

DRAFT FOR FINAL ACTION

Regulatory Impact Review For a Proposed Amendment to the Fishery Management Plan for Groundfish of the Bering Sea / Aleutian Islands Management Area

Bering Sea Aleutian Island Pacific Cod Small Vessel Access

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Abstract: This Regulatory Impact Review analyzes a proposed amendment to allow smaller hook-and-line or pot catcher vessels operating in the Federal Bering Sea and Aleutian Island Pacific cod (*Gadus macrophalus*) less than 60' hook-and-line or pot catcher vessel sector to harvest Pacific cod from the Federal Bering Sea Aleutian Island Pacific cod jig sector's allocation. The proposed amendment would redefine the current Federal BSAI Pacific cod jig sector to include jig catcher vessels and catcher processors as well as hook-and-line or pot catcher vessels that are less than or equal to either 55' or 56' length overall. The proposed amendment could provide stability and additional opportunities for current fishery participants and potential new entrants with smaller hook-and-line or pot catcher vessels without negatively impacting vessels that operate in the jig sector. However, larger hook-and-line or pot vessels could be negatively impacted by the proposed action which would likely impact the historically common reallocations of projected unused Pacific cod from the jig sector to the less than 60' hook-and-line or pot catcher vessel sector.

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List of Acronyms and Abbreviations

Acronym or Abbreviation	Meaning	Acronym or Abbreviation	Meaning
ABC	Acceptable Biological Catch	NMFS	National Marine Fishery Service
ADF&G	Alaska Department of Fish and Game	NOAA	National Oceanic and Atmospheric Administration
AFSC	Alaska Fisheries Science Center	NOA	NOAA Administrative Order
AI	Aleutian Island	NIOSH	National Institute Occupational Safety and Health
AIS	Aleutian Island Subdistrict	Observer Program	North Pacific Groundfish and Halibut Observer Program
AKFIN	Alaska Fisheries Information Network	OMB	Office of Management and Budget
BS	Bering Sea	PPA	Preliminary Preferred Alternative
BSAI	Bering Sea and Aleutian Islands	PSC	Prohibited species catch
CAS	Catch Accounting System	RFA	Regulatory Flexibility Act
CDQ	Community Development Quota Program	RIR	Regulatory Impact Review
CE	Categorical Exclusion	SAFE	Stock Assessment and Fishery Evaluation
CFEC	Commercial Fisheries Entry Commission	SBA	Small Business Act
COAR	Commercial Operator's Annual Report	Secretary	Secretary of Commerce
Council	North Pacific Fishery Management Council	TAC	Total allowable catch
CP	Catcher processor	U.S.	United States
CV	Catcher vessel	USCG	United States Coast Guard
DHS	Dutch Harbor Subarea	USFWS	United States Fish and Wildlife Service
E.O.	Executive Order	VMS	Vessel monitoring system
EA	Environmental Assessment		
EEZ	Exclusive Economic Zone		
EFH	Essential Fish Habitat		
ES	Executive Summary		
FFP	Federal Fisheries Permit		
FMA	Fisheries Monitoring and Analysis		
FMP	Fishery Management Plan		
FR	<i>Federal Register</i>		
ft	Foot or feet		
GHL	Guideline harvest limit		
GOA	Gulf of Alaska		
H&L	Hook-and-line		
ICA	Incidental catch allowance		
ITAC	Initial total allowable catch		
IRFA	Initial Regulatory Flexibility Analysis		
lb(s)	Pound(s)		
LAPP	Limited Access Privilege Program		
LLP	License Limitation Program		
LOA	Length overall		
m	Meter or meters		
Mt	Metric ton(s)		
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act		
MMPA	Marine Mammal Protection Act		
NEPA	National Environmental Policy Act		
nm	Nautical miles		

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Executive Summary

This Regulatory Impact Review (RIR) analyzes a proposed amendment to allow smaller hook-and-line (H&L) or pot catcher vessels (CVs) operating in the Federal Bering Sea (BS) Aleutian Island (AI) Pacific cod (*Gadus macrocephalus*) less than 60' H&L or pot CV sector to harvest Pacific cod from the Federal BSAI Pacific cod jig sector's allocation. The proposed amendment would redefine the current Federal BSAI Pacific cod jig sector to include jig CVs and catcher processors (CPs) as well as H&L or pot CVs that are less than or equal to either 55' or 56' length overall (LOA). The proposed amendment could provide stability and additional opportunities for current fishery participants and potential new entrants with smaller H&L or pot CVs without negatively impacting vessels currently operating in the Federal BSAI Pacific cod jig sector.

The RIR is structured to streamline the information required for an RIR and to organize it to be most easily understood by the reader. **Chapters 1 and 2** contain a description of the purpose and need for the action, followed by a description of the history of the action and the alternatives. **Chapter 3** contains the description of the fisheries including information on BSAI Pacific cod management at both the Federal and State levels as well as a description of the impacted sectors. **Chapter 4** contains the impact analysis on the BSAI Pacific cod less than 60' H&L or pot CV and jig sectors and a summary of potential community and processor impacts. **Chapter 5** includes an assessment of impacts related to monitoring and enforcement.

Purpose and Need

The North Pacific Fishery Management Council (Council) is considering this action to provide greater stability for participants with smaller vessels operating in the less than 60' H&L or pot CV sector. This sector has seen an increase in the number of participating vessels in recent years, which has coincided with smaller BSAI Pacific cod allocation amounts. There are nine BSAI Pacific cod sectors, all of which have seen an overall reduction in their annual allocations as the Pacific cod biomass has declined every year since 2012, except for 2022.¹ Additionally, there are vessels in the sector, typically 58' LOA or greater, that have additional efficiencies (e.g., horsepower and width) that enable these vessels to operate in different conditions and fishing locations. The Council is using vessel LOA to determine what constitutes a 'small' vessel.

The Council modified its Purpose and Need statement on June 10, 2022.

Increased participation, reduced Pacific cod TACs, and fewer reallocations from other Pacific cod sectors, have resulted in shortened seasons for the <60 ft hook-and-line and pot catcher vessel Pacific cod sector. Due to their size, smaller vessels in this sector are particularly affected by these shortened seasons because vessel operators have less flexibility to fish when the weather is poor and typically fish waters closer to port which may be less productive. The jig sector allocation has not historically been fully utilized, particularly in the A and C seasons. Allowing these smaller catcher vessels using hook-and-line and pot gear to harvest Pacific cod from the jig sector allocation may increase stability for current fishery participants and potential new entrants with smaller catcher vessels without negatively impacting catcher vessels using jig gear.

The scope of this action is limited to the BSAI Pacific cod less than 60' H&L or pot CV and jig sectors, and it would not redefine any other Amendment 85 sector or their allocation. This action would require an amendment to the BSAI Groundfish fishery management plan (FMP). An Amendment is necessary to

¹ Amendment 85 to the BSAI Groundfish Fishery Management Plan modified the BSAI non-CDQ Pacific cod TAC allocation and defined specific harvesting sectors.

change the allocations for each sector, redefine the existing sectors, and/or create a new sector because the BSAI Pacific cod allocations were assigned as an amendment to the BSAI Groundfish FMP.

Alternatives

The Council adopted the following alternatives for analysis in June 2021. After receiving the presentation on the discussion paper (June 2021) and the Initial Review draft of this RIR (June 2022), public comment, and recommendations from the Science and Statistical Committee and the Advisory Panel, the Council selected a preliminary preferred alternative (PPA) shown in **bold**.

Alternative 1: Status quo

Alternative 2: Redefine the current BSAI Pacific cod jig sector to include H&L/pot CVs less than or equal to:

Option 1: 55' LOA

Option 2: 56' LOA

Suboption: B-season fishery would remain jig gear only fishery.

Comparison of Alternatives

Under Alternative 1, status quo, the BSAI Pacific cod less than 60' H&L or pot CV and jig sectors, their allocation, and the hierarchy of reallocations of BSAI Pacific cod among all sectors currently set in Federal regulations at §679.20(a)(7)(iii) would remain unchanged. The less than 60' H&L or pot CV sector includes all CVs that are less than 60' LOA using H&L or pot gear. The BSAI Pacific cod jig sector includes all vessels (CVs and catcher processors (CPs)) using jig gear.

Alternative 2, option 1/PPA, would impact all vessels fishing in the Federal BSAI Pacific cod less than 60' H&L or pot CV and jig sectors by redefining the jig sector as the new 'BSAI Pacific cod small vessel sector.' Under the PPA, the new BSAI Pacific cod small vessel sector would be composed of all H&L or pot CVs with a reported LOA less than or equal to 55' *and* jig vessels. There is no size limitation on jig vessels in the BSAI, but they typically do not exceed 48' LOA. All vessels in the small vessel sector would harvest Pacific cod from the current jig sector's 1.4 percent allocation.

The PPA would also redefine the current less than 60' H&L or pot CV sector to include only H&L or pot vessels that are 56-59' LOA. H&L or pot CVs in the redefined less than 60' sector would harvest BSAI Pacific cod from the current sector's 2 percent allocation. **Eligibility for either sector – the new BSAI Pacific cod small vessel sector and the redefined less than 60' H&L or pot CV sector – would be based on a vessel's gear type and LOA, which means H&L or pot vessels could not opt into one sector or the other. Vessel owners are responsible for ensuring their LOA is correct on their FFP. NMFS will use the LOA associated with an FFP to determine which sector a vessel is participating in.**

The BSAI Pacific cod jig sector's 1.4 percent allocation of Federal BSAI Pacific cod is apportioned on a trimester basis (Jan 1—Apr 30; Apr 30 –Aug 31; Aug 31—Dec 31). The PPA includes the suboption which would only allow jig vessels to harvest Pacific cod during the B season (Apr 30 – Aug 31) and only allow H&L or pot CVs to fish during the A and C seasons. The Council included the suboption in the PPA because it could minimize the potential negative impacts of this action for jig vessels as they have historically made the majority of their BSAI Pacific cod deliveries between April and September when the weather is safest for smaller vessels to operate.

Summary of Impacts

There are **no anticipated impacts on the human environment under the PPA** because the action is unlikely to substantially change fishing location, timing, effort, authorized gear types, and harvest levels. These findings lead to a preliminary determination by the National Marine Fisheries Service (NMFS) that this action would qualify for a Categorical Exclusion (CE) from further review under NEPA under National Oceanic and Atmospheric Administration (NOAA) Administrative Order (NOA) 216-6 (see Section 4.4 for a summary of impacts on fishing activity).

The PPA would likely impact the historical participants in the less than 60' H&L or pot CV sector as routine reallocations of BSAI Pacific cod from the jig sector (redefined as the new BSAI Pacific cod small vessel sector) to the less than 60' H&L or pot CV sector (redefined with only 56-59' H&L or pot CVs) would instead be utilized by the new BSAI Pacific cod small vessel sector.

Currently, the less than 60' H&L or pot CV sector receives their entire BSAI Pacific cod allocation on January 1, and the sector relies on reallocations of Pacific cod from other sectors that occur later in the year to have a reopening. The sector has received a reallocation from the jig sector in the jig sector's A season (typically between January and March) every year since 2008 when Amendment 85 was implemented. This A season reallocation provides additional Pacific cod TAC to the less than 60' H&L or pot CV sector and extends the sector's initial fishing period. Regulations at §679.20(a)(7)(iv)(c) require another reallocation from the jig sector to the less than 60' H&L or pot CV sector on or around September 1 if the jig sector has projected unused TAC, and NMFS has historically been able to open the less than 60' H&L or pot CV sector on September 1.

The future fishing behavior of smaller H&L or pot CVs in the new BSAI Pacific cod small vessel sector is uncertain. It is anticipated that H&L or pot CVs in the new BSAI Pacific cod small vessel sector would have an opportunity to harvest more Pacific cod and it is possible that these small vessels could fully utilize the BSAI Pacific cod jig sector's A and C season allowances (recall the B season would remain a jig-only fishery under the PPA). However, it is also possible that the new BSAI Pacific cod small vessel sector would not fully utilize the jig sector's A and C season allowances. Therefore, **it is uncertain if or when NMFS would be able to project unused Pacific cod TAC and make a reallocation to the larger vessels in the redefined less than 60' H&L or pot CV sector.**

The PPA would likely impact the historically common, if annually variable, reallocation of projected unused Pacific cod TAC from the jig sector (redefined as the new BSAI Pacific cod small vessel sector) to the less than 60' H&L or pot CV sector (redefined with only 56-59' H&L or pot vessels). Annual reallocation amounts of BSAI Pacific cod from the jig sector to the less than 60' H&L or pot CV sector have ranged from 1,500 mt to 3,200 mt, accounting for an average of 30 percent of the less than 60' H&L or pot CV sector's final allocation since 2008. Under Alternative 2, **the estimated annual average gross ex-vessel revenue impact for H&L or pot CVs greater than 56' LOA is a \$1.22 million decrease in potential revenue (2008-2021). The estimated annual average gross ex-vessel revenue opportunity for H&L or pot CVs less than or equal to 56' is \$1.15 million (2008-2021)** (see Section 4.3.5).²

The PPA could have a positive impact on the stability and safety of smaller H&L or pot CVs eligible for the new BSAI Pacific cod small vessel sector as they would have more flexibility to determine the timing of their fishing season absent the competition from larger vessels. However, the relative contribution of the reallocation (mt) from the jig sector to the less than 60' H&L or pot CV sector's final allocation has historically been greater than the landings (mt) of the smaller H&L or pot

² Due to data confidentiality restrictions, the analysis aggregates revenue data for H&L or pot CVs less than or equal to 56' LOA.

CVs that would be eligible for the new BSAI Pacific cod small vessel sector. Changes in the projected amount of BSAI Pacific cod TAC that would be available for the redefined less than 60' H&L or pot CV sector could impact fishing effort in that sector. **Specifically, larger H&L or pot vessels could fish at a faster pace because the amount of BSAI Pacific cod that would be available to them during the initial fishing period would be less without the reallocation from the jig sector.** This could have cumulative effects on these vessel's safety, and it is more challenging for NMFS to conservatively manage a fishery with smaller quotas and fished at a faster pace.

The PPA could impact the opening of the State waters Dutch Harbor Subdistrict (DHS) pot fishery. The State of Alaska manages three guideline harvest limit (GHL) fisheries for Pacific cod within State waters (0 to 3 nautical miles (nm)) in the BSAI: the AI Subdistrict fishery and two that occur in a subarea of the BS – the DHS pot and jig fisheries. The DHS pot fishery is open to vessels less than or equal to 58' LOA using pot gear with a limit of 60 pots per vessel. The DHS pot fishery regulations open the fishery seven days after the Federal BSAI Pacific cod less than 60' H&L or pot CV sector closes. This management approach was selected because it allows pot vessels to participate in the less than 60' H&L or pot CV sector, and then register to fish in State waters which maximizes their opportunities for Pacific cod early in the year. Under the PPA, the Alaska Board of Fisheries (BOF), with industry input, would need to address the trigger for opening the DHS pot fishery because the less than 60' H&L or pot CV sector would be redefined from what is currently in regulations.

It is uncertain what trigger the BOF would select to open the fishery – the new BSAI Pacific cod small vessel sector closing date, the redefined less than 60' H&L or pot CV sector closing date, or some other trigger such as a hard start date. If the BOF chose one of the newly defined sectors' closure dates as the trigger, vessels that operate in that trigger sector would be able to choose to fish in the Federal BSAI Pacific cod fishery until it closed and then register to fish in the DHS pot fishery once it opened. However, **vessels that do not operate in the sector that would trigger the DHS opening would likely need to decide whether they want to participate in Federal or State waters if both were open at the same time.** The PPA would not impact the timing of the DHS jig fishery because the fishery opens with a hard date of May 1.

The DHS pot fishery is a significant opportunity for pot vessels less than or equal to 58' LOA, and there is substantial overlap in the pot vessels that participate in the Federal BSAI Pacific cod fishery and the DHS fishery (see Section 4.3.6). Each year State regulations set the DHS pot fishery at 8 percent of the BS acceptable biological catch (ABC) with an annual 1 percent increase if 90 percent of the GHL is harvested until the GHL reaches 15 percent of the BS ABC. The 15 percent GHL will continue unless changed by the BOF. The 2022 DHS pot fishery was set at 11 percent of the BS ABC and has the potential to increase another 4 percent, and the 2023 DHS pot fishery will be set at 12 percent as 90 percent of the GHL has been harvested in 2022. While the revenue impacts of potentially changing the DHS pot fishery opening are uncertain because it is not clear what action the BOF would take, the annual average gross ex-vessel revenue pot CVs greater than 56' earn from the DHS pot fishery is \$7.27 million, accounting for 26 percent of these vessel's total gross ex-vessel revenue across all fisheries (2014-2021). The annual average gross ex-vessel revenue pot CVs less than or equal to 56' earn from the GHL fishery is \$1.51million, accounting for 25 percent of their total gross ex-vessel revenue across all fisheries (2014-2021).

The PPA includes the suboption which would restrict the gear type allowed to harvest Pacific cod in the B season to jig gear. Jig vessels participating in the Federal BSAI Pacific cod fishery make the majority of their deliveries between April and September when the weather is safest for these vessels to operate, whereas the majority of Federal BSAI Pacific cod deliveries from the less than 60' H&L or pot CVs are concentrated in January and the fall which is also when the sector has been open. **If H&L or pot CVs eligible for the new BSAI Pacific cod small vessel sector were allowed to harvest BSAI Pacific cod during the jig sector's B season, it is possible these vessels could constrain jig vessels during the B**

season when they have historically prosecuted the fishery. Because the less than 60' H&L or pot CV sector has historically closed by the time the jig sector's B season begins on April 30 and does not reopen until September 1 after the jig sector's B season is closed, **the suboption would not negatively impact H&L or pot CVs eligible for the new BSAI Pacific cod small vessel sector.**

Finally, under the preferred alternative, landings from the BSAI Pacific cod from vessels in the less than 60' H&L or pot CV sector regardless of their size are primarily delivered to shoreside processors in Unalaska/Dutch Harbor and other Alaska communities. The proposed action is not expected to directly impact the distribution of Pacific cod among shoreside processing communities. **However, the PPA could have a distributional impact at the community-level.** The majority of vessels that have historically participated in the less than 60' H&L or pot CV and jig sectors have a registered ownership address in an Alaska community. Within the less than 60' H&L or pot CV sector, there is variation in the reported owner address among the different vessel LOA categories. Kodiak has the largest number of reported vessel owners for H&L or pot CVs greater than 56' LOA whereas Dutch Harbor/Unalaska has the largest number of reported owners for H&L or pot CVs with a reported LOA of 56' as well as those less than or equal to 55'.

Table ES-1-1 Summary of Impacts

Impact Category	Alternative 1 (Status Quo)		Alternative 2 (PPA)	
	<i>BSAI Pacific cod jig sector</i>	<i>BSAI Pacific cod less than 60' H&L or pot CV sector</i>	<i>New BSAI Pacific cod small vessel sector (jig +H&L or pot CVs ≤ 55')</i>	<i>Redefined less than 60' H&L or pot CV sector (H&L or pot CVs 56-59')</i>
Environmental (Section 4.4)	No impact	No impact	No impact	No impact
BSAI Pacific cod Allocation (Section 4.3)	No impact	No impact	Lower allocation (1.4 percent) for H&L/pot CVs ≤ 55' LOA	No impact
Reallocations of BSAI Pacific cod (Section 4.3.4)	No impact	No impact	No impact	Reallocation of Pacific cod from the new small vessel sector is likely to occur later in the A and C season
Revenue (Section 4.3.5)	No Impact	No impact	Annual average revenue increase for H&L/pot CVs ≤ 56' LOA of \$1.15 million Potential decrease in jig vessel revenue, if the suboption were not included	Annual average revenue decrease for H&L/pot CVs > 56' LOA of \$1.22 million
Safety (Section 4.3.3)	No impact	Small TACs and short seasons may encourage smaller H&L or pot vessels to fish when it is not safe for them to do so	Improved stability for H&L/pot CVs ≤ 55' LOA as extended fishing seasons and more flexibility for smaller CVs to choose when to fish	Could fish at a faster pace with less TAC available early in the year, which could have cumulative effects on these vessel's safety
Communities (Section 4.5)	No impact	No impact	Dutch Harbor/Unalaska could receive some positive benefit	Kodiak could be negatively impacted
Suboption (Section 4.3.7)	No impact	No impact	Decrease in potential revenue opportunity as H&L/pot CVs ≤ 56' LOA would not be allowed to harvest Pacific cod in the B season	No impact
DHS State waters pot fishery (Section 4.3.6)	No impact	No impact	Timing of DHS State waters pot fishery opening may change under the PPA The opening date will be determined by the BOF so staff cannot accurately analyze the potential impacts	

1. Introduction

This RIR analyzes a proposed amendment to the BSAI Groundfish FMP to allow smaller H&L or pot CVs operating in the Federal BSAI Pacific cod (*Gadus macrocephalus*) less than 60' H&L or pot CV sector to harvest Pacific cod from the jig sector's Federal BSAI Pacific cod allocation. The proposed amendment would redefine the current Federal BSAI Pacific cod jig sector to include jig CVs and CPs as well as H&L or pot CVs that are less than or equal to either 55' or 56' LOA. The proposed amendment could provide additional opportunities for current fishery participants and potential new entrants with smaller H&L or pot CVs without negatively impacting vessels currently operating in the Federal BSAI Pacific cod jig sector.

The RIR provides an assessment of the impacts of a proposed action and its reasonable alternatives, as well as 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 addresses the statutory requirements of the Magnuson Stevens Fishery Conservation and Management Act (MSA), the National Environmental Policy Act (NEPA), Presidential Executive Order 12866, and some of the requirements of the Regulatory Flexibility Act (RFA). An RIR is a standard document produced by the Council and the NMFS Alaska Region to provide the analytical background for decision-making.

Alaska Region Office has made the preliminary determination that the proposed action does not result in substantial modifications of fishing location, timing, effort, authorized gear types, or harvest levels relative to the status quo and relative to what was analyzed in previous approved actions. Any pursuant regulatory changes would have no effect, individually or cumulatively on the human environment as defined in NAO 216-6. As such, NMFS foresees that this action would qualify for a Categorical Exclusion from further review under NEPA. For that reason, this document does not include an Environmental Assessment (EA)³.

1.1 Purpose and Need

The Council is considering this action to provide more stability for smaller H&L or pot vessels currently operating in the less than 60' H&L or pot CV sector. Increased participation in the sector, and smaller BSAI Pacific cod allocation amounts and reallocations from other sectors, have resulted in shortened fishing seasons for the sector. In addition to potentially providing more stability to smaller H&L or pot CVs, this action could provide additional fishing opportunities for smaller H&L and pot vessels by redefining the current BSAI Pacific cod jig sector to include these H&L or pot CVs without negatively impacting jig fishery participants. The BSAI Pacific cod jig sector has historically underutilized its 1.4 percent allocation of BSAI Pacific cod under Amendment 85, the majority of which has been reallocated to the less than 60' H&L or pot CV sector (see Table 3-8).

The Council modified its purpose and need statement on June 10, 2022, to be the following:

Increased participation, reduced Pacific cod TACs, and fewer reallocations from other Pacific cod sectors, have resulted in shortened seasons for the <60 ft hook-and-line and pot catcher vessel Pacific cod sector. Due to their size, smaller vessels in this sector are particularly affected by these shortened seasons because vessel operators have less flexibility to fish when the weather is poor and typically fish waters closer to port which may be less productive. The jig sector allocation has not historically been fully utilized, particularly in the A and C seasons. Allowing these smaller catcher

³ The analysts have consulted with NMFS Alaska Region and preliminarily determined that none of the alternatives have the potential to have an effect individually or cumulatively on the human environment. This determination is subject to further review and public comment. If this determination is confirmed when a proposed rule is prepared, the proposed action will be categorically excluded from the need to prepare an EA.

vessels using hook-and-line and pot gear to harvest Pacific cod from the jig sector allocation may increase stability for current fishery participants and potential new entrants with smaller catcher vessels without negatively impacting catcher vessels using jig gear.

The scope of this action is limited to the BSAI Pacific cod less than 60' H&L or pot CV and jig sectors. This action would require an amendment to the BSAI Groundfish FMP. An Amendment is necessary to change the allocations for each sector, redefine the existing sectors, and/or create a new sector because the BSAI Pacific cod allocations were assigned as an amendment to the BSAI Groundfish FMP. This amendment would not redefine any other Amendment 85 sector or their allocations.

1.2 History of this Action

1.2.1 October 2019

At the October 2019 Council meeting, the Council tasked staff with a discussion paper in response to the concerns expressed by some stakeholders in the less than 60' H&L or pot CV sector that described some challenges smaller H&L or pot CVs face, including increased participation within the less than 60' H&L or pot CV sector and inter-sector competition from a subgroup of vessels typically 58' LOA with increased capacity and efficiencies. The Council does not have a formal definition for a 'Super 8' vessel, but the term indicates the vessel is at or below 58' LOA and has dimensions or attributes that are supersized relative to its length (CFEC 2015). Typically, the bigger attributes benefit the effectiveness of a Super 8 vessel, such as more expansive deck space that allows for more fishing pots and other gear onboard.

“In addition to increased participation, the rise of ‘Super 8s’ within the <60 vessel class contributes to growing disparities and unfair competition within the <60 vessel class size. These disparities are rooted in non-traditional efficiency improvements within the Super 8 fleet (e.g., power, capacity, vessel width, etc.), and have detrimental effects on long-term participants and communities dependent on fixed gear Pacific cod fisheries.”⁴

In October 2019, the Council tasked staff with evaluating “the potential impact of expanding the allowable participants to fish off of the jig sector allocation to small, fixed gear catcher vessels (e.g., <57', trip limits up to 15,000 lbs., pot limits less than 25 pots)” to address the access challenges smaller vessels face while operating in the less than 60' H&L or pot CV sector.

1.2.2 June 2021

At the June 2021 Council meeting, the Council received a presentation on the discussion paper tasked in October 2019. That paper and presentation provided the Council an opportunity to discuss and give direction on its preference for potential future work related to small vessel access opportunities in the BSAI Pacific cod less than 60' H&L or pot CV sector. To address the unintended inter-sector competition, the Council adopted a purpose and need statement and a set of alternatives for this issue in June 2021.

1.2.3 June 2022

After receiving the presentation on the analysis, public comment, and recommendations from the Science and Statistical Committee and the Advisory Panel, the Council selected a PPA at the June 2022 Council meeting. In June 2022, the Council also modified its purpose and need statement to align the action more closely with the identified problem. Increased participation in the less than 60' H&L or pot CV sector and decreasing BSAI Pacific cod TACs resulting in smaller initial allocations to the sector and reallocations from other sectors have resulted in shortened seasons.

⁴ Unalaska Native Fishermen's Association. October 2019. Public Comment Letter.

2 Description of the Alternatives

The Council's PPA is shown in **bold**. Alternative 1: Status quo

Alternative 2: Redefine the current BSAI Pacific cod jig sector to include H&L/pot CVs less than or equal to:

Option 1: 55' LOA

Option 2: 56' LOA

Suboption: B-season fishery would remain jig gear only fishery.

2.1 Alternative 1, No Action

Amendment 85 to the BSAI Groundfish FMP modified the non-Community Development Quota (CDQ) Pacific cod allocations among nine defined sectors. Under Alternative 1, no action, every BSAI Pacific cod sector, their allocation, and the hierarchy of reallocations of BSAI Pacific cod among sectors set in Federal regulations at *50 CFR part 679* would remain unchanged. Therefore, under Alternative 1, the current BSAI Pacific cod less than 60' H&L or pot CV and jig sectors would remain as is.

2.2 Alternative 2, Redefine the BSAI Pacific Cod Jig and Less than 60' H&L or pot CV Sectors

Alternative 2 would impact vessels fishing in Federal waters with a Federal Fisheries Permit (FFP) and a Limited License Permit (LLP) in the current BSAI Pacific cod less than 60' H&L or pot CV and jig sectors. Alternative 2 would redefine the BSAI Pacific cod jig sector as the new 'BSAI Pacific cod small vessel sector.' The Council's June 2021 motion provided two options for a vessel LOA limit (55' or 56' LOA) to determine whether a H&L or pot vessel would fish Pacific cod in the new BSAI Pacific cod small vessel sector.⁵ The PPA selects 55' LOA as the limit; all H&L or pot vessels less than or equal to 55' LOA with an FFP and LLP, as well as all jig vessels, would be in the new BSAI Pacific cod small vessel sector.⁶ All vessels in the new BSAI Pacific cod small vessel sector would harvest Pacific cod from the current jig sector's 1.4 percent allocation.

The PPA would also redefine the current less than 60' H&L or pot CV sector to include only H&L or pot vessels that are 56-59' LOA. H&L or pot CVs in the redefined less than 60' sector would harvest BSAI Pacific cod from the current sector's 2 percent allocation. Eligibility for either sector – the new BSAI Pacific cod small vessel sector and the redefined less than 60' H&L or pot CV sector – would be based on a vessel's gear type and LOA, which means H&L or pot vessels could not opt into one sector or the other.

The current BSAI Pacific cod jig sector has three seasonal allowances: Jan 1—Apr 30 (60%); Apr 30 – Aug 31 (20%), and Aug 31—Dec 31 (20%), whereas the less than 60' H&L or pot CV sector was excluded from the limitation of seasonal apportionments under Amendment 85 and instead receives their entire allocation of BSAI Pacific cod on January 1. At the June 2021 meeting, the Council clarified its intent to continue apportioning TAC in the new BSAI Pacific cod small vessel sector on a trimester

⁵ Vessel owners must report the LOA to NMFS on their FFP and to the Alaska Commercial Fisheries Entry Commission (CFEC).

⁶ The Council included option 1 in the PPA to ensure the LOA cut off for the new small vessel sector is sufficient to exclude larger vessels with additional efficiencies. The Council received public comment that some H&L or pot vessels with a reported LOA of 56' could have additional capacity to harvest BSAI Pacific cod.

basis.⁷ All CVs remaining in the redefined less than 60' H&L or pot CV would continue to access the sector's 2 percent allocation of BSAI Pacific cod which would be allocated on January 1.

The current regulations at 679.20(a)(7)(iv)(B) and (C) allow any unused portion of a seasonal allowance from any sector *except the jig sector* to be rolled over to that sector's next season during the current fishing year unless the Regional Administrator determines that sector would be unable to harvest its allocation. The Regional Administrator can reallocate any projected unused portion of a seasonal allowance from the BSAI Pacific cod jig sector to the less than 60' H&L or pot vessel sector. After evaluating the Initial Review draft of this analysis in June 2022, the Council stated its intent is to maintain the current reallocation hierarchy, which includes the current regulation at subpart (C) that would apply to the new BSAI Pacific cod small vessel sector. This approach provides flexibility to the Regional Administrator and in-season management to make reallocations as able, and it could mitigate some of the potential allocative impacts of the action alternative. **Maintaining the current regulations at 679.20(a)(7)(iv)(B) and (C) would not allow any projected unused portion of the seasonal allowance for the new small vessel sector to be rolled over to the next season. Instead, projected unused Pacific cod TAC in the new BSAI Pacific cod small vessel sector would be reallocated to the redefined less than 60' H&L or pot CV sector.** These impacts are described in detail in Chapter 4 of the analysis (see 4.3.4).

2.2.1 Suboption, B-season as jig fishery only

The suboption proposes an option for analysis where jig CVs and CPs would be the only gear-type allowed to fish during the B season (Apr 30 – Aug 31). The Council's rationale for including the suboption in the PPA is that it could minimize the impacts to jig vessels which make the majority of their BSAI Pacific cod deliveries between April and September when the weather is safest for smaller vessels to operate. Additionally, H&L and pot CVs typically prosecute other fisheries during the jig sector's B season and NMFS has not been able to make a reallocation to reopen the less than 60' H&L or pot CV sector in the spring/summer months since 2011.

⁷ Changing the jig sector's seasonal allocation of BSAI Pacific cod TAC may require consultation under Section 7 of the Endangered Species Act for Stellar sea lions because that management decision would change the way TAC is issued seasonally. Seasonal apportionments for BSAI Pacific cod fisheries were the result of the Stellar sea lion mitigation measures that aim to keep important prey species from being harvested in a condensed time when females might need ready access to prey during pup rearing, since longer foraging trips would lead to less provisioning of pups on the rookeries. The jig sector is primarily a nearshore fishery that occur closer to the rookeries.

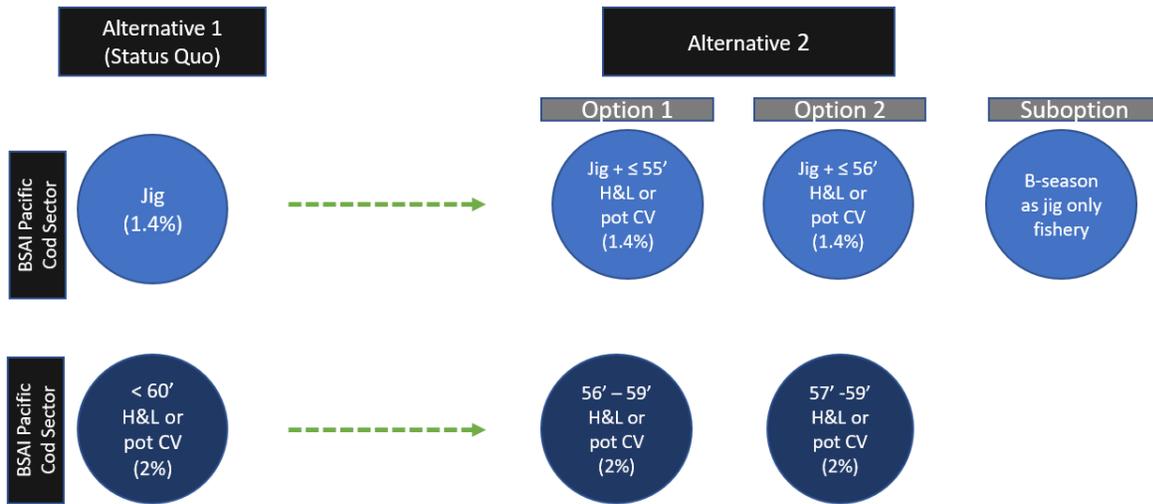


Figure 2-1 Comparison of changes to the BSAI Pacific cod less than 60' H&L or pot CV and jig sectors and their allocations under Alternative 1 and Alternative 2

3 Description of Fisheries

This RIR examines the economic costs and benefits of a proposed regulatory amendment. The purpose of this action is to provide stability and additional opportunities for current fishery participants and potential new entrants with smaller H&L or pot vessels without negatively impacting vessels using jig gear.

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.

3.1 Statutory Authority

Under the MSA (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 FMP for Groundfish of the Gulf of Alaska (GOA FMP). The proposed action under consideration would amend the BSAI Groundfish FMP 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.

3.2 BSAI Pacific Cod Fishery Management

BSAI Pacific cod harvest specifications establish an over-fishing level (OFL), ABC, and TAC for the Bering Sea subarea of the BSAI, and a separate OFL, ABC, and TAC for the Aleutian Islands subarea of the BSAI. Figure 3-1 shows the BSAI Pacific cod reporting areas. Before the Pacific cod TACs are established, the Council and NMFS consider social and economic factors, management uncertainty, as well as two factors relevant to BSAI Pacific cod: Pacific cod guideline harvest (GHL) fisheries that occur in the State-waters of the BSAI, and an overall 2 million mt optimum yield limit on the maximum amount of TAC that can be specified for all BSAI groundfish. Pacific cod TACs are specified at levels that account for the GHL fisheries so the combined harvest limits from GHL fisheries and the TACs do not exceed the ABCs specified for the BS or AI.

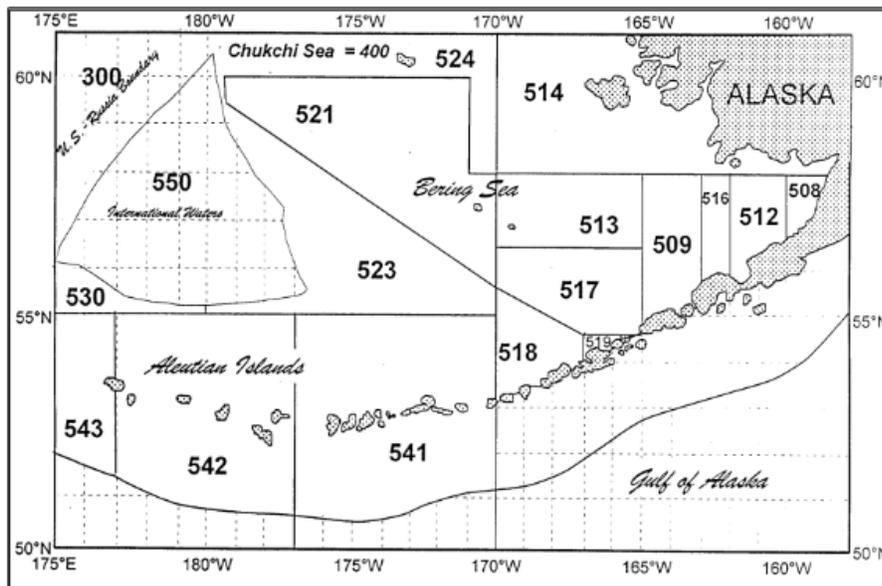


Figure 3-1 Map of NMFS BSAI sub-areas for management

Once separate BS and AI TACs are established, regulations at § 679.20(a)(7)(i) allocate 10.7 percent of the BS Pacific cod TAC, and 10.7 percent of the AI Pacific cod TAC, to the CDQ program for the exclusive harvest by Western Alaska CDQ groups. The remaining portion of BS and AI TACs, after deducting the 10.7 percent allocation for CDQ Program, is the initial total allowable catch (ITAC). After the CDQ allocation is subtracted from the BS and AI TACs, NMFS combines the remaining BS and AI TACs into one BSAI non-CDQ TAC, which is available for harvest by nine non-CDQ fishery sectors. Table 3-1 shows the BSAI Pacific cod ABC, TAC, and ITAC from 2003 to 2013 and Bering Sea and Aleutian Island BSAI Pacific cod ABC, TAC, and ITAC 2014 to 2022 (amounts in mt).

For the BSAI Pacific cod H&L and pot gear sectors, the Regional Administrator will specify the amount of Pacific cod that NMFS estimates will be taken as incidental catch while fishing for groundfish other than Pacific cod by the H&L and pot gear sectors. This amount will be the incidental catch allowance (ICA) specified in the harvest specifications and will be deducted from the aggregate portion of Pacific cod TAC annually allocated to the H&L and pot gear sectors before the allocations are made to these sectors. It is important to note that, if the Council were to select the PPA, the new BSAI Pacific cod small vessel sector would contribute to the ICA because there would be H&L and pot vessels in that sector. Since Amendment 85 implementation this amount has been 400 to 500 mt.

Regulations at § 679.20(a)(7)(ii)(A) define the nine Pacific cod non-CDQ fishery sectors in the BSAI and specify the percentage allocated to each. The non-CDQ fishery sectors are defined by a combination of

gear type, operation type, and vessel size categories. Through the annual harvest specifications process, NMFS allocates an amount of the combined BSAI non-CDQ TAC to each of the 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 Table 3-2 by amendment since 1994. Beginning in 1994, Amendment 24 to the BSAI groundfish FMP established a TAC for BSAI non-CDQ, which was fully distributed among three gear sectors: H&L, pot, trawl, and jig gear. The allocations for each sector were set under the FMP and reflected percentages of sector harvest between 1991 to 1993. Those allocations were later changed in 1997 with Amendment 46 of the FMP and shifted the majority of the TAC from trawl to H&L and pot gear. Amendment 46 also bisected trawl apportionment between CVs and CPs and authorized NMFS to reallocate any portion of the Pacific cod TAC that was projected to remain unused among the various sectors if necessary. Subsequent apportionment changes (BSAI Amendments 64, 67, and 77) have resulted in the BSAI Pacific cod TAC being divided among nine harvesting sectors. Amendment 85 modified the BSAI non-CDQ Pacific cod TAC allocation and defined specific harvesting sectors. The existing overall sector allocations have been in place for fourteen years under Amendment 85.

Table 3-1 BSAI Pacific cod ABC, TAC, and ITAC from 2003 through 2013 and BS and AI Pacific cod ABC, TAC, and ITAC from 2014 through 2022 (amounts in mt)

Year	BSAI			BS*			AI**								
	ABC	TAC	ITAC	ABC	TAC	ITAC	ABC	TAC	ITAC						
2003	223,000	207,500	191,938	N/A											
2004	223,000	215,500	199,338												
2005	206,000	206,000	190,550												
2006	194,000	188,180	159,953												
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						
2021				123,805	111,380	499,462	20,600	13,756	12,320						
2022				153,383	136,466	121,864	20,600	13,796	12,320						

Source: NMFS Final Specifications

*The BS Pacific cod TAC accounts for the GHLL in State waters of the BS, which is 11 percent of the BS ABC as of 2022.

**The AI Pacific cod TAC accounts for the GHLL in State waters of the AI, which would be 39 percent of the AI ABC as of 2022, except the AI GHLL may not exceed 15 million pounds (6,804 mt).

Table 3-2 Percent of non-CDQ BSAI Pacific cod sector allocations by BSAI groundfish FMP amendment

Sector	Amend 24 1994	Amend 46 1997	Amend 64 2000	Amend 77 2004	Amend 85 2008
Jig	2.0	2.0	2.0	2.0	1.4
H&L/Pot CV <60' LOA	44.0	51.0	0.7	0.7	2.0
H&L CV ≥60' LOA			0.2	0.2	0.2
H&L CP			40.8	40.8	48.7
Pot CV ≥60' LOA			9.3	7.6	8.4
Pot CP				1.7	1.5
AFA trawl CP	54.0	23.5	23.5	23.5	2.3
Non-AFA trawl CP					13.4
Trawl CV					23.5

Seasonal allowances of BSAI non-CDQ Pacific cod allocations are managed at the BSAI level. Because there are no non-CDQ sector allocations specific to each area, there are no gear specific seasonal allowances by area. An allocation to a non-CDQ fishery sector may be harvested in either the BS or the AI by vessels with the appropriate area endorsement, subject to the non-CDQ Pacific cod TAC specified for the BS or the AI. If the non-CDQ Pacific cod overall 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, the sector has Pacific cod available from their BSAI allocation, and the vessel has the appropriate area endorsement to fish.

While the overall guideline for the BSAI Pacific cod fishery continues to be a 70:30 percent seasonal split, the seasonal allowances vary by gear type taking into account changes to the season dates from the Steller sea lion protection measures implemented in 2015. Any unused portion of the seasonal allowance from any sector *except the jig sector* is rolled over to that sector's next season during the current fishing year unless the Regional Administrator determines that sector will be unable to harvest its allocation. Unused jig TAC from any season will be reallocated to the less than 60' H&L or pot CV sector and any projected unused portion of the C season jig TAC must be reallocated on or near September 1 (50 CFR 679.20(a)(7)(iv)(C)).

NMFS manages each of the non-CDQ fishery sectors to ensure harvest of Pacific cod does not exceed the overall annual allocation made to each of the non-CDQ fishery sectors. NMFS monitors harvests that occur while vessels are directed fishing for Pacific cod (specifically targeting and retaining Pacific cod above specific threshold levels) and harvests that occur while vessels are directed fishing in other fisheries and incidentally catching Pacific cod (e.g., the incidental catch of Pacific cod in the pollock directed fishery or IFQ fishery). For the non-CDQ fishery sectors, NMFS carefully tracks both directed and incidental catch of Pacific cod. NMFS takes appropriate management measures, such as closing directed fishing for a non-CDQ fishery sector, to ensure that total directed fishing and incidental fishing harvests do not exceed that sector's allocation.

Table 3-3 2022 BSAI Pacific cod non-CDQ sector allocations and seasonal allowances

Sector	BSAI Sector Allocation (mt)	BSAI Seasons and allowance (mt)		
		A	B	C
H&L/Pot CV < 60' LOA	2,671	No seasonal allowances		
H&L CV ≥ 60' LOA	267	<i>Jan 1-June 10</i> (51%) 136	<i>June 10 -Dec 31</i> (49%) 131	n/a
H&L CP	65,027	<i>Jan 1-June 10</i> (51%) 33,164	<i>June 10 -Dec 31</i> (49%) 31,863	n/a
Pot CV ≥ 60' LOA	11,216	<i>Jan 1-June 10</i> (51%) 5,720	<i>Sept 1 -Dec 31</i> (49%) 5,496	n/a
Pot CP	2,003	<i>Jan 1-June 10</i> (51%) 1,021	<i>Sept 1 -Dec 31</i> (49%) 981	n/a
Jig	1,879	<i>Jan 1- Apr 30</i> (60%) 1,127	<i>Apr 30-Aug 31</i> (20%) 376	<i>Aug 31- Dec 31</i> (20%) 376
AFA Trawl CP	3,086	<i>Jan 20-April 1</i> (75%) 2,315	<i>April 1-June 10</i> (25%) 772	<i>June 10- Nov 1</i> (0%) 0
Amendment 80	17,981	<i>Jan 20-April 1</i> (75%) 13,485	<i>April 1-June 10</i> (25%) 4,495	<i>June 10- December 31</i> (0%) 0
Trawl CV	29,655	<i>Jan 20-April 1</i> (74%) 21,944	<i>April 1-June 10</i> (11%) 3,262	<i>June 10-Nov 1</i> (15%) 4,448

Source: NMFS Final 2022 Sector Allocations and Seasonal Allowances of the BSAI Pacific Cod TAC;
https://www.govinfo.gov/content/pkg/FR-2022-03-02/pdf/2022-04292.pdf?utm_campaign=subscription+mailing+list&utm_source=federalregister.gov&utm_medium=email

3.3 Reallocations Among BSAI Pacific Cod Sectors

Decisions to reallocate BSAI Pacific cod TAC are based on the hierarchy set in Federal regulations at §679.20(a)(7)(iii) and (iv). Reallocation decisions take into account the capability of a sector to harvest both their initial Pacific cod allocation and any reallocations they may receive. This means that, while the reallocation hierarchy is the same year-to-year as specified in Federal regulations, the timing and patterns of reallocations among sectors are highly situational. Any reallocation of Pacific cod requires publication in the *Federal Register* before it is effective. This process generally takes about a week.

In the BSAI, most sector's A season allocations are fully harvested, and if not, any remaining A season allowance rolls over to the next season for that sector. Therefore, reallocations of A season TAC are rare. One exception is the BSAI Pacific cod jig sector where any projected unused portion of the A season allowance is required to be reallocated to the less than 60' H&L or pot CV sector. The less than 60' H&L or pot CV sector does not have seasonal allowances under Steller sea lion protection measures. Instead, this sector's annual allocation is available on January 1, and they have historically relied on reallocations from other sectors to have fishing reopen later in the year once their annual allocation has been harvested. NMFS has historically reallocated most of the jig sector's A-season allowance to the less than 60' H&L or pot CV sector (typically between January and March). The less than 60' H&L or pot CV sector has received seasonal reallocations from the BSAI Pacific cod jig, greater than or equal to 60' H&L CV, greater than or equal to 60' pot CV, and trawl CV sectors.

NMFS tries to reallocate projected amounts of unharvested Pacific cod to sectors that may be able to harvest these amounts; however, decisions to reallocate Pacific cod are complex and factor in many considerations. The primary consideration is not to reallocate Pacific cod from a sector that may have the capacity to catch their allocation. This means NMFS must first determine a sector's remaining Pacific cod allocation and the capacity for the sector to catch the remaining amount, and it requires communication with vessel operators and processors. If any vessel operator or processor indicates that they will remain active or become active in the fishery before the end of the year, NMFS will likely be more conservative in leaving amounts of Pacific cod available for that sector. As a result, Pacific cod sometimes remains uncaught at the end of the year because these vessels either do not participate or their actual catch rates are insufficient to catch a sector's remaining Pacific cod.

For example, in the fall, some sectors fishing effort may decrease or stop for several reasons including (but not limited to) poor weather, low catch rates, directed fishing closures due to attainment of prohibited species catch limits, low Pacific cod prices, high fuel prices, vessel breakdowns or maintenance, or closure of directed fishing for all non-CDQ Pacific cod sectors in the BS subarea or AI subarea. These factors can be difficult to predict when NMFS considers whether to make Pacific cod reallocations. NMFS will also consider that catch data may change over time. To prevent exceeding TAC or ABC, NMFS typically leaves small amounts of TAC as a buffer to account for changes in catch data, which may occur for a variety of reasons. Also, in recent years until 2022, the BSAI Pacific cod TAC has decreased; therefore, less Pacific cod TAC is remaining for the sectors that have historically been provided reallocated Pacific cod. As a result, NMFS must be more conservative in completing reallocations.

In October 2021, the Council selected, as a preferred alternative, to create a BSAI Pacific cod trawl CV limited access privilege program (NPFMC 2021). The preferred alternative would allocate quota shares to groundfish LLP licenses based on the harvest of qualifying trawl CV BSAI Pacific cod catch. As part of the preferred alternative, only A and B season quota share would be allocated to cooperatives leaving the 15 percent C season allowance as a limited access trawl CV fishery for any vessel assigned to an eligible groundfish LLP license with applicable area endorsements. The C season limited access trawl CV fishery would be managed as it is currently by NMFS, including management of incidental catches of Pacific cod in other directed fisheries. Remaining trawl CV C season, A season and B season ICAs that NMFS

projects to go unused, and any remaining cooperative quota after the B season would be subject to reallocation to other sectors under current reallocation rules. As a result of leaving the C season as a limited access fishery for the trawl CV sector, reallocation of Pacific cod TAC to other sectors that rely on Pacific cod reallocations would likely continue although the amount of these reallocations is uncertain. Typically, the reallocation from the BSAI Pacific cod jig sector, but also the trawl CV sector, allows the less than 60' H&L or pot CV sector to remain open during the fall.

3.4 License Limitation Program

Since 2000, a Federal LLP license is required for vessels participating in directed fishing for LLP groundfish species.⁸ LLP groundfish species are target species and “other species” specified annually pursuant to Federal regulations at 679.20(a)(2). Vessels in the less than 60' H&L or pot CV sector need a non-trawl LLP to participate in the Federal fisheries, but they are exempt from the Pacific cod endorsement on their LLP because they are less than 60' (see 679.4(k)(9)(iv)(B)). In 2021, 26 vessels participated in the less than 60' H&L or pot sector with both an FFP and LLP.⁹ Vessels fishing in the BSAI Pacific cod jig sector do not need an LLP license in the BSAI if they are less than 60' LOA and use no more than five jig machines, one line per machine, and 15 hooks per line. There are no AI or BS jig LLPs.

Historically, the LLPs have not generally been applicable in State waters (inside 3 nm), but in 2012 NMFS implemented regulations to limit the access of Federally permitted pot and H&L CPs in the Pacific cod parallel fishery¹⁰ for the BS and AI (76 FR 73513) by requiring a Federally permitted pot or H&L CP to have the appropriate LLP endorsements to participate in the parallel fishery. In 2021 these regulations were extended to include CV pot, H&L, and any trawl vessels. Federally permitted vessels with no LLP may participate in the state-managed GHF fishery, subject to vessel length restrictions, but may not fish in state-waters (the parallel fishery) while the Federal season is open. Vessels that are not Federally permitted (do not have an FFP) are not required to hold an endorsed LLP to participate in the parallel fishery but are subject to State regulations. A vessel may surrender its FFP and fish exclusively in State waters, but this is limited to once in each 3-year FFP cycle so that a vessel may not frequently surrender an FFP and later reapply for an FFP multiple times within each 3-year period. This limits the ability for a vessel to move in and out of Federal requirements (85 FR 78038).

3.5 State Management Measures

The State manages three GHF fisheries for Pacific cod within State waters in the BSAI. There is one GHF fishery for Pacific cod in the AI, the AI Subdistrict fishery. There are two that occur in a subarea of the BS, the DHS pot fishery and the DHS jig fishery.

The State-managed AI fishery was established by the BOF in 2006. From 2006 through 2015, the AI GHF was 3 percent of the Federal BSAI Pacific cod ABC. In December 2015, the Alaska Board of Fisheries (BOF) changed the AI GHF calculations to better align with the split of the Federal BSAI Pacific cod stock into separate BS and AI stocks. Starting in 2016, the AI GHF was 27 percent of the AI ABC. The AI State Pacific cod management plan includes annual “step-up” provisions that increase the amount of the GHF fishery if at least 90 percent of the previous year’s GHF is harvested. If the GHF

⁸ There are some exceptions for LLP requirements in the BSAI including vessels that do not exceed 32' LOA; vessels that are at least 32' LOA but that do not exceed 46' LOA that are registered with their CDQ group to harvest CDQ groundfish; vessels that do not exceed 60' LOA and are using jig gear (but no more than 5 jig machines, one line per machine, and 15 hooks per line); and certain vessels constructed for and used exclusively in the CDQ fisheries.

⁹ LLP draws from the NMFS RAM division LLP database and was sourced through Alaska Fisheries Information Network (AKFIN).

¹⁰ The BSAI Pacific cod parallel fishery occurs when the State opens State waters while the Federal BSAI Pacific cod fishery is open and any harvest that occurs in State waters is deducted from Federal TAC.

fishery continues to be nearly fully harvested it can 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. There is also a “step-down” provision that states if the GHL is not achieved in two consecutive calendar years the fishery will be reduced by 4 percent. However, the “step-down” provision is not in effect if the GHL is based on 15 percent of the ABC. The 2020 and 2021 AI GHL were capped at 15 million pounds (6,804 mt).

Allowable gear in the AI GHL fisheries includes trawl, longline, pot, and jig gear. Allowable vessel size varies by gear sector and time of year. The majority of the AI GHL has been harvested by vessels using trawl and pot gear. Table 3-4 summarizes the State AI GHL participation, catch, and value for the years 2006 through 2021. Additional information on the AI GHL fishery can be found in the AI Pacific Cod Harvest Set-Aside RIR that addressed issues with Amendment 113 (NPFMC 2018).

Table 3-4 Aleutian Islands State-waters Pacific cod fishery guideline harvest level and harvest from 2006 through 2021

Year	Season	Initial GHL ^a		Harvest ^a	Vessels		Landings	Average price per pound ^b	Fishery value ^c
2006	A season	4,071		3,857	26		68	\$0.23	\$1.30
	B season	1,745	d	160	5		19	\$0.38	\$1.40
	TOTAL	5,815		4,017	30	e	87	\$0.31	\$2.70
2007	A season	3,693		3,733	27		97	\$0.45	\$3.60
	B season	1,583	f	1,546	12		106	\$0.52	\$1.70
	TOTAL	5,276		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
2021		6,804	h	6,703	13		170	\$0.38	\$5.44

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 NMFS 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 Alaska Board of Fisheries (BOF) created a DHS State waters Pacific cod fishery management plan for the Bering Sea, and the DHS fishery was first opened to pot fishing in 2014. The DHS fishery is open to vessels less than or equal to 58’ LOA using pot gear with a limit of 60 pots per vessel. The DHS fishery season opens seven days after the federal BSAI less than 60’ H&L or pot CV sector’s closure and may close and re-open as needed to coordinate with Federal fishery openings. A summary of the regulations is provided in Table 3-5.¹¹

Table 3-5 Summary of Dutch Harbor Subarea State waters Pacific cod guideline harvest fishery regulations

Area	DHS State waters opens	DHS State waters closes	Gear	Vessel length
Dutch Harbor Subarea GHL pot gear fishery	<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’ H&L and pot gear CV sector. If the DHS State waters fishery closes, the State can re-open the fishery if there is remaining GHL. The State may coordinate the re-opening so that it doesn’t overlap in time with the federal <60’ H&L/pot gear CV sector. The DHS is defined as waters between 162.30 and 170 west longitude. 	<ul style="list-style-type: none"> When the GHL is taken or at the regulatory season closure date (December 31), whichever comes first. If the Federal BSAI Pacific cod < 60’ H&L/pot gear CV sector receives a reallocation of Federal TAC 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. 	Less than or equal to 58’ LOA, unless modified by ADF&G news release after October 1.
Dutch Harbor Subarea GHL jig gear fishery	<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. 	Less than or equal to 58’ LOA

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

Under current State regulations, each year the DHS fishery is set at 8 percent of the BS ABC with an annual 1 percent increase if 90 percent of the GHL is harvested until the GHL reaches 15 percent of the BS ABC. The 15 percent GHL will continue unless changed by the BOF. The 2022 DHS fishery was set at 11 percent of the BS ABC. The GHL amount and reported harvest from 2014 to 2021 for this fishery

¹¹ In 2014 and 2015, the DHS fishery occurred in the area between 164 degrees and 167 degrees west longitude. The area was expanded east and west to between 164 degrees and 170 degrees west longitude prior to the 2016 season and again expanded westward prior to the 2019 season to 162.30 degrees west longitude. At the BOF October 2018 meeting it again expanded the area to include waters between 162.30 degrees and 170 degrees west longitude.

are shown in Table 3-6. All landings from the DHS pot fishery are delivered to shoreside plants and inshore floating processors because the fishery is prosecuted by pot vessels that are less than or equal to 58' LOA. Thirty-seven pot gear vessels participated in the fishery in 2019, 40 pot gear vessels in 2020, and 29 pot gear vessels in 2021.

Table 3-6 Pacific cod harvest (lbs.) with pot gear in the State of Alaska DHS GHL Pacific cod fishery from 2014 through 2021

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	30,928,649	14,029	100.00%
2021	27,292,000	12,380	27,585,848	12,513	101.00%

Source ADF&G

The BOF created a second BS GHL fishery which began in 2019 and allocates 100,000 lb. or roughly 45 mt. to jig vessels. 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 jig gear GHL state-waters fishery. 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. As noted in Table 3-7, one vessel has participated in the fishery on an annual basis, so harvest information is confidential for the DHS jig fishery; however, the GHL was achieved in 2019.

Table 3-7 Dutch Harbor Subdistrict State-waters Pacific cod jig fishery harvest, effort, value, and season dates, 2019 through 2021

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
2020	100,000	CF	1	4	CF	CF	5/1/2020	12/31/2020	245
2021	100,000	CF	1	3	CF	CF	5/1/2021	12/31/2021	245

Source ADF&G

3.6 Impacted Sectors

3.6.1 BSAI Pacific Cod Less Than 60' H&L or Pot CV Sector

The less than 60' H&L or pot CV sector includes all CVs that are less than 60' LOA using H&L or pot gear, but the typical length of vessels that participate in this sector ranges from 28' to 58' LOA. Since 2000, a Federal LLP license has been required for vessels participating in directed fishing for LLP groundfish species, unless exempt (see Section 3.4). Vessels in this sector need a non-trawl LLP to participate in the Federal fisheries, but they are exempt from the Pacific cod endorsement on their LLP, see § 679.4(k)(9)(iv)(B). Currently, an LLP holder can switch from H&L or pot gear to legal jig gear and prosecute the jig sector's allocation if their vessel is configured in such a way to use all the gear types.

From 2008 through 2021, the number of vessels participating in the less than 60' H&L or pot CV sector has ranged from a low of 21 in 2014 to high of 41 in 2020. The annual average level of participation in the BSAI Pacific cod less than 60' H&L or pot CV sector is 27 vessels. The sector has had a 2 percent

allocation of BSAI Pacific cod since Amendment 85 was implemented in 2008, and they receive their entire allocation on January 1 each year because CVs less than 60' are not subject to the seasonal restrictions that apply to other vessels. The sector's final allocation (i.e., initial allocation plus any additional reallocations of Pacific cod) has ranged from a low of 4,434 mt in 2009 to a high of 12,018 mt in 2014.

The sector routinely harvests their initial allocation in addition to a significant portion of BSAI Pacific cod reallocated from other sectors. Reallocation amounts to the less than 60' H&L or pot CV sector have ranged from a low of 1,297 mt in 2009 to high of 7,500 mt in 2014.¹² On average, the less than 60' H&L or pot CV sector has harvested 214 percent of its initial allocation since 2008. The less than 60' H&L or pot CV sector has historically received reallocations from the BSAI Pacific cod jig, greater than or equal to 60' H&L CV, greater than or equal to 60' pot CV, and trawl sectors. However, the jig sector has consistently reallocated Pacific cod to the less than 60' H&L or pot CV sector since 2008. On average, reallocations from the jig sector have accounted for 30 percent of the less than 60' H&L or pot CV sector's final allocation (Table 3-8).

The less than 60' H&L or pot CV sector receives a reallocation from the jig sector early in the year which extends their season to harvest Pacific cod. In the past, NMFS was able to reallocate more BSAI Pacific cod TAC to the less than 60' H&L or pot sector in the spring but this has not occurred in recent years due to the increased effort in the BSAI Pacific cod fisheries, coinciding with a decrease in overall allocations for all BSAI Pacific cod sectors. Regulations require another reallocation from the jig sector to the less than 60' H&L or pot CV sector on or around September 1 if unused TAC is projected in the jig sector, and NMFS has historically been able to open the sector on September 1.

H&L or pot CVs participating in the sector primarily focus on halibut, groundfish, and salmon using a mix of gear types. The length of these vessels allows them to participate in State of Alaska salmon fisheries which usually requires vessels to be no longer than 58' (however, vessels must be 32' or less to participate in Bristol Bay salmon drift gillnet fishery). From 2008 through 2021, the total gross ex-vessel revenue for all fisheries for vessels participating in the less than 60' H&L or pot CV sector has ranged from \$21.30 million in 2009 to \$41.65 million in 2019.¹³ The gross ex-vessel revenue for Federal BSAI Pacific cod has ranged from \$3.09 million in 2021 to \$8.66 in 2019, and the annual average amount of gross ex-vessel revenue for this fishery is \$6.46 million during the same period. However, the IFQ fishery has contributed the largest percent of total gross ex-vessel revenue for the sector at 33 percent, followed by the Federal BSAI Pacific cod and GHL Pacific cod fisheries at 20 percent (on average). Other fishing activities by the sector include salmon and GOA Pacific cod, which in recent years has diminished due to the decline in the GOA Pacific cod biomass and the resulting limitations on the GOA Pacific cod fishery.

Fishing activity in the AI and DHS GHL fisheries by vessels operating in the BSAI Pacific cod less than 60' H&L or pot CV sector has increased significantly, both in terms of the number of vessels and the amount of GHL Pacific cod that is harvested. Since 2014, the majority of the Pacific cod harvested in BSAI State waters Pacific cod fisheries are taken in the DHS pot fishery. Prior to 2014, fishing activity occurred in the AI GHL fishery because it was the only GHL fishery in the BSAI. The number of less than 60' H&L or pot CVs that also participate in the AI and DHS GHL fisheries has ranged from a low of zero participating vessels in 2010 to 35 in 2020, harvesting between 3 mt in 2011 to 14,655 mt in 2018.¹⁴

Table 3-9 provides data on the less than 60' H&L or pot CV sector's ex-vessel price (2020 real \$) for BSAI Pacific cod, gross ex-vessel revenue for BSAI Pacific cod, and the gross first wholesale value of

¹² 1,297 mt is derived from the 1,600 mt reallocation from the jig sector minus the reallocation of 303 mt from the less than 60' H&L or pot sector to other sectors.

¹³ Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT; small_boat_div(12-6-21)

¹⁴ Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA; sector_landings_tgt_SMPC(5-3-22).

BSAI Pacific cod from 2008 through 2021. The price per pound for BSAI Pacific cod has ranged from a high of \$.60 in 2008 to a low of \$.27 in 2009 and 2015; the average price per pound for BSAI Pacific cod during this time period is \$.34. Gross first wholesale value has ranged from \$5 million in 2009 to \$19 million in 2014 and 2018.

Table 3-10 shows the total deliveries of Federal BSAI Pacific cod for the less than 60' H&L or pot CV sector as well as the total number of ports within the bounds of confidentiality restrictions. The number of ports the sector has delivered BSAI Pacific cod to has ranged from a low three in 2014, 2016, and 2017 to a high of seven in 2019. Of the delivery ports, Dutch Harbor/Unalaska has routinely received the most deliveries from the less than 60' H&L or pot CV sector during the analyzed period.

Table 3-11 provides data on the annual halibut mortality, and red king crab, bairdi, *C. opilio*, Chinook salmon PSC, and non-Chinook salmon PSC for the sector while targeting BSAI Pacific cod from 2008 to 2021. The pot CVs in the less than 60' H&L or pot CV sector do not have PSC limits for halibut, crab, or salmon. The H&L CVs in this sector, however, share a halibut PSC limit with the greater than or equal to 60' H&L CVs. The BSAI H&L CV Pacific cod fishery has never reached the halibut PSC limit for this sector. Halibut mortality for the H&L vessels operating in the sector ranges from a low of one mt to a high of 7 mt in 2014.

Table 3-12 provides a count, by community of ownership address and year from 2008 through 2021, for vessels participating in the less than 60' H&L or pot CV sector for all Alaska communities as well as Washington and other states (primarily Oregon and California) with any vessels active in the sector. The less than 60' H&L or pot CV sector is a geographically diverse fleet; however, 71 vessels (76 percent) that participated in the less than 60' H&L or pot CV sector have a registered ownership address in an Alaska community.

Table 3-8 Count of vessels in the BSAI Pacific cod less than 60' H&L or pot CV sector, the sector's initial allocation (mt), reallocation amounts from other sectors (mt), and final allocation (mt) from 2008 through 2021

Year	Vessel count	Initial allocation (mt)	Final allocation (mt)	Final allocation as a % of initial allocation	Reallocation (mt) from jig sector	Reallocation (mt) from other sectors	Jig reallocation as a percent of final allocation
2008	31	3,033	5,210	172%	2,024	153	39%
2009	28	3,137	4,434	141%	1,600	-303	36%
2010	23	2,998	5,509	184%	1,760	751	32%
2011	22	4,055	9,005	222%	1,970	2,980	22%
2012	24	4,645	8,880	191%	2,800	1,435	32%
2013	27	4,627	9,177	198%	3,200	1,350	35%
2014	21	4,518	12,018	266%	3,073	4,427	26%
2015	25	4,438	10,630	240%	3,018	3,174	28%
2016	22	4,476	10,674	238%	3,050	3,148	28%
2017	24	4,259	9,271	218%	2,886	2,126	31%
2018	29	3,627	8,748	241%	2,400	2,721	24%
2019	36	3,214	9,800	305%	1,765	4,486	18%
2020	41	2,766	4,967	180%	1,927	274	39%
2021	26	2,222	4,444	200%	1,500	2,222	34%

Source: NOAA Fisheries Alaska Region, [BSAI Pacific cod reallocations \(1995–present\)](https://media.fisheries.noaa.gov/dam-migration/bsai-pcod-reallocation-1995-present.pdf) report at <https://media.fisheries.noaa.gov/dam-migration/bsai-pcod-reallocation-1995-present.pdf>

NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA; sector_landings_tgt(11-19-21)

Table 3-9 Less than 60' H&L or pot CV sector BSAI Pacific cod ex-vessel price (\$), BSAI Pacific cod gross ex-vessel revenue (millions \$), BSAI Pacific cod gross first wholesale value (millions \$) from 2008 through 2021

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Ex-vessel price (\$ per lbs.)	0.60	0.27	0.29	0.33	0.35	0.28	0.28	0.27	0.28	0.31	0.41	0.44	0.40	.29
Gross ex-vessel revenue (millions \$)	7	3	4	6	7	6	8	6	6	7	8	9	4	3
Gross first wholesale value	11	5	8	14	14	13	19	14	16	17	19	15	7	7

Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT; sector_landings_rev(2-18-22)

Table 3-10 Total number of less than 60' H&L or pot CV delivery ports and total number of deliveries of targeted BSAI Pacific cod from 2008 through 2020

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Number of ports	5	5	5	6	4	5	3	4	3	3	5	7	5	4
Total deliveries	278	274	203	255	291	293	*	350	*	*	279	332	219	175

Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT; small_boat_proc_div(2-5-22) and small_boat_monthlylandings(2-15-22)

Table 3-11 Halibut mortality (mt), crab (number of animals), and salmon (number of fish) prohibited species catch by the less than 60' H&L or pot CV sector while targeting Federal BSAI Pacific cod from 2008 through 2021

Species	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
Halibut	5	3	2	2	2	4	7	3	1	1	5	2	1	1	39
Red King crab	9,063	957	407	1,535	1,126	18,543	31,626	51,730	457	5,405	45,383	6,515	3,569	52,471	228,787
C. Bairdi	340,701	151,108	66,444	69,719	30,199	47,632	178,562	127,075	32,396	90,979	28,825	15,025	9,464	2,794	1,190,923
C. Opilio PSC	0	0	0	0	0	0	0	0	0	0	0	0	47	0	47
Other C. Opilio	144,745	60,900	38,443	38,443	5,237	3,353	21,198	23,831	1,603	17,573	1,476	1,145	6,090	5,981	370,018
Chinook	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-Chinook	0	0	0	0	0	1	2	0	0	0	0	0	1	0	4

Source: AKFIN October 2021; sector_PSC(10-1-21)

Table 3-12 Vessels <60' LOA targeting Federal BSAI Pacific cod with H&L or pot gear by community of vessel historic ownership address, 2008 - 2021

Region	Community	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Annual Average 2008-2021 (number)	Annual Average 2008-2021 (percent)	Unique Vessels 2008-2021 (number)	
Alaska	Dutch Harbor/Unalaska	7	6	6	6	5	6	6	5	3	3	3	3	4	3	4.7	17.46%	14	
	Anchor Point	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0.4	1.32%	2	
	Homer	3	2	1	1	2	2	2	3	4	4	4	2	5	7	4	3.0	11.11%	17
	Kodiak/Port Lions	7	3	5	5	5	5	4	4	4	4	5	9	9	8	5	5.6	20.63%	18
	Homer/Kodiak/Anchor Point	12	7	7	6	7	7	6	7	8	9	11	14	15	9	8.9	33.07%	37	
	Adak	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0.2	0.79%	2
	Cordova	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.26%	1
	Delta Junction	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.1	0.26%	1
	Douglas	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0.1	0.53%	2
	False Pass	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.1	0.26%	1
	Girdwood	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0.3	1.06%	2
	Haines	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.1	0.53%	1
	Juneau	0	1	2	0	0	0	1	1	1	1	1	0	0	1	1	0.6	2.38%	4
	Kenai	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.2	0.79%	1
	Ketchikan	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.26%	1
	King Cove	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0.1	0.53%	2
	King Salmon	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.26%	1
	Klawock	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0.1	0.53%	1
	Mekoryuk	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.1	0.26%	1
	Nikolaevsk	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0.2	0.79%	2
	Nome	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.1	0.26%	1
	Petersburg	0	1	1	0	0	1	0	2	3	2	3	2	4	4	4	1.6	6.08%	7
	Sand Point	0	1	0	0	0	0	0	0	0	0	0	1	1	1	0	0.2	0.79%	2
	Seward	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0.7	2.65%	1
	Sitka	0	0	0	0	0	0	1	0	0	0	0	1	0	1	1	0.2	0.79%	3
	Soldotna	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.1	0.26%	1
	Wasilla	0	1	1	1	2	2	2	2	2	2	2	2	2	2	2	1.6	6.08%	2
	Willow	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.26%	1
	Other AK	4	8	6	3	4	6	5	8	7	6	7	12	13	10	7.1	26.19%	37	
	Alaska	23	21	19	15	16	19	17	20	18	18	21	29	32	22	20.7	76.72%	71	
	WA	Bellingham	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.2	0.79%	1
		Deer Park	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0.3	1.06%	1
Elma		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.1	0.26%	1	
Friday Harbor		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.1	0.26%	1	

Region	Community	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Annual Average 2008-2021 (number)	Annual Average 2008-2021 (percent)	Unique Vessels 2008-2021 (number)
	Montesano	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.26%	1
	Mount Vernon	0	1	1	1	2	1	1	1	0	0	1	1	0	0	0.7	2.65%	2
	Seattle	4	2	2	5	4	4	3	3	2	3	2	2	3	1	2.9	10.58%	13
	Washington	6	4	5	6	6	5	4	4	2	3	4	4	5	2	4.3	15.87%	16
	Other States	2	2	0	0	2	2	1	1	2	3	4	3	4	2	2.0	7.41%	14
	Grand Total	31	27	24	21	24	26	22	25	22	24	29	36	41	26	27.0	100.00%	94

Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT; smallboat_SIA_lessthan60_breakouts (5-12-22)

3.6.2 BSAI Pacific Cod Jig Sector

The BSAI Pacific cod jig sector includes all vessels (CVs and CPs) using jig gear. Vessels in this sector do not need an LLP license in the BSAI if they are less than 60' LOA and are using no more than five jig machines, one line per machine, and 15 hooks per line. Note that all vessels less than or equal to 32' LOA operating in the BS and AI are not subject to LLP requirements.

The number of jig vessels participating in the sector from 2008 through 2021 has varied, ranging from a low of zero participating vessels in 2021 to a high of 15 participating vessels in 2008. The annual average level of participation is four vessels. Since 2008, the jig sector has harvested 16 percent of its initial allocation (on average). The three years where a higher percent of the initial allocation was utilized were 2010 at 17 percent, 2011 at 18 percent, and 2012 at 14 percent (Table 3-13). Due to the jig sector's relatively low utilization of its initial allocation, a significant portion has been reallocated to the less than 60 H&L or pot CV sector early in the year as required by Amendment 85 regulations.

From 2008 through 2020, the annual average total gross ex-vessel revenue for all fisheries for jig vessels is \$448,077, and the annual average gross ex-vessel revenue for jig vessels participating in the Federal BSAI Pacific cod fishery is \$98,541 during the same time period. However, State waters Pacific cod has contributed the largest percent of gross ex-vessel revenue for jig vessels at 24 percent, followed by the Federal BSAI Pacific cod fishery at 22 percent and IFQ fisheries at 19 percent from 2008 through 2020 (on average). Other fishing activities by the jig sector include GOA Pacific cod and salmon.¹⁵

Provided in Table 3-14 are data on the jig sector's ex-vessel price (2020 real \$) for BSAI Pacific cod, gross ex-vessel revenue for BSAI Pacific cod, and the gross first wholesale value of BSAI Pacific cod from 2008 through 2020. The price per pound for BSAI Pacific cod has ranged from a low of \$.21 in 2013 to a high of \$.52 in 2008; the average price per pound for BSAI Pacific cod for the jig sector is \$.33 during the same time period.

Overall, the jig sector has had a relatively low level of participation in the BSAI Pacific cod fishery and the majority of this sector's initial allocation—approximately 90 percent – has been reallocated to other BSAI Pacific cod sectors (except for 2010 through 2012 where a higher percent of the sector's initial allocation was utilized).

¹⁵ Source: ADFG Fish Tickets, data compiled by AFKIN in Comprehensive_FT small_boat_div (2-8-22). Due to data confidentiality restrictions, the analysis does not display quantitative diversification data for the BSAI Pacific cod jig sector.

Table 3-13 Count of vessels in the BSAI Pacific cod jig sector, initial allocation (mt), final allocation (mt), and reallocation amounts (mt) to other BSAI Pacific cod sectors from 2008 through 2021

Year	Vessel count	Initial allocation (mt)	Final allocation (mt)	Reallocations (mt)	Final allocation as a % of initial allocation
2008	15	2,134	180	-2,104	8%
2009	3	2,207	25	-2,182	1%
2010	7	2,110	350	-1,760	17%
2011	11	2,850	510	-2,340	18%
2012	4	3,263	463	-2,800	14%
2013	6	3,251	51	-3,200	2%
2014	2	3,174	101	-3,073	3%
2015	4	3,118	100	-3,018	3%
2016	2	3,144	94	-3,050	3%
2017	1	2,993	13	-2,980	0%
2018	1	2,549	149	-2,400	6%
2019	2	2,259	159	-2,100	7%
2020	3	1,945	18	-1,927	1%
2021	0	1,565	65	-1,500	4%

Source: NOAA Fisheries Alaska Region, [BSAI Pacific cod reallocations \(1995–present\)](https://media.fisheries.noaa.gov/dam-migration/bsai-pcod-reallocation-1995-present.pdf) report at <https://media.fisheries.noaa.gov/dam-migration/bsai-pcod-reallocation-1995-present.pdf>
NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA; sector_landings_tgt(11-19-21)

Table 3-14 BSAI Pacific cod jig sector ex-vessel price (\$), BSAI Pacific cod gross ex-vessel revenue (millions \$), BSAI Pacific cod gross first wholesale value (millions \$) from 2008 through 2020

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Ex-vessel price (\$ per lbs.)	0.52	*	0.28	0.34	0.28	0.21	*	0.27	*	*	*	*	*
Gross ex-vessel revenue (\$)	202,302	*	209,779	375,083	51,706	6,752	*	16,691	*	*	*	*	*
Gross first wholesale value	373,203	*	501,447	847,728	135,494	20,526	*	38,902	*	*	*	*	*

Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT; sector_landings_rev(2-18-22)

3.7 Product Composition and Flow of Pacific Cod

The following section provides information on the production composition and flow of Pacific cod, and it largely draws from the 2019 Wholesale Market Profiles for Alaska Groundfish and Crab Fisheries (AFSC 2019) and the 2020 Economic Status of the Groundfish Fisheries of Alaska (NMFS 2022).

Pacific cod is a whitefish found in the coastal Pacific Ocean from Alaska to California with the largest concentrations found in the GOA and the Bering Sea. In 2017, Alaska's Pacific cod accounted for 18 percent of the total global cod harvest. Pacific cod are highly valued for their mild, white flesh and are primarily processed into fillet and head and gutted (H&G) products. Alaska's Pacific cod harvest is primarily processed as H&G and is largely purchased by China, Japan, and Europe for further processing including the production of salt cod. Other final cod products include fillet blocks, individually frozen fillets, or fish sticks which are either individually quick-frozen or processed into shatterpack – layered frozen fillets that separate individually when hit against a hard surface—or layer pack. There is a significant shore-based production of Alaska's Pacific cod fillets. Single-frozen Alaska cod fillets are a high-value product destined primarily for domestic markets. The final markets include upscale dining establishments, institutional food service, quick-service restaurants, retail fish markets, grocery stores, and overseas markets (AFSC 2019).

H&L or pot vessels that operate in the less than 60' H&L or pot CV sector do not process Pacific cod at-sea, instead delivering to floating or shore-based processors. Pacific cod caught by this sector is processed into fillets that are either shatterpack or individually quick frozen. In the past, vessels operating in this sector had access to fresh markets where product was packaged whole and fresh before being air freighted to Korea (H&L/pot fisherman, personal communication).

In 2017, Alaska processors produced 136,990 mt of Pacific cod products, valued at \$510.2 million. Production volume in 2017 was the lowest since 2010, which mirrors trends of declining TAC for both the GOA and BSAI. Despite lower volumes, 2017 production value rose to a 12-year high of \$510 million due to an exceptionally strong market. Price increases are generally understood to be the result of strong demand combined with a reduction in Pacific and Atlantic cod harvest volume, as well as a reduction in the haddock quota in the Barents Sea. In 2017, Alaska Pacific cod H&G product accounted for 72 percent of production volume (98,489 mt) in 2017, and 67 percent of first wholesale value (\$341 million). Fillets accounted for 12 percent by wholesale volume (16,538 mt) and 25 percent of first wholesale value (\$127 million). Other products (e.g., roe, milt, fish meal) collectively made-up 16 percent of wholesale volume with 21,963 mt valued at \$42.5 million (AFSC 2019).

The ex-vessel prices for H&G Pacific cod caught and processed by H&L and pot gear vessels have been consistently higher than the prices received by trawl vessels (NMFS 2022, 48). According to an industry representative, this price difference occurs because fish caught by H&L 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. An industry representative also confirmed that it is common for BSAI Pacific cod jig operations to bleed cod while still alive, resulting in a high-quality product.

4 Analysis of Impacts

4.1 Methods and Approach for Impact Analysis

The impact analysis in this document is designed to meet the requirements of E.O. 12866, which requires an RIR to evaluate the costs and benefits of the alternatives including both quantifiable and qualitative considerations. Additionally, the analysis should provide information for decision makers “to maximize net benefits (including potential economic, environment, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach.”

The analysis is supported by recent fisheries data, analyses, and reference documents with the goal of using the best scientific information available (National Standard 2) to inform the Council’s decision-making. Chapter 4 contains the analysis of economic and social impacts comparing the No Action Alternative (Alternative 1) to the Action Alternative (Alternative 2). Secondary data include detailed information on the dynamics of the BSAI Pacific cod fishery, market, and communities that are associated with the impacted sectors by way of harvesting or processing. In particular, the description of fisheries (Chapter 3) and the Analysis of Impacts (Chapter 4) draw from:

Annual Community Engagement and Participation Overview (ACEPO) (Wise et al., 2021).

ACEPO is an annual report that provides an overview of communities that are substantially involved with harvesting or processing groundfish or crab in Alaska. https://www.npfmc.org/wp-content/PDFdocuments/Publications/ACEPO_ESSR_FY21.pdf

Amendment 85 (72 FR 50788, September 2007; effective January 1, 2008).

Amendment 85 created the existing sector allocations for non-Community Development Quota (CDQ) program BSAI Pacific cod. (In 2014 the BSAI Pacific cod stock was split into separate BS and AI stocks for the purposes of setting OFL and ABC, but sector allocations continue to be determined based on the summed total of BS and AI TACs, after deduction of 10.7% for CDQ allocation. Sector allocations may be fished in either the BS or AI, subject only to the sector’s overall harvest limit.) Amendment 85 also established NMFS’s ability to make in-season TAC reallocations (rollovers) between sectors.

BSAI Pacific cod Allocation Review (NPFMC 2019).

The BSAI Pacific cod allocation review analyzed the BSAI Pacific cod allocations established under Amendment 85 to ensure the optimal yield is being achieved under current conditions. The review can be found here: https://www.npfmc.org/wp-content/PDFdocuments/catch_shares/Pcod/BSAIPcodAllocationReview2019.pdf

Endangered Species Act Section 7 Biological Opinion: Authorization of the Alaska groundfish fisheries under the proposed revised Stellar Sea Lion Protection Measures (NMFS 2014).

The Endangered Species Act Section 7 Consultation Biological Opinion considered the action proposed by NMFS Alaska Region Sustainable Fisheries Division (SFD) to modify the federal groundfish fisheries and State of Alaska parallel groundfish fisheries for Atka mackerel, Pacific cod, and pollock in the Aleutian Islands subarea. This consultation also considers proposed research to better understand the potential effects of these fisheries on Stellar sea lions and on the efficacy of conserving prey in areas closed to fishing. The Biological Opinion can be found here: <https://repository.library.noaa.gov/view/noaa/17196>

Local Knowledge, Traditional Knowledge, and Subsistence Search Engine.

When preparing this analysis, staff used the Local Knowledge, Traditional Knowledge, and Subsistence (LKTKS) search engine developed by the LKTKS Taskforce to look for action-specific sources of information containing LK and TK. The search engine contains scientific articles in peer-reviewed journals, white papers, archival references, and other sources of information related to LK, TK, the social science of LK and TK, and subsistence information. No results were returned specific to LK from the affected BSAI Pacific cod sectors or TK related to BSAI Pacific cod more broadly. Some results were returned for subsistence which provided important contextual information but the sources were not widely used in the analysis, because the areas of academic study were not relevant to the communities that are engaged in or dependent on the BSAI Pacific cod less than 60' H&L or pot CV and jig sectors (see Section 4.5). Additionally, because the proposed action alternative (Alternative 2) would redefine two current commercial BSAI Pacific cod sectors, there are no anticipated direct or indirect impacts on the subsistence harvest, sharing or use of BSAI Pacific cod. The search engine can be found here: https://www.npfmc.org/lktns_information/

Stock Assessment and Fishery Evaluation (SAFE) Report for the Groundfish Fisheries of the Gulf of Alaska and Bering Sea/Aleutian Islands Area: Economic Status of the Groundfish Fisheries off Alaska (NMFS 2020).

The Economic SAFE report contains economic data and information about the Federal groundfish fisheries in the Gulf of Alaska and the BSAI. This report is published annually as an appendix to the Stock Assessment and Fishery Evaluation reports to provide data on catch, discards, prohibited species catch, ex-vessel and first-wholesale production and value. The 2020 Economic SAFE is available here: <https://meetings.npfmc.org/CommentReview/DownloadFile?p=bc83c1f0-2cc5-49a4-850c-ee822082b6be.pdf&fileName=D7%20Groundfish%20Economic%20SAFE.pdf>

Wholesale Market Profiles for Alaska Groundfish and Crab Fisheries (AFSC 2019).

This report evaluates a series of comprehensive wholesale market profiles for Federally managed groundfish and crab species caught in Alaska commercial fisheries. The report is available here: <http://www.mcdowellgroup.net/wp-content/uploads/2020/09/wholesale-market-profiles-for-alaska-groundfish-and-crab-fisheries-noaa.pdf>.

For this analysis, the reference information, tables, and figures largely use quantitative harvest, harvesting vessel, value, and processor activity from 2008 through 2021. 2008 through 2021 is time period in which the current BSAI Pacific cod allocations under Amendment 85 have been implemented. These fishery data were obtained through the Alaska Fishery Information Network (AKFIN). AKFIN has access to a variety of data sources including the catch accounting system (CAS) data which is the best available estimate of total catch in the groundfish fisheries off Alaska. In 2003, NMFS changed the methodologies used to determine catch estimates from the NMFS blend database (1995 through 2002) to the CAS (2003 through present). Currently, the CAS relies on data derived from a mixture of production and observer/electronic monitoring reports as the basis of the total catch estimates.

AKFIN also has access to Commercial Fisheries Entry Commission (CFEC) Fish Ticket data, and Alaska Department of Fish and Game (ADFG) Commercial Operators Annual Report (COAR) data, from which AKFIN can supply catch and discard records, as well as estimates of gross ex-vessel and first wholesale revenues. eLandings, which houses Fish Ticket data, was implemented in 2009. Prior to 2009, paper Fish Tickets were used. Paper Fish Tickets did not obtain consistent reporting for the management program codes which is how AKFIN determines participation in Federal fisheries.

The analysis uses vessel LOA data reported to the CFEC because it is considered the most up to date data source for length. A vessel's length is typically modified when it changes ownership or when it needs modifications. It is important to note it is possible that the reported United States Coast Guard (USCG) Documented Length would be different for vessels operating in the less than 60' H&L or pot CV sector. However, the United States Coast Guard (USCG) does not measure vessels on an annual basis and in some instances may not have measured a vessel for an extended period (see Chapter 5 for a further description on the LOA considerations).

Effort was made to provide the most relevant fisheries data while adhering to confidentiality constraints. The BSAI Pacific cod jig sector has had a relatively low level of participation in recent years, and the majority of information for the jig sector (i.e., landings, revenue, port delivery, etc.) is confidential. There are five unique H&L or pot CVs with a reported LOA measurement of exactly 56' that have participated in the Federal BSAI Pacific cod fishery (2008-2021). On average, two vessels with a reported LOA of 56' LOA have participated in the BSAI Pacific cod less than 60' H&L or pot CV sector each year. For this reason, the Initial Review draft aggregated data so that H&L or pot CVs with a reported LOA of 56' or less were included in the new small vessel sector (Alternative 2, option 2). This approach provided the best available information for the Council to analyze the impacts of the action alternative. However, under the PPA, H&L or pot CVs less than or equal to 55' LOA (Alternative 2, option 1) would harvest Pacific cod in the new BSAI Pacific cod small vessel sector. To the extent practicable, this iteration of the RIR analyzes the PPA within the bounds of confidentiality.

4.2 Alternative 1, Status Quo

Under Alternative 1, no action, the BSAI Pacific cod less than 60' H&L or pot CV and jig sectors, their allocation, and the hierarchy of reallocations of BSAI Pacific cod among all sectors currently set in Federal regulations at §679.20(a)(7)(iii) and (iv) would remain unchanged as described in Chapter 3 of this RIR.

Figure 4-1 compares the Federal BSAI Pacific cod landings (mt) for H&L and pot CVs greater than 56' LOA to the less than 60' H&L or pot CV sector's final allocation (mt) from 2008 through 2021. The annual amount (mt) of Federal BSAI Pacific cod harvested by H&L or pot CVs greater than 56' LOA has ranged from a low of 3,208 mt in 2021 to a high of 9,329 mt in 2014. H&L or pot CVs greater than 56' LOA have harvested 84 percent of the sector's final allocation on average from 2008 through 2021. However, the most recent five years for which data are available (2017-2021) show H&L or pot CVs greater than 56' LOA have harvested 79 percent of the sector's final allocation on average. **As such, it does not appear that H&L or pot CVs greater than 56' are harvesting a larger portion of the sector's final allocation over time, but they are harvesting the majority.**

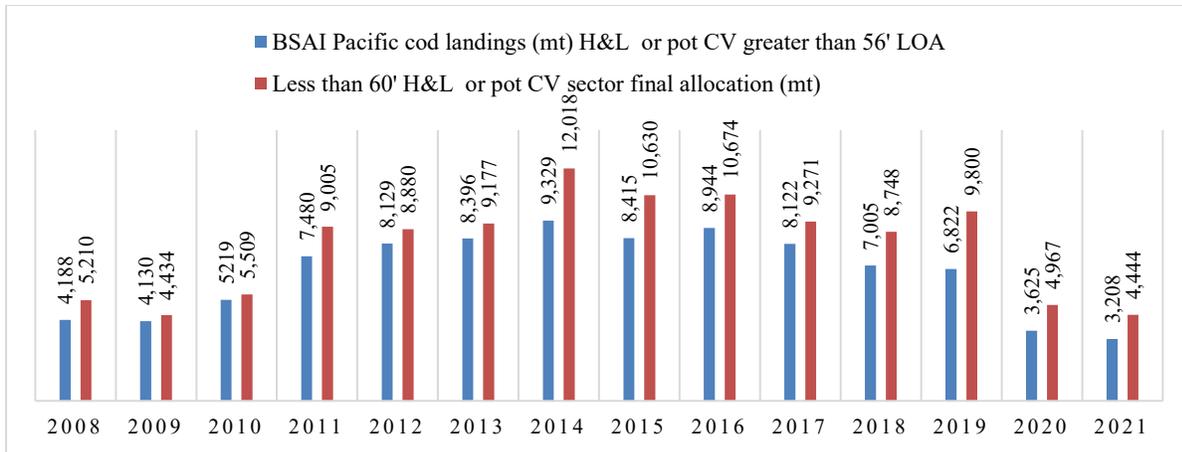


Figure 4-1 BSAI Pacific cod landings (mt) for H&L and pot CVs greater than 56' LOA compared to the less than 60' H&L or pot CV sector's final allocation from 2008 through 2021

Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA; sector_landings_tgt(11-19-21)

Under the status quo, there are several factors likely contributing to a more competitive fishery for the less than 60' H&L or pot CV sector. As described in Chapter 3, the sector receives their entire allocation on January 1 each year. The less than 60' H&L or pot CV sector has routinely harvested their entire allocation of BSAI Pacific cod in addition to reallocations from other sectors including the BSAI Pacific cod jig, greater than or equal to 60' H&L, greater than or equal to 60' pot, and trawl CV sectors, although the jig sector has consistently contributed reallocated Pacific cod. At the same time, the number of vessels participating in the BSAI Pacific cod less 60' H&L or pot CV sector has increased and there has been a gradual shortening of this sector's initial fishing period since 2008.

Table 4-1 shows the dates that NMFS took management action to open and close the less than 60' H&L or pot CV sector, the count of vessels participating in the sector in the calendar year, and the total count of days that landings of Federal BSAI Pacific cod were made by vessels operating in the sector (2008-2021).¹⁶ There has been a gradual shortening of the initial fishing period when the sector harvests its initial allocation as the number of days this sector needs to harvest its initial allocation has been reduced from nearly 75 to as little as 12 days in 2019. In 2021, the sector's initial fishing period closed on January 26 and had 26 vessels participate.

From 2008 through 2021, the total count of days when landings were made throughout the calendar year ranges from a low of 52 days in 2021 to a high of 191 days in 2014; 2014 was the sector's largest final allocation (12,018 mt) whereas 2021 was the sector's second lowest final allocation (4,444 mt). **The total count of calendar days when vessels in the less than 60' H&L or pot CV sector have made landings of Federal BSAI Pacific cod is correlated with the size of the sector's final allocation. When the less than 60' H&L or pot CV sector has historically had a smaller allocation, NMFS has taken management action earlier in the year to close the sector.**

Under Alternative 1, there are no anticipated impacts of the status quo on the BSAI Pacific cod jig sector or H&L and pot CVs greater than 56' LOA. A potential impact of Alternative 1 for H&L or pot CVs less than or equal to either 55' or 56' LOA is that they would continue to compete with larger

¹⁶ Staff analyzed the total days fished in a calendar year to reflect the sector's fishing activity. NMFS opens the less than 60' H&L or pot CV sector on January 1 and closes the sector early in the year after the sector has harvested their initial allocation and any reallocation from the BSAI Pacific cod jig sector. NMFS will reopen the sector if/when a reallocation(s) from another sector is available.

vessels in their sector that have additional capacity and efficiencies. However, the overall declining BSAI Pacific cod TAC in recent years (except for 2022), increased fishing activity, and a relative shortening of the fishing season suggest the less than 60' H&L or pot CV sector is becoming more competitive regardless of the vessel's length.

Table 4-1 NMFS management action to open and close the BSAI Pacific cod less than 60' H&L or pot CV sector, the count of vessels in the sector, count of days when landings of Federal BSAI Pacific cod were made by the sector and by vessel LOA subgroups from 2008 through 2021

Year	NMFS management action	Date	Less than 60' H&L/pot CV sector initial allocation (mt)	Less than 60' H&L/pot CV sector final allocation (mt)	Count of vessels in the less than 60' H&L/pot CV sector	Count of days that BSAI Pacific cod landings were made in the calendar year
2008	Open	1-Jan	3,033	5,210	31	111
	Closed	21-Mar				
	Open	30-Apr				
	Closed	6-May				
	Open	12-Sep				
2009	Closed	31-Dec	3,137	4,434	28	102
	Open	1-Jan				
	Closed	16-Mar				
2010	Open	30-Apr	2,998	5,509	23	109
	Closed	19-May				
	Open	27-Aug				
	Closed	23-Nov				
	Open	1-Jan				
2011	Closed	8-Mar	4,055	9,005	22	112
	Open	30-Apr				
	Closed	24-Oct				
2012	Open	1-Jan	4,645	8,880	24	108
	Closed	17-Feb				
	Open	6-Sep				
2013	Closed	31-Dec	4,627	9,177	27	130
	Open	1-Jan				
	Closed	7-Feb				
2014	Open	26-Aug	4,518	12,018	21	191
	Closed	31-Dec				
	Open	1-Sep				
2015	Closed	1-Jan	4,438	10,630	25	137
	Open	2-Feb				
	Closed	1-Sep				
		31-Dec				

Year	NMFS management action	Date	Less than 60' H&L/pot CV sector initial allocation (mt)	Less than 60' H&L/pot CV sector final allocation (mt)	Count of vessels in the less than 60' H&L/pot CV sector	Count of days that BSAI Pacific cod landings were made in the calendar year
2016	Open	1-Jan	4,476	10,674	22	112
	Closed	5-Feb				
	Open	1-Sep				
	Closed	31-Dec				
2017	Open	1-Jan	4,259	9,271	24	109
	Closed	2-Feb				
	Open	1-Sep				
	Closed	31-Dec				
2018	Open	1-Jan	3,627	8,748	29	119
	Closed	23-Jan				
	Open	1-Sep				
	Closed	15-Dec				
2019	Open	1-Jan	3,214	9,800	36	142
	Closed	12-Jan				
	Open	1-Sep				
	Closed	31-Dec				
2020	Open	1-Jan	2,766	4,967	41	70
	Closed	19-Jan				
	Open	1-Sep				
	Closed	12-Sep				
2021	Open	1-Jan	2,222	4,444	26	52
	Closed	26-Jan				
	Open	1-Sep				
	Closed	31-Dec				

Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA; small_boat_days_fished(6-11-22)

4.3 Alternative 2, Redefine the BSAI Pacific Jig Sector

Alternative 2 would redefine the Federal BSAI Pacific cod jig and less than 60' H&L or pot CV sectors. The Council's PPA would require all jig vessels and H&L or pot vessels less than or equal to 55' LOA to harvest Pacific cod from the jig sector's allocation. The PPA would also redefine the current less than 60' H&L or pot CV sector to include only H&L or pot vessels with a reported LOA of 56-59'. H&L or pot CVs in the redefined less than 60' sector would be required to harvest BSAI Pacific cod from the current sector's 2 percent allocation.

Eligibility for either sector – the new BSAI Pacific cod small vessel sector or the redefined less than 60' H&L or pot CV sector– would be based on a vessel's length and gear type. **As such, a H&L or pot vessel could not opt into one sector or another.** The PPA does not remove the requirement for H&L or pot vessels to be Federally permitted. All vessels that participate in the Federal BSAI Pacific cod less than 60' H&L or pot sector need a non-trawl LLP license (unless exempt), but they are exempt from the Pacific cod endorsement on their LLP, see § 679.4(k)(9)(iv)(B). **Vessel owners are responsible for ensuring their LOA is correct on their FFP. NMFS will use the LOA associated with an FFP to determine which sector a vessel is participating in.**

Under Alternative 2, the ICA will continue to be deducted from the aggregate portion of Pacific cod TAC annually allocated to the H&L and pot gear sectors prior to allocations. These deductions would include the new BSAI Pacific cod small vessel sector.

4.3.1 Changes in Sector Composition

Since 2008, 33 unique vessels have participated in the BSAI Pacific cod jig sector. The jig sector has had a relatively low level of participation in the fishery in recent years: zero jig vessels participated in the Federal fishery in 2021, three vessels participated in 2020, and two vessels in 2019 (see Table 3-13 above). There is one jig vessel that has regularly participated (nine out of fourteen years from 2008 through 2021) in the Federal BSAI Pacific cod fishery and would be most impacted by the PPA.

Since 2008, 94 unique vessels have participated in the Federal BSAI Pacific cod less than 60' H&L or pot CV sector. Of these 94 vessels, 61 have a reported LOA greater than 56', five have a reported LOA of exactly 56', and 28 vessels have a reported LOA less than or equal to 55'. The majority of vessels that participate in the less than 60' H&L or pot CV sector have a reported LOA of 58' as there are 57 unique vessels that are 58' LOA that have participated in this sector since 2008.

Table 4-2 uses historical data to show the count of vessels by gear type (H&L, pot, and jig) and reported vessel LOA for H&L and pot vessels from 2008 through 2021 to provide a clearer picture of the count of vessels that would be impacted by any option under Alternative 2. Table 4-3 uses historical data to depict the count of vessels that would have been in the new BSAI Pacific cod small vessel sector and the redefined less than 60' H&L or pot CV sector from 2008 through 2021 under option 1 and option 2, had these sectors existed. This shows the potential level of participation the Council and NMFS could expect in these sectors. Under the PPA, the BSAI Pacific cod small vessel sector would have had an average of nine vessels (H&L, pot, and jig gear) participating from 2008 through 2021.

Table 4-2 Count of vessels by gear type and LOA from 2008 through 2021

	<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>	<i>2020</i>	<i>2021</i>	<i>Annual Average Count</i>
Jig	15	3	7	11	4	6	2	4	2	1	1	2	3	0	4
≤ 55' H&L/pot CV	11	9	4	6	6	7	5	4	2	1	3	6	7	2	5
56' H&L/pot CV	2	3	2	1	1	2	2	3	3	3	3	3	3	3	2
>56 H&L/pot CV	19	16	17	15	17	18	14	18	17	19	23	27	31	21	19

Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA; sector_landings_tgt(11-19-21)

Table 4-3 Count of vessels that would have been eligible for the new BSAI Pacific cod small vessel sector and the redefined less than 60' H&L or pot CV sector under option 1 and option 2 from 2008 through 2021

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Annual Average Count
Option 1	<i>Small vessel sector (jig + ≤ 55' H&L /pot CV)</i>	22	12	11	17	10	13	7	8	4	2	4	8	10	2	9
	<i>Redefined <60' sector (>55' H&L /pot CV)</i>	20	19	19	16	18	20	16	21	20	22	26	30	34	24	22
Option 2	<i>Small vessel sector (jig + ≤ 56' H&L/pot CV)</i>	24	15	13	18	11	15	9	11	7	6	7	11	13	5	12
	<i>Redefined <60' sector (>56' H&L/pot CV)</i>	18	16	17	15	17	18	14	18	17	19	23	27	31	21	19

Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA; sector_landings_tgt(11-19-21)

4.3.2 Harvest Information

Figure 4-2 compares the BSAI Pacific cod jig sector’s initial allocation (mt) and the landings (mt) of vessels (H&L, pot, and jig) targeting Federal BSAI Pacific cod that would be eligible for the new BSAI Pacific cod small vessel sector under option 1 and 2. Due to confidentiality restrictions the actual landings amount (mt) cannot be displayed. These historical catch accounting data indicate **there would have been enough TAC in the BSAI Pacific cod jig sector’s 1.4 percent allocation to support the new BSAI Pacific cod small vessel sector under the PPA, assuming there is no change in these vessel’s fishing behavior in the future (2008-2021).**

It is the Council’s intent that under Alternative 2 the new BSAI small vessel sector would have TAC apportioned on a trimester basis (Jan 1—Apr 30 (60%); Apr 30 –Aug 31 (20%), and Aug 31—Dec 31 (20%)). It is not possible to quantitatively display data for the historical BSAI Pacific cod landings (mt) of vessels that would be eligible for the new BSAI Pacific cod small vessel sector due to confidentiality restrictions. However, on average, the landings of Federal BSAI Pacific cod made by H&L or pot vessels less than or equal to 55’ LOA and jig vessels (the PPA) are approximately 23 percent of the jig sector’s initial allocation (2008-2021). Additionally, historical catch accounting data indicate there would have been enough Pacific cod apportioned in each trimester to support a new BSAI Pacific cod small vessel sector under the PPA, but the fishing behavior of H&L and pot vessels in the new small vessel sector is uncertain.

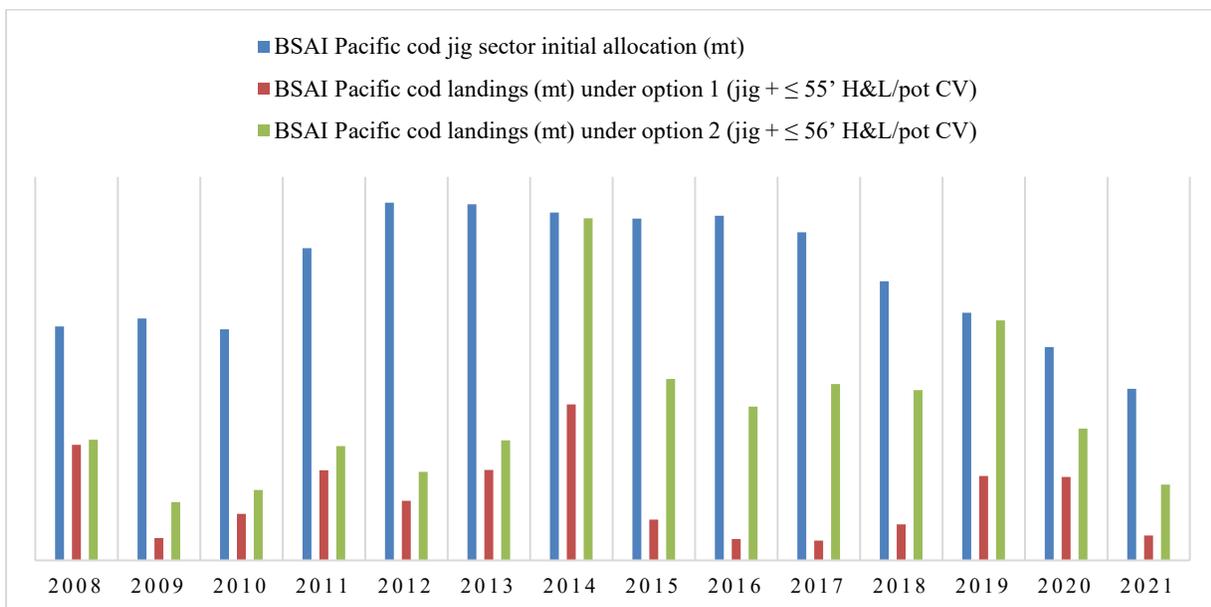


Figure 4-2 Comparison of BSAI Pacific cod jig sector initial allocation (mt) and the target landings (mt) of jig, H&L, and pot vessels that would be eligible for the new BSAI Pacific cod small vessel sector under option 1 and 2 from 2008 through 2021

Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA; sector_landings_tgt(11-19-21)

4.3.3 Vessel Safety

The Council is considering this action to provide more stability to H&L or pot vessels less than or equal to 55' LOA. Due to their size, smaller vessels typically fish waters closer to shore which may be less productive for Pacific cod.¹⁷ Pacific cod is a demersal species found throughout the Eastern Bering Sea and the Aleutian Islands and are distributed over the continental shelf at depths from shoreline to 500 meters. However, cod do not typically appear inside shallow, inshore waters until mid to late February. Additionally, condensed fishing periods at the start of the year give smaller vessels less flexibility to avoid fishing with the weather creates unsafe conditions.

Figure 4-3, Figure 4-4, and Figure 4-5 provide the Council with a better understanding of the spatial footprint of vessels operating in the less than 60' H&L or pot CV sector by vessel LOA grouping. H&L or pot vessels less than or equal to 55' LOA primarily fish in State waters near Dutch Harbor/Unalaska (statistical area 665403). The highest density of Federal BSAI Pacific cod landings (mt) for vessels with a reported LOA of 56', and those that are greater than 56' (i.e., 57-59'), are in waters near Unimak Pass in Federal waters (statistical areas 665430 and 655410). It is possible, albeit difficult to pinpoint as a direct cause, that the ability of larger vessels to fish more productive grounds near Unimak Pass contributes to the unintended inter-sector competition (e.g., fuel costs could also influence where a vessel chooses to fish).

It is unlikely that the Council's PPA would impact where smaller H&L or pot vessels target Federal BSAI Pacific cod because their fishing locations are, at least in part, informed by broader considerations including a vessel's overall seaworthiness, whether a processor is available, etc. However, **the Council's PPA could have a positive impact on the overall safety of smaller H&L or pot CVs as they could be more selective on when they take their fishing trips to target better weather windows absent the competition of larger vessels in the current sector.**

Conversely, **the PPA could have a negative impact on the overall safety of H&L or pot CVs greater than 56' LOA.** While there would be fewer vessels participating in the redefined less than 60' H&L or pot CV sector, the relative contribution of the jig sector's reallocation (mt) is greater than the landings (mt) of the smaller H&L or pot CVs in all but two years (2014 and 2019) (see Table 4-4). Larger H&L or pot CVs that remain in the less than 60' H&L or pot CV sector could fish at a faster pace as there would be less BSAI Pacific cod TAC available early in the year when these vessels target BSAI Pacific cod in the Federal fishery. This could have cumulative effects on these vessel's safety, and it is more challenging for NMFS to conservatively manage a fishery with smaller quotas and fished at a faster pace.

Because the Council's PPA could impact vessel safety, staff worked with NMFS OLE as well as USCG and the National Institute for Occupational Safety and Health (NIOSH) to analyze reported safety incidents for H&L or pot vessels less than or equal to 60' LOA from 2008 through 2021. No fatal commercial fishing events, or onshore/onboard incidents, occurred in the less than 60' H&L or pot CV sector while vessels were targeting Federal BSAI Pacific cod (2008-2021, USCG).

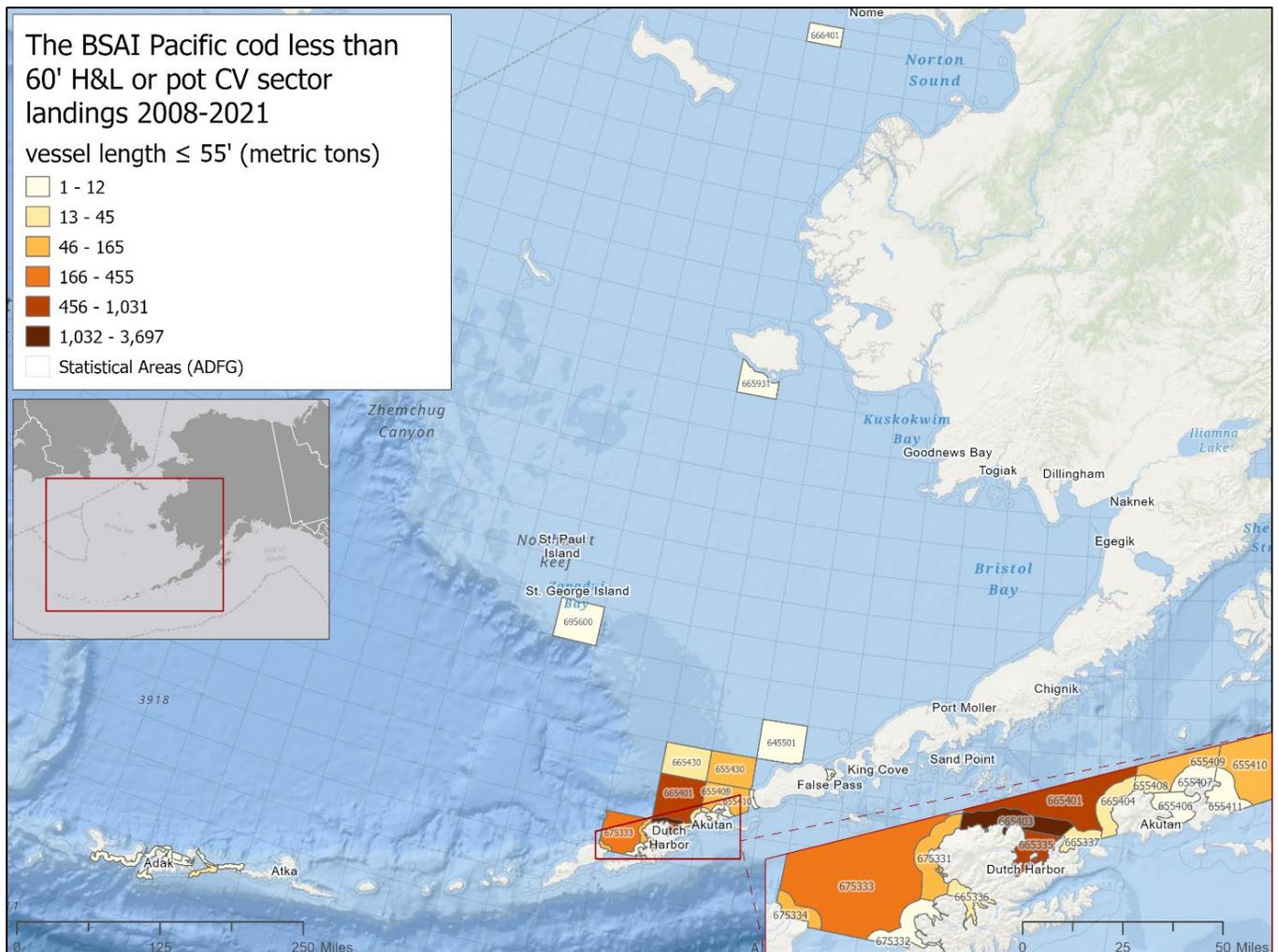
The total number of OLE incidents related to H&L or pot vessels less than 60' from 2008 to 2022 in the TRIDENT Case Management System is 1,897, with 1,260 (66 percent) requiring no enforcement action. From 2008 through 2022, there were 16 recorded observer safety-related incidents, of which 14 did not require enforcement action.¹⁸ In 2013 one incident was reported by observers of the discard of pollock

¹⁷ At the June 2022 Council meeting, the Council received public comment that described how smaller CVs may be at a disadvantage in compressed fishing seasons because of where the smaller vessels can operate compared to larger vessels with additional efficiencies and capacity.

¹⁸ NMFS OLE counts routine boarding as an incident, and safety incidents are primarily related to observers – incidents involving the observer's safety or observer-reported potential vessel safety violations.

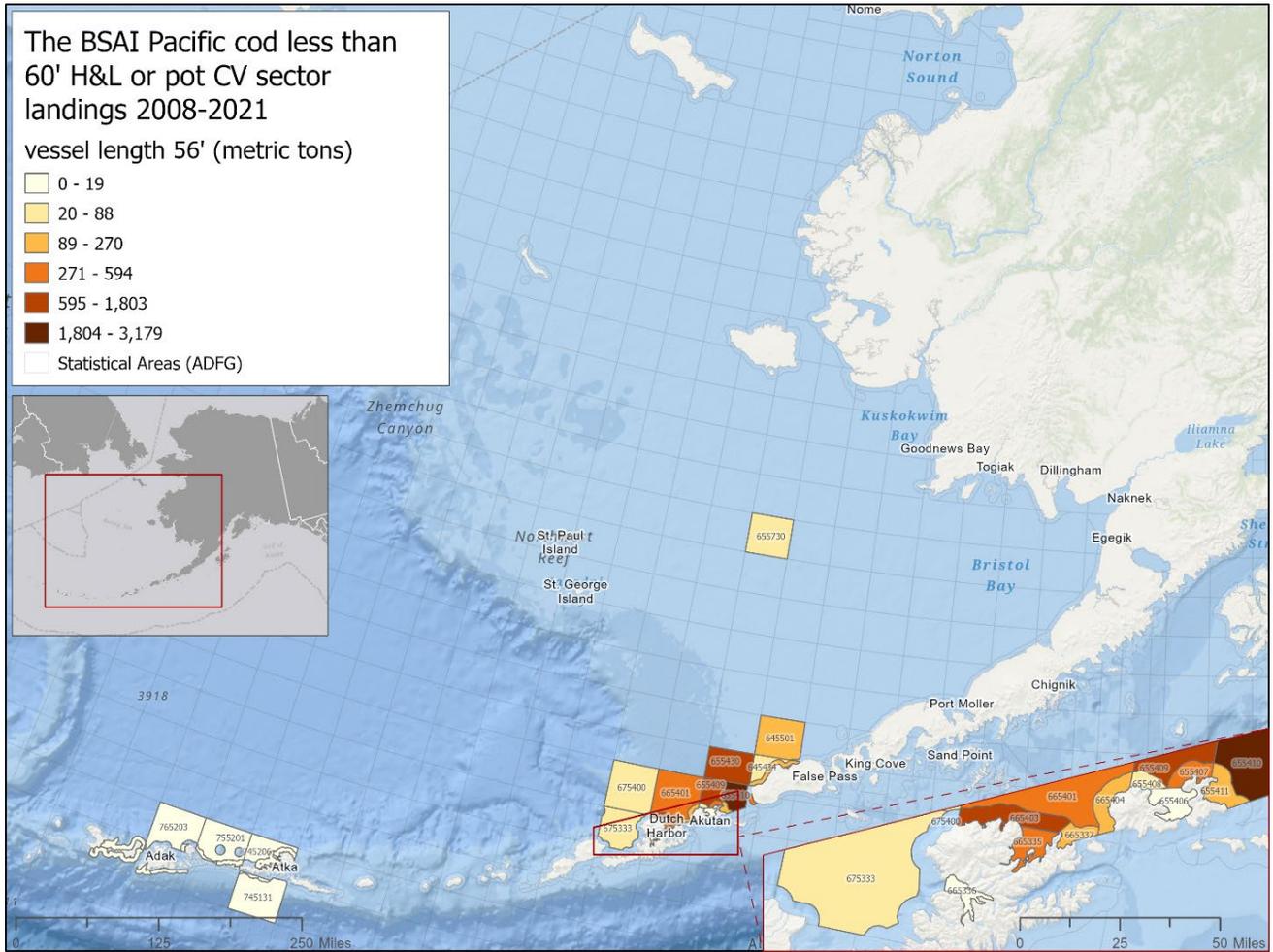
due to safety concerns, and in 2018 two vessels discarded catch due to safety concerns, with no additional information given on the safety issue. There was one non-observer incident in 2014 of one vessel entering a Steller Sea Lion no transit zone for safety due to bad weather. Vessels targeting BSAI Pacific cod in the less than 60' H&L or pot CV sector had reported 215 incidents, with 116 requiring no enforcement action (2008-2022). Of the 215 incidents, three were related to observer safety issues that were closed, requiring no enforcement action.

Figure 4-3 Density of Federal BSAI Pacific cod landings (mt) for H&L or pot CVs less than or equal to 55' LOA by ADFG statistical areas from 2008 through 2021



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

Figure 4-4 Density of Federal BSAI Pacific cod landings (mt) for 56' H&L or pot CVs by ADFG statistical areas from 2008 through 2021



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

Figure 4-5 Density of Federal BSAI Pacific cod landings (mt) for H&L or pot CVs greater than 56' LOA by ADFG statistical areas from 2008 through 2021

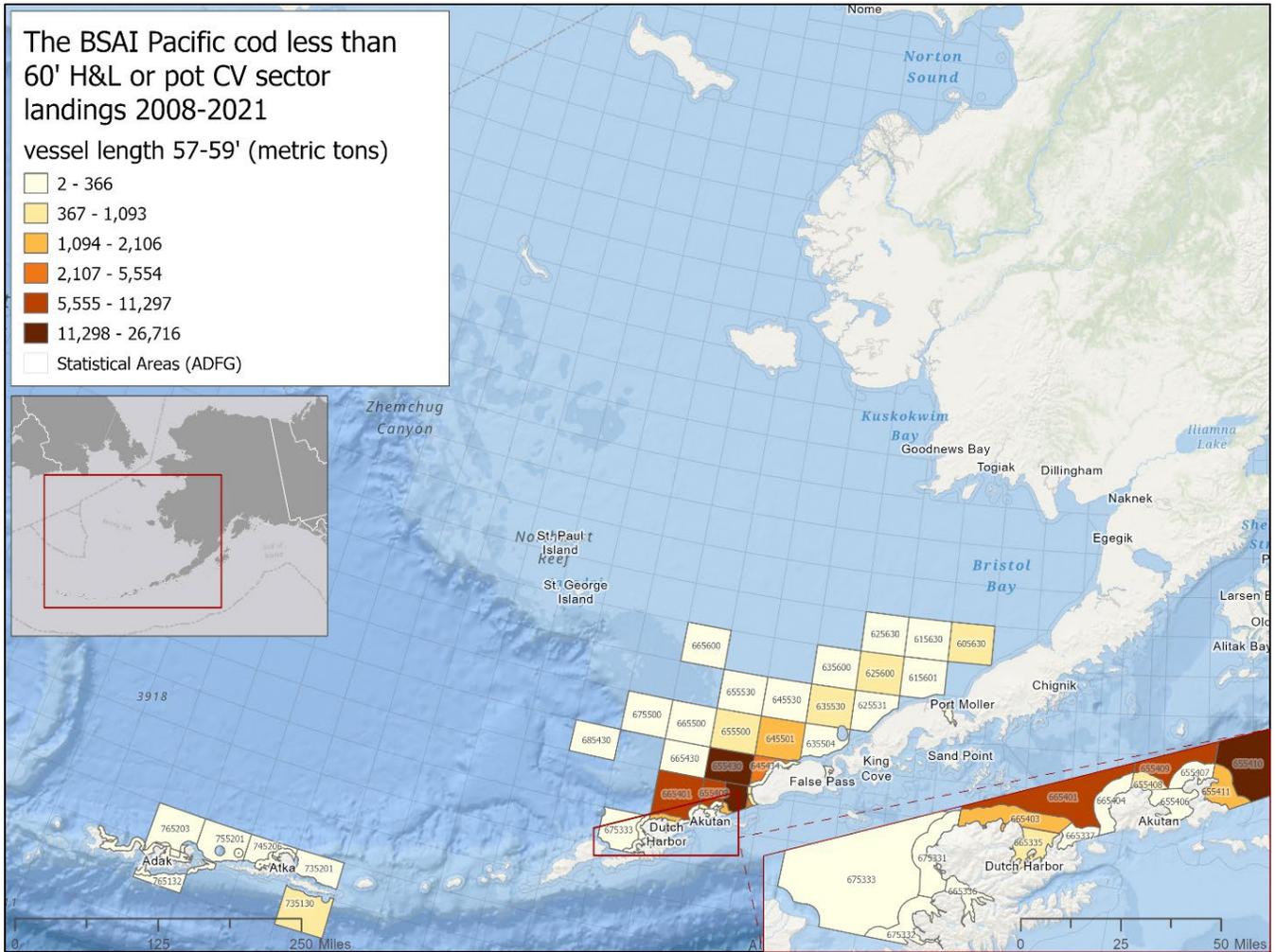


Table 4-4 Comparison of BSAI Pacific cod less than 60' H&L or pot CV sector final allocation (mt), the target landings (mt) of BSAI Pacific cod by H&L or pot CVs less than or equal to 56' LOA, and the jig sector's reallocation amount (mt) from 2008 through 2021

Year	BSAI Pacific cod <60' H&L/pot CV sector final allocation (mt)	≤56' H&L/ pot CV BSAI Pacific cod landings (mt)	BSAI Pacific cod jig reallocation (mt) to <60' H&L/pot CV sector
2008	5,210	926	2,024
2009	4,434	519	1,600
2010	5,509	299	1,760
2011	9,005	546	1,970
2012	8,880	748	2,800
2013	9,177	1,083	3,200
2014	12,018	3,119	3,073
2015	10,630	1,629	3,018
2016	10,674	1,357	3,050
2017	9,271	1,828	2,886
2018	8,748	1,553	2,400
2019	9,800	2,049	1,765
2020	4,967	1,193	1,927
2021	4,444	692	1,500

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

4.3.4 Reallocations of BSAI Pacific cod

4.3.4.1 Reallocations v. Rollovers

The current regulations at 679.20(a)(7)(iv)(B) and (C) allow any unused portion of a seasonal allowance from any sector *except the jig sector* to be rolled over to that sector's next season during the current fishing year unless the Regional Administrator determines that sector would be unable to harvest its allocation. These regulations also allow the Regional Administrator to reallocate any projected unused portion of the BSAI Pacific cod jig sector's seasonal allowance to the less than 60' H&L or pot vessel sector. **Under the PPA, the Council would need to consider whether an unused portion of a seasonal allowance in the new BSAI Pacific cod small vessel sector would be reallocated to the redefined less than 60' H&L or pot CV sector or whether it would rollover to the small vessel sector's next fishing season.**

After evaluating the Initial Review draft of this analysis in June 2022, the Council stated its intent is to maintain the current reallocation hierarchy, including the current regulation at subpart (C) that would apply to the new BSAI Pacific cod small vessel sector. Maintaining the current reallocation hierarchy would provide flexibility to the Regional Administrator and in-season management to reallocate a projected unused portion of a Pacific cod allowance from the new BSAI Pacific cod small vessel sector to the less than 60' H&L or pot CV sector each season, or when NMFS is confident that they could project the amount of TAC the new small vessel sector would need to finish the season. This approach could mitigate some of the PPA's potential allocative impacts on the redefined less than 60' H&L or pot CV sector (see Section 4.3.5). If the redefined less than 60' H&L or pot CV sector was still open, NMFS could do a reallocation which would allow the sector to continue fishing. **However, if the sector were already closed and a reallocation could be made, it does not mean NMFS would necessarily reopen the sector. NMFS would only reopen the sector if there were enough TAC to conservatively manage the sector and if vessels are available to target Federal BSAI Pacific cod.**

It is important to note that, because there has historically been little to no participation by the jig sector fishing in the C season, NMFS has been able to reallocate projected unused B and C season TAC to the current less than 60' H&L or pot CV sector on or near September 1st. **Under the PPA, it is likely NMFS would not be able to reallocate C season TAC from the new BSAI Pacific cod small vessel sector on or near September 1 because smaller H&L or pot vessels historically fish in the fall and NMFS may not be able to determine how much the sector would need.** If there was projected unused Pacific cod TAC leftover later in the season (e.g., October 31), NMFS could reallocate that Pacific cod to the redefined less than 60' H&L or pot CV sector at that time.

If the Council were to choose an alternative option which is to rollover an unused portion of a seasonal allowance in the new BSAI Pacific cod small vessel sector, NMFS does not anticipate any issues with the unused portion of a seasonal allowance in the new BSAI Pacific cod small vessel sector being rolled over to the next fishing season. However, in a year where the new BSAI Pacific cod small vessel sector would not have the capacity to harvest the allocation, it is possible that the timing of a reallocation to the larger H&L or pot vessels in the redefined less than 60' H&L or pot CV sector would not occur at a time when they would be able to fish it.

4.3.4.2 Timing of Reallocations

There has historically been little to no jig participation in the A season, which has allowed NMFS to reallocate projected unused A season TAC from the jig sector to the less than 60' H&L or pot CV sector early in the year. Each year, NMFS works with the less than 60' H&L or pot CV sector to understand their capacity and closely monitors their fishing. NMFS tries to time that A season reallocation to ensure the sector does not experience a disruption in fishing between their initial allocation and the reallocation.

A significant portion of the BSAI Pacific cod jig sector's initial allocation has historically been reallocated to the less than 60' H&L or pot CV sector annually. Figure 4-6 compares the total amount (mt) of BSAI Pacific cod that has been reallocated from the jig sector to all BSAI Pacific cod sectors and the amount (mt) that has historically been reallocated to the less than 60' H&L or pot CV sector (2008 through 2021). The amount of Pacific cod that has historically been reallocated to the less than 60' H&L or pot CV sector from the jig sector has ranged from 1,500 mt to 3,200 mt. In nine out of fourteen years, 100 percent of the BSAI Pacific cod jig sector's remaining seasonal allowance was reallocated to the less than 60' H&L or pot CV sector. From 2008 through 2021, 95 percent of the BSAI Pacific cod jig's initial allocation that has been reallocated to the less than 60' H&L or pot CV sector (on average).

Under the PPA, it is uncertain if or when NMFS would know whether any TAC would be available from the new BSAI Pacific cod small vessel sector to reallocate to the redefined less than 60' H&L or pot CV sector. It is anticipated that smaller H&L or pot CVs eligible for the new BSAI Pacific cod small vessel sector would have an opportunity to harvest more Pacific cod and these vessels could fully utilize the jig sector's A and C season allowances (recall the suboption proposes the B season remain a jig-only fishery). Focusing on the A season, **if the new BSAI Pacific cod small vessel sector was to fully utilize the A season allowance, the redefined less than 60' H&L or pot CV sector would not receive the historically common reallocation of BSAI Pacific cod early in the year. NMFS would not be able to compensate for this loss in the A season because most BSAI Pacific cod sector's A season allowances are fully harvested, and if not, any remaining A season allowance rolls over to the next season for that sector, except for the jig sector** (see 679.20(a)(7)(iv)(B) and (C)).

Under the PPA, it is also possible that the new BSAI Pacific cod small vessel sector would not fully utilize the jig sector's A season allowance. However, because smaller H&L or pot CVs could have more stability and extend their fishing season early in the year, the timing of a potential reallocation is likely to be impacted. Specifically, it is uncertain when NMFS would be able to project whether any TAC would be available from the new BSAI Pacific cod small vessel sector to reallocate to the redefined less than 60' H&L or pot CV sector. NMFS tries to reallocate projected amounts of unharvested Pacific cod to sectors that may be able to harvest these amounts, but NMFS tries not to reallocate Pacific cod from a sector that may have the capacity to catch their allocation. To evaluate a sector's capacity, NMFS must first determine a sector's remaining Pacific cod allocation and whether the sector could harvest the remaining amount. Making these determinations about capacity requires communication with vessel operators and processors. If any vessel operator or processor indicates that they will remain active or become active in the fishery before the end of the season or the year, NMFS will likely be more conservative in leaving amounts of Pacific cod available for that sector.

In a scenario where there was enough Pacific cod remaining in the new BSAI Pacific cod small vessel sector that could be reallocated to the redefined less than 60' H&L or pot CV sector, NMFS might not have enough information to confidently make that reallocation until the sector's regulatory closure on April 30. There is no recent history where the less than 60' H&L or pot CV sector has been open continuously from January 1 – April 30. It is unclear whether the larger H&L or pot CVs in the redefined less than 60' H&L or pot CV sector would be available to fish BSAI Pacific cod at that time or if there would be enough BSAI Pacific cod to reallocate to allow for a reopening.

The current regulations at 679.20(a)(7)(iv)(B) and (C) require a reallocation of BSAI Pacific cod from the jig sector's C season to the less than 60' H&L or pot CV sector on or near September 1st. This is an important fall opportunity for the less than 60' H&L or pot CV sector that allows vessels to transition (e.g., retain crew) from summer fisheries like salmon or IFQ to the Federal Pacific cod fishery. **There are relatively few reallocation opportunities available to open the less than 60' H&L or pot CV sector on September 1 except for the jig sector because the other BSAI Pacific cod sectors have not finished their B or C seasons, depending on the sector** (see Table 3-3). NMFS has historically reallocated all or the majority of the greater than 60' H&L CV sector's TAC on September 1 because the

sector has historically not been fishing at this time, but this reallocation is small, and it would not typically be enough to reopen the fishery in the fall. Additionally, in some years (such as 2022), NMFS has been able to reallocate some trawl CV Pacific cod TAC on September 1, but this is not a reallocation that occurs regularly at this time, and it is unclear how the PCTC program will impact the trawl CV sector's C season and whether any TAC would be available to reallocate.

Under the PPA, it is unclear whether NMFS would be able to reallocate and reopen the redefined less than 60' H&L or pot CV sector on September 1. Currently it is anticipated NMFS would not likely be able to because smaller H&L or pot CVs in the new BSAI Pacific cod small vessel sector would have an opportunity to fish the C season allowance in the fall. H&L or pot vessels in the new small vessel sector would be able to maintain the historical rhythm of their fall fishing opportunities, but H&L or pot vessels greater than 56' LOA might not. The future fishing behavior of smaller H&L or pot CVs is uncertain. It is possible that the new BSAI Pacific cod small vessel sector would fully utilize the C season allowance. In this scenario, vessels in the redefined less than 60' H&L or pot CV sector may not receive a fall reallocation until later in the year when NMFS is able to project the unused portion of the C season trawl CV TAC. It is possible that this may not be able to be determined until the end of October when the CV trawl C season is nearing completion, assuming there is enough TAC to be reallocated to reopen the redefined less than 60' H&L or pot CV sector. It is also possible that the new BSAI Pacific cod small vessel sector would not fully utilize their C season allowance, but the timing of a potential reallocation is uncertain and would likely be impacted under Alternative 2.

The PPA could have a negative impact on the H&L or pot CVs that would remain in the redefined less than 60' H&L or pot CV sector because the PPA would change the historically common patterns of annual reallocations from the BSAI Pacific cod jig sector to the less than 60' H&L or pot CV sector. This would represent a change in historical patterns of use between sectors as seen over the 2008-2021 period, and it could result in some inefficiencies as more BSAI Pacific cod is harvested by smaller H&L or pot CVs relative to the more efficient larger H&L or pot vessels. In sum, these impacts could occur:

- If a new BSAI Pacific cod small vessel sector harvests the entire 1.4 percent allocation;
- In scenario where the new BSAI Pacific cod small vessel sector does not harvest all of its initial allocation but there is either too little TAC to reallocate to the redefined less than 60' H&L or pot CV sector or the reallocation would occur at a time in the year when vessels are not available to target Federal BSAI Pacific cod;
- If the overall BSAI Pacific cod biomass declines resulting in a reduction of the available BSAI Pacific cod TAC (a scenario which would impact all Amendment 85 sectors);
- If more vessels participate in either the new BSAI Pacific cod small vessel sector or the redefined less than 60' H&L or pot CV sector over time.

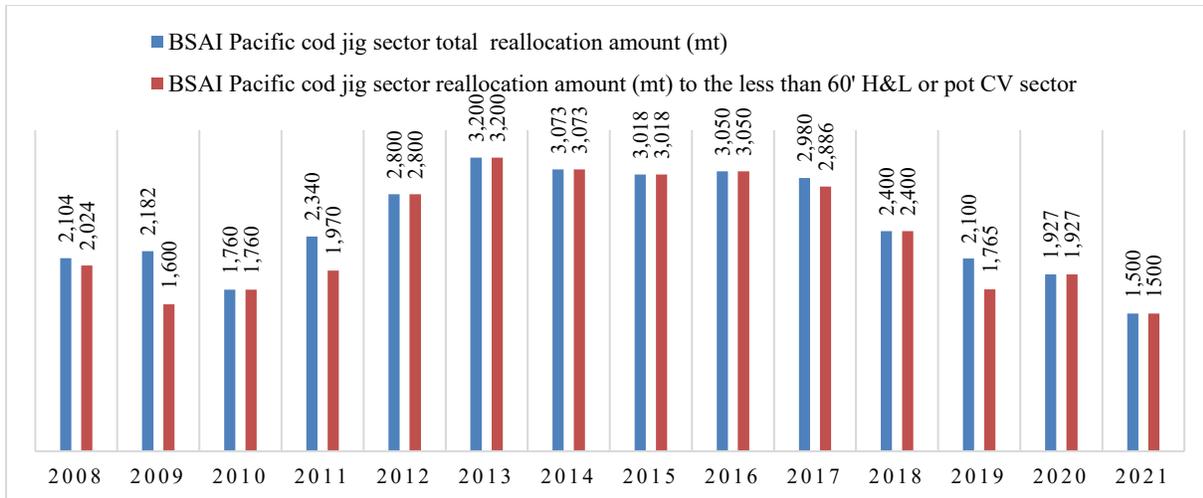


Figure 4-6 Comparison of the BSAI Pacific cod jig sector's total reallocation amount (mt) to all BSAI Pacific cod sectors and the reallocation amount (mt) to the less than 60' H&L or pot CV sector from 2008 through 2021

Source: NOAA Fisheries Alaska Region, [BSAI Pacific cod reallocations \(1995–present\)](https://media.fisheries.noaa.gov/dam-migration/bsai-pcod-reallocation-1995-present.pdf) report at <https://media.fisheries.noaa.gov/dam-migration/bsai-pcod-reallocation-1995-present.pdf>

4.3.5 Revenue Impacts

There is uncertainty about the magnitude of the incidental allocative impacts that could occur under Alternative 2, and to provide more clarity, the following sections estimate the potential revenue impacts for H&L or pot CVs. The Council's PPA (Alternative 2, option 1) would require H&L or pot CVs less than or equal to 55' LOA to harvest Pacific cod from the new small vessel sector's allocation. However, due to data confidentiality restrictions, the analysis splits H&L or pot vessels into two groups: those that are less than or equal to 56' LOA and those that are greater than 56' LOA (Alternative 2, option 2). An important caveat to this data is that NMFS cannot track the landings that are derived from a sector's initial allocation or subsequent reallocations. Therefore, it is not possible to precisely estimate the potential revenue impact for H&L or pot CVs greater than 56' or the potential revenue opportunity for H&L or pot CVs less than or equal to 56'.

4.3.5.1 Revenue Impacts for H&L or pot CVs greater than 56' LOA

In a scenario described above where NMFS could no longer maintain the historically common patterns of reallocations from the BSAI Pacific cod jig sector to the less than 60' H&L or pot CV sector, **the incidental allocative effects would negatively impact H&L or pot CVs greater than 56' that remain in the redefined less than 60' H&L or pot CV sector.** Table 4-5 provides data on the gross ex-vessel revenue H&L or pot CVs greater than 56' have earned from the Federal BSAI Pacific cod fishery in the less than 60' H&L or pot CV sector, and an estimate of the revenue these vessels have received from the BSAI Pacific cod jig sector's reallocation to the sector.

The estimated revenue impact for H&L and pot CVs greater than 56' LOA assumes there is no reallocation from the new BSAI Pacific cod small vessel sector. The estimated revenue derived from the BSAI Pacific cod jig sector's reallocation has historically ranged from \$.86 million to \$2.58 million (2020 real \$). The estimated annual average gross ex-vessel revenue derived from the BSAI Pacific cod jig sector's reallocation is \$1.61 million. However, this is likely an over-estimate of the potential lost revenue from the BSAI Pacific cod jig sector's historical reallocation because H&L or pot CVs greater than 56' LOA do not utilize 100 percent of the less than 60' H&L or pot CV sector's allocation. From 2008 through 2021, H&L or pot CVs greater than 56' LOA have utilized approximately 86 percent of their

sector's final allocation (on average). When accounting for the portion of the less than 60' H&L or pot CV's allocation that is harvested by vessels greater than 56' LOA, the estimated annual average gross ex-vessel revenue lost from the reallocation is \$1.36 million.

Smaller H&L or pot CVs would be excluded from the redefined less than 60' H&L or pot CV sector which could mitigate some of the negative impacts as vessels greater than 56' LOA could fully utilize the current sector's 2 percent allocation. Assuming these vessels could harvest the remaining 14 percent of the sector's allocation that they have not historically harvested (on average), the additional revenue gain is \$0.14 million. The net revenue impact is calculated as the difference between the estimated revenue loss due to the lost reallocation from the jig sector and the gain from having access to the sector's full 2 percent allocation of Pacific cod. **The estimated annual average gross ex-vessel revenue impact for H&L or pot CVs greater than 56' LOA of a decrease of \$1.22 million, which is 22 percent of these vessels' annual average total gross ex-vessel revenue for Federal BSAI Pacific cod.**

From 2008 through 2021, the total gross ex-vessel revenue for all fisheries for H&L or pot CV's greater than 56' LOA has ranged from a low of \$17.57 million in 2009 to a high of \$33.49 million in 2019 (Table 4-6). The annual average total gross ex-vessel revenue from all fisheries that H&L or pot CVs greater than 56' LOA have earned is \$26.95 million. The gross ex-vessel revenue these vessels have earned from the Federal BSAI Pacific cod fishery has ranged from a low of \$2.54 million in 2021 to a high of \$6.93 million in 2012. The annual average gross ex-vessel revenue earned from the Federal BSAI Pacific cod fishery is \$5.41 million during the same period. On average, the IFQ fisheries have contributed the largest portion of total gross ex-vessel revenue for H&L or pot CVs greater than 56' LOA at 30 percent, followed by the GHL Pacific cod and Federal BSAI Pacific cod fisheries at 21 and 20 percent, respectively. Other fishing activities by H&L or pot CVs greater than 56' include salmon, CDQ, and GOA Pacific cod, which in recent years has diminished significantly due to the decline in the GOA Pacific cod biomass and the resulting limitations on the GOA Pacific cod directed fishing.

Under Alternative 2, the magnitude of the revenue impact for H&L or pot CVs greater than 56' LOA varies at the vessel-level. Figure 4-7 shows the percent of H&L or pot CVs greater than 56' by their average level of dependence on the Federal BSAI Pacific cod fishery from 2008 through 2021. When looking at the less than 60' H&L or pot CV sector, the top 10 vessels most dependent on the Federal BSAI Pacific cod fishery have a reported LOA of 58'. H&L or pot CVs' greater than 56' LOA dependence on the Federal BSAI Pacific cod fishery ranges from less than one percent to 100 percent. There are seven H&L or pot vessels in this vessel group that depend on the fishery for more than 80 percent of their total revenue. In general, vessels with a high level of dependence on the Federal BSAI Pacific cod fishery either only or primarily target cod in Federal (BSAI and GOA) and State waters. **It does not appear H&L or pot CVs greater than 56' LOA that are most dependent on the Federal BSAI Pacific cod fishery would be able to easily compensate for the anticipated loss of historically common reallocations of BSAI Pacific cod from the jig sector.**

4.3.5.2 Revenue Impacts for H&L or pot CVs Less Than or Equal to 56' LOA

H&L or pot CVs in the new BSAI Pacific cod small vessel sector could receive a significant revenue increase under Alternative 2 and the PPA, though the extent of this opportunity depend on their future fishing behavior and whether they fully utilize the A and C season allowances (recall the B season would be a jig-only fishery under the PPA).

The estimated additional revenue impact for H&L or pot CVs less than or equal to 56' LOA assumes these vessels would fully utilize the new BSAI Pacific cod small vessel sector's 1.4 percent allocation. Table 4-7 provides data on the BSAI Pacific cod jig sector's initial allocation (mt), H&L or pot CVs less than or equal to 56' BSAI Pacific cod landings (mt), and the gross ex-vessel revenue H&L or pot CVs less than or equal to 56' have derived from the Federal BSAI Pacific cod from 2008 through 2021. The

BSAI Pacific cod jig sector's initial allocation has ranged from a low of 1,945 mt in 2020 to a high of 3,263 mt in 2012. The landings of Federal BSAI Pacific cod from vessels less than or equal to 56' has ranged from a low of 299 mt in 2010 to a high of 3,119 mt in 2014. The estimated additional revenue H&L or pot CVs less than or equal to 56' LOA could derive under Alternative 2 ranges from a low of \$38,455 to a high of \$1.97 million (2020 real \$). The estimated annual average revenue is \$1.15 million.

Staff also accounted for the historical levels of participation from BSAI Pacific cod jig sector vessels and their associated revenue from the fishery. Revenue information for jig vessels cannot be quantitatively displayed due to confidentiality restrictions, but by calculating the difference between the value of the full jig allocation minus the value of historic jig vessel's revenues, **the annual average additional revenue opportunity for H&L or pot CVs less than or equal to 56' LOA is \$1.15 million under Alternative 2.**

However, staff cannot accurately predict the future fishing effort of smaller H&L or pot CVs, so there is uncertainty about the actual annual additional revenue opportunity for smaller H&L or pot CVs that would be eligible for the new BSAI Pacific cod small vessel sector. It is uncertain whether H&L or pot CVs less than or equal to 56' and jig vessels have the capacity to fully utilize the BSAI Pacific cod jig sector's initial allocation in the new BSAI Pacific cod small vessel sector (see Figure 4-2). The Council's intent is to maintain the current reallocation hierarchy at §679.20(a)(7)(iii). This means that, unless the new BSAI Pacific cod small vessel sector was to fully harvest each season's allowance, some portion of that projected unused TAC would be reallocated to the less than 60' H&L or pot CV sector. **The management approach of retaining the current reallocation hierarchy would reduce the potential revenue opportunity for H&L or pot CVs in the new BSAI Pacific cod small vessel sector while potentially mitigating potential revenue loss for H&L or pot CVs over 56' LOA.**

Additionally, the Council is considering a suboption (analyzed in Section 4.3.7 below) that would reserve BSAI Pacific cod TAC apportioned in the new BSAI Pacific cod small vessel sector's B season for harvest by jig vessels only. The B season allowance is 20 percent of the sector's allocation. Historical participation in the BSAI Pacific cod jig sector has varied, and it is not possible to accurately predict what the future effort of jig vessels would be in the B season. NMFS could reallocate any projected unused B season TAC to the redefined less than 60' H&L or pot CV sector on or near September 1, but that does not necessarily mean that reallocation amount would be sufficient to reopen the sector at that time.

Under Alternative 2, the magnitude of the revenue impact for H&L or pot CVs less than or equal to 56' LOA varies at the vessel-level. The level of these vessel's dependence on the Federal BSAI Pacific cod fishery varies from less than one percent to approximately 71 percent. Of the 33 H&L or pot vessels in this size group, the Federal BSAI Pacific cod fishery contributes less than 10 percent of the total revenue for 24 vessels (2008-2021). Vessels in this group have diverse fishing portfolios, but those with a lower level of dependence on the Federal BSAI Pacific cod fishery are highly engaged in, and dependent on, the IFQ fisheries.

On average, the total value for all fisheries for H&L or pot CVs less than or equal to 56' LOA was \$5.45 million (2008-2021). The annual average revenue H&L or pot CVs less than or equal to 56' LOA earn from the IFQ fisheries is \$2.62 million, accounting for approximately 48 percent of their total gross ex-vessel revenue. By comparison, the annual average revenue these vessels earn from the Federal BSAI Pacific cod fishery is \$1.05 million, accounting for approximately 19 percent of their total gross ex-vessel revenue during the same period.

Table 4-5 Estimated range of potential gross ex-vessel revenue impacts for H&L or pot CVs greater than 56' LOA under Alternative 2 from 2008 through 2021, (real 2020 \$)

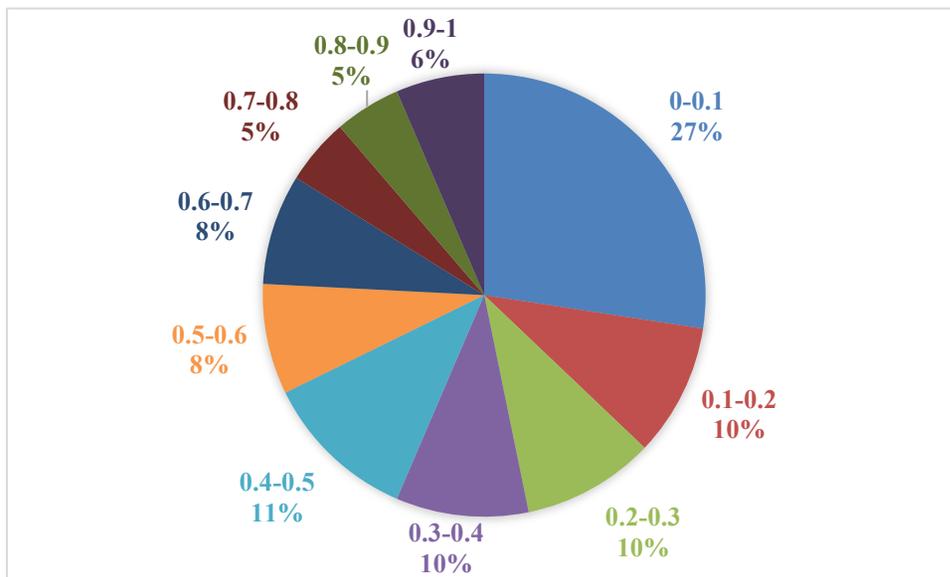
Year	<60' H&L/ pot CV sector final allocation (mt)	<60' H&L/ pot CV landings (mt)	>56' H&L/ pot CV landings (mt)	≤56' H&L/ pot CV landings (mt)	BSAI Pacific cod jig re- allocation (mt)	>56' H&L/ pot CV landings as a % of total	≤56' H&L/ pot CV landings as a % of total	Jig re- allocation as a % of <60' H&L/ pot CV sector final allocation	<60' H&L/ pot CV sector BSAI Pacific cod gross ex- vessel revenue (\$)	>56' H&L/pot CV BSAI Pacific cod gross ex vessel revenue (\$)	≤56' H&L or pot CV BSAI Pacific cod gross ex- vessel revenue (\$)	Maximum estimated revenue impact for >56' H&L/ pot CV (\$)	Adjusted revenue impact estimate for >56' H&L/pot CV (\$)	Net revenue impact for >56' H&L/ pot CV (\$)
2008	5,210	5,144	4,188	926	2,024	82%	18%	39%	8,165,746	6,652,103	1,513,643	2,584,233	2,116,302	1,948,699
2009	4,434	4,649	4,130	519	1,600	89%	11%	36%	3,344,577	2,951,989	392,588	1,065,219	946,302	918,289
2010	5,509	5,518	5,219	299	1,760	95%	5%	32%	4,193,203	3,955,016	238,187	1,263,537	1,195,071	1,186,288
2011	9,005	8,026	7,480	546	1,970	93%	7%	22%	6,807,924	6,338,559	469,366	1,386,669	1,292,336	1,267,391
2012	8,880	8,877	8,129	748	2,800	92%	8%	32%	7,604,752	6,928,330	676,422	2,184,608	2,000,528	1,961,502
2013	9,177	9,479	8,396	1,083	3,200	89%	11%	35%	6,582,389	5,821,985	760,404	2,030,113	1,798,168	1,741,584
2014	12,018	12,448	9,329	3,119	3,073	75%	25%	26%	8,466,496	6,285,723	2,180,773	1,607,258	1,204,540	797,840
2015	10,630	10,043	8,415	1,629	3,018	84%	16%	28%	6,592,653	5,482,695	1,109,959	1,556,610	1,304,280	1,175,357
2016	10,674	10,301	8,944	1,357	3,050	87%	13%	29%	7,081,239	6,153,445	927,793	1,758,291	1,526,664	1,439,365
2017	9,271	9,950	8,122	1,828	2,886	82%	18%	31%	7,115,258	5,796,555	1,318,703	1,804,428	1,472,922	1,306,068
2018	8,748	8,558	7,005	1,553	2,400	82%	18%	27%	8,325,620	6,844,833	1,480,787	1,877,869	1,537,097	1,342,103
2019	9,800	8,872	6,822	2,049	1,765	77%	23%	18%	8,656,204	6,588,011	2,068,193	1,186,514	912,353	520,728
2020	4,967	4,817	3,625	1,193	1,927	75%	25%	39%	4,502,222	3,415,791	1,086,431	1,325,192	997,264	832,582
2021	4,444	3,900	3,208	692	1,500	82%	18%	34%	3,092,290	2,537,844	554,445	856,608	704,615	638,501
Total	112,767	110,552	93,012	17,541	32,973	-	-	-	90,530,575	75,752,881	14,777,694	22,487,156	19,008,441	17,077,240
Av.	8,055	7,897	6,644	1,253	2,355	84%	16%	30%	6,466,470	5,410,920	1,055,550	1,606,225	1,357,746	1,219,803

Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT; Small_boat_div(2-8-22)

Table 4-6 Vessel count, gross ex-vessel revenue (\$), and percent of gross ex-vessel revenue (\$) by fishery from 2008 through 2021 for H&L or pot CVs greater than 56' LOA

Year	BSAI Pacific cod			GHL Pacific cod			GOA Pacific cod			IFQ fisheries			Salmon			CDQ			Total value (\$)
	Vessel count	Gross ex-vessel value (\$)	% of total	Vessel count	Gross ex-vessel value (\$)	% of total	Vessel count	Gross ex-vessel value (\$)	% of total	Vessel count	Gross ex-vessel value (\$)	% of total	Vessel count	Gross ex-vessel value (\$)	% of total	Vessel count	Gross ex-vessel value (\$)	% of total	
2008	18	6,652,103	25%	13	1,598,941	6%	16	3,041,654	11%	12	3,644,207	14%	2	*	*	-	-	-	26,791,656
2009	16	2,951,989	17%	8	*	*	10	1,948,069	11%	11	7,203,094	41%	7	3,651,725	21%	1	*	*	17,569,699
2010	16	3,955,016	17%	8	*	*	11	2,601,820	11%	12	11,169,561	48%	7	2,733,884	12%	2	*	*	23,392,164
2011	15	6,338,559	21%	7	*	*	8	3,932,847	13%	10	13,799,181	46%	7	1,778,063	6%	2	*	*	30,295,572
2012	16	6,928,330	25%	12	3,198,012	11%	8	2,403,238	9%	10	9,231,334	33%	6	*	*	6	*	*	28,269,447
2013	18	5,821,985	22%	12	2,643,318	10%	8	1,468,727	5%	12	7,533,364	28%	8	5,042,784	19%	4	4,234,619	11%	26,724,236
2014	14	6,285,723	28%	12	5,749,381	25%	3	*	*	8	5,340,776	24%	6	1,464,020	6%	4	*	*	22,622,962
2015	18	5,482,695	23%	16	5,631,474	24%	9	1,103,953	5%	8	6,096,401	26%	10	2,664,981	11%	4	1,715,421	6%	23,622,694
2016	17	6,153,445	25%	17	8,292,268	33%	7	1,195,910	5%	8	5,618,679	22%	8	1,639,997	7%	5	1,475,928	7%	25,035,079
2017	19	5,796,555	22%	18	8,240,006	31%	7	928,049	3%	10	6,997,985	26%	7	2,494,797	9%	5	1,661,174	7%	26,872,592
2018	23	6,844,833	22%	22	12,091,330	38%	6	393,217	1%	10	7,610,074	24%	8	1,824,899	6%	4	1,986,501	6%	31,453,035
2019	27	6,588,011	20%	25	11,443,296	34%	3	*	*	12	7,360,138	22%	12	4,119,508	12%	4	*	*	33,490,524
2020	31	3,415,791	12%	30	11,052,170	37%	7	*	*	20	7,584,741	26%	11	1,500,632	5%	3	*	8%	29,481,311
2021	21	2,537,844	8%	20	9,261,962	30%	7	649,159	2%	14	11,685,115	38%	5	*	*	2	*	*	30,902,518

Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT; Small_boat_div (2-8-22)



Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT; Small_boat_div_SIA(6-27-22)

Figure 4-7 Percent of H&L or pot CVs greater than 56' LOA by their average level of dependence on the Federal BSAI Pacific cod fishery from 2008 through 2021

Table 4-7 Estimated maximum potential revenue opportunity for H&L or pot CVs less than or equal to 56' LOA under Alternative 2 from 2008 through 2021, (real 2020 \$)

Year	BSAI Pacific cod jig sector initial allocation (mt)	≤56' H&L/pot CVs Federal BSAI Pacific cod landings (mt)	≤56' H&L/pot CVs BSAI Pacific cod landings (mt) as a % of the jig sector initial allocation	≤56' H&L/ pot CVs BSAI Pacific cod gross ex-vessel revenue (\$)	Estimated maximum potential revenue opportunity for ≤56' H&L/ pot CVs (\$)	Estimated total revenue for ≤56' H&L/ pot CVs (\$)
2008	2,134	926	43%	1,513,643	1,974,600	3,488,242
2009	2,207	519	24%	392,588	1,276,853	1,669,440
2010	2,110	299	14%	238,187	1,442,658	1,680,844
2011	2,850	546	19%	469,367	1,980,617	2,449,982
2012	3,263	748	23%	676,422	2,274,333	2,950,755
2013	3,251	1,083	33%	760,404	1,522,212	2,282,616
2014	3,174	3,119	98%	2,180,773	38,455	2,219,228
2015	3,118	1,629	52%	1,109,959	1,014,566	2,124,524
2016	3,144	1,357	43%	927,793	1,221,788	2,149,581
2017	2,993	1,828	61%	1,318,703	840,421	2,159,124
2018	2,549	1,553	61%	1,480,787	949,686	2,430,472
2019	2,259	2,049	91%	2,068,193	211,967	2,280,160
2020	1,945	1,193	61%	1,086,431	684,825	1,771,256
2021	1,565	692	44%	544,445	686,850	1,253,911
Total	36,562	17,541	-	14,767,695	16,119,853	30,887,548
Average	2,612	1,253	48%	1,054,835	1,151,418	2,206,253

Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT; Small_boat_div(2-8-22)

4.3.6 DHS State waters Pot Fishery Impacts

The DHS pot fishery opens seven days after the Federal BSAI Pacific cod less than 60' H&L or pot CV sector closes and is open to vessels less than or equal to 58' LOA using pot gear with a limit of 60 pots per vessel. The BOF, with industry input, set regulations to open the DHS pot fishery seven days after the Federal BSAI Pacific cod less than 60' H&L or pot CV sector closes because this management approach provides pot vessels the opportunity to participate in the Federal BSAI Pacific cod fishery until it closes and then register to fish in the DHS pot fishery.

Under Alternative 2, the BOF would need to address the trigger for opening the DHS pot fishery because the less than 60' H&L or pot CV sector would be redefined from what is currently in Federal regulations. The BOF, with industry input, would also need to determine what the new trigger should be – the new BSAI Pacific cod small vessel sector closing date, the redefined less than 60' H&L or pot CV sector closing date, or some other trigger such as a hard start date. Alternative 2 would not impact the DHS State waters jig fishery because the fishery opens with a hard date of May 1.

It is uncertain what action the BOF would take to open the DHS pot fishery. However, if the BOF chose to use a sector's closure date as the trigger, there would likely be negative impacts for those vessels that do not operate in the trigger sector. Vessels with the required gear type and vessel LOA operating in the trigger sector would be able to fish in the Federal BSAI Pacific cod fishery until it closed and then register to fish in the DHS pot fishery once it opened, which would mirror the status quo for how these vessels operate.

If the BOF selected the redefined less than 60' H&L or pot CV sector's closure date as the trigger, it is anticipated that the DHS pot fishery would open before pot vessels fishing in the new BSAI Pacific cod small vessel sector would complete their A season. Table 4-8 reports the Federal BSAI Pacific cod less than 60' H&L or pot CV sector and DHS pot fishery season dates from 2014 through 2021 to provide a snapshot of the timing of these fisheries. The DHS pot fishery is competitive and smaller pot vessels would likely need to choose which fishery – Federal BSAI Pacific cod or the DHS pot fishery – to participate in, under this scenario. Smaller pot vessels that choose to continue fishing in the Federal Pacific cod A season could miss out on the opportunity to participate in the DHS pot fishery if pot vessels greater than 56' LOA were to harvest the GHF before the end of the small vessel sector's A season or before the vessels registered and began fishing in State waters. It is also possible that smaller pot vessels could choose to stop fishing in the Federal fishery, register to fish in State waters, and potentially lose the opportunity to fully utilize the Federal A season allowance.

In this scenario, smaller pot vessels in the new small vessel sector that want to fish in the Federal BSAI Pacific cod fishery and then register to fish in the DHS pot fishery may not benefit from the PPA in terms of stability because their seasons could match the pace of the larger vessels. However, smaller H&L vessels may have an opportunity to continue their Federal fishery in the A season without the competition of pot vessels in their own sector. Twenty-four unique H&L vessels less than or equal to 55' LOA have participated in the Federal BSAI Pacific cod fishery from 2008 through 2021, and 11 have participated in the most recent five years for which data are available (2017-2021).¹⁹

Additionally, it is anticipated that once the DHS pot fishery was opened, the BOF would close parallel waters to Pacific cod to pot vessels less than or equal to 58' to ensure accurate catch accounting. This management action could impact the safety of smaller pot vessels that could continue to fish their Federal Pacific cod allocation but could no longer operate in parallel waters and instead be required to fish in Federal waters, unless the vessel was registered to fish in the DHS fishery. From 2014

¹⁹ Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT; Small_Boat_Landings_Gear(6-13-22).

through 2021, 11 pot vessels less than or equal to 56’ LOA have participated in the Federal BSAI Pacific cod fishery and five have also participated in the DHS pot fishery. The annual average level of participation is 3.5 pot vessels. The annual average gross ex-vessel revenue pot CVs less than or equal to 56’ earn from the DHS pot fishery is \$1.51 million, accounting for 25 percent of their total gross ex-vessel revenue across all fisheries (2014-2021).²⁰

Conversely, **if the BOF selected the new BSAI Pacific cod small vessel sector as the trigger to open the DHS pot fishery, it is possible the State fishery would not open until later in the year.** The future fishing behavior of vessels operating in the new BSAI Pacific cod small vessel sector is uncertain, and it is possible they would not finish their A season until the regulatory closure of April 30. This scenario would pose a major disruption to the current rhythm and timing of the DHS pot fishery and pot vessels, regardless of their LOA, may not be available to start fishing the DHS pot fishery late in the spring (e.g., some vessels may have contracts to fish IFQ). From 2014 through 2021, 42 pot vessels greater than 56’ LOA have participated in the Federal BSAI Pacific cod fishery. Of these 42 vessels, 38 have also participated in the DHS pot fishery. The annual average level of participation in the DHS pot fishery for this vessel LOA group is 17. The annual average gross ex-vessel revenue pot CVs greater than 56’ earn from the DHS fishery is \$7.27 million, accounting for 26 percent of these vessel’s total gross ex-vessel revenue across all fisheries (2014-2021).²¹

Table 4-8 Federal BSAI Pacific cod less than 60’ H&L or pot CV sector and DHS Pacific cod pot fishery season dates from 2014 through 2021

Year	<60’ H&L/pot CV sector open	<60’ H&L/pot CV sector closed	DHS GHL pot fishery open	DHS GHL pot fishery closed
2014	January 1	February 4	February 11	September 1
2015	January 1	February 2	February 9	March 31
2016	January 1	February 5	February 12	April 22
2017	January 1	February 2	February 9	April 8
2018	January 1	January 23	January 30	March 1
2019	January 1	January 12	January 19	February 24
2020	January 1	January 19	January 26	March 12
2021	January 1	January 26	February 2	March 25

Source: ADF&G; DHS Season Dates_NPFMCpaper_4.11.22 and SeasonDatesIBs_cod_pollock_TLAS_PSC

4.3.7 Suboption – B Season as Jig Only Fishery

The PPA includes the suboption which would reserve BSAI Pacific cod TAC apportioned in the new BSAI Pacific cod small vessel sector’s B season for jig CVs and CPs only. Vessels participating in the BSAI Pacific cod jig sector primarily fish between April and September when the weather is safest for smaller vessels to operate. The deliveries of vessels operating in the less than 60’ H&L or pot CV sector, regardless of their size, are concentrated in January and the fall (September to December), which is also when the sector has historically been open.

Table 4-9 reports the count of BSAI Pacific cod deliveries, the average number of deliveries, and the percent of total deliveries made in the jig sector’s seasons from 2008 through 2021 by vessels operating in the BSAI Pacific cod less than 60’ H&L or pot CV and jig sectors. From 2008 through 2021, the BSAI

²⁰ Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT; Small_boat_SMPC_breakout(8-2-22)

²¹ Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT; Small_boat_SMPC_breakout(8-2-22)

Pacific cod jig sector made 430 deliveries of Federal BSAI Pacific cod, of which 373 (87 percent) occurred during the B season. From 2008 through 2021, the less than 60' H&L or pot CV sector made 3,993 deliveries of Federal BSAI Pacific cod, of which 2,618 (66 percent) occurred in the jig sector's A season. **If H&L or pot CVs eligible for the new BSAI Pacific cod small vessel sector were allowed to harvest BSAI Pacific cod during the B season, it is possible these vessels could constrain jig vessels,** particularly if there were to be an increase in the number of participating H&L or pot vessels over time, if there were to be less BSAI Pacific cod available for the new BSAI Pacific cod small vessel sector to harvest, or if there were greater jig participation.

Three percent of the less than 60' H&L or pot CV sector's deliveries were made in the jig sector's B season from 2008 through 2021. Vessels operating in the less than 60' H&L or pot sector participate in salmon, IFQ, and other important fisheries during the jig sector's B season, and the sector has not been open during the jig B season since 2011. Some small H&L CVs have made landings in the jig sector's B season in State-waters inside 3 nm during the spring/summer months even though the Federal fishery for the less than 60' H&L or pot CV sector has closed. The State of Alaska does not differentiate between processing sectors (CPs and CVs) and the H&L CP sector in the BSAI is open year-round. That means a H&L CV of any size could participate in the parallel fishery after the Federal season closed. However, NMFS does not anticipate this fishing behavior to increase because of the Council's 2019 action that precluded H&L, pot and trawl gear vessels with an FFP from participating in the BSAI Pacific cod parallel fisheries unless they have an LLP license with the correct LLP endorsements. This action also required Federally permitted or licensed vessels that fish in the parallel fishery to adhere to Federal sector and seasonal BSAI Pacific cod closures and would restrict those vessels from surrendering and later reapplying for the FFP within a specified time period.²²

Because the less than 60' H&L or pot CV sector is typically closed by the time the jig sector's B season begins on April 30 and does not reopen until September 1 after the B season is closed, **there are no anticipated impacts of including the suboption which largely mirrors the historical fishing activity of both affected sectors.**

Table 4-9 Count of BSAI Pacific cod deliveries, the average number of deliveries, and the percent of total deliveries made by vessels operating in the BSAI Pacific cod less than 60' H&L or pot CV and jig sectors in each jig sector trimester from 2008 through 2021

	Season	Count of deliveries	Average number of deliveries	% of total deliveries
Jig	A (Jan 1 - Apr 30)	14	1	3%
	B (Apr 30 – Aug 31)	373	27	87%
	C (Aug 31 - Dec 31)	43	3	10%
<60' H&L /pot CV	A (Jan 1 - Apr 30)	2,618	187	66%
	B (Apr 30 – Aug 31)*	113	8	3%
	C (Aug 31 - Dec 31)	1,261	90	31%

Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA; small_boat_monthlylandings (2-15-22)

*The less than 60' H&L or pot CV sector has not historically been open during this period, but the landings of BSAI Pacific cod (mt) of vessels that participate in this sector are shown in the jig sector's B season to compare when vessels in each sector are fishing.

²² The Council action for parallel fisheries can be found at 85 FR 78038, Dec 3, 2020.

4.4 Summary of Impacts on Fishing Activity

Table 4-10 provides a summary of expected impacts of this proposed action on fishing location, timing, effort, authorized gear types, and harvest levels for Alternative 2. At this stage, NMFS foresees that this action would qualify for a CE from further review under NEPA.

Table 4-10 Summary of impacts on fishing activity

Category	Option 1	Option 2	Suboption
Fishing Location	Not likely to change fishing location. This is outside of the scope of the action.		
Timing and Effort	Minimally redistribute effort and modify timing relative to the overall BSAI Pacific cod fishery. H&L and pot vessels in the new small vessel sector would fish seasonal allocations instead of an annual allocation (Section 4.3.2 and Section 4.3.3). Timing and frequency of reallocations would change under this action for the redefined less than 60' H&L or pot CV sector (Section 4.3.3).		No anticipated impacts, may closely mirror historical fishing activity of both sectors (Section 4.3.7).
Authorized Gear Types	No changes to authorized gear types. H&L, pot, and jig gear are authorized under the BSAI groundfish FMP. Additionally, Federal BSAI Pacific cod sectors are defined by gear type, operation type, and vessel size categories (Section 3.2 and 3.6).		
Harvest Levels	No changes to harvest levels. The BSAI Pacific cod TAC is set in accordance with the Pacific cod biomass (Section 3.2).		

4.5 Community Impacts

The following sections characterize the communities that are engaged in or dependent on the BSAI Pacific cod less than 60' H&L or pot CV and jig sectors, and they largely rely on quantitative fishery information, within the bounds of confidentiality restrictions, that could be impacted by Alternative 2. This information helps to identify patterns of engagement in and dependency on the Federal BSAI Pacific cod fishery based on the distribution of vessels in the sectors most likely to be affected by Alternative 2 across communities. Given that Alternative 2 would impact two commercial BSAI Pacific cod sectors, there are no anticipated direct impacts on subsistence harvest of Pacific cod. However, it is possible that PPA would have positive indirect impacts on subsistence harvest, sharing, or use of Pacific cod. Smaller vessels could extend their Federal season providing additional subsistence opportunities for smaller vessels that are less costly to operate. Redefining the BSAI Pacific cod jig sector to include H&L or pot CVs less than or equal to 55' LOA could also encourage new participants to enter the fishery thereby extending indirect subsistence opportunities.

4.5.1 H&L or pot CVs Greater Than 56' LOA

Table 4-11 provides a count, by community of ownership address and year (2008-2021), of H&L or pot CVs greater than 56' LOA for all Alaska communities as well as Washington and other states (primarily Oregon and California) with any vessels active in the BSAI Pacific cod less than 60' H&L or pot CV sector during this time. There are 61 unique vessels greater than 56' LOA that have participated in the

Federal BSAI Pacific cod less than 60' H&L or pot CV sector (2008 through 2021), of which 50 have had a reported ownership address in an Alaska community. **Kodiak has the highest number of unique H&L or pot CVs greater than 56' LOA with a registered ownership address at 16 followed by Homer at nine and Petersburg at six.** All communities across Kodiak Island are engaged in commercial fisheries, but the majority of commercial vessels, including the less than 60' H&L or pot CV sector, and seafood processing plants are in Kodiak City.²³ Commercial fishing, seafood processing, and commercial fishing support services are the major industries contributing to the local economy. Commercially significant groundfish species harvested in the Kodiak area include Pacific cod, sablefish, lingcod, skates, black rockfish, and pollock (Wise et al., 2021).

Table 4-12 reports the gross ex-vessel revenues for H&L or pot CVs greater than 56' from the Federal BSAI Pacific cod fishery by community of the vessel's historical ownership address (2008-2020, 2020 real \$). H&L or pot CVs greater than 56' LOA with a registered ownership address in an Alaska community generated approximately \$4.1 million in annual average gross ex-vessel revenue from the Federal BSAI Pacific cod fishery, which is approximately 21 percent of all gross ex-vessel revenues for those vessels in the same time period (Table 4-13).

During the same time period, the Homer/Kodiak/Anchor Point "community fleet" (all commercial fishing vessels with a registered ownership address participating in any area, gear, and species fisheries) annually averaged approximately \$222 million in gross ex-vessel revenue for all commercial fisheries, of which BSAI Pacific cod caught by H&L or pot CVs greater than 56' LOA accounted for approximately 1.2 percent (\$2.6 million) of the total combined revenue of the Homer/Kodiak/Anchor Point community fleet (Table 4-14).

²³ Kodiak Island has been inhabited for thousands of years by Alaska Native populations, many of which are Alutiiq. The Alutiiq culture relies on the harvesting of fish, marine vertebrates, and marine mammals. Salmon caught in both salt and fresh water have been extremely important resources and Alutiiq peoples have traditionally hunted whales (Himes-Cornell et al., 2013).

Table 4-11 Vessels greater than 56' LOA targeting Federal BSAI Pacific cod with H&L or pot gear by community of vessel historic ownership address from 2008 through 2021 (number of vessels)

Region	Community	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Annual Average 2008-2021 (number)	Annual Average 2008-2021 (percent)	Unique Vessels 2008-2021 (number)	
Alaska	Dutch Harbor/Unalaska	1	1	0	2	1	1	1	1	1	1	1	1	2	2	1.1	5.93%	3	
	Anchor Point	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.2	1.11%	1	
	Homer	1	1	1	1	2	2	2	3	4	4	3	1	3	3	2.1	11.11%	9	
	Kodiak	5	2	5	4	5	5	4	4	4	5	9	9	8	5	5.3	27.41%	16	
	Homer/Kodiak/Anchor Point	7	4	7	5	7	7	6	7	8	8	10	12	11	8	7.6	39.63%	26	
	Cordova	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.37%	1
	Girdwood	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0.3	1.48%	1
	Haines	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.1	0.74%	1
	Juneau	0	0	1	0	0	0	1	1	1	1	1	0	0	1	1	0.5	2.59%	3
	Kenai	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.2	1.11%	1
	Ketchikan	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.37%	1
	King Cove	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0.1	0.74%	2
	Klawock	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0.1	0.74%	1
	Nikolaevsk	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.37%	1
	Petersburg	0	1	1	0	0	1	0	2	2	1	2	1	3	3	1.2	6.30%	6	
	Sand Point	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0.2	1.11%	2
	Seward	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0.7	3.70%	1
	Sitka	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.1	0.37%	1
	Wasilla	0	1	1	1	2	2	2	2	2	2	2	2	2	2	2	1.6	8.52%	2
	Other AK	3	5	4	2	3	6	4	7	6	5	6	8	10	8	5.5	28.52%	23	
Alaska	11	10	11	9	11	14	11	15	15	14	17	21	23	16	14.1	73.33%	50		
Washington	5	4	5	6	6	4	3	3	1	2	3	3	4	1	3.6	18.52%	14		
Other States	2	2	0	0	0	0	0	0	1	3	3	3	4	2	1.4	7.41%	10		
Grand Total	18	16	16	15	17	18	14	18	17	19	23	27	31	21	19.3	100.00%	61		

Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT; smallboat_SIA_less than60_breakouts (5-12-22)

Table 4-12 Gross ex-vessel revenues for H&L or pot CVs greater than 56' LOA targeting Federal BSAI Pacific cod by community of vessel historic ownership address, 2008 through 2020 (thousands of real 2020 dollars)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Annual Average gross ex-vessel revenue (\$ thousands)	Annual Average gross ex-vessel revenue (percent)
Dutch/Unalaska	*	*	*	*	*	*	*	*	*	*	*	*	*	\$142	3.1%
Homer/Kodiak/ Anchor Point	\$3,643	\$839	\$1,988	\$3,856	\$3,427	\$3,422	\$2,562	\$1,994	\$2,446	\$2,280	\$2,419	\$2,923	\$1,708	\$2,578	42.6%
Other Alaska	*	*	*	*	*	*	*	*	*	*	*	*	*	\$1,404	30.4%
Alaska	\$4,058	\$1,299	\$2,478	\$4,665	\$5,411	\$5,268	\$4,723	\$4,379	*	\$4,482	\$4,575	\$4,309	\$2,684	\$4,123	76.0%
Other States	\$2,594	\$1,653	\$1,477	\$1,674	\$1,517	\$554	\$1,563	\$1,103	*	\$1,315	\$2,270	\$2,279	\$732	\$1,509	24.0%
Grand Total	\$6,652	\$2,952	\$3,955	\$6,339	\$6,928	\$5,822	\$6,286	\$5,483	\$6,153	\$5,797	\$6,845	\$6,588	\$3,416	\$5,632	100.0%

Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT; smallboat_SIA_lessthan60_breakouts (5-12-22)

Table 4-13 Gross ex-vessel revenue diversification for H&L or pot CVs greater than 56' LOA targeting Federal BSAI Pacific cod by community of vessel historic ownership address, 2008 through 2020 (millions of real 2020 dollars)

Geography	Annual Average Number of Vessels	Annual Average Gross Ex-vessel Revenue from Federal BSAI Pacific od Only (millions 2020 real \$)	Annual Average Gross Ex-vessel Revenue from All Area, Gear, and Species Fisheries (millions 2020 real \$)	Federal BSAI Pacific cod Ex-Vessel Value as a Percentage of Total Ex-Vessel Gross Revenue Annual Average
Dutch/Unalaska	1.1	\$0.1	\$0.8	18.3%
Homer/Kodiak/Anchor Point	7.7	\$2.6	\$11.4	22.5%
Other Alaska	5.5	\$1.4	\$7.6	18.5%
Alaska	14.3	\$4.1	\$19.8	20.8%
Other States	5	\$1.5	\$6.9	22.0%
Grand Total	19.3	\$5.6	\$26.7	21.1%

Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT; smallboat_SIA_lessthan60_breakouts (5-12-22)

Table 4-14 Revenue diversification for communities with vessels greater than 56' LOA targeting Federal BSAI Pacific cod by gross ex-vessel revenue, 2008 through 2020 (millions of 2020 real dollars)

Geography	Annual Average Number of Vessels	Annual Average Number of All Commercial Fishing Vessels in those Same Communities	Annual Average Gross Ex-vessel Revenue from Federal BSAI Pacific cod <60' H&L/Pot Only (millions 2020 real \$)	Annual Average Gross Ex-vessel Revenue from All Areas, Gears, and Species Fisheries for the Community Fleet (millions 2020 real \$)	Ex-Vessel Gross Revenue as a Percentage of Total Community Ex-Vessel Gross Revenue Annual Average
Dutch/Unalaska	1.1	14.2	\$0.1	\$4.0	3.5%
Homer/Kodiak/Anchor Point	7.6	649.3	\$2.6	\$221.6	1.2%
Other Alaska	5.3	2,000.2	\$1.4	\$369.2	0.4%
Alaska	14.3	2,663.7	\$4.1	\$594.8	0.7%
Other States	5.2	480.9	\$1.5	\$655.7	0.2%
Grand Total	19.5	3,144.7	\$5.6	\$1,250.5	0.5%

Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT; smallboat_SIA_lessthan60_breakouts (5-12-22)

4.5.2 H&L or Pot CVs Less Than or Equal to 56' LOA

Table 4-15 provides a count, by community of ownership address and year (2008-2021), of H&L or pot CVs less than or equal to 55' LOA for all Alaska communities as well as Washington and other states (primarily Oregon and California) with any vessels active in the BSAI Pacific cod less than 60' H&L or pot CV sector during this time. Table 4-16 shows the same information for H&L or pot CVs that have a reported LOA of 56'. This approach provides a closer look at the vessels and communities that would be impacted by the Council's PPA. However, data confidentiality constraints limit the amount of revenue information that can be provided for vessels in the less than or equal to 56' LOA size category on a community or aggregated community-level.

There are 28 unique vessels less than or equal to 55' LOA that have targeted Federal BSAI Pacific cod in the less than 60' H&L or pot CV sector (2008-2021), of which 27 have had a reported ownership address in an Alaska community. **Dutch Harbor/Unalaska has the largest number of unique vessels with a registered ownership address at 10 followed by Homer at seven.** Over time, the overall count of H&L or pot CVs participating with a registered ownership address of Dutch Harbor/Unalaska has decreased. 2008 had the highest number of vessels participating at five while only one vessel participated in the BSAI Pacific cod fishery from 2016 through 2020. Dutch Harbor/Unalaska's economy is based on commercial fishing, fish processing, and fleet service, such as maintenance, trade, repairs, fuel and transportation.²⁴ Onshore and offshore processors provide some local employment; however, non-resident workers are usually present during peak seasons, particularly during the pollock A season. Commercially significant species harvested by vessels with a registered ownership address in Dutch Harbor/Unalaska include Pacific cod, halibut, and salmon (Wise et al., 2021).

There are five unique H&L or pot vessels with a reported LOA of 56' that have targeted Federal BSAI Pacific cod in the less than 60' H&L or pot CV sector (2008-2021). Of these five vessels, four have had a registered ownership address in an Alaska community (Table 4-16). There is one vessel with a registered ownership address in Dutch Harbor/Unalaska, Adak, Douglas, Juneau, and Petersburg.

Table 4-17 reports the gross ex-vessel revenues for H&L or pot CVs less than or equal to 56' from the Federal BSAI Pacific cod fishery by community of vessel historical ownership address (2008-2020, 2020 real \$). H&L or pot CVs that are less than or equal to 56' LOA with an Alaska community ownership address generated approximately \$737,000 in annual average gross ex-vessel revenues from the Federal BSAI Pacific cod fishery, which is 19.5 percent of all gross ex-vessel revenues for those vessels in the same time period (Table 4-18).

During the same time period, the Dutch Harbor/Unalaska community fleet (all commercial fishing vessels with a registered ownership address participating in any area, gear, and species fisheries) annually averaged approximately \$4 million in gross ex-vessel revenue for all commercial fisheries, of which Federal BSAI Pacific cod caught in the less than 60' H&L or pot CV sector accounted for approximately 10 percent (\$400,000) of the total combined revenue for the Dutch Harbor/Unalaska community fleet (Table 4-19).

Overall, these data suggest that, while the majority of vessels operating in the less than 60' H&L or pot CV sector have a reported ownership address in an Alaska community, there is variation for reported owner address among the different vessel LOA categories. Most notably, Kodiak has the largest number of reported vessel owners for H&L or pot CVs greater than 56' LOA whereas Dutch Harbor/Unalaska has the largest number of reported owners for smaller H&L or pot CVs. **Therefore, the PPA could have a distributional impact at the community-level.**

²⁴ Unalaska Island has been inhabited for thousands of years by Alaska Natives, primarily the Unangan. Subsistence activities are important to the Unangan peoples and to many long-term, non-Native residents of Dutch Harbor/Unalaska. According to a survey conducted by AFSC in 2011, community leaders reported that more important subsistence marine or aquatic resources to residents are sockeye salmon, halibut, coho salmon, and crab (Himes-Cornell et al., 2013).

Table 4-15 Vessels less than or equal to 55' LOA targeting Federal BSAI Pacific cod with H&L or pot gear by community of vessel historic ownership address from 2008 through 2021 (number of vessels)

Region	Community	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Annual Average 2008-2021 (number)	Annual Average 2008-2021 (percent)	Unique Vessels 2008-2021 (number)	
Alaska	Dutch Harbor/Unalaska	5	4	3	3	3	4	4	3	1	1	1	1	1	0	2.4	45.95%	10	
	Anchor Point	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.1	2.70%	1	
	Homer	2	1	0	0	0	0	0	0	0	0	1	1	2	4	1	0.9	16.22%	7
	Kodiak/Port Lions	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0.2	4.05%	3
	Homer/Kodiak/Anchor Point	4	3	0	1	0	0	0	0	0	0	1	1	2	4	1	1.2	22.97%	11
	Adak	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0.2	4.05%	1
	Delta Junction	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.1	1.35%	1
	Douglas	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0.1	2.70%	1
	False Pass	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.1	1.35%	1
	King Salmon	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.35%	1
	Mekoryuk	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.1	1.35%	1
	Nikolaevsk	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0.1	2.70%	1
	Nome	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.1	1.35%	1
	Sitka	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.1	2.70%	1
	Soldotna	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0.1	1.35%	1
	Willow	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.35%	1
	Other AK	1	2	1	2	1	1	0	0	0	0	0	3	2	1	1.0	18.92%	16	
	Alaska	10	9	4	6	4	5	4	3	1	2	2	6	7	2	4.6	87.84%	27	
	Washington	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.35%	1	
	Other States	0	0	0	0	2	2	1	1	1	0	1	0	0	0	0.6	10.81%	4	
	Grand Total	11	9	4	6	6	7	5	4	2	2	3	6	7	2	5.3	100.00%	28	

Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT; smallboat_SIA_lessthan60_breakouts (5-12-22)

Table 4-16 Vessels with a reported LOA of 56' targeting Federal BSAI Pacific cod with H&L or pot gear by community of vessel historic ownership address from 2008 through 2021 (number of vessels)

Region	Community	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Annual Average 2008-2021 (number)	Annual Average 2008-2021 (percent)	Unique Vessels 2008-2021 (number)
Alaska	Dutch Harbor/Unalaska	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	40.00%	1
	Adak	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0.2	8.57%	1
	Douglas	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.1	2.86%	1
	Juneau	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0.1	5.71%	1
	Petersburg	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0.4	17.14%	1
	Other AK	1	2	1	1	0	0	0	0	0	0	0	3	2	2	0.9	34.29%	4
	Alaska	2	3	2	2	1	4	3	3	1.9	74.29%	4						
Washington	1	0	0	0	0	1	1	1	1	1	1	1	1	1	0.7	28.57%	1	
Grand Total	3	3	2	1	1	2	2	3	2.5	100.00%	5							

Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT; smallboat_SIA_lessthan60_breakouts (5-12-22)

Table 4-17 Gross ex-vessel revenues for H&L or pot CVs less than or equal to 56' LOA targeting Federal BSAI Pacific cod by community of vessel historic ownership address, 2008 through 2020 (thousands of real 2020 dollars)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Annual Average (\$ thousands)	Annual Average (percent)
Dutch/Unalaska	*	*	*	*	*	*	*	*	*	*	*	*	*	\$401	36.8%
Homer/Kodiak/ Anchor Point	\$921	\$11	\$0	\$0	\$0	\$0	\$0	\$0	\$0	*	*	*	\$618	\$171	10.2%
Other Alaska	*	\$69	*	*	*	*	*	*	*	*	*	\$737	\$116	\$165	16.7%
Alaska	*	\$393	\$238	\$469	*	\$561	*	*	*	*	*	*	*	\$737	63.7%
Other States	*	\$0	\$0	\$0	*	\$200	*	*	*	*	*	*	*	\$357	36.3%
Grand Total	\$1,514	\$393	\$238	\$469	\$676	\$760	\$2,181	\$1,110	\$928	\$1,319	\$1,481	\$2,068	\$1,086	\$1,094	100.0%

Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT; smallboat_SIA_lessthan60_breakouts (5-12-22)

Table 4-18 Gross ex-vessel revenue diversification for H&L or pot CVs less than or equal to 56' LOA targeting Federal BSAI Pacific cod by community of vessel historic ownership address, 2008 through 2020 (millions of real 2020 dollars)

Geography	Annual Average Number of Vessels	Annual Average Ex-Vessel Gross Revenues from Federal BSAI Pacific cod Only (millions 2020 real \$)	Annual Average Total Ex-Vessel Gross Revenues from All Area, Gear, and Species Fisheries	Annual Average Federal BSAI Pacific cod Ex-Vessel Value as a Percentage of Total Ex-Vessel Gross Revenue
Dutch/Unalaska	3.6	\$0.4	\$1.9	21.2%
Homer/Kodiak/Anchor Point	1.2	\$0.2	\$0.7	22.8%
Other Alaska	1.7	\$0.2	\$1.1	14.6%
Alaska	6.5	\$0.7	\$3.8	19.5%
Other States	1.3	\$0.4	\$1.7	21.6%
Grand Total	7.8	\$1.1	\$5.4	20.2%

Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT; smallboat_SIA_lessthan60_breakouts (5-12-22)

Table 4-19 Revenue diversification for communities with vessels less than or equal to 56' LOA targeting Federal BSAI Pacific cod by gross ex-vessel revenue, 2008 through 2020 (millions of 2020 real dollars)

Geography	Annual Average Number of Vessels	Annual Average Number of All Commercial Fishing Vessels in those Same Communities	Annual Average Ex-Vessel Gross Revenues from Federal BSAI Pacific cod <60' H&L/Pot Only (millions 2020 real \$)	Annual Average Total Ex-Vessel Gross Revenues from All Areas, Gears, and Species Fisheries for the Community Fleet (millions 2020 real \$)	Ex-Vessel Gross Revenue as a Percentage of Total Community Ex-Vessel Gross Revenue Annual Average
Dutch/Unalaska	3.6	14.7	\$0.4	\$4.0	9.7%
Homer/Kodiak/Anchor Point	1.2	642.6	\$0.1	\$221.6	0.0%
Other Alaska	1.7	1,043.5	\$0.2	\$166.1	0.1%
Alaska	6.5	1,700.8	\$0.7	\$391.7	0.2%
Other States	1.3	244.3	\$0.4	\$566.0	0.1%
Grand Total	7.8	1,945.2	\$1.1	\$957.7	0.1%

Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT; smallboat_SIA_lessthan60_breakouts (5-12-22)

4.5.3 Jig Vessels

It is anticipated that BSAI Pacific cod jig sector vessels would be impacted by the PPA, but these impacts could be mitigated by including the suboption (see Section 4.3.7 and Table 4-9 for reference). Data confidentiality constraints limit the amount of revenue information that can be provided for jig vessels on a community or aggregated community-level.

Table 4-20 provides a count, by community of ownership address and year (2008-2020), of BSAI Pacific cod jig sector vessels for Alaska communities as well as other states. There are 33 jig vessels that have participated in the Federal BSAI Pacific cod target fishery from 2008 through 2020. Of these 33 BSAI Pacific cod jig vessels, 27 (87 percent) have a registered ownership address in an Alaska community. **Akutan, Dutch Harbor/Unalaska, and Kodiak have each had four unique vessels participate in the BSAI Pacific cod jig sector during the analyzed time period.** However, jig vessels with Akutan as a reported ownership address have not participated in the Federal BSAI Pacific cod jig sector since 2014. Additionally, in more recent years, there is one jig vessel with a reported owner address of Homer that regularly participates in the Federal BSAI Pacific cod jig fishery. Homer is located on the north shore of Kachemak Bay on the southwestern edge of the Kenai Peninsula, and its economy relies on commercial fishing, sport fishing and hunting, and ecotourism.²⁵ Commercially significant species harvested by vessels with a registered ownership address in Homer include salmon, halibut, Pacific cod, sablefish, and crab (Wise et al., 2021).

Table 4-21 reports the gross ex-vessel revenue diversification for jig vessels by the community of the vessel's historical ownership address (2008-2020). Vessels with an Alaska community ownership address participating in the BSAI Pacific cod jig sector over 2008-2020 generated approximately \$79,000 in annual average gross ex-vessel revenue, which is approximately 21 percent of all gross ex-vessel revenues for those vessels in the same period. From 2008 through 2020, the Homer/Kodiak community fleet (all commercial fishing vessels participating in any area, gear, and species fisheries) annually averaged approximately \$218 million in gross ex-vessel revenue for all commercial fisheries, of which BSAI Pacific cod caught in the jig sector accounted for approximately .02 percent (\$50,000) of the total combined revenue of the Homer/Kodiak fleet (Table 4-22).

²⁵ The Homer area is the traditional homelands of the Dena'ina Peoples. Subsistence activities are important to Alaska Native and many long-term, non-Native residents of Homer, particularly marine mammals, salmon, halibut and crab (Fall et al., 2018).

Table 4-20 Vessels targeting Federal BSAI Pacific cod with jig gear by community of vessel historic ownership address, 2008 through 2020

Region	Community	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Annual Average 2008-2020 (number)	Annual Average 2008-2020 (percent)	Unique Vessels 2008-2020 (number)	
Alaska	Akutan	2	2	3	1	1	1	1	0	0	0	0	0	0	0.8	18.03%	4	
	Dutch Harbor/Unalaska	2	0	1	1	1	0	0	2	0	0	0	0	0	0.5	11.48%	4	
	Akutan/Dutch Harbor/Unalaska	4	2	4	2	2	1	1	2	0	0	0	0	0	1.4	29.51%	8	
	Homer	0	0	0	1	0	0	1	1	1	1	1	1	1	0.6	13.11%	2	
	Kodiak	1	0	2	3	1	0	0	0	0	1	0	0	0	0.6	13.11%	4	
	Homer/Kodiak/Anchor Point	1	0	2	4	1	0	1	1	2	1	1	1	1	1.2	26.23%	6	
	Adak	1	0	0	0	0	0	0	0	0	0	0	0	1	0.2	4.92%	2	
	Anchorage	3	0	0	0	0	0	0	0	0	0	0	0	0	0.2	4.92%	3	
	Chefornak	0	0	0	0	0	1	0	0	0	0	0	0	0	0.1	1.64%	1	
	Juneau	1	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.64%	1	
	Mekoryuk	0	0	0	0	0	1	0	0	0	0	0	0	0	0.1	1.64%	1	
	Newtok	0	0	0	0	0	1	0	0	0	0	0	0	0	0.1	1.64%	1	
	Port Lions	1	1	0	1	1	1	0	0	0	0	0	0	0	0.5	9.84%	3	
	Sand Point	0	0	0	2	0	0	0	0	0	0	0	0	0	0.2	3.28%	2	
	Toksook Bay	0	0	0	0	0	1	0	0	0	0	0	0	0	0.1	1.64%	1	
	Other AK	6	1	0	3	1	5	0	0	0	0	0	0	1	2	1.5	31.15%	14
	Alaska	11	3	6	9	4	6	2	3	2	1	1	2	3	4.1	86.89%	27	
	Other States	4	0	1	2	0	0	0	1	0	0	0	0	0	0.6	13.11%	7	
Grand Total	15	3	7	11	4	6	2	4	2	1	1	2	3	4.7	100.00%	33		

Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT; smallboat_SIA_jig_breakouts (5-12-22)

Table 4-21 Gross ex-vessel revenue diversification for jig vessels targeting Federal BSAI Pacific cod by community of vessel historic ownership address, 2008 through 2020 (millions of real dollars)

Geography	Annual Average Number of Vessels	Annual Average Ex-Vessel Gross Revenues from Federal BSAI Pacific cod Only (millions 2020 real \$)	Annual Average Total Ex-Vessel Gross Revenues from All Area, Gear, and Species Fisheries (millions 2020 real \$)	Federal BSAI Pacific cod Ex-Vessel Value as a Percentage of Total Ex-Vessel Gross Revenue Annual Average
Akutan/Dutch/Unalaska	1.4	\$0.009	\$0.050	17.5%
Homer/Kodiak	1.2	\$0.050	\$0.148	33.8%
Other Alaska	1.5	\$0.021	\$0.182	11.4%
Alaska	4.1	\$0.079	\$0.379	20.9%
Other States	0.6	\$0.020	\$0.069	29.2%
Grand Total	4.7	\$0.099	\$0.448	22.2%

Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT; smallboat_SIA_jig(5-12-22)

Table 4-22 Revenue diversification for communities with vessels targeting Federal BSAI Pacific cod with jig gear by gross ex-vessel revenue, 2008 through 2020 (millions of dollars, 2020 real dollars)

Geography	Annual Average Number of Vessels	Annual Average Number of All Commercial Fishing Vessels in those Same Communities	Annual Average Ex-Vessel Gross Revenues from Federal BSAI Pacific cod jig gear (millions 2020 real \$)	Annual Average Total Ex-Vessel Gross Revenues from All Areas, Gears, and Species Fisheries for the Community Fleet (millions 2020 real \$)	Ex-Vessel Gross Revenue as a Percentage of Total Community Ex-Vessel Gross Revenue Annual Average
Akutan/Dutch/Unalaska	1.4	17.8	\$0.009	\$4.178	0.21%
Homer/Kodiak	1.2	623.7	\$0.050	\$218.037	0.02%
Other Alaska	1.5	551.5	\$0.021	\$132.689	0.02%
Alaska	4.1	1,193.0	\$0.079	\$354.905	0.02%
Other States	0.6	55.5	\$0.020	\$36.182	0.06%
Grand Total	4.7	1,248.5	\$0.099	\$391.087	0.03%

Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT; smallboat_SIA_jig(5-12-22)

4.5.4 Impacts to Processors

H&L or pot CVs greater than 56' and less than or equal to 56' LOA make the majority of their deliveries shoreside in Dutch Harbor/Unalaska (2008 through 2020). The annual average number of shoreside processors in Dutch Harbor/Unalaska receiving BSAI Pacific cod from H&L or pot CVs greater than 56' and less than or equal to 56' H&L or pot CVs is 3 and 2.8, respectively. Floating processors (Washington) are the second largest component of processors for H&L or pot CVs. The annual average number of floating processors (Washington) for H&L or pot CVs greater than 56' LOA is 2.2 and 1.5 for H&L or pot CVs less than 56' LOA. Due to confidentiality restrictions, it is not possible to report the processing activities and the associated revenue for BSAI Pacific cod jig sector vessels. However, processors in Dutch Harbor/Unalaska, Adak, and Akutan have accepted BSAI Pacific cod from jig sector vessel during the 2008-2020 time period.

From 2008 through 2020, processors in Dutch Harbor/Unalaska/Akutan accepting deliveries of Federal BSAI Pacific cod from H&L or pot CVs greater than 56' LOA annually averaged \$268 million in gross ex-vessel revenues for all commercially processed species (all areas, gear, and species), of which BSAI Pacific cod delivered by these vessels accounts for approximately 1.4 percent (\$3.8 million) of the total combined revenue (Table 4-23). Processors in Dutch Harbor/Unalaska/Akutan accepting deliveries of Federal BSAI Pacific cod from H&L or pot CVs less than or equal to 56' LOA annually averaged \$236.5 million in gross ex-vessel revenues for all commercially processed species (all areas, gear, and species), of which BSAI Pacific cod delivered by these vessels accounts for approximately .3 percent (\$800,000) of the total combined revenue (Table 4-24).

Table 4-23 Revenue diversification for processors receiving Federal BSAI Pacific cod from H&L or pot CVs greater than 56' LOA, 2008 through 2020 (millions of 2020 real dollars)

Geography	Annual Average Number of Processors	Annual Average Ex-Vessel Gross Revenues from Federal Open Access Pacific cod <57' Hook and Line/Pot Only	Annual Average Total Ex-Vessel Gross Revenues from All Area, Gear, and Species Fisheries	Federal BSAI Pacific cod Ex-Vessel Value as a Percentage of Total Ex-Vessel Gross Revenue Annual Average
Dutch/Unalaska/Akutan	4.0	\$3.8	\$267.9	1.4%
Other Alaska/ Floating Processors	3.3	\$1.2	\$70.7	1.6%
Grand Total	7.3	\$5.0	\$338.6	1.5%

Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT; small_boat_proc_SIA(5-12-22)

Table 4-24 Revenue diversification for processors receiving Federal BSAI Pacific cod from H&L or pot CVs less than or equal to 56' LOA, 2008 through 2020 (millions of 2020 real dollars)

Geography	Annual Average Number of Processors	Annual Average Ex-Vessel Gross Revenues from Federal Open Access Pacific cod <57' Hook and Line/Pot Only	Annual Average Total Ex-Vessel Gross Revenues from All Area, Gear, and Species Fisheries	Federal BSAI Pacific cod Ex-Vessel Value as a Percentage of Total Ex-Vessel Gross Revenue Annual Average
Dutch/Unalaska/Akutan	3.7	\$0.8	\$236.5	0.3%
Other Alaska/ Floating Processors	2.1	\$0.3	\$31.7	0.8%
Grand Total	5.8	\$1.1	\$268.2	0.4%

Source: ADFG/CFEC Fish Tickets, data compiled by AKFIN in Comprehensive_FT; small_boat_proc_SIA(5-12-22)

5 Management and Enforcement Considerations

This section discusses monitoring and enforcement considerations for the action alternative, Alternative 2. For a detailed explanation of the BSAI Pacific cod fisheries and impacts, see Chapters 3 and 4.

Changes to in-season management and allocations

Under Alternative 2, the redefined less than 60' H&L or pot CV sector that would exclude H&L or pot CVs less than or equal to either 55' or 56' LOA would continue to receive the entirety of their BSAI Pacific cod allocation on January 1. The redefined less than 60' H&L or pot CV sector could receive reallocations from any projected unused jig and H&L or pot CV Pacific cod A season allocation. Under the status quo (Alternative 1), reallocations from the BSAI Pacific cod jig sector to the less than 60' H&L or pot CV sector usually occurs prior to the end of the A season to allow the less than 60' H&L or pot CV sectors to have an extended fishing season early in the year. NMFS is able to make these determinations based on data from past years and assesses the current year's participation to project unused jig sector A season allowance.

At the June 2022 Council meeting, the Council selected a PPA and recommended maintaining the current allocation hierarchy, which would require the new BSAI Pacific cod small vessel sector's remaining seasonal allowance to be reallocated to the redefined less than 60' H&L or pot CV sector. As described in section 4.3.4, there is uncertainty about the timing and frequency of reallocations to the redefined less than 60' H&L or pot CV sector for both the end of the A season and the beginning of the C season. NMFS may not be able to determine the amount of Pacific cod available to reallocate from the new BSAI Pacific cod small vessel sectors' A season allocation until closer to the regulatory closure of April 30. The addition of H&L or pot CVs less than or equal to 55' LOA to the current jig sector (forming the new BSAI Pacific cod small vessel sector) may not allow NMFS to project the unused A season allocation until the end of the season, or the full A season allocation may be caught and a reallocation would not be possible. Near the end of the A season, the redefined less than 60' H&L or pot CV may already be done fishing and may choose to move to other fisheries, such as the DHS State waters pot fishery. For C season reallocations, NMFS historically reopened the less than 60' H&L or pot CV sector on or around September 1. Under the PPA, there is uncertainty as to if and when NMFS may be able to reallocate to the redefined less than 60' H&L or pot CV sector in the fall. In addition, the amount available to reallocate may not be enough to support the re-opening of the fishery even if vessels were available to participate.

Alternatively, the Council could consider recommending the current regulations be modified to allow the remaining seasonal allowance in the new BSAI Pacific cod small vessel sector to rollover to the next fishing season, rather than requiring any remaining amount to be reallocated to the redefined less than 60' H&L or pot CV sector (50 CFR 679.20(a)(7)(iv)(C)).

If the Council moves forward with the PPA and the BOF reconsiders the trigger for opening the DHS State waters pot fishery, it may be more difficult to track Federal and GHF landings of BSAI Pacific cod. If both the DHS pot fishery and Federal BSAI Pacific cod fishery were open at the same time, NMFS would rely on the vessel reporting the correct statistical area on the fish ticket to determine which fishery a vessel was participating in. It is anticipated that the BOF would choose to close the parallel fishery to pot gear vessels less than or equal to 58' LOA while the GHF fishery is occurring, therefore any pot landings reported in State waters would be attributed to the GHF fishery and anything in Federal waters would be attributed to the Federal BSAI Pacific cod fishery. However, there could be instances where catch is attributed to the incorrect fishery due to vessel's misreporting of statistical areas, and it is not uncommon for there to be reporting inaccuracies.

Vessels that participate in the Federal BSAI Pacific cod less than 60' H&L or pot CV sector with an FFP are required to have VMS transmitting (50 CFR 679.28(f)(6)) so fishery managers and OLE could track whether a vessel was inside or outside of State waters. The GHL fisheries are closely managed by the State and a vessel must be registered to participate. Once registered, that vessel would not be allowed to fish in Federal waters until they un-registered for the State fishery. It is anticipated that the State would notice any ADF&G statistical area misreporting relatively quickly.

Observer Coverage

Current observer coverage requirements for CVs that participate in the current less than 60' H&L or pot CV and jig sectors are defined in regulations at 50 CFR 679.51(a):

- Partial coverage for CVs designated on an FFP including CVs deploying H&L, pot, and jig gear;
- Full coverage for CVs while using H&L gear when groundfish CDQ fishing except for CVs less than or equal to 46 ft LOA which are in the partial coverage category.

For the partial coverage category there are three pools of coverage: no-selection pool, observer trip-selection pool, and EM selection pool. The observer trip-selection pool and EM includes vessels in the partial coverage category that are greater than 40' LOA and are fishing H&L or pot gear. The no-selection pool includes vessels less than 40' LOA and vessels fishing with jig gear. Each year NMFS develops an Annual Deployment Plan in consultation with the Council to describe how observer coverage and electronic monitoring will be assigned to vessels and processors in the partial observer coverage category for the upcoming year. Coverage levels in the partial coverage category can be adjusted if needed, however, **the action alternatives considered by the Council would likely have a minimal impact on selection rates and deployment. There would be no changes to current observer coverage requirements as defined in regulations.**

Enforcement Concerns

The BSAI Pacific cod fisheries are a complex management system for OLE officials who are tasked with enforcing regulations and understanding the nuances between sectors and management jurisdictions. Chapter 3 provides an overview of BSAI Pacific cod management for Federal and State fisheries including the interplay of management requirements. OLE works with fishery participants across State and Federal fisheries, USCG, and the Observer Program to coordinate management, apply regulations, and ensure accurate reporting.

One of the common challenges experienced by OLE and USCG enforcement officials and fishery participants is the growth period after implementation of new regulations and programs. Another challenge is ensuring compliance for participants in Federal and State fisheries and management areas. For example, VMS and the status of fisheries are tools used by enforcement to determine where vessels are fishing and which areas and fisheries are open or closed. However, regulations for the BSAI Pacific cod fisheries are intricate and extensive. As more regulations are added, there are cumulative impacts that directly affect compliance and clarity for enforcement and fishery participants. Alternative 2 would add another layer to an already complex management structure and require added coordination with other agencies such as the State and USCG to ensure compliance for the redefined and newly defined sectors.

Additional Considerations

In June 2021, the Council developed alternatives for analysis based on vessel LOA. As described in Section 4.1 of the analysis, LOA as reported to the CFEC is used in this analysis because it is likely the best source of data for length. The data is collected when vessel owners report the length to NMFS on their FFP and to the CFEC. For compliance with regulations, OLE periodically boards vessels dockside

and measures LOA. During these boardings, OLE often finds discrepancies between the length reported and the LOA measured during the boarding, especially for smaller vessels. Given this information, analysts advise the Council to consider the following caveats regarding the LOA data:

- There are different definitions of length and different ways to measure vessels across management jurisdictions. For example, fishery participants might report a different definition of length to CFEC and NMFS instead of using the Coast Guard registered length and definition of LOA.
- Vessel owners in both Federal and State fisheries may modify their vessel without submitting new documentation on vessel size to NMFS or CFEC.
- Vessel owners do not always make the change to both permits for NMFS and CFEC.

Therefore, while LOA is likely the best data source, there are still potentially significant data quality issues and reporting lags. NMFS relies on this length data for management of Federal fisheries and accurate reporting aids compliance. Under Alternative 2, if a length qualifier is used, this may be an incentive for vessel owners to update the length reported on their permits for inclusion or alter the vessel size to be included in a preferred sector. For example, it is possible that smaller H&L or pot CVs might prefer to compete in a sector with more TAC available and could choose to extend the length of their vessel to be eligible for the redefined less than 60' H&L or pot CV sector. Conversely, a larger H&L or pot vessel could shorten their LOA to be eligible for the new BSAI Pacific cod small vessel sector.

Implementation

Implementation of Alternative 2 would require revisions to regulations at 50 CFR 679.20 and 679.23 to modify the naming convention for the revised sectors. Depending on the Council's recommendation, regulations for reallocation and rollovers may be modified. In June 2022, the Council selected a PPA and indicated its intent to maintain the current reallocation hierarchy. This approach would only require regulatory updates to sector names and clarifying that H&L and pot vessels in the new small vessel sector would be included in the annual harvest specifications process for ICA calculations. **Maintaining the current reallocation hierarchy would provide flexibility to NMFS to make reallocations as possible but this approach would not allow NMFS to roll over unused seasonal allowances for the new small vessel sector, nor would it reduce uncertainty for the timing and frequency of reallocations to the redefined less than 60' H&L or pot CV sector. It is likely to take a few years following implementation to understand the behavior of the newly defined sectors.**

Staff time on outreach, enforcement, and in-season management may increase during implementation and for a few years following implementation because of an anticipated adjustment period for in-season management and BSAI Pacific cod fishery participants. NMFS would work with participants affected by this action and to ensure compliance with LOA requirements for the newly defined sectors.

For LOA verification, vessels could not opt into one sector or another or move between sectors. Vessels would be placed in a sector based on the LOA reported to NMFS on an FFP and to the CFEC. Vessels are responsible for ensuring their reported LOA is correct. NMFS does not intend to measure vessels in affected sectors or require participants to resubmit their LOA in response to this action. However, if USCG and OLE enforcement officials find a discrepancy between LOA reported and LOA measured they would require the vessel operator to update their permit length for compliance with regulations.

Table 5-1 Comparison of definitions of vessel length and ways to measure vessels across management jurisdictions

Federal regulations	<p style="text-align: center;">679.2 Definitions</p> <p style="text-align: center;">Length overall (LOA) of a vessel means the centerline longitudinal distance, rounded to the nearest foot, measured between:</p> <p>(1) The outside foremost part of the vessel visible above the waterline, including bulwarks, but excluding bowsprits and similar fittings or attachments, and</p> <p>(2) The outside aftermost part of the vessel visible above the waterline, including bulwarks, but excluding rudders, outboard motor brackets, and similar fittings or attachments (see Figure 6 to this part).</p>
CFEC regulations	<p style="text-align: center;">Sec 16.05.530 Renewal of vessel license.</p> <p>(b) For calendar year 2006 and following years, the annual fee for a vessel license issued or renewed under this section is set according to the overall length, as defined by the United States Coast Guard</p>
USCG code	<p style="text-align: center;">46 U.S. Code 2101(28)(b).</p> <p style="text-align: center;">(28) "overall in length" means -</p> <p>(A) for a foreign vessel or a vessel engaged on a foreign voyage, the greater of -</p> <p>(i) 96 percent of the length on a waterline at 85 percent of the least molded depth measured from the top of the keel (or on a vessel designed with a rake of keel, on a waterline parallel to the designed waterline); and</p> <p>(ii) the length from the fore side of the stem to the axis of the rudder stock on the waterline: and</p> <p style="text-align: center;">(B) for any other vessel, the horizontal distance of the hull between the foremost part of the stern and the aftermost part of the stem, excluding fittings and attachments.</p>
ADF&G regulations	<p style="text-align: center;">5 AAC 28.690. Vessel length restrictions for the Bering Sea-Aleutian Islands Area for groundfish</p> <p style="text-align: center;">(d) In this section, "overall length" means the straight line length between extremities of the vessel, excluding anchor rollers.</p>

6 Affected Small Entities (Regulatory Flexibility Act Considerations)

Section 603 of the Regulatory Flexibility Act (RFA) requires that an initial regulatory flexibility analysis (IRFA) be prepared to identify if a proposed action will result in a disproportionate and/or significant adverse economic impact on the directly regulated small entities, and to consider any alternatives that would lessen this adverse economic impact to those small entities. NMFS Alaska region will prepare the IRFA in the classification section of the proposed rule for an action and a separate IRFA is not necessary for Council final actions on the issue. This section will provide information that NMFS will use to prepare the IRFA for this action, namely a description and estimate of the number of small, directly regulated entities to which the proposed action will apply.

The proposed action would redefine the BSAI Pacific cod jig sector as the new BSAI Pacific cod small vessel. Under the Council's PPA, H&L or pot CVs less than or equal to 55' LOA (Alternative 2, option 1) as well as jig CVs and CPs would be required to harvest Pacific cod from the new small vessel sector's allocation. H&L or pot CVs greater than 55' LOA (i.e., those vessels with a reported LOA of 56-59') will be in the redefined less than 60' H&L or pot CV sector.

Identification of Directly Regulated Entities

Entities that could be directly regulated by this action include vessels operating in the Federal BSAI Pacific cod less than 60' H&L or pot CVs and jig CV/CP sectors. This section identifies all entities that could be considered directly regulated entities under the range of alternatives considered and likely represents an overestimate of the number of small entities that would be directly regulated by any one action alternative.

Count of Small, Directly Regulated Entities

Under the RFA, businesses that are classified as primarily engaged in commercial fishing are considered small entities if they have combined annual gross receipts not in excess of \$11.0 million for all affiliated operations worldwide, regardless of the type of fishing operation (81 FR 4469; January 26, 2016). If a vessel has a known affiliation with other vessels – through a business ownership or through a cooperative – these thresholds are measured against the small entity threshold based on the total gross revenues of all affiliated vessels. In the most recent five years for which data are available (2017 through 2021) there were 54 active vessels that participated in the Federal BSAI Pacific cod less than 60' H&L or pot CV and jig sectors. Of these 54 vessels, all but one vessel is considered a small entity.

- Three vessels participated in the BSAI Pacific cod jig sector (2017 through 2021). All of these vessels are considered small entities.
- 17 H&L or pot CVs less than or equal to 56' LOA participated in the BSAI Pacific cod fishery (2017 through 2021), of which 16 were active in 2021. All of these vessels are considered small entities.
- 40 H&L or pot CVs greater than 56' LOA participated in the less than 60' H&L or pot CV sector (2016 through 2020), of which 38 were active in 2021. 37 of the 38 vessels are considered small entities.

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

Overall, this action is likely to have a limited effect on the net benefits to the Nation.

Under the status quo (Alternative 1), vessels in the BSAI Pacific cod less than 60' H&L or pot CV and jig sectors would continue to harvest BSAI Pacific cod from their current allocations (2 and 1.4 percent, respectively). The status quo could have a negative impact on smaller H&L or pot vessels that would continue to compete against H&L or pot CVs in the sector with additional efficiencies and capacity. However, it does not appear that H&L or pot CVs greater than 56' are harvesting a larger portion of the sector's final allocation over time, though they are harvesting the majority (see Figure 4-1). As such, the extent of the potential impacts of the status quo on smaller vessels less than or equal to 55' LOA is difficult to predict and depends on several factors, including future levels of BSAI Pacific cod TAC and future fishing activity.

Under the PPA, H&L or pot vessels that are less than or equal to 55' LOA would be required to harvest BSAI Pacific cod in the new BSAI Pacific cod small vessel sector from the current jig sector's allocation (1.4 percent). This action could potentially provide benefits to the 28 unique H&L or pot CVs less than or equal to 55' LOA that have historically participated in the BSAI Pacific cod less than 60' H&L or pot CV sector. These smaller H&L or pot vessels could have more flexibility and fish when it is safest for them to operate. Additionally, it is anticipated that H&L or pot CVs in the new BSAI Pacific cod small vessel sector would have an opportunity to harvest more Pacific cod and it is possible that these small vessels could fully utilize the BSAI Pacific cod jig sector's A and C season allowances (recall the B season would remain a jig-only fishery under the PPA). The estimated annual average gross ex-vessel revenue opportunity for H&L or pot CVs less than or equal to 56' is \$1.15 million (2008-2021) (see Section 4.3.5).

However, as described in Chapter 4, the PPA could have negative allocative impacts on the 61 unique H&L or pot vessels with a reported LOA of 56' or greater that would be required to harvest Pacific cod in the redefined less than 60' H&L or pot CV sector. Historically common patterns of annual reallocations from the BSAI Pacific cod jig sector to the less than 60' H&L or pot CV sector, which has occurred every year since 2008, are likely to be impacted under the PPA. This would represent a change in historical patterns of use between sectors as seen over the 2008-2021 period. Annual reallocation amounts of BSAI Pacific cod from the jig sector to the less than 60' H&L or pot CV sector have ranged from 1,500 mt to 3,200 mt, accounting for an average of 30 percent of the less than 60' H&L or pot CV sector's final allocation since 2008. Under Alternative 2, the estimated annual average gross ex-vessel revenue impact for H&L or pot CVs greater than 56' LOA is a \$1.22 million decrease in potential revenue (2008-2021) (see Section 4.3.5).

As such, it is anticipated that this action could have a distributional impact on the historical participants in the less than 60' H&L or pot CV sector as routine reallocation(s) of BSAI Pacific cod from the jig sector to the less than 60' H&L or pot CV sector (status quo) would instead be utilized by the new BSAI Pacific cod small vessel sector. There is potential for NMFS to reallocate any projected remaining BSAI Pacific cod TAC from the new BSAI Pacific cod small vessel sector to the redefined less than 60' H&L or pot CV sector which could mitigate some of the distributional impacts of this action. However, **it is uncertain if or when NMFS would know whether any TAC would be available from the new BSAI Pacific cod small vessel sector to reallocate to the redefined less than 60' H&L or pot CV sector.** This could have cumulative effects on the larger vessel's safety, and it is more challenging for NMFS to conservatively manage a fishery with smaller quotas and fished at a faster pace.

8 Magnuson-Stevens Act and FMP Considerations

Below are the 10 National Standards as contained in the MSA. In recommending a preferred alternative at final action, the Council must consider how to balance the National Standards.

8.1 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). In recommending a preferred alternative at final action, 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.

The PPA would not result in overfishing of groundfish in the BSAI. The PPA would change the composition (i.e., which vessels are eligible) of two BSAI Pacific cod sectors, but it would not change the amount of allocated Pacific cod.

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

The analysis for this amendment is based upon the best and most recent 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.

Section 3.2 describes the range of the BSAI Pacific cod stock, and the analysis considers potential impacts across the stock's range. BSAI Pacific cod, like all groundfish species are assessed at the scale of the BSAI FMP, which is the geographic scope of the proposed action. These groundfish stocks will continue to be managed as single stocks throughout their range under the proposed program.

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

The BSAI Pacific cod less than 60' H&L or pot CV and jig sectors are primarily pursued by residents in Alaska communities and other communities across Pacific Northwest states. The PPA treats all Federal vessels the same. The preferred alternative would be implemented without discrimination among participants and is intended to promote stability for smaller H&L or pot vessels by reducing the unintended inter-sector competition in the current less than 60' H&L or pot CV sector.

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.

This action would potentially decrease the efficiency in the utilization of the Pacific cod resource in the BSAI. It is anticipated the PPA could have a e distributional impact on the on the historical participants in the less than 60' H&L or pot CV sector as routine reallocation(s) of BSAI Pacific cod from the jig sector to the less than 60' H&L or pot CV sector (status quo) would instead be utilized by the new BSAI Pacific cod small vessel sector. Smaller H&L or pot CVs do not have the same efficiencies and capacities (e.g.,

increased horsepower, deck width, etc.) as larger vessels. Thus the PPA could result in some inefficiencies as more BSAI Pacific cod is harvested by smaller H&L or pot CVs relative to the more efficient larger H&L or pot vessels.

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

The preferred alternative is not expected to affect the availability of and variability in the groundfish resources in the BSAI in future years. As noted above, the BSAI Pacific cod harvest will continue to be managed to and limited by the TACs.

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

This action does not duplicate any other management action.

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.

Under the preferred alternative, landings from the BSAI Pacific cod from vessels in the less than 60' H&L or pot CV sector regardless of their size are primarily delivered to shoreside processors in Unalaska/Dutch Harbor and other Alaska communities. The proposed action is not expected to directly impact the distribution of Pacific cod landings among shoreside processing communities. However, the majority of vessels that have historically participated in the less than 60' H&L or pot CV and jig sectors have a registered ownership address in an Alaska community. Within the less than 60' H&L or pot CV sector, there is variation in the reported owner address among the different vessel LOA categories. Kodiak has the largest number of reported vessel owners for H&L or pot CVs greater than 56' LOA whereas Dutch Harbor/Unalaska has the largest number of reported owners for H&L or pot CVs with a reported LOA of 56' as well as those less than or equal to 55'. Therefore, there could be a distributional impact at the community level.

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.

Groundfish bycatch in the Pacific cod fishery and Pacific cod in other groundfish fisheries will be managed by NMFS using traditional bycatch management tools like an ICA. The continued use of ICAs as a tool for managing the groundfish fisheries would likely continue with similar results under the PPA.

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

Under the status quo, the BSAI Pacific cod less than 60' H&L or pot CV sector has seen a gradual shortening of its initial fishing period. The PPA could promote the safety of human life at sea by allowing smaller H&L or pot vessels more stability by allowing vessel operators to have more control in choosing when to fish. However, the PPA could have a negative impact on the overall safety of H&L or pot CVs greater than 56' LOA. Larger H&L or pot CVs that remain in the less than 60' H&L or pot CV sector could fish at a faster pace as there would be less BSAI Pacific cod TAC available, particularly early in the year when these vessels have historically received a reallocation from the BSAI Pacific cod jig sector to

extend their initial fishing period. This could have cumulative effects on these vessel's safety, and it is more challenging for NMFS to conservatively manage a fishery with smaller quotas and fished at a faster pace.

8.2 Section 303(a)(9) Fisheries Impact Statement

Section 303(a)(9) of the Magnuson-Stevens Act requires that a fishery impact statement be prepared for each FMP 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 RIR for this FMP amendment constitutes the fishery impact statement. The likely effects of the proposed action are analyzed and described throughout this RIR, particularly Chapter 4. The effects of the proposed action on participants in the fisheries and fishing communities are evaluated in sections 4.3 and 4.5. The effects of the proposed action on safety of human life at sea are evaluated in Section 4.3.3.

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.

8.3 Council's Ecosystem Vision Statement

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

Ecosystem Approach for the North Pacific Fishery Management Council

Value Statement

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

Vision Statement

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

Implementation Strategy

The Council intends that fishery management explicitly take into account environmental variability and uncertainty, changes and trends in climate and oceanographic conditions, fluctuations in productivity for managed species and associated ecosystem components, such as habitats and non-managed species, and relationships between marine species. Implementation will be responsive to changes in the ecosystem and our understanding of those dynamics, incorporate the best available science (including local and traditional knowledge), and engage scientists, managers, and the public.

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

In considering this action, the Council is being consistent with its ecosystem approach policy. There are no anticipated impacts to the human environment and this action would continue to support productive and resilient marine ecosystems. Additionally, this action could potentially provide benefits to H&L or pot vessels less than or equal to either 55' LOA currently operating in the BSAI Pacific cod less than 60' H&L or pot CV sector, and there are no anticipated direct or indirect impacts on the subsistence harvest, sharing or use of BSAI Pacific cod.

9 Preparers and Persons Consulted

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