocations would to be based on history earned on LLP licenses with Kodiak and Homer historical ownership addresses (and associated exclusively with CVs with Kodiak historical ownership addresses).
- Under Option 2.2.2, allocations would to be based on history earned on LLP licenses with Kodiak and Homer historical ownership addresses (and associated with CVs with Kodiak, Sand Point, and Petersburg historical ownership addresses).
- Under Option 2.2.3 (included in Alternative 2b with a drop), allocations would to be based on history earned on LLP licenses with Kodiak, Homer, False Pass, Sand Point, and Juneau historical ownership addresses (and associated with CVs with Kodiak, Sand Point, Unalaska/Dutch Harbor, Anchorage, and Petersburg historical ownership addresses).

It is important to note, however, that LLP licenses have changed hands over time, such that (1) historical links to a community may not reflect any present-day association with ultimate allocation recipients and (2) participation varied in consistency and intensity among those Alaska communities engaged in the trawl sector as communities of LLP license (or associated CV) historical ownership address, particularly if that engagement was limited to a few of the early years in the 2004-2019 era, meaning that historical engagement may translate to minimal fishing history contribution toward initial quota allocation. Nevertheless, fishing, in all its diversity, is economically, socially, and culturally important to Alaska coastal communities and if communities experience a relatively modest incremental decline in fishing activity or a decrease in flexibility of continued access to the fishery as a result of the proposed action, there is the potential for adverse impacts.

Additional consolidation of CV effort is expected to occur under a cooperative system. It is likely, however, that consolidation of vessels themselves (that is, vessels entirely leaving commercial fishing) will be limited by the fact that quota will not be severable from the LLP license. From a community perspective, retention of active local vessels, even if focused on other fisheries, will be key to minimizing further adverse effects of the consolidation of CV effort in the BSAI Pacific cod trawl fishery. Alaska address ownership BSAI Pacific cod trawl CVs have been limited to Kodiak address vessels in the most recent six years covered by the dataset used for this analysis (2014-2019). Those CVs are primarily focused on GOA fisheries, as measured by percentage contribution to annual ex-vessel gross revenues, so it is unlikely that they will exit those GOA fisheries as a result of cooperative formation in the BSAI Pacific cod fishery. The likelihood of those vessels continuing to fish in the GOA is strengthened by the fact that the majority of the Kodiak ownership address BSAI Pacific cod trawl vessels utilize LLP licenses with assigned quota in the rationalized Central GOA rockfish program, which is also not

severable from the relevant LLP licenses. The recent rockfish program reauthorization analysis specifically noted the operational stability brought to the fleet dependent on that fishery. In contrast, CVs with ownership addresses in the Pacific Northwest engaged in the BSAI Pacific cod trawl fishery are more dependent on that fishery, as measured in percentage contribution to average annual ex-vessel gross revenues, both on a community BSAI Pacific cod trawl sector basis and on a community overall fleet (all fisheries) basis, compared their Alaska ownership address counterparts.

Limits on the amount of Qs an entity can control would also tend to reduce ownership consolidation across all communities both in the Pacific Northwest and in Alaska. CV sector benefits of cooperative formation among Alaska communities would largely accrue to Kodiak, both in terms of vessels that would continue to directly participate in the BSAI Pacific cod trawl CV fishery and those whose owners would choose to have others in the cooperative harvest their portion of the cooperative's quota holdings. Relative to the size and diversity of Kodiak's commercial fishing fleet as a whole, much less the overall fishing related portion of the community's larger economy, these benefits, though potentially substantial at the individual operation level, would be relatively minor at the community level. Family fishing businesses would need to understand and address the implications of the asset value associated with LLP licenses assigned QS, which can complicate fishery entry and exit and, on a personal level, lead to changes in family dynamics.

An important distinction for Alaska local community fleets between Alternatives 2a and 2b is that under Alternative 2a, harvest allocations to cooperatives would not include the C season, making reallocations to the < 60' HAL and pot sector vessels more likely to continue and more likely to continue at higher levels than would be the case under Alternative 2b. This is important for < 60' HAL/pot CV operations based in multiple communities, not just in those with notable vessel concentrations including Kodiak, Unalaska/Dutch Harbor, and Homer, as reallocations have accounted for more than half of the harvest within the sector on an annual average basis 2004-2019. Uniquely among Alaska communities, however, this has been identified as particularly important for the Unalaska/Dutch Harbor local ownership address community fleet as a whole (all sectors and fisheries combined), based on percentage of total local fleet ex-vessel gross revenue dependency attributable to BSAI Pacific cod roll-overs from the trawl sector. It is also likely that if impacts to subsistence harvest of BSAI Pacific cod were to occur, through a decrease in retaining fish for subsistence use from commercial catch or from a decrease in commercial vessels being used as "joint production platforms" in both the commercial cod and multi-species subsistence fisheries, those impacts would likely be concentrated among the type of small vessels found in the Unalaska/Dutch Harbor local fleet. According to the Unalaska Native Fishermen's Association, half of the active vessels in local fleet in both 2019 and 2020, including both those owned by association members and non-members, were less than 50' LOA, with the largest vessels being 58' LOA and the smallest being 18' LOA.⁹⁴

For communities with locally operating shore-based processors accepting deliveries of trawl-caught BSAI Pacific cod, consolidation of effort into fewer plants may occur, and perhaps especially those operated by a common owner, but under a cooperative system planning for more efficient integration of trawl-caught BSAI Pacific cod at any of the plants that have historically accepted deliveries would be more feasible. For all communities except Adak, ownership and operation of the centrally involved plants have been relatively stable over the qualifying periods and those ownership changes that have taken place have presumably included qualifying processing history, so changes that may take place under a CV cooperative system at the plants in those communities would likely be minor from the community perspective. The community of Adak, on the other hand, with a more complicated history of local shore-based processing operational ownership (and intermittent operations) is more at risk of experiencing community impacts from an allocation based strictly on processing history, absent AI processor

⁹⁴ Donkersloot, personal communication, 5/21/2020 and Dickerson, personal communication, 9/23/2020. Unalaska Native Fishermen's Association definition of a local vessel includes those that are both owned and homeported in Unalaska and whose owners spend a significant amount of the year if not the entire year in the community.

provisions under Element 6, which could benefit Adak, Atka, or both in any given year. These same Element 6 provisions, however, could disadvantage shore-based operations outside of Adak and Atka to the extent that those deliveries would have otherwise been made elsewhere. All things being equal, communities with shore-based processors that are closest to the BS trawl fishing grounds (Unalaska/Dutch Harbor and Akutan) are most likely to benefit from implementation of cooperative system due to the lower costs of harvest associated with delivering to those plants. Conversely, communities that are relatively more reliant on fleets that depend on Pacific cod that is reallocated from the trawl CV sector later in the year and plants that are located farther from the trawl CV fishing grounds are most likely to be negatively impacted.

Fishery support service businesses could be adversely affected by CV and/or shore-based processor consolidation under a cooperative system. While the amount of BSAI Pacific cod harvested would not be directly impacted, fewer vessels involved in the harvest would equate to a lower demand for some types of support services. While some business demand would increase due to increased wear and tear on the vessels and gear for those fewer trawl CVs that would increase their harvest per vessel under a cooperative system, the decrease in the number of CVs involved would impact a wider array of service providers. Many support service suppliers are located in the Seattle MSA as well as in and around Newport, Oregon, including suppliers of a range services (and a scale of services) not available in Alaska. Support services in the BSAI region itself are largely concentrated in Unalaska/Dutch Harbor, which would mean that potential adverse impacts to the support services sector within Alaska brought about by rationalization would be largely felt in that community. Many of the same support service businesses in Unalaska/Dutch Harbor that support the BSAI Pacific cod trawl CV fleet also support the < 60' HAL/pot fleet and could experience adverse impacts from a loss of revenue by that fleet if reallocations from the trawl sector were to decrease under a cooperative system. Similar decreases in service provision demand due to consolidation of the trawl fleet or adverse impacts to the < 60' HAL/pot fleet could impact municipalities through declines in sales tax revenues or usage fees for waterfront infrastructure-based services.

2.8.6. Effects on Fishing and Processing Crew

Effects on fishing vessel crew would largely track with CV consolidation noted in the effects on fishing communities discussion. Pacific cod is typically only a part of the annual fishing cycle as most vessels have substantial participation in other fisheries such as BS pollock, West Coast whiting, and/or GOA fisheries and a decrease in vessels in the BSAI Pacific cod fishery does not mean that those vessels would discontinue participation in those other fisheries. Depending on what other fisheries the vessels participate in during their annual fishing cycle, the crew may gain or lose compensation from those fisheries and offset, to some extent, any gains or losses in Pacific cod wages. Alternatively, a person could acquire an eligible license with limited history to enter the fishery, then enter a cooperative and acquire annual allocations within a cooperative to fish on a vessel. While this entry is possible, these annual leases are likely to be cost prohibitive.

Reductions in crew compensation may also be limited if the size of the fleet does not contract by a substantial amount. In the BSAI Crab Rationalization (CR) program, reductions in crew compensation has been identified as an area of concern by some stakeholders. The same level of concern has not been articulated in the Central GOA Rockfish Program (RP). In the CR program, the fishery was highly over capitalized and the structure of the program allowed for considerable consolidation of the fleet to generate production efficiencies. The circumstances and design of the proposed Pacific cod co-op program are more similar to those of the RP than the CR program, therefore it is anticipated that consolidation would not approach the level realized in the CR program.

2.8.6.1. Alternative 1: Status quo (No Action)

Under Alternative 1, fishing crew participation and compensation in the BSAI Pacific cod trawl CV fishery are anticipated to continue in their current manner. Comprehensive time-series information is not

available for crew members in the fishery, but it is understood that most crewmembers currently work in several different fisheries on the vessel that they work on during the BSAI Pacific cod season, while some fish aboard other vessels for particular fisheries. Crewmembers are typically compensated on a share basis, receiving a specific percent of the vessel's revenues (with crew of greater experience, or in more skilled positions receiving a greater share). Vessel operators may deduct certain expenses prior to calculating the crew's share. This practice is common, but not consistently implemented or applied across all vessels, as not all vessel operators deduct the same expenses. The number of crew positions in the BSAI Pacific cod A-season vary by year and is dependent on several factors that influence the number of vessels active in the fishery in a given year. Factors include the size and anticipated value of the BSAI Pacific cod fishery, other fishing opportunities at that time of the year, and expectations about future regulatory changes in the fishery. There are typically four or five crew members on each catcher vessel, so an approximate number of crew positions during a given year could be estimated by multiplying the number of vessels operating in the fishery by the average number of crew members on the vessels. The actual number of persons that work on a vessel during the year/season is often greater than the number of positions due to changes in crew for different fisheries or attrition during the year. Under Alternative 1, existing fishery performance trends would be expected to continue, with short seasons on crowded fishing grounds under race-for-fish conditions continuing to yield variable results for crew.

2.8.6.2. Alternatives 2a and 2b

Consolidation of fishing effort under a cooperative system is expected to result in a decrease in captain and crew jobs, while those jobs that do remain are expected to result in more stable employment at higher overall levels compensation per crew member per season than under status quo conditions. The remaining crew jobs could also feature better working conditions, be safer with discontinuation of race-for-fish conditions and be more predictable in terms of season-to-season employment potential and level of compensation. Crew members, however, would likely work longer seasons and crew compensation per unit effort could be negatively impacted if crew shares were adjusted to cover, at least in part, costs of harvesting quota controlled by LLP license holders who control the QS and resulting CQ. It is expected that any LLP license holders with BSAI Pacific cod QS who choose to join a cooperative and have their shares fished by another of the cooperative's boats will have no incentive to share the resulting revenues with those who would have otherwise crewed on vessel under Alternative 1 conditions. Crew earnings in other fisheries pursued by vessels not participating in the cooperative harvests may also be adversely impacted by proposed sideboards that would limit the qualified vessels/LLP licenses expansion into other fisheries.

The non-severability of quota from the LLP licenses is, however, expected to minimize crew job losses, especially aboard BSAI Pacific cod trawl CVs with Alaska ownership addresses, as those vessels are primarily focused on GOA fisheries. The crew members on those Alaska ownership address vessels that choose to have others in the cooperative harvest their portion of the cooperative's overall quota may not participate directly in the BSAI Pacific cod fishery, but they may well still participate in other fisheries in the GOA pursued by the vessels on which they work. These vessels may, in turn, diversify their GOA fishing portfolio based on the flexibility offered by being freed from directly participating in the BSAI Pacific cod fishery (but still benefiting from their historical participation in that fishery). These crew positions may also be perceived by a substantial portion of the crew as more desirable due to fishing closer to home. Ownership and use caps will also play a role in limiting the total amount of consolidation that can occur in the harvesting sector (as well as the processing sector). To the extent that consolidation of the fleet does occur, some crew members may lose wages associated with the BSAI Pacific cod trawl fishery, while other crew members are expected to have their total wages from the fishery increase.

Impacts to shore-based and floating processing crew would likely to be similar under Alternatives 2a and 2b. However, treatment and participation of the AI shore-based processors under those alternatives will impact both the number of jobs and compensation that would accrue to specific communities. In the current BSAI Pacific cod trawl CV fishery, most processing takes in shore-based processing plants in

Unalaska/Dutch Harbor, Akutan, and Adak and aboard floating processors. More limited processing takes place in shore-based processors in King Cove and Sand Point. Processing crews working in the listed communities and on floating processors are largely recruited from outside of Alaska.

Shore-based and floating processor crews are engaged in processing BSAI Pacific cod harvested by trawl CVs for a relatively short period of time at the end of January and the beginning of February. When Pacific cod is processed, relatively large crews are necessary to maintain a flow of fish through Pacific cod plants/lines that keeps pace with large volumes of trawl CV offloads. Because the BS Pacific cod fishery currently coincides with the BS pollock fishery, some plants must employ substantially larger crews that are juggled between lines/plants to process landings from both fisheries. Although most plant workers are also engaged in processing activities related to other fisheries, the short and intense Pacific cod A-season means that their employment is potentially more sporadic or occurs in combination with pollock processing. In general, processing landings from non-rationalized fisheries hinder the ability of plants to develop employment schedules that require fewer processing crew being brought into Alaska communities for relatively short periods of time.

Harvests from the Pacific cod fishery are likely to occur over a longer period under Alternatives 2a and 2b. This would facilitate opportunities to improve quality and the production of higher valued, more highly processed product forms. Within limits determined by multiple factors, landings are likely to be scheduled to serve particular markets and to optimize production efficiency and the scheduling of processing crews. Although the Pacific cod fishery is a relatively small portion of the processing portfolio of most of the qualified processors, the cooperative program alternatives are likely to contribute to stability in processing employment. This increased stability could lead to fewer processing jobs at peak times, but the remaining jobs should provide more stable and consistent employment. If similar hiring conditions remain in place after a cooperative program is implemented, it is anticipated that overtime hours, highly valued by processing crew members who typically seek to maximize their earning potential during the time they are present in Alaska processing communities, would continue to be available to processing workers.

COVID-19 impacts on shore-based and floating processors occurred primarily after the short 2020 BSAI Pacific cod A-season had ended. As a result, the most significant potential impacts on the BSAI Pacific cod fishery were avoided, but the processing sector has subsequently struggled to deal with these issues in other fisheries. Impacts on the 2021 BSAI Pacific cod fishery could be greater, depending on whether a vaccine or other effective virus mitigation measures are developed. Impacts of COVID-19 and restrictions placed on H-2B visas have in many cases limited the ability of processors to hire a full workforce. These issues remain unresolved, but their impact could be lessened under Alternatives 2a and 2b by allowing processor operators to reduce peak employment demand. This, in turn, would lessen the need bring workers new to Alaska and the individual processing communities to meet that demand.

2.8.7. Effects on 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, one of the stated goals of the PCTC Program is to improve safety at sea. Since fishing practices and seasons are likely to be different under the PCTC Program and limited access (No Action – Alternative 1), repercussions associated with the management changes on human safety at sea may also differ (North Pacific Fishery Management Council, 2011).

The current BSAI trawl CV Pacific cod fishery requires vessel operators to compete for a share of the BSAI trawl CV sector apportionment of Pacific cod during a brief A-season and to a lesser extent the brief B-season and the C-season. BSAI weather conditions during the A-season (the end of January and beginning of February) can be unpredictable and dangerous, especially for smaller CVs. Storms can cause inclement weather that may cause unsafe fishing conditions.

Economic incentives are created when competing to catch a share of the sector's apportionment, under the No Action alternative, that may entice a vessel operator to go to sea or continue fishing in weather conditions that may pose a higher operating risk than they would be willing to accept if they were operating under the proposed PCTC Program. 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. Since the fleet is composed of various sizes of trawl CVs ranging in size from less than 60 feet LOA to over 150 feet LOA, the relatively small trawl vessels may be more susceptible to poor weather conditions than larger trawl vessels.

Management of the BSAI trawl CV Pacific cod fishery under the PCTC Program (either Alternative 2a or Alternative 2b) is expected to extend the A-season season from about 2-weeks at the end of January and early February to January 20 through the end of March. Effort during that time period would be determined by when Pacific cod are aggregated to improve catch rates, weather conditions, and reducing conflicts with other fisheries. The B-season (April 1 through June 10) and C-season (under Alternative 2b) could also be timed to fish when weather is better. The C-season (June 10 to November 1) would not be included under Alternative 2a of the PCTC Program, but effort during that season is relatively small and vessels could still time their fishing to avoid bad weather. Although a person's allocation will not be jeopardized by decisions to delay fishing to reduce safety risks under either Alternative 2a or Alternative 2b, some incentives may exist for persons to fish in inclement weather - including market opportunities and operational cost savings (North Pacific Fishery Management Council, 2011).

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 2018 and vessel disaster data from 2000 through 2018. 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. A second limitation is that do not cover the most recent fishing years.

NIOSH staff was provided a list of vessels that the AKFIN summary of CAS data indicated were active in the BSAI trawl CV Pacific cod fishery from 2004 through the 2020 A-season. The list of vessels was matched with 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, vessel official number, casualty date, and casualty location, it was determined that there was a single nonfatal vessel sinking and no crewmember fatalities among vessels actively participating in the BSAI trawl CV Pacific cod fishery during 2000-2018. Preliminarily identified cases of fatalities and vessel disasters occurring in 2019 through August 2020 that have not yet been added to CFID were reviewed by NIOSH staff and did not reveal any additional cases by vessels participating in the BSAI trawl CV Pacific cod fishery.

In addition, in the April 2018 US Coast Guard Report to the Council during the April meeting, it was noted that two crewmembers on a trawl CV vessel participating in the Pacific cod fishery North West of Cape Sarichef were knocked overboard by a wave (USCG, 2018). The crewmembers were recovered and did not need further assistance from the Coast Guard. It was reported by the public during the April Council meeting that a likely contributor to the accident was the crowding and duration of the A-season Pacific cod fishery that caused vessel operators to race to catch a portion of the relatively small trawl CV apportionment.

2.8.8. Effects on Consumers

This section examines the effects of the PCTC Program alternatives on consumers. To allow an examination of the net benefits to the Nation, where possible, the effects on U.S. consumers are distinguished from the effects on consumers in other markets. The effects on consumers of the different PCTC Program alternatives are likely to be very similar. Because the impacts are expected to be similar, the discussion of those alternatives is consolidated into a discussion that applies to both Alternative 2a and Alternative 2b. A separate discussion of the Alternative 1 (No Action) is provided to compare its impact to the action alternatives.

2.8.8.1. Alternative 1: Status Quo (No Action)

Under the status quo management it is likely that trawl CV participants will continue to produce high quality H&G, fillet blocks, and individually frozen fillets, which are either individually quick-frozen or processed into shatterpack or layer pack. These product forms account for over 80 percent of total production annually. Some of the H&G Pacific cod is sent to the East Coast refresh market or is sold to grocery stores or food services as sticks, portions, or is breaded. Foreign consumers, especially China, Japan, and Europe, also purchase H&G Pacific cod for further processing, including the production of salt cod.

2.8.8.2. Alternatives 2a and 2b

Changes may occur in the production of CV harvests to the benefit of consumers. Although production is typically high quality, it is believed that some improvements could be achieved through cooperative management, removing pressure to rapidly catch and process fish to maximize individual vessel catch rates. Improvements will likely be limited to those in a cooperative. Improvements in consumer benefits arising from improved quality are likely to be realized, both in U.S. markets and international markets.

2.8.9. Effects on Environmental/Non-use Benefits

The effects on environmental/non-use benefits of the different PCTC Program alternatives are likely to be very similar. Because the impacts are expected to be similar, the discussion of those alternatives is consolidated into a discussion that applies to both Alternative 2a and Alternative 2b. A separate discussion of the Alternative 1 (No Action) is provided to compare its impact to the action alternatives.

Improvements in environmental conditions are valued by the public at large. For example, conservation, preservation, and enhancement of endangered species and their critical habitat are often considered to have significant economic, social, cultural, and symbolic value to the public. Although BSAI Pacific cod populations could be of lesser concern to the public than high visibility species such as bald eagles, it is likely that the public values conservation (in the sense of “wise use”) of this stock.

The utility gained from simple “knowing” that a stock is well maintained and sustainably managed in its natural habitat is commonly referred to as a passive-use value. In addition, the public may also value the careful stewardship of the resource. For example, even if fish stocks are well managed and catch is at a level that maintains acceptable stock sizes, the public may experience some welfare loss, say, if catch of BSAI Pacific cod from the PCTC Program are not well utilized (i.e., are wasted). No known studies of non-use values, within the context of the BSAI Pacific cod groundfish fishery, have been conducted to date, preventing any quantitative estimates of its potential value. This section, however, provides a qualitative analysis of these passive-use benefits.⁹⁵

2.8.9.1. Alternative 1: Status quo/no action

In the current fishery, catch of trawl CV BSAI Pacific cod are limited either by TAC or by PSC limits. Managers monitor harvests inseason, closing the fishery when the total allowable catch for the sector is

⁹⁵ This section intends to discuss only the potential public welfare benefits that may accrue from the environmental consequences of each alternative.

estimated to be taken. Managers have become quite adept in their estimate and have generally succeeded in maintaining catch below TAC. Occasionally, TAC is exceeded, but overages have not exceeded OFL, or threaten stocks. Public non-use benefits derived from the management of a health BSAI Pacific cod stock are likely to be sustained, if current management is perpetuated.

In addition to total catch of BSAI Pacific cod being limited, Pacific cod is a full retention species so discarding is not permitted unless required by regulations if the Pacific cod directed fishery is closed and incidental catch of Pacific cod exceeds the MRA for the non-Pacific cod groundfish directed fishery. Additionally, other species are caught incidentally, some of which is discarded. Morality of discards of incidental catch reduces the non-use values to the public that arise through productive use and stewardship of the resource.

2.8.9.2. Alternatives 2a and 2b

Under these alternatives, catch of BSAI Pacific cod by the trawl CV sector will continue to be limited by TAC or PSC limits. These limits should be effectively maintained through the monitoring and management program, perpetuating the current non-use benefit derived from maintenance of healthy stocks.

NOAA Fisheries will make annual, exclusive cooperative allocations of the trawl CV allocation of BSAI Pacific cod under this program. The program will continue to require full retention requirement for BSAI Pacific cod allocated to the trawl CV cooperatives. These measures would effectively maintain full retention of BSAI Pacific cod, which in turn would continue to maintain the non-use benefits of this program. In addition, product outputs of the shore-based processors are likely to be of higher quality. These improvements could also provide non-use benefits to the public that values efficient production from the resourced (i.e., improved utilization).

2.8.10. Effects on Monitoring, and Enforcement - NMFS

As the Council develops the alternatives and further fleshes out this analysis NMFS will continue to evaluate monitoring and enforcement tools necessary to implement the proposed PCTC Program. This section identifies the types of effects that will be analyzed in subsequent analyses and additional monitoring requirements that may be added to address components of this program as they are identified. Specifically, how the Council designs the gear conversion element could impact monitoring requirements necessary for vessels using fixed gear to harvest cod under the proposed program.

Table 2-127 summarizes the types of impacts on the affected industry and agency stakeholders that have been identified for further analysis under Alternative 1 (status quo) and Alternatives 2a and 2b (cooperative based LAPP).

Table 2-127 Summary of the types of impacts of monitoring and enforcement requirements to implement the proposed PCTC Program.

	Alternative 1 – Status Quo	Alternatives 2a & 2b – Cooperative Based LAPP
Industry costs		
Annual application for Cooperative Quota Share (Element 9)	None	Submitted to RAM annually
Trawl CV costs for Observer Coverage (Element 11)	Partial Coverage: 1.25% fee (1.65% starting in 2021) Optional Full Coverage: Direct monitoring costs per day Data entry and transmission equipment for some vessels in full coverage	All CV's (except those delivering unsorted codends to mothership) are in the full coverage with direct monitoring costs. Data transmission and entry equipment required for all for all.
Recordkeeping and Reporting; Processors (Element 11)	Logbooks required for vessels ≥ 60 ft. LOA and landings are reported by processors via eLandings Reporting requirements specified at 50 CFR §679.5	Logbooks required for all PCTC Program CVs and all landings are reported by processors via eLandings. CMCP's required
Cooperative Annual Reports (Element 12)	None	To be submitted to the Council annually.
Cooperative Cost Recovery Fee Liability (Element 13)	None	Incremental Agency costs to administer the PCTC Program would be recoverable up to 3% annually
Agency Costs		
Enforcement	see Table 2-102	see Table 2-102
RAM	Staff time to issue FFP's	Additional staff time to process and issue annual CQ applications and transfers.
Observer Program	Observer Training and Debriefing	Possibly additional costs for training and debriefing if this program increases the number of observer deployments.
ISD and Application development	Annual updates to the CAS and maintenance of existing applications	Development of applications for PCTC Program QS issuance and transfers, monitoring use caps, and any additional programming changes needed.
Annual Cost Recovery Billing Process	None	Staff time to annually develop and publish standard prices and administer cost recovery billing.

Impacts to partial coverage observer category of the Observer Program		
Observer Fees	1.25% (1.65% starting 1/1/2021) fee collected on landings by vessels in partial coverage	PCTC Program landings would not be subject to the observer fee reducing overall observer fee revenues.
Partial Coverage Fishing Effort	ADP specifies observer deployment rates for vessels in partial coverage category	Trawl fishing effort under the PCTC Program would not be included in the Observer ADP.
Impacts on observer Providers	Coverage days are split between one NMFS-contracted observer provider for vessels in PC and four permitted observer providers for full coverage	All observer coverage days under the PCTC Program would be contracted with a permitted observer provider.

Although specifics of the proposed management options are not yet available to determine enforcement issues, the primary enforcement goal is to ensure timely and accurate reporting of catch. This is dependent on quota monitoring, which is best enforced dockside or through fishery data review. Additionally, FMP measures that create dependence on observer data for vessel-level management can contribute to added tensions between onboard observers and vessel operators and managers. As a result, observers may be placed under considerable pressure by vessel crew because of their roles for collecting data and reporting violations.

Enforcement anticipates the increase in observer coverage resulting from proposed management measures will result in a correlated increase in all types of potential violations reported through observer statements, at least initially. Over time, it is likely that the *rate* of reported statements involving the observer program (e.g. wheelwatch, failure to notify, prohibited species mishandling) may decrease. Depending on how PSC caps are allocated, the rate of statements involving data collection by observers (e.g. intimidation/coercion/hostile work environment, interference and sample bias, etc.) may increase based on observed PSC bycatch rates.

The Enforcement Committee has provided law enforcement precepts (see Table 2-102) intended as general guidance for the Council to consider when developing regulatory programs. Depending on the specific design of the regulatory program, the enforcement tools and strategies used could require a combination of enforcement methods. The enforcement precepts section pertaining to Catch Shares and LAPP's is applicable to the proposed program, as well as enforcement precepts sections pertaining to Record Keeping and Reporting, Observers/Electronic Monitoring, Bycatch, PSC, and MRA management measures that would be utilized in the program.

Table 2-102 - Enforcement Precepts for CS/IFQ/LAP Programs

Advantages from an enforcement perspective	Disadvantages from an enforcement perspective
<ul style="list-style-type: none"> Industry performs primary management effort while the agency validates and enforces limits (e.g. Cooperative/Sector Managers are responsible for ensuring that vessels within their sector do not exceed their ACE). Monitoring of fish landings is effective for verifying reporting by vessels. Observers record catch data, and quotas can be 	<ul style="list-style-type: none"> Significant comparative analysis is required to cross-check landings against VMS, observer, and electronic monitoring data. Failures of electronic systems (scales or video monitoring systems) require a vessel to cease fishing until repairs can be made. Heavy reliance on observer data to enforce allocated limits of target and prohibited species

<p>managed on a daily/vessel basis.</p>	<p>catch (PSC) may result in scale tampering and observer sample bias, interference, coercion, and harassment.</p> <ul style="list-style-type: none"> • May spread out fishing effort across time and space. Instead of specific fishing seasons to monitor, a fishery may last nearly year-round, over vast areas, and possibly require more enforcement assets for the extended season. • Accompanying regulations such as ownership limitations are difficult and resource intensive to enforce. • For some high value species, potential for illegal/unaccounted for landings at remote locations is increased.
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Source: Enforcement Considerations for NOAA Fisheries and North Pacific Fishery Management Council, December 2015

Enforcement Recommendations for PCTC Program Development:

- Consider the addition of dockside monitors with authority to conduct hold checks.
- Clearly identify prohibitions against fishing activity when monitoring measures fail.
- Regulations must be strong to protect observers and observer work environments, sample areas, and data.
- Effectiveness of enforcement depends on observers, technologies deployed, and monitoring of landings.
- Consider electronic monitoring technologies (VMS features, sensor, and video) at sea to detect and deter area fished quota violations. VMS is the established, vetted method for documenting vessel location for enforcement purposes.
- Consider mandating program adoption versus elective enrollment. Doing so simplifies regulatory understanding and hence enforcement measures as well. Having multiple options for vessels to enter and leave different regulatory programs/structures can result in unintentional infractions which are easily mitigated through universal participation.
- Maximized retention (at least for non-PSC, and potentially for) enhances the ability for enforcement to detect quota retention violations.
- Consider electronic reporting to provide near real time debiting of quota accounts. Timely quota monitoring benefits enforcement, fishermen, and fisheries managers.

2.8.11. Effects on Net Benefits to the Nation

NOTE: This section will be completed when the Council selects a PPA.

The greatest change in net benefits to the Nation will result from the Council selecting a version of the PCTC Program to replace the No Action alternative (Alternative 1). Net benefits are calculated by summing the consumer and producer surplus that are generated within the U.S. Producer surplus is expected to take place primarily at the first wholesale level for at-sea processors that produce primarily an H&G product that is often reprocessed outside the U.S. Shorebased and inshore floating processors that produce both an H&G product and fillets will also generate most of the producer surplus at the first wholesale level, but some secondary processing of the H&G products does occur within the U.S. Secondary processing typically takes place outside the U.S. and has traditionally occurred in China where lower labor costs are available. Limited information is available on the destination of the fish after secondary processing. It is assumed that the majority of that product stays outside the U.S. but some unknown amount is reimported. Final products that either remain in or reenter the U.S. market may

increase total consumer surplus. Based on the information that is available regarding the markets, almost all net benefits to the Nation are expected to be captured at the ex-vessel and first wholesale levels.

Under the No Action alternative vessels would compete to harvest a share of the BSAI Pacific cod trawl CV fishery when open to directed fishing. This is expected to result in higher costs of production and lower value for both harvesters and first processors of the harvested fish relative to the PCTC Program alternatives. Maintaining the status quo will result in producer surplus that is about the same as currently realized and will equate to lower net benefits to the Nation than the PCTC Program alternatives. Producer surplus is expected to increase under Alternative 2. Vessels and processors operating under the cooperative structure could develop working relationships that allow the fleet to work together within its cooperative and with its processor. That cooperation is expected to allow both to generate technical efficiencies. They could also adjust the timing of the fishery to allow both harvesters and processors utilize their assets more effectively. This would allow both to utilize the BSAI sector apportionment over more of the A-season when the fishery would have been closed to directed fishing under the No Action alternative.

Consumer surplus is realized for Pacific cod that stays in the U.S. economy. A higher quality product can result in greater consumer surplus. Product quality is directly related to the timing and handling of fish on the vessel and at the processor. Under a PCTC Program alternative, vessels can take shorter trips and handle the Pacific cod so there is less damage. The result is a fresher and higher quality fish delivered to the processor. Processors can work with their fleet to time deliveries, so the fish is on the boat for less time and once at the plant is processed quickly. This allows a better product to be produced.

In summary, it is expected that any PCTC Program alternative will result in greater net benefits to the Nation compared to Alternative 1. The increase in net benefits is a result of increases in both producer and consumer surplus.

2.8.12. Summary of Effects of Alternatives

Harvest participation and fishing practices

Alternative 1:

- Harvest participation and fishing practices in the BSAI Pacific cod fishery for the trawl CV sector under this alternative would likely continue to be similar to the current participation and fishing practices.
- Of the trawl CV sector BSAI Pacific cod allocation during the 2004 through April 10, 2020 period:
 - 110 LLP licenses with trawl CV endorsements and 115 trawl CV vessels targeted BSAI Pacific cod.
 - Non-AFA vessels harvested on average 16.2 percent, while the AFA vessels harvested on average 83.8 percent.
 - 88.2 percent was target catch, while the remaining 11.8 percent was incidental catch.
 - The BS contributed the largest portion of target catch at 75.9 percent, while the AI accounted for 24.1 percent.
 - The A-season is the primary season at 89 percent followed by the B-season at 9.6 percent and the C-season at 1.6 percent.
 - The A-season fishery in the BS has ranged from 60 days in 2009 to 12 days in 2019.
 - The earliest closure for the non-CDQ trawl CV sector during the A-season was February 1, 2019 in the BS; the 2020 BS fishery closed to directed fishing on February 16th.
- The trawl CV sector routinely does not harvest its entire annual allocation of BSAI Pacific cod.
 - Over those 16 years the reallocations from the trawl CV sector averaged 5,440 mt.
 - Reallocation of BSAI Pacific cod from the trawl CV sector are routinely reapportioned to the HAL/pot CV < 60 ft and HAL C/P sectors during the fall fishery.

- It is likely reallocations from the trawl CV sector to other sectors including the HAL/pot CV <60 ft sector will continue but could see reduced reallocations amounts due to lower BSAI Pacific cod TACs and the continued strength in Pacific cod market.

Alternative 2a:

- Greater potential for consolidation of the fleet size with only the most efficient vessels remaining relative to Alternative 2b, leading to a decrease in the cost of harvesting. This is due primarily to less restrictive ownership and use caps for holders of eligible LLP licenses and vessel use caps. This could also result in vessels that are Pacific cod focused, especially in the AFA sector where two of the primary BSAI trawl CV fisheries would be conducted under a cooperative structure.
- Harvest of the BSAI sector allocation would increase, leading to higher gross revenue per vessel and per-vessel profits, but likely less than Alternative 2b since Alternative 2a only allocates A-season and B-season BSAI trawl CV Pacific cod.
- Cooperative harvest privileges in the BSAI Pacific cod trawl CV sector would result in less motivation to “race for fish,” allowing harvesters to time fishing operations in a manner that more closely optimizes revenue and improves product quality.
- A variety of factors, including bycatch avoidance and ease in transferring harvest privileges, may lead to changes in the geographic distribution and timing of harvest. However, the harvests will continue to be highly influenced by the timing and location of spawning aggregations.
- Increased profits and greater flexibility of when to fish would improve safety conditions on board trawl vessels.
- Harvesters not receiving an initial allocation (or one of sufficient size) could purchase QS or lease CQ necessary to participate in the fishery, increasing costs. Fleet consolidation may result in BSAI Pacific cod trawl CVs that are designated on an LLP license with a pot or HAL endorsement from increasing participation in those fisheries.
- Reallocations to other sectors would decrease to some degree because the cooperatives would develop strategies to help ensure the entire cooperative allocation is harvested or leased to other cooperative members, but likely greater potential for reallocations to other sectors than Alternative 2b since the C-season Pacific cod would continue to be managed as a limited access fishery and not be allocated to eligible LLP licenses under Alternative 2a.

Alternative 2b:

- Consolidation of the fleet size is likely with only the most efficient vessels remaining, leading to a decrease in the cost of harvesting, but less than Alternative 2a given more restrictive ownership and use caps for eligible LLP license holders and vessel use caps.
- Similar to Alternative 2a, this alternative could also result in vessels that are Pacific cod focused, especially in the AFA sector where two the primary BSAI trawl CV fisheries would be conducted under a cooperative.
- Harvest of the BSAI sector allocation would increase, leading to higher gross revenue per vessel and per-vessel profits, with greater potential for higher returns under this alternative relative to Alternative 2a since C-season Pacific cod is allocated to cooperatives under this alternative.
- A variety of factors, including bycatch avoidance, ease in transferring harvest privileges, and the potential use of pot gear, may lead to changes in the geographic distribution and timing of harvest.
- Harvests will continue to be highly influenced by the timing and location of spawning aggregations.
- Increased profits and greater flexibility of when to fish would improve safety conditions on board trawl vessels.
- Harvesters not receiving an initial allocation (or one of sufficient size) could purchase QS or lease CQ necessary to participate in the fishery, increasing costs.

- Fleet consolidation may result in BSAI Pacific cod trawl CVs that are designated on an LLP license with a pot or HAL endorsement from increasing participation in those fisheries.
- Reallocations of BSAI Pacific cod from the trawl CV sector to other sectors would be reduced significantly under this alternative due to a combination of C-season allocation, gear conversion, and the benefits of cooperative management.
- This would likely have a negative effect on all sectors that rely on these reallocations, particularly the HAL/pot CV 60 ft sector fishery.

Processors

Alternative 1:

- Shoreplants and floating processors
 - Prices paid for raw fish are expected to be determined by the same economic forces that determined prices in the past. Harvesters will negotiate prices with processors but have incentives to start fishing when the fishery opens or risk not harvesting or processing a share of the sector allocation.
 - Landings will continue to take place in communities where they have historically, Unalaska/Dutch Harbor, Akutan, Adak (when operating) and floating processors with limited amounts of processing some years in King Cove and Sand Point.
 - Shifts in processing locations are determined by the processors with consultation and negotiation with the communities' leaders where they operate.
 - The hurried pace of processing will create economic conditions that favor processing quickly and producing more H&G products and relatively less fillets.
 - Production quality is expected to be less than under the PCTC Program due to harvesting and delivery pace and the rush to process high volumes of Pacific cod by the plants.
 - Cost of production in the Pacific cod fishery is higher than necessary due to the need to have high levels of capacity to process peak delivery amounts.
 - Shorter processing season results in need to have more processing crew to handle peak processing levels.
 - Compliance costs are assumed to be about the same as past years and are determined by current and future monitoring and enforcement requirements.
 - Consolidation could occur due to low or negative profit margins in the fishery caused by the market, biological, and regulatory conditions.
 - AI deliveries to an AI shoreplant will depend on whether the plant is operating and if additional regulations are implemented to provide a set aside for the AI shoreplants.
 - Improvements in technical efficiency and increased production of products that are sold to U.S. consumers should increase Net Benefits to the Nation, all else being equal.
- C/Ps acting as a mothership
 - Only two C/Ps will be allowed to operate as a mothership taking BSAI Pacific cod deliveries from trawl CVs. One of those C/Ps will produce almost exclusively H&G products while the other will produce a mix of fillets and H&G products. C/Ps are not impacted when harvesting Pacific cod from their C/P sector apportionments.
 - The C/Ps will process as much of the trawl CV sector as possible, based on their capacity and the CVs capacity that deliver to them.
 - Processing will start in the BS and continue until the BS TAC is taken and then would move into the AI if there is AI TAC available and market conditions warrant the move.

Alternative 2a:

- Shoreplants and floating processors
 - Cost for raw fish may change but market power is closer to Alternative 1 than Alternative 2b because both harvesters and processors are allocated QS for the harvest of BSAI Pacific cod.

- Potential regional shifts in landings under the control of processors with consultation with community officials to ensure minimal disruption in raw fish taxed and other support businesses.
- Increase in the processing of bycatch in the Pacific cod target fishery could occur relative to Alternative 1 because processors may have more time to process the catch.
- Lower cost of production in the Pacific cod fishery could occur due to better timing of deliveries, longer season length, and increased harvest and more utilization of processing capital to improve the Pacific cod production lines.
- Increased compliance costs could occur if first receivers must pay for the cost of shoreside catch monitors to observe offloading of CQ.
- Processors wishing to enter the fishery would compete against processors that receive an initial allocation. This could negatively impact their ability to attract CVs or they may need to offer incentives that are similar to those processors that can distribute QS they control.
- Consolidation could occur across shoreside processing firms or within firms, reducing total capital costs and improving technical efficiencies.
- Cooperatives would be required to deliver 25 percent of their A-season allocation to an AI shoreplant. This would benefit the AI shoreplants and negatively impact BS shoreplants, floating processors, and C/Ps. Cooperatives would determine who and when the AI shoreplants would be delivered Pacific cod based on negotiations with the AI shoreplant operators and through civil contracts implemented by cooperatives and by inter-cooperative agreements.
- AI shoreplants would be allowed to transfer their allocation. Transfers could improve efficiency and it is assumed that the AI shoreplants would get any potential transfers through community officials that submit to the application for the CQ, to ensure that the community is not negatively impacted.
- C/Ps acting as a mothership
 - Maintaining processor endorsements that define which C/Ps may act as a MS for BSAI Pacific cod are anticipated to define which entities may continue to accept deliveries of CQ. This will likely give these entities some certainty over delivery volumes, depending on agreements within that sector and the level of the processing limits are imposed on the sector.
 - Vertical integration with their CVs fleet will give certain processing entities more control over deliveries from CVs.
 - The amount of processing capacity in the fishery is expected to remain the same due to the limitations on who may participate. Reductions in process capacity would only occur if the two participants were to reach an agreement to remove one of the endorsed C/Ps and that is not expected to occur under the current or foreseeable structure of the fishery.
 - The cost of processing Pacific cod may decline because of increased season length and the ability to participate so that deliveries are timed to better match production capacity.
 - Improving the technical efficiency within this sector is dependent on whether the two firms are able to reach an agreement on how to divide the cap on the amount of processing history they are granted under Element 5 based on history defined under Element 2. If the two firms are able to agree on how to divide the Pacific cod to sector is allowed to process, they could achieve allocative efficiencies when processing their allocation. If the two firms cannot reach an agreement, they may compete to process as much of the limit as they can before it is reached and lose some of the allocate efficiencies associated with a LAPP. Reaching an agreement between the two qualified C/Ps may be complicated because one is in an AFA cooperative and the other an Amendment 80 cooperative. Being in separate cooperatives for their other fisheries will

limit the give and take that can occur when negotiating how to divide the Pacific cod that is available to process.

Alternative 2b:

- Shoreplants
 - Increased cost for raw fish because only harvesters are allocated QS.
 - Processors that are vertically integrated and own part of their harvesting fleet will benefit from control of some QS.
 - Processors wishing to enter the fishery will not be at a competitive disadvantage relative to those processors that received an initial allocation of QS based on their processing history.
 - AI shoreplants would be provided access to a defined amount of BSAI Pacific cod fishery. The impacts would be similar Alternative 2a, but, depending on the annual sector allocations and TACs, the AI shoreplants would be granted access to more or less Pacific cod.
 - AI shoreplants could not transfer their apportionment. Limiting transfers may reduce the ability to move quota between plants that need or cannot use deliveries.
 - Other impacts should be similar to those described under Alternative 2a.
- C/Ps acting as a mothership
 - Maintaining processor endorsements that define which C/Ps may act as a MS for BSAI Pacific cod are anticipated to define which entities may continue to accept deliveries of CQ. This will likely give these entities some certainty over delivery volumes, depending on agreements within that sector and the level of the processing limits are imposed on the sector.
 - Other impacts should be similar to Alternative 2a.

Bycatch (PSC and groundfish)

Alternative 1:

- Halibut bycatch has increased in 2019 as harvesters attempted to harvest a share of the trawl CV sector's BSAI Pacific cod allocation.
 - The sector in recent years has increased their halibut avoidance measures to reduce halibut PSC and bycatch of other species.
 - Sector has also reduced the use of gear modifications that are more selective but may have lower harvest rates.
 - The sector has also organized a voluntary stand down in the A-season Pacific cod fishery due to high halibut PSC rates.
 - Given the importance of reducing halibut PSC, the sector will likely continue to utilize halibut PSC avoidance measures in addition to continually seeking better ways to reduce halibut PSC under this alternative.
- Crab mortality for the trawl CV sector is limited throughout 2004-2019 and would likely continue this trend in the future under this alternative.
- The use of MRAs and ICAs as tools for managing the groundfish fisheries under status quo would continue with similar results in limiting groundfish bycatch in the BSAI Pacific cod trawl CV fishery under the status quo alternative.

Alternative 2a:

- Alternative would not apportion annual crab and halibut PSC between the trawl CV sector and the AFA C/P sector

- As a result, cannot apportion halibut or crab PSC at the individual cooperative level.
- Would rely on the trawl CV and the AFA C/P sectors negotiating halibut and crab PSC limit apportionments for the Pacific cod target fishery via an intercooperative agreement.
- Could jeopardize some of the potential successes of cooperative fishing under the alternative.
- Alternative would likely reduce halibut and crab PSC through cooperative fishing with cooperative members.
- Cooperative fishing would likely provide benefits in terms of allowing flexibility to avoid periods of high bycatch rates and changes in gear configuration and elimination of night fishing which also have shown to reduce halibut bycatch mortality.
- This alternative would rely on an ICA monitored by NMFS to account for incidental catch of BSAI Pacific cod while directed fishing for other non-Pacific cod groundfish fisheries.
 - There is the potential that cooperative vessels could intentionally top off on incidental catch of Pacific cod while fishing in targeting other groundfish fisheries.
 - If incidental catch of BSAI Pacific cod by cooperative vessels increases, there is the potential that the BSAI Pacific cod allocations to the cooperatives will be reduced to accommodate a larger ICA.
 - There appears to be limited opportunities for qualified trawl CVs utilizing the benefits of a cooperative program to strategically target incidental catch for non-Pacific cod groundfish species.
 - The use of MRAs and ICAs as tools for managing the groundfish fisheries under Alternative 2a would continue with similar results in limiting groundfish bycatch in the BSAI Pacific cod trawl CV fishery and other non-Pacific cod groundfish fisheries.

Alternative 2b:

- Would apportion only halibut PSC limits between the trawl CV sector and the AFA C/P sector based on historic use by the two sectors.
 - Crab PSC limits would continue to be apportioned to the trawl limited access sector.
 - The halibut PSC allocation percentages under this alternative appears to be sufficient to allow the harvest of both sector's BSAI Pacific cod allocation.
 - The alternative would likely reduce halibut PSC but could increase crab PSC.
 - Cooperative fishing under this alternative would allow more flexibility to avoid periods of high bycatch rates, allow for changes in gear configuration, and eliminate the need for night fishing which has shown to reduce halibut bycatch mortality.
- For groundfish bycatch, the alternative would utilize the same approach as Alternative 2a.
 - The use of MRAs and ICAs would continue to be used with similar results in limiting groundfish bycatch in the BSAI Pacific cod trawl CV fishery under this alternative.

Other groundfish fisheries

Alternative 1:

- Existing sideboard limits for the AFA Program, BSAI Crab Program, and the CGOA Rockfish Program would continue to limit groundfish bycatch and PSC.
 - In the BSAI, there is an AFA Pacific cod trawl gear CV sideboard limit and an AFA yellowfin sole sideboard limit. The primary sideboard fishery is BSAI Pacific cod fishery.
 - Between 2004 and 2019, approximately 56 percent of the sideboard limit was harvested.
 - This percentage trend would likely continue or increase as BSAI Pacific cod TACs continue to decline in the future.

- In the GOA, AFA sideboard restricted trawl CVs on average have harvested far less than their limit during 2004 through 2019.
- one of the primary reasons AFA vessels do not harvest a greater share of the sideboard limit is likely due to conflicts between the BSAI Pacific cod season and GOA groundfish seasons.
- In all likelihood, the seasonal conflict will likely continue which would result in harvest of GOA AFA trawl CV sideboard fisheries near similar rates.

Alternative 2a:

- Existing non-exempt AFA CV groundfish and halibut PSC sideboard limits developed as part of the AFA Program are utilized.
 - Could provide some potential for non-exempt AFA CVs to expand their harvest of these sideboard restricted fisheries given harvesting flexibility provided.
- Would prohibit GOA sideboard exempt AFA CVs from transferring their BSAI Pacific cod catch history on their LLP licenses as a condition of continuing to benefit from the AFA GOA sideboard exemption.
 - Given that requiring exempt AFA CVs be restricted by GOA sideboards if they lease their BSAI Pacific cod CQ would likely not work as intended, the alternative would rely on cooperatives to monitor exempt AFA CVs to ensure they do not lease their BSAI Pacific cod CQ while benefiting from sideboard exemptions.
- Alternative would also apply GOA groundfish and halibut PSC sideboard limits for non-AFA LLP licenses and vessels that are qualified for the BSAI Pacific cod Cooperative Program.
- In general, many of the GOA species/area sideboard ratios under this alternative would be insufficient for a sideboard fishery.
 - As a result, several sideboard fisheries under this alternative would be closed annually to directed fishing.
 - Species/area fisheries sufficient for a sideboard fishery would likely be limited to pollock, CGOA Pacific cod, shallow-water flatfish, rex sole, arrowtooth flounder, and flathead sole.

Alternative 2b:

- Alternative would include new GOA sideboard limits non-exempt AFA CVs.
- With the exception of C-season and D-season Shumagin (610) pollock, all four seasons of Chirikof (620) and Kodiak (630) pollock, CGOA shallow-water flatfish, and CGOA arrowtooth flounder, the remaining sideboard species would likely have insufficient limits to allow directed fishing.
 - Given the reduced sideboard limits for those species with sufficient limits for a fishery, it is likely NMFS would require intercooperative management of these fisheries in order for the species to be open for directed fishing.
- Both vessels and LLP licenses would also be restricted by PSC usage sideboards.
 - New halibut PSC sideboard limits are in all cases smaller than the existing sideboard limits.
 - Despite calculated halibut PSC sideboards being severely limited for most directed fishing opportunities, published halibut PSC sideboard limits annually may be necessary so as not to limit cooperatives from determining how to utilize potential GOA groundfish sideboard fisheries while staying within their halibut PSC mortality limit.
- This alternative would also prohibit GOA sideboard exempt AFA CVs from transferring their BSAI Pacific cod catch history on their LLP licenses as a condition of continuing to benefit from the AFA GOA sideboard exemption.
 - See Alternative 2a for a summary of this option.

- Alternative would also limit non-AFA LLP licenses and vessels that are qualified for the BSAI Pacific cod Cooperative Program with GOA groundfish and halibut PSC sideboards.
 - Many of the GOA species/area sideboard ratios would be insufficient for a sideboard fishery.
 - In all likelihood, these sideboard fisheries under this alternative would be closed annually to directed fishing.

Fishing Communities

Alternative 1:

- Existing trends in the pattern of community engagement in and dependency on the fishery are likely to continue.
 - The community of ownership address for most LLP licenses (and trawl CVs) would remain in the Pacific Northwest in general with the largest concentrations, by far, in the Seattle MSA and in Newport, Oregon.
 - Among Alaska communities, BSAI Pacific cod trawl CV and LLP license ownership has already consolidated into Kodiak (CVs) and Kodiak and Homer (LLP licenses).
 - Shore-based processing would continue to occur in Unalaska/Dutch Harbor, Akutan, and Adak (when operating) and, in more limited amounts and less regularly, in King Cove and Sand Point.
 - Fishing support sector services in the BSAI region would remain concentrated in Unalaska/Dutch Harbor.

Alternatives 2a and 2b:

- Overall patterns of community engagement are unlikely to fundamentally change based on either of the qualifying year range options included Alternatives 2a and 2b.
 - The predominance of Seattle MSA and Newport as a proportion of overall engagement fluctuates relatively little. However, while Alternatives 2a and 2b feature bookend ranges of qualifying years, depending on the qualifying period selected under Element 2, the consolidation of Alaska community engagement that occurred over the 2004-2019 era would be reflected to greater or lesser degrees in the patterns of allocation to LLP licenses.
 - Using the most recent years (Alternative 2a), within Alaska allocations would be made exclusively to LLP licenses with either Kodiak or Homer addresses.
 - Using all years 2004-2019 (Alternative 2b), within Alaska allocations would be made to LLPs with historical ownership addresses in five Alaska communities used on CVs with ownership addresses in five Alaska communities, including three that differ from LLP license ownership communities.
 - LLP licenses have changed hands over time, such that (1) historical links to a community may not reflect any present-day association with ultimate allocation recipients and (2) participation varied in consistency and intensity among Alaska communities outside of Kodiak and Homer, suggesting that for multiple communities historical engagement may translate to minimal fishing history contribution toward initial quota allocation.
- Additional consolidation of CV effort is expected to occur under a cooperative system.
 - Consolidation of vessels themselves would be limited by quota not being severable from LLP licenses.
 - From a community perspective, retention of active local vessels, even if focused on other fisheries, would be key to minimizing further adverse consolidation affects.
 - Kodiak ownership address trawl CVs are not likely to exit commercial fishing altogether as BSAI Pacific cod is, on average, a relatively modest portion of their fishing portfolio, which is otherwise heavily oriented toward GOA fisheries.

- Kodiak trawl fleet stability is further ensured through most Kodiak trawl CVs participation in the Central GOA rockfish program, which has helped operationally stabilize the sector through quota not being severable from LLP licenses.
- In contrast, CVs with ownership addresses in the Pacific Northwest engaged in the BSAI Pacific cod trawl fishery are more dependent on that fishery, both on a community BSAI Pacific cod trawl sector basis and on a community overall fleet (all fisheries) basis, compared their Alaska ownership address counterparts.
- Limits on the amount of quota an entity can control would also tend to reduce further ownership consolidation across all communities both in the Pacific Northwest and in Alaska.
- Under Alternative 2a, harvest allocations to cooperatives would not include the C season, making reallocations from the trawl CV sector to the < 60' HAL and pot CV sector more likely to continue and more likely to continue at higher levels than would be the case under Alternative 2b
 - This is important for < 60' HAL/pot CV operations based in multiple communities, as reallocations have accounted for more than half of the harvest within the sector on an annual average basis 2004-2019.
 - Uniquely among Alaska communities, potential loss of regular reallocations has been identified as important for the Unalaska/Dutch Harbor local ownership address community fleet as a whole, based on percentage of total local fleet ex-vessel gross revenue dependency.
 - Potential impacts to subsistence harvest of BSAI Pacific cod or other subsistence fishing by CVs engaged in the BSAI Pacific cod fishery, if any, would be more likely under Alternative 2b than 2a.
 - These impacts could occur through a decline in fish retained for subsistence use from commercial catch, or from a decline in commercial vessels being used as “joint production platforms” in both the commercial cod and multi-species subsistence fisheries related to vessels finding continuing participation in the commercial < 60' HAL/pot BSAI Pacific cod fishery untenable due to a decline or discontinuation of annual reallocations from the trawl CV sector.
 - These types of impacts, if they were to occur, would likely be concentrated among the type of small vessels found in the Unalaska/Dutch Harbor local fleet, more than half of which were less than 50' LOA in 2019 and 2020.
- For Alaska communities with locally operating shore-based processors accepting deliveries of trawl-caught BSAI Pacific cod, consolidation of effort into fewer plants may occur.
 - For all communities except Adak, ownership and operation of the centrally involved plants have been relatively stable over the qualifying periods, so changes that may take place under a CV cooperative system would likely be minor from the community perspective.
 - Adak, with a more complicated history of local shore-based processing operational ownership (and intermittent operations) is more at risk of experiencing community impacts from an allocation based strictly on processing history, absent AI processor provisions under Element 6, which could benefit Adak, Atka, or both in any given year.
- Fishery support service businesses could be adversely affected by CV and/or shore-based processor consolidation under a cooperative system.
 - Fewer vessels involved in the harvest would equate to a lower demand for some types of support services.
 - Many support service suppliers are located in the Seattle MSA and in the Newport, Oregon area, including suppliers of a range services (and a scale of services) not available in Alaska.

- Support services in the BSAI region itself are largely concentrated in Unalaska/Dutch Harbor as would be potential adverse impacts to this sector. Many of these same support service businesses that support the BSAI Pacific cod trawl CV fleet also support the more numerous < 60' HAL/pot fleet and could experience adverse impacts from a loss of revenue by that fleet if reallocations from the trawl sector were to decrease under a cooperative system.
- Similar decreases in service provision demand due to consolidation of the trawl fleet or adverse impacts to the < 60' HAL/pot fleet could impact municipalities through declines in sales tax revenues or usage fees for waterfront infrastructure-based services.

Fishing and Processing Crew

Alternative 1:

- Existing trends would continue. Short seasons on crowded fishing grounds under race-for-fish conditions would continue to yield variable results for fishing crew.
- Shore-based and floating processor crews are engaged in processing BSAI Pacific cod harvested by trawl CVs for a relatively short period of time at the end of January and the beginning of February.
 - Because the BS Pacific cod fishery currently coincides with the BS pollock fishery, some plants must employ substantially larger crews that are juggled between lines/plants to process landings from both fisheries.
 - Processing landings from non-rationalized fisheries hinder the ability of plants to develop employment schedules that require fewer processing crew being brought into Alaska communities for relatively short periods of time.

Alternatives 2a and 2b:

- Consolidation is expected to result in a decrease in captain and crew jobs in the BSAI Pacific cod trawl CV fishery, while those jobs that do remain are expected to result in more stable employment at higher overall levels compensation per crew member per season than under status quo conditions.
 - Crew would likely work longer seasons and crew compensation per unit effort could be negatively impacted if crew shares were adjusted to cover costs of leasing harvesting quota.
 - The remaining crew jobs could feature better working conditions, be safer with a discontinuation of race-for-fish conditions, provide better season-to-season employment potential, and allow for compensation predictability.
- The non-severability of quota from the LLP licenses is expected to minimize overall crew job losses, especially aboard BSAI Pacific cod trawl CVs with Alaska ownership addresses, as those vessels are primarily focused on GOA fisheries.
 - Crew members on Alaska ownership address vessels that no longer participate directly in the BSAI Pacific cod fishery may still participate in other fisheries in the GOA pursued by the vessels on which they work.
 - These crew positions may also be perceived by a substantial portion of the crew as more desirable due to fishing closer to home.
- Harvests from the Pacific cod fishery are likely to occur over a longer period under Alternatives 2a and 2b. For processors, this would facilitate opportunities to improve quality and the production of higher valued, more highly processed product forms.
 - Although the Pacific cod fishery is a relatively small portion of the processing portfolio of most of the qualified processors, the cooperative program alternatives are likely to contribute to stability in processing crew employment.

- This increased stability could lead to fewer processing jobs at peak times, but the remaining jobs should provide more stable and consistent employment.
- If similar hiring conditions remain in place after a cooperative program is implemented, overtime hours would likely continue to be available to processing workers.

Safety

- Current BSAI trawl CV Pacific cod fishery requires vessel operators to compete for a share of the BSAI trawl CV sector apportionment of Pacific cod during a brief A-season and to a lesser extent the brief B-season and the C-season.
 - BSAI weather conditions during the A-season (the end of January and beginning of February) can be unpredictable and dangerous, especially for smaller CVs.
 - Storms can cause inclement weather that may cause unsafe fishing conditions.
- Management of the BSAI trawl CV Pacific cod fishery under the PCTC Program (either Alternative 2a or Alternative 2b) is expected to extend the A-season season from about 2-weeks at the end of January and early February to January 20 through the end of March which could improve safety at-sea.
- Overall, economic incentives are created when competing to catch a share of the TAC under Alternative 1 that may entice a vessel operator to go to sea or continue fishing in weather conditions that may pose a higher operating risk than they would be willing to accept if they were operating under the proposed PCTC Program.

Consumers

- Under Alternative 1 management, it is likely that trawl CV participants will continue to produce high quality H&G, fillet blocks, and individually frozen fillets, which are either individually quick-frozen or processed into shatterpack or layer pack.
- Under a cooperative management program, changes may occur in the production of CV harvests to the benefit of consumers.
 - Although production is typically high quality already under Alternative 1, it is believed that some improvements could be achieved through cooperative management, removing pressure to rapidly catch and process fish to maximize individual vessel catch rates.
 - Improvements in consumer benefits arising from improved quality are likely to be realized, both in U.S. markets and international markets.

Environmental/non-use benefits

- Public non-use benefits derived from the management of a healthy BSAI Pacific cod stock are likely to be sustained, if current management is perpetuated.
- Under a cooperative management program, catch of BSAI Pacific cod by the trawl CV sector will continue to be limited by TAC or PSC limits.
 - These limits should be effectively maintained through the monitoring and management program, perpetuating the current non-use benefit derived from maintenance of healthy stocks.

Monitoring and enforcement

See Table 2-127 for a summary of the types of impacts of monitoring and enforcement requirements to implement the proposed PCTC Program.

Net benefits to the Nation

NOTE: This section will be completed when the Council selects a PPA.

3. Environmental Assessment

There are four required components for an environmental assessment (EA). The need for the proposed action is described in Section 2.2, and the alternatives in Section 2.4. This section addresses the probable environmental impacts of the proposed action and alternatives. A list of agencies and persons consulted is included in Section 5.

This section evaluates the direct, indirect, and cumulative impacts of the alternatives and options on the various resource components. The economic and social impacts of this action are described in detail in the Regulatory Impact Review (RIR) of this analysis (Section 2). This section, including its contents and preliminary conclusions, is based on the current interpretation of the strawman alternatives and is subject to change as the Council further develops the alternatives.

Recent and relevant information necessary to understand the affected environment for each resource component is summarized in the relevant subsection. For each resource component, the analysis identifies the potential impacts of each alternative, and uses criteria to evaluate the significance of these impacts. If significant impacts are likely to occur, preparation of an environmental impact statement (EIS) is required. Although an EA should evaluate economic and socioeconomic impacts that are interrelated with natural and physical environmental effects, economic and social impacts by themselves are not sufficient to require the preparation of an EIS (see 40 CFR 1508.14).

The National Environmental Policy Act (NEPA) also requires an analysis of the potential cumulative effects of a proposed action and its alternatives. An EA must consider cumulative effects when determining whether an action significantly affects environmental quality. The Council on Environmental Quality (CEQ) regulations for implementing NEPA define cumulative effects as:

“the impact on the environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR 1508.7).

The concept behind cumulative effects analysis is to capture the total effects of many actions over time that would be missed if evaluating each action individually. Concurrently, the CEQ guidelines recognize that it is most practical to focus cumulative effects analysis on only those effects that are truly meaningful.

3.1. Methods

For biological and physical ecosystem components (target species stocks, non-target species, marine mammals), impacts of the alternatives were evaluated in a largely qualitative manner although data are presented to support conclusions.

The analyses presented in the sections below focus on Pacific cod (Section 3.2), incidental catch (Section 3.3), Prohibited Species Catch (PSC) (Section 3.4), and marine mammals (Section 3.5). No significant effects are presumed for ecosystem component species, seabirds, habitat, or the ecosystem because harvest limits (TACs), habitat protections (such as closed areas), and current or proposed fishing regulations as described in previous documents (NMFS 2005; NPFMC and NMFS 2017; NPFMC 2018) would not be changed by any of the alternatives.

3.1.1. Documents Incorporated by Reference in this Analysis

This EA relies heavily on the information and evaluation contained in previous environmental analyses, and these documents are incorporated by reference. The documents listed below contain information about the fishery management areas, fisheries, marine resources, ecosystem, social, and economic

elements of the groundfish fisheries. They also include comprehensive analysis of the effects of the fisheries on the human environment and are referenced in the analysis of impacts throughout this section.

Alaska Groundfish Harvest Specifications Final Environmental Impact Statement (NMFS 2007).

This EIS provides decision makers and the public an evaluation of the environmental, social, and economic effects of alternative harvest strategies for the federally managed groundfish fisheries in the GOA and the BSAI management areas and is referenced here for an understanding of the groundfish fishery. The EIS examines alternative harvest strategies that comply with Federal regulations, the Fishery Management Plan (FMP) for Groundfish of the GOA, the Fishery Management Plan (FMP) for Groundfish of the BSAI Management Area, and the Magnuson-Stevens Fishery Conservation and Management Act. These strategies are applied using the best available scientific information to derive the total allowable catch (TAC) estimates for the groundfish fisheries. The EIS evaluates the effects of different alternatives on target species, non-specified species, forage species, prohibited species, marine mammals, seabirds, essential fish habitat, ecosystem relationships, and economic aspects of the groundfish fisheries. This document is available from <https://alaskafisheries.noaa.gov/fisheries/groundfish-harvest-specs-eis>.

Stock Assessment and Fishery Evaluation (SAFE) Report for the Groundfish Resources of the BSAI (NPFMC 2019).

Annual SAFE reports review recent research and provide estimates of the biomass of each species and other biological parameters. The SAFE report includes the acceptable biological catch (ABC) specifications used by NMFS in the annual harvest specifications. The SAFE report also summarizes available information on the ecosystems and the economic condition of the groundfish fisheries off Alaska. This document is available from <http://www.afsc.noaa.gov/refm/stocks/assessments.htm>.

Assessment of the Pacific Cod Stock in the Aleutian Islands (Thompson et al. 2019)

Annual stock assessments are prepared each year but stock assessment authors from NMFS science centers. They incorporate human and environmental impacts on fish stocks and provide estimates of biomass of each species and other biological parameters. The stock assessments calculate biomass and the acceptable biological catch (ABC) used by NMFS in the annual harvest specifications. This document is available from <https://archive.afsc.noaa.gov/refm/docs/2019/AIpcod.pdf>

Assessment of the Pacific Cod Stock in the Eastern Bering Sea (Thompson and Thorson 2019)

Annual stock assessments are prepared each year but stock assessment authors from NMFS science centers. They incorporate human and environmental impacts on fish stocks and provide estimates of biomass of each species and other biological parameters. The stock assessments calculate biomass and the ABC used by NMFS in the annual harvest specifications. This document is available from <https://archive.afsc.noaa.gov/refm/docs/2019/EBSpcod.pdf>

Final Programmatic Supplemental Environmental Impact Statement (PSEIS) on the Alaska Groundfish Fisheries (NMFS 2004).

The PSEIS evaluates the Alaska groundfish fisheries management program as a whole and includes analysis of alternative management strategies for the GOA and BSAI groundfish fisheries. The EIS is a comprehensive evaluation of the status of the environmental components and the effects of these components on target species, non-specified species, forage species, prohibited species, marine mammals, seabirds, essential fish habitat, ecosystem relationships, and economic aspects of the groundfish fisheries. A Supplemental Information Report (NPFMC and NMFS 2015) considers and affirms that new information does not indicate that there is now a significant impact from the groundfish fisheries where

the 2004 PSEIS concluded that the impact was insignificant. The PSEIS document is available from <https://alaskafisheries.noaa.gov/node/33552>, and the Supplemental Information Report from <https://alaskafisheries.noaa.gov/sites/default/files/sir-pseis1115.pdf>.

EA/RIR/IRFA for Amendment 85 to the FMP for Groundfish of the BSAI: Allocation of Pacific cod among harvesting sectors (NPFMC 2007).

This analysis accompanied proposed Amendment 85 to the BSAI Groundfish FMP, recommending separate apportionments of the BSAI Pacific cod ITAC among the fixed gear sectors (HAL catcher processors, ≥60’ HAL CVs, pot catcher processors, ≥60’ pot CVs, and pot/HAL vessels <60’ in length), jig sector, and trawl sectors based on recent sector catch histories

3.1.2. Resource Components Addressed in the Analysis

The effects of the alternatives on the resource components could be caused by changes in the seasonal distribution of the BSAI Pacific cod trawl CV fisheries. The alternatives have the potential to affect BSAI groundfish, prohibited species, marine mammals, and social and economic components. For groundfish, increased seasonal flexibility is not likely to increase overall fishing pressure. Even if there is a redistribution of effort, the fishery will likely remain within the established footprint of the trawl fishing grounds. In addition, rationalized fisheries have been shown to be beneficial to resource components by reducing the race for fish. Consequently, these alternatives are not likely to result in adverse impacts to Pacific cod stocks. PSC rates may decrease slightly from the status quo if fishing effort moves away from periods with relatively high PSC rates or the fleet implements fishing practices that are known to reduced PSC rates (i.e., eliminating night fishing and using halibut escapement devices in the fishing nets). No change in the number of incidental takes for Steller sea lions (SSL) is expected under either alternative. As compared to the status quo, Alternatives 2a and 2b may have potential impacts on a portion of the western DPS of SSL in the BSAI due to any changes in availability of Pacific cod, but not in a way that may be measurable or discernable separate from all the other variables that affect fishery operations and natural variation. The action is not expected to result in population-level impacts to the western DPS of SSL. The socio-economic impacts of the proposed action are further discussed in Section 2.8.

Table 3-1 Resources potentially affected by the proposed action and alternatives.

Potentially affected resource component							
Groundfish	Incidental Catch	PSC	Marine Mammals	Seabirds	Habitat	Ecosystem	Social and economic
Y	Y	Y	Y	N	N	N	Y*

N = no impact anticipated by each alternative on the component.

Y = an impact is possible if each alternative is implemented.

* = see SIA

An evaluation of the effects of the BSAI groundfish fisheries on the ecosystem is discussed annually in the Ecosystem Considerations sections of each chapter of the SAFE report (NPFMC 2019). The analysis concluded that the current BSAI trawl fisheries do not produce population-level impacts to marine species or change ecosystem-level attributes beyond the range of natural variation. Consequently, Alternative 1 is not expected to have a significant impact on the ecosystem. Because the target fisheries are capped by TACs, and PSC limits in place would not be increased by this action, the action alternatives are also not expected to produce population-level impacts to marine species or change ecosystem-level attributes beyond the range of natural variation.

Under the status quo, seabird disturbance and incidental take are at low levels and are mitigated by seasonal and spatial restrictions on the BSAI Pacific cod trawl fisheries. Under the action alternatives, disturbance or incidental take is not expected to increase to a level that would result in population level effects on seabirds.

Previous analyses have found no substantial adverse effects to habitat in the BSAI caused by fishing activities (NPFMC and NMFS 2016; NPFMC and NMFS 2017). Any effects continue to be limited by the amount of the groundfish TACs and by the existing habitat conservation and protection measures. Overall, the combination of the direct, indirect, and cumulative effects on habitat complexity for both living and non-living substrates, benthic biodiversity, and habitat suitability is not likely to be significant under any of the alternatives.

No significant effects are presumed for ecosystem component species, seabirds, habitat, or the ecosystem because harvest limits (TACs), habitat protections (such as closed areas), and current or proposed fishing regulations as described in previous documents (NMFS 2005; NPFMC and NMFS 2017; NPFMC 2018) would not be changed by any of the alternatives. Specifically, the intensity of trawling would remain unchanged because current regulations define the methods that may be used, areas in which trawling is allowed, and restrict the maximum amount of trawling to TAC levels. The timing of the fishery is not expected to change. Therefore, *de minimis* effects are expected for other resources components. As a result, further analysis is included only for BSAI groundfish, prohibited species, marine mammals, and social and economic components, the only resource components which the proposed action may impact.

3.1.3. Cumulative Effects Analysis

This EA analyzes the cumulative effects of each alternative and the effects of past, present, and reasonably foreseeable future actions (RFFA). Based on Table 3-1, the resources with potentially meaningful cumulative effects are Pacific cod, incidental catch, PSC (crab and Pacific halibut), and marine mammals (Steller sea lions). The cumulative effects on the other resources have been analyzed in numerous documents and the impacts of this proposed action and alternatives on those resources is minimal, therefore there is no need to conduct an additional cumulative impacts analysis for those resources.

Relevant past and present actions are described in several documents and are incorporated by reference. These include the PSEIS (NMFS 2004), the EFH EIS (NMFS 2005), the harvest specifications EIS (NMFS 2007), and the EA/RIR/IRFA to implement Amendment 85 to the BSAI FMP (NPFMC 2007). This analysis provides a brief review of the RFFAs that may affect environmental quality and result in cumulative effects. Future effects include harvest of federally managed fish species and current habitat protection from federal fishery management measures, harvests from state managed fisheries and their associated protection measures, efforts to protect endangered species by other federal agencies, and other non-fishing activities and natural events.

In addition, the supplemental information report (SIR) NMFS prepares to annually review the latest information since the completion of the Alaska Groundfish Harvest Specifications EIS is incorporated by reference (NMFS 2007). SIRs have been developed since 2007 and are available on the NMFS Alaska Region website.⁹⁶ Each SIR describes changes to the groundfish fisheries and harvest specifications process, new information about environmental components that may be impacted by the groundfish fisheries, and new circumstances, including present and reasonably foreseeable future actions. NMFS reviews the RFFAs described in the Harvest Specifications EIS each year to determine whether they occurred and, if they did occur, whether they would change the analysis in the Harvest Specifications EIS of the impacts of the harvest strategy on the human environment. In addition, NMFS considered whether other actions not anticipated in the Harvest Specifications EIS occurred that have a bearing on the harvest strategy or its impacts. The SIRs provide the latest review of new information regarding Alaska groundfish fisheries management and the marine environment since the development of the Harvest Specifications EIS and provide cumulative effects information applicable to the alternatives analyzed in this EA.

⁹⁶ <https://www.fisheries.noaa.gov/resource/document/alaska-groundfish-harvest-specifications-environmental-impact-statement-eis>

RFFAs identified as applicable to this analysis are those that are likely to have an impact on a resource component within the action area and timeframe. The term “actions” in the analyses herein is confined to human actions (e.g., a regulatory change that rationalizes the BSAI Pacific cod trawl CV fishery), as distinguished from natural events (e.g., anomalous sea surface temperatures in the Bering Sea). CEQ regulations require consideration of actions, whether taken by a government or by private persons, which are reasonably foreseeable. This requirement is interpreted to indicate actions that are more than merely possible or speculative. In addition to these actions, the cumulative effects analysis includes the effects of climate change.

Actions are considered reasonably foreseeable if some concrete step has been taken toward implementation, such as a Council recommendation or NMFS’s publication of a proposed rule. Actions only “under consideration” have not generally been included, because they may change substantially or may not be adopted, and so cannot be reasonably described, predicted, or foreseen. Identification of actions likely to impact a resource component within this action’s area and time frame will allow the public and Council to make a reasoned choice among alternatives.

Ecosystem management and traditional management tools are likely to improve the protection and management of target and prohibited species, including targets of the Pacific cod trawl CV fleet, Pacific halibut and crab, and are not likely to result in significant effects when combined with the direct and indirect effects of Alternatives 2 and 3. Other government actions and private actions may increase pressure on the sustainability of target and prohibited fish stocks either through extraction or changes in the habitat or may decrease the market through aquaculture competition, but it is not clear that these would result in significant cumulative effects. Any increase in extraction of target species would likely be offset by Federal management. These are further discussed in Sections 4.1.3 and 7.3 of the Harvest Specifications EIS (NMFS 2007) and in the 2018 SIR (NMFS 2018).

Considering the direct and indirect impacts of the proposed alternatives when added to the impacts of past and present actions previously analyzed in other documents that are incorporated by reference and the impacts of the RFFAs listed above, the cumulative impacts of the proposed alternatives are determined to be not significant.

3.2. Pacific Cod

3.2.1. Status

Pacific cod (*Gadus macrocephalus*) is widely distributed over the eastern Bering Sea (EBS) as well as the Aleutian Islands (AI) areas, and occurs at depths from shoreline to 500 m. Although the resource in the combined EBS and AI (BSAI) region has been managed as a single unit from 1977 through 2013, separate harvest specifications have been set for the two areas since the 2014 season. Information on Pacific cod in this section is taken from Thompson and Thorson (2019) and Thompson et al. (2019).

Table 3-2 illustrates the Federal management of Pacific cod subareas of the BSAI. Historically, the great majority of the Pacific cod catch has come from the BS management subarea. Table 3-2 provides a history of biomass estimates for the EBS and AI management areas, as well as harvest specifications and actual catch from vessel landings attributed to the federal fishery only. Catch data from vessel landings attributed to the GHL fisheries are not included in this table. That information, along with a description of the respective fisheries, is located in Section 2.6.4 of this document. Between 2014 and 2019, TAC averaged about 94% of ABC in the EBS and 66% of the ABC in the AI, while aggregate commercial catch averaged about 97% of TAC in the EBS and 90% of the TAC in the AI. During the same period, the EBS accounted for an average of about 95% of the total BSAI catch.

The stock assessment model for Pacific cod is configured to represent the portion of the Pacific cod population inhabiting the EBS and AI survey areas. Retained incidental catch of Pacific cod in the halibut IFQ fishery is accounted for in the model, but not Pacific cod used as bait in crab fisheries. From 2014 through 2019, the average biomass distribution was about 91% in the EBS and about 9% in the AI.

Table 3-2 EBS and AI Pacific cod biomass, catch, TAC, ABC, and OFL from 2014 through 2020.

Area	Year	Biomass	OFL	ABC	TAC	Catch*
Eastern Bering Sea	2014	1,095,270	299,000	255,000	246,897	230,713
	2015	1,109,115	346,000	255,000	240,000	224,830
	2016	986,013	390,000	255,000	238,680	231,531
	2017	643,953	284,000	239,000	223,704	222,802
	2018	506,943	238,000	201,000	188,136	186,692
	2019	516,910	216,000	181,000	166,475	164,098
	2020	824,000	216,000	137,000	124,625	
Aleutian Islands	2014	71,694	20,100	15,100	6,997	6,152
	2015	75,519	23,400	17,600	9,422	9,056
	2016	79,548	23,400	17,600	12,839	12,364
	2017	80,120	28,700	21,500	15,695	12,257
	2018	80,696	28,700	21,500	15,695	14,719
	2019	81,272	27,400	20,600	14,214	12,941
	2020	80,700	27,400	20,600	14,214	

Note: Biomass values for the EBS are from trawl surveys in the EBS. Biomass values for the AI are modeled in Thompson et al. 2019. All values are in tons.

Source: CAS; queried on July 24, 2020.

* catch data does not include catch attributed to the GHL fishery

The authors of the 2019 EBS Pacific cod stock assessment (Thompson and Thorson 2019) noted some concerns about the recent decline in biomass in the EBS (Table 3-2). The authors offered several possible explanations for this decline including a northward range shift into the northern Bering Sea and poor recruitment from the 2014 – 2017 year classes. However, as detailed in the 2019 SAFE report (NMFS 2019), the EBS stock of Pacific cod is not being subject to overfishing, is not overfished, and is not approaching an overfished condition. For the AI stock of Pacific cod, the 2019 SAFE report determined that the stock is not being subjected to overfishing. However, because the stock is managed as a Tier 5 stock, no determination can be made with respect to overfished status. A stock's Tier status refers to the type and amount of information that is available to estimate the condition and maximum sustainable yield (MSY) of the stock. A Tier 5 stock refers to a stock with insufficient information to estimate the MSY stock level. Therefore, no determination can be made of overfished status or approaching overfish status.

The BSAI Pacific cod TAC is allocated by regulation according to gear type; however, typically as the harvest year progresses, it becomes apparent that one or more gear types will be unable to harvest their full allotment by the end of the year. This is addressed by reallocating TAC between gear types in the second half of each year, typically October through December. Most often, such reallocations shift TAC to the HAL/pot CV < 60' sector and the HAL C/P sector. Further information on these allocations and reallocations is provided in Section 2.6.2.

Major trends in the most important prey or predator species of Pacific cod could be expected to affect the dynamics of the species to some extent. Small Pacific cod feed mostly on invertebrates, while large Pacific cod are mainly piscivorous. Pacific cod prey on polychaetes, amphipods, crangonid shrimp, walleye pollock, fishery offal, yellowfin sole, and crustaceans. Predators of Pacific cod include Pacific cod, halibut, salmon shark, northern fur seals, Seller sea lions, harbor porpoises, various whale species, and tufted puffin.

3.2.2. Effects of the Alternatives

The effects of the BSAI Pacific cod fishery on the EBS and AI Pacific cod stocks is assessed annually in the BSAI SAFE report (NMFS 2019) and was also evaluated in the Alaska Groundfish Fisheries Harvest Specifications EIS (NMFS 2007a). Table 3-3 describes the criteria used to determine whether the impacts

on target fish stocks are likely to be significant. The effects of the BSAI trawl fisheries on fish that are caught incidentally have been comprehensively analyzed in the Alaska Groundfish Fisheries Harvest Specifications EIS (NMFS 2007). These analyses concluded that under the status quo, neither the level of mortality nor the spatial and temporal impacts of fishing on fish species or prey availability are likely to jeopardize the sustainability of the target and ecosystem component fish populations. As a result, impacts on Pacific cod under Alternative 1 are determined not to be significant.

Table 3-3 Criteria used to determine significance of effects on Pacific cod.

Effect	Criteria			
	Significantly Negative	Insignificant	Significantly Positive	Unknown
Fishing mortality	Changes in fishing mortality are expected to jeopardize the ability of the stock to sustain itself at or above its MSST (minimum stock size threshold)	Changes in fishing mortality are expected to maintain the stock's ability to sustain itself above MSST	Changes in fishing mortality are expected to enhance the stock's ability to sustain itself at or above its MSST	Magnitude and/or direction of effects are unknown
Stock Biomass: potential for increasing and reducing stock size	Reasonably expected to jeopardize the capacity of the stock to yield sustainable biomass on a continuing basis.	Reasonably expected not to jeopardize the capacity of the stock to yield sustainable biomass on a continuing basis.	Action allows the stock to return to its unfished biomass.	Magnitude and/or direction of effects are unknown
Spatial or temporal distribution	Reasonably expected to adversely affect the distribution of harvested stocks either spatially or temporally such that it jeopardizes the ability of the stock to sustain itself.	Unlikely to affect the distribution of harvested stocks either spatially or temporally such that it has an effect on the ability of the stock to sustain itself.	Reasonably expected to positively affect the harvested stocks through spatial or temporal increases in abundance such that it enhances the ability of the stock to sustain itself.	Magnitude and/or direction of effects are unknown

Alternatives 2a and 2b propose a series of options for establishing and managing a limited access privilege program for vessels participating in the BSAI Pacific cod trawl CV sector. Since fishing effort under Alternatives 2a and 2b will remain relatively consistent with current fishing patterns, these actions are not likely to substantially alter fishing patterns and the current effects of fishing on Pacific cod.

The overall amount of effort in the fisheries will remain the same as under Alternative 1, as the overall Pacific cod TAC is not affected under either alternative. Shifts in the location or timing of fishing may occur as a result of Alternatives 2a and 2b. However, there is already considerable interannual variability in the patterns of fishing across the BSAI groundfish sectors, as environmental conditions and avoidance of PSC species have caused vessels to adjust their fishing patterns. Any shift in fishing is unlikely to occur outside of the existing footprint of the groundfish fishery in the BSAI. As a result, Alternatives 2a and 2b are not expected to jeopardize the sustainability of Pacific cod, and thus will not result in a significant impact.

Cumulative Effects on Target Species

Considering the direct and indirect impacts of the proposed action when added to the impacts of past and present actions previously analyzed in other documents that are incorporated by reference and the impacts of the reasonably foreseeable future actions listed above, the cumulative impacts of the proposed action are determined to be not significant.

3.3. Incidental Catch in the Pacific Cod Target Fishery

3.3.1. Status

In Table 3-4, distribution of catch by trawl vessels is shown by season and species. Trawl vessels have a higher rate of incidental catch, of which some is retained. For further information on PSC species, please see Section 2.7.3.

Generally, vessels targeting Pacific cod in the BSAI catch non-targeted groundfish, ecosystem species, and forage fish incidentally. Typically, incidental harvest in a directed fishery are limited by MRAs, which are discussed in Section 2.7.2.6.

Table 3-4 Incidental species in the BSAI Pacific cod trawl fishery, 2015-2019

	2015			2016			2017			2018			2019		
	Retained Catch (MT)	Total Catch (MT)	Retained Catch as % of Total Catch	Retained Catch (MT)	Total Catch (MT)	Retained Catch as % of Total Catch	Retained Catch (MT)	Total Catch (MT)	Retained Catch as % of Total Catch	Retained Catch (MT)	Total Catch (MT)	Retained Catch as % of Total Catch	Retained Catch (MT)	Total Catch (MT)	Retained Catch as % of Total Catch
GROUNDFISH (NOT TARGETED)	940.7	1,983.2	47%	881.1	2,283.9	39%	910.4	1,636.7	56%	750.3	1,902.8	39%	1,168.6	2,174.1	54%
Arrowtooth Flounder	3.8	139.8	3%	39.6	174.9	23%	10.1	64.5	16%	24.8	106.4	23%	128.2	197.0	65%
Atka Mackerel	0.0	3.7	1%	3.3	89.6	4%	154.8	156.4	99%	0.4	3.4	11%	0.1	0.5	21%
BSAI Alaska Plaice	1.6	2.1	77%	4.1	8.1	51%	8.2	12.0	69%	0.8	6.0	13%	49.4	55.6	89%
BSAI Kamchatka Flounder	0.0	5.4	0%	1.1	1.9	57%	1.0	3.3	29%	0.2	5.3	4%	6.4	16.2	39%
BSAI Other Flatfish	0.8	91.0	1%	14.5	134.7	11%	10.1	43.0	23%	13.2	65.7	20%	11.8	138.9	9%
BSAI Rougheye Rockfish	-	-	-	-	-	-	0.0	0.0	86%	0.0	0.1	0%	-	-	-
BSAI Shortraker Rockfish	-	-	-	0.0	0.0	0%	-	-	-	-	-	-	-	-	-
BSAI Skate	27.6	168.3	16%	23.5	237.1	10%	73.0	299.8	24%	124.9	285.3	44%	53.6	237.5	23%
Flathead Sole	9.1	102.2	9%	27.3	124.6	22%	17.1	103.8	17%	43.0	100.5	43%	83.1	148.4	56%
Greenland Turbot	0.0	0.3	0%	0.0	0.1	0%	-	-	-	0.0	3.7	0%	2.0	2.0	99%
Northern Rockfish	0.2	4.7	3%	3.8	7.1	54%	1.7	15.2	11%	1.2	9.9	12%	7.3	26.7	27%
Octopus	3.4	5.6	61%	0.5	0.7	63%	0.1	10.8	1%	0.5	14.2	4%	0.1	0.6	15%
Other Rockfish	0.2	5.7	4%	0.9	4.5	21%	0.4	0.4	100%	0.0	2.0	2%	0.2	8.3	2%
Pacific Ocean Perch	0.1	4.1	3%	4.2	6.5	65%	6.3	7.4	85%	0.2	2.1	10%	0.1	0.9	8%
Pollock	753.5	1,000.7	75%	535.3	854.5	63%	323.9	426.7	76%	389.8	830.0	47%	548.6	796.9	69%
Rock Sole	136.2	441.5	31%	211.6	623.4	34%	268.3	439.5	61%	147.1	450.7	33%	169.2	407.4	42%
Sablefish	0.0	0.1	0%	0.0	0.0	100%	0.0	1.2	2%	0.0	2.8	1%	0.0	1.4	0%
Shark	0.0	0.5	1%	0.0	0.0	100%	0.0	1.2	2%	0.0	0.0	100%	0.0	0.6	1%
Yellowfin Sole	4.2	7.7	55%	11.2	16.0	70%	35.2	51.4	69%	4.0	14.6	28%	108.6	135.3	80%
ECOSYSTEM & NONTARGET OTHER	1.5	359.0	1%	4.0	500.5	1%	3.0	224.6	2%	2.8	294.9	1%	3.1	189.2	2%
INCIDENTAL CATCH SUMMARY	942.2	2,342.2	48%	885.1	2,784.4	40%	913.4	1,861.4	57%	753.1	2,197.7	41%	1,171.8	2,363.3	56%

Source: NMFS Catch Accounting System

Note: Nontarget other and ecosystem components including misc. crabs, bivalves, seastars, jellyfish, squid, and sculpins, etc.

3.3.2. Effects of the Alternatives

In this section, trawl harvest of incidental catch is the primary focus when evaluating the effects of the alternatives. If the Council decides to move forward with Element 14 (Gear Conversion), additional analysis on incidental catch in pot gear would be necessary.

The fish species that are caught incidentally in the Pacific cod fisheries are described in the section above. The target groundfish are assessed annually and are managed using conservative catch quotas. Catch of prohibited species is low for herring and salmon and is constrained for crab and halibut (see Section 1.4 below). Minimal interaction occurs between the Pacific cod fisheries and forage fish or non-specified species.

The Groundfish PSEIS (NOAA 2004a), and the Harvest Specifications Environmental Assessment (NMFS 2005d) both conclude that these species are at sustainable population levels and are unlikely to be subject to overfishing under the current, risk-averse management program. As a result, impacts on these species under Alternative 1 are not significant.

Alternatives 2a and 2b propose a series of options for establishing and managing a limited access privilege program for vessels participating in the BSAI Pacific cod trawl CV sector. Since fishing effort under Alternatives 2a and 2b will remain relatively consistent with current fishing patterns, this action is not likely to substantially alter fishing patterns and the current effects of fishing on incidental catch in the Pacific cod target fishery.

The overall amount of effort in the fisheries will remain the same as under Alternative 1, as the overall Pacific cod TAC is not affected under either alternative. Recent analyses, described above, conclude that species caught incidentally in the Pacific cod fisheries are at sustainable population levels. As a result, the potential allocations are not substantially modified from Alternative 1, and impacts are not expected to be significant.

Shifts in the location or timing of fishing may occur as a result of Alternatives 2a and 2b. However, there is already considerable interannual variability in the patterns of fishing across the BSAI groundfish sectors, as environmental conditions and avoidance of PSC species have caused vessels to adjust their fishing patterns. Any shift in fishing is unlikely to occur outside of the existing footprint of the groundfish fishery in the BSAI. As a result, Alternatives 2a and 2b are not expected to sustainably alter incidental catch in the Pacific cod target fishery, and thus will not result in a significant impact.

Cumulative Effects on Non-Target Species

Neither of the alternatives the Council is considering would substantially change incidental catch for the BSAI Pacific cod trawl CV fishery. Considering the direct and indirect impacts of the proposed action when added to the impacts of past and present actions previously analyzed in other documents that are incorporated by reference and the impacts of the reasonably foreseeable future actions listed above, the cumulative impacts of the proposed action are determined to be not significant.

3.4. Prohibited Species Catch in the Pacific Cod Target Fishery

3.4.1. Status

Incidental catch of prohibited species by the Pacific cod trawl fisheries, halibut and crab, is described in Section 2.7.3.1. There are also various ESA-listed salmon and steelhead that may range into the BSAI groundfish management area. Catch of salmon and herring by the Pacific cod fisheries is very slight, however. Prohibited species catch limits for halibut (HAL and trawl) and crab (trawl) constrain incidental catch, and attainment of these seasonal limits closes the target fisheries. Bycatch in the Pacific cod fishery is accounted for in species stock assessments.

As discussed in Section 2.7.3.1 of this document, Amendment 111 to the BSAI FMP established the current halibut PSC limits in the BSAI groundfish fisheries. Halibut PSC assigned to the trawl limited access sector, which is composed of the trawl CV sector and the AFA C/P sector, is further divided by fishery, with 391 mt (52.5 percent) of the trawl limited access sector allocation designated for use in the BSAI Pacific cod fishery⁹⁷ (see Table 2-70 for complete breakdown of halibut PSC limits for the BSAI trawl limited access sector).

Table 2-71 provides the halibut PSC limit apportioned for the BSAI Pacific cod fishery for all trawl sectors from 2004 through 2007 and to the BSAI Pacific cod fishery for the trawl limited access sector from 2008 through 2019. Table 2-71 also provides reported halibut mortality in the BSAI Pacific cod target fishery for the trawl CV sector and the AFA C/P sector. As seen from Table 2-71, the trawl CV sector accounted for 98 percent of the total halibut mortality utilized by the trawl CV and AFA C/P sectors in the BSAI Pacific cod target fishery from 2004 through 2019, while the AFA C/P sector accounted for 3 percent of the halibut mortality⁹⁸.

For crab PSC, which includes Red king crab (Zone 1), *C. opilio* Bycatch Limitation Zone (COBLZ), and *C. bairdi* (Zone 1 and Zone 2), PSC limits are established for the trawl limited access sector (see Figure 2-6 and Figure 2-7). Like halibut, crab PSC limits are further apportioned by directed fishery. If a specific crab bycatch cap is reached by the trawl limited access sector in any fishery, the vessels subject to that limit would be required to move out of the applicable crab savings area when participating in a fishery subject to that PSC limit.

Section 2.7.3.1 of this document also provides a detailed description of crab PSC in the BSAI Pacific cod trawl fishery. Table 2-72, Table 2-73, Table 2-74, and Table 2-75 provide the crab PSC limit apportioned to the Pacific cod fishery for all trawl sectors from 2004 through 2007 and the trawl limited access sector from 2008 through 2019. These tables also provide reported crab mortality in the BSAI Pacific cod target fishery for the trawl CV sector and the AFA C/P sector. Overall, the combined annual crab mortality for both trawl CV and AFA C/P sectors is significantly lower than the crab PSC limits for the BSAI Pacific cod trawl limited access sector.

3.4.2. Effects of the Alternatives

Prohibited species catch limits for halibut were analyzed in the analysis for Amendment 111 BSAI FMP (NMFS 2016). Further, annual halibut and crab PSC limits are evaluated annually through the Council's harvest specifications process. These analyses concluded that the status quo fishery does not have a significant impact on these species. Further, the Groundfish PSEIS (NOAA 2004), and the Harvest Specifications Environmental Assessment (NMFS 2007) both conclude that these species are at sustainable population levels and are unlikely to be subject to overfishing under the current, risk-averse management program. As a result, impacts on these species under Alternative 1 are not significant.

Alternatives 2a and 2b propose a series of options for establishing and managing a limited access privilege program for vessels participating in the BSAI Pacific cod trawl CV sector. Under Alternative 2a, annual halibut and crab PSC available to the BSAI trawl CV Pacific cod limited access sector will remain the same. Any cooperative that is formed as a result of this action would not receive a specific halibut or crab PSC apportionment. As noted above, annual halibut and crab PSC limits are evaluated annually through the Council's harvest specifications process and are deemed to not have a significant impact on these species. As a result, impacts on these species under Alternative 2a are not significant.

Under Alternative 2b, halibut PSC would be 1) be apportioned based on historic use between the BSAI Pacific cod trawl CV sector and AFA C/P sector based on average annual halibut PSC usage and 2) be reduced by 10% for the BSAI Pacific cod trawl CV sector. Under this alternative, the halibut PSC limit

⁹⁷see Table 2-50 for complete breakdown of halibut PSC limits for the BSAI trawl limited access sector

⁹⁸ The calculated percentages were 97.5 percent CV and 2.5 percent C/P. As a result of rounding to the nearest whole number, the two numbers sum to 101 percent.

would be reduced relative to status quo. The BSAI Pacific cod trawl CV sector and AFA C/P sector have remained within their PSC apportionment during the years that are being considered. As such, the average usage that is calculated for this timeframe will not exceed the current PSC limits for the sector. The choice to reduce the halibut PSC limit for the BSAI Pacific cod trawl CV sector by 10 percent may put increased pressure on vessels operating in the fishery but will likely have a beneficial impact on halibut owing to reduced halibut mortality. As a result, impacts on halibut under Alternative 2b are not expected to be significant.

As has been noted in Section 2.7.3 of this document, some clarification from the Council on how it wishes to address crab PSC limits in this action is needed before a more thorough analysis can be done. In addition, Section 2.7.14 describes PSC issues that may arise depending on how the Council chooses to address trawl to pot gear conversion (Element 14). Section 2.7.14 details these issues and describes the points of clarification needed by the Council before a more thorough analysis on the effects of Element 14 can be done.

However, it should be noted that rationalized fisheries have generally produced less bycatch and take of PSC species when compared to fisheries that are not rationalized. The rationale being that removing the “race to fish” incentive allows vessels flexibility to fish when chances of encounters with PSC species is lower.

Cumulative Effects on PSC

Based on the preceding analysis, the impacts of this proposed action and alternatives, that were analyzed, on all resources are either non-existent or de minimus; therefore there is no need to conduct an additional cumulative impact analysis.

3.5. Marine Mammals

3.5.1. Status

Alaska supports one of the richest assemblages of marine mammals in the world. Twenty-two species are present from the order Carnivora, superfamilies Pinnipedia (seals, sea lions, and walrus), Ursoidea (polar bears), and Musteloidea (sea otters), and from the order Artiodactyla, infraorder Cetacea (whales, dolphins, and porpoises). Some marine mammal species are resident in waters off Alaska throughout the year, while others migrate into or out of Alaska fisheries management areas. Marine mammals occur in diverse habitats, including deep oceanic waters, the continental slope, and the continental shelf, including inshore waters. NMFS maintains management authority for all marine mammal species in Alaska, while the U.S. Fish and Wildlife Service (USFWS) is the designated management authority for northern polar bears, Pacific walrus, and northern sea otter.

The Marine Mammal Protection Act (MMPA), the Endangered Species Act (ESA), and the Fur Seal Act are the relevant statutes for managing marine mammal interactions with human activities, including commercial fishing operations. The MMPA was enacted in 1972 with the ideal of ensuring that marine mammal populations continue to be functioning elements of the ecosystems of which they are a part. One of the incentives for enacting the MMPA was to reduce take of marine mammals incidental to commercial fishing operations. While marine mammals may be lawfully taken incidentally in the course of commercial fishing operations, the 1994 MMPA Amendments established a requirement for commercial fishing operations to reduce incidental mortalities and serious injuries (M/SI) of marine mammals to insignificant levels approaching a zero rate, commonly referred to as the Zero Mortality Rate Goal (ZMRG). ZMRG is considered to be met for a marine mammal stock when the M/SI level from all commercial fisheries is 10 percent or below the Potential Biological Removal level (PBR) of that marine mammal stock (69 FR 43338, July 20, 2004). Likewise, the Endangered Species Act (ESA) was enacted to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve such conservation. In practice, the ESA outlines a program to protect

endangered species on the brink of extinction and threatened species that are likely to be on the brink of extinction in the near future and pursue their recovery. The ESA also requires designation of any habitat of endangered or threatened species, which is then considered to have physical or biological features essential to the conservation of the species and which may require special management considerations or protection.

Under the MMPA a “population stock” is the fundamental unit of legally-mandated conservation and is defined as “a group of marine mammals of the same species or smaller taxa in a common spatial arrangement, which interbreed when mature.” Stocks are identified in a manner consistent with the management goals of the MMPA which include 1) preventing stocks from diminishing such that they cease to be a significant functioning element in the ecosystem of which they are a part or below their optimum sustainable population keeping the carrying capacity of the habitat in mind; and 2) maintaining the health and stability of the marine ecosystem. Therefore, a stock is also recognized as being a management unit that identifies a demographically isolated biological population. While many types of information can be used to identify stocks of a species, it is recognized that some identified stocks may fall short of that threshold due to a lack of information.

Marine mammal Stock Assessment Reports (SARs) are published annually under the authority of the MMPA for all stocks that occur in state and federal waters of the Alaska region [NMFS 2016]. Individual SARs provide information on each stock’s geographic distribution, population estimates, population trends, and estimates of the potential biological removal (PBR) levels for each stock. The SARs identify sources of human-caused mortality, including serious injury and mortality in commercial fishery operations, by fishery, and whether the stock has met ZMRG for all fisheries. The SARs also include the stock’s ESA listing status and MMPA depleted and strategic designations. Strategic stock SARs are updated annually (Steller sea lions, northern fur seals, bearded seals, ringed seals, Cook Inlet beluga whales, AT1 Transient killer whales, harbor porpoise, sperm whales, humpback whales, fin whales, North Pacific right whales, and bowhead whales). SARs for non-strategic stocks are updated every three years or when significant new information is available.

Under the ESA species, subspecies, and distinct population segments (DPS) are eligible for listing as a threatened or endangered species. The ESA defines a species as “any subspecies of fish or wildlife or plants, and any DPS of any species of vertebrate fish or wildlife which interbreeds when mature.” The joint USFWS /NMFS DPS policy (61 FR 4722; February 7, 1996) establishes two criteria that must be met for a population or group of populations to be considered a DPS: (1) The population segment must be discrete in relation to the remainder of the species (or subspecies) to which it belongs; and (2) the population segment must be significant to the remainder of the species (or subspecies) to which it belongs.

A population segment of a vertebrate species may be considered discrete if it satisfies either one of the following conditions: 1) it is markedly separated from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors; or 2) it is delimited by international governmental boundaries within which differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist that are significant in light of section 4(a)(1)(D) of the ESA. Significance determinations are made using available scientific evidence of the population’s biological and ecological importance to the taxon to which it belongs. This may include, but is not limited to, one or more of the following: 1) Persistence of the discrete population segment in an ecological setting unusual or unique for the taxon; 2) evidence that loss of the discrete population segment would result in a significant gap in the range of the taxon; 3) evidence that the discrete population segment represents the only surviving natural occurrence of a taxon that may be more abundant elsewhere as an introduced population outside its historic range; or 4) evidence that the discrete population segment differs markedly from other populations of the species in its genetic characteristics. It is important to note that the MMPA stock designations and ESA DPS designations for a given species do not necessarily overlap due to differences in the defining criteria for each.

Marine mammals have been given various levels of protection under the current fishery management plans of the Council, and several species are the subjects of continuing research and monitoring to further define the nature and extent of fishery impacts on them. A number of conservation concerns and/or management determinations may be related to marine mammals and the potential impacts of fishing. For individual species, these concerns or determinations may include—

- Protection under the ESA:
 - listed as endangered or threatened
 - placed on NMFS' list of "species of concern" or designated as a "candidate species" for ESA listings;
- Protection under the MMPA:
 - designated as depleted or strategic;
 - focus of a Take Reduction Plan;
- Other:
 - declining or depressed populations in a manner of concern to State or Federal agencies;
 - large bycatch or other mortality related to fishing activities; or
 - vulnerability to direct or indirect adverse effects from some fishing activities.

The Alaska Groundfish Fisheries Programmatic Supplemental Environmental Impact Statement (PSEIS) (NMFS 2004) provides descriptions of the range, habitat, and diet for marine mammals found in waters off Alaska. The 2015 PSEIS Supplemental Information Report (NMFS 2015) provides updates on changes to marine mammal stock or species-related management and status, as well as new information regarding impacts on marine mammal stocks and new methods to assess impacts. The information from the PSEIS and the SARs is incorporated by reference.

Marine mammal stocks, including those currently listed as endangered or threatened under the ESA or depleted or strategic under the MMPA that may be present in the action area are listed Table 3-5. ESA section 7 formal and informal consultations with respect to the actions of the Federal groundfish fisheries have been completed for all of the ESA-listed species, either individually or in groups (NMFS 2010 and NMFS 2014a). Of the species listed under the ESA or stocks designated as depleted or strategic under the MMPA and present in the action area, several species may be more vulnerable than others to being adversely affected by commercial groundfish fishing. These include Steller sea lions, bearded seals, humpback whales, fin whales, and sperm whales. Stocks designated as depleted or strategic under the MMPA, but not listed as threatened or endangered under the ESA, that may be vulnerable to being adversely affected by commercial groundfish fishing include northern fur seals and harbor porpoise.

The Alaska Groundfish Harvest Specifications EIS provides information on the effects of the groundfish fisheries on marine mammals (NMFS 2007) and has been updated with Supplemental Information Reports (SIRs) (NMFS 2015). These documents are also incorporated by reference. Direct and indirect interactions between marine mammals and groundfish fishing vessels may occur due to overlap in the size and species of groundfish harvested in the fisheries that are also important marine mammal prey, and due to temporal and spatial overlap in marine mammal occurrence and commercial fishing activities. This discussion focuses on those marine mammals that may interact with or be affected by the BSAI groundfish fisheries (Table 3-6 and Table 3-7).

Table 3-5 Marine mammals known to occur in the Bering Sea and Aleutian Islands

Infraorder or Superfamily	Species	MMPA Stock	ESA or MMPA Status	ZMRG Status (all fisheries)
Pinnipedia	Steller sea lion (<i>Eumatopias jubatus</i>)	Western U.S	Endangered, Depleted, Strategic	Not Met
	Northern fur seal (<i>Callorhinus ursinus</i>)	Eastern Pacific	Depleted, Strategic	Met
	Harbor seal (<i>Phoca vitulina</i>)	Pribilof Islands	None	Unknown**
		Bristol Bay	None	Unknown**
	Ribbon seal (<i>Phoca fasciata</i>)	Alaska	None	Met
	Bearded seal (<i>Erignathus barbatus nauticus</i>)	Alaska	Threatened, depleted, strategic©	Unknown*
	Spotted seal (<i>Phoca largha</i>)	Alaska	None#	Met
	Ringed seal (<i>Phoca hispida</i>)	Alaska	None¥	Unknown*
	Pacific Walrus (<i>Odobenus rosmarus divergens</i>)	Alaska	Strategic§	Met
Cetacea	Killer whale (<i>Orcinus orca</i>)	Eastern North Pacific Alaska Resident	None	Met
		Eastern North Pacific GOA, Aleutian Islands, and Bering Sea transient	None	Met
		Offshore***	None	Unknown*
	Pacific White-sided dolphin (<i>Lagenorhynchus obliquidens</i>)	North Pacific	None	Unknown*
	Harbor porpoise (<i>Phocoena phocaena</i>)	Bering Sea	Strategic	Unknown*
	Dall's porpoise (<i>Phocoenoides dalli</i>)	Alaska	None	Unknown*
	Beluga whale (<i>Delphinapterus leucas</i>)	Beaufort Sea	None	Met
		Eastern Chukchi Sea	None	Met
		Eastern Bering Sea	None	Unknown*
		Bristol Bay		Unknown**
	Baird's beaked whale (<i>Berardius bairdii</i>)	Alaska	None	Unknown*
	Cuvier's beaked whale (<i>Ziphius cavirostris</i>)	Alaska	None	Unknown*
	Stejneger's beaked whale (<i>Mesoplodon stejnegeri</i>)	Alaska	None	Unknown*
	Sperm whale (<i>Physeter macrocephalus</i>)	North Pacific	Endangered, Depleted, Strategic	Unknown*
	Bowhead whale (<i>Balaena mysticetus</i>)	Western Arctic (Also known as Bering-Chukchi-Beaufort stock)	Endangered, Depleted, Strategic	Met
	Humpback whale (<i>Megaptera novaeangliae</i>) †	Western North Pacific‡	Endangered, Depleted, Strategic	Not Met
		Central North Pacific ††	Threatened, Depleted, Strategic‡‡	Not Met
Fin whale (<i>Balaenoptera physalus</i>)	Northeast Pacific	Endangered, Depleted, Strategic	Unknown*	
Minke whale (<i>Balaenoptera acutorostrata</i>)	Alaska	None	Unknown*	
North Pacific right whale (<i>Eubalaena japonica</i>)	Eastern North Pacific	Endangered, Depleted, Strategic	Met****	
Blue whale (<i>Balaenoptera musculus</i>)	Eastern North Pacific***	Endangered, Depleted, Strategic	Met	
	Sei whale (<i>Balaenoptera borealis</i>)	Eastern North Pacific***	Endangered, Depleted, Strategic	Met
Mustelidae	Northern sea otter (<i>Enhydra lutris</i>)	Southwest Alaska	Threatened, Depleted, Strategic	Met
Ursidae	Polar Bear (<i>Ursus maritimus</i>)	Chukchi/Bering Sea	Threatened, Depleted, Strategic	Met

Sources: Muto et al 2019; List of Fisheries for 2020 (April 16, 2020 85 FR 21079)

* Unknown due to unknown abundance estimate and PBR.

** Unknown due to inadequate observer coverage or unreliable SI/M estimate.

*** This stock is found in the Pacific, rather than in the Alaska, SAR.

**** The PBR for the North Pacific right whale is calculated, but considered unreliable. However, there are no known fishery-related SI/M.

† On September 8, 2016, NMFS published a final decision revising the status of humpback whales under the ESA (81 FR 62259), effective October 11, 2016. In the 2016 decision, NMFS recognized the existence of 14 DPSs, classified several as endangered and one as threatened, and determined that the remaining DPSs do not warrant protection under the ESA. Three DPSs of humpback whales occur in waters off the coast of Alaska: the Asia/2nd Western North Pacific (WNP) DPS, which is endangered, the Mexico DPS, which is threatened, and the Hawaii DPS, which is not protected under the ESA. Whales from these three DPSs overlap to some extent on feeding grounds off Alaska. As of October 2016, the MMPA stock designations of humpback whales found in Alaska have not been updated to reflect the newly-designated DPSs.

‡ Corresponds to the new Asia/ 2nd WDPS (endangered).

†† Includes the new Mexico (threatened) and Hawaii DPSs (not protected under the ESA).

Spotted seals: Three DPSs are identified, but only the Bering DPS occurs in US waters. Therefore, the Alaska stock identified under the MMPA SAR consists entirely of the Bering DPS.

© Bearded seals: Two DPSs are identified for this subspecies, but only the Beringia DPS occurs in US waters. Therefore, the Alaska stock identified under the MMPA SAR consists entirely of the Beringia DPS. The Beringia DPS was listed as threatened under the ESA in December 2012. In July 2014 the U.S. District Court vacated the listing. In October 2016 the US Court of Appeals for the 9th Circuit reversed the July 2014 decision returning the Beringia DPS to a threatened status under the ESA.

¥ Ringed seals were listed as threatened under the ESA in December 2012. In March 2016 the U.S. District Court vacated the listing. In May 2016 NMFS appealed the March 2016 decision.

§ Walrus – A petition to list walrus under the ESA was determined to be warranted, but precluded by higher priorities (76 FR 7634, February 10, 2011). The USFWS is under court order to make a decision on the listing in 2017.

Table 3-6 Status of Pinnipedia and Carnivora stocks potentially affected by the action

Pinnipedia and Carnivora species and stock	Status under the ESA	Status under the MMPA	Population trends	Distribution in action area
Steller sea lion –Western (W) and Eastern (E) Distinct Population Segment (DPS)	Endangered (W)	Depleted & a strategic stock	For the WDPS, regional increases in counts in trend sites of some areas have been offset by decreased counts in other areas so that the overall population of the WDPS appears to have stabilized (NMFS 2010a). The EDPS is steadily increasing and is delisted.	WDPS inhabits Alaska waters from Prince William Sound westward to the end of the Aleutian Island chain and into Russian waters. EDPS inhabit waters east of Prince William Sound to Dixon Entrance. Occur throughout AK waters, terrestrial haulouts and rookeries on Pribilof Islands, Aleutian Islands, St. Lawrence Island, and off the mainland. Use marine areas for foraging. Critical habitat designated around major rookeries, haulouts, and foraging areas.
Northern fur seal Eastern Pacific	None	Depleted & a strategic stock	Recent pup counts show a continuing decline in the number of pups surviving in the Pribilof Islands. NMFS researchers found an approximately 9% decrease in the number of pups born between 2004 and 2006. The pup estimate decreased most sharply on St. Paul Island.	Fur seals occur throughout Alaska waters, but their main rookeries are located in the Bering Sea on Bogoslof Island and the Pribilof Islands. Approximately 55% of the worldwide abundance of fur seals is found on the Pribilof Islands (NMFS 2007b). Forages in the pelagic area of the Bering Sea during summer breeding season, but most leave the Bering Sea in the fall to spend winter and spring in the N. Pacific.
Harbor seal – Gulf of Alaska	None	None	A moderate to large population decline has occurred in the GOA stock.	GOA stock found primarily in the coastal waters and may cross over into the Bering Sea coastal waters between islands.
Ribbon seal Alaska	None*	None	Reliable data on population trends are unavailable.	Widely dispersed throughout the Bering Sea and Aleutian Islands in the summer and fall. Associated with ice in spring and winter and may be associated with ice in summer and fall. Occasional movement into the GOA (Boveng et al. 2008)
Northern sea otters – SW Alaska	Threatened**	Depleted & a strategic stock	The overall population trend for the southwest Alaska stock is believed to be increasing, with except for along the western Alaska Peninsula and the Aleutian Islands.	Coastal waters from Central GOA to W Aleutians within the 40 m depth contour. Critical habitat designated in primarily nearshore waters with few locations into federal waters in the GOA.

Sources: Allen and Angliss 2014; List of Fisheries for 2020 (April 16, 2020 85 FR 21079). Northern fur seal pup data available from [https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-species-stock#pinnipeds--otariids-\(eared-seals-or-fur-seals-and-sea-lions\)](https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-species-stock#pinnipeds--otariids-(eared-seals-or-fur-seals-and-sea-lions)).

*NMFS determined that ribbon seals were not to be listed on September 23, 2008. The Center for Biological Diversity and Greenpeace filed suit against NMFS regarding this decision on September 3, 2009.

**Northern sea otter information from <https://www.fws.gov/ecological-services/es-library/pdfs/Northern-Sea-Otter-SWAK-Final-SAR.pdf> and 74 FR 51988, October 8, 2009.

Table 3-7 Status of Cetacea stocks potentially affected by the action

Cetacea species/stock	Status under the ESA	Status under the MMPA	Population trends	Distribution in action area
Killer whale – AT1 Transient, E N Pacific transient, W Coast transient, AK resident, Southern resident	Southern resident endangered; remaining stocks none	AT1 depleted and a strategic stock, Southern Resident depleted. The rest of the stocks: None	Southern residents have declined by more than half since 1960s and 1970s. Unknown abundance for the Alaska resident; and Eastern North Pacific GOA, Aleutian Islands, and Bering Sea transient stocks. The minimum abundance estimate for the Eastern North Pacific Alaska Resident stock is likely underestimated because researchers continue to encounter new whales in the Alaskan waters.	Southern resident do not occur in GOA. Transient-type killer whales from the GOA, Aleutian Islands, and Bering Sea are considered to be part of a single population.
Dall's porpoise Alaska	None	None	Reliable data on population trends are unavailable.	Found in the offshore waters from coastal Western Alaska throughout the GOA.
Pacific white-sided dolphin	None	None	Reliable data on population trends are unavailable.	Found throughout the GOA.
Harbor porpoise GOA	None	Strategic	Reliable data on population trends are unavailable.	Primarily in coastal waters in the GOA, usually less than 100 m.
Humpback whale – Western and Central North Pacific	Endangered and under status review	Depleted & a strategic stock	Increasing. The Structure of Populations, Levels of Abundance, and Status of Humpbacks (SPLASH) abundance estimate for the North Pacific represents an annual increase of 4.9% since 1991–1993. SPLASH abundance estimates for Hawaii show annual increases of 5.5% to 6.0% since 1991–1993 (Calambokidis et al. 2008).	W. Pacific and C. North Pacific stocks occur in GOA waters and may mingle in the North Pacific feeding area.
North Pacific right whale Eastern North Pacific	Endangered	Depleted & a strategic stock	This stock is considered to represent only a small fraction of its precommercial whaling abundance and is arguably the most endangered stock of large whales in the world. A reliable estimate of trend in abundance is currently not available.	Before commercial whaling on right whales, concentrations were found in the GOA, eastern Aleutian Islands, southcentral Bering Sea, Sea of Okhotsk, and Sea of Japan (Braham and Rice 1984). During 1965–1999, following large illegal catches by the U.S.S.R., there were only 82 sightings of right whales in the entire eastern North Pacific, with the majority of these occurring in the Bering Sea and adjacent areas of the Aleutian Islands (Brownell et al. 2001). Critical habitat near Kodiak Island in the GOA
Fin whale Northeast Pacific	Endangered	Depleted & a strategic stock	Abundance may be increasing but surveys only provide abundance information for portions of the stock in the Central-eastern and southeastern Bering and coastal waters of the Aleutian Islands and the Alaska Peninsula. Much of the North Pacific range has not been surveyed.	Found in the GOA, Bering Sea and coastal waters of the Aleutian Islands.
Beluga whale-Cook Inlet	Endangered	Depleted & a strategic stock	2008 abundance estimate of 375 whales is unchanged from 2007. Trend from 1999 to 2008 is not significantly different from zero.	Occurrence only in Cook Inlet.
Minke whale Alaska	None	None	There are no data on trends in Minke whale abundance in Alaska waters.	Common in the Bering and Chukchi Seas and in the inshore waters of the GOA. Not common in the Aleutian Islands.
Sperm whale North Pacific	Endangered	Depleted & a strategic stock	Abundance and population trends in Alaska waters are unknown.	Inhabit waters 600 m or more depth, south of 62°N lat. Widely distributed in North Pacific. Found year-round In GOA.
Baird's, Cuvier's, and Stejneger's beaked whale	None	None	Reliable data on population trends are unavailable.	Occur throughout the GOA.

Sources: Allen and Angliss 2014; List of Fisheries for 2020 (April 16, 2020 85 FR 21079); <http://www.nmfs.noaa.gov/pr/species/mammals/cetaceans/spermwhale.htm>. North Pacific right whale included based on NMFS (2006a) and Salvason (2008). AT1 Killer Whales information based on 69 FR 31321, June 3, 2004. North Pacific Right Whale critical habitat information: 73 FR 19000, April 8, 2008. For beluga whales: 73 FR 62919, October 27, 2008.

3.5.2. Effects on Marine Mammals

Incidental Take

Marine mammals can be taken in groundfish fisheries by entanglement in gear (e.g., trawl, longline, and pot) and, rarely, by ship strikes for some cetaceans. The effects of the status quo fisheries on incidental takes of marine mammals are detailed in the 2007 harvest specifications EIS (NMFS 2007) and Allen et al. (2014). The annual Stock Assessment Report lists the species of marine mammals taken in the BSAI groundfish fisheries using observer data (Allen et al. 2014). In addition, the List of Fisheries for 2020 (85 FR 21079, April 16, 2020), describes known incidental takes of marine mammals in the groundfish fisheries. The BSAI Pacific cod trawl fisheries are listed as Tier II, Category III fisheries, based on the criterion that each fishery interacts with marine mammal stocks with annual mortality and serious injury less than or equal to 1 percent of the marine mammal's potential biological removal (PBR) level. Based on the annual stock assessment reports, the potential take of marine mammals in the BSAI Pacific cod trawl fisheries is well below the PBRs or a very small portion of the overall human caused mortality for those species for which a PBR has not been determined (Allen and Angliss 2014). Therefore, the incidental takes under Alternative 1 have an insignificant effect on marine mammals.

Alternatives 2a and 2b propose a series of options for establishing and managing a limited access privilege program for vessels participating in the BSAI Pacific cod trawl CV sector. Element 14 (gear conversion) under Alternative 2b would allow BSAI Pacific cod trawl CV sector with BSAI Pacific cod QS to fish with pot gear. As noted above, marine mammals may become entangled or caught on pot gear. If this provision results in an increase use of pot gear, that may increase the likelihood of gear interactions with marine mammals. However, as described in Section 2.7.14, there are a number of issues outside of potential impacts on marine mammals that may arise depending on how the Council chooses to address trawl to pot gear conversion. Section 2.7.14 details these issues and describes the points of clarification needed by the Council before a more thorough analysis can be done. A complete assessment of the potential impacts on incidental take of marine mammals cannot be completed without a better understanding of how the Council chooses to structure the gear conversion provision.

Alternative 2a does not include a provision to allow Pacific QS to be fished with pot gear. Since fishing effort under Alternatives 2a will remain relatively consistent with current fishing patterns, this action is not likely to substantially alter the current patterns of marine mammal incidental take.

The overall amount of effort in the fisheries will remain the same as under Alternative 1, as the overall Pacific cod TAC is not affected under either alternative. Shifts in the location or timing of fishing may occur as a result of Alternatives 2a and 2b. However, there is already considerable interannual variability in the patterns of fishing across the BSAI groundfish sectors, as environmental conditions and avoidance of PSC species have caused vessels to adjust their fishing patterns. Any shift in fishing is unlikely to occur outside of the existing footprint of the groundfish fishery in the BSAI.

The potential for incidental take of marine mammals may change from status quo and will be dependent on the options selected by the Council (e.g. gear conversion). However, the fisheries are unlikely to increase their take of marine mammals above the PBR, because they are currently well below that level in BSAI groundfish fisheries, and no options under Alternative 2a and 2b are expected to result in significant increases in total fishing effort in the BSAI Pacific cod trawl CV fishery. Therefore, the incidental takes under Alternatives 2a and 2b would not have a significant effect on marine mammals.

A formal analysis to assess or predict how the proposed alternatives would impact the incidental take of marine mammals was not attempted given the lack of available information at the time of this initial review.

Prey Availability Effects

Harvests of marine mammal prey species in the BSAI groundfish fisheries may limit foraging success through localized depletion, overall reduction in prey biomass, and dispersion of prey, making it more

energetically costly for foraging marine mammals to obtain necessary prey. Overall reduction in prey biomass may be caused by removal of prey or disturbance of prey habitat. The timing and location of fisheries relative to foraging patterns of marine mammals and the abundance of prey species may be a more relevant management concern than total prey removals.

The interaction of the BSAI groundfish fisheries, including the Pacific cod trawl CV fishery, with Steller sea lions, which potentially compete for prey, is comprehensively addressed in the Final Environmental Impact Statement for Steller Sea Lion Protection Measures for Groundfish Fisheries in the Bering Sea and Aleutian Islands Management Area (2014 Steller Sea Lion Protection Measures FEIS; NMFS 2014b.). The BSAI groundfish fisheries may impact availability of key prey species of Steller sea lions, harbor seals, northern fur seals, ribbon seals; and fin, minke, humpback, beluga, and resident killer whales. Animals with more varied diets (humpback whales) are less likely to be impacted than those that eat primarily pollock and salmon, such as northern fur seals. Table 3-8 shows the BSAI marine mammal species and their prey species that may be impacted by BSAI groundfish fisheries.

Table 3-8 Prey species used by BSAI marine mammals that may be impacted by the BSAI groundfish fisheries

Species	Prey
Fin whale	Zooplankton, squid, fish (herring, cod, capelin, and pollock), and cephalopods
Humpback whale	Zooplankton, schooling fish (pollock, herring, capelin, saffron, cod, sand lance, Arctic cod, and salmon)
Beluga whale	Wide variety of invertebrates and fish including salmon and pollock
Killer whale	Marine mammals (transients) and fish (residents) including herring, halibut, salmon, and cod.
Ribbon seal	Cod, pollock, capelin, eelpout, sculpin, flatfish, crustaceans, and cephalopods.
Harbor seal	Crustaceans, squid, fish (including salmon), and mollusks
Steller sea lion	Pollock, Atka mackerel, Pacific herring, Capelin, Pacific sand lance, Pacific cod, and salmon

Several marine mammals may be impacted indirectly by any effects that fishing gear may have on benthic habitat. Table 3-9 lists marine mammals that may depend on benthic prey and known depths of diving. Diving activity may be associated with foraging. The essential fish habitat (EFH) EIS provides a description of the effects of groundfish fishing on benthic habitat (NMFS 2005). In the BSAI, estimated reductions of epifaunal and infaunal prey due to fishing are less than 1 percent for all substrate types. For living structure, overall impacts ranged between 3 percent and 7 percent depending on the substrate. In some local areas where pollock aggregate, effects are greater.

Sperm whales are not likely to be affected by any potential impacts on benthic habitat from fishing because they generally occur in deeper waters than where the groundfish fishery is conducted (Table 3-9). Harbor seals and sea otters are also not likely to have any benthic habitat affected by the groundfish fishery because they occur primarily along the coast where fishing is not conducted. Cook Inlet beluga whales also are not likely to have benthic habitat supporting prey species affected by the groundfish fishery because they do not range outside of Cook Inlet and do not overlap spatially with the trawl fisheries.

Table 3-9 Benthic dependent BSAI marine mammals, foraging locations, and diving depths

Species	Depth of diving and location
Ribbon seal	Mostly dive < 150 m on shelf, deeper off shore. Primarily in shelf and slope areas.
Harbor seal	Up to 183 m. Generally coastal.
Sperm whale	Up to 1,000 m, but generally in waters > 600 m.
Northern sea otter	Rocky nearshore < 75 m
Gray whale	Benthic invertebrates

Sources: Allen and Angliss 2010; Burns et al. 1981; <http://www.adfg.state.ak.us/pubs/notebook/marine/rib-seal.php>; http://www.afsc.noaa.gov/nmml/species/species_ribbon.php; <http://www.adfg.state.ak.us/pubs/notebook/marine/harseal.php>; <http://www.nmfs.noaa.gov/pr/species/mammals/cetaceans/spermwhale.htm>

The Harvest Specifications EIS determined that competition for key prey species under the status quo fishery is not likely to constrain the foraging success of marine mammals or cause population declines (NMFS 2007). The 2014 Steller Sea Lion Protection Measures FEIS (NMFS 2014b) provided an updated review of BSAI groundfish fishery interactions with respect to prey availability. Based on a review of marine mammal diets, and an evaluation of the status quo harvests of potential prey species in the BSAI groundfish fishery, the effects of Alternative 1 on prey availability for marine mammals are not likely to cause population level effects.

The overall amount of effort in the fisheries will remain the same as under Alternative 1, as the overall Pacific cod TAC is not affected under either alternative. Shifts in the location or timing of fishing may occur as a result of Alternatives 2a and 2b. In addition, a separate analysis would be required if the Council choose to modify the seasonal harvest percentages for the BSAI Pacific cod trawl CV sector. Currently, the proposed action for the PCTC Program would leave in place the existing trawl CV seasonal limits, which are 74 percent for the A-season, 11 percent for the B-season, and 15 percent for the C-season. Any adjustments to these percentage amounts via this proposed action or a trailing amendment would require consideration of SSL protection measures. Table 5 to 50 CFR §679 outlines SSL protection areas in the Pacific cod fishery. Any change to the season dates or percentages would require consultation under section 7 of the Endangered Species Act (ESA) (see Section 2.7.2.4 for further details concerning impacts to SSL from changes in season percentages).

Notwithstanding a decision to modify the current seasonal harvest percentages, this action is unlikely to result in significant impacts on prey availability for marine mammals. There is already considerable interannual variability in the patterns of fishing across the BSAI groundfish sectors, as environmental conditions and avoidance of PSC species have caused vessels to adjust their fishing patterns. Any spatial or temporal shift in fishing is unlikely to occur outside of the existing spatial or temporal footprint of the trawl CV sector as none of the proposed alternatives alter the number of fishery participants or propose changing the location or timing of the fishery. Therefore, it is unlikely that Alternatives 2a or 2b would introduce a shift in fishing patterns to such an extent that it would constrain the availability of prey to marine mammals in such a way as to cause a population-level decline or impede recovery for more vulnerable populations. Any shift in fishing is unlikely to occur outside of the existing footprint of the groundfish fishery in the BSAI.

Disturbance Effects

The Harvest Specifications EIS contains a detailed description of the disturbance of marine mammals by the groundfish fisheries (NMFS 2007). The interaction of the BSAI groundfish fisheries, including the Pacific cod trawl CV sector, with Steller sea lions, which potentially compete for prey, is comprehensively addressed in the Steller Sea Lion Protection Measures EIS (NMFS 2014b). The EISs concluded that the status quo fishery does not cause disturbance to marine mammals at a level that may cause population level effects. Fishery closures limit the potential interaction between fishing vessels and marine mammals (e.g., 3-nm no groundfish fishing areas around Steller sea lion rookeries and walrus protection areas). Because disturbances to marine mammals under the status quo fishery are not likely to cause population level effects, the impacts of Alternative 1 are not significant.

The effects of the proposed establishment of a limited access privilege program for vessels participating in the BSAI Pacific cod trawl CV sector under Alternative 2a and Alternative 2b on disturbance of marine mammals would be similar to the effects on incidental takes. Since fishing effort under Alternatives 2a and 2b will remain relatively consistent with current fishing patterns, this action is not likely to result in increased disturbance of marine mammals. None of the disturbance effects on other marine mammals under Alternative 2a or Alternative 2b are expected to result in population level effects on marine mammals. Disturbance effects are likely to be localized and limited to a small portion of any particular marine mammal population. The potential disturbances to marine mammals under Alternatives 2a and 2b are not likely to result in population level effects.

Cumulative Effects on Marine Mammals

Based on the preceding analysis, the impacts of this proposed action and alternatives on marine mammals are either non-existent or *de minimus*; therefore, there is no need to conduct an additional cumulative impact analysis.

3.6. NEPA Summary

To be completed when the Council determines its Preliminary Preferred Alternatives.

One of the purposes of an environmental assessment is to provide the evidence and analysis necessary to decide whether an agency must prepare an environmental impact statement (EIS). The Finding of No Significant Impact (FONSI) is the decision maker's determination that the action will not result in significant impacts to the human environment, and therefore, further analysis in an EIS is not needed. The Council on Environmental Quality regulations at 40 CFR 1508.27 state that the significance of an action should be analyzed both in terms of "context" and "intensity." An action must be evaluated at different spatial scales and settings to determine the context of the action. Intensity is evaluated with respect to the nature of impacts and the resources or environmental components affected by the action. These factors form the basis of the analysis presented in this Environmental Assessment/Regulatory Impact Review. The results of that analysis are summarized here for those criteria.

4. Magnuson-Stevens Act and FMP Considerations

This section will be completed when the Council determines its Preliminary Preferred Alternatives.

4.1. 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.

4.2. Section 303(a)(9) Fisheries Impact Statement

This section will be completed when the Council determines its Preliminary Preferred Alternatives.

Section 303(a)(9) of the Magnuson-Stevens Act requires that a fishery impact statement be prepared for each FMP or 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 EA/RIR 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. The effects on participants in the fisheries and fishing communities are analyzed in the RIR chapter of the analysis (Section 2). The effects of the proposed action on safety of human life at sea are evaluated in Section 2.8.7), and above under National Standard 10, in Section 4. 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 groundfish 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.

4.3. Council's Ecosystem Vision Statement

This section will be completed when the Council determines its Preliminary Preferred Alternative.

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.

5. Preparers and Persons Consulted

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Dustan Dickerson, D&G Fishing
Rachel Donkersloot, Coastal Cultures Consulting
Mark Fina, US Seafoods,
John Gruver, UCB
Trent Hartill, American Seafoods
Nicole Kimball, PSPA
Steve Minor, ACDC
Stefanie Moreland, Trident Seafoods

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7. Appendices

7.1. MRA Tables

Table 7-1 Table 10 to 50 CFR §679—Gulf of Alaska Retainable Percentages

BASIS SPECIES		INCIDENTAL CATCH SPECIES (for DSR caught on catcher vessels in the SEO, see §679.20 (j) ⁶)																
Code	Species	Pollock	Pacific cod	DW Flat (2)	Rex sole	Flathead sole	SW Flat (3)	Arrow-tooth	Sablefish	Aggregated rockfish ⁽⁷⁾	SR/RE ERA (1)	DSR SEO (C/Ps only) ⁽⁵⁾	Atka mackerel	Aggregated forage fish ⁽⁹⁾	Skates (10)	Other species (6)	Grenadiers (12)	Squids
110	Pacific cod	20	n/a ⁽⁹⁾	20	20	20	20	35	1	5	(1)	10	20	2	5	20	8	20
121	Arrowtooth	5	5	20	20	20	20	n/a	1	5	0	0	20	2	5	20	8	20
122	Flathead sole	20	20	20	20	n/a	20	35	7	15	7	1	20	2	5	20	8	20
125	Rex sole	20	20	20	n/a	20	20	35	7	15	7	1	20	2	5	20	8	20
136	Northern rockfish	20	20	20	20	20	20	35	7	15	7	1	20	2	5	20	8	20
141	Pacific ocean perch	20	20	20	20	20	20	35	7	15	7	1	20	2	5	20	8	20
143	Thornyhead	20	20	20	20	20	20	35	7	15	7	1	20	2	5	20	8	20
152/ 151	Shortraker/ rougheye (1)	20	20	20	20	20	20	35	7	15	n/a	1	20	2	5	20	8	20
193	Atka mackerel	20	20	20	20	20	20	35	1	5	(1)	10	n/a	2	5	20	8	20
270	Pollock	n/a	20	20	20	20	20	35	1	5	(1)	10	20	2	5	20	8	20
710	Sablefish	20	20	20	20	20	20	35	n/a	15	7	1	20	2	5	20	8	20
	Flatfish, deep-water ⁽²⁾	20	20	n/a	20	20	20	35	7	15	7	1	20	2	5	20	8	20
	Flatfish, shallow-water ⁽³⁾	20	20	20	20	20	n/a	35	1	5	(1)	10	20	2	5	20	8	20
	Rockfish, other (4)	20	20	20	20	20	20	35	7	15	7	1	20	2	5	20	8	20
172	Dusky rockfish	20	20	20	20	20	20	35	7	15	7	1	20	2	5	20	8	20
	Rockfish, DSR-SEO (5)	20	20	20	20	20	20	35	7	15	7	n/a	20	2	5	20	8	20
	Skates ⁽¹⁰⁾	20	20	20	20	20	20	35	1	5	(1)	10	20	2	n/a	20	8	20
	Other species (6)	20	20	20	20	20	20	35	1	5	(1)	10	20	2	5	n/a	8	20
	Aggregated amount of non-groundfish species ⁽¹¹⁾	20	20	20	20	20	20	35	1	5	(1)	10	20	2	5	20	8	20

Notes to Table 10 to 50 CFR §679	
1	Shortraker/rougheye rockfish
	SR/RE <i>Sebastes borealis</i> (shortraker) (152)
	<i>S. aleutianus</i> (rougheye) (151)
	SR/RE ERA Shortraker/rougheye rockfish in the Eastern Regulatory Area (ERA).
	Where an MRA is not indicated, use the MRA for SR/RE included under Aggregated Rockfish
	Catcher vessels using hook-and-line, pot, or jig gear are required to retain all rockfish. See 50 CFR §679.20(j).
2	Deep-water flatfish Dover sole (124), Greenland turbot (134), Kamchatka flounder (117), and deep-sea sole
3	Shallow-water flatfish Flatfish not including deep-water flatfish, flathead sole (122), rex sole (125), or arrowtooth flounder (121)
4	Other rockfish
	Western Regulatory Area
	Central Regulatory Area
	West Yakutat District
	Southeast Outside District
	means other rockfish and demersal shelf rockfish
	means other rockfish

		Other rockfish	
		<i>S. aurora</i> (aurora) (185)	<i>S. variegates</i> (harlequin)(176)
		<i>S. melanostomus</i> (blackgill)(177)	<i>S. wilsoni</i> (pygmy)(179)
		<i>S. paucispinis</i> (bocaccio)(137)	<i>S. babcocki</i> (redbanded)(153)
		<i>S. goodei</i> (chillipepper)(178)	<i>S. proriger</i> (redstripe)(158)
		<i>S. crameri</i> (darkblotch)(159)	<i>S. zacentrus</i> (sharpchin)(166)
		<i>S. elongatus</i> (greenstriped)(135)	<i>S. jordani</i> (shortbelly)(181)
		<i>S. entomelas</i> (widow)(156)	<i>S. flavidus</i> (yellowtail)(155)
		In the Eastern Regulatory Area only, Other rockfish also includes <i>S. polypsinis</i> (northern)(136)	
5	Demersal shelf rockfish (DSR)	<i>S. pinniger</i> (canary)(146)	<i>S. maliger</i> (quillback)(147)
		<i>S. nebulosus</i> (china)(149)	<i>S. helvomaculatus</i> (rosethorn)(150)
		<i>S. caurinus</i> (copper)(138)	<i>S. nigrocinctus</i> (tiger)(148)
		DSR-SEO = Demersal shelf rockfish in the Southeast Outside District (SEO). Catcher vessels in the SEO have full retention of DSR (see 50 CFR §679.20(j)).	
6	Other species	Sculpins (160)	Octopuses (870)
			Sharks (689)
7	Aggregated rockfish	Aggregated rockfish (see 50 CFR §679.2) means any species of the genera <i>Sebastes</i> or <i>Sebastolobus</i> except <i>Sebastes ciliates</i> (dark rockfish), <i>Sebastes melanops</i> (black rockfish), and <i>Sebastes mystinus</i> (blue rockfish), except in:	
		Southeast Outside District	where DSR is a separate species group for those species marked with an MRA
		Eastern Regulatory Area	where SR/RE is a separate species group for those species marked with an MRA
		Catcher vessels using hook-and-line, pot, or jig gear are required to retain all rockfish. See 50 CFR §679.20(j).	
8	n/a	Not applicable	
Notes to Table 10 to 50 CFR §679			
9	Aggregated forage fish (all species of the following taxa)	Bristlemouths, lightfishes, and anglemouths (family <i>Gonostomatidae</i>)	209
		Capelin smelt (family <i>Osmeridae</i>)	516
		Deep-sea smelts (family <i>Bathylagidae</i>)	773
		Eulachon smelt (family <i>Osmeridae</i>)	511
		Gunnels (family <i>Pholidae</i>)	207
		Krill (order <i>Euphausiacea</i>)	800
		Laternfishes (family <i>Myctophidae</i>)	772
		Pacific Sand fish (family <i>Trichodontidae</i>)	206
		Pacific Sand lance (family <i>Ammodytidae</i>)	774
		Pricklebacks, war-bonnets, eelblennys, cockscombs and shannys (family <i>Stichaeidae</i>)	208
		Surf smelt (family <i>Osmeridae</i>)	515
10	Skates Species and Groups	Alaska (<i>Bathyraja. Parmifera</i>)	703
		Aleutian (<i>B. aleutica</i>)	704
		Whiteblotched (<i>Raja binoculata</i>)	705
		Big Skates (<i>Raja binoculata</i>)	702
		Longnose Skates (<i>R. rhina</i>)	701
		Other Skates (<i>Rathyraja</i> and <i>Raja</i> spp.)	700
11	Aggregated non-groundfish	All legally retained species of fish and shellfish, including IFQ halibut, that are not listed as FMP groundfish in Tables 2a and 2c to this part.	
12	Grenadiers	Giant grenadiers (<i>Albatrossia pectoralis</i>)	214
		Other grenadiers (all grenadiers that are not Giant grenadiers)	213

Table 7-2 Table 11 to 50 CFR §679—BSAI Retainable Percentages

BASIS SPECIES		INCIDENTAL CATCH SPECIES																	
Code	Species	Pollock	Pacific cod	Atka mackerel	Alaska plaice	Arrow-tooth	Kam-chatka	Yellow fin sole	Other flatfish ²	Rock sole	Flath ead sole	Green-land turbot	Sable-fish ¹	Short-raker/roughey e ⁹	Aggregated rockfish ⁶	Squids ⁷	Aggregated forage fish ⁷	Other species ⁴	Grenadi ers ⁽⁷⁾
110	Pacific cod	20	na ⁵	20	20	35	35	20	20	20	20	1	1	2	5	20	2	20	8
121	Arrowtooth	20	20	20	20	na	20	20	20	20	20	7	1	2	5	20	2	3	8
117	Kamchatka	20	20	20	20	20	na	20	20	20	20	7	1	2	5	20	2	3	8
122	Flathead sole	20	20	20	35	35	35	35	35	35	na	35	15	7	15	20	2	20	8
123	Rock sole	20	20	20	35	35	35	35	35	na	35	1	1	2	15	20	2	20	8
127	Yellowfin sole	20	20	20	35	35	35	na	35	35	35	1	1	2	5	20	2	20	8
133	Alaska Plaice	20	20	20	na	35	35	35	35	35	35	1	1	2	5	20	2	20	8
134	Greenland turbot	20	20	20	20	35	35	20	20	20	20	na	15	7	15	20	2	20	8
136	Northern	20	20	20	20	35	35	20	20	20	20	35	15	7	15	20	2	20	8
141	Pacific Ocean perch	20	20	20	20	35	35	20	20	20	20	35	15	7	15	20	2	20	8
152/ 151	Shortraker/ Rougheye	20	20	20	20	35	35	20	20	20	20	35	15	na	5	20	2	20	8
193	Atka mackerel	20	20	na	20	35	35	20	20	20	20	1	1	2	5	20	2	20	8
270	Pollock	na	20	20	20	35	35	20	20	20	20	1	1	2	5	20	2	20	8
710	Sablefish ¹	20	20	20	20	35	35	20	20	20	20	35	na	7	15	20	2	20	8
Other flatfish ²		20	20	20	35	35	35	35	na	35	35	1	1	2	5	20	2	20	8
Other rockfish ³		20	20	20	20	35	35	20	20	20	20	35	15	7	15	20	2	20	8
Other species ⁴		20	20	20	20	35	35	20	20	20	20	1	1	2	5	20	2	na	8
Aggregated amount non-groundfish species ⁸		20	20	20	20	35	35	20	20	20	20	1	1	2	5	20	2	20	8

¹ **Sablefish:** for fixed gear restrictions, see 50 CFR §679.7(f)(3)(ii) and (f)(11).

² **Other flatfish** includes all flatfish species, except for Pacific halibut (a prohibited species), flathead sole, Greenland turbot, rock sole, yellowfin sole, Alaska plaice, arrowtooth flounder and Kamchatka flounder.

³ **Other rockfish** includes all "rockfish" as defined at 50 CFR §679.2, except for Pacific ocean perch; and northern, shortraker, and roughey rockfish.

⁴ The **Other species** includes sculpins, sharks, skates, and octopuses.

⁵ **na** = not applicable

⁶ **Aggregated rockfish** includes all "rockfish" as defined at 50 CFR §679.2, except shortraker and roughey rockfish. Catcher vessels using hook-and-line, pot, or jig gear are required to retain all rockfish. See 50 CFR §679.20(j).

⁷ **Forage fish, grenadiers, and squids** are all defined at Table 2c to this part.

⁸ All legally retained species of fish and shellfish, including CDQ halibut and IFQ halibut that are not listed as FMP groundfish in Tables 2a and 2c to this part.

⁹ Catcher vessels using hook-and-line, pot, or jig gear are required to retain all rockfish. See 50 CFR §679.20(j).

7.2. Additional EDR Crew Tables

Table 7-3 Crew members aboard BSAI Pacific cod trawl CVs for which EDR crew data exist by state or territory of crew residence address and CV ownership address, all years 2015-2019 combined (number of distinct crew license numbers).

Crew Member Residence Address State or Territory (number of communities represented in data)	Catcher Vessel Ownership Address Community					Grand Total
	Kodiak Alaska	Seattle MSA Washington	Other Washington	Lincoln Co. Oregon	Other States	
Alaska (13)	92	54	13	12	0	167
Washington (44)	15	111	26	5	3	159
Oregon (29)	24	56	4	19	1	104
California (9)	2	12	0	0	1	15
Florida (4)	0	5	0	1	0	6
Montana (3)	1	4	0	0	0	5
Arizona (3)	2	2	0	0	0	4
Colorado (2)	2	1	0	0	0	3
Hawaii (2)	0	3	0	0	0	3
Kentucky (1)	0	3	0	0	0	3
Connecticut (1)	0	2	0	0	0	2
Georgia (1)	0	2	0	0	0	2
Illinois (2)	2	0	0	0	0	2
Minnesota (1)	0	2	0	0	0	2
New York (1)	0	2	0	0	0	2
Ohio (2)	1	1	0	0	0	2
Tennessee	1	1	0	0	0	2
American Samoa (1)	0	1	0	0	0	1
Idaho (1)	0	1	0	0	0	1
Massachusetts (1)	0	0	1	0	0	1
New Mexico (1)	0	1	0	0	0	1
Rhode Island (1)	0	1	0	0	0	1
South Carolina (1)	1	0	0	0	0	1
Texas (1)	0	1	0	0	0	1
Wisconsin (1)	0	1	0	0	0	1
Unknown	42	32	14	16	3	103
Grand Total	185	298	58	53	8	593

Source: GOA trawl EDR data.

Table 7-4 Crew members aboard BSAI Pacific cod trawl CVs for which EDR crew data exist by community of crew residence address and CV ownership address, by year 2015-2018 (number of distinct crew license numbers).

2015							2016						
Crew Member Residence Address Community	Catcher Vessel Ownership Address Community					Grand Total	Crew Member Residence Address Community	Catcher Vessel Ownership Address Community					Grand Total
	Kodiak Alaska	Seattle MSA Washington	Other Washington	Lincoln Co. Oregon	Other States			Kodiak Alaska	Seattle MSA Washington	Other Washington	Lincoln Co. Oregon	Other States	
Kodiak	5	7	7			19	Kodiak	10	15	2			26
Chiniak	1					1	Chiniak						
King Cove							King Cove						
Sand Point							Sand Point						
Unalaska/Dutch Harbor							Unalaska/Dutch Harbor						
Kenai							Kenai		1				1
Soldotna		1				1	Soldotna		1				1
Anchor Point							Anchor Point						
Anchorage/Girdwood	2			1		3	Anchorage/Girdwood		1				1
Palmer	1	1				2	Palmer		1				1
Wasilla							Wasilla						
Petersburg							Petersburg		1				1
Haines							Haines						
Seattle MSA Washington		4	1			5	Seattle MSA Washington		23	3			26
Other Washington		4	8			12	Other Washington		3	4			7
Lincoln County Oregon	3	7	1			11	Lincoln County Oregon	5	10				15
Other Oregon	3	5	1			9	Other Oregon	4	5				9
Other States/Territories		5				5	Other States/Territories	1	7				8
Unknown	3	3	5	1	1	11	Unknown	13	7	2	1		22
TOTAL 2015	18	37	24	1	1	79	TOTAL 2016	33	75	11	1	0	118
2017							2018						
Crew Member Residence Address Community	Catcher Vessel Ownership Address Community					Grand Total	Crew Member Residence Address Community	Catcher Vessel Ownership Address Community					Grand Total
	Kodiak Alaska	Seattle MSA Washington	Other Washington	Lincoln Co. Oregon	Other States			Kodiak Alaska	Seattle MSA Washington	Other Washington	Lincoln Co. Oregon	Other States	
Kodiak	23	8	2	3		36	Kodiak	30	9	1	2		42
Chiniak	1					1	Chiniak						
King Cove							King Cove		1				1
Sand Point							Sand Point		2				2
Unalaska/Dutch Harbor		1				1	Unalaska/Dutch Harbor		1				1
Kenai							Kenai						
Soldotna							Soldotna						
Anchor Point	2	1				3	Anchor Point	3					3
Anchorage/Girdwood	1					1	Anchorage/Girdwood						
Palmer	1	1		1		3	Palmer	1					1
Wasilla				1		1	Wasilla						
Petersburg		1				1	Petersburg		2				2
Haines							Haines						
Seattle MSA Washington	4	24	2			30	Seattle MSA Washington	1	21	2	1	1	26
Other Washington	2	8	2			12	Other Washington	1	8	6	1	1	17
Lincoln County Oregon	2	11	2	5		20	Lincoln County Oregon	1	15		8		24
Other Oregon	1	4		2		7	Other Oregon	1	5		3	1	10
Other States/Territories	4	12	1			17	Other States/Territories	4	12			1	17
Unknown	9	3	1	2		14	Unknown	4	17	5	11		35
TOTAL 2017	50	74	10	14	0	147	TOTAL 2018	46	92	4	26	4	180

Source: GOA trawl EDR data

Table 7-5 Crew members aboard BSAI Pacific cod trawl CVs for which EDR crew data exist by community of crew residence address, CV ownership address, and crew license type, 2019 (number of distinct crew license numbers).

Trawl CV		Crew Member		License Type			Grand Total		
State	City	State	City	ADFG Crew License	CFEC Gear Operator Permit	Blank			
Alaska	KODIAK								
		Alaska							
			Anchor Point	2	1			3	
			Dutch Harbor	1				1	
			Kodiak	16	12			28	
			Palmer	1				1	
			Alaska Total	20	13			33	
			Washington						
			Bellingham	1				1	
			Olympia	1				1	
			Port Orchard	1				1	
			Seattle	1				1	
			Sequim	1				1	
			Snohomish	1	1			2	
			Tacoma	1				1	
			Washington Total	7	1			8	
			Oregon						
			Depoe Bay	1				1	
			Portland	1				1	
			Princeville	1				1	
			South Beach	1				1	
			Oregon Total	4				4	
			California						
			Napa	1				1	
			California Total	1				1	
			Illinois						
			Sugar Grove	1				1	
	Illinois Total	1				1			
	Tennessee								
	Greeneville	1				1			
	Tennessee Total	1				1			
	(blank)								
	(blank)	1	1	13		15			
	(blank) Total	1	1	13		15			
	KODIAK Total	35	15	13		63			

Trawl CV		Crew Member		License Type			Grand Total	
State	City	State	City	ADFG Crew License	CFEC Gear Operator Permit	Blank		
Alaska Total				35	15	13	63	
Washington	BELLINGHAM							
		(blank)						
		(blank)				1	1	
		(blank) Total				1	1	
		BELLINGHAM Total				1	1	
	HOLUALOA							
		Washington						
		Seattle			1			1
		Washington Total			1			1
		(blank)						
		(blank)				2		2
		(blank) Total				2		2
		HOLUALOA Total			1	2		3
	RENTON							
		(blank)						
		(blank)					3	3
		(blank) Total					3	3
		RENTON Total					3	3
	SEATTLE							
		Alaska						
		Kodiak			5	1		6
		Alaska Total			5	1		6
		Washington						
	Anacortes				1		1	
	Auburn			1			1	
	Everett				1		1	
	Kirkland			1			1	
	Lakewood			1			1	
	Mill Creek			1	1		2	
	Poulsbo			1			1	
	Quilcene			1			1	
	Seattle			13	2		15	
	Snohomish			1			1	
	Tacoma			1			1	
	Tumwater			1			1	
	Washington Total			22	5		27	

Trawl CV		Crew Member		License Type			Grand Total
State	City	State	City	ADFG Crew License	CFEC Gear Operator Permit	Blank	
		Oregon					
			Albany	1			1
			Bend	1	1		2
			Lincoln City	1			1
			Newport		1		1
			Salem	2			2
			Toledo	2	1		3
		Oregon Total		7	3		10
		California					
			Clearlake Oaks	1			1
			Garden Grove	1			1
			Porterville	1			1
			Simi Valley	1			1
		California Total		4			4
		Arizona					
			Phoenix	1			1
		Arizona Total		1			1
		Connecticut					
			Niantic	2			2
		Connecticut Total		2			2
		Georgia					
			Richmond Hill	1			1
		Georgia Total		1			1
		Kentucky					
			Versailles	1			1
		Kentucky Total		1			1
		Minnesota					
			Hastings	1			1
		Minnesota Total		1			1
		Rhode Island					
			Cumberland	1			1
		Rhode Island Total		1			1
		Texas					
			Marion	1			1
		Texas Total		1			1
		(blank)					
			(blank)			5	5
		(blank) Total				5	5

Trawl CV		Crew Member		License Type			Grand Total	
State	City	State	City	ADFG Crew License	CFEC Gear Operator Permit	Blank		
Washington Total	SEATTLE Total			46	9	5	60	
				47	11	8	66	
Oregon	NEWPORT							
	Alaska							
		Anchor Point				1	1	
		Haines				1	1	
		Kodiak			2	2	4	
		Palmer			1		1	
		Alaska Total			3	3	6	
	Washington							
		Bremerton			1		1	
		Tacoma			1		1	
		Washington Total			2		2	
	Oregon							
		Philomath				1	1	
		Oregon Total				1	1	
	Florida							
		Palatka			1		1	
		Florida Total			1		1	
	(blank)							
	(blank)						8	8
		(blank) Total					8	8
		NEWPORT Total			6	4	8	18
	Oregon	SILETZ						
		Alaska						
		Kodiak			1	1	2	
		Alaska Total			1	1	2	
Washington								
		Aberdeen			1		1	
		Washington Total			1		1	
Oregon								
		Eugene			1		1	
		Newport				1	1	
	Toledo			1		1		
	Oregon Total			2	1	3		
(blank)								
(blank)						1	1	

Trawl CV		Crew Member		License Type			Grand Total	
State	City	State	City	ADFG Crew License	CFEC Gear Operator Permit	Blank		
		(blank) Total					1	1
	SILETZ Total			4	2	1	7	
Oregon Total				10	5	9	24	
Grand Total				91	30	29	150	

7.3. Additional BSAI Pacific Cod Hook-and-Line and Pot Catcher Vessels < 60' Community Engagement Tables

Table 7-6 BSAI Pacific cod HAL CVs < 60' ex-vessel gross revenue by community of vessel historical ownership address, 2004-2019 (millions of 2019 real dollars).

Community	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Annual Average 2004-2019 (\$ millions)	Annual Average 2004-2019 (percent)	
Unalaska/Dutch Harbor	*	0.28	0.14	0.50	0.47	0.12	0.20	0.27	**	0.56	**	*	0.00	0.00	*	*	\$0.26	38.1%	
All Other Communities	**	0.69	0.62	0.65	1.1	0.34	0.05	0.14	*	0.16	*	**	*	*	**	**	\$0.43	61.9%	
GRAND TOTAL		0.46	0.97	0.76	1.16	1.57	0.46	0.24	0.41	0.64	0.72	1.49	0.51	*	*	0.73	0.92	\$0.69	100.0%

*Denotes confidential data.

**Denotes data suppressed to protect the confidentiality of data in other cells.

Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA

Table 7-7 BSAI Pacific cod HAL CVs < 60' ex-vessel gross revenue diversification by community of vessel historical ownership address, all communities, 2004-2019 (millions of 2019 real dollars).

Geography	Annual Average Number of BSAI Pcod HAL CVs < 60' 2004-2019	BSAI Pcod HAL CVs < 60' Annual Average Ex-Vessel Gross Revenues from BSAI Pcod Only 2004-2019 (\$ millions)	BSAI Pcod HAL CVs < 60' Annual Average Total Ex-Vessel Gross Revenues from All Area, Gear, and Species Fisheries 2004-2019 (\$ millions)	BSAI Pcod HAL CVs < 60' BSAI Pcod Ex-Vessel Value as a Percentage of Total Ex-Vessel Gross Revenue Annual Average 2004-2019
Unalaska/Dutch Harbor	2.8	\$0.26	\$1.12	23.54%
All Other Communities	6.4	\$0.43	\$4.47	9.62%
Grand Total	9.3	\$0.69	\$5.59	12.41%

Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA

Table 7-8 BSAI Pacific cod HAL CVs < 60' and all CV ex-vessel gross revenue diversification by community of vessel historical ownership address, 2004-2019 (millions of 2019 real dollars).

Geography	Annual Average Number of BSAI Pcod HAL CVs < 60' 2004-2019	Annual Average Number of All Commercial Fishing CVs in those Same Communities (the "Community CV Fleet") 2004-2019	All Commercial Fishing CVs Annual Average Ex-Vessel Gross Revenues from BSAI Pcod HAL < 60' Only 2004-2019 (\$ millions)	All Commercial Fishing CVs Annual Average Total Ex-Vessel Gross Revenues from All Areas, Gears, and Species Fisheries 2004-2019 (\$ millions)	All Commercial Fishing Vessels BSAI Pcod HAL < 60' Ex-Vessel Gross Revenue as a Percentage of Total Ex-Vessel Gross Revenue Annual Average 2004-2019
Unalaska/Dutch Harbor	2.8	20.6	\$0.26	\$4.79	5.51%
All Other Communities	6.4	2,690.9	\$0.43	\$1,066.00	0.04%
Grand Total	9.3	2,711.5	\$0.69	\$1,070.80	0.06%

Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA

Table 7-9 BSAI Pacific cod pot CVs < 60' ex-vessel gross revenue by community of vessel historical ownership address, 2004-2019 (millions of 2019 real dollars).

Community	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Annual Average 2004-2019 (\$ millions)	Annual Average 2004-2019 (percent)
Unalaska/Dutch Harbor	*	0.07	0.32	0.44	0.84	0.61	0.83	1.33	*	0.78	1.81	1.65	1.86	1.65	1.01	1.20	\$0.97	9.6%
Kodiak	1.51	1.34	3.39	2.48	3.15	*	1.11	2.74	2.95	2.27	2.88	2.43	3.97	5.28	5.94	7.25	\$3.06	30.3%
All Other Communities	**	0.35	0.12	1.36	3.03	**	1.90	2.19	**	4.87	10.45	7.07	11.70	12.98	15.76	17.96	\$6.08	60.1%
GRAND TOTAL		1.89	1.76	3.83	4.28	7.02	2.91	3.84	6.26	9.28	7.92	15.14	11.14	17.54	19.91	22.71	\$10.11	100.0%

*Denotes confidential data.

**Denotes data suppressed to protect the confidentiality of data in other cells.

Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA

Table 7-10 BSAI Pacific cod pot CVs < 60' ex-vessel gross revenue diversification by community of vessel historical ownership address, all communities, 2004-2019 (millions of 2019 real dollars).

Geography	Annual Average Number of BSAI Pcod Pot CVs < 60' 2004-2019	BSAI Pcod Pot CVs < 60' Annual Average Ex-Vessel Gross Revenues from BSAI Pcod Only 2004-2019 (\$ millions)	BSAI Pcod Pot CVs < 60' Annual Average Total Ex-Vessel Gross Revenues from All Area, Gear, and Species Fisheries 2004-2019 (\$ millions)	BSAI Pcod Pot CVs < 60' BSAI Pcod Ex-Vessel Value as a Percentage of Total Ex-Vessel Gross Revenue Annual Average 2004-2019
Unalaska/Dutch Harbor	3.9	\$0.97	\$2.08	46.53%
Kodiak	5.5	\$3.06	\$7.17	42.70%
All Other Communities	11.9	\$6.08	\$9.04	67.31%
Grand Total	21.3	\$10.11	\$18.29	55.29%

Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA

Table 7-11 BSAI Pacific cod pot CVs < 60' and all CV ex-vessel gross revenue diversification by community of vessel historical ownership address, 2004-2019 (millions of 2019 real dollars).

Geography	Annual Average Number of BSAI Pcod Pot CVs < 60' 2004-2019	Annual Average Number of All Commercial Fishing CVs in those Same Communities (the "Community CV Fleet") 2004-2019	All Commercial Fishing CVs Annual Average Ex-Vessel Gross Revenues from BSAI Pcod Pot < 60' Only 2004-2019 (\$ millions)	All Commercial Fishing CVs Annual Average Total Ex-Vessel Gross Revenues from All Areas, Gears, and Species Fisheries 2004-2019 (\$ millions)	All Commercial Fishing Vessels BSAI Pcod Pot < 60' Ex-Vessel Gross Revenue as a Percentage of Total Ex-Vessel Gross Revenue Annual Average 2004-2019
Unalaska/Dutch Harbor	3.9	20.6	\$0.97	\$4.79	20.22%
Kodiak	5.5	259.6	\$3.06	\$126.45	2.42%
All Other Communities	11.9	2,947.8	\$6.08	\$1,146.14	0.53%
Grand Total	21.3	3,227.9	\$10.11	\$1,277.38	0.79%

Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA