PUBLIC REVIEW DRAFT

Environmental Assessment/ Regulatory Impact Review

For a Proposed Amendment to the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area

Pacific Cod Community Development Quota Fishery Development

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For further information contact: Sarah Marrinan, North Pacific Fishery Management Council
605 W 4th Ave, Suite 306, Anchorage, AK 99501
(907) 271-2814

Abstract: This Environmental Assessment/Regulatory Impact Review analyzes proposed management measures that would apply exclusively to Community Development Quota (CDQ) groups in the Bering Sea and Aleutian Islands. The measures under consideration include easing or exempting CDQ hook-and-line vessels that do not exceed 46 ft. length overall from certain regulatory requirements in order to promote harvest opportunities for Pacific cod (*Gadus macrocephalus*) by CDQ small vessels in a directed fishery and/or while fishing CDQ or Individual Fishing Quota halibut (*Hippoglossus stenolepis*). Implementation of some of the management measures evaluated in this analysis would require an amendment to the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area, as well as amendments to implementing regulations.

List of Acronyms and Abbreviations

ABC	acceptable biological catch
ADF&G	Alaska Department of Fish and Game
AFA	American Fisheries Act
AFSC	Alaska Fisheries Science Center
AI	Aleutian Islands
AIS	Automatic Identification System
AKFIN	Alaska Fisheries Information Network
APICDA	Aleutian Pribilof Island Community Development Association
BBEDC	Bristol Bay Economic Development Corporation
BiOp	biological opinion
BS	Bering Sea
BSAI	Bering Sea and Aleutian Islands
CBSFA	Central Bering Sea Fishermen's Association
CDQ	Community Development Quota
CEQ	Council on Environmental Quality
CFEC	Commercial Fisheries Entry Commission
CFR	Code of Federal Regulations
Council	North Pacific Fishery Management Council
C/P	catcher/processor
CPUE	catch per unit effort
CQE	community quota entity
CRP	comprehensive rationalization plan
CV	catcher vessel
CVRF	Coastal Villages Region Fund
CVS	Coastal Villages Seafoods
DMR	discard mortality rate
DPS	distinct population segment
EA	environmental assessment
EBS	Eastern Bering Sea
EDPS	eastern distinct population segment
EEZ	Exclusive Economic Zone
EFH	essential fish habitat
EIS	environmental impact statement
E.O.	Executive Order
ESA	Endangered Species Act
FFP	Federal fisheries permit
FLL	Freezer longliner
FMA	Fisheries Monitoring and Analysis Division
FMP	fishery management plan
FR	Federal Register
ft.	foot or feet
GHL	guideline harvest level
GOA	Gulf of Alaska
IFQ	individual fishing quota
IRFA	Initial Regulatory Flexibility Analysis
IPHC	International Pacific Halibut Commission
lb	pound(s)
LLP	license limitation program
LOA	length overall

MLOA	maximum length overall
MMPA	Marine Mammal Protection Act
MRA	maximum retainable amount
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MSST	minimum stock size threshold
mt	metric ton
NEPA	National Environmental Policy Act
NMFS	National Marine Fishery Service
NOAA	National Oceanographic and Atmospheric Administration
NPFMC	North Pacific Fishery Management Council
NSEDC	Norton Sound Economic Development Corporation
NSSP	Norton Sound Seafood Products
Observer Program	North Pacific Groundfish and Halibut Observer Program
OFL	overfishing level
OLE	Office of Law Enforcement
OMB	Office of Management and Budget
PBR	potential biological removal
PRA	Paperwork Reduction Act
PSC	prohibited species catch
PSEIS	Programmatic Supplemental Environmental Impact Statement
PSQ	prohibited species quota
RAM	Restricted Access Management
RFA	Regulatory Flexibility Act
RFFA	reasonably foreseeable future action
RIR	regulatory impact review
SAFE	Stock Assessment and Fishery Evaluation
SAR	stock assessment report
SBA	Small Business Act
Secretary	Secretary of Commerce
SSC	Science and Statistical Committee
SSL	Steller sea lion
TAC	total allowable catch
U.S.	United States
USFWS	United States Fish and Wildlife Service
VMS	vessel monitoring system
W	west
WACDA	Western Alaska Community Development Association
WDPS	western distinct population segment
YDFDA	Yukon Delta Fisheries Development Association

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Executive Summary

This document analyzes proposed management measures that would apply exclusively to Community Development Quota (CDQ) groups while operating in the Bering Sea and Aleutian Islands (BSAI). The measurements under consideration include easing or exempting CDQ hook-and-line catcher vessels that do not exceed 46 ft. length overall (LOA) from certain regulatory requirements, in order to promote harvest opportunities for Pacific cod (*Gadus macrocephalus*) by CDQ small vessels in a directed fishery and/or while fishing CDQ Individual Fishing Quota (IFQ) halibut (*Hippoglossus stenolepis*). Implementation of the management measures evaluated in this analysis would require an amendment to the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area, as well as amendments to implementing regulations.

Purpose and Need

The purpose of this action is to create a regulatory structure for the harvest of Pacific cod CDQ that promotes harvest opportunities for the small vessels that fish on behalf of a CDQ group, and effectively allows CDQ and IFQ halibut harvesters, operating vessels less than or equal to 46 ft. LOA, the ability to retain Pacific cod CDQ in excess of the 20 percent maximum retainable amount (MRA) provided for in the halibut fishery. The difference between the vessel requirements for halibut CDQ fishing and directed Pacific cod CDQ fishing means that any Pacific cod caught in the halibut fishery is generally not able to be retained by small vessels for commercial use. Adjusting the regulations for these fisheries could reduce Pacific cod discards and increase small vessel economic opportunities in the halibut CDQ fishery. Particularly in light of recent declines in halibut quota, small vessels that fish on behalf of CDQ communities would benefit from the ability to retain their allocation of Pacific cod for commercial sale, to supplement their income from halibut CDQ harvest. This action would be in line with Magnuson-Stevens Fishery Conservation and Management Act policy objectives of supporting employment and growth in the communities.

The North Pacific Fisheries Management Council (Council) adopted the following problem statement to originate this action in February 2014.

> *Current regulations applicable to vessels targeting Pacific cod with hook-and-line gear are prohibitive for the CDQ village small boat fleets. Easing or revising certain regulations may make the development of a Pacific cod fishery more viable and provide additional harvest opportunities for the CDQ village small boat fleets, which may be particularly urgent in light of steep declines in halibut quotas as one measure to mitigate the resulting economic disruption.*

Alternatives

The alternatives that are analyzed in this package were adopted by the Council in February 2014 and revised in June 2014 to include a Preliminary Preferred Alternative (PPA). In October 2014, Option 3 of the PPA, became Sub-option 3.1 and Sub-option 3.2 was added. NMFS AK Region has proposed the addition of Sub-option 3.3, listed in bold, for Council consideration in this document. These alternatives are listed here and described in detail in Sections 2.1 through 2.6. The alternatives propose management measures that would apply exclusively to the CDQ fisheries in the BSAI.

Alternative 1. No action. Vessels fishing CDQ halibut are allowed to retain Pacific cod up to 20 percent of their CDQ halibut landings under the existing maximum retainable amount (MRA).

Alternative 2. Increase the MRA of Pacific cod up to 100 percent of the CDQ halibut landings for hook-and-line catcher vessels less than or equal to 46 ft. LOA that hold Pacific cod CDQ.[1] All Pacific cod caught must be retained and accrues towards the CDQ Pacific cod quotas.

Alternative 3. Create a new CDQ LLP license for participating hook-and-line catcher vessels less than or equal to 46 ft. LOA. Vessels with the CDQ LLP license can participate in the CDQ directed Pacific cod fishery. Limit the number of LLP licenses each CDQ group would be provided. These LLP licenses would be non-transferable among CDQ groups. All Pacific cod caught must be retained and accrues towards the CDQ Pacific cod allocations. Vessels would be subject to the full coverage observer category consistent with existing full coverage observer requirements.

> Option 1: Place these vessels in the partial coverage observer category. Halibut caught would accrue against the CDQ PSQ allocation.[2]
>
> Option 2: Place these vessels in the partial coverage observer category. Require vessels to retain any incidentally caught halibut, which would accrue against the CDQ's halibut allocation.

Alternative 4. (PPA)[3] The following provisions would apply to hook-and-line catcher vessels less than or equal to 46 ft. LOA while directed fishing for Pacific cod CDQ:

<u>LLP Program</u>: Vessels greater than 32 ft. LOA, but less than or equal to 46 ft. LOA would be exempt from the LLP requirements.[4] Each CDQ group would be required to register each vessel less than or equal to 46 ft. LOA that it authorizes to conduct directed fishing for Pacific cod CDQ on its behalf. The online registration program would generate a letter from NMFS documenting that the vessel is exempt from the LLP while directed fishing for Pacific cod CDQ. Operators of vessels greater than 32 ft and less than or equal to 46 ft. LOA would be required to maintain a copy of this letter onboard the vessel at all times while directed fishing for Pacific cod CDQ. CDQ groups could remove vessel from this list at any time during the year.

<u>Observer coverage requirements</u>: These vessels would be in the partial observer coverage category and subject to observer coverage requirements described in the Annual Deployment Plan.

<u>Retention requirements</u>: All Pacific cod caught must be retained and accrues towards the CDQ Pacific cod allocations.

[1] The qualifier "of Pacific cod" was added by staff for clarification.
[2] Reviewers noted the inappropriate use of the phrase "Incidentally caught halibut", which implies retention. Since halibut PSC would be required to be discarded, this language was modified to say "halibut caught".
[3] In the Initial Review Draft of February 2014, Alternative 4 would "Exempt hook-and-line catcher vessels participating in the CDQ Pacific cod fishery with less than or equal to 46 ft. LOA from groundfish LLP requirements. All Pacific cod caught must be retained and accrues towards the CDQ Pacific cod allocations. Vessels would be in the partial coverage observer category." The PPA is a more detailed version of this based on NMFS AK Regional Office recommendations presented in June 2014 (see Appendix A.3).
[4] Vessels less than or equal to 32 ft. LOA currently are exempted from the LLP requirements while fishing in the BSAI.

Option 1: Apply the proposed management measures to all vessels less than or equal to 46 ft. LOA using hook-and-line gear while directed fishing for any groundfish species allocated to the CDQ Program, except sablefish.

Option 2: Expand the current prohibition against discarding legal sized halibut while IFQ fishing to people fishing for halibut CDQ while the CDQ group has remaining halibut CDQ.

Option 3: Allow a small vessel Pacific cod CDQ fishery supported by halibut PSC

Sub-option 3.1: In a situation when there is no halibut available (either CDQ or IFQ) to fund the CDQ small boat Pacific cod fishery, another workable alternative would need to be developed, such as a mutually acceptable halibut PSC discard rate system.[5]

Sub-option 3.2: Each CDQ group participating in the small vessel Pacific cod CDQ fisheries shall annually determine the date upon which halibut catch accounting for the group's CDQ Pacific cod fishery switches from halibut PSC to halibut CDQ (or participants' IFQ), and the date upon which the halibut catch accounting switches from halibut CDQ back to halibut PSC. The switch dates shall be provided to NMFS by each participating CDQ group by February 15 annually.

Sub-option 3.3:[6] Each CDQ group would be allowed the flexibility to decide, on a trip-by-trip basis, whether a small hook-and-line vessel fishing for Pacific cod CDQ would retain all halibut under a halibut CDQ or IFQ allocation or would discard all legal sized halibut and accrue halibut PSC associated with that fishing trip. The option to retain halibut CDQ and IFQ would be available only when the halibut fishery is open. When the halibut fishery is closed or if no halibut CDQ or IFQ is available, halibut PSC would accrue.

Under all alternatives, the analysis will consider substitutes to VMS, such as a GPS electronic monitoring option for monitoring compliance with Steller sea lion protection measures, EFH, and HAPC closure areas.

Environmental Assessment

The Environmental Assessment (EA) (Chapter 3) evaluates the impacts of the alternatives and options on the various environmental components along with the potential cumulative effects of a proposed action and its alternatives. Out of the resources identified as potentially affected by the proposed action alternatives (Alternatives 2 through 4), components that warrant further discussion include impacts on the target groundfish stock (Pacific cod), Pacific halibut stock, marine mammals, sea birds, and socio-economic factors. Socio-economic factors are discussed in the Regulatory Impact Review (Chapter 4) and, therefore, not addressed in the EA.

Pacific cod

The Pacific cod stock in the BS or AI is neither overfished nor subject to overfishing, and the biomass levels are projected to increase for 2015 for the Pacific cod stock in the Eastern Bering Sea. It is estimated that the BSAI Pacific cod fisheries under the status quo are sustainable for Pacific cod stocks. Between

[5] In this Sub-option analysts interpreted, "when there is no halibut available" to mean outside of the IPHC-established halibut season for IFQ/CDQ fisheries and/or in the event that there was no halibut fishery in a season.
[6] This Sub-option was included by NMFS AK region in order to cover the range of management flexibility possible in developing a Pacific cod CDQ fishery supported by halibut PSC.

the BS and AI, acceptable biological catch, overfishing level, and subsequently total allowable catch (TAC) for Pacific cod has risen for in the past five years. Enactment of additional Steller sea lion protective regulations in 2011, have both reduced and changed the distribution of the Pacific cod catch in the AI.

The action alternatives would stimulate a small redistribution of Pacific cod CDQ from freezer longliner (FLL) vessels, to small vessels harvesting on behalf of the CDQ groups and, consequently, would increase Pacific cod fishing effort in near-shore waters to an unknown extent. The alternatives would not alter the gear type used for harvesting Pacific cod, the TAC, or CDQ allocation amounts of Pacific cod, and the redistributed fishery is expected to operate within the current footprint of the halibut CDQ fishery. The expectation is that the actual amount redistributed to the CDQ small vessel fleet will be a small portion of the percent of Pacific cod allocated to a CDQ group, and will vary by group. Changes in temporal or spatial distribution are expected to occur from an action alternative, yet at a level that is not significant.

Since Pacific cod can be caught incidentally when a vessel is targeting halibut, and the action alternatives either are dependent on the halibut CDQ fishery (Alternative 2, Alternative 3 Option 2, and Alternative 4) or have the option to align with it (Alternative 3 Option 1 and Alternative 4 Option 3), the proposed action could also lead to a small decrease in fish mortality from Pacific cod discards.

Pacific halibut

Pacific halibut is relevant to this analysis due to its overlapping habitat with Pacific cod. Given that Pacific cod can be harvested in similar regions and with the same gear as halibut, the action alternatives propose complementing the current halibut CDQ fishery with opportunities to simultaneously retain more Pacific cod.

The catch of halibut by the CDQ groups is categorized in one of two ways. If the CDQ participant is targeting halibut, legal-size halibut may be retained and catch will accrue to the halibut CDQ allocation. If the CDQ participant is not targeting halibut, halibut prohibited species catch (PSC) will account towards the groups' PSC limit, or transferable prohibited species quota (PSQ). The alternatives would not change the way the halibut CDQ fishery is currently prosecuted. Whether the proposed action manifests in an increased Pacific cod MRA or a multi-target fishery, halibut CDQ would be expected to be harvested in the same areas, with the same gear type, by the same number of vessels, and consistent fishing effort.

If some Pacific cod quota is redistributed from the FLL fleet to the CDQ small vessel fleet, there may be proportional decrease in halibut PSC by the FLL fleet depending on which action alternative the Council pursues. Regardless of the amount of halibut PSC avoided from redistributing a portion of Pacific cod CDQ to the small vessel fleet, halibut PSQ is transferable. Thus, it could be used to support other groundfish CDQ directed fisheries, or transferred to another CDQ group. Ultimately, it is expected that the proposed action will not significantly impact the incidental take of halibut PSQ.

Marine Mammals

The marine mammal section of the EA (Section 3.3) specifically considers impacts to marine mammals from changes in Pacific cod fishing region and intensity. Of the pinnipeds that may be present in the area, only Steller sea lions and northern fur seals are likely to be affected by potential changes in the groundfish fishing patterns that may result from this action. Cetaceans, other than resident (fish eating) killer whales, are either not likely to be present in the near-shore areas where changes in fishing activities are likely to occur, or feed on species that are not likely to be affected by those changes in fishing activity. Therefore this section considers impacts on Steller sea lions, fur seals, and resident killer whales.

Alternatives 3 and 4 would require vessels to comply with closures that apply to all vessels (i.e., no transit areas), and to comply with closures for directed fishing for Pacific cod within Steller sea lion areas. As a result, any impacts from Alternatives 3 or 4 are not expected to be significant for Steller sea lions. In contrast, Alternative 2 could increase the amount of Pacific cod caught within Steller sea lion critical habitat. This may have effects on Steller sea lion feeding within those areas of critical habitat, depending on the amounts of additional Pacific cod removed from critical habitat. It is likely that authorization of fisheries under Alternative 2 would require consultation with NMFS Protected Resources Division, under section 7 of the U.S. Endangered Species Act.

Fur seals and resident killer whale are not expected to be significantly impacted by the proposed action. Northern fur seals forage both near-shore and offshore, and because the amount of Pacific cod mortality that is redistributed to the CDQ small vessel fleet is expected to be a small portion of the CDQ allocation, any change to competition for Pacific cod is expected to be minimal, and impacts from the action alternatives are expected to not be significant to northern fur seals. It is possible that CDQ vessels may experience greater depredation from killer whales, if killer whales in the areas where CDQ vessels are fishing begin to target Pacific cod from their lines, but the likelihood of that is not known. Removals of Pacific cod from inshore waters are not likely to affect the food resources available for Alaska resident killer whales, and any impacts are expected to not be significant.

Cumulative Effects

This EA analyzes the cumulative effects of each alternative and the effects of past, present, and reasonably foreseeable future actions (RFFA). Two RFFAs are addressed in this EA cumulative effects section in relations to Pacific cod and Steller sea lions. With regard to Pacific cod, the TAC for the Eastern Bering Sea (EBS) and the AI was split, under the recommendation of the Council's Scientific and Statistical Committee), in order to improve conservation of the AI Pacific cod stock and better align management with the available science. The 2013/2014 stock assessment and fishery evaluation report (NPFMC 2013) began the practice of evaluating these stocks separately. The CDQ groups now receive a portion of their Pacific cod quota from TAC set for the EBS and a portion from the TAC set for the AI, which can also be prosecuted in the EBS. Thus, this practice, combined with the proposed action, may necessitate increased transactions among CDQ groups, particularly the Aleutian Pribilof Island Community Development Association, the one CDQ group in the Aleutian Islands, in order to allow for increased Pacific cod retention among their small vessel fleet.

It is also useful to consider any impacts of the proposed action alternatives in the context of the recently released final biological opinion (BiOp) on Steller sea lion protection measures in the AI (NMFS 2014). The final BiOp was released on April 2, 2014, and will change Steller sea lion protection measures that were in place for Pacific cod non-trawl fishing between 2010 and 2015, as established by the 2011 interim final rule. The interim final rule created area, gear, and season specific measures to protect Steller sea lion critical habitat. However, the final BiOp, will reopen many of these closures after 2015. There are no changes to the final BiOp relative to the action analyzed in the 2010 FMP BiOp for Pacific cod non-trawl fishing. Therefore this Steller sea lion RFFA is not expected to significantly impact or compromise the intent of the proposed action alternatives in this analysis.

Regulatory Impact Review

The Regulatory Impact Review (RIR) examines the benefits and costs of the proposed action to promote Pacific cod CDQ harvest opportunities above the 20 percent MRA allowed in the halibut CDQ target fishery. The RIR includes a description of the current Pacific cod CDQ and halibut CDQ fisheries (see Sections 4.6 and 4.7), an analysis of the potential effects of the proposed action on achieving increased retention opportunities, by adjusting the MRA, or by promoting a directed Pacific cod CDQ fishery, and

identification of the individuals or groups that may be affected by the action. Table ES-0.1 further illustrates the similarities and differences among the alternatives.

Alternative 1, No Action

If no action (Alternative 1) is taken by the Council, the regulations governing the CDQ fishery would remain consistent with the status quo (See Section 2.1). In other words, directed Pacific cod CDQ fishing could only occur in the proposed action aboard a CDQ vessel less than or equal to 46 ft. LOA, using hook-and-line gear, if they had a Federal fisheries permit (FFP) with a Pacific cod endorsement, held a license limitation program (LLP) license, carried VMS, and were subject to full observer coverage. Additionally, federally permitted vessels targeting halibut CDQ that do not meet all of the provisions to target Pacific cod are prohibited from retaining Pacific cod in excess of the 20 percent MRA on board at any time during a trip. CDQ vessels may also retain Pacific cod for personal bait.

Under the regulatory status quo, a CDQ vessel less than or equal to 46 ft. LOA using hook-and-line gear may directed fish for Pacific cod CDQ in a state-waters parallel fishery, without an FFP or an LLP license, if it is fishing exclusively in state waters. If the vessel does not have an FFP and is not retaining halibut in this parallel fishery, it is not subject to observer coverage. If the vessel is either retaining halibut or has an FFP (or both), the vessel is then subject to full observer coverage, despite prosecuting a state-water only parallel fishery. The vessel must also adhere to VMS coverage requirement if it is retaining any Pacific cod.

Action Alternatives (Alternatives 2 through 4)

The action alternatives, Alternatives 2 through 4, result in several shared impacts for stakeholders, management, and enforcement (Table ES-0.1). These shared impacts primarily relate to the required or inherent predisposition of a Pacific cod CDQ small vessel fishery to mimic the current halibut CDQ fishery under an alternative. Under the alternatives, all increased Pacific cod retention opportunities for a CDQ small vessel fleet would:

- change regional and seasonal fishing patterns in a way that could mimic the halibut CDQ fishery (with more certainty under Alternative 2, but likely under Alternatives 3 and 4);
- require participants to obtain a FFP;
- have the potential to increase reporting error in CDQ accounting;
- not be expected to increase safety concerns significantly;
- require participants to install and carry a VMS if they do not already have it (except possibly under Alternative 2);
- redirect some portion of Pacific cod CDQ away from the FLL fleet;
- reduce CDQ groups' revenue received from leasing quota to FLL fleet;
- create diseconomies of scale by moving harvest potential from vertically integrated FLL vessels to small catcher vessels. Will require the existence or the development of Pacific cod processing potential near CDQ communities;
- have the potential to provide direct economic benefits to participants, and both direct and indirect economic benefits to communities from species diversification; and
- have variable economic impacts on CDQ groups.

Table ES-0.1 further summarizes the differences between there alternatives from an environmental, economic, and management perspective.

Table ES 0-1. Summary of alternatives and major impacts

Differences in Alternatives (Sections 2.1 through 2.4)	**Alternative 1:** No action	**Alternative 2:** Change the MRA for the Halibut CDQ Fishery	**Alternative 3:** Create a New LLP License for Pacific Cod CDQ Participants	**Alternative 4:** LLP Exemption **(PPA)**[7]
Options			Place vessels in the partial observer coverage category. Halibut caught while Pacific cod CDQ fishing: 1) Is required to be discarded and accrues to PSQ 2) Is required to be retained and accrues against CDQ/IFQ	1) Apply proposed measures to all groundfish CDQ fishing 2) Prohibit discarding legally sized halibut while halibut CDQ fishing 3) Halibut PSC discard sub-options to allow Pacific cod CDQ fishing even when there is no CDQ/IFQ halibut available
Environmental Impacts				
Protected areas: Steller sea lion, EFH and HAPC area closures	No change	Potential for larger amounts of Pacific cod retained from protected areas	No change	No change
Seasonal fishing patterns	No change	Would be restricted to the halibut CDQ fishing season (generally mid-March to November)	Could be prosecuted before, during, or after the halibut CDQ season	Under Option 3, Pacific cod CDQ could be prosecuted on small vessels before, during, or after the halibut CDQ season
Regional fishing patterns	No change	Would likely change to mimic the footprint of the halibut CDQ fishing areas	Would likely change to mimic the footprint of the halibut CDQ fishing areas	Would likely change to mimic the footprint of the halibut CDQ fishing areas
Economic Impacts				
Direct net benefits to individuals in CDQ group	No change	Potential positive impact from increased fishery diversification for CDQ participants	Potential positive impact from increased fishery diversification for CDQ participants	Potential positive impact from increased fishery diversification for CDQ participants
Direct net benefits to CDQ regions	No change	Potential positive impact from increased fishery diversification and increased economic activity to lessen negative impacts from declining halibut CDQ Magnitude of benefits are variable over regions	Potential positive impact from increased fishery diversification and increased economic activity to lessen negative impacts from declining halibut CDQ Magnitude of benefits are variable over regions	Potential positive impact from increased fishery diversification and increased economic activity to lessen negative impacts from declining halibut CDQ Magnitude of benefits are variable over regions and depend on particularly on Option 3

[7] Impacts from Option 3 sub-options are not included in this table. The cost and the benefits of these sub-options relative to Alternative 4 are discussed separately in the Analysis, in Section 4.12.3.

Indirect net benefits to other sectors	No change	Minimal change outside CDQ groups since not a redistribution of TAC Freezer longliner vessels that currently prosecute the majority of the Pacific cod CDQ may incur a negative impact from some quota redistributed to the small vessel fleet	Minimal change outside CDQ groups since not a redistribution of TAC Freezer longliner vessels that currently prosecute the majority of the Pacific cod CDQ may incur a negative impact from some quota redistributed to the small vessel fleet	Minimal change outside CDQ groups since not a redistribution of TAC Freezer longliner vessels that currently prosecute the majority of the Pacific cod CDQ may incur a negative impact from some quota redistributed to the small vessel fleet
Management Impacts				
Vessel owner burden	No change	Requires vessel owners to hold or obtain an FFP	Requires vessel owners to hold or obtain an FFP Requires vessels to have or obtain a VMS Must obtain an LLP license for directed fishing for Pacific cod at the beginning of the season	Requires vessel owners to hold or obtain an FFP Requires vessels to have or obtain a VMS Must be registered online by their CDQ group Must obtain NMFS LLP exemption letter from the CDQ group and carry it with them Must coordinate with CDQ group about halibut accounting while fishing for Pacific cod CDQ under Option 3
CDQ management burden	No change	Increased complexity in their responsibility to allocate and track quota distributed to their small vessel fleet Increased possibility of misreported CDQ catch which would require corrective action	Required to distribute and record count of LLP licenses allocated to their CDQ group annually Increased possibility of misreported CDQ catch which would require corrective action	Increased complexity in their responsibility to allocate and track Pacific cod quota and distribute to their small vessel fleet Increased possibility of misreported CDQ catch which would require corrective action Under Option 3, must maintain a “small vessel halibut PSC limit” reserve if vessels wish to participant in a directed Pacific cod CDQ fishery outside of the halibut season.

Agency burden	No change	No change	Required to distribute and record count of LLP licenses allocated to each CDQ group annually	Maintain an online registration process, database, and web reporting for list of vessels eligible for LLP exemption. Administrative, operational, and outreach support for additional vessels in partial observer coverage. Under Option 3, revisions to catch accounting to accommodate PSC accounting for small unobserved vessels and creation of the small vessel halibut PSC limit for each participating CDQ group.
Catch Accounting System (CAS)	No change	Catch accounting for halibut would not change All Pacific cod retained incidentally to halibut fishing would accrue to the CDQ groups' quota	Under Option 1 all halibut caught while directed Pacific cod CDQ fishing would be required to be discarded and the CAS would need to be modified to estimate a PSC rate for these trips Under Option 2, halibut CDQ/ IFQ would be required to be retained and would be accounted for in the CAS as under the status quo	Modification to the CAS in Option 3to (1) revise CAS to apply the halibut PSC estimation procedures used for vessels in partial coverage to the small CDQ vessels the CAS, (2) to establish a separate "small vessel halibut PSC limit" for each CDQ group, and (3) accrue any halibut PSC from the small vessels to this new limit.
Enforcement	No change	Would still be required to carry a halibut CDQ permit and hired master's permit Would not be required to carry VMS; making it difficult to enforce regulatory closures	Could identify vessels prosecuting Pacific cod CDQ fishery with LLP license during a vessel boarding	Vessels eligible to fish without an LLP license would need to be registered online as well as carry a NMFS-issued certificate for identification. Under Option 3, enforcement would act if a vessel was fishing Pacific cod CDQ in a fishery after NMFS had called for a closure.
Precedent-setting management tool	No change	Setting the MRA to a percentage of the target species to greater than 35 percent	Creating and allocating an LLP license to allow for a greater number of vessel participation Allowing vessels with transferable PSQ be placed in the partial observer coverage category (Option 1 and 2)	Establishing a small vessel PSC limit within a transferable PSQ Exempting vessels greater than 32' LOA and not exceeding 46' LOA from the LLP requirements
Safety	No change	No change	No change	No change

Alternative 2, Change the MRA for the Halibut CDQ fishery

Alternative 2 would increase the MRA of Pacific cod from 20 percent of the weight of the halibut CDQ harvest, up to 100 percent of the halibut CDQ harvest, for hook-and-line catcher vessels less than or equal to 46 ft. LOA. Consistent with current groundfish standards, all Pacific cod caught, up to this amount, on a federally permitted vessel must be retained and would accrue towards the Pacific cod CDQ quotas.

This alternative would not change regulations for a directed Pacific cod fishery and instead exclusively modify provisions for vessels targeting halibut CDQ. Vessel taking advantage of these provisions would be operating in the halibut CDQ fisher and therefore, vessels would not be required to possess an LLP license, they would be in the partial observer coverage category, and, following existing regulations, many of them would not be required to carry VMS. Exceptions to this VMS provision include federally permitted vessels operating in the AI, which are required to carry VMS due to Steller sea lion critical habitat and EFH.

This alternative requires the consideration of Steller sea lion protected critical habitat before it can be determined if the current VMS regulation would still apply. Pacific cod is a prey species for Steller sea lions and therefore there are more strict regulations for directed fishing for this species than for halibut. The halibut CDQ fishery, with the limited Pacific cod MRA, is able to be prosecuted in some areas that are closed to Pacific cod hook-and-line fishing. Under Alternative 2, it is possible that a vessel could have the identical Pacific cod/halibut catch composition as under the status quo, except that under the status quo that vessel would be required to carry VMS and adhere to Steller sea lion closures. Moreover, it is difficult to predict the magnitude of Pacific cod quota that would be redistributed to the small vessel fleet to account for this incidental catch. It would be necessary to enter into an Endangered Species Act (ESA) Section 7 consultation with the NMFS Office of Protected Resources Division if this was the preferred alternative.

There are several other important areas of concern under Alterative 2. One is the precedent-setting use of a 100 percent MRA, which may weaken the distinction between the MRA of an incidental catch species and directed fishing for that species. Additionally, this alternative would place the success of the ability to retain Pacific cod as conditional on the halibut CDQ fishery. If the halibut CDQ continues to decline, as has been the trend since 2011, this complimentary source of income may not provide much benefit, as the MRA proportionally drops.

Alternative 3, Create a New LLP license for the Pacific Cod CDQ Participants

In Alternative 3, NMFS would create a new groundfish CDQ LLP license for participating hook-and-line catcher vessels less than or equal to 46 ft. LOA. Federally permitted vessels with a groundfish CDQ LLP license would be able to participate in the directed Pacific cod CDQ fishery. These LLP licenses would be non-transferable and be applicable only to Pacific cod CDQ. If the vessel had a CDQ LLP license available, then all Pacific cod caught would need to be retained and would accrue towards the Pacific cod CDQ allocations.

Section 4.11 of the analysis discusses the purpose of the LLP, and how this may or may not be compatible with the proposed action. This section compares and contrasts Alternative 3 with the design of the recently established Community Quota Entity LLP. The two options for observer coverage and catch accounting are evaluated and the policy considerations for Council deliberation are highlighted.

In summary, the primary purpose of the LLP is to restrict the number of vessels in a particular fishery. However, this management tool was initially implemented as a “first and interim” management step towards a more comprehensive transferable individual fishing quota IFQ. As a consequence of being a catch share program, the CDQ Program already addresses most of the original fishery management objectives of the LLP. Despite this clear inconsistency between an LLP’s restriction on vessel entry and

Alternative 3's allocation of LLP licenses to allow new CDQ vessels to enter into the Pacific cod CDQ fishery, the Council might still consider the use of this management tool justified.

The primary benefit of administering additional Federal licenses would be to provide enforcement a means to monitor and identify those vessels permitted to participate in the Pacific cod CDQ fishery. In the halibut CDQ fishery, participants are required to carry a halibut CDQ permit and a halibut CDQ hired master's permit, both of which accomplish this goal. The Federal LLP license would serve this same at-sea function through an already established tool that requires some, but minimal setup. Creating a new type of permit for vessels to carry could require a new database and additional infrastructure for NMFS Restricted Access Management to accommodate this.

The CDQ LLP license would need to be carefully designed so as not to allow participation in the existing limited access fishery for BSAI Pacific cod. Regulations could establish guidelines for CDQ-eligible communities to request non-trawl groundfish LLP licenses, endorsed for Pacific cod in the BSAI. The difference is that they would only apply to Pacific cod CDQ fishing. The CDQ communities would need to submit an application to the Regional Administrator, outlining the number of LLP licenses requested, the criteria used for establishing residency and eligibility for their use, and procedures used to solicit requests from residents to be assigned an LLP license. LLP licenses would be issued annually, and the vessel operator would be required to maintain a copy of the annual CDQ LLP license on board when that vessel is directed fishing for Pacific cod CDQ under the authority of that groundfish license. These LLP licenses would be non-transferable and registered to only one vessel and one individual during a given year. They would only be issued for non-trawl gear, have a catcher vessel designation, and have a 46 ft. MLOA. This would include vessels 32 ft. LOA and under, which are currently exempt from holding a Federal license.

Under Alternative 3, the Council would need to determine the number and distribution of LLP licenses for the CDQ groups. The Council would need to determine a vessel cap, if any, for the annual allocation of CDQ LLP licenses. Because fishing effort is already capped by the quota that the CDQ groups has available, it may not be important from a sustainable harvest management perspective to restrict the number of CDQ LLP licenses available to each group. If the Council thinks a cap is warranted, Section 4.11.2 of the analysis suggests methods for determining this limit.

Under both of the options for this alternative, a provision would be built into the CDQ LLP license that moves this groundfish CDQ fishery category into the partial observer coverage category. All groundfish CDQ fishing vessels were placed into the full observer coverage category, regardless of vessel size, because the CDQ groups have the privilege of a transferable PSC limit, or PSQ. Therefore, if this group of Pacific cod CDQ fishing vessels were placed into the partial observer coverage category, the Council would need to determine the most appropriate way to account for unobserved halibut incident catch in a Pacific cod CDQ fishery.

Option 1: Under Option 1 of Alternative 3, any halibut caught while the vessel is targeting Pacific cod accrues against the halibut PSQ. In the Pacific cod CDQ fishery, vessels would be required to discard halibut caught in a Pacific cod CDQ directed fishery, regardless of the availability of halibut CDQ or IFQ. This option would provide consistency in the accounting of PSC halibut with the status quo. However, it would both create a harvest inefficiency, as well as set an unprecedented scenario of extrapolating halibut PSC that is then attributed to the CDQ groups' transferable PSQ, from "partially observed" vessel data.

Option 2: Under Option 2, any halibut incidentally caught while the vessel is targeting Pacific cod would be required to be retained, and it would accrue against the halibut CDQ allocation. This opportunity would only be available under the assumption that halibut CDQ or IFQ was available to account for the incidentally caught halibut. Legal-size halibut would be required to be retained, and, therefore, landed

weight would be subtracted from the CDQ group's halibut CDQ. However, there could be reasons why a CDQ vessel prosecuting a Pacific cod CDQ fishery would not be able to retain halibut CDQ (e.g., it does not possess a halibut CDQ hired master's permit, or it is not halibut season). Allowing for difference in retention requirements could complicate the process of catch accounting. The more the Pacific cod CDQ fishery aligned with the halibut CDQ fishery (by requirement or by internal structure), the more accurate and straightforward the catch accounting process would be.

Alternative 4, LLP Exemption (PPA)

In June 2014, the Council chose a slightly modified version of Alternative 4 as a PPA.[8] Section 2.4 details how this program could work as established by NMFS AK Regional Office recommendations (Appendix A.3) and expanded through continued NMFS AK Regional Office consideration.

Specifically, this alternative would create an exemption from the BSAI groundfish LLP for vessels greater than 32 ft. LOA and less than or equal to 46 ft. LOA using hook-and-line to fish Pacific cod on the CDQ groups' behalf.[9] It would move vessels less than or equal to 46 ft. LOA Pacific cod CDQ fishing using hook-and-line gear into the partial observer coverage category, subject to selection for observer coverage following procedures in the Annual Deployment Plan. These two provisions would apply if participants had CDQ or IFQ available; in which case, halibut caught would be required to be retained and accrue to one of these quotas.[10]

Alternative 4 is recommended by NMFS Alaska Region in part, because it mitigates some of the administrative burden for both NMFS and the CDQ groups that is present in other alternatives. For instance, Alternative 2 would require consultation with the NMFS Protected Resources Division under section 7 of the Endangered Species Act over the uncertain impacts on Stellar sea lion critical habitat. This would likely add time to the final ruling. Additionally, Alternative 3 would require would create administrative burden of establishing a new set of BSAI groundfish licenses for CDQ participants, revised annually and established in a RAM database.

Additionally, NMFS Alaska Region recommends Alternative 4 because the expansion of the BSAI groundfish LLP exemption as outlined in the alternative is considered to be justifiable under these specific conditions. From a management perspective, LLP licenses may not be necessary to limit the number of small vessels participating in the CDQ fisheries. As described in Section 4.11.1, the LLP was established as an interim step in the development of a CRP, or catch share program. This upper limit on the number of vessels in the groundfish and crab fisheries was intended to provide stability and limit further over-capitalization in what formerly were "open access" fisheries. The allocation of a specific percentage of Pacific cod TAC to a CDQ group, as well the internal deliberation of eligibility to harvest these allocated shares, would likely already take on the responsibility of preventing over-capitalization among the small vessels that fish on behalf of their group.

Alternative 4 includes three options which are not mutually exclusive. The third option has three sub-options.

[8] Prior to the adoption of the PPA in June 2014, Alternative 4 just specified to "exempt hook-and-line catcher vessels participating in the CDQ Pacific cod fishery with less than or equal to 46 ft. LOA from groundfish LLP requirements. All Pacific cod caught must be retained and accrues towards the CDQ Pacific cod allocations. Vessels would be in the partial coverage observer category."
[9] Vessels less than or equal to 32 ft. LOA are currently exempt from the BSAI ground LLP requirements.
[10] Option 3 loosens this constraint to consider allowing halibut to accrue to a small vessel PSC limit when CDQ or IFQ is not available, or the CDQ group chooses to support the small vessel Pacific cod fishery with halibut PSC rather than halibut CDQ.

Option 1: Uniform Application of Provisions for Groundfish CDQ Fishing

The CDQ groups requested analysis of alternatives to facilitate development of a small vessel CDQ fishery specifically for Pacific cod. Halibut, sablefish, and Pacific cod are the primary target fisheries in the BSAI for catcher vessels using hook-and-line gear. It seems unlikely that hook-and-line target fisheries for other groundfish species will develop in the near future. However, limiting the allowances and requirements in Alternative 4 (the PPA) to vessels directed fishing for Pacific cod may inadvertently create a fishery violation if one of these vessels happens to have a catch composition at the time of landing that exceeds the maximum retainable amounts for groundfish species other than Pacific cod or sablefish. In addition, developing regulations that apply only while directed fishing for Pacific cod requires continued maintenance of regulations that would apply for any vessel less than or equal to 46 ft. LOA using hook-and-line gear to fish for any other CDQ species besides halibut, sablefish, and Pacific cod. For these reasons, NMFS Alaska Region recommends that the allowances and requirements described in the PPA be applied to all catcher vessels less than or equal to 46 ft. LOA using hook-and-line gear to fish for any groundfish CDQ species other than sablefish.

Under Option 1, the CDQ groups would continue to control which vessels fish on their behalf and the fisheries in which they participate through private contracts and agreements. Option 1 would not require a CDQ group to authorize small hook-and-line vessels to fish for groundfish species other than Pacific cod. However, it would reduce the administrative and enforcement difficulties should a vessel operator operate in a manner that did not meet the definition of directed fishing for Pacific cod. This would simplify regulations and administration of the CDQ Program, and avoid unnecessary enforcement actions for vessels that inadvertently retain more than the MRA of some other groundfish species. In addition, should markets develop for other groundfish CDQ species in the future, generalized regulations would allow the CDQ groups to conduct these fisheries with small hook-and-line vessels without requiring a follow-up regulatory amendment.

Option 2: Prohibition from Discardin Halibut CDQ with Available Quota

NMFS Alaska Region recommended consideration of Option 2 as a way to clarify that one halibut IFQ regulation was consistently applied in the halibut CDQ fishery. While it is assumed there is no discarding of legally sized halibut in the halibut CDQ fishery, current regulation do not contain this same prohibition as specified in the halibut IFQ fishery. Option 2 would expand the current prohibition against discarding legally sized halibut while IFQ fishing to operators of vessels fishing for halibut CDQ while the CDQ group has remaining CDQ.

Further review of the IFQ Program prohibition against the discard of halibut while an IFQ permit holder is aboard, indicates that it may not be practical to extend this particular prohibition to all CDQ halibut or all CDQ hired masters. As noted in the Council discussion in June 2014, it would be difficult to expect all CDQ hired masters to know the status of the CDQ group's halibut CDQ account balance when there could be many fishermen fishing off the same allocation at the same time. In addition, the CDQ groups establish limits on the harvest of halibut CDQ by individual vessels to manage the CDQ fisheries within the halibut CDQ limits. These CDQ halibut fishing plans could put a vessel operator in conflict with a requirement to retain all legal sized halibut.

While NMFS Alaska Region does not recommend applying the IFQ prohibition against discarding halibut to all halibut CDQ fishing, it likely is necessary to include some halibut retention requirements for vessels less than or equal to 46 ft. LOA using hook-and-line gear to fish for Pacific cod CDQ. A key component

of the PPA is the allowance for vessels less than or equal to 46 ft. LOA using hook-and-line gear to fish for Pacific cod CDQ and use CDQ or IFQ to account for any halibut catch during that fishery. Under current regulations, no vessel using hook-and-line gear and directed fishing for Pacific cod is exempted from the halibut PSC limit even if some halibut is retained during that trip. The PPA would create such an exemption for the small CDQ vessels under the assumption that the vessel operator use halibut CDQ or IFQ to support the catch of halibut in the Pacific cod CDQ fisheries. As described above for the PPA, while the halibut fishery is open, the CDQ groups would be required to provide adequate halibut CDQ or halibut IFQ to support the catch of halibut by catcher vessels less than or equal to 46 ft. LOA using hook-and-line gear that are directed fishing for Pacific cod, and vessel operators would be required to retain all legal sized halibut caught while directed fishing for Pacific cod as either halibut CDQ or halibut IFQ. Allow a small vessel Pacific cod CDQ fishery supported by halibut PSC

Option 3: Allow a Small Vessel Pacific Cod CDQ Fishery Supported by Halibut PSC

There are a number of circumstances under which no halibut CDQ or IFQ would be available to a participant of a halibut CDQ/IFQ fishery to fund the halibut caught in a small vessel Pacific cod CDQ fishery. The Pacific cod fishery for small hook-and-line vessels would generally not be restricted by the halibut season; however, vessel operators would legally be required to discard halibut of all sizes before and after the IPHC-established IFQ/CDQ season. There may also be a circumstance in which a halibut season does not open for a region due to low stock abundance. Additionally, there are differences in the way the CDQ groups manage their halibut CDQ fisheries, as well as the timeline that they make the group's quota available to participants. Therefore, even during a time of the year in which it is legal to retain halibut, an individual vessel operator may not have the quota available to allow for legal retention. CDQ group representatives requested an option that would allow them to support a small vessel Pacific cod CDQ fishery with their group's transferable allocation of PSC.

Under any of the sub-options for Option 3, NMFS AK Regional Office recommends that a small vessel Pacific cod CDQ fishery supported by a CDQ group's halibut PSC should be managed by a separate component of a CDQ group's halibut PSC allocation and in-season closure issued by NMFS. A detailed description of this management scheme is in Section 2.4. Other alternatives considered by NMFS AK Regional Office are in Section 2.6.

The three sub-options of Option 3 are more to less restrictive on these circumstances in which a small vessel Pacific cod CDQ fishery supported by halibut PSC can take place. Under all of these sub-options, participants can prosecute a hook-and-line small vessel Pacific cod CDQ fishery under the provisions of Alternative 4, provided that they have access to halibut CDQ or IFQ to fund any incidentally caught halibut. If they do not, the participant could directed fish for Pacific cod CDQ under the provisions in Alternative 4 and allow an estimated halibut PSC rate to account for any halibut catch: under Sub-option 3.1) only when the halibut CDQ season is closed; under Sub-option 3.2) only outside of the halibut season dates specified by each CDQ group; under Sub-option 3.3) on a trip-by-trip basis. These Sub-options are mutually exclusive. A comprehensive account of how these sub-options would function is laid out in Section 2.4.

Table ES 0-2 shows a qualitative comparison of the marginal expected costs for administration of each management scheme. In this table, the baseline is Alternative 4. For example, under the baseline NMFS would develop, maintain, and provide user support for the online registration system for vessels eligible for LLP exemption regardless of which, if any, sub-options are chosen. Therefore, these administrative costs are excluded from the table.

It is difficult to evaluate the relative administrative costs between Sub-option 3.2 and 3.3. In general, the more participants taking advantage of the opportunity to Pacific cod CDQ fish supported by a small

vessel Halibut PSC limit, the higher the administrative costs; the exception being one time management changes, such as a change to the CAS. As Sub-option 3.3 is predicted to provide the most opportunity (as explained later in this section), it is also expected to require the most joint management and communication. Additionally, the more individual participating in a program the more likely there will be occurrences of non-compliance. This is particularly the case for a program, such as this, that relies on interaction between NMFS, mangers of CDQ, and participants.

Table ES 0-2 Qualitative Costs of Sub-options Using Alternative 4 as a Baseline

	Sub-option 3.1: Allow halibut PSC to accrue only when the halibut season is closed	Sub-option 3.2: Allow halibut PSC to accrue only outside of the halibut season dates specified by each CDQ group	Sub-option 3.3: Allow halibut PSC to accrue on a trip-by-trip basis
Additional Catch Accounting costs	● Modify CAS to create "small vessel halibut PSC limit" ● Modify CAS to estimate and accrue halibut PSC rate outside of halibut CDQ/ IFQ season	● Modify CAS to create "small vessel halibut PSC limit" ● Modify CAS to estimate and accrue halibut PSC outside of CDQ group-established halibut seasons ● Modify CAS to include formal start and end date to group-established halibut CDQ seasons	● Modify CAS to create "small vessel halibut PSC limit" ● Modify CAS to estimate and accrue halibut PSC on a trip-by-trip basis
Additional In-season Management costs	● Manage the small vessel PSC limit and issue closure as necessary. Lowest potential for additional administrative costs because least potential for participants to fish under NMFS-managed small vessel halibut PSC limit.	● Manage the small vessel PSC limit and issue closure as necessary. Medium potential for additional administrative costs because more potential fishing under NMFS-managed small vessel halibut PSC limit. ● Prepare Federal Register of formal start and end dates for halibut CDQ season each year.	● Manage the small vessel PSC limit and issue closure as necessary. Highest potential for additional administrative costs because more potential fishing under NMFS-managed small vessel halibut PSC limit.
Additional CDQ management costs	● In the unlikely event that a participant fishes Pacific cod CDQ outside of the halibut CDQ/IFQ season, more communication with participants and with NMFS will be necessary to manage the group's small vessel halibut PSC limit.	● Establish (if they do not currently have) a formal start and end date to their group's halibut CDQ season annually and provide to NMFS annually ● Distribute new eligibility certificates each year that include halibut season dates. All participating vessel would need an eligibility certificate in this Sub-option. ● Communicate with In-season management to maintain small vessel halibut PSC account	● This sub-option would require the most communication with In-season management to maintain small vessel halibut PSC account ● More communication with their participants to inform them of the CDQ halibut and Pacific cod available for harvested versus what would be required to be discarded
Additional vessel operator costs	● In the unlikely event that a participant fishes Pacific cod CDQ outside of the CDQ/IFQ season, more communication with manger of quota will be necessary to use small vessel halibut PSC limit.	● Must be aware of the season dates the fishery switches from a directed Pacific cod CDQ fishery to a dual fishery and back to a Pacific cod CDQ only fishery	● More regulations to understand in terms of when they are required to retain halibut and when they must discard halibut ● More communication with their managers

Additional monitoring and enforcement costs	● No additional monitoring and enforcement issues compared to Alternative 4.	● Coast Guard would need to know the halibut season dates for the vessel they were boarding. This could be detailed on the NMFS LLP exemption letter.	● Neither OLE nor Coast Guard would be responsible for verifying the type of trip; this would be done in the CAS ● There may be non-compliance with high-grading halibut CDQ when Pacific cod CDQ fishing. Once a vessel begins retaining halibut CDQ on a Pacific cod CDQ trip, they are required to continue to retain halibut CDQ. This would be difficult to monitor and enforce.

The costs associated with setting up and maintaining a management system can be compared to the additional benefits CDQ group participants may receive from the additional opportunity to directed Pacific cod CDQ fish without the availability of halibut CDQ or IFQ.

Estimating the benefits to each group based of the different management sub-options is difficult because most groups do not have a business plan ready to be implemented simultaneously with regulation changes. Many participants will be waiting to see what regulation will allow them to participate in before they invest in any additional capital directed fishing Pacific cod may require to obtain. For the majority of the participants, it is expected that benefits will not be felt immediately after implementation of a regulatory package. Participants that have solely prosecuted a small vessel halibut CDQ fishery in the past will still need to be outfitted with a VMS, acquire a certificate of eligibility to be LLP exempt (if greater than 32 ft. LOA), be listed on the NMFS online database, and be educated on the responsibilities of being in partial observer coverage category.

However, CDQ group representatives' have spent time considering how management changes might promote small vessel fishing opportunities in their region and be integrated into their group's management. This integration will depend on many group- and region-specific factors. It will depend on the existing fleet of small vessels currently equip to harvest with hook-and-line. It will depend on weather and ocean conditions, current and potential processing availability as describe in Section 4.7.5, and importantly, efforts made to plan around the opening of priority fisheries. The participation in and integration of a small vessel Pacific cod CDQ fishery will also depend on the regulation package produced by this action. The possibility of benefits for each group under each Sub-option is summarized in a qualitative way in Table ES 0-3. Similar to Table ES 0-2, the benefits are considered using Alternative 4 as the baseline.

Generally, it is not expected that Sub-option 3.1 will provide any group additional benefits over the baseline. It is unlikely that any participant will want to prosecute a directed Pacific cod CDQ fishery before or after the IPHC-established halibut CDQ season (generally mid-March to early November) due to weather and ocean conditions. Therefore, it is expected that Sub-option 3.1 will only provide additional opportunity in the event that there is no halibut CDQ season. Sub-option 3.2 is expected to provide additional benefits, particularly in the spring before the start of the CDQ group-established halibut season. Depending on the group, Sub-option 3.2 will provide minimum opportunity for participants post-halibut CDQ season as end dates will need to be established conservatively in an effort not to limit the season of a priority species (i.e. halibut, salmon, or red king crab). In the case of CVRF, with a more homogenous end date to their halibut fishery, there may be additional opportunities to fish Pacific cod CDQ after the halibut CDQ season under this sub-option. Sub-option 3.3 is expected to provide the widest range of opportunity, by allowing trip-by-trip determination of the reliance on a "small vessel halibut PSC" account versus the use of halibut CDQ/IFQ. This sub-option essentially puts the control at the CDQ group management level of whether a participant has access to Pacific cod CDQ and should discard halibut to be estimated toward the group's "small vessel halibut PSC" account or whether they are expected to

retain both halibut CDQ and Pacific cod CDQ. It would delay the expected lag time between the end of an individual's halibut CDQ fishery and their opportunity to directed Pacific cod CDQ fish while relying on their group's small vessel halibut PSC limit.

Table ES 0-3 Qualitative Benefits of the Sub-options Using Alternative 4 as a Baseline

	Sub-option 3.1: Allow halibut PSC to accrue only when the halibut season is closed	Sub-option 3.2: Allow halibut PSC to accrue only outside of the halibut season dates specified by each CDQ group	Sub-option 3.3: Allow halibut PSC to accrue on a trip-by-trip basis
APICDA	● Unlikely to provide additional benefits, except under the possibility of no halibut CDQ season	● Expected to provide some Pacific cod CDQ fishing opportunities before the APICDA halibut season for St. George participants. ● Unlikely to provide additional benefits for Atka participants.	● Expected to provide some Pacific cod CDQ fishing opportunities before the APICDA halibut season for St. George participants. ● Unlikely to provide additional benefits for Atka participants.
BBEDC	● Unlikely to provide additional benefits	● Unlikely to provide additional benefits	● Unlikely to provide additional benefits
CBSFA	● Unlikely to provide additional benefits, except under the possibility of no halibut CDQ season	● Expected to provide Pacific cod CDQ fishing opportunities before the CBSFA halibut season	● Expected to provide Pacific cod CDQ fishing opportunities before the CBSFA halibut season ● Due to vessel caps, CBSFA participants complete their individual halibut CDQ seasons at different times. Individuals reaching their full halibut CDQ harvest more quickly than others will benefit from the opportunity to immediately transition into a Pacific cod CDQ fishery.
CVRF	● Unlikely to provide additional benefits, except under the possibility of no halibut CDQ season	● Expected to provide some Pacific cod CDQ fishing opportunities before the CVRF halibut season ● Because CVRF's program does not use vessel caps, participants can fish until the group's halibut quota is harvested. This creates a more homogenous end date to fishery. Participants would benefit from opportunity to transition to a Pacific cod CDQ fishery after the halibut CDQ season.	● Expected to provide some Pacific cod CDQ fishing opportunities before the CVRF halibut season ● Participants would benefit from opportunity to transition to a Pacific cod CDQ fishery after the halibut CDQ season. ● Since CDQ halibut season dates would need to be established by Feb, under Sub-option 3.2, seasons would need to be established conservatively around the halibut CDQ fishery to avoid truncating the season. Therefore Sub-option 3.3 would alleviate potential lag time between seasons.
NSEDC	● Unlikely to provide additional benefits, except under the possibility of no halibut CDQ season	● Expected to provide Pacific cod CDQ fishing opportunities before the NSEDC halibut season.	● Expected to provide Pacific cod CDQ fishing opportunities before the NSEDC halibut season. ● Based on the difference between the Nome halibut fishery, which is structured around the red king crab fishery, and Savoonga halibut fishery, additional benefits may be experienced in both fisheries from trip-by-trip flexibility. ● Individuals in both Nome and Savoonga reaching their halibut CDQ harvest at different points in the summer may benefit from the opportunity to seamlessly transition into Pacific cod CDQ fishing.
YDFDA	● Unlikely to provide additional benefits	● Unlikely to provide additional benefits	● Unlikely to provide additional benefits

1 Introduction

This document analyzes proposed management measures that would apply exclusively to Community Development Quota (CDQ) groups fishing in the Bering Sea and Aleutian Islands (BSAI). The measures under consideration include easing or exempting CDQ hook-and-line catcher vessels[11] that do not exceed 46 ft. length overall (LOA) from certain regulatory requirements in order to promote harvest opportunities for Pacific cod (*Gadus macrocephalus*) by small CDQ vessels in a directed fishery and/or while fishing CDQ Individual Fishing Quota (IFQ) halibut (*Hippoglossus stenolepis*). Implementation of the management measures evaluated in this analysis may require an amendment to the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area, as well as amendments to implementing regulations.

This document is an Environmental Assessment/Regulatory Impact Review (EA/RIR).[12] An EA/RIR assesses the environmental impacts of an action and its reasonable alternatives (the EA), the economic benefits and costs of the action alternatives (Alternatives 2 through 4), and their distribution (the RIR). This EA/RIR addresses the statutory requirements of the Magnuson Stevens Fishery Conservation and Management Act (MSA), the National Environmental Policy Act, and Presidential Executive Order 12866. An EA/RIR is a standard document produced by the North Pacific Fishery Management Council (Council) and the National Marine Fisheries Service (NMFS) Alaska Region to provide the analytical background for decision-making.

1.1 Purpose and Need

The purpose of this action is to create a regulatory structure for the harvest of Pacific cod CDQ that promotes harvest opportunities for the small vessels that fish on behalf of a CDQ group, and effectively allows CDQ and IFQ halibut harvesters, operating vessels less than or equal to 46 ft. LOA, the ability to retain Pacific cod CDQ in excess of the 20 percent maximum retainable amount (MRA) provided for in the halibut fishery. The difference between the vessel requirements for halibut CDQ fishing and directed Pacific cod CDQ fishing means that any Pacific cod caught in the halibut fishery is generally not able to be retained by small vessels for commercial use. Adjusting the regulations for these fisheries could reduce Pacific cod discards and increase small vessel economic opportunities in the halibut CDQ fishery. Particularly in light of recent declines in halibut quota, small vessels that fish on behalf of CDQ communities would benefit from the ability to retain their allocation of Pacific cod for commercial sale, to supplement their income from halibut CDQ harvest. This action would be in line with MSA policy objectives of supporting employment and growth in the communities.

The Council adopted the following problem statement to initiate this action in February 2014.

> *Current regulations applicable to vessels targeting Pacific cod with hook-and-line gear are prohibitive for the CDQ village small boat fleets. Easing or revising certain regulations may make the development of a Pacific cod fishery more viable and provide additional harvest opportunities for the CDQ village small boat fleets, which may be particularly urgent in light of steep declines in halibut quotas as one measure to mitigate the resulting economic disruption.*

[11] This analysis refers to small vessels and in all cases this indicates catcher vessels and not catcher/processors.
[12] Once the Council identifies a preferred alternative (PA), the package will be augmented with a Regulatory Flexibility Act Analysis (RFAA) in order to satisfy the statutory requirements of the Regulatory Flexibility Act (RFA). This additional analysis evaluates the potential adverse economic impacts on small entities directly regulated by the proposed action.

1.2 Background

1.2.1 The Community Development Quota Program

The large-scale commercial fisheries of the BSAI developed in the eastern Bering Sea without participation from rural western Alaska communities. These fisheries are capital-intensive and require large investments in vessels, infrastructure, processing capacity, and specialized gear. The CDQ Program was developed to redistribute some of the BSAI fisheries' economic benefits to communities adjacent to the Bering Sea, by allocating a portion of commercially important BSAI species, including pollock, Pacific cod, crab, halibut, and various groundfish, to such communities.

The CDQ Program is an economic development program associated with federally managed fisheries in the BSAI. NMFS, the State of Alaska, and the Western Alaska Community Development Association (WACDA) administer the CDQ Program. Its purpose, as specified in the MSA, is to provide western Alaska communities the opportunity to participate and invest in BSAI fisheries, to support economic development in western Alaska, to alleviate poverty and provide economic and social benefits for residents of western Alaska, and to achieve sustainable and diversified local economies in western Alaska.

In fitting with these goals, NMFS allocates a portion of the annual catch limits for a variety of commercially valuable marine species in the BSAI to the CDQ Program. The percentage of each annual BSAI catch limit allocated to the CDQ Program varies by both species and management area. These apportionments are, in turn, allocated among six different non-profit managing organizations representing different affiliations of communities (CDQ groups), as dictated under the MSA. Eligibility requirements for a community to participate in the western Alaska Community Development Program are identified in the MSA at section 305(i)(1)(D).

There are 65 coastal Alaska communities[13] currently eligible to participate in the CDQ Program, representing a population of 27,702 residents (U.S. Census 2010). The CDQ-qualifying communities have organized themselves into six non-profit groups, with between 1 and 20 communities in each group. The CDQ communities are geographically dispersed, extending from Atka, on the Aleutian chain, along the Bering Sea coast, to the village of Wales, near the Arctic Circle (See Appendix A.1). The current CDQ groups are listed below.

Aleutian Pribilof Island Community Development Association (APICDA): The communities represented by APICDA are relatively small and located adjacent to the fishing grounds. Population of the six communities is just under 1,300 residents.

Bristol Bay Economic Development Corporation (BBEDC): BBEDC represents 17 communities distributed around the circumference of Bristol Bay, including Dillingham, the second-largest CDQ community with approximately 2,330 residents and the location of BBEDC's home office. Total population is approximately 5,420.

Central Bering Sea Fisherman's Association (CBSFA): CBSFA is unusual among CDQ groups in that it represents a single community, St. Paul in the Pribilof Islands. In 2010, St. Paul had a population of 479.

[13] For a full list of the participating communities and the names of their associated group, see Table 7 in 50 CFR Part 679.

Coastal Villages Region Fund (CVRF): CVRF manages the CDQ harvest for its member communities. The 20 communities are located along the coast between the southern end of Kuskokwim Bay and Scammon Bay, including Nunivak Island. CVRF represents a population of about 8,570 individuals.

Norton Sound Economic Development Corporation (NSEDC): NSEDC represents 15 communities. Approximately 8,730 residents make up the region represented by NSEDC, which ranges from St. Michael to Diomede.

Yukon Delta Fisheries Development Association (YDFDA): YDFDA represents the communities, Alakanuk, Emmonak, Grayling, Kotlik, Mountain Village, and Sheldon Point, containing approximately 3,210 people.

CDQ groups use the revenue derived from the harvest of their fisheries allocations as a basis for funding economic development activities and for providing employment opportunities. Therefore, the successful harvest of CDQ Program allocations is integral to achieving the goals of the program. The 2013 CDQ allocations included approximately 197,000 metric tons of groundfish, about 1.19 million pounds of halibut, and approximately 6.9 million pounds of crab. Annual CDQ allocations provide a revenue stream for CDQ groups through various channels, including the direct catch and sale of some species, leasing quota to various harvesting partners, and income from a variety of investments. The six CDQ groups had total revenues in 2011 of approximately $311.5 million, primarily from pollock royalties. Since 1992, the CDQ groups have accumulated net assets worth approximately $803 million (as of 2011), including ownership of small local processing plants, catcher vessels, and catcher/processors that participate in the groundfish, crab, salmon, and halibut fisheries (WACDA 2011).

One of the most tangible direct benefits of the CDQ Program has been employment opportunities for western Alaska community residents. CDQ groups have had some success in securing career track employment for many residents of qualifying communities, and have opened opportunities for non-CDQ Alaskan residents, as well. Jobs generated by the CDQ Program included work aboard a wide range of fishing vessels, internships with the business partners or with government agencies, employment at processing plants, and administrative positions. In 2011, 2,410 wage and salary employees of the CDQ groups earned $45.5 million in combined payroll. In addition, crew members and commercial fishing permit holders received ex-vessel payments of $32.2 million from processors and fish buying stations (WADCA 2011). CDQ groups continue to explore the means to provide continuing and additional employment opportunities for local residents.

1.2.2 History of this Action

During the staff tasking agenda item at the October 2013 Council meeting, representatives from the CDQ groups introduced a proposal to make regulatory changes or exemptions that would encourage local development and participation in the harvest of Pacific cod CDQ allocations in both a directed Pacific cod CDQ fishery and while targeting CDQ and IFQ halibut (Appendix A.2). This proposed fishery would allow CDQ community residents with vessels ranging in size from 16 to 46 ft. LOA, mainly using hook-and-line gear, to develop and actively participate in a Pacific cod CDQ fishery in the BSAI.

The CDQ groups identified regulation changes that they felt were prohibitive to local development and participation in the targeted harvest of Pacific cod CDQ allocations. The changes requested in the proposal are:

1. exempting vessels between 32 and 46 ft. LOA from License Limitation Program requirements while harvesting CDQ Pacific cod;

2. exempting vessels up to 46 ft. in length from vessel monitoring system (VMS) requirements while harvesting CDQ Pacific cod;

3. aligning observer requirements for hook-and-line catcher vessels targeting CDQ Pacific cod with observer requirements for hook-and-line catcher vessels targeting non-CDQ Pacific cod;

4. requiring 100 percent retention of CDQ Pacific cod, on vessels with the exemption in 1) and 2) above, while directed fishing for CDQ halibut and/or IFQ halibut, only if an allocation of CDQ Pacific cod is available to those vessels.

The CDQ groups' proposal additionally included a problem statement that detailed the constraints these four elements imposed on their small vessel fleet and justification for the Council's consideration of the corresponding exemptions. They included background material on how they envisioned the fishery to be prosecuted under the provisions requested.

After hearing the CDQ groups' proposal, the Council initiated a discussion paper, acknowledging the problem statement identified by stakeholders. This discussion paper was reviewed at the February 2014, at the Council meeting in Seattle, WA. The objective of the discussion paper was to outline the baseline for each of the four regulatory elements the CDQ groups considered a constraint on their small vessel fishery. In addition, the discussion paper provided a preliminary evaluation of any concerns with the four proposed elements, as well as opportunities for additional action that would meet the CDQ groups' and the Council's goals.

This first examination indicated that changes to all four elements could be possible; however, direct exemptions for VMS would produce large concerns, particularly for monitoring and enforcement of protected areas. Based on this background information, the Council approved a suite of alternatives in February 2014, which did not include analysis of direct exemptions from VMS requirements. Instead this analysis examines the baseline burden of current VMS options for small vessels, and contrasts this with monitoring alternatives, such as Global Positioning System (GPS) electronic monitoring.

The Council initially reviewed this analysis in June 2014. The Council chose to release the draft for public review after revising Alternative 4 to incorporate additional elements outlined in a "NMFS Recommendations" document (Appendix A.3). This document makes clear the extent of the LLP exemption and the requirements for documentation of eligibility for this exemption. It describes CDQ Pacific cod, halibut and other groundfish retention requirements and the catch accounting process that would take effect in a directed Pacific cod CDQ fishery under this alternative. The document also explains NMFS Alaska Region's recommendation that the directed Pacific cod CDQ fishery would be constrained to the halibut CDQ season and area closures as well as VMS requirements would remain consistent with the status quo. The Council determined that with the incorporation of these elements, Alternative 4 would constitute a Preliminary Preferred Alternative (PPA). In initial review, the Council also added three new options for future analysis under the PPA. These options are introduced in Section 2.4 and are not mutually exclusive.

In October 2014, the Council redesigned Option 3 as Sub-option 3.1 and included at Sub-option 3.2 for additional analysis. Sub-option 3.2 examines one method of creating additional flexibility for a directed Pacific cod CDQ fishery for small hook-and-line vessels supported by halibut PSC. This Sub-option would allow CDQ groups to annually establish their own season dates for when their directed Pacific cod

CDQ fishery would be supported by halibut CDQ/ IFQ and when it would rely on the calculation of a halibut PSC rate.

After the October 2014 Council meeting, as NMFS AK Regional Office analyzed the details of Sub-option 3.2, it became apparent that a third option for halibut PSC management was appropriate to consider. A third sub-option would complete the range of flexibility possible for the utilization of halibut PSC in a directed Pacific cod CDQ fishery. Therefore, NMFS AK Regional Office recommends the inclusion of Sub-option 3.3 for Council consideration, which would allow the CDQ groups the flexibility to decide, on a trip-by-trip basis, whether a small hook-and-line vessel fishing for Pacific cod CDQ would retain all halibut under a halibut CDQ or IFQ allocation or would discard all legal sized halibut and accrue halibut PSC associated with that CDQ group during that fishing trip.

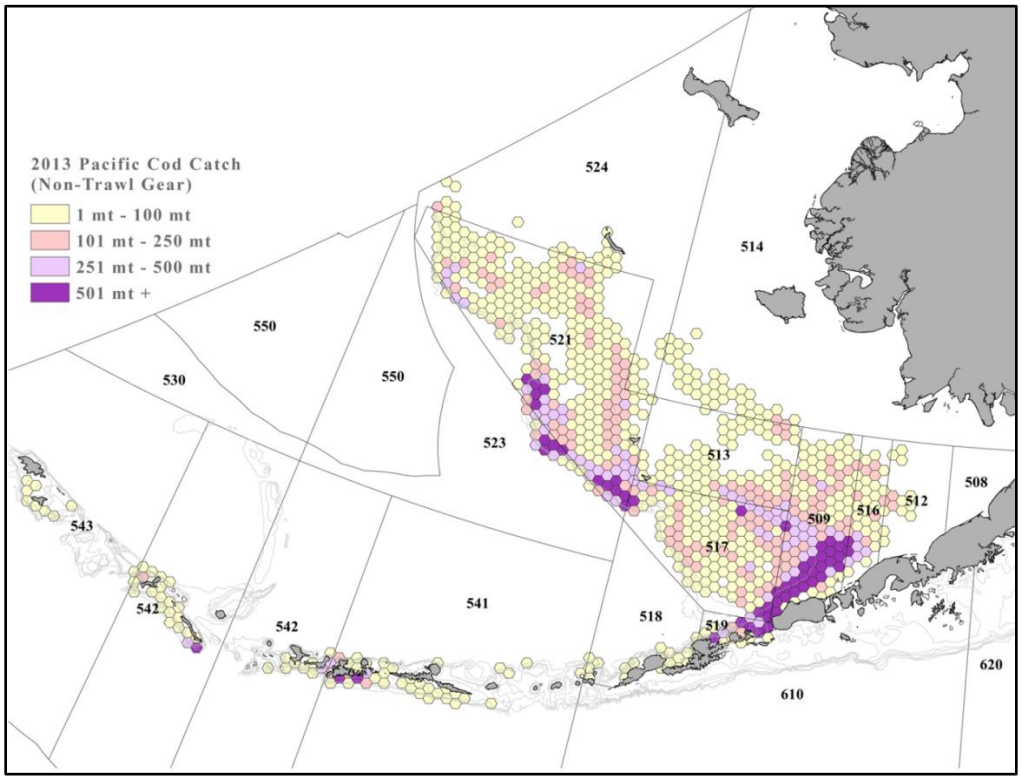
1.2.3 Description of Action Area

The actions considered in this analysis could impact fishing behavior in the BSAI management area. In recent years, the CDQ percentage of the Pacific cod stock has been harvested by catcher/processors greater than 46 ft. LOA, or in the case of one CDQ group, two catcher vessels greater than 46 ft. LOA. Alternatives 2 through 4 could result in a redistribution of a portion of the Pacific cod CDQ quota from catcher/processors greater than 46 ft. LOA to hook-and-line CDQ vessels less than or equal to 46 ft. LOA, if regional conditions made such a fishery viable. This change may impact where some of the Pacific cod is caught in the BSAI.

BSAI Pacific cod is primarily caught along much of the continental shelf in the BS, including in Statistical Areas 509, 513, 516, 517, 519, and 521. Historically, Pacific cod was caught throughout the AI. For the last five years prior to enactment of additional Steller sea lion protective regulations in 2011, the proportions of Pacific cod catch in NMFS Statistical Areas 541, 542, and 543 averaged 58 percent, 19 percent, and 23 percent, respectively (Figure 1-1). Similarly, the catcher vessels and catcher/processor greater than 46 ft. LOA that have targeted Pacific cod CDQ have prosecuted Areas 509, 513, 516, 517, and 521 with some additional harvest in Area 514 in the Kuskokwim Bay region and some in the 542 AI region (Figure 1-2).

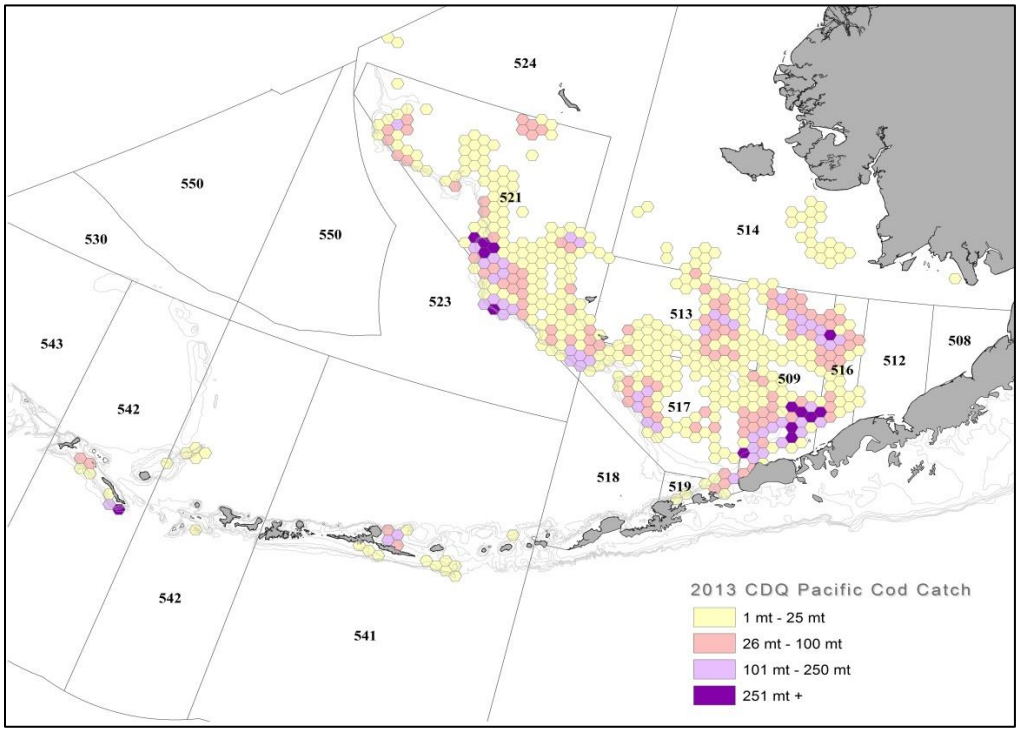
Under the proposed action, a portion of the directed Pacific cod directed fishery would likely shift to near-shore waters, closer to local communities. The regulatory changes and exemptions for Pacific cod CDQ fishing would primarily impact CDQ groups in the Aleutian and Pribilof Islands, and some Western Alaska communities.

Figure 1-1 All 2013 BSAI Pacific cod non-trawl catch



Source: Alaska Region NMFS BSAI In-season Management Report, Dec 2013

Figure 1-2 All 2013 BSAI Pacific cod CDQ catch



Source: Alaska Region NMFS In-season management, Catch-in-Areas Database

If this action is pursued, CDQ members would have more of an opportunity to retain Pacific cod CDQ while harvesting halibut CDQ or in a directed Pacific cod fishery that would likely follow the footprint of the halibut CDQ fishery. Since not all vessels that prosecute a halibut CDQ fishery are required to carry VMS, there are no full and precise records of the location of halibut CDQ harvest. Alaska Department of Fish and Game fish tickets and eLandings can provide a sense of where these harvests are occurring by statistical area. However, much of these data are confidential. A CDQ group is considered an entity for purposes of reporting, thus CDQ harvest would need to be pooled into at least groups of three. Because halibut CDQ is almost exclusively fished within the CDQ group's region near the processors of the community, these data become confidential.

However, because of this pattern, it is easy to illustrate the regional distribution of the fishery even without the ability to map the harvest. Broadly, halibut CDQ fishing takes place:

- in the Norton Sound region, particularly around Nome;
- all around Nunivak Island, down the Western coast towards Goodnews Bay;
- around the Pribilof Islands, particularly St. Paul;
- in the Bristol Bay region in moderate amounts;
- in the Western Aleutian Islands, especially around Atka.

The one CDQ region without a strong small vessel halibut CDQ representation is the Yukon Delta region. YDFDA is only allocated halibut quota in Area 4D, which is not immediately adjacent to its communities in the Bering Sea. YDFDA traditionally harvests their quota on larger vessels able to safely operate in the waters of Area 4D.

2 Description of Alternatives

The alternatives that are analyzed in this package were adopted by the Council in February 2014 and revised in June 2014 to include a Preliminary Preferred Alternative (PPA). In October 2014, Option 3 of the PPA, became Sub-option 3.1 and Sub-option 3.2 was added. NMFS AK Region has proposed the addition of Sub-option 3.3, listed in bold, for Council consideration in this document. These alternatives are listed here and described in detail in Sections 2.1 through 2.6. The alternatives propose management measures that would apply exclusively to the CDQ fisheries in the BSAI.

Alternative 1. No action. Vessels fishing CDQ halibut are allowed to retain Pacific cod up to 20 percent of their CDQ halibut landings under the existing maximum retainable amount (MRA).

Alternative 2. Increase the MRA of Pacific cod up to 100 percent of the CDQ halibut landings for hook-and-line catcher vessels less than or equal to 46 ft. LOA that hold Pacific cod CDQ.[14] All Pacific cod caught must be retained and accrues towards the CDQ Pacific cod quotas.

Alternative 3. Create a new CDQ LLP license for participating hook-and-line catcher vessels less than or equal to 46 ft. LOA. Vessels with the CDQ LLP license can participate in the CDQ directed Pacific cod fishery. Limit the number of LLP licenses each CDQ group would be provided. These LLP licenses would be non-transferable among CDQ groups. All Pacific cod caught must be retained and accrues towards the CDQ Pacific cod allocations. Vessels would be subject to the full coverage observer category consistent with existing full coverage observer requirements.

> Option 1: Place these vessels in the partial coverage observer category. Halibut caught would accrue against the CDQ PSQ allocation.[15]
>
> Option 2: Place these vessels in the partial coverage observer category. Require vessels to retain any incidentally caught halibut, which would accrue against the CDQ's halibut allocation.

Alternative 4. (PPA)[16] The following provisions would apply to hook-and-line catcher vessels less than or equal to 46 ft. LOA while directed fishing for Pacific cod CDQ:

<u>LLP Program</u>: Vessels greater than 32 ft. LOA, but less than or equal to 46 ft. LOA would be exempt from the LLP requirements.[17] Each CDQ group would be required to register each vessel less than or equal to 46 ft. LOA that it authorizes to conduct directed fishing for Pacific cod CDQ on its behalf. The online registration program would generate a letter from NMFS documenting that the vessel is exempt from the LLP while directed fishing for Pacific cod CDQ. Operators of vessels greater than 32 ft and less than or equal to 46 ft. LOA would be required to maintain a copy of this letter onboard the vessel at all times while directed fishing for Pacific cod CDQ. CDQ groups could remove vessel from this list at any time during the year.

[14] The qualifier "of Pacific cod" was added by staff for clarification.
[15] Reviewers noted the inappropriate use of the phrase "Incidentally caught halibut", which implies retention. Since halibut PSC would be required to be discarded, this language was modified to say "halibut caught".
[16] In the Initial Review Draft of February 2014, Alternative 4 would "Exempt hook-and-line catcher vessels participating in the CDQ Pacific cod fishery with less than or equal to 46 ft. LOA from groundfish LLP requirements. All Pacific cod caught must be retained and accrues towards the CDQ Pacific cod allocations. Vessels would be in the partial coverage observer category." The PPA is a more detailed version of this based on NMFS AK Regional Office recommendations presented in June 2014 (see Appendix A.3).
[17] Vessels less than or equal to 32 ft. LOA currently are exempted from the LLP requirements while fishing in the BSAI.

Observer coverage requirements: These vessels would be in the partial observer coverage category and subject to observer coverage requirements described in the Annual Deployment Plan.

Retention requirements: All Pacific cod caught must be retained and accrues towards the CDQ Pacific cod allocations.

Option 1: Apply the proposed management measures to all vessels less than or equal to 46 ft. LOA using hook-and-line gear while directed fishing for any groundfish species allocated to the CDQ Program, except sablefish.

Option 2: Expand the current prohibition against discarding legal sized halibut while IFQ fishing to people fishing for halibut CDQ while the CDQ group has remaining halibut CDQ.

Option 3: Allow a small vessel Pacific cod CDQ fishery supported by halibut PSC

Sub-option 3.1: In a situation when there is no halibut available (either CDQ or IFQ) to fund the CDQ small boat Pacific cod fishery, another workable alternative would need to be developed, such as a mutually acceptable halibut PSC discard rate system.[18]

Sub-option 3.2: Each CDQ group participating in the small vessel Pacific cod CDQ fisheries shall annually determine the date upon which halibut catch accounting for the group's CDQ Pacific cod fishery switches from halibut PSC to halibut CDQ (or participants' IFQ), and the date upon which the halibut catch accounting switches from halibut CDQ back to halibut PSC. The switch dates shall be provided to NMFS by each participating CDQ group by February 15 annually.

Sub-option 3.3: Each CDQ group would be allowed the flexibility to decide, on a trip-by-trip basis, whether a small hook-and-line vessel fishing for Pacific cod CDQ would retain all halibut under a halibut CDQ or IFQ allocation or would discard all legal sized halibut and accrue halibut PSC associated with that fishing trip. The option to retain halibut CDQ and IFQ would be available only when the halibut fishery is open. When the halibut fishery is closed or if no halibut CDQ or IFQ is available, halibut PSC would accrue.[19]

Under all alternatives, the analysis will consider substitutes to VMS, such as a GPS electronic monitoring option for monitoring compliance with Steller sea lion protection measures, EFH, and HAPC closure areas.

The National Environmental Policy Act (NEPA) requires that an EA analyze a reasonable range of alternatives, consistent with the purpose and need for the proposed action. The alternatives in this chapter were designed to accomplish the stated purpose and need for the action. All of the alternatives were designed to create a regulatory structure for the harvest of Pacific cod CDQ that promotes harvest opportunities for the CDQ small vessel fleets, and effectively allows CDQ and IFQ halibut harvesters,

[18] In this Sub-option analysts interpreted, "when there is no halibut available" to mean outside of the IPHC-established halibut season for IFQ/CDQ fisheries and/or in the event that there was no halibut fishery in a season.
[19] This Sub-option was included by NMFS AK region in order to cover the range of management flexibility possible in developing a Pacific cod CDQ fishery supported by halibut PSC.

operating vessels less than or equal to 46 ft. in length, the ability to retain Pacific cod CDQ in excess of the 20 percent MRA.

2.1 Alternative 1, No Action

Under Alternative 1, the no action alternative, the regulations of the CDQ fishery would remain consistent with the status quo. In other words, directed Pacific cod CDQ fishing could only occur for vessels of interest to the proposed action (i.e., CDQ vessels less than or equal to 46 ft. LOA using hook-and-line gear) if they held a Federal fisheries permit (FFP) with a Pacific cod endorsement, held an LLP license, carried VMS, and were subject to full observer coverage. Additionally, if a federally permitted vessel targeting halibut CDQ retains Pacific cod over the 20 percent MRA, that vessel operator must comply with all regulations that apply while directed fishing for Pacific cod.[20] CDQ vessels may also retain Pacific cod for personal bait.[21]

No vessel in the GOA or BSAI may fish for groundfish, including groundfish bycatch, without obtaining an FFP.[22] Any vessel halibut CDQ fishing in the EEZ, except Coastal Villages Regional Fund (CVRF), is required to obtain an FFP, even if they are not retaining any groundfish, because they are required to retain any sablefish harvested as long as the CDQ group has remaining sablefish CDQ from the fixed gear sablefish CDQ reserve. CVRF is the only CDQ group with an allocation of halibut CDQ in an area in which they have no allocation of sablefish CDQ, therefore their participants may not be required to obtain an FFP.

The CDQ groups and vessels fishing on their behalf must be aware of the several different ways of categorizing the CDQ fisheries and the associated regulations and catch accounting procedures. The three primary ways of categorizing the CDQ fisheries are (1) the CDQ fishery categories developed to implement the regulation of harvest provisions of the MSA, (2) the application of MRAs to determine if a vessel is directed fishing for a particular species, and (3) the Catch Accounting System (CAS) method for assigning a single trip target to each catcher vessel landing for purposes of estimating prohibited species catch (PSC).

NMFS regulations define four different CDQ fishery categories.[23] These fishery categories are needed because some aspects of the CDQ fishery management regulations and catch accounting provisions differ among these categories due to the "regulation of harvest" provisions of the MSA.[24]

- "Halibut CDQ fishing" is using fixed gear, retaining halibut CDQ, and not retaining groundfish over the maximum retainable amounts specified Table 11 to CFR 679. Regulations governing halibut CDQ fishing are designed to be no more restrictive that regulations governing halibut IFQ fishing.

- "Sablefish CDQ fishing" is fishing using fixed gear, retaining sablefish CDQ, and retained catch of sablefish CDQ plus sablefish IFQ that is greater than the retained catch of any other groundfish

[20] However, 50 CFR 679.27(b) and (c), Improved Retention/Improved Utilization Program does not apply to these vessels because they are not groundfish CDQ fishing (i.e., directed fishing for a groundfish species), therefore halibut CDQ participants have the option to discard Pacific cod or to retain up the MRA.
[21] 50 CFR 679.27(g)
[22] 50 CFR 679.4(b)()1) and (-2)
[23] 50 CFR 679.2
[24] MSA section 305(i)(1)(B)(iv) states, "the harvest of allocation under the program for fisheries with individual quotas or fishing cooperatives shall be no more restrictive than for participants in the applicable sector, including with respect to the harvest of non-target species."

species or species group. Regulations governing sablefish CDQ fishing are designed to be no more restrictive that regulations governing sablefish IFQ fishing.

- "Pollock CDQ fishing" is directed fishing for pollock under a pollock allocation to the CDQ Program and accruing pollock catch against a pollock CDQ allocation. Regulations governing pollock CDQ fishing are designed to be no more restrictive that regulations governing the AFA pollock fisheries.

  "Groundfish CDQ fishing" is fishing that results in the retention of any groundfish CDQ species[25], but that does not meet the definition of pollock CDQ fishing, sablefish CDQ fishing, or halibut CDQ fishing. Regulations governing non-AFA catcher/processors using trawl are designed to be no more restrictive than regulations governing the Amendment 80 fisheries.

Catcher vessels directed fishing for Pacific cod CDQ using hook-and-line gear fall under the regulations for "groundfish CDQ fishing." For catcher vessels, the non-CDQ Pacific cod fisheries are not managed under an IFQ Program or cooperatives, so the regulation of harvest provisions of the MSA do not apply to these fisheries.

The determination of whether a vessel operator is or was "directed fishing" for a particular species is based on the application of maximum retainable amounts. If retained catch exceeds the MRA for a particular species, a vessel operator is considered to be or to have been directed fishing for this species. MRAs are used in the CDQ fisheries primarily to determine how much of a species that is not allocated to the CDQ Program may be retained by vessels that are retaining allocated CDQ species and for the application of regulations that apply equally to the CDQ and non-CDQ fisheries, such as Steller sea lion protection measures and habitat protection measures.

As described above, MRAs also are used to distinguish among the CDQ fishery categories. When a vessel halibut CDQ fishing exceeds the MRA for a groundfish species, for instance retains Pacific cod in a weight greater than 20 percent of the halibut CDQ catch, they transition from "halibut CDQ fishing" to "groundfish CDQ fishing." At that point, the vessel operator must comply with the provisions, catch accounting, and monitoring requirements for that particular CDQ fishery category. For example, the observer coverage requirements are one of the main differences between vessels halibut CDQ fishing (partial coverage) and vessel groundfish CDQ fishing (full coverage).

Groundfish CDQ fishing could be prosecuted with more than one target species. So, while a CDQ vessel may be retaining greater than the MRA of Pacific cod, if the vessel operator meets the provisions for halibut CDQ fishing, they may also be targeting halibut CDQ and/or IFQ in a multi-species fishery. This would still be regarded as "groundfish CDQ fishing."

In the CAS, a landing by a catcher vessel is identified as a CDQ landing based on the CDQ group number or CDQ halibut permit number reported by the processor on the landing report (through eLandings). It is through this designation on the landing report that the decision by a CDQ group to authorize a vessel to fish on its behalf is transmitted to NMFS. The CAS assigns a single trip target to each catcher vessel landing based on the species composition of the landed catch. Most of the time the trip target assigned by

[25] A "CDQ species" is any species or species group that is allocated from a CDQ reserve to a CDQ group. The groundfish and prohibited species allocated to the CDQ Program are listed in the annual groundfish harvest specifications.

the CAS will match the directed fishery based on the application of MRAs. However, as noted above it is possible for a vessel operator to be directed fishing for more than one species on a trip.

For catcher vessels in the partial observer coverage category, one of the primary uses of the trip target assigned in the CAS is to determine the appropriate estimate of PSC to associate with the landing. Under the status quo, this CAS process does not apply in the CDQ fisheries because the CDQ groups receive transferable PSC allocations. Therefore, all vessels participating in CDQ fisheries that accrue PSC to a PSQ allocation currently are required to be in full coverage. A brief explanation of how the CAS assigns estimates of halibut PSC for vessels in the partial coverage category is included below because this process would be applied to CDQ vessels under some of the action alternatives.

For vessels in the partial coverage category, it is possible that a fishing trip will be selected for observer coverage. However, in many cases, these vessels will be unobserved and the halibut PSC associated with the trip will be derived from halibut PSC rates from observed vessels. The halibut PSC rate applied to landings from unobserved catcher vessels are determined through the CAS based on the best available data, which is the data from observed vessels as close as possible in characteristics to the unobserved vessels. Sometimes halibut PSC rates are available for the same processing sector, gear, trip target, and management area. However, there are very few observed trips for small fisheries such as catcher vessels less than 60 ft LOA directed fishing for Pacific cod in the BSAI. Therefore, the halibut PSC rate most frequently applied to landings by these vessels is called a “precedence 20” rate. This rate is derived from all landings year-to-date by vessels in any processing sector using hook-and-line gear in a Pacific cod target in the BSAI. This rate is updated each day and any updates to the rate are applied to all landings to date in the year. Thus, the halibut PSC rate that will be applied to a landing can change throughout the year as new data are gathered until a final calculation is made. The annual average rate is then applied to all landings in that year for which the precedence 20 rate is the best available data. Catcher/processors contribute most of the observer data for the BSAI Pacific cod hook-and-line fishery. Therefore, the “precedence 20” rate is largely derived from catcher/processor activity.

Table 2-1 provides a reference for the regulatory requirements in halibut CDQ fishing and groundfish CDQ fishing. As can be seen in

Table 2-1, a CDQ vessel less or equal to 46 ft. LOA using hook-and-line gear may directed fish for Pacific cod CDQ in a state-waters parallel fishery, without an FFP or LLP license, if they are fishing exclusively in state waters. If the vessel does not have an FFP and is not retaining halibut in this parallel fishery, they are not subject to observer coverage. If the vessel is either retaining halibut or has an FFP (or both), the vessel is then subject to full observer coverage, despite prosecuting a state-water only parallel fishery. The vessel must also adhere to VMS coverage requirement if they are retaining any Pacific cod.

It is also possible that a CDQ vessel could prosecute the open access Pacific cod fishery in state waters when the parallel fishery is open by landing the Pacific cod unassociated with a group. Again this would

not require an FFP, LLP license, or observer coverage if there was no retention of halibut and the vessel is exclusively fishing state waters.

Table 2-1 Current regulations as they apply to halibut CDQ fishing and groundfish CDQ fishing

	Halibut CDQ fishing Retaining less than the MRA of Pacific cod		**Groundfish CDQ fishing** Using hook-and-line gear and directed fishing for Pacific cod CDQ	
	If exclusively in state waters (parallel fishery)	**EEZ**	**If exclusively in state waters (parallel fishery)**	**EEZ**
PERMITS				
FFP	NO	YES, if representing a CDQ group with an available allocation of sablefish CDQ	NO	YES
FFP with Pacific cod endorsement	NO	NO	NO	YES
LLP	NO	NO	NO	YES, if > 32' LOA
LLP with Pacific cod endorsement	NO	NO	NO	YES, if ≥ 60' LOA
Halibut CDQ permit for CDQ group	YES	YES	If retaining halibut, then YES	If retaining halibut, then YES
Halibut hired masters card	YES	YES	If retaining halibut, then YES	If retaining halibut, then YES
OBSERVER COVERAGE CATEGORY				
	Partial	Partial	If holding FFP, or retaining CDQ halibut, then Full	Full
RETENTION REQUIREMENTS				

Halibut	Must discard halibut below the legal size limit, except for qualified subsistence use. CDQ groups can choose who will fish halibut on their behalf. Therefore, there is no requirement to retain halibut CDQ, as there is in the halibut IFQ fishery.[26] If not retaining CDQ halibut on behalf of a group, the vessel operator reports catch as CDQ and NMFS estimates a halibut PSC. This is deducted from CDQ group's halibut PSQ.	Must discard halibut below the legal size limit, except for qualified subsistence use. CDQ groups can choose who will fish halibut on their behalf. If not retaining CDQ halibut on behalf of a group, the vessel operator reports catch as CDQ and NMFS estimates a halibut PSC. This is deducted from CDQ group's halibut PSQ.	Must discard halibut below the legal size limit, except for qualified subsistence use. Must discard if groundfish fishing and does not meet the requirements for halibut CDQ fishing (e.g., no halibut CDQ permit). CDQ groups can choose who will fish halibut on their behalf. If not retaining CDQ halibut on behalf of a group, the vessel operator reports catch as CDQ, and NMFS estimates a halibut PSC. This is deducted from CDQ group's halibut PSQ.	Must discard halibut below the legal size limit, except for qualified subsistence use. Must discard if groundfish fishing and does not meet the requirements for halibut CDQ fishing (e.g. no halibut CDQ permit). CDQ groups can choose who will fish halibut on their behalf. If not retaining CDQ halibut on behalf of a group, the vessel operator reports catch as CDQ, and NMFS estimates a halibut PSC. This is deducted from CDQ group's halibut PSQ.
Pacific cod	If they are also fishing IFQ halibut, required to retain all Pacific cod and rockfish, unless State regulations require discards. If they are not fishing IFQ halibut they can choose to retain up the MRA or discard Pacific cod. Can retain Pacific cod for personal bait	If they are also fishing IFQ halibut, required to retain all Pacific cod and rockfish, subject to fishery status of species. If they are not fishing IFQ halibut they can choose to retain up the MRA or discard Pacific cod. Can retain Pacific cod for personal bait	IR/IU applies to vessels with FFPs. State IR/IU regulations require full retention of cod if directed fishery is open, otherwise requires retention up to MRA. Can retain Pacific cod for personal bait	Must retain all Pacific cod. IR/IU applies and if they are directed Pacific cod CDQ fishing, then they would be meeting all of the provisions to be "groundfish CDQ fishing" Can retain Pacific cod for personal bait
SSL PROTECTION MEASURES				
Comply with closures for directed fishing for Pacific cod	NO	NO	YES, if required by state law	YES
Carry VMS	If retaining Pacific cod in a parallel fishery, then YES	YES, if in the AI	If retaining Pacific cod in a parallel fishery, then YES	YES

2.2 Alternative 2, Change the MRA for the Halibut CDQ Fishery

Alternative 2 would increase the Pacific cod MRA up to 100 percent of the halibut CDQ landings for hook-and-line catcher vessels less than or equal to 46 ft. LOA that harvest Pacific cod CDQ in

[26] Regulations at 50 CFR 679.7(f)(11) prohibit the "discard(ing of) halibut or sablefish caught with fixed gear from any catcher vessel when any IFQ permit holder holds unused halibut or sablefish IFQ for that vessel category and the IFQ regulatory area in which the vessel is operating," unless discard is required under some other provision. This same requirement does not apply to the halibut CDQ allocations. In other words, the operator of a vessel using fixed gear to fish on behalf of a CDQ group is not required to retain halibut CDQ if the CDQ group has unused halibut CDQ. Additionally (IR/IU, 50 CFR 679.27(b) and (c)) does not apply, because they are not "groundfish CDQ fishing".

conjunction with halibut CDQ. Consistent with current groundfish standards, all Pacific cod caught up to this amount must be retained, and accrues towards the Pacific cod CDQ quotas.

While this option aligns with the goal of allowing CDQ groups the opportunity to retain more Pacific cod while halibut fishing, this alternative does not facilitate a directed Pacific cod CDQ fishery. In other words, a participant's Pacific cod CDQ harvest would still be dependent on the amount of halibut CDQ harvested. This alternative does not necessarily allow 100 percent retention of Pacific cod, but instead the Pacific cod CDQ harvest could be retained for commercial sale only up to the proportional level of the halibut CDQ harvested.

The Council would need to determine whether the CDQ group's decision of who among their vessel operators will harvest their allocation of Pacific cod CDQ would be linked to the opportunity to harvest halibut CDQ, or if this decision would be able to be separate from their decision for who will harvest halibut CDQ on the group's behalf.

2.3 Alternative 3, Create a New LLP license for Pacific Cod CDQ Participants

Under Alternative 3, NMFS would create a new CDQ LLP license for participating hook-and-line catcher vessels less than or equal to 46 ft. LOA. Federally permitted vessels with the CDQ LLP licenses and VMS units would be able to participate in the directed Pacific cod CDQ fishery. NMFS would manage the number of LLP licenses each CDQ group would be provided, through an application process. These LLP licenses would be non-transferable and would be assigned to one vessel and one vessel operator. If the vessel had a CDQ LLP license, then all of its Pacific cod catch would need to be retained and would accrue towards the CDQ group's Pacific cod allocation. Vessels would continue to be subject to the full coverage observer category, consistent with existing full coverage observer requirements.[27]

Alternative 3 also includes two options for modification of the observer coverage requirements. In both of these options, vessels that hold a CDQ LLP license for participating in a directed Pacific cod fishery would be placed in the partial coverage observer category. In Option 1, any halibut caught while a vessel was targeting Pacific cod would accrue against the applicable CDQ group's halibut PSQ allocation. In Option 2, any halibut caught while a vessel was targeting Pacific cod would be retained and accrue against the applicable CDQ group's halibut CDQ allocation.

Each CDQ group and the vessels that fish on their behalf can chose to remain under the regulations that govern "halibut CDQ fishing" by discarding any amount of Pacific cod that would exceed the 20 percent MRA. This provision would continue.

[27] 50 CFR 679.51(a)(2)

2.4 Alternative 4, LLP Exemption (PPA)

In June 2014, NMFS Alaska Region presented a series of management measures that it recommended would best address the Council's problem statement as a modified Alternative 4 (Appendix A.3). Many of the provisions in their recommended version of Alternative 4 are consistent with earlier form of Alternative 4, including the central provisions that would (1) exempt hook-and-line catcher vessels less than or equal to 46 ft. LOA participating in the Pacific cod CDQ fishery from groundfish LLP requirements, and (2) place these vessels in the partial observer coverage category while directed fishing for Pacific cod CDQ. The Council adopted these recommendations and identified the modified Alternative 4 as the PPA.

Since June, the NMFS Alaska Region recommendations have been expanded further by the request of the Council.[28] The following description, still consistent with the provisions of Alternative 4, includes additional details for how this alternative would function. The Council also requested analysis of three options, which are explained in this section and analyzed in Sections 4.12.1 through 4.12.3.

Alternative 4 would include the following elements:

LLP exemption: Vessels greater than 32 ft. LOA and less than or equal to 46 ft. LOA that are authorized by a CDQ group to fish for Pacific cod CDQ would be exempt from the requirement to obtain and carry an LLP license.

CDQ list of eligible vessels: Each CDQ group would be required to register with NMFS any vessel less than or equal to 46 ft. LOA using hook-and-line gear that is authorized to fish for Pacific cod CDQ on its behalf.

- Adding and removing vessels from the list of eligible vessels would be done through a web-based system developed by NMFS.
- For vessels greater than 32 ft LOA, the online registration system would generate a letter from NMFS documenting that the vessel is exempt from the LLP requirements while (1) on the list of eligible vessels, and (2) directed fishing for Pacific cod CDQ.
- Operators of vessels eligible for the LLP exemption (i.e., greater than 32 ft. LOA and less than or equal to 46 ft. LOA) would be required to maintain a copy of the NMFS LLP exemption letter onboard the vessel at all times while the vessel is directed fishing for Pacific cod CDQ.
- The CDQ group would be responsible to provide a copy of the NMFS LLP exemption letter to vessels fishing on its behalf. NMFS would not provide this letter to vessel operators.
- The letter would be generated the first time each year that the vessel was placed on the list of eligible vessels by a CDQ group. NMFS would not require vessel operators to surrender the LLP exemption letter if a CDQ group removes a vessel from the list of eligible vessels.
- NMFS would post the list of eligible vessels on its website. Inclusion on this list is not a substitute for having the NMFS LLP exemption letter onboard the vessel.
- If a vessel is boarded, both the LLP exemption letter and inclusion on the list of eligible vessels would be necessary to demonstrate eligibility for the LLP exemption for vessels greater than 32 ft. LOA and less than or equal to 46 ft. LOA.

[28] For instance, NMFS was asked to expand the description of the requirements associated with the list of eligible CDQ vessels and determine whether it would be necessary to remove participates from the list if they did not wish to participate in groundfish CDQ fishing on a trip-level basis. These further specifications are described in this section.

- A CDQ group could add or remove a vessel from the list of eligible vessels at any time during the year. NMFS would not notify vessel operators directly of their status on the list of eligible vessels, although this information would be available on NMFS's website.

Observer coverage: Any vessel less than or equal to 46 ft. LOA using hook-and-line gear and on the CDQ group's list of eligible vessels would be in the partial observer coverage category while directed fishing for Pacific cod CDQ. Vessel operators would be required to comply with all vessel responsibilities in 50 CFR 679.51(e)(1) and would be subject to selection for observer coverage following procedures in the Annual Deployment Plan (ADP). For example, in 2015, vessels less than 40 ft. LOA would be in the no selection pool and vessels greater than or equal to 40 ft. would be in the trip selection pool. Owners or operators of vessels in the trip selection pool are required to log each fishing trip into the Observer Declare and Deploy System. If selected for observer coverage, the vessel would be required to carry an observer.

Catch Accounting Procedures: In the CAS, a landing by a catcher vessel would continue to be identified as a CDQ landing based on the CDQ group number or CDQ halibut permit number reported by the processor on the landing report (through eLandings). The list of CDQ eligible vessels created to support the LLP exemption would not be directly tied into the CAS or used for catch accounting.

For all CDQ landings:

- *Retained CDQ species*: catch of any species allocated to the CDQ Program that is landed and reported through eLandings would accrue to the CDQ allocations for these species.
- *Retained non-CDQ species*: catch of any groundfish species not allocated to the CDQ Program that is landed and reported through eLandings would accrue to the non-CDQ allocations for these species.
- *At-sea discards of groundfish*: NMFS would estimate the at-sea discards of all groundfish by these vessels including those species allocated to the CDQ Program. These estimates would be based on applying discard rates from observed vessels to the landed catch weight of the Pacific cod CDQ trips. The estimates of at-sea discards would accrue to the non-CDQ allocation of the TACs.

If halibut is the predominant retained species and any halibut CDQ are reported in the landing: under current CAS procedures, this trip would be assigned to the halibut target and no halibut PSC would be associated with the trip.

If halibut is the predominant retained species, and some Pacific cod CDQ is reported in the landing: under current CAS procedures, this trip would be assigned to the halibut target and no halibut PSC would be associated with the trip. For this trip to qualify as "halibut CDQ fishing," the vessel operator must retain less than the MRA for any groundfish species.

Pacific cod is the predominant retained species and this Pacific cod is identified as CDQ (by the entry of a CDQ group number on the landing report):

- If the Pacific cod CDQ fishing trip occurs *when the halibut fishing season is open*, the following requirements would apply:
    - The CDQ group would be required to provide adequate halibut CDQ or halibut IFQ to support the catch of halibut by the small vessels.
    - Vessel operators would be required to retain all legal sized halibut caught while directed fishing for Pacific cod as either halibut CDQ or halibut IFQ.

  - Catch of halibut CDQ or halibut IFQ accrues to the account balance of the permit holder identified by the processor in the landing report based on the permits held by the vessel operator or persons onboard the vessel.
  - NMFS would assume that all legal sized halibut were retained and properly accounted for, so the only halibut released from the fishing gear would be sub-legal sized halibut. Sub-legal halibut are accounted for as "wastage" associated with the halibut fishery and are not accrued to any halibut PSC limit. Based on these assumptions, NMFS would not accrue any estimates of halibut PSC from the small vessel Pacific cod fisheries to the CDQ group's halibut PSQ or to any component of the BSAI halibut PSC limit.

- No provision is made under Alternative 4 without Option 3 for halibut PSC to accrue for small vessels fishing for Pacific cod CDQ. Therefore, if a Pacific cod CDQ fishing trip occurs *when the halibut fishing season is closed*, this catcher vessel would not be eligible for the allowances and exemptions under Alternative 4. For example, this vessel would not be placed in the partial observer coverage category for this fishing activity and would continue to fall under the current requirements for full observer coverage to provide individual vessel estimates of halibut PSC during this trip.

SSL and habitat protection measures: All other regulations that apply to vessels using hook-and-line gear and directed fishing for Pacific cod would apply to these vessels. These requirements include closure areas and VMS requirements.

OPTIONS Under Alternative 4

Alternative 4 includes three options which are not mutually exclusive.

Option 1: Apply the proposed management measures to all vessels less than or equal to 46 ft. LOA using hook-and-line gear while directed fishing for any groundfish species allocated to the CDQ Program, except sablefish. (*Fixed gear sablefish CDQ already is managed under regulations similar to Alternative 4, i.e., exempt from LLP, in partial coverage, no halibut PSC accrues in fixed gear sablefish fisheries*.)

NMFS AK Regional Office recommends this option to simplify regulations and administration of the CDQ Program, and avoid unnecessary enforcement actions for vessels that inadvertently retain more than the MRA of some other groundfish species. If the Council adopts Option 1, replace "directed fishing for Pacific cod" with "groundfish CDQ fishing" throughout the preferred alternative.

Option 2: Expand the current prohibition against discarding legal sized halibut while IFQ fishing to operators of vessels fishing for halibut CDQ while the CDQ group has remaining halibut CDQ.

Current regulations prohibit "Discard halibut or sablefish caught with fixed gear from any catcher vessel when any IFQ permit holder aboard holds unused halibut or sablefish IFQ for that vessel category and the IFQ regulatory area in which the vessel is operating, unless…" Option 2 would expand this prohibition to operators of vessels fishing for halibut CDQ while the CDQ group has remaining CDQ.

While NMFS does not recommend applying the IFQ prohibition against discarding halibut to all halibut CDQ fishing, it likely is necessary to include some halibut retention requirements in this action. A key component of the PPA is the allowance for vessels less than or equal to 46 ft. LOA using hook-and-line gear to fish for Pacific cod CDQ and use CDQ or IFQ to account for any halibut catch during that fishery. Under current regulations, no vessel using hook-and-line gear and directed fishing for Pacific cod is exempted from the halibut PSC limit even if some halibut is retained during that trip. The PPA would

create such an exemption for the small CDQ vessels under the assumption that the vessel operator use halibut CDQ or IFQ to support the catch of halibut in the Pacific cod CDQ fisheries.

Option 3: Allow a small vessel Pacific cod CDQ fishery supported by halibut PSC

In Alternative 4, the development of a small vessel Pacific cod CDQ hook-and-line fishery relies on the availability of CDQ or IFQ halibut to fund the landings of incidentally caught halibut. Option 3 considers three sub-options to allow additional flexibility for the CDQ groups to conduct directed fishing for Pacific cod CDQ with small hook-and-line vessels even when halibut CDQ or IFQ is not available or if the CDQ group does not wish to use its halibut CDQ to support the cod fishery. If the Council selects any of the three sub-options, NMFS AK Regional Office recommends that a small vessel Pacific cod CDQ fishery supported by a CDQ group's halibut PSC should be managed with a separate component of a CDQ group's halibut PSC allocation and in-season fishery closures issued by NMFS. More detail on the management of each CDQ group's "small vessel halibut PSC limit" under Option 3 is included at the end of this section.

Option 3.1: Allow halibut PSC to accrue only when the halibut season is closed

Due to the additional administrative complexity and cost of estimating and managing halibut PSC accrual by small, unobserved vessels, NMFS initially responded to the Council's request for halibut PSC management options with a single option for Council consideration. This option was identified as Option 3 in September 2014 and is now labeled Option 3.1. It would allow accrual of halibut PSC by small hook-and-line vessels fishing for Pacific cod CDQ only if no halibut CDQ or IFQ fishery is authorized in a particular year, or during times of the year when the halibut fishery is closed.

- (SAME AS UNDER ALT 4 WITHOUT OPTION 3) If the Pacific cod CDQ fishing trip occurs when the halibut fishing season is open, the following requirements would apply:
    - The CDQ group would be required to provide adequate halibut CDQ or halibut IFQ to support the catch of halibut by the small vessels.
    - Vessel operators would be required to retain all legal sized halibut caught while directed fishing for Pacific cod as either halibut CDQ or halibut IFQ.
    - Catch of halibut CDQ or halibut IFQ accrues to the account balance of the permit holder identified by the processor in the landing report based on the permits held by the vessel operator or persons onboard the vessel.
    - NMFS would assume that all legal sized halibut were retained and properly accounted for, so the only halibut released from the fishing gear would be sub-legal sized halibut. Sub-legal halibut are accounted for as wastage associated with the halibut fishery and are not accrued to any halibut PSC limit. Based on these assumptions, NMFS would not accrue any estimates of halibut PSC from the small vessel Pacific cod fisheries to the CDQ group's halibut PSQ or to any component of the BSAI halibut PSC limit.

- (THIS COMPONENT IS REVISED UNDER 3.1) If the Pacific cod CDQ fishing trip occurs when the halibut fishing season is closed, *NMFS would estimate the halibut PSC associated with the landing based on application of the halibut PSC rates generated by the CAS. The estimated halibut PSC would accrue to the CDQ group's small vessel halibut PSC limit described at the end of this section.*

Option 3.2: Allow halibut PSC to accrue only outside of the halibut season dates specified by each CDQ group

This option was added by the Council at the October 2014 meeting. It would allow the CDQ groups to specify halibut fishing seasons each year that are appropriate for the CDQ group. Option 3.2 would require each CDQ group to submit to NMFS by February 15 of each year the start and end date for their halibut CDQ fisheries. At the recommendation of the U.S. Coast Guard, the season dates for each CDQ group would be included on the NMFS LLP exemption letter, and the letter would be required to be maintained onboard all eligible vessels less than or equal to 46 ft. LOA.

- If the Pacific cod CDQ fishing trip occurs *during the halibut fishing season for a CDQ group*, the following requirements would apply (NO CHANGE IN THE ELEMENTS OF THIS LIST):
    - The CDQ group would be required to provide adequate halibut CDQ or halibut IFQ to support the catch of halibut by the small vessels.
    - Vessel operators would be required to retain all legal sized halibut caught while directed fishing for Pacific cod as either halibut CDQ or halibut IFQ.
    - Catch of halibut CDQ or halibut IFQ accrues to the account balance of the permit holder identified by the processor in the landing report based on the permits held by the vessel operator or persons onboard the vessel.
    - NMFS would assume that all legal sized halibut were retained and properly accounted for, so the only halibut released from the fishing gear would be sub-legal sized halibut. Sub-legal halibut are accounted for as wastage associated with the halibut fishery and are not accrued to any halibut PSC limit. Based on these assumptions, NMFS would not accrue any estimates of halibut PSC from the small vessel Pacific cod fisheries to the CDQ group's halibut PSQ or to any component of the BSAI halibut PSC limit.

- If the Pacific cod CDQ fishing trip occurs *before or after the halibut fishing season for a CDQ group*, NMFS would estimate the halibut PSC associated with the landing based on application of the halibut PSC rates generated by the CAS. The estimated halibut PSC would accrue to the CDQ group's small vessel halibut PSC limit described at the end of this section. (SAME AS OPTION 3.1, EXCEPT APPLIES OUTSIDE OF EACH CDQ GROUP'S SEASON)

Option 3.3: Allow halibut PSC to accrue on a trip-by-trip basis

After initial analysis of the potential administrative costs of Option 3.2, NMFS AK Regional Office recommended consideration of a third sub-option to allow halibut to accrue as either halibut CDQ, halibut IFQ, or halibut PSC on a trip-by-trip basis. When the halibut fishery is open, this sub-option allows the CDQ groups and vessel operators to decide if halibut CDQ or IFQ will be retained in the Pacific cod CDQ landing. The determination of whether halibut PSC will accrue for the Pacific cod landing will depend on the presence or absence of halibut in the landing.

- If the Pacific cod CDQ fishing trip occurs when the halibut fishing season is open, *and some amount of halibut CDQ or IFQ is retained and reported on the landing report,* the following requirements would apply:
    - the CDQ groups would be required to provide adequate halibut CDQ or halibut IFQ to support the catch of halibut by the small vessels;
    - If a vessel operator *retains any halibut CDQ or IFQ during the Pacific cod CDQ fishing trip, they* would be required to retain all legal sized halibut caught *during that fishing trip.*
    - Catch of halibut CDQ or halibut IFQ accrues to the account balance of the permit holder identified by the processor in the landing report based on the permits held by the vessel operator or persons onboard the vessel;
    - NMFS would assume that all legal sized halibut were retained and properly accounted for, so the only halibut released from the fishing gear would be sub-legal sized halibut.

Sub-legal halibut are accounted for as wastage associated with the halibut fishery and are not accrued to any halibut PSC limit.

- *As long as at least one halibut was included in the Pacific cod CDQ landing*, NMFS would not accrue any estimates of halibut PSC from the small vessel Pacific cod fisheries to the CDQ group's halibut PSQ or to any component of the BSAI halibut PSC limit.

- *Even if the operator of a vessel fishing on behalf of a CDQ group intended to retain all legal sized halibut, if no halibut are included in the landing, NMFS will accrue an estimate of halibut PSC to the CDQ group's small vessel halibut PSC limit*.

- *If no halibut is included in a Pacific cod CDQ landing*, NMFS would estimate the halibut PSC associated with these Pacific cod fishing trips based on application of the halibut PSC rates generated by the CAS. The estimated halibut PSC would accrue to the CDQ group's small vessel halibut PSC limit described at the end of this section.

If the Council selects any of these sub-options, NMFS AK Regional Office recommends that a small vessel Pacific cod CDQ fishery supported by a CDQ group's halibut PSC should be managed with a separate component of a CDQ group's halibut PSQ and in-season fishery closures issued by NMFS.

The following describes how NMFS would manage the small vessel Pacific cod fishery supported by halibut PSC.

- Each year NMFS creates a halibut PSQ account balance for each CDQ group with the amount of halibut PSQ allocated to that group. This process would continue.
- NMFS would create a new quota category for each CDQ group called small vessel halibut PSC limit. Each group would be allowed to transfer halibut PSC from its primary halibut PSQ to its "small vessel halibut PSC limit" through a standard transfer action. CDQ groups that do not wish to have a small vessel Pacific cod fishery would not have to transfer any halibut PSQ into this account.
- Each CDQ group would decide the appropriate amount of halibut PSQ to transfer into the "small vessel halibut PSC limit" based on the amount of Pacific cod it wanted to allocate to a small vessel fishery and expected halibut PSC in those fisheries. NMFS managers would work with each CDQ group to estimate the amount of halibut PSC that may be needed for the amount of Pacific cod that the CDQ group wanted to harvest with small vessels.
- The halibut PSC that would accrue to the small vessel halibut PSC limit would be based on applying halibut PSC rates following the catch accounting system methods to the landed catch weight for each Pacific cod delivery.
- Once a CDQ group's small vessel halibut PSC limit is reached, NMFS would issue a notice of closure in the *Federal Register* to directed fishing for Pacific cod by catcher vessels less than or equal to 46 ft. LOA using hook-and-line gear fishing for that CDQ group.

Under this approach, NMFS would be responsible to close the small vessel Pacific cod CDQ fisheries to stay within the halibut PSC limit each CDQ group established for its fishery. NMFS would be conservative in managing these fisheries to stay within the halibut PSC amount to the best of its ability. However, it is challenging to manage fisheries with small quotas or PSC limits within established limits. In addition, if the "precedence 20" halibut PSC rate[29] is the best available information, this estimate is not

[29] This rate is derived from all landings year-to-date by vessels in any processing sector using hook-and-line gear in a Pacific cod target in the BSAI.

finalized until the end of year when all observer data is available to calculate the annual average PSC rates. Therefore, estimates of halibut PSC could increase or decrease after NMFS closed the fishery. If the closure date selected by NMFS resulted in estimates of halibut PSC that exceeded the amount allocated to the fishery by the CDQ group, this would not be considered an "overage" and NMFS could not require the CDQ group to transfer in more halibut PSQ to cover this amount. However, CDQ groups could choose to transfer from their primary halibut PSQ to voluntarily cover the halibut PSC attributed to the CDQ group.

2.5 Comparison of Alternatives

The action alternatives represent the range of viable opportunities to accomplish the stated purpose and need for the action.

Specifically there are many shared impacts expected to result from the action alternatives (Alternatives 2, 3, and 4). All increased Pacific cod retention opportunities among a CDQ small vessel fleet would:

- change regional and seasonal fishing patterns in a way that could mimic the halibut CDQ fishery (with more certainty under Alternative 2, but still likely under Alternatives 3, 4);
- require participants to obtain a Federal Fisheries Permit (FFP);
- have the potential to increase reporting error in CDQ accounting;
- not be expected to increase safety concerns;
- require participants to install and carry a vessel monitoring system (VMS) (except possibly under Alternative 2);
- redirect some portion of Pacific cod CDQ away from the freezer longliner (FLL) fleet;
- reduce CDQ groups' revenue received from leasing quota to FLL fleet;
- create some diseconomies of scale by moving harvest potential from vertically integrated FLL vessels to small catcher vessels. Will require the existence or the development of Pacific cod processing potential near CDQ communities;
- provide direct economic benefits to participants, and both direct and indirect economic benefits to communities from species diversification; and
- have variable economic impacts on CDQ groups.

While each of the alternatives is viable, the primary difference in the management techniques of the alternatives. Alternative 2 is the only action alternative that does not facilitate a directed fishery; however, it would still contribute to the goal of allowing for an opportunity to harvest more commercially salable Pacific cod, as specified in the Purpose and Need in Section 1.1. Alternatives 3 and 4 essentially accomplish the same result (creating an opportunity for a small vessel Pacific cod CDQ fishery to emerge). The primary difference between them is that Alternative 3 would rely on the LLP license to act as a mechanism for at-seas identification and enforcement. Alternative 4 would rely on a NMFS-generated form of identification and online list of eligible vessels to demonstrate a participant's eligibility to prosecute a Pacific cod CDQ fishery, while creating an exemption from the LLP.

Table 2-2 further summarizes the differences between there alternatives from an environmental, economic, and management perspective.

Table 2-2. Summary of alternatives and major impacts

Differences in Alternatives (Sections 2.1 through 2.4)	**Alternative 1:** No action	**Alternative 2:** Change the MRA for the Halibut CDQ Fishery	**Alternative 3:** Create a New LLP License for Pacific Cod CDQ Participants	**Alternative 4:** LLP Exemption **(PPA)**[30]
Options			Place vessels in the partial observer coverage category. Halibut caught while Pacific cod CDQ fishing: 3) Is required to be discarded and accrues to PSQ 4) Is required to be retained and accrues against CDQ/IFQ	4) Apply proposed measures to all groundfish CDQ fishing 5) Prohibit discarding legally sized halibut while halibut CDQ fishing 6) Halibut PSC discard sub-options to allow Pacific cod CDQ fishing even when there is no CDQ/IFQ halibut available
Environmental Impacts				
Protected areas: Steller sea lion, EFH and HAPC area closures	No change	Potential for larger amounts of Pacific cod retained from protected areas	No change	No change
Seasonal fishing patterns	No change	Would be restricted to the halibut CDQ fishing season (generally mid-March to November)	Could be prosecuted before, during, or after the halibut CDQ season	Under Option 3, Pacific cod CDQ could be prosecuted on small vessels before, during, or after the halibut CDQ season
Regional fishing patterns	No change	Would likely change to mimic the footprint of the halibut CDQ fishing areas	Would likely change to mimic the footprint of the halibut CDQ fishing areas	Would likely change to mimic the footprint of the halibut CDQ fishing areas
Economic Impacts				
Direct net benefits to individuals in CDQ group	No change	Potential positive impact from increased fishery diversification for CDQ participants	Potential positive impact from increased fishery diversification for CDQ participants	Potential positive impact from increased fishery diversification for CDQ participants
Direct net benefits to CDQ regions	No change	Potential positive impact from increased fishery diversification and increased economic activity to lessen negative impacts from declining halibut CDQ Magnitude of benefits are variable over regions	Potential positive impact from increased fishery diversification and increased economic activity to lessen negative impacts from declining halibut CDQ Magnitude of benefits are variable over regions	Potential positive impact from increased fishery diversification and increased economic activity to lessen negative impacts from declining halibut CDQ Magnitude of benefits are variable over regions and depend on particularly on Option 3

[30] Impacts from Option 3 sub-options are not included in this table. The cost and the benefits of these sub-options relative to Alternative 4 are discussed separately in the Analysis, in Section 4.12.3.

Indirect net benefits to other sectors	No change	Minimal change outside CDQ groups since not a redistribution of TAC Freezer longliner vessels that currently prosecute the majority of the Pacific cod CDQ may incur a negative impact from some quota redistributed to the small vessel fleet	Minimal change outside CDQ groups since not a redistribution of TAC Freezer longliner vessels that currently prosecute the majority of the Pacific cod CDQ may incur a negative impact from some quota redistributed to the small vessel fleet	Minimal change outside CDQ groups since not a redistribution of TAC Freezer longliner vessels that currently prosecute the majority of the Pacific cod CDQ may incur a negative impact from some quota redistributed to the small vessel fleet
Management Impacts				
Vessel owner burden	No change	Requires vessel owners to hold or obtain an FFP	Requires vessel owners to hold or obtain an FFP Requires vessels to have or obtain a VMS Must obtain an LLP license for directed fishing for Pacific cod at the beginning of the season	Requires vessel owners to hold or obtain an FFP Requires vessels to have or obtain a VMS Must be registered online by their CDQ group Must obtain NMFS LLP exemption letter from the CDQ group and carry it with them Must coordinate with CDQ group about halibut accounting while fishing for Pacific cod CDQ under Option 3
CDQ management burden	No change	Increased complexity in their responsibility to allocate and track quota distributed to their small vessel fleet Increased possibility of misreported CDQ catch which would require corrective action	Required to distribute and record count of LLP licenses allocated to their CDQ group annually Increased possibility of misreported CDQ catch which would require corrective action	Increased complexity in their responsibility to allocate and track Pacific cod quota and distribute to their small vessel fleet Increased possibility of misreported CDQ catch which would require corrective action Under Option 3, must maintain a “small vessel halibut PSC limit” reserve if vessels wish to participant in a directed Pacific cod CDQ fishery outside of the halibut season.

Agency burden	No change	No change	Required to distribute and record count of LLP licenses allocated to each CDQ group annually	Maintain an online registration process, database, and web reporting for list of vessels eligible for LLP exemption. Administrative, operational, and outreach support for additional vessels in partial observer coverage. Under Option 3, revisions to catch accounting to accommodate PSC accounting for small unobserved vessels and creation of the small vessel halibut PSC limit for each participating CDQ group.
Catch Accounting System (CAS)	No change	Catch accounting for halibut would not change All Pacific cod retained incidentally to halibut fishing would accrue to the CDQ groups' quota	Under Option 1 all halibut caught while directed Pacific cod CDQ fishing would be required to be discarded and the CAS would need to be modified to estimate a PSC rate for these trips Under Option 2, halibut CDQ/ IFQ would be required to be retained and would be accounted for in the CAS as under the status quo	Modification to the CAS in Option 3to (1) revise CAS to apply the halibut PSC estimation procedures used for vessels in partial coverage to the small CDQ vessels the CAS, (2) to establish a separate "small vessel halibut PSC limit" for each CDQ group, and (3) accrue any halibut PSC from the small vessels to this new limit.
Enforcement	No change	Would still be required to carry a halibut CDQ permit and hired master's permit Would not be required to carry VMS; making it difficult to enforce regulatory closures	Could identify vessels prosecuting Pacific cod CDQ fishery with LLP license during a vessel boarding	Vessels eligible to fish without an LLP license would need to be registered online as well as carry a NMFS-issued certificate for identification. Under Option 3, enforcement would act if a vessel was fishing Pacific cod CDQ in a fishery after NMFS had called for a closure.
Precedent-setting management tool	No change	Setting the MRA to a percentage of the target species to greater than 35 percent	Creating and allocating an LLP license to allow for a greater number of vessel participation Allowing vessels with transferable PSQ be placed in the partial observer coverage category (Option 1 and 2)	Establishing a small vessel PSC limit within a transferable PSQ Exempting vessels greater than 32' LOA and not exceeding 46' LOA from the LLP requirements
Safety	No change	No change	No change	No change

2.6 Alternatives Considered but not Analyzed Further

The initial proposal submitted by CDQ representatives requested direct exemptions for vessels less than or equal to 46 ft. LOA from VMS requirements. The February 2014 discussion paper identified significant enforcement and monitoring concerns for these exemptions. Consequently, the Council passed a motion that did not include analysis of direct exemptions from VMS requirements. Instead this analysis was tasked with examining the baseline burden of current VMS options for small vessels, and contrasting this with monitoring alternatives, such as Global Positioning System (GPS) electronic monitoring (EM). These options are investigated in Section 4.9.6

Under Alternative 4, Option 3, NMFS AK Region considered and eliminated three options for accruing an estimate of the halibut PSC for vessels less than or equal to 46 ft. LOA using hook-and-line gear directed fishing for Pacific cod to a CDQ groups halibut PSQ. The first option was using an estimate of halibut PSC associated with each landing as determined by the current CAS. The second option was using a standard halibut PSC rate based on prior year's observer data. NMFS Office of Law Enforcement (OLE) and NOAA General Counsel (GC) advised against any option that accrues to a transferable CDQ or PSQ allocation catch estimates for a vessel that are derived from observer data from other vessels. This would include both of these two options. Exceeding a halibut PSQ is a regulatory violation (50 CFR 679.7(d)(3)). Using halibut PSC rates from other observed vessels or a pre-determined standard PSC rate would use indirect evidence as proof that a violation occurred. This evidence may not be legally sufficient to prove a halibut PSQ overage by a CDQ group since the PSC rates are estimates based on fishing by vessels other than the vessel attributed with the halibut PSC. OLE and NOAA GC are concerned that it would be difficult to provide evidence, i.e. a halibut PSC rate that meets the legal burden of proof, for the government to show that a particular CDQ group exceeded its halibut PSQ.

PSC rates can change throughout the season as observer data is debriefed or revised thereby creating uncertainty in management of strict limits such as exist in the CDQ Program. The CDQ groups could manage their fishery based on an estimated halibut PSC amount only to have the estimate get adjusted upward or downward later in the year as new observer data is added to the averaging calculation. In addition, the CDQ groups and their partner vessels may not consider data from other observed vessels to be representative of the small vessel CDQ catch, and NMFS NMFS AK Region may agree with this assessment in some cases. Observer coverage rates for small hook-and-line vessels in the BSAI are relatively low. These coverage rates provide data adequate to managing a fleetwide PSC limit, but do not provide data adequate for estimating PSC by individual unobserved vessels for accrual to a transferable PSC limit.

NMFS AK Region also considered accruing the estimated halibut PSC associated with the small vessel Pacific cod fishery to the non-CDQ halibut PSC limit for catcher vessels using hook-and-line gear to target Pacific cod in the BSAI. This approach has a number of advantages. It would avoid the concerns described above related to accruing estimates of halibut PSC based on observer data for other vessels to a transferable PSC limit. NMFS AK Region expects the small vessel Pacific cod CDQ fisheries to be limited and the amount of halibut PSC that will accrue from these fisheries to be small. The halibut PSC categories for hook-and-line gear were revised in 2008 with Pacific cod sector splits. Since then, NMFS has not had to close catcher vessels fishing for Pacific cod with hook-and-line gear in the BSAI due to reaching the halibut PSC limit. Relatively small amounts of halibut PSC from the small vessel Pacific cod CDQ fishery probably would not change the PSC closure status for the non-CDQ fisheries. However, this approach of accruing halibut PSC from the CDQ fisheries to the non-CDQ halibut PSC limit may not be desired. The CDQ groups may want to be accountable for their halibut PSC under PSC allocations to the CDQ Program. Non-CDQ sectors may think it unfair to have any amount of halibut PSC from the CDQ fisheries accrue to the non-CDQ halibut PSC limit. In addition, it is possible that NMFS AK Region's

expectations are wrong and that significant amounts of halibut PSC could be associated with future small vessel Pacific cod CDQ fisheries and could constrain the non-CDQ fisheries.

3 Environmental Assessment

There are four required components for an environmental assessment (EA). The need for the proposed action is described in Section 1.1 and the alternatives in Chapter 2. This section addresses the probable environmental impacts of the proposed action and alternatives. The socio-economic impacts of this action are described in detail in the Regulatory Impact Review and Initial Regulatory Flexibility Analysis portions of this analysis (Chapters 4 and 0, respectively). A list of agencies and persons consulted is included in Chapter 5.

Recent and relevant information, necessary to understand the affected environment for each resource component, is summarized in the relevant subsection. For each resource component, the analysis identifies the potential impacts of each alternative, and uses criteria to evaluate the significance of these impacts. If significant impacts are likely to occur, preparation of an environmental impact statement (EIS) is required. Although an EIS should evaluate economic and socioeconomic impacts that are interrelated with natural and physical environmental effects, economic and social impacts by themselves are not sufficient to require the preparation of an EIS (see 40 CFR 1508.14).

The National Environmental Protection Act (NEPA) also requires an analysis of the potential cumulative effects of a proposed action and its alternatives. An EA or EIS must consider cumulative effects when determining whether an action significantly affects environmental quality. The Council on Environmental Quality regulations for implementing NEPA define cumulative effects as:

> *"the impact on the environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7*).

The discussion of past and present cumulative effects is addressed with the analysis of direct and indirect impacts for each resource component below. The cumulative impact of reasonably foreseeable future actions is addressed in Section 3.4.

Documents incorporated by reference in this analysis

This EA relies heavily on the information and evaluations contained in previous environmental analyses, and these documents are incorporated by reference. The documents listed below contain information about the fishery management areas, fisheries, marine resources, ecosystem, social, and economic elements of the groundfish fisheries. They also include comprehensive analysis of the effects of the fisheries on the human environment, and are referenced in the analysis of impacts throughout this chapter.

Alaska Groundfish Harvest Specifications Final Environmental Impact Statement (NMFS 2007).

This EIS provides decision makers and the public an evaluation of the environmental, social, and economic effects of alternative harvest strategies for the federally managed groundfish fisheries in the Gulf of Alaska (GOA) and the Bering Sea and Aleutian Islands (BSAI) management areas and is referenced here for an understanding of the groundfish fishery.[31] The EIS examines alternative harvest strategies that comply with Federal regulations, the Fishery Management Plan for Groundfish of the Gulf of Alaska, the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands

[31] The alternatives considered in this EA will not cause any of the potentially significant impacts addressed in the Alaska Groundfish Harvest Specifications Final EIS to occur.

Management Area, and the Magnuson-Stevens Fishery Conservation and Management Act. These strategies are applied using the best available scientific information to derive the total allowable catch (TAC) estimates for the groundfish fisheries. The EIS evaluates the effects of different alternatives on target species, non-specified species, forage species, prohibited species, marine mammals, seabirds, essential fish habitat, ecosystem relationships, and economic aspects of the groundfish fisheries. This document is available from: http://alaskafisheries.noaa.gov/analyses/specs/eis/default.htm.

Stock Assessment and Fishery Evaluation (SAFE) Report for the Groundfish Resources of the BSAI (NPFMC 2013).

Annual SAFE reports review recent research and provide estimates of the biomass of each species and other biological parameters. The SAFE report includes the acceptable biological catch (ABC) specifications used by NMFS in the annual harvest specifications. The SAFE report also summarizes available information on the ecosystems and the economic condition of the groundfish fisheries off Alaska. This document is available from: http://www.afsc.noaa.gov/refm/stocks/assessments.htm.

Final Programmatic Supplemental Environmental Impact Statement (PSEIS) on the Alaska Groundfish Fisheries (NMFS 2004).

The PSEIS evaluates the Alaska groundfish fisheries management program as a whole, and includes analysis of alternative management strategies for the GOA and BSAI groundfish fisheries. The EIS is a comprehensive evaluation of the status of the environmental components and the effects of these components on target species, non-specified species, forage species, prohibited species, marine mammals, seabirds, essential fish habitat, ecosystem relationships, and economic aspects of the groundfish fisheries. This document is available from: http://alaskafisheries.noaa.gov/sustainablefisheries/seis/intro.htm.

Analytical method

Table 3-1 shows the components of the human environment, and whether the proposed alternatives may have an impact on the component and require further analysis. Extensive environmental analysis on all environmental components is not needed in this document because the proposed action is not anticipated to have environmental impacts on all components. The action alternatives (Alternatives 2 through 4) propose different mechanisms to encourage a redistribution of Pacific cod CDQ harvest from the offshore, freezer longline (FLL) sector, to small hook -and-line vessels delivering to AI, Pribilof Islands, and western Alaska communities.

No effects are expected on bycatch and forage fish species, seabirds, benthic and essential fish habitat, or any ecosystem components of the environment. No effect is presumed for these components because none of the proposed alternatives will alter the gear types used or the total harvest amounts of Pacific cod, and any change in harvesting intensity is expected to be redistributed effort of low magnitude. Non-target species, such as bycatch and forage fish, are unlikely to be significantly impacted because Pacific cod will continue to be harvested by hook-and-line gear, incurring similar incidental catch species, and this action will not affect the total harvested amount of Pacific cod. Similarly seabirds are not likely to be impacted because those who would take advantage of increased opportunities to Pacific cod CDQ fish are expected to be already fishing halibut CDQ using hook-and-line gear in the same general near-shore region.

If there is any change resulting from the proposed alternatives, it would not be an adverse impact, but may represent slightly lower halibut incidental catch rates due to the small hook-and-line vessels' ability to be more selective when setting their lines. Habitat components are not expected to change because under any of the action alternatives, the footprint of the fishery should match that of pre-existing Pacific cod or halibut fisheries. The impacts to the ecosystem are expected to not be significant primarily due to the low magnitude of the proposed change.

Components that warrant further discussion include impacts on the target groundfish stock (Pacific cod), halibut stock, marine mammals, and socio-economic factors. The following sections describe the potential impact the proposed action may have on these resources. Changes to socio-economic components are discussed thoroughly throughout Chapter 4.

Table 3-1 Resources potentially affected by the proposed action and alternatives

	Potentially Affected Component							
Alternatives	Groundfish	Halibut	Non-target species	Marine Mammals	Seabirds	Benthic and Essential Fish Habitat	Ecosystem	Socio-economic
Alt 1	N	N	N	N	N	N	N	N
Alt 2	**Y**	**Y**	N	**Y**	N	N	N	**Y**
Alt 3 Option 1	**Y**	**Y**	N	N	N	N	N	**Y**
Alt 3 Option 2	**Y**	**Y**	N	N	N	N	N	**Y**
Alt 4	**Y**	**Y**	N	N	N	N	N	**Y**

N = no impact beyond the status quo anticipated by alternative or option
Y = an impact beyond the status quo is possible if the alternative or option is implemented

3.1 Pacific cod

3.1.1 Stock Status

Pacific cod (*Gadus macrocephalus*) is a transoceanic species, occurring at depths from shoreline to 500 m. The southern limit of the species' distribution is about 34° N latitude, with a northern limit of about 65° N latitude (Lauth 2011). Pacific cod is distributed widely over the Eastern Bering Sea (EBS) as well as in the AI area. Tagging studies (e.g., Lauth 2011) have demonstrated significant migration within and between the EBS, AI, and GOA. However, recent research indicates the existence of discrete stocks in the EBS and AI (Canino et al. 2005; Cunningham et al. 2009; Canino et al. 2010; Spies 2012).

The BSAI Pacific cod resource has historically been managed as a single unit. In 2013, the assessment of the BSAI Pacific cod stock in the BSAI SAFE was first split into two separate assessments; one for the stock in the EBS and one for the stock in the AI (Thompson 2013; Thompson and Palsson 2013). This change allowed separate harvest specifications for the EBS and AI Pacific cod stocks beginning with the 2014 fishery.

Estimates of total abundance for the EBS are obtained from the shelf bottom trawl surveys.[32] Survey results indicate that biomass remained relatively constant from 1982 through 1988. The highest biomass ever observed by the survey was the 1994 estimate of 1,368,120 metric tons (mt). Following the high observation in 1994, the survey biomass estimate declined steadily through 1998. The survey biomass estimates remained in the 596,000 to 619,000 mt range from 2002 through 2005. However, the survey biomass estimates dropped after 2005, producing an all-time low in 2007 and again in 2008. Estimated biomass more than doubled between 2009 and 2010, and has remained within 10 percent of the 2010 value for the last three years (Thompson 2013; Thompson and Palsson 2013).

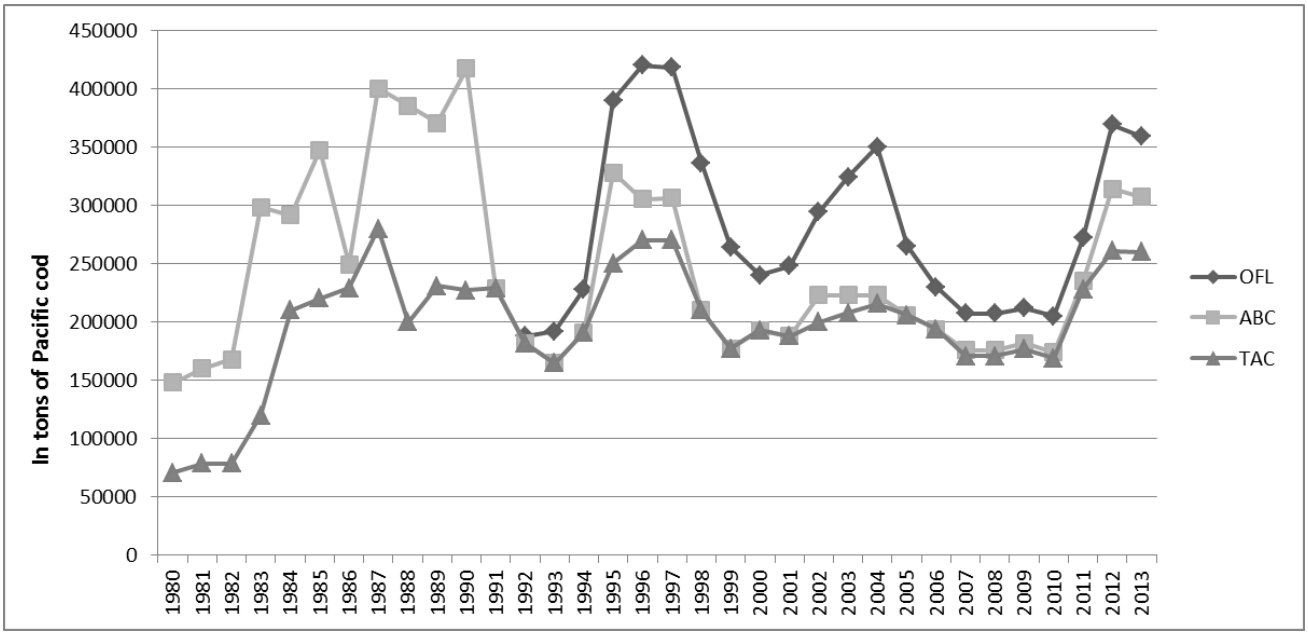
For the AI, both the biomass and numerical abundance data indicate very consistent declines throughout the time series, particularly in the Western Aleutians.[33] Between 1991 and 2012 estimates on biomass

[32] For more data on biomass and abundance of Pacific cod in the EBS see Table 2.7 in Chapter 2: Assessment of the Pacific Cod Stock in the Eastern Bering Sea in the 2013 BSAI groundfish SAFE (NPFMC 2013).
[33] For more data on biomass and abundance estimates of Pacific cod in the AI management area, see Table 2A.6 in Chapter 2A: Assessment of the Pacific Cod Stock in the Aleutian Islands in the 2013 BSAI groundfish SAFE (NPFMC 2013).

have dropped from about 75,500 to 13,500 mt. Estimated abundance in the Western Aleutians dropped from about 18.5 million fish to 4.1 million. Overall in the AI, estimated biomass has declined 67 percent from levels in 1991 (Thompson 2013; Thompson and Palsson 2013).

With the increase in Pacific cod stock in the EBS outweighing declines in the AI, ABC, overfishing level (OFL), and subsequently TAC for Pacific cod has risen for the BSAI in the past five years. Figure 3-1 demonstrates these trends in both regional subareas for all Pacific cod commercial fisheries since 1980. Harvest levels of Pacific cod are discussed in Section 4.6.3. BSAI catch has been lower than the OFL since 1993.

Figure 3-1 History of the BSAI Pacific cod TAC, ABC, and OFL between 1980 and 2013



Source: BSAI Groundfish SAFE, (NPFMC 2013)
Note: ABC was not specified prior to 1980

3.1.2 Current Fisheries

Presently, the Pacific cod stock is exploited by a multiple-gear fishery, including trawl, longline, pot, and jig components (although catches by jig gear are very small in comparison to the other three main gear types, with an average annual catch of less than 200 mt in the EBS and 30 mt in AI since 1992).
Table 3-2 demonstrates this average breakdown by gear type over a five year period.

Table 3-2 Average percent of directed Pacific cod catch harvested between 2008 and 2012 by gear type

	Eastern Bering Sea	Aleutian Islands
Longline gear	59%	20%
Trawl gear	29%	71%
Pot gear	12%	9%

Source: BSAI groundfish SAFE, (NPFMC 2013)

In the EBS, Pacific cod are caught throughout much of the continental shelf,[34] with NMFS statistical areas 509, 513, 517, 519, and 521 each accounting for at least 5 percent of the average catch between 2008 and 2012 (Thompson 2013; Thompson and Palsson 2013).

Historically, Pacific cod were caught throughout the AI. For the last five years prior to enactment of additional Steller sea lion (*Eumetopias jubatus*) protective regulations in 2011, the proportions of Pacific cod catch in NMFS Statistical Areas 541, 542, and 543 averaged 58 percent, 19 percent, and 23 percent, respectively. For the period 2011 through 2013, the average distribution has been 82 percent, 18 percent, and 0 percent, respectively.[35]

The Pacific cod CDQ fishery is discussed in Section 4.6. CDQ groups are allocated 10.7 percent of the TAC for Pacific cod in a given season to be prosecuted without gear restrictions. However, it is primarily prosecuted on FLL vessels with a similar seasonal pattern as the non-CDQ fleet and in similar regional patterns as the non-CDQ fleet (see Figure 1-1 and Figure 1-2).

3.1.3 Effects of the Alternatives on Pacific Cod

The effects of the BSAI Pacific cod fishery on the EBS and AI Pacific cod stock are assessed annually in the BSAI SAFE report (Thompson 2013; Thompson and Palsson 2013), and are also evaluated in the Alaska Groundfish Harvest Specifications EIS (NMFS 2007). Table 3-3 describes the criteria used to determine whether the impacts on Pacific cod stocks from the proposed action are likely to be significant. The Pacific cod stock in the BS or AI is neither overfished nor subject to overfishing, and the biomass levels are projected to increase for 2015 for the Pacific cod stock in the EBS.[36] It is estimated that the BSAI Pacific cod fisheries under the status quo are sustainable for Pacific cod stocks.

[34]For figures illustrating Pacific cod harvest region by gear type in the EBS see Figures 2.1a–2.1c in Chapter 2: Assessment of the Pacific Cod Stock in the Eastern Bering Sea in the 2013 BSAI groundfish SAFE (NPFMC 2013).
[35]The data for 2013 was not fully available at the time these percentages were calculated.
[36] A projection was not estimated for the AI stock of Pacific cod in 2013.

Table 3-3 Criteria used to determine significance of effects on target groundfish stocks

Effect	Criteria			
	Significantly Negative	**Insignificant**	**Significantly Positive**	**Unknown**
Stock Biomass: potential for increasing and reducing stock size	Reasonably expected to jeopardize the capacity of the stock to yield sustainable biomass on a continuing basis.	Reasonably expected not to jeopardize the capacity of the stock to yield sustainable biomass on a continuing basis.	Action allows the stock to return to its unfished biomass.	Magnitude and/or direction of effects are unknown
Fishing mortality	Changes in fishing mortality are expected to jeopardize the ability of the stock to sustain itself at or above its MSST (minimum stock size threshold)	Changes in fishing mortality are expected to maintain the stock's ability to sustain itself above MSST	Changes in fishing mortality are expected to enhance the stock's ability to sustain itself at or above its MSST	Magnitude and/or direction of effects are unknown
Spatial or temporal distribution	Reasonably expected to adversely affect the distribution of harvested stocks either spatially or temporally such that it jeopardizes the ability of the stock to sustain itself.	Unlikely to affect the distribution of harvested stocks either spatially or temporally such that it has an effect on the ability of the stock to sustain itself.	Reasonably expected to positively affect the harvested stocks through spatial or temporal increases in abundance such that it enhances the ability of the stock to sustain itself.	Magnitude and/or direction of effects are unknown
Change in prey availability	Evidence that the action may lead to changed prey availability such that it jeopardizes the ability of the stock to sustain itself.	Evidence that the action will not lead to a change in prey availability such that it jeopardizes the ability of the stock to sustain itself.	Evidence that the action may result in a change in prey availability such that it enhances the ability of the stock to sustain itself.	Magnitude and/or direction of effects are unknown

Alternatives 2 through 4 allow for the redistribution of Pacific cod CDQ from FLL vessels to a CDQ small vessel fleet and, consequently, would increase Pacific cod fishing effort in near-shore waters to an unknown extent. The alternatives would not alter the gear type used for harvesting Pacific cod, the TAC, or CDQ allocation amounts of Pacific cod, and the redistributed fishery is expected to operate within the current footprint of the halibut CDQ fishery.

While there is a limited quantifiable basis for determining the precise magnitude of any increased effort, harvest limits already dictate that only 10.7 percent of the TAC is allocated to the CDQ groups. Depending on several factors, including the availability of Pacific cod stocks close to their region, some CDQ groups will choose to continue leasing their Pacific cod allocation to FLL vessels, rather than change their fishing operations to encourage a local, small vessel Pacific cod CDQ fishery. Furthermore, from each group's allocation, some of this quota is internally set aside for incidental catch in other target fisheries, rather than for directed fishing. CDQ groups will likely continue their historical levels of Pacific cod incidental catch. This leaves the percentage that CDQ groups have typically consolidated on FLL vessels or larger catcher vessels, as an upper bound of Pacific cod they may choose to fish in near-shore water under Alternatives 2 through 4. The recent levels of Pacific cod harvested by catcher vessels and catcher/processors are described in Chapter 4. The expectation is that the actual amount redistributed to the CDQ small vessel fleet will be a small portion of this percent, and will vary by CDQ group.

Furthermore, the increased magnitude of Pacific cod fishing in these near-shore regions depends on the quantity of Pacific cod already being caught as incidental catch in the halibut CDQ fishery. Despite limited data on this issue, it is understood that Pacific cod caught incidentally is currently being discarded at-sea or retained for bait. Without a Federal fisheries permit, license limitation program license, vessel

monitoring system, and observer on board, a vessel under the status quo would be prohibited from the retaining Pacific cod for commercial sale.

Therefore, any action alternative that promotes increased retention may in fact have a small positive impact on fish mortality. This is particularly applicable under Alternative 2, which requires Pacific cod to be retained but only when halibut CDQ fishing. Still, any of the alternatives would allow more retention of Pacific cod CDQ while the participant was fishing halibut CDQ, if they had an allocation of halibut available to them. Allowing increased retention in the CDQ small vessel fishery would allow for more efficient fishing practices. However, given the predicted size of quota redistribution, any change is still expected to not be significant on overall Pacific cod mortality.

Changes in temporal or spatial distribution are expected to occur from an action alternative, yet at a level that is not significant. This potentially minimal change in near-shore harvest intensity is expected to occur by CDQ groups in the Aleutian and Pribilof Islands and some Western Alaska communities. Seasonal patterns for a Pacific cod CDQ fishery may adjust to mimic or precede the halibut season. Halibut CDQ harvest through 2012 is illustrated in
Figure 4-5. Currently the FLL vessels are able to harvest Pacific cod CDQ all year, displaying peaks of harvest just after the opening of the A and the B seasons (i.e., February through April and again in August, see Figure 4-1). The action alternatives have differences in their flexibility of seasonal allocations. Under Alternative 2, increased retention of Pacific cod would be conditional on the halibut CDQ seasons (i.e., generally mid-March to November). Under either Alternative 3 or 4 (Option 3), the Pacific cod CDQ fishery could emerge before, during, and after halibut CDQ fishing. Under harsh winter conditions, CDQ participants would be expected to take advantage of a summer Pacific cod fishery; either before or at the same time as the halibut CDQ fishery.

Given the understanding of a minimal change in fishing effort in some near-shore regions, using current gear types, no significant impact is anticipated on Pacific cod stock biomass and prey species availability.

3.2 Pacific Halibut

Pacific halibut is relevant to this analysis due to its overlapping habitat with Pacific cod. Given that Pacific cod can be harvested in similar regions and with the same gear as halibut, the action alternatives (Alternatives 2 through 4) propose complementing the current halibut CDQ fishery with opportunities to simultaneously retain more Pacific cod. This section considers whether the halibut stock would be impacted by the proposed action.

3.2.1 Targeted Halibut and Prohibited Species Catch

The catch of halibut by the CDQ groups is categorized in one of two ways. If the CDQ participant is targeting halibut, legal-size halibut may be retained and catch will accrue to the halibut CDQ allocation. CDQ groups are allocated certain portions of the TAC for targeting halibut depending on region. The Regulatory Areas 4B, 4C, 4D, and 4E CDQ allocation accounts for 20 percent, 50 percent, 30 percent, and 100 percent of the TAC, respectively. If the CDQ participant is not targeting halibut, halibut prohibited species catch (PSC) will count towards the group's PSC limit, or transferable prohibited species quota (PSQ). Since 2010, CDQ groups have received an annual allocation of 393 mt of halibut for PSC in the groundfish fisheries that they participate in. Unlike a directed fishery, where fishing effort is expected to approach the TAC, PSC is expected to be minimized as much as practicable.

As demonstrated in Figure 4-3 by the International Pacific Halibut Commission and Table 4-8 the exploitable biomass of halibut, and ultimately the halibut CDQ allocation, have declined fairly consistently, particularly in the last four years. The 2013 Pacific halibut stock assessment cites this as a

result of recruitment strengths that are much smaller than those observed through the 1980s and 1990s (Stewart and Martell 2014).

3.2.2 Effect of the Alternatives on Halibut

The alternatives would not change the way the halibut CDQ fishery is currently prosecuted. Any of the action alternatives would create a Pacific cod complement to the halibut fishery. Whether the proposed action manifests in an increased MRA or a multi-species fishery, halibut CDQ would be expected to be targeted in the same areas, with the same gear type, by the same number of vessels, and consistent fishing effort.

Therefore, this section focuses on the effects the alternatives may have on halibut PSC, while vessels are targeting Pacific cod. Table 3-4 describes the criteria used to determine whether the impacts on halibut PSC are likely to be significant.

Table 3-4 Criteria used to estimate the significance of impacts on incidental catch of halibut

No impact	No change in the incidental catch of the prohibited species in question.
Adverse impact	There is an increase in incidental catch of the prohibited species in question.
Beneficial impact	Natural at-sea mortality of the prohibited species in question would be reduced – perhaps by the harvest of a predator or by the harvest of a species that competes for prey.
Significantly adverse impact	An action that diminishes protections afforded to prohibited species in the groundfish fisheries would be a significantly adverse impact.
Significantly beneficial impact	No benchmarks are available for significantly beneficial impact of the groundfish fishery on the prohibited species, and significantly beneficial impacts are not defined for these species.
Unknown impact	Not applicable

Table 4-5 in Section 4.6.3 describes halibut PSC from current Pacific cod CDQ fishing that accrued to the CDQ groups' transferable PSQ between 2009 and 2013. This halibut PSC averages about 70 mt annually under current fishing operations. The impact of current levels of halibut PSQ (Alternative 1) is described in the EIS for Alaska groundfish harvest specifications (NMFS 2007). Specifically, the incidental catch of halibut in the groundfish fisheries results in a decline in the standing stock biomass, a lowering of the reproductive potential of the stock, and reduced short- and long-term yields to the directed hook-and-line fisheries. Halibut mortality in the groundfish fisheries is taken into account when the commercial halibut quotas are set to prevent adverse impacts on the halibut stocks. Each year the entire PSC level for halibut has been taken. Historically in the BSAI, nearly all of the annual PSC for halibut has been taken, mostly in the trawl fisheries using bottom gear.

If some Pacific cod quota is redistributed from the FLL fleet to the CDQ small vessels that are retaining halibut catch, there may be a small decrease in halibut PSC by the FLL fleet. It is necessary to consider the alternatives separately in order to understand potential halibut PSC impacts from catching Pacific cod CDQ on small vessels. A small reduction in PSC may occur under Alternative 2, in which all halibut catch would be expected to be retained and attributed to the halibut CDQ allocation. In Alternative 3, Options 1 and 2 dictate whether this catch would automatically accrue towards the PSQ allocation or the halibut CDQ allocation, respectively. In Option 1, the CDQ participants would be required to target one species at a time, in which case they would be discarding halibut when prosecuting a Pacific cod CDQ fishery. In this case PSC rates would be expected to be approximately equal to PSC rates derived from FLL fleet.[37] In Option 2, they could prosecute a multi-species fishery, targeting both Pacific cod and

[37] In essence these numbers would be the same, as the PSC rate calculated in the CAS would be generated from Observer data gathered from the most similar source; primarily the observed FLL vessels.

halibut as long as the allocation was available to them; therefore there may a small reduction in halibut PSC. Under Alternative 4, the amount of halibut allowed to be discarded would depend on which, if any Sub-option of Option 3 the Council chooses. By not choosing any sub-option, the Council may promote a small amount of PSC reduction as halibut caught incidentally to Pacific cod CDQ would be required to be retained. The 3 sub-options allow for disparate levels of discarded halibut that would be calculated by a PSC rate. If the Council choses a sub-option for Option 3, there is unlikely to be a reduction in PSC attributed to redistributed Pacific cod CDQ.

If catcher vessels less than or equal to 46 ft. LOA using hook-and-line gear to fish for Pacific cod CDQ are assigned to the partial observer coverage category, it is possible that a fishing trip will be selected for observer coverage. However, in most cases, these vessels will be unobserved and the halibut PSC associated with the trip will be derived from halibut PSC rates from observed vessels. The halibut PSC rate applied to landings from unobserved catcher vessels are determined through the Catch Accounting System (CAS) based on the best available data, which is the data from observed vessels as close as possible in characteristics to the unobserved vessels.

Sometimes halibut PSC rates are available for the same processing sector, gear, trip target, and management area. However, because there are very few observed trips for catcher vessels less than 60 ft LOA directed fishing for Pacific cod in the BSAI, the halibut PSC rate most frequently applied to landings by these vessel is called a “precedence 20” rate. This rate is derived from all landings year-to-date by vessels in any processing sector using hook-and-line gear in a Pacific cod target in the BSAI. This rate is updated each day and any updates to the rate are applied to all landings to date in the year. Thus, the halibut PSC rate that will be applied to a landing can change throughout the year as new data are gathered until a final calculation is made. The annual average rate is then applied to all landings in that year for which the precedence 20 rate is the best available data. Catcher/processors contribute most of the observer data for the BSAI Pacific cod hook-and-line fishery. Therefore, the “precedence 20” rate is largely derived from catcher/processor activity.

Regardless of the amount of halibut PSQ avoided from redistributing a portion of Pacific cod CDQ to the small vessel fleet, halibut PSQ is transferable. Thus, it could be used to support other groundfish CDQ directed fisheries, or transferred to another CDQ group. Ultimately, it is expected that the proposed action will not significantly impact the catch of halibut PSQ.

3.3 Marine Mammals

Alaska supports one of the richest assemblages of marine mammals in the world. Twenty-two species are present from the orders Pinnipedia (seals and sea lions), Carnivora (sea otters), and Cetacea (whales, dolphins, and porpoises). Some marine mammal species are resident throughout the year, while others migrate into or out of Alaska fisheries management areas. Marine mammals occur in diverse habitats, including deep oceanic waters, the continental slope, and the continental shelf (Lowry et al. 1982).

A number of concerns may be related to marine mammals and potential impacts of fishing. For individual species, these concerns include:

- listing as endangered or threatened or considered a candidate species under the Endangered Species Act (ESA);
- protection under the Marine Mammal Protection Act (MMPA);
- declining populations in a manner of concern to state or Federal agencies;
- vulnerability to direct or indirect adverse effects from fishing activities.

Marine mammals have been given various levels of protection under the Council's current fishery management plans. Research and monitoring continues to further define the nature and extent of fishery impacts on these species.

The PSEIS (NMFS 2004) provides descriptions of the range, habitat, diet, abundance, and population status for marine mammals. The most recent marine mammal stock assessments were updated in the 2012 stock assessment reports (SARs) (Allen and Angliss 2013). The Pacific walrus was assessed in 2010. The information from NMFS (2004) and Allen and Angliss (2013) are incorporated by reference. The SARs provide population estimates, population trends, and estimates of the potential biological removal (PBR) levels for each stock.[38] The SARs also identify potential causes of mortality and whether the stock is considered a strategic stock under the MMPA.

The Alaska Groundfish Harvest Specifications EIS provides information on the effects of the groundfish fisheries on marine mammals (NMFS 2007). Direct and indirect interactions between marine mammals and groundfish fishing vessels may occur due to overlap in in the size and species of groundfish harvested in the fisheries that are also important prey species for marine mammals, and due to temporal and spatial overlap in marine mammal occurrence and commercial fishing activities. This discussion focuses on those marine mammals in the BSAI that may be affected by the proposed action.

Marine mammals, including those currently listed as endangered or threatened under the ESA, that may be present in the action area are listed in Table 3-5. All of these species are managed by NMFS, with the exception of the northern sea otter and Pacific walrus, which are managed by the U.S. Fish and Wildlife Service (USFWS). ESA section 7 consultations with respect to the actions of the Federal groundfish fisheries have been completed for all of the ESA-listed species, either individually or in groups. Of the species listed under the ESA and present in the action area, only the western distinct population segment of Steller sea lions may be adversely impacted by the proposed action.

[38]The SARs are available on the NMFS website at http://www.nmfs.noaa.gov/pr/sars/region.htm.

Table 3-5 Marine mammals that may occur in the action area

	Species	Stocks
NMFS Managed Species		
Pinnipedia	Steller sea lion*	Western U.S.[1]
	Northern fur seal**	Eastern Pacific
	Bearded seal*	Beringia
	Ringed seal*	Arctic
	Spotted seal	Southern
	Harbor seal	Bristol Bay
	Ribbon seal	Alaska
Cetacea	Beluga Whale	Eastern Bering Sea, Bristol Bay[2]
	Killer whale	Eastern North Pacific Alaska Resident, Aleutian Islands, and Bering Sea transient
	Harbor porpoise	Southeast Alaska, Gulf of Alaska, and Bering Sea
	Dall's porpoise	Alaska
	Sperm whale*	North Pacific
	Gray whale	Eastern North Pacific
	Humpback whale*	Western North Pacific, Central North Pacific
	Minke whale	Alaska
	Fin whale*	Northeast Pacific
	North Pacific right whale*	North Pacific[3]
USFWS Managed Species		
Carnivora	Northern sea otter	Aleutian Islands
Pinnipedia	Pacific Walrus	Pacific

Source: Allen and Angliss 2013.
*ESA-listed species
**Depleted under MMPA
[1] Steller sea lions are listed as endangered west of Cape Suckling and threatened east of Cape Suckling.
[2] Cook Inlet beluga whales are listed as endangered; none of the stocks in the action area are listed.
[3] NMFS designated critical habitat for the northern right whale on July 6, 2006 (71 FR 38277).

Of the pinnipeds that may be present in the area, only Steller sea lions and northern fur seals are likely to be affected by potential changes in the groundfish fishing patterns that may result from this action. Bearded seals, ringed seals, spotted seals, harbor seals, ribbon seals, and Pacific walrus are either not likely to be present in the near-shore areas where changes in fishing activities are likely to occur, or feed on species that are not likely to be affected by those changes in fishing activity. Therefore, only Steller sea lions and northern fur seals are considered further.

Cetaceans, other than resident (fish-eating) killer whales, are also either not likely to be present in the near-shore areas where changes in fishing activities are likely to occur, or feed on species that are not likely to be affected by those changes in fishing activity. Therefore, only resident killer whales are considered further.

Northern sea otters are present in the action area, but generally much closer to shore than where fishing activities occur, and feed on benthic species that are not likely to be affected by changes in fishing activity. Therefore, northern sea otters are not expected to be impacted by proposed activities.

Species and stock	ESA Status	MMPA Status	Population Trends	Distribution in action area
Steller sea lion - Western and Eastern Distinct Population Segment (DPS)	Endangered (western) Threatened (eastern)	Depleted, strategic	For the western DPS, regional increases in counts in trend sites of some areas have been offset by decreased counts in other areas so that the overall population of the western DPS appears stable (Fritz et al. 2008). The eastern DPS is steadily increasing and is being considered for delisting (NMFS 2010).	Western DPS inhabits Alaska waters from Prince William Sound westward to the end of the Aleutian Island chain and into Russian waters. Eastern DPS inhabit waters east of Prince Williams Sound to California. Occur throughout AK waters, terrestrial haulouts, and rookeries on Pribilof Is., Aleutian Is., St. Lawrence Is., and off mainland. Use marine areas for foraging. Critical habitat designated around major rookeries and haulouts and foraging areas.
Northern fur seal – Eastern Pacific	None	Depleted, strategic	Recent pup counts show a continuing decline in productivity in the Pribilof Islands. During 1998–2006, pup production declined 6.1% annually on St. Paul Island and 3.4% annually on St. George Island. Despite near exponential growth on Bogoslof Island, the overall abundance estimate continues to decline in the Bering Sea.	Fur seals occur throughout Alaska waters, but their main rookeries are located in the Bering Sea on Bogoslof Island and the Pribilof Islands. Approximately 55% of the worldwide abundance of fur seals is found on the Pribilof Islands (NMFS 2007). Forages in the pelagic area of the Bering Sea during summer breeding season, but most leave the Bering Sea in the fall to spend winter and spring in the N. Pacific.
Harbor seal – Gulf of Alaska Bering Sea	None	None	Moderate to large population declines have occurred in the Bering Sea and Gulf of Alaska stocks.	GOA stock found primarily in the coastal waters and may cross over into the Bering Sea coastal waters between islands. Bering Sea stock found primarily around the inner continental shelf between Nunivak Island and Bristol Bay and near the Pribilof Islands.
Ringed seal – Alaska	Status under review	None	Reliable data on population trends are unavailable.	Found in the northern Bering Sea from Bristol Bay to north of St. George Island and occupy ice.
Bearded seal – Alaska	Status under review	None	Reliable data on population trends are unavailable.	Found in the northern Bering Sea from Bristol Bay to north of St. George Island and inhabit areas of water less than 200 m that are seasonally ice covered.
Ribbon seal – Alaska	None	None	Reliable data on population trends are unavailable.	Found throughout the offshore Bering Sea waters.
Spotted seal - Alaska	Status under review	None	Reliable data on population trends are unavailable.	Found throughout the Bering Sea waters.
Pacific Walrus	Status under review	Strategic	Population trends are unknown. Population size estimated from a 2006 ice survey is 15,164 animals, but this is considered a low estimate. Further analysis is being conducted on the 2006 survey to refine the population estimate.	Occur primarily in shelf waters of the Bering Sea. Primarily males stay in the Bering Sea in the summer. Major haulout sites are on Round Island in Bristol Bay and on Cape Seniavin on the north side of the Alaska Peninsula.

Source: Allen and Angliss 2011 and List of Fisheries for 2011 (75 FR 68468, November 8, 2010).

Northern fur seal pup data available from http://www.alaskafisheries.noaa.gov/newsreleases/2007/fursealpups020207.htm.

Species and stock	ESA Status	MMPA Status	Population Trends	Distribution in action area
Killer whale – AT1 Transient; Eastern North Pacific GOA, AI, and BS transient;	None	AT1 Transient Depleted, strategic	AT1 group is estimated at 7 animals. Unknown abundance for the eastern North Pacific Alaska resident; West Coast transient; and Eastern North Pacific Gulf of Alaska, Aleutian Islands, and Bering Sea transient stocks.	Transient-type killer whales from the Aleutian Islands and Bering Sea are considered to be part of a single population that includes Gulf of Alaska transients. Killer whales are seen in the northern Bering Sea and Beaufort Sea, but little is known about these whales.
Dall's porpoise – Alaska	None	None	Reliable data on population trends are unavailable.	Found offshore waters from coastal western Alaska to Bering Sea.
Humpback whale- Western North Pacific Central North Pacific	Endangered	Depleted, strategic	Reliable data on population trends are unavailable for the western North Pacific stock. Central North Pacific stock thought to be increasing. The status of the stocks in relation to optimal sustainable population is unknown.	W. Pacific and C. North Pacific stocks occur in Alaskan waters and may mingle in the North Pacific feeding area shown in Humpback whales in the Bering Sea identification to western or Central North Pacific stocks, or to a separate, unnamed stock, is difficult.
North Pacific right whale Eastern North Pacific	Endangered	Depleted, strategic	Abundance not known. Stock is considered to represent only a small fraction of its pre-commercial whaling abundance.	See for distribution and designated critical habitat.
Fin whale Northeast Pacific	Endangered	Depleted, strategic	Abundance may be increasing but surveys only provide information for portions of the stock in the central-eastern and southeastern Bering Sea and coastal waters of the Aleutian Islands and the Alaska Peninsula. Much of the North Pacific range has not been surveyed.	Found in the Bering Sea and coastal waters of the Aleutian Islands and Alaska Peninsula. Most sightings in the central-eastern Bering Sea occur in a high productivity zone on the shelf break.
Minke whale Alaska	None	None	Considered common but abundance not known and uncertainty exists regarding the stock structure.	Common in the Bering and Chukchi Seas and in the inshore waters of the GOA.
Sperm Whale North Pacific	Endangered	Depleted, strategic	Abundance and population trends in Alaska waters are unknown.	Inhabit waters 600 m or more in depth, south of 62°N lat. Males inhabit Bering Sea in summer.
Gray Whale Eastern North Pacific	None	None	Minimum population estimate is 17,752 animals. Increasing populations in the 1990s but below carrying capacity.	Most spend summers in the shallow waters of the northern Bering Sea and Arctic Ocean. Winters spent along the Pacific coast near Baja California.
Beluga whale Bristol Bay, Eastern Bering Sea, Cook Inlet, Eastern Chukchi Sea	Endangered (Cook Inlet)	Depleted (Cook Inlet)	Cook Inlet estimate is 280 whales, declining at 1.1% per anum. Bristol Bay – 1,600; eastern Bering Sea – 18,000; eastern Chukchi Sea – 3,700; Bering Sea – 40,000	Bering Sea coastal waters year round. Cook Inlet population restricted to Cook Inlet.

Source: Allen and Angliss 2011 and List of Fisheries for 2011 (75 FR 68468, November 8, 2010).

3.3.1 Steller Sea Lions

A detailed discussion of the status of Steller sea lions and their habitat can be found in Chapter 3 of the 2014 Steller sea lion protection measures biological opinion (BiOp) (NMFS 2014), and is incorporated by reference. The Steller sea lion inhabits many of the shoreline areas of the BSAI, using those habitats as seasonal rookeries and seasonal or year-round haulouts. The Steller sea lion has been listed as threatened under the ESA since 1990. In 1997, two distinct population segments (DPS) were recognized based on genetic and demographic dissimilarities, the western DPS (WDPS), and eastern DPS (EDPS). Because of a pattern of continued decline in the WDPS, that DPS was listed as endangered on June 5, 1997 (62 FR 30772), while the EDPS remained under threatened status. NMFS issued a final rule to remove the EDPS from the List of Endangered and Threatened Wildlife (78 FR 66140), on November 4, 2013. Steller sea lions occurring in the BSAI are assumed to be primarily from the WDPS.

The WDPS inhabits an area of Alaska from Prince William Sound (144° W longitude) westward to the end of the Aleutian Island chain and into Russian waters. Critical habitat for Steller sea lions was designated on August 27, 1993 (58 FR 45269), based on the location of terrestrial rookery and haulout sites, spatial extent of foraging trips, and availability of prey items. Critical habitat for Steller sea lions includes terrestrial, air, and aquatic areas, and those physical and biological features within this habitat that support reproduction, foraging, rest, and refuge areas essential to the conservation of the species. A full description of critical habitat areas for Steller sea lions is provided in Section 3.12 of the Steller sea lion protection measures BiOp (NMFS 2014).

Throughout the 1990s, particularly after critical habitat was designated, various closures of areas around rookeries, haulouts, and some offshore foraging areas affected commercial harvest of pollock, Pacific cod, and Atka mackerel – important components of the WDPS diet. The AI subarea has extensive closures in place for Steller sea lions, including no transit zones at ESA designated rookeries and fishery closures of critical habitat around rookeries and haulouts. These harvest restrictions on the Atka mackerel, pollock, and Pacific cod fisheries were intended to decrease the likelihood of disturbance, incidental take, and competition for prey by reducing the fishing pressure in near-shore critical habitat, reducing seasonal competition for prey during critical winter months, and dispersing fisheries spatially and temporally to avoid local depletions of prey. These temporal and spatial restrictions were intended to ensure the groundfish fisheries were not likely to jeopardize the continued existence or adversely modify or destroy designated critical habitat for Steller sea lions.

The WDPS decreased from an estimated 220,000 to 265,000 animals in the late 1970s to fewer than 50,000 in 2000 (Loughlin et al. 1984, Loughlin and York 2000, Burkanov and Loughlin 2005). The decline began in the 1970s in the eastern AI, western Being Sea/Kamchatka and the Kuril Islands (Braham et al. 1980, Burkanov and Loughlin 2005, Waite et al. 2005). In Alaska, the decline spread and intensified east and west of the eastern Aleutians in the 1980s. Beginning 1990, the rate of overall decline in Alaska abated, and regional differences in trend appeared; populations near the center of the Alaskan WDPS range (eastern Aleutians and western GOA) were relatively stable, while those to the east and west continued to decline (Fritz et al. 2008). Between 2000 and 2012, the overall counts of non-pups increased in the WDPS in Alaska; however there are large difference in abundance and trends among subregions across Alaska (NMFS 2014). The population in the far western Aleutian Islands continues to decline at approximately 7 percent per year, while the western and eastern GOA populations are increasing at just more than 4 percent per year, and the central Aleutians and central GOA populations are stable (Johnson and Fritz in review in NMFS 2014). An estimate of the abundance of the entire (U.S. and Russian) WDPS is made by adding the most recent pup counts from the U.S. (11,603) to the Russian (6,021), and multiplying by a correction factor (4.5) to account for the ratio of pups to non-pups; this results in an estimate of 79,300 sea lions.

3.3.2 Northern Fur Seals

In Alaska northern fur seals breed on the Pribilof Islands (St. Paul, St. George, and associated smaller islands) and Bogoslof Island. Since 1998 annual pup production on the Pribilof Islands has declined at 4.9 percent per year (Towell et al. 2012). In contrast, pup production on Bogoslof Island was 30.7 percent greater in 2011 than in 2007, and has increased at an annual rate of 11.7 percent since the first pup was observed in 1980 (Towell and Ream 2012). Fur seals breeding in the Bering Sea undertake seasonal pelagic migrations through the Aleutian Islands beginning in late October and spend the winter in the North Pacific Ocean and southern Bering Sea (Ream et al. 2005; Lea et al. 2009). During the summer adult female (Robson et al. 2004; Kuhn et al. 2010) and juvenile male fur seals (Sterling and Ream 2004) forage at sea and return to St. Paul, St. George, and Bogoslof Islands intermittently throughout the summer and autumn. These foraging trips may include Aleutian Island waters, but they occur primarily in the Bering Sea. Diet composition of adult females breeding on the Pribilof Islands is dominated by walleye pollock (Gudmundson et al. 2006; Call and Ream 2012). Fur seal foraging locations and durations during the summer vary significantly by both island and rookery (Robson et al. 2004; Sterling and Ream 2004; Call et al. 2008). The variability in foraging locations result in significant differences in diet (Zeppelin and Ream 2006; Zeppelin and Orr 2010), whereas at Bogoslof Island the diet has large occurrence of off-shelf prey, such as Gonatid squid and northern smoothtongue, but included Atka mackerel, pollock, capelin, eulachon, and herring (Zeppelin and Orr 2010; Sinclair et al. 1994; Sinclair et al. 2008).

3.3.3 Resident (Fish-eating) Killer Whales

The Eastern North Pacific, Alaska resident stock of fish-eating killer whales occurs in the action area along the Aleutian Islands and southwestern Alaska. The Alaska resident stock includes killer whales from Southeastern Alaska to the Aleutian Islands and Bering Sea. Beginning in 2001, dedicated killer whale studies were conducted by the National Marine Mammal Laboratory in Alaska waters west of Kodiak Island, including the Aleutian Islands and Bering Sea (Allen and Angliss 2013). Counts of individually recognizable whales, association data, and genetic analysis have resulted in an estimate of 1,300 resident killer whales west of Kodiak Island. Recent data from Matkin et al. (2008) indicate that the Alaska resident stock in Prince William Sound and Kenai Fjords increased at 3.2 percent per year from 1990 to 2005. At present, reliable data on trends in population for the entire Alaska Resident stock is unavailable.

Resident killer whales feed on a variety of fish species, including Pacific cod, but their main prey species are salmonids. They are known to predate on longline catch in the Bering Sea (Dahlheim 1988, Yano and Dahlheim 1995, Perez 2003, Sigler et al. 2002, Perez 2006). There are also reports of killer whales feeding on the processing waste of Bering Sea groundfish trawl fishing vessels (Perez 2006). Recently, several fisheries observers have noted that large groups of killer whales in the Bering Sea have followed vessels, actively consuming the processing waste (Allen and Angliss 2013).

3.3.4 Effects of the Alternatives on Marine Mammals

Criteria to assess the impacts of the action on marine mammals are listed in Table 3-6. These criteria are adopted from the 2006–2007 groundfish harvest specifications EIS (NMFS 2007). Because impacts from fishing activities are already taking place in the action area, these actions are evaluated on their potential impacts as a change from status quo.

Table 3-6 Criteria for determining significance of impacts to marine mammals

	Direct Impacts	Disturbance
Adverse impact	Mammals are struck by fishing vessels	Fishing operations disturb marine mammals
Beneficial impact	There is no beneficial impact	There is no beneficial impact
Insignificant impact	No substantial change in vessel strikes by fishing vessels	No substantial change in disturbance of mammals
Significantly adverse impact	Mortality from vessel strikes increases to more than PBR or is considered major in relation to estimated population when PBR is undefined	Disturbance of mammals increases such that population is likely to decrease
Significantly beneficial impact	Not applicable	Not applicable
Unknown impact	Insufficient information available on take rates	Insufficient information as to what constitutes disturbance

3.3.4.1 Steller Sea Lions

Alternatives 2 through 4 would redistribute Pacific cod CDQ from FLL vessels to a CDQ small vessel fleet and, consequently, increase Pacific cod fishing in near-shore waters to an unknown extent. None of the alternatives would alter gear type used to harvest Pacific cod, or the TAC or CDQ allocations of cod, and the redistributed fishery, under any alternative is expected to operate within the current footprint of the halibut CDQ fishery. While there is limited quantifiable basis to determine the precise magnitude of any increased effort, harvest limits dictate that only 10.7 percent of the TAC is allocated to the CDQ groups. Some portion of this percentage is likely to be redistributed from FLLs or catcher vessels to a CDQ small vessel fleet. Although this percentage is not expected to significantly impact overall Pacific cod mortality (see Section 3.1), any redistribution of Pacific cod mortality into Steller sea lion critical habitat has the potential to affect Steller sea lions at those locations.

Alternatives 3 and 4 would require vessels to comply with closures that apply to all vessels (i.e., no transit areas), and to comply with closures for directed fishing for Pacific cod within Steller sea lion areas (see Section 2.5). As a result, any impacts from Alternatives 3 and 4 are expected to not be significant. In contrast, Alternative 2 would raise the MRA for Pacific cod to 100 percent of the Pacific halibut landings. As a result, Alternative 2 could increase the amount of Pacific cod caught within Steller sea lion critical habitat. This may affect Steller sea lions feeding within those areas of critical habitat, depending on the amounts of additional Pacific cod removed from critical habitat. It is likely that authorization of fisheries under Alternative 2 would require consultation with NMFS Protected Resources Division under section 7 of the U.S. Endangered Species Act.

3.3.4.2 Northern Fur Seals

Alternatives 2 through 4 would redistribute Pacific cod CDQ from FLL vessels to a CDQ small vessel fleet and, consequently, increase Pacific cod fishing in near-shore waters to an unknown extent. None of the alternatives would alter gear type used to harvest Pacific cod, or the TAC or CDQ allocations of cod, and the redistributed fishery, under any alternative, is expected to operate within the current footprint of the halibut CDQ fishery. While there is limited quantifiable basis to determine the precise magnitude of any increased effort, harvest limits dictate that only 10.7 percent of the TAC is allocated to the CDQ groups. Some portion of this percentage is likely to be redistributed from FLLs or catcher vessels to a CDQ small vessel fleet. Although this percentage is not expected to significantly impact overall Pacific cod mortality (see Section 3.1), any redistribution of Pacific cod mortality to near-shore environments

could have potential to affect northern fur seals at these locations. However, because northern fur seals forage near-shore and offshore, and because the amount of Pacific cod mortality that is redistributed to the CDQ small vessel fleet is expected to be a small portion of the CDQ allocation, any change to competition for Pacific cod is expected to be minimal, and impacts from these alternatives are expected to not be significant to northern fur seals.

3.3.4.3 Resident (Fish-eating) Killer Whales

Alternatives 2 through 4 would redistribute Pacific cod CDQ from FLL vessels to a CDQ small vessel fleet. None of the alternatives would alter gear type used to harvest Pacific cod or the TAC or CDQ allocations of cod. It is possible that CDQ vessels may experience greater depredation from killer whales, if killer whales in the areas where CDQ vessels are fishing begin to target Pacific cod from their lines, but the likelihood of that is not known. Removals of halibut or Pacific cod from inshore waters are not likely to affect the food resources available for Alaska resident killer whales, and any impacts are expected to not be significant.

3.4 Cumulative Effects

NEPA requires an analysis of the potential cumulative effects of a proposed Federal action and its alternatives. Cumulative effects are those combined effects on the quality of the human environment that result from the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions, regardless of which Federal or non-Federal agency or person undertakes such other actions (40 CFR 1508.7, 1508.25(a), and 1508.25(c)). Cumulative impacts can result from individually minor, but collectively significant, actions taking place over time. The concept behind cumulative effects analysis is to capture the total effects of many actions over time that would be missed if evaluating each action individually. Concurrently, the Council on Environmental Quality (CEQ) guidelines recognize that it is most practical to focus cumulative effects analysis on only those effects that are truly meaningful. Based on the preceding analysis, the effects that could have a cumulative meaningful effect are potential effects on Pacific cod, Pacific halibut, and marine mammals. The cumulative effects on the other resources have been analyzed in numerous documents and the impacts of this proposed action and alternatives on those resources are minimal; therefore there is no need to conduct an additional cumulative impacts analysis.

This EA analyzes the cumulative effects of each alternative and the effects of past, present, and reasonably foreseeable future actions (RFFA). The past and present actions are described in the previous sections in this chapter.

This section considers any RFFA that may result in cumulative effects on Pacific cod, halibut, and marine mammals. At this time, this analysis has not identified RFFAs that are expected to influence halibut outside of what has been addressed in the Alaska Groundfish Harvest Specifications EIS (NMFS 2007). However, this section identifies recent actions relevant to marine mammals and Pacific cod. Actions are understood to be human actions (e.g., a proposed rule to designate northern right whale critical habitat in the Pacific Ocean), as distinguished from natural events (e.g., an ecological regime shift). CEQ regulations require consideration of actions, whether taken by a government or by private persons, which are reasonably foreseeable. This requirement is interpreted to indicate actions that are more than merely possible or speculative.

Actions are considered reasonably foreseeable if some concrete step has been taken toward implementation, such as a Council recommendation or NMFS's publication of a proposed rule. Actions only "under consideration" have not generally been included because they may change substantially or may not be adopted, and so cannot be reasonably described, predicted, or foreseen. Identification of

actions likely to impact a resource component within this action's area and time frame will allow the public and Council to make a reasoned choice among alternatives.

As mentioned in Section 3.1.1, an RFFA relevant to the Pacific cod stock includes the recent split in management of the Pacific cod stock in the BS and AI. The TAC for the EBS and the AI was split under the recommendation of the Council's Science and Statistical Committee (SSC) to improve conservation of the AI Pacific cod stock and better align management with the available science. The 2013/2014 SAFE (NPFMC 2013) began the practice of evaluating these stocks separately. Consistent with the non-CDQ fishery, the CDQ portion of Pacific cod TAC now has an AI allocation and an EBS allocation.

The amount of Pacific cod that the CDQ groups can harvest is determined by the TAC set by the Council and NOAA Fisheries. The ABC is set by the SSC based on the recommendations of the BSAI groundfish plan team and the analysis in the SAFE. Once the ABC is set, three percent of the summation of EBS and AI ABC is deducted from the ABC for the EBS and then also from the ABC of the AI to account for the state guideline harvest level fisheries. The CDQ groups are allocated 10.7 percent of the TAC (see Appendix A.4 for a 2014/15 example of the BS and AI TAC split).

Similar to a cooperative, the CDQ Program maintains an internally tradable system of quotas. Each group is given a pre-established percentage of the CDQ allocation (e.g., see Appendix A.5 for the 2014 group allocations); however once it receives that allocation it is able to establish transactions with other CDQ groups or lease the operation out to a non-CDQ vessel to fish on its behalf. For example, the Aleutian Pribilof Island Community Development Association (APICDA) CDQ group, receives 15.45 percent of the CDQ allocation in the AI and 15.45 percent of the overall CDQ allocation in the EBS. In 2014 this represented 4,081.1 mt of Pacific cod in the EBS and 115.7 mt of Pacific cod in the AI. APICDA would be able to prosecute its 115.7 mt of Pacific cod associated with the AI inside or outside the AI. However, if it wanted more than 115.7 mt of Pacific cod inside of the AI, it could not draw from its 4,081.1 mt reserve of EBS Pacific cod. Instead it would need to trade or lease from another CDQ group's AI allocation.

As the only CDQ group located in the AI, the impact of the Pacific cod TAC split is likely to be felt most acutely by APICDA. Particularly in the context of the proposed alternatives; APICDA may be impacted if it wishes to allocate a portion of its AI Pacific cod CDQ to its small vessel fleet in order to prosecute a fishery close to home. This RFFA is unlikely to be considered to have a significant effect for the harvest of the Pacific cod CDQ under the action alternatives; however, it may necessitate increased transactions among CDQ groups.

One RFFA that may affect marine mammals is the final biological opinion (BiOp) on Steller sea lion protection measures in the AI, which was released in April 2014 (NMFS 2014).[39] The impetus for this BiOp was a Court-ordered EIS on the 2011 interim final rule (75 FR 77535, December 13, 2010, and corrected 75 FR 81921, December 29, 2010) that implemented a reasonable and prudent alternative from the 2010 BiOp. Along with other sectors, the 2014 final BiOp will change Steller sea lion protection measures that were in place for the Pacific cod non-trawl sector between 2010 and 2015 as established by the 2011 interim final rule. The intent of the 2014 final BiOp was to replace the interim final rule with a rule that avoids jeopardizing the continued existence of the western DPS of Steller sea lion or adversely modifying designated critical habitat and simultaneously minimizes, to the extent practicable, economic impacts to the groundfish fisheries.

[39] This document was released on April 2, 2014, and presented to the Council at its April 2014 meeting.

The interim final rule created area, gear, and seasonal specific measures to protect Steller sea lion critical habitat. Specifically, it prohibited the retention of Pacific cod (along with Atka mackerel) in Area 543. This area had experienced the most severe declines in Steller sea lion population, and this measure was proposed to discourage competition for the biomass of the Steller sea lion prey species. The interim final rule also included a seasonal closure of the Pacific cod non-trawl fishery for Areas 542 and 541 from November 1 to December 31. Several areas were closed for directed Pacific cod non-trawl fishing in Areas 541 and 542 due to their proximity to Steller sea lion critical habitat. In Area 541, waters 0 nm to 20 nm from Steller sea lion sites were closed from January 1 to March 1 and 0 nm to 10 nm closed for the rest of the calendar year. In Area 542, there were closures in waters from 0 nm to 6 nm of Steller sea lion sites.

However, the 2014 final BiOp will re-open many of these closures after 2015. There are no changes in area closures set in the recently released final BiOp relative to the action analyzed in the 2010 FMP BiOp for these gear types. Therefore this Steller sea lion RFFA is not expected to significantly impact or compromise the intent of the proposed action alternatives in this analysis.

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

4 Regulatory Impact Review

This Regulatory Impact Review (RIR) examines the benefits and costs of a proposed regulatory amendment to promote Pacific cod Community Development Quota (CDQ) harvest opportunities, specifically for hook-and-line vessels that do not exceed 46 ft. length overall (LOA) fishing on behalf of a CDQ group. This chapter includes a description of the current Pacific cod CDQ and halibut CDQ fisheries, an analysis of the potential effects of the proposed action on achieving increased retention opportunities by adjusting the MRA or by promoting a directed Pacific cod CDQ fishery, and identification of the individuals or groups that may be affected by the action.

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 nonetheless essential to consider. Further, in choosing among alternative regulatory approaches agencies should select those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach.*

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

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

4.1 Statutory Authority

Under the Magnuson-Stevens Fishery and Conservation Act (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 North Pacific Fishery Management Council (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, National Marine Fisheries Service (NMFS) is charged with carrying out the Federal mandates of the Department of Commerce with regard to marine and anadromous fish.

The Pacific cod fisheries in the EEZ off Alaska are managed, respectively, under the Fishery Management Plan two FMPs for Groundfish, one for the Gulf of the Alaska and the other for the Bering Sea and Aleutian Islands Management Area (BSAI). The proposed actions under consideration would amend the BSAI Groundfish FMP and Federal regulations at 50 CFR 679. Actions taken to amend FMPs or implement other regulations governing these fisheries must meet the requirements of Federal law and applicable regulations.

4.2 Purpose and Need for Action

The Council adopted the following problem statement to initiate this action in February 2014:

> *Current regulations applicable to vessels targeting Pacific cod with hook-and-line gear are prohibitive for the CDQ village small boat fleets. Easing or revising certain regulations may make the development of a Pacific cod fishery more viable and provide additional harvest opportunities for the CDQ village small boat fleets, which may be particularly urgent in light of steep declines in halibut quotas as one measure to mitigate the resulting economic disruption.*

4.3 Description of Alternatives

The alternatives that are analyzed in this package were adopted by the Council in February 2014 and revised in June 2014 to include a Preliminary Preferred Alternative (PPA). In October 2014, Option 3 of the PPA, became Sub-option 3.1 and Sub-option 3.2 was added. NMFS AK Region has proposed the addition of Sub-option 3.3, listed in bold, for Council consideration in this document. These alternatives are listed here and described in detail in Sections 2.1 through 2.6. The alternatives propose management measures that would apply exclusively to the CDQ fisheries in the BSAI.

Alternative 1. No action. Vessels fishing CDQ halibut are allowed to retain Pacific cod up to 20 percent of their CDQ halibut landings under the existing maximum retainable amount (MRA).

Alternative 2. Increase the MRA of Pacific cod up to 100 percent of the CDQ halibut landings for hook-and-line catcher vessels less than or equal to 46 ft. LOA that hold Pacific cod CDQ.[40] All Pacific cod caught must be retained and accrues towards the CDQ Pacific cod quotas.

Alternative 3. Create a new CDQ LLP license for participating hook-and-line catcher vessels less than or equal to 46 ft. LOA. Vessels with the CDQ LLP license can participate in the CDQ directed Pacific cod fishery. Limit the number of LLP licenses each CDQ group would be provided. These LLP licenses would be non-transferable among CDQ groups. All Pacific cod caught must be retained and accrues towards the CDQ Pacific cod allocations. Vessels would be subject to the full coverage observer category consistent with existing full coverage observer requirements.

> Option 1: Place these vessels in the partial coverage observer category. Halibut caught would accrue against the CDQ PSQ allocation.[41]
>
> Option 2: Place these vessels in the partial coverage observer category. Require vessels to retain any incidentally caught halibut, which would accrue against the CDQ's halibut allocation.

[40] The qualifier "of Pacific cod" was added by staff for clarification.
[41] Reviewers noted the inappropriate use of the phrase "Incidentally caught halibut", which implies retention. Since halibut PSC would be required to be discarded, this language was modified to say "halibut caught".

Alternative 4. (PPA)[42] The following provisions would apply to hook-and-line catcher vessels less than or equal to 46 ft. LOA while directed fishing for Pacific cod CDQ:

LLP Program: Vessels greater than 32 ft. LOA, but less than or equal to 46 ft. LOA would be exempt from the LLP requirements.[43] Each CDQ group would be required to register each vessel less than or equal to 46 ft. LOA that it authorizes to conduct directed fishing for Pacific cod CDQ on its behalf. The online registration program would generate a letter from NMFS documenting that the vessel is exempt from the LLP while directed fishing for Pacific cod CDQ. Operators of vessels greater than 32 ft and less than or equal to 46 ft. LOA would be required to maintain a copy of this letter onboard the vessel at all times while directed fishing for Pacific cod CDQ. CDQ groups could remove vessel from this list at any time during the year.

Observer coverage requirements: These vessels would be in the partial observer coverage category and subject to observer coverage requirements described in the Annual Deployment Plan.

Retention requirements: All Pacific cod caught must be retained and accrues towards the CDQ Pacific cod allocations.

Option 1: Apply the proposed management measures to all vessels less than or equal to 46 ft. LOA using hook-and-line gear while directed fishing for any groundfish species allocated to the CDQ Program, except sablefish.

Option 2: Expand the current prohibition against discarding legal sized halibut while IFQ fishing to people fishing for halibut CDQ while the CDQ group has remaining halibut CDQ.

Option 3: Allow a small vessel Pacific cod CDQ fishery supported by halibut PSC

Sub-option 3.1: In a situation when there is no halibut available (either CDQ or IFQ) to fund the CDQ small boat Pacific cod fishery, another workable alternative would need to be developed, such as a mutually acceptable halibut PSC discard rate system.[44]

Sub-option 3.2: Each CDQ group participating in the small vessel Pacific cod CDQ fisheries shall annually determine the date upon which halibut catch accounting for the group's CDQ Pacific cod fishery switches from halibut PSC to halibut CDQ (or participants' IFQ), and the date upon which the halibut catch accounting switches from halibut CDQ back to halibut PSC. The switch dates shall be provided to NMFS by each participating CDQ group by February 15 annually.

Sub-option 3.3: Each CDQ group would be allowed the flexibility to decide, on a trip-by-trip basis, whether a small hook-and-line vessel fishing for Pacific cod CDQ would retain all halibut under a halibut CDQ or IFQ allocation or would discard all

[42] In the Initial Review Draft of February 2014, Alternative 4 would "Exempt hook-and-line catcher vessels participating in the CDQ Pacific cod fishery with less than or equal to 46 ft. LOA from groundfish LLP requirements. All Pacific cod caught must be retained and accrues towards the CDQ Pacific cod allocations. Vessels would be in the partial coverage observer category." The PPA is a more detailed version of this based on NMFS AK Regional Office recommendations presented in June 2014 (see Appendix A.3).

[43] Vessels less than or equal to 32 ft. LOA currently are exempted from the LLP requirements while fishing in the BSAI.

[44] In this Sub-option analysts interpreted, "when there is no halibut available" to mean outside of the IPHC-established halibut season for IFQ/CDQ fisheries and/or in the event that there was no halibut fishery in a season.

legal sized halibut and accrue halibut PSC associated with that fishing trip. The option to retain halibut CDQ and IFQ would be available only when the halibut fishery is open. When the halibut fishery is closed or if no halibut CDQ or IFQ is available, halibut PSC would accrue.[45]

Under all alternatives, the analysis will consider substitutes to VMS, such as a GPS electronic monitoring option for monitoring compliance with Steller sea lion protection measures, EFH, and HAPC closure areas.

4.4 Methodology for Analysis of Impacts

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

The data for this analysis were prepared by Alaska Fishery Information Network (AKFIN), using data from NMFS Alaska Region, Alaska Department of Fish and Game (ADF&G)/Commercial Fisheries Entry Commission (CFEC) Fish Tickets. The Pacific cod landings data, as well as all prohibited species catch (PSC) estimates within that Pacific cod fishery, were sourced from the NMFS Alaska Region Catch Accounting System, compiled by AKFIN in Comprehensive BLEND CA and Comprehensive PSC. ADF&G ADFG/CFEC fish tickets compiled by AKFIN in Comprehensive FT were used to estimate the halibut CDQ fishery landings, value, and participation. This analysis also relied on NMFS Alaska Region halibut individual fishing quota (IFQ) data; the data source is used by the NMFS Restricted Access Management (RAM) Program and used as a second reference for the activity in the halibut CDQ fishery. The Gross Revenue Procedure prepared by AKFIN was also used to estimate vessel revenue diversification. The Procedure was developed by AKFIN in collaboration with Alaska Fisheries Science Center (AFSC), NMFS, and Council staff. The Procedure compiles multiple sources to estimate a vessel's total revenue, as well as specific revenue sources that pertain to this analysis.

4.5 Participation and Management of CDQ Fisheries

The MSA currently establishes the western Alaska CDQ Program under which a percentage of the total allowable catch (TAC) of any BS fishery is allocated to the program. The CDQ Program was established in order:

(i) to provide eligible western Alaska villages with the opportunity to participate and invest in fisheries in the Bering Sea and Aleutian Islands Management Area;
(ii) to support economic development in western Alaska;
(iii) to alleviate poverty and provide economic and social benefits for residents of western Alaska;
(iv) to achieve sustainable and diversified local economies in western Alaska.

[45] This Sub-option was included by NMFS AK Regional office in order to cover the range of management flexibility possible in developing a Pacific cod CDQ fishery supported by halibut PSC.

Currently, 65 communities participate in the CDQ Program. Approximately 27,000 people reside in CDQ communities. These communities have formed six non-profit corporations (CDQ groups) to manage and administer the CDQ allocations, investments, and economic development projects. The six CDQ groups are:

Aleutian Pribilof Island Community Development Association (APICDA)
Bristol Bay Economic Development Corporation (BBEDC)
Central Bering Sea Fishermen's Association (CBSFA)
Coastal Villages Region Fund (CVRF)
Norton Sound Economic Development Corporation (NSEDC)
Yukon Delta Fisheries Development Association (YDFDA)

Regulations establishing the CDQ Program were first implemented in 1992. The CDQ Program was incorporated into the MSA in 1996, through the Sustainable Fisheries Act (Pub. L. 104–297). Since the inception of the program, CDQ fisheries management regulations have continued to be developed and amended. The regulations governing the CDQ fisheries are integrated into the regulations governing the concurrent commercial fisheries for groundfish, halibut, and crab. These are often termed the "non-CDQ" fisheries. These regulations are to ensure that catch of all species allocated to the CDQ Program should be limited to the amount of the allocations, with no catch from CDQ fisheries accruing against non-CDQ allocations. They also were developed to ensure that NMFS and the CDQ groups have timely, accurate catch information during the course of CDQ fishing activities.

Applicable CDQ fisheries regulations may subject CDQ fishery participants to additional costs, additional catch reporting requirements, or be designed to control some aspect of CDQ fishing activities. This is typical of the development of regulations that govern catch share programs in the Alaska groundfish, halibut, and crab fisheries. Federal catch share programs convey harvesting privileges (licenses, fishing quota, exclusive access) for specific marine species to individuals, cooperatives, communities, or other eligible entities. In turn, the beneficiaries of such privileges are subject to higher levels of catch accounting, catch monitoring, and fisheries enforcement than they may have been subject to before receiving these privileges.

The original fishery management objectives for the groundfish, halibut, and crab CDQ fisheries include, in general, limiting the catch of all species to the amount allocated to the program and not allowing catch made under the program to accrue against non-CDQ portions of TAC limits or PSC limits. These objectives also included managing target and non-target species allocations made to the CDQ groups with the same level of strict quota accountability, and holding each CDQ group responsible not to exceed any of its groundfish CDQ allocations.

Catch monitoring and accounting requirements in the halibut and groundfish CDQ fisheries were developed to ensure that all groundfish CDQ catch information (of target and non-target species) could be estimated on a timely basis. This is necessary to allow CDQ groups to have the information needed to manage the catch of all of their allocations, in order not to exceed any particular quota. Existing CDQ catch monitoring and reporting requirements are structured to ensure that CDQ groups actively monitor the harvest of their allocations, and that groups take action to constrain their fishing activities should they reach or approach a particular allocation.

While NMFS manages the CDQ fisheries so that overall catch is limited to the amounts allocated to the CDQ Program, individual CDQ groups are expected to manage their own allocations. Each CDQ group has numerous fishing partners and vessels fishing for different species. The various CDQ fisheries are conducted in different areas of the BSAI, and at different times during the course of a given year. CDQ fisheries often occur in conjunction with non-CDQ fisheries (as in the pollock and flatfish fisheries). They

may also occur when some non-CDQ fisheries are closed. CDQ groups are in the best position to monitor and manage the harvest of their quotas; the existing catch monitoring and management structure was intended to facilitate this process.

4.6 Description of the Pacific Cod CDQ Fishery

4.6.1 Total Allowable Catch and CDQ Group Allocations

CDQ groups are allocated 10.7 percent of the TAC for Pacific cod in a given season to be prosecuted without gear restrictions.[46] Ten percent of this amount is allocated directly to the groups as established by language in the MSA. The other 0.7 percent is allocated to the CDQ groups by the CDQ Program Panel, the Western Alaska Community Development Association (WACDA). WACDA's authority was also established in section 305(i)(1)(G) under other MSA amendments made when the President signed the reauthorization of the Act (The Coast Guard and Maritime Transportation Act of 2006) into law on January 12, 2007 (Public Law 109-241; July 11, 2006). WACDA is governed by a six-member board of directors; one member from each CDQ group. Members agreed upon the distribution of the additional 0.7 percent allocation for groundfish species in a letter to NMFS in 2008.

The proportion of the CDQ allocation that each CDQ group receives has fluctuated slightly over the course of the program. Before the creation of WACDA, NMFS and ADF&G took on more of the responsibility for management of the groups. During that period, the distribution of the CDQ allocation that each group received was re-approved every three years. The allocations that were approved and put into effect in January 2003 were extended by NMFS past their December 2005 approval period and have subsequently been incorporated into the MSA language through the reauthorization of the Act. Eligible groups are free to pursue voluntary transfers of their allocation before or after the harvest of a species, but total CDQ allocation cannot be exceeded. In 2012, and every ten years after, the State of Alaska is tasked with performing a program review. During this review, the State of Alaska may recommend to the Secretary of Commerce whether it is appropriate to reduce the allocations in MSA section 305(i)(1)(H)(iii).), by up to 10 percent.

Since the percent of quota allocated to the CDQ groups has been consistently proportional to the TAC since 2008, Table 4-1, demonstrates an increase in harvest ability for all groups from 2011through 2013, compared to 2008 through 2010, as TAC increased for the whole fishery.

Table 4-1 Pacific cod CDQ allocations by group (in metric tons)

Year	TAC	Program Allocation	CDQ Reserve	APICDA	BBEDC	CBSFA	CVRF	NSEDC	YDFDA
Percentages as of 2010				*15.45%*	*20.94%*	*8.86%*	*17.93%*	*17.87%*	*18.96%*
2008	170,720	10.7%	18,267	2,819	3,822	1,631	3,272	3,261	3,461
2009	176,540	10.7%	18,890	2,918	3,955	1,674	3,386	3,375	3,582
2010	168,780	10.7%	18,059	2,790	3,781	1,600	3,237	3,227	3,424
2011	227,950	10.7%	24,391	3,768	5,107	2,161	4,372	4,358	4,625
2012	261,000	10.7%	27,927	4,314	5,847	2,475	5,006	4,989	5,296
2013	260,000	10.7%	27,820	4,298	5,825	2,465	4,987	4,970	5,275

Source: NMFS, Annual CDQ Group Quota Allocations

[46] The percent of TAC allocated to the CDQ groups has changed over the course of the program. The allocation rose from 7.5% of the Pacific cod TAC to 10.7% with Amendment 85 in 2008 (72 FR 50788, September 2007).

4.6.2 Participation in the Fishery

A CDQ group internally determines the percentage of its allocation to be used and set in reserve for incidental catch in other fisheries, and the percentage of the quota that will remain for directed Pacific cod fishing. To an extent, the CDQ groups may adjust these apportionments throughout the season to avoid leaving quota unharvested or to compensate for a high incidental catch year. The decision as to where the Pacific cod quota will be used depends on factors like a group's historical quota use, recent market conditions for Pacific cod, and a vessel's reputation for bycatch and PSC rates (Anne Vanderhoeven, BBEDC, personal communication, March 5, 2014).

The alternatives pursued in this action will not likely influence the internal allocation of Pacific cod CDQ, set aside for incidental catch in other fisheries. A change in CDQ internal allocation is expected to occur from the pool of quota used to directed fish for Pacific cod CDQ. Currently, without small local vessels participating in a directed Pacific cod CDQ fishery, the CDQ groups chiefly consolidates and harvests their allocation using a small number of catcher/processor vessel; or more specifically, freezer longline vessels (FLL). Quota consolidated onto a larger vessel that is not privately owned by a resident of a CDQ community is charged a lease rate against the vessel revenue. This lease rate generally occurs at a market rate, regardless of the percentage of ownership the CDQ group may have in that vessel. Some CDQ groups own, or own equity in, hook-and-line vessels that have the ability to prosecute this fishery; consequently, quota management strategies are unique to each group.

1) APICDA's directed fishery for Pacific cod CDQ has traditionally been prosecuted by three FLLs: the F/V *Prowler*, F/V *Bering Prowler*, and the F/V *Ocean Prowler*. APICDA has a 20 percent equity ownership of each vessel (APICDA 2012; Luci Roberts, APICDA, personal communications, March 5, 2014).

2) BBEDC contracts with the F/V *Alaskan Leader*, F/V *Bering Leader*, F/V *Bristol Leader* and the recently built F/V *Northern Leader* for the directed fishing Pacific cod portion of their quota. However, in a given season, only one or two of these vessels are typically used. BBEDC has a 50 percent equity ownership interest in all four vessels (Anne Vanderhoeven, BBEDC, personal communication, March 5, 2014).

3) CBSFA harvests their allocation of Pacific cod by directed Pacific cod CDQ fishing on two catcher vessels (CVs), the F/V *St. Peter* and the F/V *St. Paul*. CBSFA holds 100 percent ownership of these vessels (CBSFA 2012).

4) CVRF owns and operates the F/V *Lilli Ann*, F/V *North Cape*, and F/V *Deep-Sea Pacific*, which have been their primary vessels directed Pacific cod CDQ fishing. CVRF also has a contract with an outside company operating F/V *Glacier Bay* and will occasionally rely on this vessel for additional harvest opportunities (Troy Wilkinson, CVRF, personal communication, March 6, 2014).

5) NSEDC's CDQ for directed Pacific cod fishing has traditionally been prosecuted outside the region by a number of external fishing companies. Recently, Pacific cod quota has been leased to F/V *Alaskan Leader*, F/V *Bering Leader*, and F/V *Bristol Leader*; three vessels co-owned by BBEDC. The F/V *Alaskan Mist*, F/V *Pavlof*, and F/V *Aleutian Sable* are also owned by outside fishing companies that have received NSEDC Pacific cod CDQ in the past (NSEDC 2013a; NSEDC 2013b; Simon Kinneen, NSEDC, personal communications, March 5, 2014).

6) YDFDA owns 85 percent and 41 percent equity in the F/V *Courageous* and F/V *Baranof*, respectively. Both of these vessels have been used in the past to participate in a directed Pacific cod CDQ fishery. Additionally YDFDA has relied on a number of vessels for which other CDQ groups hold ownership share (i.e., F/V *Alaskan Leader*, F/V *Bering Leader*, F/V *Bristol Leader*, F/V *Prowler*, and F/V *Bering Prowler*). They have also contracted with vessels owned by a number of external fishing companies (i.e., F/V *Alaskan Mist*, F/V *Beauty Bay*, F/V *U.S. Liberator*, F/V *Alaskan Lady*, and F/V *Siberian Sea*) (YDFDA 2013).

Qualitative evidence suggests that these vessel operations are not dependent on this Pacific cod CDQ fishing as a primary source of revenue. A diversification table is a useful way to quantitatively understand the status quo of this primarily catcher/processor (C/P) fleet (i.e., the FLL fleet). Table 4-2 demonstrates vessel reliance on Pacific cod CDQ as a proportion of total BSAI Pacific cod revenue, as well as a proportion of total revenue in federal and state fisheries. This table represents only vessels directed Pacific cod CDQ fishing and not those that derive revenue from landing it as incidental catch.

The Pacific cod that accrues to the CDQ groups consistently comprises less than an average of 30 percent of a vessel's total gross revenue. Although there is no basis for estimating how much Pacific cod quota would be redistributed to the small vessel fleet in each CDQ group, it would likely be a portion of this percent of an allocation and vary across groups. How the FLL fleet may or may not be affected by this internal reallocation of Pacific cod CDQ is discussed in Section 4.9.7.

Table 4-2 Diversification of gross revenue for vessels that participated in the Pacific cod CDQ fishery from 2008 through 2012

Year	Sector[a]	Count of unique vessels	Mean of gross revenue[b] for:		Mean % of Pacific cod revenue from CDQ	Mean of total gross revenue[b]	Mean % of total gross revenue from CDQ Pacific cod
			CDQ Pacific cod	BSAI Pacific cod			
2008	CP	19	1,966,852	6,261,970	28%	9,228,012	24%
	CV	0	0	0	-	0	-
2009	CP	19	1,201,314	4,268,217	27%	7,044,039	21%
	CV	2	***	***	***	***	***
2010	CP	16	1,709,003	5,435,174	31%	6,910,090	26%
	CV	1	***	***	***	***	***
2011	CP	15	2,452,779	7,617,972	32%	9,840,848	28%
	CV	2	***	***	***	***	***
2012	CP	15	1,942,169	5,759,186	40%	8,033,551	26%
	CV	5	508,496	1,159,317	42%	2,612,865	22%

Source: Gross Revenue Procedure complied by AKFIN
Asterisks denote confidential data.
[a] Catcher Vessel (CV) or Catcher/Processor (C/P)
[b] Gross revenue represents ex-vessel value for shore-side deliveries and wholesale values for at-sea processing.

4.6.3 Harvests

In the recent past, between targeted and non-targeted Pacific cod landings, there has been a relatively efficient use of the overall Pacific cod CDQ allocation, with low percentages of unharvested fish (Table 4-3).

Table 4-3 Total catch of Pacific cod CDQ compared to CDQ allocations from 2008 through 2013

Year	Total Catch (mt)	Quota (mt)	Remaining Quota (mt)	% Harvested	Last Week Catch (mt)
2008	18,181	18,267	86	100%	1,238
2009	18,552	18,890	338	98%	975
2010	18,029	18,059	30	100%	209
2011	22,847	24,391	1,544	94%	431
2012	24,402	27,927	3,525	87%	494
2013	25,689	27,820	2,131	92%	266

Source: NMFS, Catch Accounting Reports

As previously discussed, the vast majority of the Pacific cod CDQ allocation is harvested with hook-and-line gear by C/Ps, specifically the FLL fleet. Table 4-4 demonstrates the magnitude of retained and discarded harvest prosecuted by hook-and-line gear, compared to the other gear types.[47] Both retained and discarded Pacific cod that is reported accrues towards the group's Pacific cod CDQ. The most predominant non-target species *caught* while targeting Pacific cod CDQ include (in rank order): skates, pollock, "other species," yellowfin sole, and sculpins. The non-target species *retained* while targeting Pacific cod CDQ include (in rank order): pollock, skates, "other species," yellowfin sole, and rock sole.

Table 4-4 Retained and discarded catch of Pacific cod CDQ and non-target catch while directed fishing for Pacific cod CDQ by gear type from 2009 through 2013

Gear	Year	Count of unique vessels	Pacific Cod		Non-target catch	
			Sum of retained (mt)	Sum of discarded (mt)	Sum of retained (mt)	Sum of discarded (mt)
Hook-and-line	2009	18	16,702.1	410.8	1,242.4	1,983.1
	2010	17	15,734.3	356.2	1,108.2	2,047.6
	2011	21	19,293.7	316.9	1,373.3	2,814.6
	2012	20	16,269.7	183.0	1,703.9	1,889.7
	2013	23	16,367.7	321.6	1,433.7	1,828.7
Pot	2009	3	292.8	0.0	0.1	0.0
	2010	2	***	***	***	***
	2011	1	***	***	***	***
	2012	17	3,502.5	2.8	1.2	14.8
	2013	22	3,004.6	0.0	0.7	28.9
Trawl	2009	11	8.8	0.0	28.6	1.4
	2010	10	0.6	0.0	72.6	1.0
	2011	16	34.8	0.2	62.0	10.6
	2012	27	1,379.7	2.0	158.8	73.0
	2013	14	698.2	1.1	757.0	162.8

Source: NMFS, Catch Accounting
Asterisks denote confidential data.
A small amount of Pacific cod CDQ was also reportedly caught with jig gear.

In addition to groundfish quota, such as Pacific cod, the CDQ groups are annually allocated various amounts of transferable prohibited species quota (PSQ), to be used to account for PSC. The NMFS Alaska Region catch accounting system uses halibut discard mortality rates (DMRs) based on the region (i.e., BSAI, Gulf of Alaska [GOA], or CDQ BSAI), gear type, and targeted species.

[47] Total catch for this fishery is different from that reported in Table 4-3, because Table 4-4 includes Pacific cod caught as incidental catch in other fisheries. Additionally, different data sources provide slightly different unique vessel counts by year, e.g., Table 4-2 and Table 4-4.

The halibut DMRs are developed and recommended by the International Pacific Halibut Commission (IPHC) and the Council, and approved by NMFS, for use in monitoring halibut PSC allowances. For example, for CDQ BSAI Pacific cod prosecuted by longline vessels, the assumed discard mortality rate used between 2010 and 2012 was 10 percent. This means that for every 1,000 kilograms of halibut PSC, 100 kilograms is believed to be dead.

Table 4-5 displays PSC in the directed Pacific cod CDQ fishery. Along with halibut, PSC includes species of salmon, herring, and crab. However, this fishery only had reports of halibut and non-Chinook salmon PSC from 2009 through 2013.

Table 4-5 PSC from directed Pacific cod CDQ fishery from 2009 through 2013 by all gear types

Year	Count of unique vessels	PSC	
		Halibut mortality (mt)	Estimated count of non-Chinook salmon*
2009	5	67.3	38.0
2010	4	73.1	4.0
2011	3	72.5	4.3
2012	4	70.6	0.0
2013	7	66.8	8.5

Source: NMFS, Catch Accounting
*No Chinook salmon PSC was reported in the directed Pacific cod CDQ fishery in these years.

4.6.4 Seasonal Allowances

The BSAI Pacific cod seasonal allowances are allocated by gear type, with some specification of vessel length (Table 4-6). If the CDQ group chose to consolidate its quota onto a vessel greater than or equal to 60 ft. LOA, that vessel would be required to follow the seasonal allowance specified for its gear type. For instance, since the vast majority of directed Pacific cod fishing occurs on larger FLL vessels (i.e., CDQ hook-and-line CPs), the A season for these vessels is January 1 to June 10. This is followed by a B season of June 10 to November 1. There is no C season for this fishery. Vessels less than 60 ft. LOA are permitted to directed fish for Pacific cod without seasonal allowances.

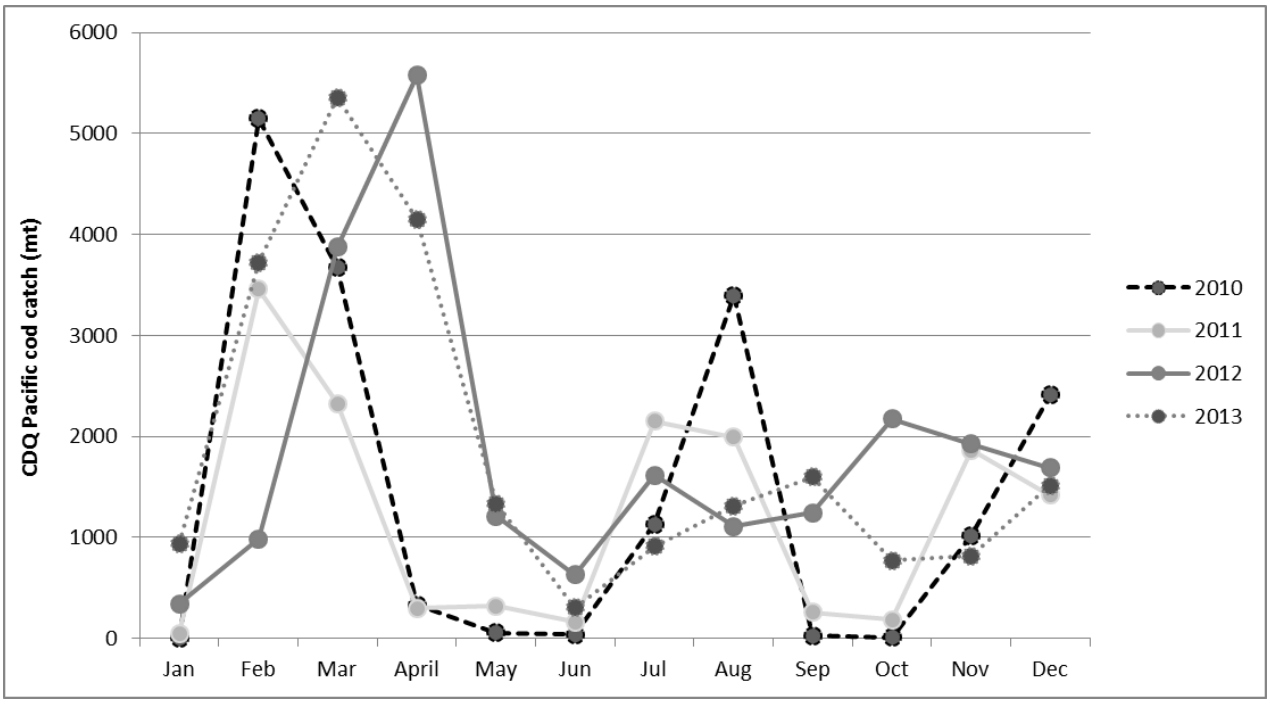
Table 4-6 Seasonal allowances for CDQ and non-CDQ directed Pacific cod fishing

	Gear Type	A Season	B Season	C Season
CDQ	Trawl	Jan 20 - April 1	April 1 - June 10	June 10 - Nov 1
	Trawl CV	70%	10%	20%
	Trawl CP	50%	30%	20%
	Hook-and-line CP and hook-and-line CV ≥ 60' LOA	Jan 1 - June 10 (60%)	June 10 - Dec 31 (40%)	no C season
	Jig	Jan 1 - April 30 (40%)	April 30 - Aug 31 (20%)	Aug 31 - Dec 31 (40%)
Non-CDQ	Trawl	Jan 20 - April 1	April 1 - June 10	June 10 - Nov 1
	Trawl CV	74%	11%	15%
	Trawl CP	75%	25%	0%
	Hook-and-line CP and hook-and-line CV ≥ 60' LOA and pot vessel ≥ 60' LOA	Jan 1 - June 10 (51%)	June 10 - Dec 31 (49%)	no C season
	Jig	Jan 1 - April 30 (60%)	April 30 - Aug 31 (20%)	Aug 31 - Dec 31 (20%)

Source: 50 CFR 679.20(a)(7)(i)(B), 679.20(a)(7)(iv)(A), and 679.23(e)(5)
For both CDQ and non-CDQ, all other non-trawl sectors not represented here do not have seasonal allowances (e.g., hook-and-line CVs less than 60 ft. LOA).

Given that these seasonal allowances are required by the majority of the fleet prosecuting Pacific cod CDQ, it is not surprising to see spikes in the catch rate shortly after the A season opening in late February and then again in August for the B season (Figure 4-1). This is consistent with the harvest patterns of the non-CDQ Pacific cod fishery (McCracken 2014).

Figure 4-1 Monthly catch rate of Pacific cod CDQ in the Bering Sea



Source: NMFS, Catch Accounting

The harvest rate associated with Pacific cod CDQ in the AI is more irregular than for the BS. One source of this inter-temporal variation in the AI includes the recent Steller sea lion protection measures. Beginning in 2011, Steller sea lion closures have prohibited retention of Pacific cod by federally permitted vessels of all gear types in Area 543 of the AI. Prior to 2011 non-trawl vessels were able to fish Pacific cod in the AI until December 31. Beginning in 2011, the B season in Statistical Areas 541 and 542 ended on November 1 (McCracken 2014).

In addition to area closures, monthly participation in the AI Pacific cod fishery demonstrates more variability than the BS fishery due to the small number of participants. In the past three years, an average of 19 vessels a year harvested Pacific cod CDQ in the AI. The monthly trends are not displayed here to protect confidentiality, given the limited number of vessels that prosecute the CDQ fishery in this area.

4.6.5 Pacific Cod Fishing in State Waters

Fishing for Pacific cod in State waters could occur in a "guideline harvest level" (GHL) fishery or a "parallel" fishery.[48] A vessel fishing for Pacific cod in a State GHL Pacific cod fishery is, by definition, not groundfish CDQ fishing, because any Pacific cod harvested in this fishery would accrue to the State GHL, rather than the federally managed Pacific cod CDQ fishery. Incidental catch of groundfish species managed under a Federal TAC during a GHL fishery accrues to the applicable TAC limit. There are two Pacific cod GHL fisheries relevant to participants of this analysis: one in the AI and one in the BS.

In the AI, CDQ vessels are able to fish Pacific cod CDQ in state waters only when the parallel AI Pacific cod fishery is open. Thus, a Pacific cod CDQ fishery cannot be prosecuted in most of the state waters in the AI sub-area during most of the year, because 1) when the state-waters cod fishery is open, the parallel fishery is closed to Pacific cod for all gear types, and 2) the state waters fishery is open most of the year. The GHL fishery is open in state waters for A season on January 1 from 175° W longitude to 178° W longitude to vessels 60 ft. or less using trawl, pot, and jig gear, and vessels 58 ft. or less using hook-and-line gear. Harvest occurring between 175° W longitude and 178° W longitude accrues toward the GHL, while harvest occurring in state waters outside of 175° W longitude to 178° W longitude is managed under parallel rules and accrues toward the Federal TAC. The GHL fishery opens to a larger area of state waters in March (outside of this small area), typically after the parallel trawl catcher vessel fishery closes, and usually stays open (with intermittent closures) until September.

In the BS, these vessels fishing for CDQ are able to fish Pacific cod CDQ in state waters only when the parallel BS Pacific cod fishery is open. The new state GHL fishery near Dutch Harbor (Area O) is limited to pot vessels less than 58 ft., and the fishery management plan establishes that the fishery will open seven days after the Federal BSAI less than 60 ft. hook-and-line or pot gear fishery closes. This is typically in early February, closing the parallel fishery only to pot vessels less than 58 ft.; therefore hook-and-line vessels are still able to fish in the parallel Pacific cod fishery even when the state GHL fishery is open.

Other state waters in the BS maintain year-round parallel fisheries, allowing less than 60-ft. hook-and-line vessels to fish for Pacific cod CDQ without closures. This is particularly relevant to the CDQ groups located farther north along the coast, including BBEDC, CVRF, YDFDA, and NSEDC, since the small

[48] A parallel groundfish fishery occurs in waters of the State of Alaska (from 0 to 3 nm) adjacent to the BSAI or GOA management areas, under State regulations, and is open concurrently with a Federal groundfish fishery, and groundfish catch is deducted from the Federal TAC (50 CFR 679.2).

vessels from this region typically do not participate in the AI or BS Pacific cod GHL fisheries or corresponding parallel fisheries.

4.6.6 Relevant Management Elements

Preliminary reports have identified three[49] regulatory elements that could be altered to encourage opportunities for the harvest of Pacific cod CDQ by small hook-and-line catcher vessels. This section details the management of these three elements: LLP licenses, observer coverage requirements, and the Pacific cod MRA for the halibut CDQ fishery.

Table 2-1 in Section 2.1 compares the current regulations for hook-and-line catcher vessels in Federal waters of the BSAI for the halibut CDQ fishery, and the groundfish CDQ fishery including Pacific cod.

4.6.6.1 License Limitation Program (LLP)

The overall purpose of the LLP is to help resolve the competing and oftentimes conflicting needs of the domestic fisheries that developed under open access and to close the gap between fishing capacity and available fishery resource. The LLP limits the number, size, and specific operation of vessels fishing crab and groundfish in the BSAI and GOA, based on historical participation.

Beginning January 1, 2000, an LLP groundfish license has been required for vessels participating in directed fishing for LLP groundfish species in the GOA or the BSAI. LLP groundfish means "target species" and the "other species" category specified annually pursuant to 50 CFR 679.20(a)(2), except that demersal shelf rockfish east of 140° *W long*itude, and sablefish managed under the IFQ program and fixed gear sablefish CDQ reserve, are not considered license limitation groundfish. The LLP does not apply to Pacific halibut or ling cod, which are not considered groundfish under the Federal FMP. LLP groundfish licenses are issued with area endorsements, operation types, gear endorsements, and a maximum length overall designation.

There are four exceptions to the LLP license requirement:

> Vessels that do not exceed 26 ft. LOA in the GOA;
> Vessels that do not exceed 32 ft. LOA in the BSAI;
> Vessels that do not exceed 60 ft. LOA and that are using jig gear (but no more than 5 jig machines, one line per machine, and 15 hooks per line) in the BSAI; and
> Certain vessels constructed for, and used exclusively in CDQ fisheries.

Therefore, CDQ CVs in this proposed action that are less than or equal to 32 ft. LOA are not required to hold an LLP license in the BSAI.

Since January 2003, persons wishing to participate in the directed fishery for Pacific cod in the BS and/or AI with vessels greater than or equal to 60 ft. using pot or hook-and-line gear must have a gear-and-

[49] The original CDQ proposal also identified VMS installation and operation as a regulatory challenge for small vessels. Due to large management and enforcement concerns the consideration of exempting small vessels from VMS requirements was not carried on in this analysis. See discussion paper (Marrinan 2014) for a description of current VMS management for CDQ vessels.

operation-type specific Pacific cod endorsement on the LLP license that names their vessel. Pacific cod endorsements are not required for trawl gear or jig gear or fixed gear vessels less than 60 ft.; for these gears, licenses only need a trawl or non-trawl gear endorsement, respectively; and the appropriate operation type, and area endorsement(s). It is important to note that even with endorsements, an LLP license holder may participate in the directed Pacific cod fishery only in the subareas (BS and/or AI) for which their LLP license is endorsed.

Exceptions to the BSAI Pacific cod endorsement requirement at 50 CFR 679.4(k)(9)(iv):

Any vessel exempted from the LLP;
Any catcher vessel less than 60 ft. LOA;
Any catch of Pacific cod for personal use bait.

Therefore, CDQ CVs relevant to this proposed action that are required to hold an LLP license (i.e., vessel greater than 32 ft. but less than or equal to 46 ft. LOA) are not required to have a BSAI endorsement for Pacific cod.

There are approximately 148 LLP groundfish licenses endorsed for the AI groundfish fishery and 366 LLP groundfish licenses endorsed for the BS groundfish fishery authorizing the use of non-trawl gear for 2014. This represents 379 unique licenses available for use.

The actual pool of LLP groundfish licenses available for use by CDQ small vessels is likely to be smaller than these counts may indicate. Generally LLP licenses become increasingly valuable the greater the MLOA and the greater the number and type of endorsements. MLOA is a maximum size limit, so an LLP groundfish licenses with a 60 ft. MLOA could be used on a vessel less than 60 ft. LOA. However, under traditional market transfers, it would be unlikely for a 46 ft. LOA vessel owner to obtain a 120 ft. MLOA LLP license with the intention of participating in a Pacific cod fishery given the high demand for and expense of this type of license. Table 4-7 is truncated to represent a more appropriate pool of licenses that could be available for the vessels specific to this analysis (i.e., vessels less than or equal to 46 ft. LOA and without the need for a Pacific cod endorsement).

Table 4-7 Count of LLP groundfish licenses less than 60 ft. length overall authorized using non-trawl gear for 2014

MLOA	BS	AI	BS or AI
18' - 32'	5	0	5
33' - 46'	21	3	21
47' - 58'	27	3	28
59'	55	17	56
Total < 60' MLOA	**108**	**23**	**110**

Source: NOAA Restricted Access Management (RAM)

About 36 percent of the BSAI LLP groundfish licenses under 60 ft. MLOA have been inactive (i.e., not made a landing in the State of Alaska) since 2012. About 64 percent of the BSAI LLP groundfish licenses with greater than or equal to 60 ft. MLOA and without a Pacific cod endorsement have been inactive since 2012.

4.6.6.2 Observer Coverage and Prohibited Species Quota (PSQ) Accounting

The Fisheries Monitoring and Analysis Division (FMA) Observer Program monitors groundfish fishing activities in the U.S. EEZ off Alaska, and conducts research associated with sampling commercial fishery

catches, estimation of catch, bycatch, and PSC mortality, and analysis of fishery-dependent data. The FMA is responsible for providing NMFS-certified observers to obtain information necessary for the conservation and management of BSAI and GOA groundfish and halibut fisheries. The information collected by observers provides scientific information for managing the groundfish fisheries, minimizing bycatch, and avoiding PSC. Observers collect biological samples and fishery-dependent information on total catch and interactions with protected species. Managers use data collected by observers to monitor quotas, manage groundfish and prohibited species catch, and document and reduce fishery interactions with protected resources. Vessel operators are required to comply with all vessel responsibilities in 50 CFR 679.51(e)(1) and are subject to selection for observer coverage following procedures in the Annual Deployment Plan (ADP).

In 2013, the restructured Observer Program went into effect and changed how observers are deployed in the groundfish and halibut fisheries. The restructured Observer Program defines a full coverage category for all C/Ps and catcher vessels participating in programs with PSC limits or transferable PSQ. The CDQ Program is a program with transferable PSQ limits. Catcher vessels using hook-and-line gear or trawl gear to fish for groundfish CDQ species, other than sablefish or pollock, are in the full coverage category because their PSC accrues against the CDQ group's transferable PSQ limit. This limit on halibut PSC creates a potentially expensive limitation on the full harvest of allocated groundfish CDQ species, thereby creating an incentive to misreport. Catcher vessels using pot or jig gear to fish for groundfish CDQ species are in the partial observer coverage category because halibut PSC by these vessels does not accrue against the CDQ group's transferable halibut PSQ allocation. Similarly, non-CDQ hook-and-line catcher vessels harvesting Pacific cod are in the partial observer coverage category, because they are not in a program with an allocation of a transferable PSC limit.

The accounting of halibut landed under IFQ is treated the same as halibut landed under CDQ. If the catcher vessel is retaining halibut under the IFQ or CDQ halibut fishery, then the retained halibut accrues to an IFQ or CDQ halibut allocation and not a PSC or PSQ halibut limit. Any halibut that is discarded (e.g., it is less than the minimum legal size) during halibut fishing is considered "wastage" and is not considered PSQ.

Prior to 2013, shore-side and stationary floating processors were required to have observer coverage if there was a catcher vessel CDQ groundfish delivery. In 2013, observer coverage requirements for shore-side or stationary floating processors not receiving or processing Bering Sea pollock changed under the restructured Observer Program. These non-pollock shore-side or stationary floating processors are in the partial coverage category. Shore-side or stationary floating processors in the partial coverage category are only required to have a plant observer when they are selected by NMFS for observer coverage. They no longer contract independently with an observer provider for plant observers.

4.6.6.3 Maximum Retainable Amounts (MRA)

A maximum retainable amount (MRA) both limits and allows for some retention of species closed to directed fishing, while a vessel operator is engaged in fishing for species or species groups that are open to directed fishing (basis species). Specifically, an MRA is the maximum round weight of a species or species group closed to directed fishing that is established as a percent of a basis species and may be retained on board a vessel. [50] The percent of a species or species group closed to directed fishing retained in relation to the basis species must not be exceeded; additional amounts must be discarded. For example, when Pacific cod is open to directed fishing and arrowtooth flounder is closed to directed fishing, a vessel

[50] Regulations at 50 CFR 679.20(e) and (f), and Tables 10 and 11 to 50 CFR part 679 establish MRA percentages for groundfish species and species groups.

operator may retain a round weight equivalent amount of arrowtooth flounder of up to 35 percent of the round weight equivalent of the Pacific cod retained on board the vessel. In this example, all catches of arrowtooth flounder in excess of the 35 percent MRA must be discarded (i.e., is bycatch).

Most MRAs apply at any point during a fishing trip;[51] however, an exemption exists at 50 CFR 679.20(e)(3)(iii) that assesses the MRA at the end of a fishing trip. Under this exemption, for all vessels not listed in subpart F of this section (i.e., non-AFA trawl vessels), the MRA for pollock harvested in the BSAI is calculated at the end of each offload and is based on the basis species harvested since the previous offload.

Currently, MRA percentages serve as a management tool to slow harvest rates and reduce the incentive for targeting species closed to directed fishing; however, the progenitors of the current MRA have been invoked to meet various management objectives. As mentioned above, MRAs allow for some retention of species closed to directed fishing, instead of requiring regulatory discards of these species. MRA percentages reflect a balance between the recognized need to slow harvest rates and minimize the potential for discards, and, in some cases, provide an increased opportunity to harvest available TAC through limited retention. It is important to note that the MRA for Pacific cod has never been increased as a way to increase the retention of Pacific cod for a single gear and operational type sector.

4.6.7 Existing Processing Capacity for Pacific Cod

The small count of unique vessels making Pacific cod CDQ shore-side landings from 2003 through 2013, constrains the ability to report quantitative processing data in this specific fishery due to confidentiality. The pool of vessels delivering Pacific cod CDQ to shore-based processors in the past ten years includes twelve vessels less than or equal to 46 ft. LOA and seven vessels greater than 46 ft. LOA vessels. This group all delivered a small amount of Pacific cod CDQ to shore-side processors, most of which is likely to be incidental catch. Additionally, this pool includes two catcher vessels that represent the Pacific cod harvesting interest of the CDQ group CBSFA.

Similar to the CDQ fishery, the majority of Pacific cod targeted in the non-CDQ fishery is also harvested on C/Ps. The non-CDQ BSAI hook-and-line C/P sector (i.e., FLL fleet), the pot C/P sector, and the Amendment 80 sector, all have the ability to process catch on board, and together account for 64 percent of the non-CDQ TAC. Consequently, many shore-side processing plants have not historically had capacity for processing Pacific cod. Those open for business are generally concentrated in the Aleutian Islands. Together, processors in Akutan, Dutch Harbor, and Adak made up about 98 percent of all BSAI shore-based processing for Pacific cod in 2012.[52]

4.6.7.1 Unalaska/ Dutch Harbor

Unalaska is not a CDQ community. It is located on Unalaska Island and is approximately 800 miles southwest of Anchorage. The community's port is called Dutch Harbor, located on Amaknak Island and connected to Unalaska by a bridge. More BSAI crab and groundfish are landed in Dutch Harbor than in any other port in Alaska, and the fishery processing and support sectors have developed accordingly. The community's economy is heavily reliant on the BSAI commercial fisheries in general, as well as certain specific fisheries (e.g., most of the vessels participating in the BSAI Crab Rationalization Program depart from Dutch Harbor). In 2010, there were seven shore-side processors located in Unalaska (AFSC 2010).

[51] 50 CFR 679.2
[52] Full profiles of each of these communities can be found at http://www.afsc.noaa.gov/maps/ESSR/commercial/default.htm.

Between 2003 and 2013, four of these processors accepted Pacific cod and three facilities in Dutch Harbor processed some Pacific cod CDQ.

4.6.7.2 Akutan

Akutan is a member of the CDQ group APICDA. It is located on Akutan Island, which is one of the Krenitzin Islands of the Fox Island group. Akutan is the site of the largest processing shoreplant in North America, Trident Seafoods, but it is also the site of a community that is geographically, demographically, social, and historically distinct from the shoreplant. This "duality" of structure has had consequences for the relationship of Akutan to the Bering Sea commercial fisheries, including establishment of Akutan's status as a CDQ community. Initially (in 1992), Akutan was deemed not eligible for participation in the CDQ Program (along with Aleutian East Borough communities, King Cove and Sand Point, as well as nearby Unalaska) since the community was home to "previously developed harvesting or processing capability sufficient to support substantial groundfish participation in the BSAI…", though they met other qualifying criteria. The Akutan Traditional Council initiated action to show that the community of Akutan was separate and distinct from the seafood processing plant some distance away from the residential concentration of the community site. They sought to show that interaction between the community and the plant was limited, and that the plant was not incorporated into the community in a way that created opportunity for Akutan residents to meaningfully participate in BSAI fisheries. It was argued that the plant was essentially an industrial enclave or worksite separate and distinct from the traditional community of Akutan, and that few, if any, Akutan residents worked at the plant. With the support of APICDA and others, Akutan was successful in a subsequent attempt to become a CDQ community and obtained that status in 1996, joining APICDA (NPRB/NPFMC 2005).

This description highlights that while deriving economic benefits from the presence of a large shoreplant near the community proper, the community has in many ways not integrated this large-scale commercial activity with village daily life (NPRB/NPFMC 2005). Trident Seafoods' shoreplant is one of the primary facilities processing Pacific cod in the BSAI. In the past ten years, this has included a small percentage of Pacific cod CDQ.

4.6.7.3 Adak

Adak also is not a CDQ community. It is located on Kuluk Bay on Adak Island in the Aleutian chain. The Aleut Corporation acquired the majority of Adak's former military facilities in 2004. Since that time, the Aleut Corporation has continued its efforts to develop Adak as a civilian community with a private sector economy focused heavily on commercial fishing. Adak Fisheries LLC was the only shore-based processing company on the island, and had historically specialized in Pacific cod, halibut, and sablefish. The Adak processing plant has experienced a number of changes in ownership, business restructures, and periods of financial uncertainty. In September 2013, the Aleut Corporation's subsidiary Aleut Fisheries signed a 20-year lease with Adak Cod Cooperative to operate the Adak seafood facility. Under the new ownership of the Adak Cod Cooperative, the facility has transitioned from a "headed and gutted" operation, to a fillet operation. Pacific cod will continue to be one of their primary species of production (McCracken 2014).

4.7 Description of the Halibut CDQ Fishery

Should the Council choose to pursue any of the three action alternatives (Alternatives 2, 3, or 4), it is difficult to predict the exact characteristics of the small CV fleet. As described in the previous section, past participation in a directed Pacific cod CDQ fishery has been almost exclusively by FLL vessels greater than 46 ft. LOA. This fleet is inherently different than the hook-and-line CVs less than or equal to

46 ft. LOA represented in the proposed alternatives. They may prosecute different areas, demonstrate different seasonal patterns, and would certainly use different processing practices.

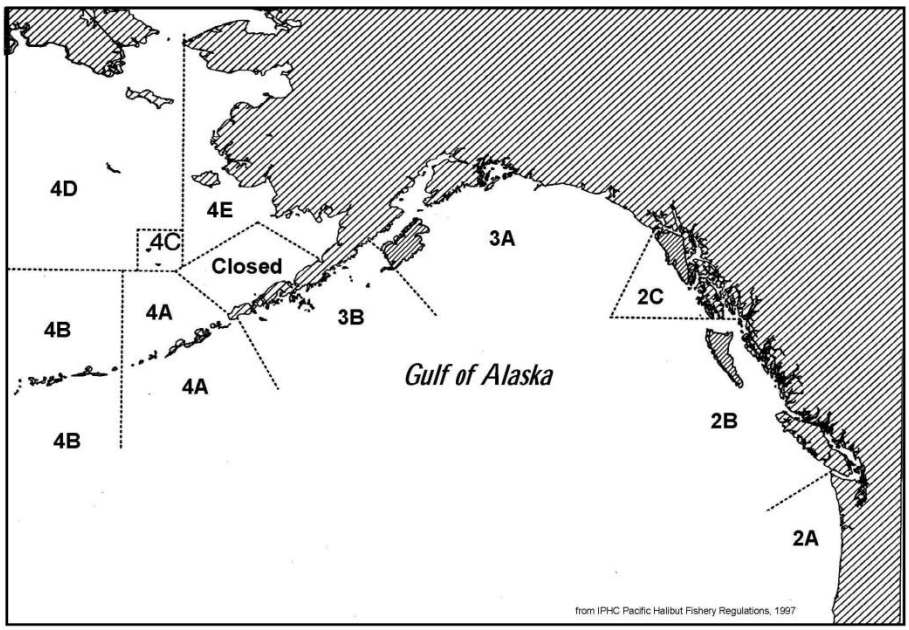
However, any action the Council chooses to pursue will have a connection with the CDQ small vessel halibut fishery. The intention of the CDQ groups' initial proposal was to provide a complementary source of income for the small vessel halibut CDQ participants that have been affected by recent declines in the halibut stocks, without having to meet the existing LLP, observer, and VMS requirements. Whether an action directly pertains to the halibut fishery by increasing MRA levels for Pacific cod, or allows for additional small vessel opportunity to directed fish for Pacific cod, the pool of participants with the means and the motivation to take advantage of increased Pacific cod CDQ opportunity will likely be those currently participating in the halibut CDQ fishery. Therefore it is appropriate to examine the characteristics of the CDQ small vessel halibut fishery in order to understand the behavior of a small vessel Pacific cod CDQ fishery in the future.

4.7.1 Management

Pacific halibut fisheries are regulated by the IPHC and NMFS, in consultation with the Council, as established under the terms of the Northern Pacific Halibut Act between the United States and Canada. In practice, the IPHC establishes TAC limits and other conservation measures, and the Council recommends regulations to govern the fishery including limited access and allocation decisions. The Council also manages halibut PSC within other Federal fisheries.

The halibut regulatory areas were established with the formation of the IPHC in 1923, and initially included only four regulatory areas (numbered one through four). They have changed in their numbering and their geographic boundaries over the years to include ten different regions, but the current boundary lines have remained the same since 1990. The numbered areas begin in California and work their way northward (IPHC, 2013). While the CDQ Program first took effect in 1992, the allocations of halibut CDQ were established simultaneously with the implementation of the halibut/sablefish IFQ program in 1995. Halibut is allocated to CDQ groups in four regulatory areas: 4B, 4C, 4D, and 4E (Figure 4-2).

Figure 4-2 Regulatory areas for halibut in Alaska



Source: IPHC, 2013

The IPHC Annual Report describes the location of these regions (2012):

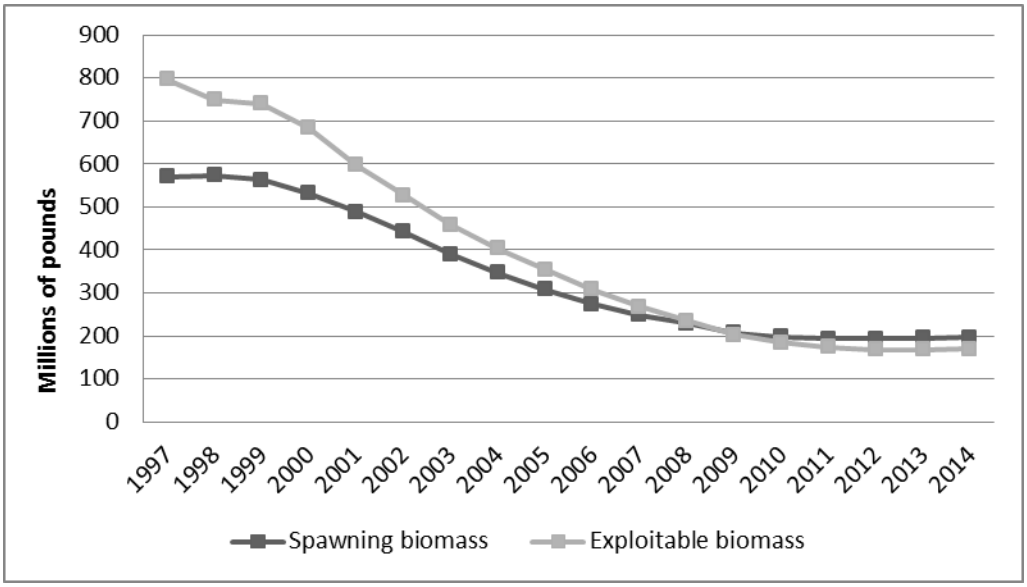
> Area 4B— waters surrounding the Western Aleutian Islands. This includes "all waters in the Bering Sea and Gulf of Alaska west of Area 4A and south of 56°20'00" N. latitude." In Area 4B, 20 percent of the halibut TAC is allocated to the CDQ groups.
>
> Area 4C— a "square" of water surrounding the Pribilof Islands in the Bering Sea. It is measured as "all waters in the Bering Sea north of Area 4A and north of the closed area, which are east of 171°00'00" W. longitude, south of 58°00'00" N. latitude, and west of 168°00'00" W. longitude." In Area 4C, 50 percent of the halibut TAC is allocated to the CDQ groups.
>
> Area 4D— Northwestern Bering Sea. More specifically, it includes "all waters in the Bering Sea north of Areas 4A and 4B (56°20'00" N. latitude), north and west of Area 4C, and west of 168°00'00" W. longitude." In Area 4D, 30 percent of the halibut TAC is allocated to the CDQ groups.
>
> Area 4E— Northeastern Bering Sea, including "all waters in the Bering Sea north and east of the closed area, east of 168°00'00" W. longitude, and south of 65°34'00" N. latitude." In Area 4E, 100 percent of the halibut TAC is allocated to the CDQ groups.

4.7.2 Annual Catch Limits

4.7.2.1 Total Allowable Catch

Pacific halibut has historically been a central species for many types of fishing operating in the North Pacific, including the small vessel fisherman in the communities that make up the CDQ groups, but also the commercial IFQ operations, subsistence users, charter fleets, individual sport fishing, and as a limiting agent in other directed fisheries. Therefore, the dramatic decline in biomass levels (as demonstrated in Figure 4-3) has greatly impacted users from all backgrounds.

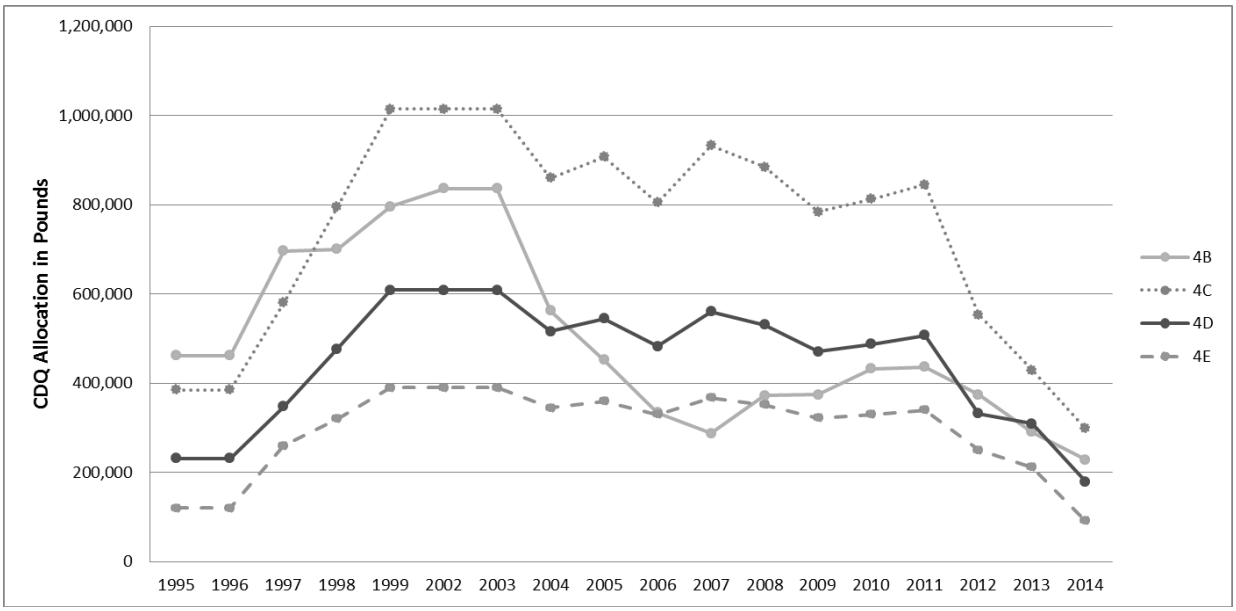
Figure 4-3 Median population estimates from the IPHC's ensemble approach to evaluate stock assessment from 1997 to 2014



Source: IPHC Report of Assessment and Research Activities 2013

The declining stocks have led to lower TACs in all four regions for which CDQ is assigned. This trend has been particularly severe over the last three years (Figure 4-4).

Figure 4-4 Halibut CDQ allocation by management area from 1995 to 2014



Source: NOAA Restricted Access Management (RAM)
Note: Values for 2000 and 2001 were omitted because apportionments for Areas 4D and 4E were combined in RAM reports.

4.7.2.2 CDQ Group Allocations

Allocations of halibut quota was expected to provide CDQ groups real small vessel fishing opportunities for their fleets, and, as such, area allocations of halibut CDQ are generally correlated with the location of the groups (Table 4-8). For instance, Area 4B is located in the Aleutian Islands where 100 percent of the halibut TAC is allocated to the APICDA CDQ group. Area 4C surrounds the Pribilof Islands and the halibut TAC is split 85 percent to St. Paul Island's CBSFA and 15 percent to APICDA, which includes St. George Island as a member. The large BS halibut area of 4D is split 20 percent to YDFDA, 30 percent to NSEDC, 24 percent to CVRF, and 26 percent to BBEDC. Seventy percent of the final Area 4E halibut CDQ is allocated to CVRF and 30 percent to BBEDC. In addition to CDQ group transfers, there is some fishing flexibility within the halibut regulatory areas as well. The CDQ allocation of 4D may be fished in 4D or 4E and the allocation of 4C may be fished in 4C or 4D.

Table 4-8 Annual halibut CDQ allocation by regulatory area (all units in net headed and gutted pounds)

Area	Year	TAC	Program Allocations	CDQ Reserve	APICDA	BBEDC	CBSFA	CVRF	NSEDC	YDFDA
4B	2008	1,860,000	20%	372,000	372,000	0	0	0	0	0
	2009	1,870,000		374,000	374,000	0	0	0	0	0
	2010	2,164,000		432,000	432,000	0	0	0	0	0
	2011	2,180,000		436,000	436,000	0	0	0	0	0
	2012	1,869,000		373,800	373,800	0	0	0	0	0
	2013	1,450,000		290,000	290,000	0	0	0	0	0
	2014	1,140,000		228,000	228,000	0	0	0	0	0
4C	2008	1,769,000	50%	884,500	132,675	0	751,825	0	0	0
	2009	1,569,000		784,500	117,675	0	666,825	0	0	0
	2010	1,625,000		812,500	121,875	0	690,625	0	0	0
	2011	1,690,000		845,000	126,750	0	718,250	0	0	0
	2012	1,107,356		553,678	83,052	0	470,626	0	0	0
	2013	859,000		429,500	64,425	0	365,075	0	0	0
	2014	596,600		298,300	44,745	0	253,555	0	0	0
4D	2008	1,769,000	30%	530,700	0	137,982	0	127,368	159,210	106,140
	2009	1,569,000		470,700	0	122,382	0	112,968	141,210	94,140
	2010	1,625,000		487,500	0	126,750	0	117,000	146,250	97,500
	2011	1,690,000		507,000	0	131,820	0	121,680	152,100	101,400
	2012	1,107,356		332,207	0	86,374	0	79,730	99,662	66,441
	2013	859,000		257,700	0	67,002	0	61,848	77,310	51,540
	2014	596,600		178,980	0	46,535	0	42,955	53,694	35,796
4E	2008	352,000	100%	352,000	0	105,600	0	246,400	0	0
	2009	322,000		322,000	0	96,600	0	225,400	0	0
	2010	330,000		330,000	0	99,000	0	231,000	0	0
	2011	340,000		340,000	0	102,000	0	238,000	0	0
	2012	250,290		250,290	0	75,087	0	175,203	0	0
	2013	212,000		212,000	0	63,600	0	148,400	0	0
	2014	91,800		91,800	0	27,540	0	64,260	0	0
All Areas	2008	5,750,000		2,139,200	504,675	243,582	751,825	373,768	159,210	106,140
	2009	5,330,000		1,951,200	491,675	218,982	666,825	338,368	141,210	94,140
	2010	5,744,000		2,062,000	553,875	225,750	690,625	348,000	146,250	97,500
	2011	5,900,000		2,128,000	562,750	233,820	718,250	359,680	152,100	101,400
	2012	4,334,002		1,509,975	456,852	161,461	470,626	254,933	99,662	66,441
	2013	3,380,000		1,189,200	354,425	130,602	365,075	210,248	77,310	51,540
	2014	2,425,000		797,080	272,745	74,075	253,555	107,215	53,694	35,796

Source: NMFS, Annual CDQ group quota allocations 2008 through 2014

4.7.2.3 Seasons

The halibut CDQ season corresponds with the halibut IFQ season and is established by IPHC under the authority of the Northern Pacific Halibut Act. This is generally a 9-month season and does not include any A and B seasonal allocation restrictions.

Table 4-9 Season dates for fishing Pacific halibut under the IFQ and CDQ programs

Fishing Year	Season Begin Date	Season End Date
2008	8-Mar	15-Nov
2009	21-Mar	15-Nov
2010	6-Mar	15-Nov
2011	12-Mar	18-Nov
2012	17-Mar	7-Nov
2013	23-Mar	7-Nov
2014	8-Mar	7-Nov

Source: NOAA Restricted Access Management

4.7.3 Harvests

4.7.3.1 Target Catch in Halibut Fishery

As previously displayed in Table 4-8 Area 4B and Area 4C represent the fishing efforts of fewer than three CDQ entities. Since a CDQ group is considered an "entity" for purposes of confidentiality, much of this catch information is confidential. However, Table 4-10 displays allocations and retained catch from targeted halibut fishing in Regulatory Areas 4D and 4E. Since the 4D allocation may be fished in 4D or 4E and harvest is debited from the account for the reported harvest area, 4E landings will appear over-harvested. However, 4D does not illustrate the under-harvest to balance this account since, similarly the 4C allocation may be fished in 4C or 4D, and, consequently, 4D landings still appear over-harvested and while 4C (although blocked for purposes of confidentiality) is under-harvested.

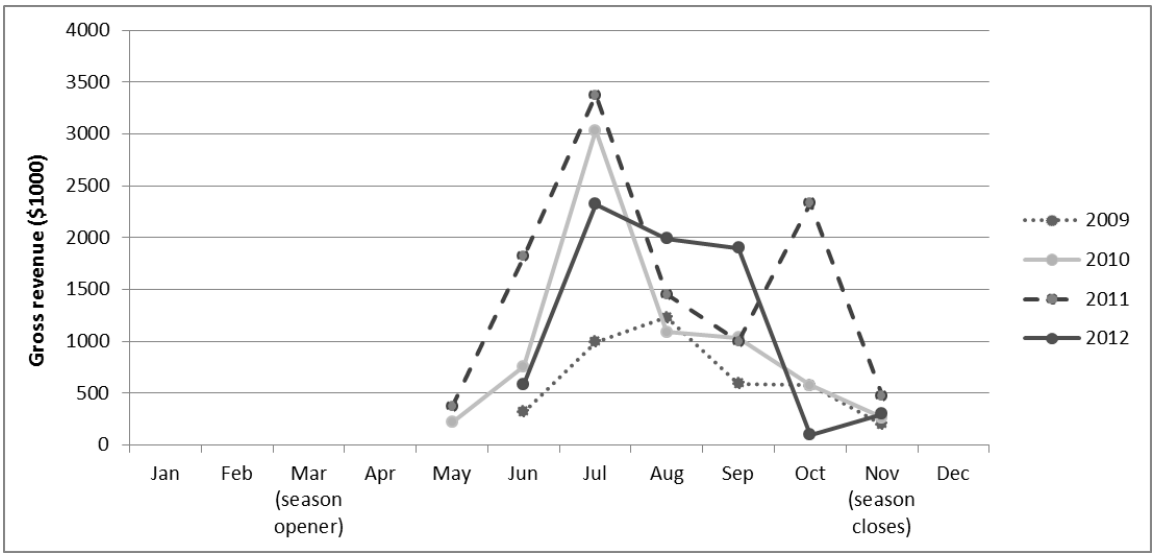
Table 4-10 Halibut CDQ retained catch, and allocations in headed and gutted pounds by regulatory area for 2008 through 2014

Year	Area	Allocation Pounds	Vessel Landings	Total Catch Pounds	Percent Landed
2008	4B	372,000	***	***	***
	4C	884,500	***	***	***
	4D	530,700	81	482,641	91%
	4E	352,000	1,664	587,958	167%
	Total	2,139,200	2,311	2,108,813	99%
2009	4B	374,000	***	***	***
	4C	784,500	***	***	***
	4D	470,700	124	535,918	114%
	4E	322,000	1,271	440,866	137%
	Total	1,951,200	1,808	1,855,979	95%
2010	4B	432,000	***	***	***
	4C	812,500	***	***	***
	4D	487,500	185	450,083	92%
	4E	330,000	1,281	411,502	125%
	Total	2,062,000	1,957	1,968,437	95%
2011	4B	436,000	***	***	***
	4C	845,000	***	***	***
	4D	507,000	134	449,329	89%
	4E	340,000	1,416	456,743	134%
	Total	2,128,000	2,094	2,023,154	95%
2012	4B	373,800	***	***	***
	4C	553,678	***	***	***
	4D	332,207	200	284,443	86%
	4E	250,290	939	330,378	132%
	Total	1,509,975	1,561	1,446,764	96%
2013	4B	290,000	***	***	***
	4C	429,500	***	***	***
	4D	309,240	165	160,877	52%
	4E	212,000	876	279,910	132%
	Total	1,240,740	1,462	1,066,864	86%
2014	4B	228,000	***	***	***
	4C	298,300	***	***	***
	4D	178,980	***	***	***
	4E	91,800	***	***	***
	Total	797,080	***	***	***

Source: NOAA Restricted Access Management Reports, 2008–2014
Note: Asterisks denote confidential data.

While the fishing season typically begins in late March, harvest does not occur until later in the spring and summer (
Figure 4-5). This delay is a consequence of ice and weather conditions in the harvest areas.

Figure 4-5 Monthly catch rate of halibut CDQ for 2009 through 2012



Source: ADF&G Fish Tickets

4.7.3.2 Non-target Catch in CDQ Halibut Fishery

One of the primary motivations for to the proposed action is that hook-and-line participants catch Pacific cod incidental to halibut. However, vessels less than 60 ft. LOA are not required to carry a Federal groundfish logbook during their fishing trips, unless they have been issued a Federal fisheries permit (FFP). Pacific cod CDQ that is not retained for commercial sale would be discarded or retained to be used as bait; although, given the minimal data on these activities, it is suspected that this information is not well reported and, thus, these removals not well accounted for.

Prior to 2013, observers were not placed on vessels fishing for halibut. Once the restructured Observer Program was implemented in 2013, vessels greater than or equal to 40 ft. LOA have been placed in a partial observer coverage category. Therefore, observer data can now be used to calculate at-sea discards for halibut catcher vessels. While it is known that some Pacific cod is caught as incidental catch in the halibut CDQ fishery, since observer coverage on small vessels only began in 2013, it is difficult to estimate their magnitude. This is relevant to all types of discards, including PSC.

The incidental Pacific cod caught while halibut CDQ fishing that is landed for commercial sale is minimal, as without a groundfish FFP, CDQ members are prohibited from retaining groundfish for commercial sale.[53] Moreover, there is a lack of groundfish processing capacity in most of the plants that process halibut CDQ. In most cases, retained Pacific cod would need to be hand cut or shipped somewhere else for further processing.

4.7.4 Participation in the Fishery

In contrast to the current operations of the Pacific cod CDQ fishery, the vast majority of halibut CDQ is prosecuted by fleets of catcher vessels less than or equal to 46 ft. LOA. From 2009 through 2013, the fishery was prosecuted by a fleet with an average of 95 percent of vessels not exceeding 46 ft. LOA, and

[53] All vessels that fish for CDQ from a group with an allocation of sablefish CDQ (all groups but CVRF) are required to retain sablefish CDQ. Therefore they must have an FFP.

an average of 91 percent of vessels not exceeding 32 ft. LOA (Table 4-11). Table 4-11 also demonstrates the different compositions of the halibut CDQ fleets within each CDQ group.

Table 4-11 Count of unique vessels in each CDQ group landing halibut CDQ from 2009 through 2013

CDQ Group name	Vessel length	Year				
		2009	2010	2011	2012	2013
APICDA	≤22	1	3	2	4	3
	23- 32	4	4	5	8	7
	33-46	0	2	2	3	2
	>46	4	5	7	9	5
APICDA total		9	14	16	24	17
BBEDC	≤22	2	1	2	2	1
	23- 32	11	9	11	20	14
	33-46	0	0	0	0	0
	>46	2	2	1	2	1
BBEDC total		15	12	14	24	16
CBSFA	≤22	0	0	0	0	0
	23- 32	13	15	15	14	13
	33-46	3	3	3	3	3
	>46	1	1	2	1	1
CBSFA total		17	19	20	18	17
CVRF	≤22	94	85	101	79	100
	23- 32	76	73	80	73	79
	33-46	1	0	1	0	0
	>46	1	1	0	0	0
CVRF total		172	159	182	152	179
NSEDC	≤22	0	0	0	14	13
	23- 32	6	4	4	5	1
	33-46	4	3	3	3	2
	>46	3	2	3	2	1
NSEDC Total		13	9	10	24	17
YDFDA	≤22	0	0	0	0	0
	23- 32	0	1	0	0	0
	33-46	0	0	0	0	0
	>46	1	1	2	1	0
YDFDA Total		1	2	2	1	0
All CDQ Groups	≤22	97	89	105	99	117
	23- 32	110	106	115	120	114
	33-46	8	8	9	9	7
	>46	12	12	15	15	8
Grand Total		227	215	244	243	246

Source: ADF&G Fish Tickets

Table 4-12 uses vessel LOA to demonstrate the distribution of harvest among participants.[54] This table illustrates the targeted catch and average catch per vessel, by vessel length. For instance, in 2013, vessels greater than 46 ft. LOA harvested an average of 20 times more Pacific halibut, than vessels less than 30 ft.

[54] There are some differences across Table 4-12, Table 4-11, and Table 4-10. Table 4-10 and Table 4-12 both use RAM data; however, the reported pounds harvested are consistently larger in Table 4-10. It could be that the RAM reports are including halibut incidental catch from groundfish or other fishery that is accruing to the CDQ halibut allocation. Additionally, the vessel count between Table 4-11 and Table 4-12 is slightly different. This could be due to vessels reported fishing for more than one CDQ group in a given year. These discrepancies across tables are minor and common when comparing different data sources.

LOA. Consequently, the harvest of halibut CDQ by vessels greater than 46 ft. LOA has comprised about 35 percent of the harvest across all CDQ groups in the past five years.

Table 4-12 Retained halibut CDQ by length of vessel in headed and gutted pounds from 2009 through 2013

Year	Length of vessel overall	Pounds landed	Distinct vessels	Mean pounds per vessel
2009	<30 ft	552,845	195	2,835
2010		656,785	183	3,589
2011		623,306	208	2,997
2012		497,309	189	2,631
2013		448,617	206	2,178
2009	31-36 ft	344,190	27	12,748
2010		417,998	25	16,720
2011		476,525	28	17,019
2012		327,929	30	10,931
2013		272,973	26	10,499
2009	37-46 ft	152,417	6	25,403
2010		113,799	4	28,450
2011		156,178	5	31,236
2012		103,044	6	17,174
2013		65,133	4	16,283
2009	>46 ft	777,176	7	111,025
2010		750,384	8	93,798
2011		749,178	10	74,918
2012		490,678	11	44,607
2013		263,397	6	43,900
2009	All LOA	1,826,628	235	7,773
2010		1,938,966	220	8,813
2011		2,005,187	251	7,989
2012		1,418,960	236	6,013
2013		1,050,120	242	4,339

Source: NOAA Restricted Access Management

The halibut CDQ fleet is not only inherently different than the Pacific cod CDQ participants; it is also different from the non-CDQ halibut participants, or IFQ fleet. The 2012 Addendum to the Fishing Fleet Profiles illustrates the IFQ fleet to be composed of primarily mid-size vessels; about 75 percent of the fleet is between 30 feet and 59 feet LOA[55] (Fey & Ames 2012).

A diversification table also can help create a more robust understanding of additional fleet fishing activity. For instance, Table 4-13 illustrates that small vessels fishing halibut CDQ are generally not also fishing halibut IFQ. In fact, of the 918 reported landings of halibut CDQ between 2009 and 2012, inclusively, only 47 additionally reported landing halibut IFQ. Table 4-13 demonstrates that users of both CDQ and IFQ for halibut are generally the few vessels that are greater than 46 ft. LOA. Table 4-13

[55] This represents vessels that land both halibut IFQ and CDQ, as well as those vessels that only land halibut IFQ.

demonstrates that halibut CDQ is the primary source of revenue from all fishing activity for vessels that do not exceed 32 ft. LOA.[56] As discussed in Section 4.7.3.2, there is a small amount of Pacific cod CDQ reportedly being landed by vessels in association with halibut CDQ.

Table 4-13 Diversification of gross revenue for vessels that participate in the halibut CDQ fishery by LOA from 2009 to 2012

		Count of vessels:		Average gross revenue[a] from:			Average % of gross revenue:	
Year	Vessel length	Total unique vessels	Landing CDQ Pacific cod	CDQ halibut	All halibut[b]	All fishing activity	From halibut dependent on CDQ	Dependent on CDQ
2009	≤ 32 ft LOA	207	0	9,156	9,378	14,014	99%	90%
	33-46 ft LOA	7	2	70,414	74,661	111,483	97%	69%
	> 46 ft LOA	9	4	168,691	761,341	579,316	33%	23%
2010	≤ 32 ft LOA	193	2	17,758	18,887	24,112	99%	92%
	33-46 ft LOA	8	0	118,497	127,602	183,543	91%	66%
	> 46 ft LOA	10	2	258,779	1,059,735	760,156	46%	41%
2011	≤ 32 ft LOA	220	1	23,095	23,172	27,911	100%	94%
	33-46 ft LOA	8	1	201,446	250,603	296,266	88%	64%
	> 46 ft LOA	11	3	375,322	1,814,627	1,058,898	32%	24%
2012	≤ 32 ft LOA	217	0	16,951	18,107	24,815	98%	88%
	33-46 ft LOA	9	2	129,946	140,487	203,263	92%	63%
	> 46 ft LOA	13	2	180,231	963,670	665,572	27%	19%

Source: ADF&G Fish Tickets
a All vessels are catcher vessels; therefore, gross revenue represents ex vessel value.
b Gross revenue includes CDQ and IFQ halibut.

4.7.5 Existing Processing Capacity for Halibut CDQ

Between 2000 and 2014, halibut CDQ landings took place in 27 ports (Table 4-14). St. Paul, Atka, and Dutch Harbor received the largest weight of halibut CDQ, respectively. The only CDQ group that is not represented by one of the ports is YDFDA, which generally consolidates the small amount of 4D quota it has access to and leases it onto one or two vessels greater than 46 ft. LOA.

[56] Count of vessels reported in A diversification table also can help create a more robust understanding of additional fleet fishing activity. For instance, Table 4-13 illustrates that small vessels fishing halibut CDQ are generally not also fishing halibut IFQ. In fact, of the 918 reported landings of halibut CDQ between 2009 and 2012, inclusively, only 47 additionally reported landing halibut IFQ. Table 4-13 demonstrates that users of both CDQ and IFQ for halibut are generally the few vessels that are greater than 46 ft. LOA. Table 4-13 demonstrates that halibut CDQ is the primary source of revenue from all fishing activity for vessels that do not exceed 32 ft. LOA. As discussed in Section 4.7.3.2, there is a small amount of Pacific cod CDQ reportedly being landed by vessels in association with halibut CDQ.

Table 4-13 reports a slightly different number of vessels than in Table 4-11 and Table 4-12.

Table 4-14 Port of halibut CDQ landings from 2000 to 2014

Association*	Port	Count of unique landings
AK	Adak	7
APICDA	Akutan	16
APICDA	Atka	97
AK	Bristol Bay	6
CVRF	Chefornak	249
BBEDC	Dillingham	113
AK	Dutch/ Unalaska	62
BBEDC	Egegik	29
CVRF	Goodnews Bay	8
AK	Homer	3
CVRF	Hooper Bay	72
AK	King Cove	6
CVRF	Kipnuk	208
AK	Kodiak	2
CVRF	Mekoryuk	472
BBEDC	Naknek	32
NSEDC	Nome	125
AK	Nunivak Island	222
AK	Other AK	105
CVRF	Quinhagak	136
AK	Sand Point	5
NSEDC	Savoonga	80
APICDA	St George	68
CBSFA	St Paul	301
BBEDC	Togiak	233
CVRF	Toksook Bay	688
CVRF	Tununak	502
Grand Total		3847

Source: NOAA Restricted Access Management
* "Association" does not necessarily indicate that the shore-side processor(s) in that region is (are) affiliated with the CDQ group of the region, simply that it exists within a CDQ community. AK represents an Alaskan port not in a CDQ community.

4.8 Analysis of Impacts: Alternative 1, No Action

If no action is taken by the Council, the regulations governing the CDQ fishery would remain consistent with the status quo (See Section 2.1). In other words, directed Pacific cod CDQ fishing could only aboard a vessel that was federally permitted (FFP), with a Pacific cod endorsement, an LLP license, carrying VMS, and if they were subject to full observer coverage. Additionally, federally permitted vessels targeting halibut CDQ that do not meet all of the provisions to target Pacific cod would be prohibited from retaining Pacific cod over the 20 percent MRA on board at any time during a trip (CDQ vessels may also retain Pacific cod for personal bait).[57,58]

[57] However, 50 CFR 679.27(b) and (c), Improved Retention/ Improved Utilization Program (IR/IU) does not apply to these vessels, because they are not groundfish CDQ fishing (i.e., directed fishing for a groundfish species); therefore, halibut CDQ participants have the option to discard Pacific cod or to retain it up to the MRA.

No vessel in the GOA or BSAI may fish for groundfish, including incidentally caught groundfish, without obtaining an FFP.[59] Any vessel halibut CDQ fishing in the EEZ, except a CVRF operation, is required to obtain an FFP even if it does not retaining any groundfish, because such a vessel is required to retain any sablefish harvested as long as the CDQ group has remaining sablefish CDQ from the fixed gear sablefish CDQ reserve. CVRF is the only CDQ group with an allocation of halibut CDQ in an area in which it has no allocation of sablefish CDQ; therefore its participants are not be required to obtain an FFP.

Under the regulatory status quo, a CDQ vessel less than or equal to 46 ft. LOA using hook-and-line gear may directed fish for Pacific cod CDQ in a state-waters parallel fishery, without an FFP or LLP license if it is fishing exclusively in state waters. If the vessel does not have an FFP and is not retaining halibut in this parallel fishery, it is not subject to observer coverage. If the vessel is either retaining halibut or has an FFP (or both), the vessel is then subject to full observer coverage, despite prosecuting a state-water only parallel fishery. The vessel must also adhere to VMS coverage requirements if it is retaining any Pacific cod.

It is also possible that a CDQ vessel could prosecute the open access Pacific cod fishery in state waters when the parallel fishery is open by landing the Pacific cod unassociated with a group. Again, this would not require an FFP, LLP license, or observer coverage if there was no retention of halibut and the vessel is exclusively fishing state waters.

While Alternative 1, the no action alternative, would keep existing regulations at status quo, there are several other elements to consider when comparing Alternative 1 to the status quo. The purpose and need statement of this analysis highlights an economic disruption that has and may continue to occur due to declines the halibut resource. Therefore, economic and community stability that is currently dependent on a productive halibut market may result in Alternative 1 diverging from the status quo. Without a diversification of fisheries, Alternative 1 may represent declining economic activity within those communities with a high reliance on the halibut resource. Moreover, with continued declines in halibut catch limits, total allowable MRA of Pacific cod caught incidental to CDQ or IFQ halibut would also decline proportionally. If this trend were to continue, Alternative 1 may be unlike the status quo in that a smaller amount of incidentally caught Pacific cod would be able to be retained for commercial sale.

4.9 Analysis of Impacts: Action Alternatives (Alternatives 2 through 4)

The action alternatives, Alternatives 2, 3, and 4 would result in several shared impacts for stakeholders and enforcement. This section describes a suite of possible economic and management related impacts that are appropriate to consider, regardless of the alternative the Council recommends. Evidence used to support an understanding of these impacts is retrospective and, in many cases, drawn especially from the halibut CDQ fishery.

4.9.1 Impacts on Seasonal Fishing Patterns

As was demonstrated in Section 4.6, vessels that have historically participated in the Pacific cod CDQ fishery were generally hook-and-line greater than or equal to 60 ft. LOA, and, therefore, must adhere to an A and B seasonal allocation. The A and B seasons for these vessels have historically been continuous, open from January 1 to December 31. Thus, seasonal allocations have generally not been more restricted than for vessels less than 60 ft. LOA that do not have seasonal allocations.

[58] 50 CFR 679.27(g).
[59] 50 CFR 679.4(b)()1) and (2)

Action alternatives differ in their seasonal flexibility. Under Alternative 2, increased retention of Pacific cod would be conditional on the halibut CDQ seasons (i.e., generally mid-March to November). Similarly, Alternative 3 Option 2 and Alternative 4 as specified in the PPA require halibut CDQ or IFQ to fund the incidental catch accounting of halibut in the Pacific cod fishery. Therefore, these alternative combinations would also be fully dependent on the halibut season.

In Alternative 3, Option 1 all halibut caught in the Pacific cod CDQ fishery would be required to be discarded and accrue as PSC. Therefore, the Pacific cod CDQ fishery would not be constrained by the halibut season. Similarly, Alternative 4, with the consideration of Option 3 would allow participants the opportunity to prosecute a Pacific cod CDQ fishery during the halibut season (and accrue incidentally caught halibut to CDQ or IFQ accounts) or prosecute a Pacific cod CDQ fishery outside of the halibut season (and charge estimates of halibut PSC off of a their transferable PSQ). Under these scenarios, with a mild winter, CDQ participants may choose to fish for Pacific cod CDQ in late spring. Under more typical winter conditions, CDQ participants would be expected to take advantage of a summer Pacific cod fishery, either before or at the same time as the halibut CDQ fishery.

4.9.2 Impacts on Regional Fishing Patterns

As explained in Section 3.1.3, regional fishing patterns may differ from the status quo under the alternatives. A change from Pacific cod harvest on FLL vessels to small halibut CDQ vessels means that some harvest may shift from the areas described in Figure 1-2 to near-shore waters closer to local communities and processors. Alternatives 2 through the revised Alternative 4 will only be effective in regions where the Pacific cod stock is already available; therefore, more near-shore fishing may occur by CDQ groups around the Aleutian and Pribilof Islands and some Western Alaska communities. The increased magnitude of Pacific cod fishing in these near-shore areas depends on the quantity of Pacific cod already being caught as incidental catch in the halibut CDQ fishery. The magnitude of this potential increase is difficult to quantify as much of these catch data are not currently reported. Furthermore, since halibut CDQ vessels are not currently required to carry VMS, there is no basis for predicting the precise areas where Pacific cod would be prosecuted by CDQ small vessels under an action alternative.

Under Alternatives 3, 4, and revised 4 vessels would still be required to carry VMS. Therefore, any change in regional fishing patterns would be documented using VMS after they occur. Under Alternative 2, vessels would still be considered "halibut CDQ fishing" and, therefore, they may not be required to carry VMS.[60] The amount of Pacific cod retained, under the proposed action, would be able to be gleaned from landings data; however, there would be some uncertainty around the precise regions in which the harvest occurred.

4.9.3 Permit Requirements

FFPs are required for all vessels used to fish for groundfish in the GOA or BSAI, that retain any incidental catch of groundfish while targeting non-groundfish in the 3 to 200 mile EEZ off Alaska, or that participate in fisheries in which they are required to retain groundfish.[61]

Currently, a small number of halibut CDQ participants hold an FFP. In 2013, there were only 17 federally permitted vessels that fished halibut CDQ and only 7 of these were less than 46 ft. LOA. Therefore, all

[60] There are some exceptions. For instance, federally permitted vessels fishing halibut in the AI are required to carry VMS.
[61] 50 CFR 679.4(b)(1)

vessels that did not previously have an FFP and would be retaining Pacific cod under Alternatives 2, 3, 4, or Alternative 4 would need to obtain an FFP. These permits are free and not restricted in number.[62]

4.9.4 Impacts on Reporting

When a vessel landing Pacific cod reports harvest on an ADF&G fish ticket or eLandings, the CDQ group's number is also self-reported on the ticket, and this amount of harvest is then debited from that CDQ group's quota. Misreporting a landing that is not CDQ or reporting an incorrect CDQ group number are types of errors that can occur in the present NMFS catch accounting system. These errors have occurred in the past. For instance, a FLL vessel might fish for Pacific cod under two CDQ groups' quotas and incorrectly specify the CDQ number for each harvest on the fish ticket. This is something that can be retroactively corrected if the agency or quota managers notice the error. All action Alternatives introduce a greater frequency of entities using Pacific cod CDQ. This creates an increased likelihood of misreporting.

4.9.5 Impacts on Safety

If the Council chooses to pursue an action alternative, it may have an impact on safety. Both the Pacific cod CDQ and halibut CDQ fisheries are well established, and these actions would generally just allow for the internal reallocation of quota from some larger vessels with previous experience catching Pacific cod to smaller vessels with previous experience catching (but not necessarily retaining) Pacific cod. Particularly under Alternative 2, in which additionally retained Pacific cod would be directly dependent on the halibut CDQ fishery, there is unlikely to be increased probability of a safety-related incident onboard a vessel. Alternatives and options that do not explicitly link the Pacific cod and halibut CDQ fisheries may carry the possibility of incentivizing participants to prosecute a Pacific cod CDQ fishery earlier in the season than the traditional opener for the halibut season. Pacific cod CDQ fishing in late winter and early spring in small vessels could pose more safety concerns. There is no clear basis of measuring the extent of this increased risk. However, given the CDQ groups' certainty of their allocation at the beginning of the season, and their full calendar-year during which they may choose the appropriate time to participate, this increased risk is likely to be small.

4.9.6 Vessel Monitoring System (VMS) Requirements

Any vessel using hook-and-line, pot, or trawl gear, that has a species and gear endorsement on its FFP for directed fisheries for pollock, Pacific cod, or Atka mackerel are required to have an operating VMS when participating in these fisheries.[63] Therefore, under Alternative 1, the no action alternative, any vessel wishing to participate in a directed Pacific cod CDQ fishery must install and operate a VMS unit on board at all times.

VMS is a necessary tool for fisheries management and enforcement in Alaska. It is a tamperproof system, set to report a vessel identification and location to the NMFS Office of Law Enforcement (OLE) at fixed 30-minute intervals. The regulation for its requirement was put in place under the emergency interim rule to implement Steller sea lion protection measures in 2002 (67 FR 956, January 8, 2002). VMS was required to ensure that vessels comply with area restrictions and provide enforcement a tool to monitor compliance.

[62] Applications are available at: http://alaskafisheries.noaa.gov/ram/ffpapp.pdf.
[63] 50 CFR 679.28(f)(6)(i)

Any vessel that is required to be federally permitted and operating in the Aleutian Islands subarea, and adjacent state waters, is required to have VMS under 50 CFR 679.28(f)(6)(ii). This regulation was implemented under the final rule that identifies and describes essential fish habitat (EFH), designating habitat areas of particular concern (HAPC), and measures to minimize, to the extent practicable, adverse effects on EFH (71 FR 36694, June 28, 2006). VMS was required to efficiently enforce closure areas related to EFH and HAPC. During this action, an alternative to exempt vessels less than 32 ft. LOA in the Aleutian Islands was considered. However, the Council determined that the potential for small vessels to employ bottom contact gear in protected EFH and HAPC waters in the Aleutian Islands subarea made it necessary for all vessels to carry VMS to efficiently enforce closure areas.

It is due to this potential interaction with Steller sea lions and other protected species and their habitat, that the Council is not considering direct exemptions from VMS under the action alternatives at this time. With Alternatives 3, 4, or the revised Alternative 4, small vessels interested in Pacific cod CDQ fishing would be required to install and operate VMS regardless of the size of vessel.

However, under Alternative 2, small vessels regulated by this action would still be considered halibut CDQ fishing and not targeting groundfish. Therefore, they may not be required to carry VMS; however, there are some scenarios that do still require those vessels fishing halibut to carry VMS. As previously discussed, if the participant operates a vessel required to be federally permitted in reporting areas located in the AI subarea or operate a federally permitted vessel in adjacent State waters, then that vessel must install and operate a VMS. Additionally the vessel would be required to carry VMS if the CDQ vessel is also targeting sablefish in the Bering Sea or Aleutian Islands IFQ regulatory areas.[64] Section 3.3 raises the concerns and expectation with allowing the potential of increased retention of Pacific cod by the halibut fishing vessels that do not have VMS, as outlined in Alternative 2. Consultation with the NMFS Protected Resources Division would likely need to occur if this were the Council's preferred alternative.

4.9.6.1 Current Technology for VMS on Small Vessels

A practical hurdle to the VMS requirement is that no commercial fishing vessel less than 30 ft. LOA has installed and used VMS in the North Pacific region to date.[65] This is not to say it cannot be accomplished. It is the vessel owner's responsibility to obtain a NMFS-approved VMS transmitter and have it installed on board in accordance with instructions provided by NMFS.[66] Vessel operators must use VMS units supplied by vendors approved by NOAA OLE. Approval is required to ensure integration of privately supplied VMS units and NOAA OLE data processing capabilities. VMS transceiver units approved by NMFS are referred to as type-approved models. A list of approved VMS units is available from the NOAA OLE.[67] Participants are encouraged to communicate with providers of NMFS-approved units to find a system that would work for their size and type of vessel.

A representative from the NMFS-approved vendor, Faria WatchDog Inc, provided general clarification on the limitations and level of burden for these units for small vessels. Faria WatchDog has previously installed VMS units on vessels 18 ft. LOA to 600 ft. LOA throughout the country and internationally (Pete Harpin, Faria WatchDog Inc, personal communication, May 8, 2014). This company provides sophisticated additions for the basic system (e.g., touch screen terminals, which can provide the user real-time information and send emergency notifications). However, CDQ vessels are not required to augment

[64] 50 CFR 679.42(k)
[65] In the Alaska region, there is one vessel registered with VMS at 30 ft,, two at 31 ft., and twelve at 32 ft. LOA.
[66] 50 CFR 679.28(f)(3) Copies of the VMS installation and operation instructions are available from the Regional Administrator.
[67] The list of NMFS type-approved VMS units is available at http://www.nmfs.noaa.gov/ole/docs/2014/051414_noaa_fisheries_service_type.pdf.

the basic system. As an example of the unit, Appendix A.6 contains a manual and diagram.[68] These systems consist of:

- The VMS itself — a box about the size of a car radio containing a GPS and VHF radio — should be bolted into wood or metal. The system is "weather resistant," but it can also be fitted in a waterproof box if it is likely to be submerged in water.
- A GPS antenna to pick up satellite signals
- A VHF antenna to transmit the report to a satellite
- A 12–24 volt DC battery or power source
- Cables that connect the unit to the two antennas

For small vessels that do not have any other power sources on board, the battery can run several days to a week before needing to be connected to a power source and recharged. With the appropriate connection, they also can charge off of an engine. Regulations generally do not require these units to be running when the vessel is in port.[69]

The VMS transmitters should be installed by a NMFS-approved dealer. Many of the CDQ communities are difficult to reach and do not host a NMFS-approved vendor. In this case, a company like Faria WatchDog would work with marine dealers or someone in the community to be trained and certified to install the product. Burden of installation depends on the style of vessel and the process could range from ten minutes to two hours.[70]

There are both fixed and variable costs associated with the installation and operation of a new VMS. Average fixed cost for installation and activation is about $3,500 (McCracken 2012). The NOAA funded, Pacific States Marine Fisheries Commission administered, reimbursement program will aid eligible users up to $3,100 of that initial cost.[71] Variable costs may include monthly transmission costs ranging from $40 to $55 depending on the unit installed and potential maintenance and repairs averaging to $77 per year.[72]

4.9.6.2 Alternatives to VMS

One of the primary benefits to VMS is its ability to provide real-time spatial location information for enforcement and fishery monitoring. Currently there are no operational VMS alternatives in Alaska. Alternatives to collect spatial information could include Automatic Identification System (AIS) units and GPS data loggers; however, both alternatives have limitations and are not immediately capable of being a viable alternative to VMS. Costs, feasibility, and effectiveness of these methods still need to be researched. Moreover, it is very difficult to the compare the hypothetical user burden these alternative may have in contrast to a baseline cost, because VMS units have not been operational on a small vessel

[68] For more information about this system see http://www.fariawatchdog.com/site/fwi_products_750_sb.php.
[69] 50 CFR 679.28(f)(6)
[70] A Faria WatchDog representative suggested that larger vessels can have a more difficult installation process, since determining how to route the cables in an unobtrusive way across the vessel can be a challenge. For small vessels, placement of the antennas can be the largest challenge; however, they have accomplished it on even 18 ft. open skiffs without a center console. In this case, they attached a small piece of wood across the vessel and attached the two antennas to the wood (Pete Harpin, Faria WatchDog Inc personal communication, May 8, 2014).
[71] For more information on the reimbursement program see http://www.psmfc.org/program/vessel-monitoring-system-reimbursement-program-vms.
[72] For a more thorough discussion of VMS see McCracken (2012).

fleet in the North Pacific. Table 4-15 displays some elements of the monitoring alternatives that can be assessed at this time.

Table 4-15 Comparison of Monitoring Alternatives in the North Pacific Region

	Monitoring system		
	VMS Unit	AIS	GPS Data Loggers
Currently used	Yes	No	No
Currently used on vessel < 35 ft. LOA	No	No	No
Real time data collection	Yes	Yes	No
Consistent coverage	Yes	No	Yes

AIS units collect information that is similar to VMS in real time. However, there are limitations with AIS. Unlike VMS that collects information via satellite and can collect spatial information throughout the entire North Pacific, AIS collects most information through stations located on shore (terrestrial AIS stations). There are approximately 100 terrestrial AIS receiving stations in Alaska. Terrestrial AIS receiving stations can only collect spatial information within 15 to 40 miles from a terrestrial receiving station depending on antenna height and location. This results in large areas of the BSAI and GOA that are not covered by AIS units.

Recent advances in AIS technology have enabled more powerful AIS units to transmit information via satellite. This resolves most of the spatial constraints on AIS data; however, unlike terrestrial receiving stations that collect information in near real-time, satellite AIS receiving stations only receive information when a satellite is within line of sight. AIS does not store information. Any time a satellite is not overhead receiving the transmissions, the information is not collected. This results in large gaps of time when data are not received.

GPS data loggers could be designed to collect information similar to VMS. GPS data loggers do not have spatial constraints like AIS units and can collect spatial information and other information at much higher frequency than VMS currently does. However, unlike VMS, this information is not collected real-time. A GPS data logger stores information throughout a trip and that information is transmitted when the fishing trip ends or when the vessel is in port, similar to electronic logbooks. Development of GPS data loggers as a viable alternative is currently being studied. Alaska Longline Fishermen's Association is currently testing the feasibility of these units in Alaska fisheries. However, whether these units meet the enforcement and fishery monitoring needs and the associated implementation costs still needs to be researched.

4.9.7 Indirect Impacts on FLL Fleet

Should the small vessels that fish on behalf of the CDQ groups have the opportunity to retain more Pacific cod in a targeted fishery, the CDQ group's quota manager would redistribute some of the group's Pacific cod quota to its small vessel fleet. Currently, this allocation is split between their incidental catch for other fisheries and their directed Pacific cod CDQ fishery. A CDQ group's internal reallocation of quota would derive exclusively from that pool of directed fishing quota. Therefore, this reallocation could indirectly impact its current user, the FLL fleet.

These vessels are relatively diversified into other fisheries. Table 4-2 demonstrates that an average of 75 percent of this fleet's gross revenue is derived from some source other than the Pacific cod CDQ they fish. While there is no basis for knowing how much of the Pacific cod CDQ will be redistributed away from the FLLs, it would be a portion of this percentage that varied by the groups' needs. Additionally, as demonstrated by the description of the current participants in Section 4.6.2, in many cases the CDQ group

owns all or a percent of the vessels used to prosecute this quota. If the CDQ groups chose to move quota from their larger FLL vessel to allow small vessels to fish this quota on their behalf, they have already determined that this internal transfer is in the best interest of their group.

In all cases, it is the CDQ group's responsibility and privilege to determine how to apportion the allocation of Pacific cod assigned to the group; however, the action may have the potential to impose some economic indirect effects on present FLL fleet.

4.9.8 Lease Rate Revenue

If one of the action alternatives described in Section 4.3 is pursued, fishery participants that comply with sector regulations and meet the CDQ groups' definition of "local" will have an opportunity to take advantage of the community's quota, without incurring the cost associated with a lease rate. The CDQ group will likely lose a percentage of revenue from this internal reallocation of its Pacific cod quota. However, quota managers describe this additional revenue as marginal and consider it a secondary priority to their goal of encouraging the development of their local small vessel fleet (Anne Vanderhoeven, BBEDC, personal communication, December14, 2013).

4.9.9 Cost Recovery

A proposed rule to implement cost recovery for the CDQ Program was issued by NMFS on January 7, 2015 (80 FR 936). Under this proposed rule, NMFS would recover the costs associated with the management, data collection, and enforcement of the CDQ Program. If the CDQ cost recovery program is approved, NMFS can recover the administrative costs for the small vessel Pacific cod CDQ fisheries that are incurred after the effective date of final rule.

4.9.10 Diseconomies of Scale and Potential Processing Capacity

Internally reallocating Pacific cod CDQ shifts some production capacity from large FLL vessel that currently have the economies of scale needed to vertically integrate the harvesting, processing, freezing and delivery activities of the fishery, to smaller community-based vessels that are unlikely to perform all of these functions. Economic efficiency is lost in this internal transfer. This may not be considered a loss for most parties, but still presents the community, CDQ group, and small-vessel participants the challenge of either having or developing the proper infrastructure capable of moving product in potentially small quantities.

These challenges will be different by community. If the community is already set up to process Pacific cod they are likely to already have the infrastructure and market availability to absorb an additional amount of Pacific cod from small vessels. If not, the small vessel participants would encounter the challenges involved in moving the product from landing to market place. These participants would need to identify avenues for processing, cold storage, shipping, distribution and finding the proper market for the product.

For example, if an action alternative is to be successful in allowing the CDQ small CVs additional opportunity to harvest and retain Pacific cod for commercial sale, commercial processing capacity will need to both exist and be within reasonable proximity to the participating CDQ communities. This could include opportunities from an onshore or processing plant, or small vessels may be able to deliver to C/Ps that are currently harvesting and processing Pacific cod in their region.

Depending on the action alternative the Council pursues, small vessel Pacific cod CDQ harvest will likely occur simultaneously with the CDQ/IFQ halibut fishery. Therefore, in the most ideal circumstance, Pacific cod processing would occur in the same plant as halibut processing.

If the preferred alternative results in a significant enough retention of Pacific cod by the CDQ small vessel fleet, shore-side processors that did not previously include Pacific cod in their production lines may have more of an opportunity to develop the economies of scale needed to process Pacific cod.[73] Within the past ten years, 3,884 mt of Pacific cod CDQ[74] was landed in eight ports, representing nine shore-side processors. Of that amount, 3,328 mt was landed in the past three years. This alludes to the recent development in the processing ability of a number of shore-side processors.

Within APICDA's region:
If retention of Pacific cod is authorized for the small vessel fleet of APICDA, vessels in the AI could deliver to the shore-side processor in Atka. Atka is home to the processor, Atka Pride Seafoods, which serves the local halibut fleet and employs local residents. Atka Pride Seafoods began processing in 1995, and is a joint ownership venture between APICDA Joint Ventures and Atka Fisherman's Association. Their current primary species are halibut and sablefish. Atka Pride Seafoods recently completed a $4 million expansion, and will begin another major round of improvement in 2014, to make the plant a year-round operation. Once these improvements are completed, in 2014 or 2015, the processing capacity of the shore-side processor will be up to and no more than 181 mt of Pacific cod per day (McCracken 2014; Luci Roberts, APICDA, personal communication, May 6, 2014).

Small vessels that fish halibut CDQ on behalf of APICDA in St. George (approximately four or five vessels), generally tenders their halibut harvest to St. Paul Island, for processing at the Trident Seafoods plant. If there are increased opportunities to retain Pacific cod, these vessels may have the option of tendering their Pacific cod harvest to this processor.

Within BBEDC's region:
There currently are no Pacific cod processors in this region. BBEDC's Pacific cod allocation is ordinarily leased and landed outside the area, due to stock availability. If additional Pacific cod was retained in this region, it would need to be hand cut (Anne Vanderhoeven, BBEDC, personal communication, March 11, 2014).

Within CBSFA's region:
The City of St. Paul, the one location represented by CBSFA, is the site of one shore-side processor. In 1994, Trident Seafoods purchased the processing plant, previously owned by Unipac, and has operated the processor since then. This Trident processor operates about seven months of the year and is primarily dedicated to crab: king crab, snow crab, and hair crab (Tridentseafoods.com). The Trident plant is not affiliated with CBSFA, but it has custom processed the group's halibut CDQ in the past. Additionally, the plant has had some capacity for headed and gutted Pacific cod; the amount varies from year to year (Jeff Kaufman, CBSFA, personal communication, May 6, 2014).

[73] This is a "chicken-and-egg" dilemma, in which the small vessel participants need the available processing facilities in order to enter the fishery. However, under traditional market conditions, these facilities would be unlikely to invest in the capital needed unless they are reasonably confident the nearby harvesting operations would create enough demand. CDQ groups have an advantage in that they may have the financial means to (and are designed to), encourage these types of economic opportunities for their residents. However the CDQ group may need to decide if they are committed to subsidizing a processing operation in the long term, if processing the quantity of Pacific cod that small vessels harvest is not profitable enough to justify the out costs.
[74] This value omits Pacific cod CDQ harvested by one catcher/processor that delivered to a shore-side processor between 2003 and 2007.

Within CVRF's region:
Coastal Villages Seafoods (CVS), a subsidiary of CVRF, has six small halibut processors distributed throughout the 20 member communities and one larger regional seafood processing plant in Goodnews Bay. Halibut fishermen of CVRF either deliver to one of these six plants or to tenders. Once the fish is delivered it is put on ice in totes and collected by tenders, then taken to the Goodnews Bay processor.

This processing operation is subsidized by profits from CVRF's pollock, Pacific cod, and crab fishing operations in the BSAI. CVRF does not directly profit from buying fish in the region—the Yukon-Kuskokwim delta. The purpose of CVS is to provide seafood industry jobs and economic opportunities for its residents. The processors in the region employ local residents.

Due to the drastic decrease of the halibut quota, CVS anticipates the entire CVRF halibut quota may be caught in a few weeks, to a month. Therefore, if its small vessel fleet had increased opportunity to retain Pacific cod, it may be able to expand its processing operations to make up for the diminished halibut quota. Under Alternatives 2 through 4, small vessels halibut fishermen for CVRF would deliver their halibut and MRA or directed Pacific cod to one of their six halibut plants, a tender, or the main processing plant in Goodnews Bay. CVRF has the capacity to process all the Pacific cod that the estimated 200 small vessels can harvest (Troy Wilkinson, CVRF, personal communication, March 18, 2014).

Within NSEDC's region:
The bulk of the processing capacity for the Norton Sound region occurs in Nome through Norton Sound Seafood Products (NSSP), a division of NSEDC. Halibut CDQ fishery participants in the Norton Sound region generally either deliver halibut catch to this plant in Nome or to the NSSP halibut processing facilities in Savoonga. Along with halibut, crab, salmon, and bait fish, NSSP in Nome currently maintains the facilities for some Pacific cod fillet processing. Therefore, a CDQ small vessel fleet could deliver to Nome. Additionally, if enough Pacific cod is able to be retained by the NSEDC's small vessel fleet, Savoonga may be prepared to expand its operations for Pacific cod capacity to accommodate this diversification by its community members (Simon Kinneen, NSEDC, personal communication, May 12, 2014).

Within YDFDA's region:
Since YDFDA's 4D halibut allocation is far off shore in the BS, a small vessel halibut fishery has not developed by the YDFDA communities. Since a small vessel halibut CDQ fishery does not exist here, it would not be likely that residents of this region would take advantage of opportunities to retain Pacific cod CDQ. Because Pacific cod generally has a much lower ex vessel value than halibut, stakeholders have indicated that the complementary source of revenue from even a small amount of halibut will still be important in order to generate a profit in most small vessel fishing operations. Some stakeholders have indicated that for them, Pacific cod quota on its own would not be sufficient to sustain business. Moreover, having not previously participated in the halibut CDQ fishery, residents in YDFDA would incur more initial fixed costs in entering into a Pacific cod CDQ fishery than those with historical participation in a halibut fishery.

More importantly, this region does not have an abundant Pacific cod stock in the near-shore region. Costs to get to the grounds could be higher than the revenue a small vessel Pacific cod fishery would produce. Therefore, the processing capacity for Pacific cod has never developed (Eric Olson, YDFDA, personal communication, May 13, 2014).

4.9.11 Economic Benefits

4.9.11.1 Direct and Indirect

It is clear there are potential benefits to be had by individuals, by regions, and even possibly in catch accounting from any Council action that promotes increased catch and retention of Pacific cod CDQ by a small vessel fleet.

This action would benefit individuals by providing a complimentary source of income to that earned in the halibut CDQ fishery. On its own, stakeholders have testified that revenues earned from the harvest of Pacific cod would not be enough to sustain their livelihood. However, in the face of declining halibut stocks, this augmented income from Pacific cod may be enough to sustain their livelihood as halibut income becomes less certain. The ability to have species diversification would strengthen their operation.

Similarly, species diversification could strengthen processor operations. With declining halibut stocks, some processors may also suffer. Less halibut CDQ not only means less revenue from the product, but it also may mean the quota will be harvested more quickly, giving the processors a shorter season of operation.[75] If, under Alternative 3 Option 1 or revised Alternative 4 Option 3, the small vessel participants fished Pacific cod before or after the halibut season, this could be an opportunity to extend processing operations. It may give processors an opportunity to diversify and distribute their fixed costs across a wider range of outputs.

These fishery participant and processor impacts will have multiplier effects throughout the region, indicating increased economic activity (although not necessarily indicating economic benefits to the community). Other sectors (e.g., fuel, lodging, food, retail, vessel equipment and maintenance services), may experience increased or sustained activity in their region. These alternatives may provide some stability to regions that could otherwise be adversely impacted by the declining halibut quotas.

Finally, there may be management benefits to consider under all Alternatives 2 through 4. Currently, non-target Pacific cod is caught in the halibut CDQ hook-and-line fishery. However, catch accounting is not capturing all of this removal. It is suspected that Pacific cod caught in this fishery is discarded or used as bait. A more efficient harvest of Pacific cod, under these alternatives, could allow for improved record-keeping of this catch, since much of this Pacific cod would, presumably, be retained, landed, and reported as harvest for commercial sale.

While the resources to quantify the net benefits of the Alternatives 2 through the revised Alternative 4 are not available, it is believed that the benefits derived from small vessel retention of Pacific cod CDQ occur at relatively minimal cost.

4.9.11.2 Distributional Impacts

All action alternatives would directly impact some CDQ groups and some participants more than others. The individual and regional effects derived from the proposed action depends on factors such as the current participation in the halibut CDQ fishery, future halibut TAC and CDQ, availability of Pacific cod stock, the catch per unit of effort expended (CPUE), handling and transport, availability and accessibility

[75] Although it is possible that a lower TAC could lead to a decrease in catch per unit of effort expended, creating smaller more temporally dispersed deliveries, it is more likely that the CDQ group allocations will be a condensed harvested in a shorter season. This is due to the fact that many CDQ groups still employ their own derby-style halibut fishery (with an individual cap) that creates an incentive for vessel operators to harvest their group's allocation quickly.

to processing capacity. Focusing on these factors may provide an initial understanding of the likelihood that an individual in a CDQ group will successfully take advantage of increased opportunity to retain Pacific cod.

Due to the limited Pacific cod stocks, as well as challenges anticipated with small vessel operations (e.g., CPUE, catch handling and delivery, access to local processing capacity, market availability) in their regions, neither BBEDC nor YDFDA anticipate small vessel participants deriving net benefits under any of the action alternatives. Quota managers for the other CDQ groups express a more optimistic potential for net benefits to accrue to small vessel operators in their region, from the proposed action.

4.10 Analysis of Impacts: Alternative 2, Change the MRA for the Halibut CDQ Fishery

Alternative 2 would increase the maximum retainable amount (MRA) of Pacific cod from 20 percent of the weight of the halibut CDQ harvest, up to 100 percent of the halibut CDQ harvest for hook-and-line catcher vessels less than or equal to 46 ft. LOA. Consistent with current groundfish standards, all Pacific cod caught, up to this MRA, on a federally permitted vessel must be retained and accrues towards the Pacific cod CDQ for that group. While this option aligns with the Council's problem statement by providing CDQ groups the opportunity to retain more Pacific cod while halibut fishing, this alternative does not facilitate a directed Pacific cod CDQ fishery. Rather, a change in the MRA only allows a participant's Pacific cod CDQ harvest to equal but not exceed the amount of halibut CDQ harvested. This alternative does not necessarily allow 100 percent retention of Pacific cod, but instead allows for a matching ratio of Pacific cod to halibut CDQ harvest.

Since this alternative does not operate under the directed Pacific cod fishery, vessels operating under this proposed action would not be required to possess an LLP license; they would be in the partial observer coverage category; and, following existing regulations, many of them might not be required to carry VMS. Exceptions to this VMS provision include federally permitted vessels operating in the AI, which are required to carry VMS due to Steller sea lion critical habitat and EFH.

As discussed in Section 3.3, this alternative still requires the consideration of Steller sea lion protected critical habitat, before it can be determined that the current VMS regulation would still apply. This is because Pacific cod is a prey species of Steller sea lions. The halibut CDQ fishery is able to operate in some areas that are closed to Pacific cod hook-and-line fishing, without the use of a VMS. Under Alternative 2, it is possible that a vessel could have the same Pacific cod and halibut catch composition as a vessel operating under the status quo, except that under the status quo that vessel would be required to carry VMS and adhere to Steller sea lion closures. Since many of the halibut CDQ vessels are not required to carry VMS, it cannot be determined if halibut CDQ fishery participants are or would be adhering to the area closures for Pacific cod fishing with hook-and-line gear. It is not possible to predict with confidence the size of a Pacific cod quota that would be redistributed to the small vessels fishing on behalf of CDQ groups to account for this incidental catch. At its limit, Alternative 2 could produce Pacific cod landings in the CDQ halibut fisheries equal to the weight of the full halibut CDQ harvest (which, for example, provided a CDQ reserve of almost 800,000 lb. in 2014). Despite the expectation that Pacific cod would not be harvested intensively in one area of Steller sea lion critical habitat, there would be no regulations to prevent or monitor these operators. Therefore, while the impact on Steller sea lion critical habitat areas is likely to be minimal, the uncertainty is large. It would be necessary to initiate consultation with the NMFS Protected Resources Division under section 7 of the Endangered Species Act, if this was the Council's preferred alternative.

The language of this alternative stipulates that all Pacific cod caught, up to the MRA on a federally permitted vessel must be retained and accrues towards the Pacific cod CDQ quota. The MRA increase would be implemented consistent with the current practice of the MRA of groundfish in other CDQ fisheries. Increased retention would be required of all federally permitted vessels[76] prosecuting the halibut CDQ fishery. The decision of who has increased retention opportunities (requirements) to retain Pacific cod would be simultaneously decided with the determination of who will use it and how much halibut CDQ will be used by any individual.

This consistent application of the requirements across halibut CDQ participants, as with the status quo, means that there should be no greater burden on identification and enforcement than under the status quo. All participants would be required to carry a halibut CDQ permit, as well as a CDQ hired master's license. Therefore, enforcement would be able to identify the eligible vessels when boarded at sea.

Alternative 2 works within the framework of established management tools; however, there are also concerns around this precedent-setting use of a 100 percent MRA. Currently, the highest MRA is set at 35 percent.[77] Increasing the MRA from 20 percent to 100 percent could weaken the distinction between the MRA of an incidental catch species and directed fishing for that species.

Additionally, the success in increasing Pacific cod retention opportunities for the CDQ small vessel fleet is directly conditionally on the halibut CDQ fishery in Alternative 2. If the halibut CDQ continues to drop, as has been the trend since 2011, this complimentary source of income may not provide much benefit as the MRA proportionally drops.

4.11 Analysis of Impacts: Alternative 3, Create a New LLP License for Pacific Cod CDQ Participants

In Alternative 3, NMFS would create a new groundfish CDQ LLP license for participating hook-and-line catcher vessels less than or equal to 46 ft. LOA. Federally permitted vessels with a groundfish CDQ LLP license would be able to participate in the directed Pacific cod CDQ fishery. These LLP licenses would be non-transferable and be applicable only to Pacific cod CDQ. If the vessel had a CDQ LLP license available, then all Pacific cod caught would need to be retained and it would accrue towards the Pacific cod CDQ allocations.

Vessels would either continue to be subject to the full coverage observer category consistent with existing requirements,[78] or the Council may consider one of the two options for modification of these requirements. In both of these options, all vessels that hold a groundfish CDQ LLP license for participating in a directed Pacific cod fishery would be placed in the partial coverage observer category.

In order to analyze the impacts of Alternative 3, it is necessary to first discuss the intent of the LLP. The following section is dedicated to this purpose and how this purpose may or may not be appropriate for the proposed action. Second, the Community Quota Entity (CQE) LLP in the GOA is used as an example of design and restriction. Third, the two options for changes to the observer coverage requirements are examined. The fourth section highlights policy the Council may want to consider for final action of this alternative.

[76] And as indicated in Section 2.1, all vessels participating in a CDQ fishery in which the CDQ group was granted a sablefish allocation, are expected to be federally permitted. This includes all of the CDQ groups except CVRF.
[77] 50 CFR 679 Table 11 BSAI Retainable Percentages
[78] 50 CFR 679.51(a)(2)

4.11.1 Purpose and Description of the License Limitation Program

The LLP was first proposed as a management tool as part of the comprehensive rationalization plan (CRP) in 1992.[79] It was intended to be a first stage in fulfilling the Council's objective of finding comprehensive solutions to the conservation and management problems of an open access fishery. In the problem statement for the CRP, the Council identified 14 issues of concern with the open access fisheries to be addressed in the CRP (62 FR 43689, August 15, 1997):

(1) Harvesting capacity in excess of that required to harvest the resource.

(2) Allocation and preemption conflicts between and within industry sectors, such as with inshore and offshore components.

(3) Preemption conflicts between gear types.

(4) Gear conflicts within fisheries where overcrowding of fishing gear exists due to excessive participation and surplus fishing effort on limited grounds.

(5) Dead-loss such as "ghost fishing" by lost or discarded gear.

(6) Bycatch loss of groundfish, crab, herring, salmon, and other non-target species, including bycatch that is not landed for regulatory reasons.

(7) Economic loss and waste associated with discard mortality of target species harvested but not retained for economic reasons

(8) Concerns regarding vessel and crew safety that are often compromised in the race for fish.

(9) Economic instability within various sectors of the fishing industry, and in fishing communities caused by short and unpredictable fishing seasons, or preemption that denies access to fisheries resources.

(10) Inability to provide for a long-term stable fisheries-based economy in small economically disadvantaged adjacent coastal communities.

(11) Reduction in ability to provide a quality product to consumers at a competitive price, and thus maintain the competitiveness of seafood products from the EEZ off Alaska on the world market

(12) Possible impacts on marine mammals and seabirds, and marine habitat.

(13) Inability to achieve long-term sustainable economic benefits to the Nation.

(14) A complex enforcement regimen for fishermen and management alike that inhibits the achievement of the Council's comprehensive goal.

[79] While a CRP for all of the Federal fisheries was not fulfilled as originally planned, elements of the package, like the LLP, were implemented through the planning process.

The Council then identified and contrasted 11 management tools that could be used to mitigate these issues: (1) exclusive area registration; (2) seasonal allocations; (3) license limitation; (4) gear allocations; (5) inshore/offshore allocations; (6) CDQ allocations; (7) trip limits; (8) individual fishing quota (IFQ) for prohibited species catch; (9) non-transferable IFQ; and (11) harvest privilege auction. After comparing the strengths and weakness of these management measures with the goals for the CRP, the Council determined license limitation and transferable IFQ to be the most viable tools.

While the Council deemed transferable IFQs to hold the most potential for alleviating the issues identified in the problem statement, members agreed that implementing an LLP as a first and interim step would be opportunistic. This program would be able to be implemented more expeditiously than an IFQ program; providing a more immediate effect on the stability of local economies as well as for the many environmental components of the fisheries. Moreover, the LLP would provide baseline information on the active fleet that would be necessary for the analysis components of an IFQ package.

The LLP's direct purpose is to restrict the number of vessels in a particular fishery. The expected result of this restriction is to prevent overcapitalization in fisheries at levels that could occur in the future if this constraint was not present.

This program also can provide the indirect results of other management tools. For instance, a byproduct of limiting the number of vessels sometimes includes decreasing total fishing effort. Fishing effort is indirectly regulated through the LLP. If there are a limited number of entries able to prosecute a fishery, there will also likely be a smaller number of total trips taken throughout the season. Less competition can mean longer seasons and may allow vessels to be more deliberate in targeting a single species, resulting in a potentially more efficient harvest.

Additionally some management tools, such as area restrictions, vessel size restrictions, and species endorsement have been incorporated into groundfish LLP licensing conditions. These additional management measures are described in Section 4.6.6.1.

4.11.2 Use of LLP for Alternative 3

The immediate inconsistency between the purpose of the original LLP and the purpose of the action in Alternative 3 is the LLP's purpose is to restrict the number of vessels in a particular fishery, while this action would potentially allow additional vessels, which had not previously held an LLP license, into the BSAI groundfish fishery.

However, the Council may determine that despite this variation, it would be worthwhile to be able to use an established tool that could meet the monitoring and identification needs of this action with low marginal implementation costs. The creation of new LLP licenses for the CDQ small vessel fleet does not perpetuate the underlying concerns raised in the problem statement of the original CRP. The CDQ Program already addresses these concerns through the consequence of being a catch share program.

The new CDQ groundfish LLP license would indicate that the participant was Pacific cod ("groundfish") CDQ fishing. In other words, it would not be necessary to adjust the MRA in the halibut CDQ fishery, because the increased opportunity to retain Pacific cod would be available through a directed fishery. The determination of whether the participant was able to operate in a multi-species fishery (i.e., directed fishing for both groundfish CDQ at the same time they are targeting halibut CDQ) is determined in the options for this alternative.

The primary benefit of prescribing additional Federal licenses would be to provide enforcement a way to monitor and identify those vessels permitted to participate in the Pacific cod CDQ fishery. In the halibut

CDQ fishery, participants are required to carry a halibut CDQ permit and a halibut CDQ hired master's permit, both of which accomplish this goal. The Federal LLP license would deliver this same at-sea function through an already established tool that requires some, but minimal, setup. Creating a new type of permit for vessels to carry could require a new database and additional RAM infrastructure. However, any option establishing a community license or permit will require some additional administrative effort on the part of the CDQ group or the application and reporting process.

The CDQ LLP license could be carefully designed so as not to allow participation in the existing limited access fishery for the BSAI Pacific cod. LLP licenses have been added to meet specific Council objectives in the recent past. The CQE LLP implemented in the GOA is an example of this kind of program. However, the difference between the CQE LLP and what is proposed here is that the former was preceded by a fixed gear recency action that first limited the number of LLP licenses in circulation in the GOA. These CQE LLP licenses are then used in the limited access fishery and not within a pre-established catch-share program. The Council could consider a variation of this approach.

In 2011, the LLP regulations were amended to authorize some of the GOA CQE eligible communities to request non-trawl groundfish LLP licenses endorsed for Pacific cod, to be used in the Central or Western GOA limited access Pacific cod fisheries. Under these regulations, the CQE must annually, in an authorization letter, assign each community LLP license to a user and a vessel, and must provide a copy of the authorization letter, and any subsequent amendment to that authorization letter to both NMFS and the vessel operator. There are additional residency and other requirements for the community LLP license users. Additionally, the CQEs are expected to produce an annual report on licenses use. These licenses are non-transferable and have a specified MLOA of less than 60 ft.

Similar to the CQE LLP, regulations could establish guidelines for CDQ eligible communities to request non-trawl groundfish LLP licenses endorsed for Pacific cod in the BSAI. The difference is that they would only apply to Pacific cod CDQ fishing. The CDQ communities would need to submit an application to the Regional Administrator, outlining the number of LLP licenses requested, the criteria used for establishing residency and eligibility for their participants, and procedures used to solicit requests from residents to be assigned an LLP license. LLP licenses would be issued annually and the vessel operator would be required to maintain a copy of the annual CDQ LLP license on board when that vessel is directed fishing for Pacific cod CDQ under the authority of that groundfish license. This would include vessels 32 ft. LOA and under that are currently exempt from holding a Federal license. These LLP licenses would be non-transferable and registered to only one vessel and one individual during a given year. They would only be issued for non-trawl gear, have a catcher vessel designation, and have a 46 ft. MLOA.

A necessary issue to consider under Alternative 3 is the number and distribution of LLP licenses throughout the CDQ communities. Unlike the CQE LLP, where license caps were able to be established from past participation, CDQ vessels that would benefit from a directed Pacific cod harvest will not have a historical harvest from which to establish control dates. It is clear that this action would be introducing new vessels to the Pacific cod CDQ fishery. A system to allocate CDQ LLP licenses would need to be determined. Because fishing effort is already capped by the quota that the CDQ group has available, it may not be important from a sustainable harvest management perspective to restrict the number of CDQ LLP licenses available to each group. The Council could establish a license cap to be set in regulation, as is the case with the CQE LLP,[80] or the Council may consider an unlimited license distribution, to be applied for annually without a cap.

[80] 50 CFR 679.4(k)(10)(vi)

If the Council thinks a cap is warranted, there are several methods the Council may consider. Due to the implied connection between the halibut CDQ fishery and the potential Pacific cod CDQ fishery, some of the options depend on past participation in the halibut fleet.

1) Using the control years of 2009 to 2013, each CDQ group would be allocated the number of unique vessels less than or equal to 46 ft. LOA participating in the halibut CDQ fishery representing their group (Table 4-16).
2) Using the control years of 2009 to 2013, each CDQ group would be allocated the number of unique vessels less than or equal to 46 ft. LOA participating in the halibut CDQ fishery representing their group. A ceiling would be set at 50 individual licenses for each group (Table 4-16).
3) Using the control years of 2009 to 2013, each CDQ group would be allocated the number of average vessels less than or equal to 46 ft. LOA participating in the halibut CDQ fishery representing their group (Table 4-16).
4) The Council could allocate an even number of CDQ LLP licenses annually to each CDQ community.

Table 4-16 Three example criteria for determining the number of LLP licenses allocated to CDQ groups

	LLP License Cap					
	APICDA	BBEDC	CBSFA	CVRF	NSEDC	YDFDA
Criteria 1: Unique vessels between 2009 and 2013	21	40	19	296	32	1
Criteria 2: Unique vessels between 2009 and 2013, with a ceiling at 50	21	40	19	50	32	1
Criteria 3: Average vessels between 2009 and 2012 (rounded to the nearest integer)	10	15	17	168	12	0

Source: ADF&G fish tickets
Note: Over the course of these five years, eight vessels participated in the halibut CDQ fishery on behalf of more than one CDQ group. These were recorded as separate vessels.

4.11.3 Observer Coverage Options

Under both of the options for this alternative, a provision would be built into the CDQ LLP license that allowed for vessels less than or equal to 46 ft. LOA to be moved into the partial observer coverage category. Vessel operators would be required to comply with all vessel responsibilities in 50 CFR 679.51(e)(1) and would be subject to selection for observer coverage following procedures in the Annual Deployment Plan (ADP).

As outlined in Section 4.6.6.2, all vessels CDQ groundfish fishing were placed into the full observer coverage category regardless of vessel size, because the CDQ groups' have the privilege of an exclusive transferable PSQ that cannot be debited by the non-CDQ fishery. Under the current Observer Program, the halibut PSC that accrues to the CDQ groups' halibut PSQ is based on estimates derived from data collected by observers on that trip. Exceeding a halibut PSQ is a regulatory violation,[81] and trip-level observer data would provide evidence of such violations. Without an observer on board, evidence of violation would be indirect; PSC would be estimated from observer data collected on vessels of the most

[81] 50 CFR 679.7(d)(3)

similar sample available. Therefore, it is unprecedented for a catch share program with its own transferable PSQ to be in the partial observer coverage category.

If the Council decides to move this group of vessels to the partial observer coverage, they will need to determine the most appropriate way to account for halibut catch in a Pacific cod CDQ fishery.

4.11.3.1 Option 1: Halibut caught while Pacific cod CDQ fishing is PSC

Under Option 1, any halibut caught while the vessel was targeting Pacific cod CDQ would be considered PSC, and would accrue against the halibut PSQ. This alternative would create harvest inefficiency in the opposite direction of the status quo. That is, CDQ vessels would be required to discard halibut in the Pacific cod CDQ fishery, regardless of the availability of halibut CDQ or IFQ. Moreover, since these vessels would be in the partial observer coverage category, data on actual halibut PSC would be sparse for small vessels. PSC would instead be estimated from the next closest data source, which typically would be from larger vessels that can accommodate an observer on board. This would likely be an imprecise estimate of PSC. This estimated amount of PSC would be debited from the CDQ group's halibut PSQ.

4.11.3.2 Option 2: Halibut caught while Pacific cod CDQ fishing accrues to CDQ or IFQ

Under Option 2, any halibut caught while the vessel was targeting Pacific cod would be required to be retained and accrue against the halibut CDQ allocation. In some ways, accounting would be more accurate and straightforward under this option. Legal-size halibut would be required to be retained and, therefore, landed weight would be subtracted from the CDQ group's halibut CDQ.

However, there are several important points to consider under this option. Unlike the sablefish CDQ fishery, where all sablefish caught by a CDQ vessel is required to be retained, CDQ groups have more control over who will harvest and land halibut CDQ on their behalf. Most groups organize individual contacts with their participant that indicates the amount or percent of the group's quota that that individual has the opportunity to harvest. Moreover, in order to retain halibut CDQ, the vessel operator needs to possess a halibut CDQ permit and a halibut CDQ hired master's permit.[82]

If the quota manager for a group is careful to align those receiving a CDQ LLP license with those that would otherwise receive an allocation of halibut CDQ, halibut catch in the Pacific cod CDQ fishery may be able to be retained and accrue to the halibut CDQ when landed. If eligibility to directed fish for Pacific cod CDQ extends to those individuals that do not meet the regulatory provisions to harvest halibut CDQ or have exhausted their group's internal contract, the participant may not have the opportunity to retain halibut CDQ. Therefore, this option could inherently create retention regulations and accounting methods that differ by participant depending on availability of quota to target halibut CDQ or IFQ.

Additionally, there may be seasonal concerns under this option. The Pacific cod CDQ fishery for hook-and-line vessels lasts the full calendar year; whereas the halibut CDQ fishery generally runs from mid-March to November. Ice conditions may naturally delay Pacific cod fishing to late spring and early summer; however, if halibut is caught in the Pacific cod fishery outside of the halibut season it would not be able to be retained. Therefore, this option would inherently create retention regulations that differ throughout the calendar year. When the Pacific cod season is open and the halibut CDQ season is not open, halibut catch would be PSC. Similar to Option 1, under the circumstances of partial observer coverage, a halibut PSC rate would be estimated and applied to the groundfish CDQ weight. This in turn would provide a basis for deducting some amount of halibut PSC from group's halibut PSQ account.

[82] 50 CFR 679.4(e)

When seasons are simultaneously open, halibut would be required to be retained, and landed weight would be deducted from the group's CDQ halibut allocation.

Under Option 2 the Council would need to consider if eligibility of a small vessel Pacific cod CDQ hook-and-line fishery would be dependent on the seasons and availability of halibut CDQ to fund the incidental catch of halibut. If not, there would need to be a system established within the CAS to differentiate vessels landing halibut CDQ from halibut PSC and an acceptable way to account for halibut PSC when the vessels are in the partial observer coverage category.

4.12 Analysis of Impacts: Alternative 4, LLP Exemption (PPA)

In June 2014, the Council chose a slightly modified version of Alternative 4 as a PPA.[83] Section 2.4 details how this program could work as established by NMFS AK Regional Office recommendations (Appendix A.3) and expanded through continued NMFS AK Regional Office consideration.

Specifically, this alternative would create an exemption from the BSAI groundfish LLP for vessels greater than 32 ft. LOA and less than or equal to 46 ft. LOA using hook-and-line to fish Pacific cod on the CDQ groups' behalf.[84] It would move vessels less than or equal to 46 ft. LOA Pacific cod CDQ fishing using hook-and-line gear into the partial observer coverage category, subject to selection for observer coverage following procedures in the Annual Deployment Plan. These two provisions would apply if participants had CDQ or IFQ available; in which case, halibut caught would be required to be retained and accrue to one of these quotas.[85]

These two primary management changes proposed in Alternative 4 represent a scenario that most closely matches the original proposal the CDQ groups presented to the Council (Appendix A.2). In initial discussions, this framework was intended to be a straw-man, allowing for the NMFS AK Regional Office to provide input on how these changes may or may not impact management, enforcement, and the CAS. These two broad changes required a more detailed discussions of considerations; incorporating the complex finer points of application into the alternative. This section provides additional rationale for NMFS AK Regional Office's recommendations under the details of Alterative 4 and discusses the three mutually exclusive options still requiring Council deliberation with respect to the PPA.

Alternative 4 is recommended by NMFS AK Regional Office in part, because it mitigates some of the administrative burden for both NMFS and the CDQ groups that is present in other alternatives. For instance, Alternative 2 would require consultation with the NMFS Protected Resources Division under section 7 of the Endangered Species Act over the uncertain impacts on Stellar sea lion critical habitat. This would likely add time to the final ruling. Additionally, Alternative 3 would create administrative burden of establishing a new set of BSAI groundfish licenses for CDQ participants, revised annually and established in a RAM database.

Additionally, the Alternative 2 and 3 both represent alternative uses of pre-established management measures. While the Council may consider these actions worthy under the conditions of this problem

[83] Prior to the adoption of the PPA in June 2014, Alternative 4 just specified to "exempt hook-and-line catcher vessels participating in the CDQ Pacific cod fishery with less than or equal to 46 ft. LOA from groundfish LLP requirements. All Pacific cod caught must be retained and accrues towards the CDQ Pacific cod allocations. Vessels would be in the partial coverage observer category."
[84] Vessels less than or equal to 32 ft. LOA are currently exempt from the BSAI ground LLP requirements.
[85] Option 3 loosens this constraint to consider allowing halibut to accrue to a small vessel PSC limit when CDQ or IFQ is not available, or the CDQ group chooses to support the small vessel Pacific cod fishery with halibut PSC rather than halibut CDQ.

statement, there may be unintended consequences of using a management tool in a new way. For instance, it may create a standard that is inappropriate for future actions.

NMFS AK Regional Office recommends Alternative 4 because the expansion of the BSAI groundfish LLP exemption as outlined in the alternative is considered to be justifiable under these specific conditions. From a management perspective, LLP licenses may not be necessary to limit the number of small vessels participating in the CDQ fisheries. As described in Section 4.11.1, the LLP was established as an interim step in the development of a CRP, or catch share program. This upper limit on the number of vessels in the groundfish and crab fisheries was intended to provide stability and limit further over-capitalization in what formerly were "open access" fisheries. The allocation of a specific percentage of Pacific cod TAC to a CDQ group, as well the internal deliberation of eligibility to harvest these allocated shares, would likely already take on the responsibility of preventing over-capitalization among the small vessels that fish on behalf of their group.

Under Alternative 4, no other options were considered for changes in observer coverage. Partial coverage for this category of small vessel and gear type is consistent with non-CDQ fisheries. However if these vessels are moved to partial coverage, the primary decision point is how to account for PSC on a small CDQ hook-and-line vessel. CDQ groups are issued transferable PSQ. Exceeding a PSQ is considered a regulatory violation.[86] By requiring the availability of halibut CDQ or IFQ for small vessels fishing Pacific cod CDQ, the need to determine a legally defensible way to estimate halibut PSC that accrues to a transferable PSQ no longer exists. From a management and CAS perspective, this would be the most straight-forward way to allow for the proposed provisions of Alternative 4.[87]

One difference between Alternative 3 and Alternative 4, is that Alternative 3 inherently includes a mechanism for identification and at-sea enforcement of small hook-and-line vessels participating in a Pacific cod CDQ fishery. NOAA OLE attested that some method for identification of LLP-exempt vessels was important for at-seas enforcement. While the previous requirements to report vessels prosecuting CDQ fisheries were removed to provide consistency with the less restrictive requirements of non-CDQ fisheries, the provisions proposed under Alternative 4 makes this CDQ fishery dissimilar from the non-CDQ sector. Therefore, reinstituting a reporting requirement is still consistent with the CDQ regulation of harvest provisions in the MSA.[88]

Several options were considered in order to allow for identification and at-seas enforcement of vessels exempt from the LLP. OLE recommended against an informal CDQ group-produced document as certification to the license exemption because Enforcement Officers would need to be familiar with at least six different versions of this certification from six different CDQ groups. RAM recommended against modifying a pre-established permit system to allow for a new endorsement because it would require a significant amount of agency resources and time to adapt a database. Ultimately, NMFS agencies recommend a NMFS-issued letter to be kept onboard vessels greater than 32 ft. LOA and less than or equal to 46 ft. LOA eligible for the LLP exemption, as well as an active list of all vessels eligible to participant in a small vessel hook-and-line Pacific cod CDQ fishery to be used as confirmation.

[86] 50 CFR 679.7(d)(3)
[87] However, it also requires the small vessel Pacific cod CDQ fishery to be fully conditional on the CDQ/ IFQ fishery. Since the problem statement articulates that this action is seeking a way to migrate the negative economic impacts of a declining halibut stock on the CDQ communities, the Council chose to consider the CDQ groups' request to create alternate ways to account for halibut PSC in the absence of CDQ or IFQ availability (Option 3).
[88] MSA section 305(i)(1)(B)(iv) states, "the harvest of allocation under the program for fisheries with individual quotas or fishing cooperatives shall be no more restrictive than for participants in the applicable sector, including with respect to the harvest of non-target species."

This option still requires additional time and resources from agency staff to establish an online list and to send out initial letters. It also requires some time and resources from CDQ managers to update the list and coordinate necessary documents with their participants. However, the NOAA agencies deemed this method to apply the necessary level of formality, while mitigating agency and CDQ group administrative burden to the extent practicable. This additional request for information (i.e., list of eligible vessels), will require an Information Collection Request to be submitted to the Office of Management and Budget (OMB) in order to satisfy the Paperwork Reduction Act (PRA).

Additional evaluation of the proposed changes from Alternative 4 revealed that other regulations would remain consistent with the status quo. VMS regulations, Stellar sea lion area closures, as well as specific requirements for Essential Fish Habitat, and habitat areas of particular concern would all remain consistent with current regulations. Since Alternative 4 expands opportunities in a directed Pacific cod CDQ fishery, no changes to the MRA for Pacific cod would be made. Retention requirements of CDQ species and non-CDQ species and accounting methods for at-discard would also fit the responsibilities and methods currently established for directed Pacific cod CDQ fishing.[89]

4.12.1 Option 1 Uniform Application of Provisions for Groundfish CDQ Fishing

The CDQ groups requested analysis of alternatives to facilitate development of a small vessel CDQ fishery specifically for Pacific cod. Halibut, sablefish, and Pacific cod are the primary target fisheries in the BSAI for catcher vessels using hook-and-line gear. It seems unlikely that hook-and-line target fisheries for other groundfish species will develop in the near future. However, limiting the allowances and requirements in Alternative 4 (the PPA) to vessels directed fishing for Pacific cod may inadvertently create a fishery violation if one of these vessels happens to have a catch composition at the time of landing that exceeds the maximum retainable amounts for groundfish species other than Pacific cod or sablefish. In addition, developing regulations that apply only while directed fishing for Pacific cod requires continued maintenance of regulations that would apply for any vessel less than or equal to 46 ft. LOA using hook-and-line gear to fish for any other CDQ species besides halibut, sablefish, and Pacific cod. For these reasons, NMFS Alaska Region recommends that the allowances and requirements described in the PPA be applied to all catcher vessels less than or equal to 46 ft. LOA using hook-and-line gear to fish for any groundfish CDQ species other than sablefish.

Under Option 1, the CDQ groups would continue to control which vessels fish on their behalf and the fisheries in which they participate through private contracts and agreements. Option 1 would not require a CDQ group to authorize small hook-and-line vessels to fish for groundfish species other than Pacific cod. However, it would reduce the administrative and enforcement difficulties should a vessel operator operate in a manner that did not meet the definition of directed fishing for Pacific cod. This would simplify regulations and administration of the CDQ Program, and avoid unnecessary enforcement actions for vessels that inadvertently retain more than the MRA of some other groundfish species. In addition, should markets develop for other groundfish CDQ species in the future, generalized regulations would allow the CDQ groups to conduct these fisheries with small hook-and-line vessels without requiring a follow-up regulatory amendment.

4.12.2 Option 2 Prohibition from Discarding Halibut CDQ with Available Quota

NMFS Alaska Region recommended additional analysis of this Option 2 because initial review of regulations that may need to be revised for the PPA, identified that the following regulation governing

[89] See Section 2.4 for a description of what these requirements are currently.

retention of legal sized halibut while IFQ fishing does not apply while fishing for halibut CDQ (50 CFR 679.7(f)(11)):

> *It is unlawful for any person to do any of the following:*
> *…*
>
> *(11) Discard halibut or sablefish caught with fixed gear from any catcher vessel when any IFQ permit holder aboard holds unused halibut or sablefish IFQ for that vessel category and the IFQ regulatory area in which the vessel is operating, unless:*
>
> > *(i) Discard of halibut is required as prescribed in the annual management measures published in the Federal Register pursuant to § 300.62 of chapter III of this title;*
> >
> > *(ii) Discard of sablefish is required under § 679.20 or, in waters within the State of Alaska, discard of sablefish is required under laws of the State of Alaska; or*
> >
> > *(iii) Discard of halibut or sablefish is required under other provisions.*

The halibut and fixed gear sablefish CDQ allocations were established as part of the IFQ Program, which was implemented in 1993 (58 FR 59375; November 9, 1993). In this final rule, NMFS stated that "control of the halibut and sablefish CDQ programs would be exercised through the issuance of CDQ permits and CDQ cards. This control mechanism is designed to work with the IFQ permit and card system." The prohibition shown above was included in the IFQ regulations to prevent discard of legal sized halibut that were lower in value to other halibut or groundfish.

The IFQ Program final rule did not always identify the requirements that applied while CDQ fishing and those that did not. Many of the IFQ regulations do not apply to halibut CDQ fishing (issuance of quota share, transfer provisions, vessel categories, vessel and quota share use limitations, etc.). Other requirements of the IFQ Program do apply while halibut CDQ fishing (permitting, prior notice of landing, documenting a landing, etc.). Many IPHC regulations governing halibut apply equally to IFQ and CDQ without specifically mentioning either program.

With the concurrence of the Council, NMFS has implemented regulatory amendments to clarify application of specific IFQ Program regulations to the CDQ Program. For example, NMFS clarified that the LLP exemption for fishing for IFQ sablefish does apply to vessels fishing for fixed gear sablefish CDQ. NMFS also clarified that the requirements to retain Pacific cod and rockfish while IFQ fishing do not apply while CDQ fishing because there is no record of the Council's explicit intent to apply these retention requirements to vessels halibut CDQ fishing and extending these requirements would increase the number of CDQ vessels subject to Federal permitting requirements.

Further review of the IFQ Program prohibition against the discard of halibut while an IFQ permit holder is aboard, indicates that it may not be practical to extend this particular prohibition to all CDQ halibut or all CDQ hired masters. As noted in the Council discussion in June 2014, it would be difficult to expect all CDQ hired masters to know the status of the CDQ group's halibut CDQ account balance when there could be many fishermen fishing off the same allocation at the same time. In addition, the CDQ groups establish limits on the harvest of halibut CDQ by individual vessels to manage the CDQ fisheries within the halibut CDQ limits. These CDQ halibut fishing plans could put a vessel operator in conflict with a requirement to retain all legal sized halibut.

While NMFS Alaska Region does not recommend applying the IFQ prohibition against discarding halibut to all halibut CDQ fishing, it likely is necessary to include some halibut retention requirements for vessels less than or equal to 46 ft. LOA using hook-and-line gear to fish for Pacific cod CDQ. A key component

of the PPA is the allowance for vessels less than or equal to 46 ft. LOA using hook-and-line gear to fish for Pacific cod CDQ and use CDQ or IFQ to account for any halibut catch during that fishery. Under current regulations, no vessel using hook-and-line gear and directed fishing for Pacific cod is exempted from the halibut PSC limit even if some halibut is retained during that trip. The PPA would create such an exemption for the small CDQ vessels under the assumption that the vessel operator use halibut CDQ or IFQ to support the catch of halibut in the Pacific cod CDQ fisheries. As described above for the PPA, while the halibut fishery is open, the CDQ groups would be required to provide adequate halibut CDQ or halibut IFQ to support the catch of halibut by catcher vessels less than or equal to 46 ft. LOA using hook-and-line gear that are directed fishing for Pacific cod, and vessel operators would be required to retain all legal sized halibut caught while directed fishing for Pacific cod as either halibut CDQ or halibut IFQ.

4.12.3 Option 3 Allow a Small Vessel Pacific Cod CDQ Fishery Supported by Halibut PSC

In Alternative 4, the development of a small vessel Pacific cod CDQ hook-and-line fishery relies on the availability of CDQ or IFQ halibut to fund the landings of incidentally caught halibut. The sub-options under Option 3 would allow CDQ group participants flexibility to conduct directed fishing for Pacific cod CDQ with small hook-and-line vessels even when halibut CDQ or IFQ is not available to a participant.

There are a number of circumstances under which no halibut CDQ or IFQ would be available to a participant of a halibut CDQ/IFQ fishery to fund the halibut caught in a small vessel Pacific cod CDQ fishery. The Pacific cod fishery for small hook-and-line vessels would generally not be restricted by the halibut season; however, vessel operators would legally be required to discard halibut of all sizes before and after the IPHC-established IFQ/CDQ season. There may also be a circumstance in which a halibut season does not open for a region due to low stock abundance. Additionally, there are differences in the way the CDQ groups manage their halibut CDQ fisheries, as well as the timeline that they make the group's quota available to participants. Therefore, even during a time of the year in which it is legal to retain halibut, an individual vessel operator may not have the quota available to allow for legal retention. CDQ group representatives requested an option that would allow them to support a small vessel Pacific cod CDQ fishery with their group's halibut PSQ.

Under any of the sub-options for Option 3, NMFS AK Regional Office recommends that a small vessel Pacific cod CDQ fishery supported by a CDQ group's halibut PSC should be managed by a separate component of a CDQ group's halibut PSC allocation and in-season closure issued by NMFS. A detailed description of this management scheme is in Section 2.4. Other alternatives considered by NMFS AK Regional Office are in Section 2.6.

As mentioned in Section 4.12, the regulation of harvest provision of the MSA[90] requires that the harvest of allocations under the CDQ Program for fisheries with individual quotas or fishing cooperatives shall be no more restrictive than for participants in the applicable sector, including with respect to the harvest of non-target species. This requirement is known as the "regulation of harvest" provision of the MSA.

None of the elements of Alternative 4 or its options and sub-options are considered to be inconsistent with this provision of the MSA. Alternative 4 would not change any significant aspect of managing the halibut CDQ fisheries.

[90] 305(i)(1)(B)(iv)

Sub-option 3.2 does include an additional information collection that would likely require OMB approval under the PRA[91]; however, the submission of group-specific halibut season dates would be a component of the small vessel directed Pacific cod CDQ fishery. The non-CDQ small vessel Pacific cod hook-and-line fisheries in the BSAI are not managed under individual quotas or cooperatives, so the regulation of harvest provision of the MSA does not apply to the elements of any of the alternatives that would apply to the small vessel Pacific cod CDQ fisheries or to any groundfish CDQ fishing by these vessels under Option1.

The three sub-options of Option 3 are more to less restrictive on these circumstances in which a small vessel Pacific cod CDQ fishery supported by halibut PSC can take place. Under all of these sub-options, participants can prosecute a hook-and-line small vessel Pacific cod CDQ fishery under the provisions of Alternative 4, provided that they have access to halibut CDQ or IFQ to fund any incidentally caught halibut. If they do not, the participant could directed fish for Pacific cod CDQ under the provisions in Alternative 4 and allow an estimated halibut PSC rate to account for any halibut catch: under Sub-option 3.1) only when the halibut CDQ season is closed; under Sub-option 3.2) only outside of the halibut season dates specified by each CDQ group; under Sub-option 3.3) on a trip-by-trip basis. These Sub-options are mutually exclusive. A comprehensive account of how these sub-options would function is laid out in Section 2.4.

Table 4-17 shows a qualitative comparison of the marginal expected costs for administration of each management scheme. In this table, the baseline is Alternative 4. For example, under the baseline NMFS would develop, maintain, and provide user support for the online registration system for vessels eligible for LLP exemption regardless of which, if any, sub-options are chosen. Therefore, these administrative costs are excluded from the table.

It is difficult to evaluate the relative administrative costs between Sub-option 3.2 and 3.3. In general, the more participants taking advantage of the opportunity to Pacific cod CDQ fish supported by a small vessel halibut PSC limit, the higher the administrative costs; the exception being one time management changes, such as a change to the CAS. As Sub-option 3.3 is predicted to provide the most opportunity (as explained later in this section), it is also expected to require the most joint management and communication. Additionally, the more individual participating in a program the more likely there will be occurrences of non-compliance. This is particularly the case for a program, such as this, that relies on interaction between NMFS, mangers of CDQ, and participants.

[91] An information collection request under the PRA is required even when the collection of information is voluntary.

Table 4-17 Qualitative Costs of Sub-options Using Alternative 4 as a Baseline

	Sub-option 3.1: Allow halibut PSC to accrue only when the halibut season is closed	Sub-option 3.2: Allow halibut PSC to accrue only outside of the halibut season dates specified by each CDQ group	Sub-option 3.3: Allow halibut PSC to accrue on a trip-by-trip basis
Additional Catch Accounting costs	● Modify CAS to create "small vessel halibut PSC limit" ● Modify CAS to estimate and accrue halibut PSC rate outside of halibut CDQ/ IFQ season	● Modify CAS to create "small vessel halibut PSC limit" ● Modify CAS to estimate and accrue halibut PSC outside of CDQ group-established halibut seasons ● Modify CAS to include formal start and end date to group-established halibut CDQ seasons	● Modify CAS to create "small vessel halibut PSC limit" ● Modify CAS to estimate and accrue halibut PSC on a trip-by-trip basis
Additional In-season Management costs	● Manage the small vessel PSC limit and issue closure as necessary. Lowest potential for additional administrative costs because least potential for participants to fish under NMFS-managed small vessel halibut PSC limit.	● Manage the small vessel PSC limit and issue closure as necessary. Medium potential for additional administrative costs because more potential fishing under NMFS-managed small vessel halibut PSC limit. ● Prepare Federal Register of formal start and end dates for halibut CDQ season each year.	● Manage the small vessel PSC limit and issue closure as necessary. Highest potential for additional administrative costs because more potential fishing under NMFS-managed small vessel halibut PSC limit.
Additional CDQ management costs	● In the unlikely event that a participant fishes Pacific cod CDQ outside of the halibut CDQ/IFQ season, more communication with participants and with NMFS will be necessary to manage the group's small vessel halibut PSC limit.	● Establish (if they do not currently have) a formal start and end date to their group's halibut CDQ season annually and provide to NMFS annually ● Distribute new eligibility certificates each year that include halibut season dates. All participating vessel would need an eligibility certificate in this Sub-option. ● Communicate with In-season management to maintain small vessel halibut PSC account	● This sub-option would require the most communication with In-season management to maintain small vessel halibut PSC account ● More communication with their participants to inform them of the CDQ halibut and Pacific cod available for harvested versus what would be required to be discarded
Additional vessel operator costs	● In the unlikely event that a participant fishes Pacific cod CDQ outside of the CDQ/IFQ season, more communication with manger of quota will be necessary to use small vessel halibut PSC limit.	● Must be aware of the season dates the fishery switches from a directed Pacific cod CDQ fishery to a dual fishery and back to a Pacific cod CDQ only fishery	● More regulations to understand in terms of when they are required to retain halibut and when they must discard halibut ● More communication with their managers
Additional monitoring and enforcement costs	● No additional monitoring and enforcement issues compared to Alternative 4.	● Coast Guard would need to know the halibut season dates for the vessel they were boarding. This could be detailed on the NMFS LLP exemption letter.	● Neither OLE nor Coast Guard would be responsible for verifying the type of trip; this would be done in the CAS ● There may be non-compliance with high-grading halibut CDQ when Pacific cod CDQ fishing. Once a vessel begins retaining halibut CDQ on a Pacific cod CDQ trip, they are required to continue to retain halibut CDQ. This would be difficult to monitor and enforce.

The costs associated with setting up and maintaining a management system can be compared to the additional benefits CDQ group participants may receive from the additional opportunity to directed Pacific cod CDQ fish without the availability of halibut CDQ or IFQ.

Estimating the benefits to each group based of the different management sub-options is difficult because most groups do not have a business plan ready to be implemented simultaneously with regulation changes. Many participants will be waiting to see what regulation will allow them to participate in before they invest in any additional capital directed fishing Pacific cod may require to obtain. For the majority of the participants, it is expected that benefits will not be felt immediately after implementation of a regulatory package. Participants that have solely prosecuted a small vessel halibut CDQ fishery in the past will still need to be outfitted with a VMS, acquire a certificate of eligibility to be LLP exempt (if greater than 32 ft. LOA), be listed on the NMFS online database, and be educated on the responsibilities of being in partial observer coverage category.

However, CDQ group representatives' have spent time considering how management changes might promote small vessel fishing opportunities in their region and be integrated into their group's management. This integration will depend on many group- and region-specific factors. It will depend on the existing fleet of small vessels currently equip to harvest with hook-and-line. It will depend on weather and ocean conditions, current and potential processing availability as describe in Section 4.7.5, and importantly, efforts made to plan around the opening of priority fisheries. The participation in and integration of a small vessel Pacific cod CDQ fishery will also depend on the regulation package produced by this action. The possibility of benefits for each group under each Sub-option is summarized in a qualitative way in Generally, it is not expected that Sub-option 3.1 will provide any group additional benefits over the baseline. It is unlikely that any participant will want to prosecute a directed Pacific cod CDQ fishery before or after the IPHC-established halibut CDQ season (generally mid-March to early November) due to weather and ocean conditions. Therefore, it is expected that Sub-option 3.1 will only provide additional opportunity in the event that there is no halibut CDQ season. Sub-option 3.2 is expected to provide additional benefits, particularly in the spring before the start of the CDQ group-established halibut season.

Depending on the group, Sub-option 3.2 will provide minimum opportunity for participants post-halibut CDQ season as end dates will need to be established conservatively in an effort not to limit the season of a priority species (i.e. halibut, salmon, or red king crab). In the case of CVRF, with a more homogenous end date to their halibut fishery, there may be additional opportunities to fish Pacific cod CDQ after the halibut CDQ season under this sub-option.

Sub-option 3.3 is expected to provide the widest range of opportunity, by allowing trip-by-trip determination of the reliance on a small vessel halibut PSC limit versus the use of halibut CDQ/IFQ. This sub-option essentially puts the control at the CDQ group management level of whether a participant should discard halibut to be estimated toward the group's small vessel halibut PSC limit or whether they have access to Pacific cod CDQ and are expected to retain both halibut CDQ and Pacific cod CDQ. This sub-option would delay the expected lag time between the end of an individual's halibut CDQ fishery and their opportunity to directed Pacific cod CDQ fish while relying on their group's small vessel halibut PSC limit.

Table 4-18. Similar to Table 4-17, the benefits are considered using Alternative 4 as the baseline.

Generally, it is not expected that Sub-option 3.1 will provide any group additional benefits over the baseline. It is unlikely that any participant will want to prosecute a directed Pacific cod CDQ fishery before or after the IPHC-established halibut CDQ season (generally mid-March to early November) due to weather and ocean conditions. Therefore, it is expected that Sub-option 3.1 will only provide additional opportunity in the event that there is no halibut CDQ season. Sub-option 3.2 is expected to provide additional benefits, particularly in the spring before the start of the CDQ group-established halibut season.

Depending on the group, Sub-option 3.2 will provide minimum opportunity for participants post-halibut CDQ season as end dates will need to be established conservatively in an effort not to limit the season of a priority species (i.e. halibut, salmon, or red king crab). In the case of CVRF, with a more homogenous end date to their halibut fishery, there may be additional opportunities to fish Pacific cod CDQ after the halibut CDQ season under this sub-option.

Sub-option 3.3 is expected to provide the widest range of opportunity, by allowing trip-by-trip determination of the reliance on a small vessel halibut PSC limit versus the use of halibut CDQ/IFQ. This sub-option essentially puts the control at the CDQ group management level of whether a participant should discard halibut to be estimated toward the group's small vessel halibut PSC limit or whether they have access to Pacific cod CDQ and are expected to retain both halibut CDQ and Pacific cod CDQ. This sub-option would delay the expected lag time between the end of an individual's halibut CDQ fishery and their opportunity to directed Pacific cod CDQ fish while relying on their group's small vessel halibut PSC limit.

Table 4-18 Qualitative Benefits of the Sub-options Using Alternative 4 as a Baseline

	Sub-option 3.1: Allow halibut PSC to accrue only when the halibut season is closed	Sub-option 3.2: Allow halibut PSC to accrue only outside of the halibut season dates specified by each CDQ group	Sub-option 3.3: Allow halibut PSC to accrue on a trip-by-trip basis
APICDA	● Unlikely to provide additional benefits, except under the possibility of no halibut CDQ season	● Expected to provide some Pacific cod CDQ fishing opportunities before the APICDA halibut season for St. George participants. ● Unlikely to provide additional benefits for Atka participants.	● Expected to provide some Pacific cod CDQ fishing opportunities before the APICDA halibut season for St. George participants. ● Unlikely to provide additional benefits for Atka participants.
BBEDC	● Unlikely to provide additional benefits	● Unlikely to provide additional benefits	● Unlikely to provide additional benefits
CBSFA	● Unlikely to provide additional benefits, except under the possibility of no halibut CDQ season	● Expected to provide Pacific cod CDQ fishing opportunities before the CBSFA halibut season	● Expected to provide Pacific cod CDQ fishing opportunities before the CBSFA halibut season ● Due to vessel caps, CBSFA participants complete their individual halibut CDQ seasons at different times. Individuals reaching their full halibut CDQ harvest more quickly than others will benefit from the opportunity to immediately transition into a Pacific cod CDQ fishery.
CVRF	● Unlikely to provide additional benefits, except under the possibility of no halibut CDQ season	● Expected to provide some Pacific cod CDQ fishing opportunities before the CVRF halibut season ● Because CVRF's program does not use vessel caps, participants can fish until the group's halibut quota is harvested. This creates a more homogenous end date to fishery. Participants would benefit from opportunity to transition to a Pacific cod CDQ fishery after the halibut CDQ season.	● Expected to provide some Pacific cod CDQ fishing opportunities before the CVRF halibut season ● Participants would benefit from opportunity to transition to a Pacific cod CDQ fishery after the halibut CDQ season. ● Since CDQ halibut season dates would need to be established by Feb, under Sub-option 3.2, seasons would need to be established conservatively around the halibut CDQ fishery to avoid truncating the season. Therefore Sub-option 3.3 would alleviate potential lag time between seasons.
NSEDC	● Unlikely to provide additional benefits, except under the possibility of no halibut CDQ season	● Expected to provide Pacific cod CDQ fishing opportunities before the NSEDC halibut season.	● Expected to provide Pacific cod CDQ fishing opportunities before the NSEDC halibut season. ● Based on the difference between the Nome halibut fishery, which is structured around the red king crab fishery, and Savoonga halibut fishery, additional benefits may be experienced in both fisheries from trip-by-trip flexibility. ● Individuals in both Nome and Savoonga reaching their halibut CDQ harvest at different points in the summer may benefit from the opportunity to seamlessly transition into Pacific cod CDQ fishing.
YDFDA	● Unlikely to provide additional benefits	● Unlikely to provide additional benefits	● Unlikely to provide additional benefits

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

Although regulatory and management changes attributable to this action will have distributional effects on individuals belonging to a CDQ group and those able to participate in a Pacific cod CDQ fishery, it will not have significant effects on production from the fisheries. As a consequence, this action is likely to have little or no effect on net benefits to the Nation.

5 Preparers and Persons Consulted

Preparers and Contributors

North Pacific Fishery Management Council:	Sarah Marrinan Steve MacLean
Alaska Fisheries Information Network:	Michael Fey
National Marine Fisheries Service, Alaska Region Office:	Gabrielle Aberle Sally Bibb Tracy Buck Obren Davis Mary Furuness Josh Keaton Seanbob Kelly Lauren Smoker Lewis Queirolo Steve Whitney
Alaska Department of Fish and Game:	Nicole Kimball
Persons Consulted:	Melanie Brown, NOAA SF Diana Evans, NPFMC Staff Aggie Fouts, WACDA Jeff Kauffman, CBSFA Michael Killary, NOAA OLE Simon Kinneen, NSEDC Eric Olson, YDFDA Luci Roberts, APICDA Simeon Swetzof, Jr., City of St. Paul Anne Vanderhoeven, BBEDC Troy Wilkinson, CVRF

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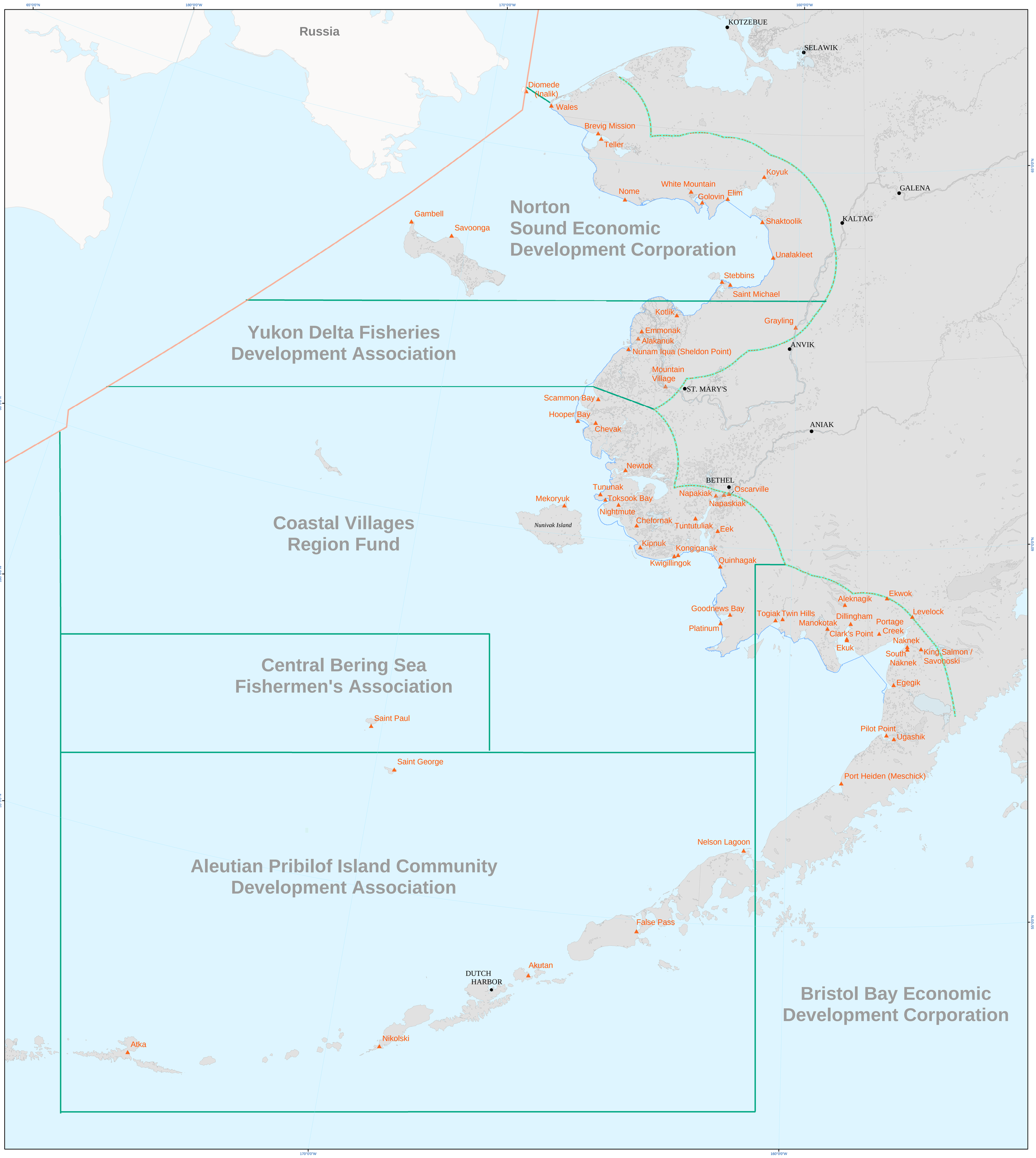
Appendices

Appendix A.1 Map of CDQ Communities

Western Alaska Community Development Quota Program
Eligible Communities and CDQ Groups



Map Prepared for:
National Marine Fisheries Service
Sustainable Fisheries Division
Juneau, Alaska (907) 586-7228

Original Map Prepared by:
Resource Data, Inc. May 18, 2000

Revised Map Prepared by:
NMFS, Analytical Team
Juneau, Alaska September 2003

- CDQ Communities
- Mean Lower-Low Water Baseline for Territorial Sea
- 50nm CDQ MLLW Buffer
- CDQ Group Regions
- Maritime Boundary Line

This map illustrates the location of the baseline of the territorial sea, the location of the communities, and a line 50nm inland from the baseline of the territorial sea. Actual determination of eligibility for the CDQ Program based on distance from the Bering Sea Coast was made by NOAA using nautical charts and community location information supplied by the State of Alaska. Do not rely upon this map as a legal determination of CDQ Program eligibility. Contact the Sustainable Fisheries Division for more information.

N W E S

0 25 50 100
Nautical Miles

Appendix A.2 Original CDQ Proposal

CDQ Village Pacific Cod Fishery

Introduction

The six CDQ organizations: Aleutian Pribilof Island Community Development Association, Bristol Bay Economic Development Corporation, Central Bering Sea Fishermen's Association, Coastal Villages Region Fund, Norton Sound Economic Development Corporation and Yukon Delta Fisheries Development Association, are seeking regulatory changes or exemptions that would encourage local development and participation in the harvest of CDQ Pacific cod (Pcod) allocations, both in a directed cod fishery and when targeting CDQ and IFQ halibut. This proposed fishery would allow CDQ village residents with vessels ranging in size from 16' to 46' in length, mainly using hook-and-line gear, to develop and participate in a CDQ village Pacific cod fishery.

The proposal is consistent with the National Standards (NS) established in the Magnuson-Stevens Fishery Conservation and Management Act (MSA) (16 U.S.C. 1851 et seq.) regarding fisheries management measures. These standards where practicable include: preventing overfishing while achieving optimum yield (NS 1); managing interrelated stocks as a unit or in close coordination (NS 3); promoting efficiency, minimizing costs, and avoiding duplications (NS 5 & 7); taking into account the importance of fishery resources to fishing communities (NS 8); minimizing bycatch or mortality from bycatch (NS 9); and promoting the safety of human life at sea (NS 10). The CDQ Village Pcod Fishery Proposal meets all of the above standards.

In addition, the proposal fulfills the objectives of 16 U.S.C. 1855(i)(1)(A)(i)(ii)(iii) and (iv) of the MSA, which establishes the Community Development Quota (CDQ) program in order to: provide eligible western Alaska villages with the opportunity to participate and invest in fisheries in the Bering Sea and Aleutian Islands Management Area; and support economic development, alleviate poverty and provide economic and social benefits, and achieve sustainable and diversified economies for the residents of western Alaska.

Problem Statement

Current federal regulations for the direct harvest of CDQ Pacific cod allocations are restrictive and discourage village fleets from participating in a directed CDQ Pcod fishery. The regulations of concern are:

1) License Limitation Program permit (LLP) – Vessels over 32' in length are required to have an LLP to harvest CDQ Pcod with hook-and-line gear. There are only eighty-seven (87) <60' hook-and-line/pot LLP's endorsed to fish Pcod in the Bering Sea. The supply of permits for sale on the major brokerage websites is very limited and the price per Bering Sea endorsed LLP is often in excess of $100,000 – prohibitively expensive for small vessel operators in CDQ villages. The CDQ village fleets of 105-116 small vessels, for the most part, do not possess Pcod endorsed LLP's. As there is no LLP category specific to the smaller vessels in the Bering Sea, they must compete with the larger vessels for the available LLP's and there are not nearly enough available to accommodate the CDQ village small boat fleets. It is important to note that the jig

fishery is exempted from the Pcod LLP requirement, and the CDQ village fleets are very similar in size and vessel type to those participating in the jig fishery.

2) Vessel Monitoring System (VMS) – All vessels, regardless of size, are required to have VMS while targeting CDQ Pcod with hook-and-line gear. The CDQ village fleets are more similar to vessels that participate in the Pcod jig fishery than larger catcher vessels or catcher processors utilizing hook-and-line gear. There is no regulation requiring VMS for the small vessels participating in the Bering Sea Pcod jig fishery. In addition, VMS systems are not currently designed for the many open boats in the CDQ small boat fleets. Although the systems are weatherproof they have AC power requirements and electronic components that are not conducive to successful installation in small open vessels. The range of the CDQ small boat fleets is very limited and their participation will be in close proximity to CDQ villages. There may need to be VMS coverage for vessels fishing near SSL restricted areas, however.

3) Observer Coverage – The current observer coverage regulation for hook-and-line catcher vessels harvesting CDQ Pcod is more restrictive than for non-CDQ state and federal Pcod fisheries, and requires full (100%) observer coverage regardless of vessel size. The CDQ village fleets, with vessels up to 46' in length, range from small open skiffs to gillnet style vessels. Having 100% observer coverage for fifty or more small vessels seems problematic. A better solution would be to adopt observer coverage regulations currently utilized in non-CDQ CV Pcod fisheries, which require only partial coverage. This would put CDQ village boats over 40' in length in the Vessel Selection pool.

4) Maximum Retainable Amount (MRA) – The MRA of Pcod while targeting halibut is 20% of the target weight. Any additional Pcod harvested must be discarded and returned to sea. This constitutes an unnecessary waste of the Pcod resource. Pcod in excess of the 20% MRA could be retained and used as a source of income for the CDQ village fishermen, if the CDQ organizations allocate Pcod to their small boat halibut fleets, and these vessels comply with or are exempt from the regulations to be in the Pacific cod directed fishery.

Proposal

The CDQ groups request the Council to initiate a discussion paper, considering the problem statement, and the adoption of proposed regulation changes or exemptions that will: 1) promote the development of a CDQ village directed Pacific cod fishery; and 2) allow village CDQ and IFQ halibut harvesters to retain CDQ Pacific cod in excess of the 20% MRA.

Proposed regulation changes:

1) Exempt vessels between 32' and 46' in length from LLP requirements while harvesting CDQ Pacific cod.

2) Exempt vessels up to 46' in length from VMS requirements while harvesting CDQ Pacific cod.

3) Align observer requirements for hook-and-line catcher vessels targeting CDQ Pacific cod with observer requirements for hook-and-line catcher vessels targeting non-CDQ Pacific cod. As part of a discussion paper, it would be useful to identify and address options for determining discard mortality rates, particularly for halibut in a directed CDQ Pcod fishery.

4) Require 100% retention of CDQ Pacific cod, on vessels with the exemption in 1) and 2) above, while directed fishing for CDQ and/or IFQ halibut, only if an allocation of CDQ Pcod is available to those vessels.

Discussion

The CDQ organizations would like to develop a directed CDQ Pcod fishery that would take place before, during and/or after directed halibut fishing. Currently, regulations applicable to vessels targeting CDQ Pcod with hook and line gear are prohibitive for the CDQ village fleets, but easing the regulations identified above would make the development of these local fisheries more viable. The proposed changes would also require the CDQ groups to set aside an adequate amount of Prohibited Species Quota (PSQ) and other allocated species to adequately cover bycatch.

Because of the nature of the CDQ villages' small boat fleets and the harsh Bering Sea conditions, fishing would likely occur between the months of May and September. The number of vessels that may participate will vary from community to community and within the six CDQ regions. It is expected that the number of participating vessels, in total, will increase with time as CDQ groups continue to gain expertise and equip processing plants and platforms with necessary processing equipment. It is anticipated that vessels will fish both state and federal waters in close proximity to CDQ villages along the western Alaska coast and Aleutian and Pribilof Islands.

There is no CDQ Pacific cod Seasonal Allowance for non-trawl catcher vessels (CV) under 60' in length. Therefore the CDQ allocations committed to the CDQ village fleets could be harvested during the proposed months of May through September as opposed to being broken up into A and B seasons.

Considering current and future anticipated declines in the halibut TAC's in Western Alaska, the CDQ village fishermen would benefit from the removal of impediments to the opportunity to harvest Pcod with small vessels. In addition, the development of a regional Pcod fishery would supplement halibut production and increase processing efficiencies for plants in and near the villages.

For the same reasons, and the added reason of avoiding wastage of the Pcod resource, the CDQ organizations would also like the ability to retain up to 100% of the Pacific cod caught while directed CDQ and IFQ halibut fishing, as described in proposed change 4 above. Throughout the halibut season, CDQ village vessels catch Pcod as bycatch, much of which has to be returned to sea due to MRA limitations. It is common practice for some CDQ village fleets to target both CDQ and IFQ halibut in the same trip. It would be most efficient and conservative to allow retention of CDQ Pcod when an allocation is available to the village fleets targeting CDQ and/or IFQ halibut.

CDQ Village Pacific Cod Fishery Proposal

Objective: Seek regulatory changes or exemptions that will encourage local development and participation in the harvest of CDQ Pacific Cod - both in a directed Pcod fishery and while harvesting CDQ and/or IFQ halibut

Regulations/Problem	Regulatory Changes/Exemption	Discussion Points
Limited License Permit (LLP) required on all vessels over 32' in length targeting CDQ Pcod	Exempt vessels between 32' and 46' in length from LLP requirements while harvesting CDQ Pcod	There are only 87 BSAI Pcod endorsed LLPs in the under 60' fixed gear sector. Availability of appropriate LLPs is low and they are costly
Vessel Monitoring Systems require on all vessels, regardless of size, harvesting CDQ Pcod with H&L gear	Exempt vessels up to 46' in length from VMS requirements while harvesting CDQ Pcod	CDQ village vessels ranging in size from 14' to 46' in length are similar in size to vessels in the jig fishery. These vessels have very limited range and will fish in close proximity to the CDQ villages
100% Observer Coverage required all H&L vessels targeting CDQ Pcod regardless of vessel size	Align Observer Coverage for vessels harvesting CDQ Pcod with H&L gear with requirements for vessels fishing non-CDQ Pcod	Observer requirements for vessels harvesting CDQ Pcod with H&L gear are more stringent than for vessels targeting non-CDQ Pcod. The regulation should be the same for both
The Maximum Retainable amount (MRA) of Pcod while targeting halibut is 20% of the target weight	Require 100% retention of Pcod for vessels targeting halibut - with above exemptions - that have an available CDQ Pcod allocation	Village vessels targeting CDQ/IFQ halibut are catching Pcod as bycatch and much of the Pcod has to be returned to sea due to the MRA limit of 20%. For conservation and efficiency purposes, village vessels with a CDQ Pcod allocation should retain 100%

Appendix A.3 NMFS Alaska Region Recommendations

NMFS Alaska Region Recommendations on CDQ Pacific Cod Alternatives and Options

1. We recommend an expansion of Alternative 4, which would include elements of Alternative 3, Option 2 and several new components and clarifications.

The alternative would apply to vessels <= 46' length overall (LOA) using hook-and-line gear to conduct directed fishing for Pacific cod for CDQ groups that also have halibut CDQ allocations in the area being fished or for vessels with adequate amounts of halibut IFQ to support the incidental catch of halibut while Pacific cod fishing. The recommendations described below are not designed to support directed fishing for Pacific cod CDQ if all halibut caught must accrue to a transferable prohibited species catch limit or "prohibited species quota."

Note recommendation #2 on page 3 to analyze expanding these requirements beyond directed fishing for Pacific cod CDQ.

Under existing regulations, any vessel retaining more than the 20% maximum retainable amount (MRA) of Pacific cod would be considered directed fishing for Pacific cod. Each CDQ group and the vessels fishing on its behalf can choose to remain under the regulations that govern "halibut CDQ fishing" by discarding any amount of Pacific cod that would exceed the 20% MRA. This provision would continue.

The following regulations would apply to vessels <=46' LOA that the CDQ group chose to allow to conduct directed fishing for Pacific cod CDQ. In all cases below, reference to "the vessel" means a catcher vessel <=46' LOA while directed fishing for Pacific cod CDQ.

i. LLP exemption: If the Council wishes to remove the barrier created by the limited number of LLP licenses available for vessels fishing for Pacific cod on behalf of a CDQ group, NMFS recommends exempting vessels between 32' and 46' LOA from the LLP requirements rather than creating a separate CDQ LLP. The purpose of the LLP was to place an upper limit on the number of vessels in the groundfish and crab fisheries to provide stability and limit further over capitalization in what formerly were "open access" fisheries. However, even at the time of implementation of the LLP in 2000, the CDQ allocations were not part of the "open access" portion of the groundfish and crab fisheries. Therefore, LLP licenses may not be necessary to limit the number of vessels participating in the CDQ fisheries. An exemption from the LLP requirements also would require lower administrative costs for both NMFS and the CDQ groups than special CDQ LLP license (because it wouldn't require establishing and issuing a new "permit").

ii. Documentation of eligibility for LLP exemption: If an LLP exemption is selected, NMFS recommends that each CDQ group be required to submit a list of vessels between 32' and 46' LOA that it is authorizing to conduct directed fishing for Pacific cod CDQ on its behalf. This submission could be done online. Upon registration, the CDQ group could print out a letter of authorization issued by NMFS for each vessel. The vessel operators would be required to maintain this NMFS authorization letter onboard the vessel at all times while directed fishing for Pacific cod CDQ (while they wish to be exempted from the LLP requirements). This documentation is necessary to demonstrate eligibility for the LLP exemption to the U.S. Coast

Guard, NMFS Office of Law Enforcement, or any other authorized officer. NMFS also would post a list of the vessels registered to fish on behalf of each CDQ group on NMFS's website as an additional piece of information to document the vessels eligible for the LLP exemption.

iii. Partial observer coverage: Any vessel on the CDQ group's list of eligible vessels would be placed in the partial observer coverage category while CDQ fishing. They would be required to comply with all vessel responsibilities in 50 CFR 679.51(e)(1) and would be subject to selection for observer coverage following procedures in the annual deployment plan. For example, in 2014, vessels less than 40' LOA would be in the no coverage pool and vessels between 40' and 46' LOA would be in the vessel selection pool.

iv. Halibut retention requirements: Vessel operators would be required to retain all legal sized halibut caught as either halibut CDQ or halibut IFQ. We would assume that all legal sized halibut would be retained and properly accounted for, so the only halibut released from the fishing gear would be sub-legal sized halibut. Based on this assumption, NMFS would not accrue any estimates of halibut discards to the CDQ group's halibut PSQ or any component of the BSAI halibut PSC limit. This would prevent the need to apply a PSC rate of halibut derived from other observed vessels to accrue catch to a transferable PSC limit. NMFS does not believe that the application of PSC rates from other observed vessels provides an appropriate basis for accruing halibut to a transferable PSC limit. PSC rates can change throughout the season as observer data is debriefed or revised thereby creating instability and uncertainty in management of strict limits such as exist in the CDQ Program. In addition, the CDQ groups and their partner vessels may not feel that the data from other observed vessels is representative of the small vessel CDQ catch, and NMFS may agree with this assessment in some cases. Observer coverage rates for small hook-and-line vessels in the BSAI are relatively low. These coverage rates provide data adequate to managing a fleetwide PSC limit, but may not provide data adequate to estimating PSC by individual unobserved vessels for accrual to a transferable PSC limit. Any need to debate the appropriate basis for accruing halibut to a transferable PSC limit creates administrative costs for NMFS, takes time from other tasks, and undermines the enforceability of the strict responsibility to not exceed CDQ and PSQ allocations.

v. Pacific cod retention requirements: Current IR/IU regulations require operators of vessels directed fishing for groundfish CDQ to retain all Pacific cod as long as the CDQ group has available Pacific cod allocation. This requirement does not apply to vessels "halibut CDQ fishing." No additional regulatory amendments are needed to maintain this provision.

vi. Retained Pacific cod: Any Pacific cod retained, landed, and reported as CDQ will accrue to the CDQ group's Pacific cod CDQ allocation.

vii. At-sea discards of groundfish: NMFS would estimate the at-sea discards of all groundfish, by these vessels, including those species allocated to the CDQ Program, based on applying discard rates from observed vessels to the landed catch weight of the CDQ trips. The estimates of at-sea discards, including Pacific cod, while these vessels are directed fishing for Pacific cod on behalf of a CDQ group, would accrue to the non-CDQ allocation of the TACs. Estimates of at-sea discards of Pacific cod would accrue to the non-CDQ allocation of Pacific cod to the hook-and-line and pot vessels less than 60 ft. This approach would provide proper accounting of

the catch of all groundfish species against the TAC limits and prevent the need to apply an at-sea discard rate derived from observed vessels to accrue catch to a transferable allocation. In addition, this provision is consistent with how estimates of at-sea discards of groundfish are accrued to non-CDQ allocations of the TACs for vessels halibut CDQ fishing under the "regulation of harvest" provision of the MSA.

viii. Seasonal limitations: The provisions described in (i) – (vii) would be provided only while the halibut fishery is open because retention of halibut must be allowed to implement the exemption from halibut PSC accounting by these vessels.

ix. SSL and habitat protection measures: All other regulations that apply to vessels using hook-and-line gear and directed fishing for Pacific cod would apply to these vessels. These requirements include closure areas and VMS requirements.

2. Apply these provisions to all groundfish CDQ fishing by these vessels: NMFS recommends further analysis of applying these provisions to vessels <= 46' LOA using hook-and-line gear while directed fishing for ANY allocated groundfish CDQ species, except sablefish.[1] Practically speaking, we expect that these provisions will be used primarily to develop additional fishing opportunities for Pacific cod. However, it would be administratively less complicated to apply the LLP exemption, CDQ authorization letter, eligible vessel list, observer coverage requirements, and catch accounting provisions for all groundfish CDQ fishing during the year for a particular vessel rather than have different measures apply for directed fishing for Pacific cod CDQ fishing versus other groundfish CDQ directed fisheries that may develop in the future.

1 The elements of this proposal either already apply while "sablefish CDQ fishing" or are not applicable under the "regulation of harvest" provisions of the MSA. For example, sablefish managed under the IFQ program and sablefish managed under the fixed gear sablefish CDQ reserve are not LLP groundfish species. An LLP permit is not required to conduct directed fishing for these sablefish allocations, and halibut caught while sablefish CDQ or IFQ fishing does not accrue against the halibut PSC limit, so there is no need to address halibut PSC accounting while sablefish CDQ fishing.

3. NMFS does not recommend Alternative 2 (increase MRA for Pacific cod while halibut CDQ fishing) because it would create a situation where vessels with the same catch composition would be subject to different regulations, most notably Steller sea lion (SSL) protection measures. Vessels fishing for halibut CDQ would be allowed to retain more Pacific cod than the same vessel fishing for halibut IFQ or any other groundfish species before triggering regulations that apply when directed fishing for Pacific cod. Although the amount of Pacific cod in question may be small, we do not support setting this precedent for implementing high MRAs to avoid regulations designed to apply to a particular directed fishing activity. In addition, we are concerned with the time and staff resources needed to undertake the ESA consultation that would be necessary to further explore whether this is a viable alternative.

(revised 5/26/14)

Appendix A.3 BSAI Groundfish Harvest Specifications 2014/15

TABLE 1–FINAL 2014 AND 2015 OVERFISHING LEVEL (OFL), ACCEPTABLE BIOLOGICAL CATCH (ABC), TOTAL ALLOWABLE CATCH (TAC), INITIAL TAC (ITAC), AND CDQ RESERVE ALLOCATION OF GROUNDFISH IN THE BSAI [1]

[Amounts are in metric tons]

February 2015

Species	Area	2014					2015				
		OFL	ABC	TAC	ITAC[2]	CDQ[3]	OFL	ABC	TAC	ITAC[2]	CDQ[3]
Pollock[4]	BS	2,795,000	1,369,000	1,267,000	1,140,300	126,700	2,693,000	1,258,000	1,258,000	1,132,200	125,800
	AI	42,811	35,048	19,000	17,100	1,900	47,713	39,412	19,000	17,100	1,900
	Bogoslof	13,413	10,059	75	75	0	13,413	10,059	75	75	0
Pacific cod[5]	BS	299,000	255,000	246,897	220,479	26,418	319,000	272,000	251,712	224,779	26,933
	AI	20,100	15,100	6,997	6,248	749	20,100	15,100	6,487	5,793	694
Sablefish	BS	1,584	1,339	1,339	1,105	184	1,432	1,210	1,210	514	45
	AI	2,141	1,811	1,811	1,471	306	1,936	1,636	1,636	348	31
Yellowfin sole	BSAI	259,700	239,800	184,000	164,312	19,688	268,900	248,300	187,000	166,991	20,009
Greenland turbot	BSAI	2,647	2,124	2,124	1,805	n/a	3,864	3,173	3,173	2,697	n/a
	BS	n/a	1,659	1,659	1,410	178	n/a	2,478	2,478	2,106	265
	AI	n/a	465	465	395	0	n/a	695	695	591	0
Arrowtooth flounder	BSAI	125,642	106,599	25,000	21,250	2,675	125,025	106,089	25,000	21,250	2,675
Kamchatka flounder	BSAI	8,270	7,100	7,100	6,035	0	8,500	7,300	7,300	6,205	0
Rock sole	BSAI	228,700	203,800	85,000	75,905	9,095	213,310	190,100	85,000	75,905	9,095
Flathead sole[6]	BSAI	79,633	66,293	24,500	21,879	2,622	77,023	64,127	25,129	22,440	2,689
Alaska plaice	BSAI	66,800	55,100	24,500	20,825	0	66,300	54,700	25,000	21,250	0
Other flatfish[7]	BSAI	16,700	12,400	2,650	2,253	0	16,700	12,400	3,000	2,550	0
Pacific ocean perch	BSAI	39,585	33,122	33,122	29,248	n/a	37,817	31,641	31,641	27,940	n/a
	BS	n/a	7,684	7,684	6,531	0	n/a	7,340	7,340	6,239	0
	EAI	n/a	9,246	9,246	8,257	989	n/a	8,833	8,833	7,888	945
	CAI	n/a	6,594	6,594	5,888	706	n/a	6,299	6,299	5,625	674
	WAI	n/a	9,598	9,598	8,571	1,027	n/a	9,169	9,169	8,188	981
Northern rockfish	BSAI	12,077	9,761	2,594	2,205	0	11,943	9,652	3,000	2,550	0
Rougheye rockfish[8]	BSAI	505	416	416	354	0	580	478	478	406	0
	EBS/EAI	n/a	177	177	150	0	n/a	201	201	171	0
	CAI/WAI	n/a	239	239	203	0	n/a	277	277	235	0
Shortraker rockfish	BSAI	493	370	370	315	0	493	370	370	315	0
Other rockfish[9]	BSAI	1,550	1,163	773	657	0	1,550	1,163	873	742	0
	BS	n/a	690	300	255	0	n/a	690	400	340	0
	AI	n/a	473	473	402	0	n/a	473	473	402	0
Atka mackerel	BSAI	74,492	64,131	32,322	27,971	3,458	74,898	64,477	32,491	29,014	3,477
	EAI/BS	n/a	21,652	21,652	19,335	2,317	n/a	21,769	21,769	19,440	2,329
	CAI	n/a	20,574	9,670	8,635	1,035	n/a	20,685	9,722	8,682	1,040
	WAI	n/a	21,905	1,000	893	107	n/a	22,023	1,000	893	107
Skates	BSAI	41,849	35,383	26,000	22,100	0	39,746	33,545	26,000	22,100	0
Sculpins	BSAI	56,424	42,318	5,750	4,888	0	56,424	42,318	5,750	4,888	0
Sharks	BSAI	1,363	1,022	125	106	0	1,363	1,022	125	106	0
Squids	BSAI	2,624	1,970	310	264	0	2,624	1,970	325	276	0
Octopuses	BSAI	3,450	2,590	225	191	0	3,450	2,590	225	191	0
Total		4,196,553	2,572,819	2,000,000	1,789,338	196,694	4,107,104	2,472,832	2,000,000	1,788,625	196,213

[1] These amounts apply to the entire BSAI management area unless otherwise specified. With the exception of pollock, and for the purpose of these harvest specifications, the Bering Sea (BS) subarea includes the Bogoslof District.

[2] Except for pollock, the portion of the sablefish TAC allocated to hook-and-line and pot gear, and Amendment 80 species, 15 percent of each TAC is put into a reserve. The ITAC for these species is the remainder of the TAC after the subtraction of these reserves. For pollock and Amendment 80 species, ITAC is the non-CDQ allocation of TAC (see footnotes 3 and 5).

[3] For the Amendment 80 species (Atka mackerel, flathead sole, rock sole, yellowfin sole, Pacific cod, and Aleutian Islands Pacific ocean perch), 10.7 percent of the TAC is reserved for use by CDQ participants (see §§ 679.20(b)(1)(ii)(C) and 679.31). Twenty percent of the sablefish TAC allocated to hook-and-line gear or pot gear, 7.5 percent of the sablefish TAC allocated to trawl gear, and 10.7 percent of the TACs for Bering Sea Greenland turbot and arrowtooth flounder are reserved for use by CDQ participants (see § 679.20(b)(1)(ii)(B) and (D)). Aleutian Islands Greenland turbot, ''other flatfish,'' Alaska plaice, Bering Sea Pacific ocean perch, northern rockfish, shortraker rockfish, rougheye rockfish, ''other rockfish,'' skates, sculpins, sharks, squids, and octopuses are not allocated to the CDQ program.

[4] Under § 679.20(a)(5)(i)(A)(*1*), the annual BS subarea pollock TAC after subtracting first for the CDQ directed fishing allowance (10 percent) and second for the incidental catch allowance (3.4 percent), is further allocated by sector for a pollock directed fishery as follows: inshore—50 percent; catcher/processor—40 percent; and motherships—10 percent. Under § 679.20(a)(5)(iii)(B)(*2*)(*i*) and (*ii*), the annual Aleutian Islands subarea pollock TAC, after subtracting first for the CDQ directed fishing allowance (10 percent) and second for the incidental catch allowance (2,000 mt) is allocated to the Aleut Corporation for a pollock directed fishery.

[5] The BS Pacific cod TAC is reduced by 3 percent from the combined BSAI ABC to account for the State of Alaska's (State) guideline harvest level in State waters of the Bering Sea subarea. The AI Pacific cod TAC is reduced by 3 percent from the combined BSAI ABC to account for the State guideline harvest level in State waters of the Aleutian Islands subarea.

[6] ''Flathead sole'' includes *Hippoglossoides elassodon* (flathead sole) and *Hippoglossoides robustus* (Bering flounder).

[7] ''Other flatfish'' includes all flatfish species, except for halibut (a prohibited species), flathead sole, Greenland turbot, rock sole, yellowfin sole, arrowtooth flounder, Kamchatka flounder, and Alaska plaice.

[8] ''Rougheye rockfish'' includes *Sebastes aleutianus* (rougheye) and *Sebastes melanostictus* (blackspotted).

[9] ''Other rockfish'' includes all Sebastes and Sebastolobus species except for Pacific ocean perch, northern rockfish, dark rockfish, shortraker rockfish, and rougheye rockfish.

Note: Regulatory areas and districts are defined at § 679.2 (BS=Bering Sea subarea, AI=Aleutian Islands subarea, EAI=Eastern Aleutian district, CAI=Central Aleutian district, WAI=Western Aleutian district.)

Appendix A.4 CDQ Group Harvest Allocation

2014 CDQ Program quota categories, target and non-target CDQ reserves, allocation percentages, and group quotas prepared: **6-May-14**

Groundfish CDQ Species						CDQ Group Allocations							CDQ Group Amounts						
Species or Species Group		Units	2014 TAC	Program Allocations	CDQ Reserve	APICDA	BBEDC	CBSFA	CVRF	NSEDC	YDFDA	Total	APICDA	BBEDC	CBSFA	CVRF	NSEDC	YDFDA	Total
BS Pollock	A season	mt	514,400	10.0%	51,440	14.00%	21.00%	5.00%	24.00%	22.00%	14.00%	100%	7,201.6	10,802.4	2,572.0	12,345.6	11,316.8	7,201.6	51,440
	B season	mt	771,600	10.0%	77,160	14.00%	21.00%	5.00%	24.00%	22.00%	14.00%	100%	10,802.4	16,203.6	3,858.0	18,518.4	16,975.2	10,802.4	77,160
	total	mt	1,286,000	10.0%	128,600	14.00%	21.00%	5.00%	24.00%	22.00%	14.00%	100%	18,004.0	27,006.0	6,430.0	30,864.0	28,292.0	18,004.0	128,600
AI Pollock*		mt	0	10.0%	0	14.00%	21.00%	5.00%	24.00%	22.00%	14.00%	100%	0.0	0.0	0.0	0.0	0.0	0.0	0
BS FG Sablefish		mt	670	20.0%	134	15.00%	20.00%	16.00%	0.00%	18.00%	31.00%	100%	20.1	26.8	21.4	0.0	24.1	41.5	134
AI FG Sablefish		mt	1,358	20.0%	272	14.00%	19.00%	3.00%	27.00%	23.00%	14.00%	100%	38.0	51.6	8.1	73.3	62.5	38.0	272
BS Sablefish		mt	670	7.5%	50	21.00%	22.00%	9.00%	13.00%	13.00%	22.00%	100%	10.6	11.1	4.5	6.5	6.5	11.1	50
AI Sablefish		mt	453	7.5%	34	26.00%	20.00%	8.00%	13.00%	12.00%	21.00%	100%	8.8	6.8	2.7	4.4	4.1	7.1	34
BS Pacific cod	initial CDQ	mt	246,897	10.0%	24,690	15.00%	21.00%	9.00%	18.00%	18.00%	19.00%	100%	3,703.5	5,184.8	2,222.1	4,444.1	4,444.1	4,691.0	24,690
	WACDA	mt		0.7%	1,728	21.85%	20.05%	6.87%	16.86%	15.95%	18.42%	100%	377.6	346.5	118.7	291.4	275.7	318.3	1,728
	total	mt			**26,418**	**15.45%**	**20.94%**	**8.86%**	**17.93%**	**17.87%**	**18.96%**	100%	**4,081.1**	**5,531.4**	**2,340.8**	**4,735.5**	**4,719.8**	**5,009.4**	**26,418**
AI Pacific cod	initial CDQ	mt	6,997	10.0%	700	15.00%	21.00%	9.00%	18.00%	18.00%	19.00%	100%	105.0	146.9	63.0	125.9	125.9	132.9	700
	WACDA	mt		0.7%	49	21.85%	20.05%	6.87%	16.86%	15.95%	18.42%	100%	10.7	9.8	3.4	8.3	7.8	9.0	49
	total	mt			**749**	**15.45%**	**20.94%**	**8.86%**	**17.93%**	**17.87%**	**18.96%**	100%	**115.7**	**156.8**	**66.3**	**134.2**	**133.8**	**142.0**	**749**
WAI Atka Mackerel**	initial CDQ	mt	1,000	10.0%	100	30.00%	15.00%	8.00%	15.00%	14.00%	18.00%	100%	30.0	15.0	8.0	15.0	14.0	18.0	100
	WACDA	mt		0.7%	7	29.93%	15.03%	8.02%	15.00%	14.03%	17.99%	100%	2.1	1.1	0.6	1.1	1.0	1.3	7
	total	mt			**107**	**30.00%**	**15.00%**	**8.00%**	**15.00%**	**14.00%**	**18.00%**	100%	**32.1**	**16.1**	**8.6**	**16.1**	**15.0**	**19.3**	**107**
CAI Atka Mackerel**	initial CDQ	mt	9,670	10.0%	967	30.00%	15.00%	8.00%	15.00%	14.00%	18.00%	100%	290.1	145.1	77.4	145.1	135.4	174.1	967
	WACDA	mt		0.7%	68	29.93%	15.03%	8.02%	15.00%	14.03%	17.99%	100%	20.3	10.2	5.4	10.2	9.5	12.2	68
	total	mt			**1,035**	**30.00%**	**15.00%**	**8.00%**	**15.00%**	**14.00%**	**18.00%**	100%	**310.4**	**155.2**	**82.8**	**155.2**	**144.9**	**186.2**	**1,035**
EAI/BS Atka Mackerel**	initial CDQ	mt	21,652	10.0%	2,165	30.00%	15.00%	8.00%	15.00%	14.00%	18.00%	100%	649.6	324.8	173.2	324.8	303.1	389.7	2,165
	WACDA	mt		0.7%	152	29.93%	15.03%	8.02%	15.00%	14.03%	17.99%	100%	45.4	22.8	12.2	22.7	21.3	27.3	152
	total	mt			**2,317**	**30.00%**	**15.00%**	**8.00%**	**15.00%**	**14.00%**	**18.00%**	100%	**694.9**	**347.6**	**185.4**	**347.5**	**324.4**	**417.0**	**2,317**
Yellowfin Sole	initial CDQ	mt	184,000	10.0%	18,400	28.00%	24.00%	8.00%	6.00%	7.00%	27.00%	100%	5,152.0	4,416.0	1,472.0	1,104.0	1,288.0	4,968.0	18,400
	WACDA	mt		0.7%	1,288	23.59%	22.85%	8.04%	11.41%	11.39%	22.72%	100%	303.8	294.3	103.6	147.0	146.7	292.6	1,288
	total	mt			**19,688**	**27.71%**	**23.92%**	**8.00%**	**6.35%**	**7.29%**	**26.72%**	100%	**5,455.8**	**4,710.3**	**1,575.6**	**1,251.0**	**1,434.7**	**5,260.6**	**19,688**
Rock Sole	initial CDQ	mt	85,000	10.0%	8,500	24.00%	23.00%	8.00%	11.00%	11.00%	23.00%	100%	2,040.0	1,955.0	680.0	935.0	935.0	1,955.0	8,500
	WACDA	mt		0.7%	595	25.04%	23.06%	7.46%	10.06%	10.39%	23.99%	100%	149.0	137.2	44.4	59.9	61.8	142.7	595
	total	mt			**9,095**	**24.07%**	**23.00%**	**7.96%**	**10.94%**	**10.96%**	**23.06%**	100%	**2,189.0**	**2,092.2**	**724.4**	**994.9**	**996.8**	**2,097.7**	**9,095**
BS Greenland Turbot	initial CDQ	mt	1,659	10.0%	166	16.00%	20.00%	8.00%	17.00%	19.00%	20.00%	100%	26.5	33.2	13.3	28.2	31.5	33.2	166
	WACDA	mt		0.7%	12	16.00%	20.00%	8.00%	17.00%	19.00%	20.00%	100%	1.9	2.3	0.9	2.0	2.2	2.3	12
	total	mt			**178**	**16.00%**	**20.00%**	**8.00%**	**17.00%**	**19.00%**	**20.00%**	100%	**28.4**	**35.5**	**14.2**	**30.2**	**33.7**	**35.5**	**178**
Arrowtooth Flounder	initial CDQ	mt	25,000	10.0%	2,500	22.00%	22.00%	9.00%	13.00%	12.00%	22.00%	100%	550.0	550.0	225.0	325.0	300.0	550.0	2,500
	WACDA	mt		0.7%	175	22.00%	22.00%	9.00%	13.00%	12.00%	22.00%	100%	38.5	38.5	15.8	22.8	21.0	38.5	175
	total	mt			**2,675**	**22.00%**	**22.00%**	**9.00%**	**13.00%**	**12.00%**	**22.00%**	100%	**588.5**	**588.5**	**240.8**	**347.8**	**321.0**	**588.5**	**2,675**
Flathead Sole	initial CDQ	mt	24,500	10.0%	2,450	20.00%	21.00%	9.00%	15.00%	15.00%	20.00%	100%	490.0	514.5	220.5	367.5	367.5	490.0	2,450
	WACDA	mt		0.7%	172	20.77%	22.37%	7.02%	14.66%	14.36%	20.82%	100%	35.6	38.4	12.0	25.1	24.6	35.7	172
	total	mt			**2,622**	**20.05%**	**21.09%**	**8.87%**	**14.98%**	**14.96%**	**20.05%**	100%	**525.6**	**552.9**	**232.5**	**392.6**	**392.1**	**525.7**	**2,622**
WAI Pacific Ocean Perch	initial CDQ	mt	9,598	10.0%	960	30.00%	15.00%	8.00%	15.00%	14.00%	18.00%	100%	287.9	144.0	76.8	144.0	134.4	172.8	960
	WACDA	mt		0.7%	67	30.00%	15.00%	8.00%	15.00%	14.00%	18.00%	100%	20.2	10.1	5.4	10.1	9.4	12.1	67
	total	mt			**1,027**	**30.00%**	**15.00%**	**8.00%**	**15.00%**	**14.00%**	**18.00%**	100%	**308.1**	**154.0**	**82.2**	**154.0**	**143.8**	**184.9**	**1,027**
CAI Pacific Ocean Perch	initial CDQ	mt	6,594	10.0%	659	30.00%	15.00%	8.00%	15.00%	14.00%	18.00%	100%	197.8	98.9	52.8	98.9	92.3	118.7	659
	WACDA	mt		0.7%	46	30.00%	15.00%	8.00%	15.00%	14.00%	18.00%	100%	13.8	6.9	3.7	6.9	6.5	8.3	46
	total	mt			**706**	**30.00%**	**15.00%**	**8.00%**	**15.00%**	**14.00%**	**18.00%**	100%	**211.7**	**105.8**	**56.4**	**105.8**	**98.8**	**127.0**	**706**
EAI Pacific Ocean Perch	initial CDQ	mt	9,246	10.0%	925	30.00%	15.00%	8.00%	15.00%	14.00%	18.00%	100%	277.4	138.7	74.0	138.7	129.4	166.4	925
	WACDA	mt		0.7%	65	30.00%	15.00%	8.00%	15.00%	14.00%	18.00%	100%	19.4	9.7	5.2	9.7	9.1	11.6	65
	total	mt			**989**	**30.00%**	**15.00%**	**8.00%**	**15.00%**	**14.00%**	**18.00%**	100%	**296.8**	**148.4**	**79.1**	**148.4**	**138.5**	**178.1**	**989**
Total		mt	1,920,964		170,276								28,838	36,166	9,815	35,026	32,567	27,864	170,276
Prohibited Species in Groundfish Fisheries																			
Zone 1 Red King Crab		numbers	97,000	10.7%	10,379	24%	21%	8%	12%	12%	23%	100%	2,491	2,180	830	1,245	1,245	2,387	10,379
Zone 1 Bairdi Tanner Crab		numbers	980,000	10.7%	104,860	26%	24%	8%	8%	8%	26%	100%	27,264	25,166	8,389	8,389	8,389	27,264	104,860
Zone 2 Bairdi Tanner Crab		numbers	2,970,000	10.7%	317,790	24%	23%	8%	11%	10%	24%	100%	76,270	73,092	25,423	34,957	31,779	76,270	317,790
COBLZ Opilio Tanner Crab		numbers	11,185,892	10.7%	1,196,890	25%	24%	8%	10%	8%	25%	100%	299,223	287,254	95,751	119,689	95,751	299,223	1,196,890
Pacific Halibut		mt mort.	3,675	varies	393	22%	22%	9%	12%	12%	23%	100%	86	86	35	47	47	90	393
BS Chinook Salmon	A season	numbers	42,000	9.3%	3,906	14%	21%	5%	24%	22%	14%	100%	547	820	195	937	859	547	3,906
	B Season	numbers	18,000	5.5%	990	14%	21%	5%	24%	22%	14%	100%	139	208	50	238	218	139	990
	total	numbers	60,000	8.2%	**4,896**	**14%**	**21%**	**5%**	**24%**	**22%**	**14%**	100%	**685**	**1,028**	**245**	**1,175**	**1,077**	**685**	**4,896**
AI Chinook Salmon		numbers	700	7.5%	53	14%	21%	5%	24%	22%	14%	100%	7	11	3	13	12	7	53
Non-Chinook Salmon		numbers	42,000	10.7%	4,494	14%	21%	5%	24%	22%	14%	100%	629	944	225	1,079	989	629	4,494
Halibut CDQ																			
Halibut 4B		lbs	1,140,000	20%	228,000	100%	0%	0%	0%	0%	0%	100%	228,000	0	0	0	0	0	228,000
Halibut 4C		lbs	596,600	50%	298,300	15%	0%	85%	0%	0%	0%	100%	44,745	0	253,555	0	0	0	298,300
Halibut 4D		lbs	596,600	30%	178,980	0%	26%	0%	24%	30%	20%	100%	0	46,535	0	42,955	53,694	35,796	178,980
Halibut 4E		lbs	91,800	100%	91,800	0%	30%	0%	70%	0%	0%	100%	0	27,540	0	64,260	0	0	91,800
Total		lbs			797,080								272,745	74,075	253,555	107,215	53,694	35,796	797,080
Crab CDQ 2014																			
Norton Sound Red King Crab		lbs	495,600	7.5%	37,170	0%	0%	0%	0%	50%	50%	100%	0	0	0	0	18,585	18,585	37,170
Crab CDQ (2013/2014 crab fishing year begins July 1, 2013)																			
BS C. Opilio Crab		lbs	53,983,000	10.0%	5,398,300	8%	20%	20%	17%	18%	17%	100%	431,864	1,079,660	1,079,660	917,711	971,694	917,711	5,398,300
EBS C. Bairdi Crab		lbs	1,463,000	10.0%	146,300	10%	19%	19%	17%	18%	17%	100%	0	0	0	0	0	0	0
WBS C. Bairdi Crab West		lbs	1,645,000	10.0%	164,500	10%	19%	19%	17%	18%	17%	100%	0	0	0	0	0	0	0
Bristol Bay Red King Crab		lbs	8,600,000	10.0%	860,000	17%	19%	10%	18%	18%	18%	100%	146,200	163,400	86,000	154,800	154,800	154,800	860,000
St. Matthew Blue King Crab		lbs	no fishery	10.0%	0	50%	12%	0%	12%	14%	12%	100%	0	0	0	0	0	0	0
Pribilof Red and Blue King Crab		lbs	no fishery	10.0%	0	0%	0%	100%	0%	0%	0%	100%	0	0	0	0	0	0	0
EAI Golden King Crab		lbs	3,310,000	10.0%	331,000	8%	18%	21%	18%	21%	14%	100%	26,480	59,580	69,510	59,580	69,510	46,340	331,000
Adak Red King Crab		lbs	no fishery	10.0%	0	8%	18%	21%	18%	21%	14%	100%	0	0	0	0	0	0	0
Total		lbs	69,001,000		1,191,000								172,680	222,980	155,510	214,380	224,310	201,140	1,191,000

** Atka mackerel is further divided into A season (January 20 - June 10) and B season (June 10 - November 1) with equal amounts of TAC available during each season.

For definitions of areas see Figures at 50 CFR part 679.

Appendix A.5 Watchdog VMS Manual

C1 Pcod CDQ
February 2015

Satellite Communications & Tracking

Faria WatchDog™
VMS Tracking
(Single Band - Satellite E-MTU)

Installation Manual

wdim-0008 rev A 8/2010

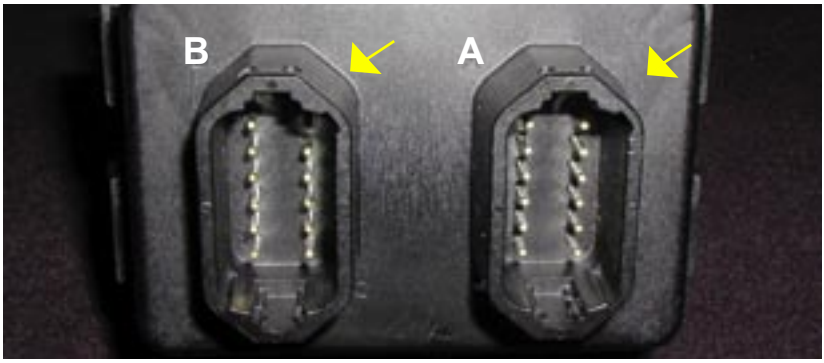
Notice - The Faria WatchDog VMS system is only an aid to operation of a boat. The performance of the system and the system performance specifications can be affected by many factors including but not limited to equipment failure, environmental conditions, improper installation, handling and/or use. This device should not be used for any navigational or safety purpose. The Faria WatchDog is used at your sole risk and in no event shall Faria WatchDog, Inc. be liable for any costs, losses, liabilities, damages, expense or claims of any nature incurred or sustained in respect of this devise or its use. You further indemnify and hold harmless Faria WatchDog, Inc. from any liability or loss resulting from use of the device.

PARTS LIST		
PART #	**DESCRIPTION**	**QTY.**
AN0007	GPS Antenna	1
AN0009	Iridium Antenna (Satellite)	1
BK0126	Antenna Bracket	2
DM0100	2” Operator Interface	1
GWD013	Faria WatchDog™ 750VMS System	1
HN0606	Power Harness	1
HN0609	GPS Antenna Cable	1
HN0610	Iridium Antenna (Satellite) Cable	1
SC0140	Screw, #12 X 4 SS	2
SC0141	Screw, #1/4 X 1, SS	9
SC0142	Screw, #12 X ¾, SS	3
CN0023	Watertight In Line Fuse Holder	2

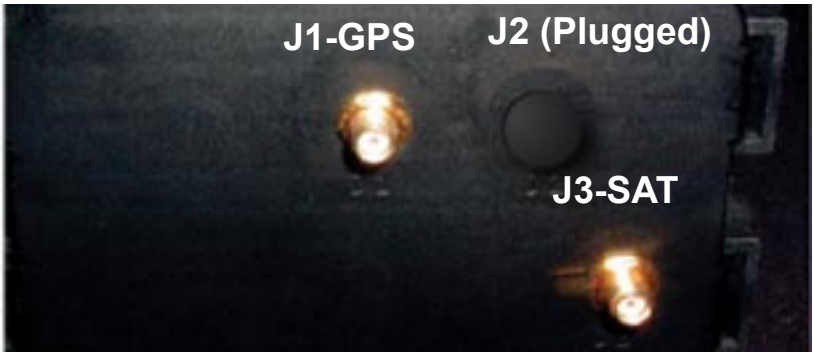
Installation:

1) Locate area to mount the two antennas (keep in mind cable length is only 28 feet long (8.5m))
2) Connect antenna cables to the antennas, through the mounting bracket.
3) Drill hole(s) for the antennas to run to and connect to the Faria WatchDog box.
4) Run cables to mounting location of the Faria WatchDog box.
5) Connect HN0606 power harness to the Faria WatchDog box (GWD013) at receptacle “A”. (See Figure 1 for installation diagram.)

“Note: The connector and receptacle are keyed so that they can only go together one way. Please be sure to line up the guides on the connector with the slots in the receptacle when connecting the harness to the transceiver box.”



6) Mount box, using the mounting holes and screws, in an area where there is easy access to antenna cables and the battery.



7) Connect the GPS antenna cable to connector GPS (J1) with cable labeled GPS on each end.

8) Connect the Iridium (SAT) antenna cable to connector SAT (J3) with cable labeled SAT on each end.

9) Mount 2” interface so that the LCD screen is visible. (See Figure 1 for installation diagram.)

HN0606

10) Connect four-pin connector from the 2” User Interface to the four-pin connector from the power harness.

11) Connect the purple and the red wire directly to the positive battery* terminal. For back-up battery connections see step 13.

Important: If there is no back-up battery connected, connect the red/white wire directly to the battery as well.

*If run of wire to battery terminal is greater than 72" you must install a 5A in line fuse provided in your kit.

12) Connect the black wire to a good vessel ground (battery negative)

Important: If there is no back-up battery connected connect both black wires to a good vessel ground (battery negative).

13) If you have a back-up battery, connect the red/white wire to the positive battery terminal on the back-up battery. Connect the second black wire to a good vessel ground (battery negative). If no back-up battery installed see step 11.

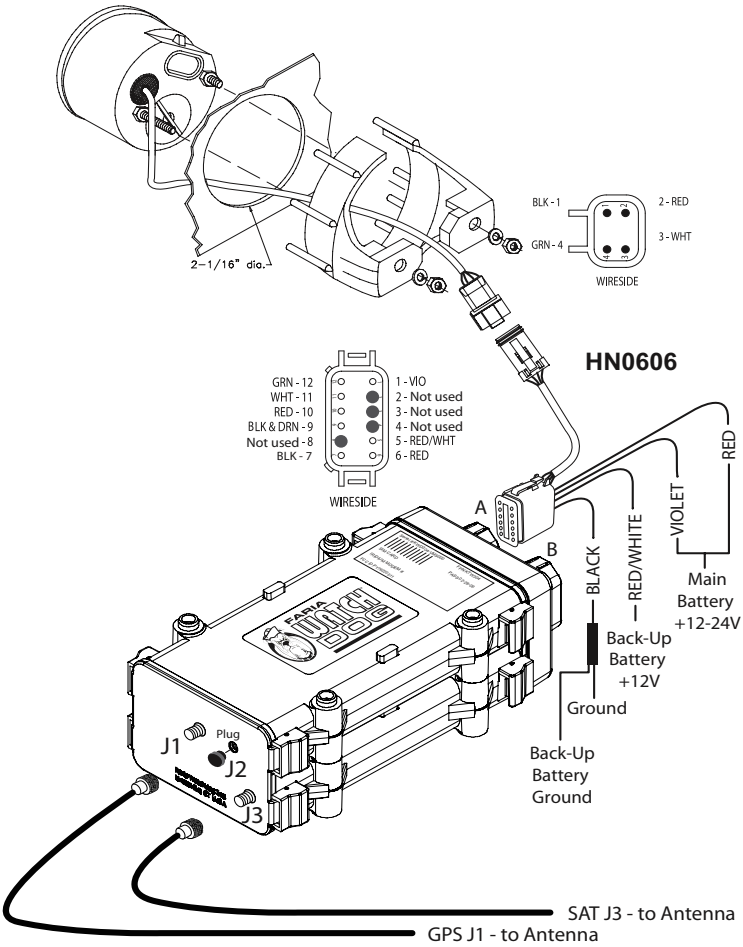


Figure 1

User Interface

Check the 2” interface, the screen should go from “WAIT” to “COMM”.

Press and hold the “S” button to enter the STATUS MODE. Pressing the “MODE” button will cycle through five status displays.

The LCD display explanations are as follows:

GSM Signal strength, should read “0”.

Sat Availability, 0 - 5 (best signal)

GPS PDOP x 100 (a PDOP of 1.23 will read 0123), 9999 (no GPS), lower numbers represent a better connection.

Main battery voltage x100 (a main battery voltage of 12.34 will read 1234)

Backup Battery voltage x 100 (a voltage of 10.0 will read 1000)

Press the “S” button to exit the “Status Mode” and return to “Normal Mode”

If you have any questions or need technical support call 877.888.5569, 860.848.6600 or e-mail us at information@fariawatchdog.com.

www.fariawatchdog.com

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