INITIAL REVIEW DRAFT

Environmental Assessment/ Regulatory Impact Review/ Initial Regulatory Flexibility Analysis

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

Pacific Cod Community Development Quota Fishery Development

June 2014

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Abstract: This Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis analyzes proposed management measures that would apply exclusively to Community Development Quota (CDQ) groups in the Bering Sea and Aleutian Islands (BSAI). The measurements under consideration include easing or exempting CDQ hook-and-line vessels that do not exceed 46' length overall (LOA) from certain regulatory requirements in order to promote harvest opportunities for Pacific cod (*Gadus macrocephalus*) by CDQ small vessel 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 BSAI (BSAI Groundfish FMP), as well as amendments to implementing regulations.

List of Acronyms and Abbreviations

ABC	Acceptable biological catch
ADF&G	Alaska Department of Fish and Game
AKFIN	Alaska Fisheries Information Network
BSAI	Bering Sea and Aleutian Islands
CAS	Catch Accounting System
CFR	Code of Federal Regulations
CH	Critical Habitat
COAR	Commercial Operators Annual Report
Council	North Pacific Fishery Management Council
CP	catcher/processor
CV	catcher vessel
E	East
E.O.	Executive Order
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EFH	essential fish habitat
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FMP	fishery management plan
FR	Federal Register
ft	foot or feet
FLL	freezer long-liner
GHL	guideline harvest level
GOA	Gulf of Alaska
ID	Identification
IRFA	Initial Regulatory Flexibility Analysis
JAM	jeopardy or adverse modification
lb(s)	pound(s)
LLP	license limitation program
LOA	length overall
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act
MMPA	Marine Mammal Protection Act
MSST	minimum stock size threshold
MRA	Maximum retainable amount
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
Observer Program	North Pacific Groundfish Observer Program
OLE	Office of Law Enforcement
OMB	Office of Management and Budget
PSC	prohibited species catch
PPA	Preliminary preferred alternative
PRA	Paperwork Reduction Act
PSEIS	Programmatic Supplemental Environmental Impact Statement
RFA	Regulatory Flexibility Act
RFFA	reasonably foreseeable future action
RIR	Regulatory Impact Review
RPA	Reasonable and prudent alternative
SAFE	Stock Assessment and Fishery Evaluation
SBA	Small Business Act
Secretary	Secretary of Commerce
SW	southwest
TAC	total allowable catch
U.S.	United States
USCG	United States Coast Guard
USFWS	United States Fish and Wildlife Service
VMS	vessel monitoring system
W	West

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Executive Summary

This document analyzes proposed management measures that would apply exclusively to Community Development Quota (CDQ) groups in the Bering Sea and Aleutian Islands (BSAI). The measurements under consideration include easing or exempting CDQ hook-and-line catcher vessels[1] that do not exceed 46' length overall (LOA) from certain regulatory requirements in order to promote harvest opportunities for Pacific cod (*Gadus macrocephalus*) by CDQ small vessel 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 BSAI (BSAI Groundfish FMP), 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 CDQ Pacific cod that promotes harvest opportunities for the CDQ village small vessel fleets, and effectively allows CDQ and IFQ halibut harvesters, less than or equal to 46' in length the ability to retain CDQ Pacific cod in excess of the 20 percent MRA of halibut. The difference between the vessel requirements for halibut CDQ fishing and directed Pacific cod CDQ fishing means that any Pacific cod incidentally 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 efficiency in the halibut CDQ fishery. Particularly in light of recent declines in halibut quota, CDQ village fleets would benefit from the ability to retain their allocation of Pacific cod for commercial sale to supplement their income from CDQ halibut harvest. This action would be in line with Magnuson-Stevens Fishery Conservation and Management Act (MSA) policy objectives of supporting employment and growth in the villages.

The 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. These alternatives are listed here and described in detail in Section 2. The alternatives propose management measures that would apply exclusively to the CDQ fisheries in the BSAI.

Alternative 1. Status quo.

Alternative 2. Increase the maximum retainable amount (MRA) up to 100 percent of the CDQ halibut landings for hook-and-line catcher vessels ≤46' LOA that hold Pacific cod CDQ. All Pacific cod caught must be retained and accrues towards the CDQ Pacific cod quotas.

Alternative 3. Create a new CDQ LLP for participating hook-and-line catcher vessels ≤46' LOA. Vessels with the CDQ LLP can participate in the CDQ directed Pacific cod fishery. Limit the number of LLPs each CDQ group would be provided. These LLP licenses would be non-transferable

[1] This analysis refers to small vessels and in all cases this indicates catcher vessels and not catcher/ processors.

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. Incidentally caught halibut would accrue against the CDQ halibut PSQ allocation.
>
> Option 2: Place these vessels in the partial coverage observer category. Require vessels to retain any incidentally caught halibut. Incidentally caught halibut would accrue against the halibut CDQ allocation.

Alternative 4. Exempt hook-and-line catcher vessels participating in the CDQ Pacific cod fishery with ≤46' 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.

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) section 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, components that warrant further discussion include impacts on the target groundfish stock (Pacific cod), Pacific halibut stock, marine mammals, and socio-economic factors. Socio-economic factors are discussed in the Regulatory Impact Review section and therefore not address in the EA.

Pacific cod

The Pacific cod stock in the BS or AI is neither overfished nor subject to overfishing, and in fact 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 the BS and AI, acceptable biological catch (ABC), overfishing level (OFL), 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 CDQ Pacific cod 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. The expectation is that the actual amount redistributed to the small CDQ 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 an insignificant level.

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) or have the option to align with it (Alternative 3 and 4), Council 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 directed 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 maybe 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). However, the alternatives would not change the way the halibut CDQ fishery is currently prosecuted. Whether potential Council 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.

If some Pacific cod quota is redistributed from the FLL fleet to the CDQ small vessel fleet, there may be proportional decrease in incidental halibut PSC by the FLL fleet depending on which action alternative the Council pursues. 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 Council 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 Stellar sea lions (SSL) 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 nearshore 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 SSLs, fur seals, and resident killer whales.

Action Alternatives 3 and 4 would require vessels to comply both with closures that apply to all vessels (i.e. no transit areas), and to comply with closures for directed fishing for Pacific cod within SSL areas. As a result, any impacts from Alternatives 3 and 4 are not expected to be significant for SSLs. In contrast, Alternative 2 could result in an increase in the amount of Pacific cod caught within SSL critical habitat. This may have effects on SSL feeding within those areas of CH, depending on the amounts of additional Pacific cod removed from CH. 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 Council action on this proposal. Northern fur seals forage both nearshore 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 be insignificant 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 halibut 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 be insignificant.

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 that may result in cumulative effects on Pacific cod or marine mammals. With regards to Pacific cod, the TAC for the Eastern Bering Sea (EBS) and the AI was split under the recommendation of the Science and Statistical Committee (SSC) in order 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. The CDQ groups now receive a portion of their Pacific cod quota from TAC set to the EBS and a portion from the TAC set in the AI (which can also be prosecuted in the EBS). Thus, this action combined with the present proposal may necessitate increased transaction among CDQ groups, particularly Aleutian Pribilof Island Community Development Association (APICDA) 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 SSL protection measures in the AI (NMFS 2014). The Final BiOp was released on April 2, 2014 and will change SSL protection measures that were in place for non-trawl Pacific cod fishing between 2010 and 2015 as established by the 2011 Interim final rule. The Interim final rule created area, gear, and seasonal specific measures to protect SSL critical habitat. However, the Final BiOp released in April of 2014, will re-opened many of these closures after 2015. There are no changes to the Final BiOp released in April of 2014 relative to the action analyzed in the 2010 FMP BiOp for non-trawl Pacific cod fishing. Therefore this SSL RFFA is not excepted to significantly impact or compromise the intent of the proposed action alternatives in this analysis.

Regulatory Impact Review

This Regulatory Impact Review (RIR) examines the benefits and costs of a proposed regulatory amendment to promote Community Development Quota (CDQ) Pacific cod harvest opportunities above the 20 percent Maximum Retainable Amount (MRA) allowed in the CDQ halibut target fishery. This section in the analysis includes a description of the current Pacific cod CDQ and halibut CDQ fisheries (see Section 4.6 and 4.7 of the document), an analysis of the potential effects of the proposed actions on achieving increased retention opportunities by adjusting the MRA or by promoting a CDQ Pacific cod direct 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 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 for a vessels of interest to the proposal (i.e., CDQ vessel less than or equal to 46 ft LOA using hook-and-line gear) if this this vessel was federally permitted (FFP) with a Pacific cod endorsement, held an LLP license, carried VMS and was subject to full observer coverage. Additionally, federally permitted vessels targeting CDQ halibut that do not meet all of the provisions to target Pacific cod are 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.

Under the regulatory status quo, a CDQ vessel less or equal to 46 ft LOA using hook-and-line may directed fish for Pacific cod CDQ in a state-waters parallel fishery, without an FFP or LLP 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.

All Action Alternatives

The action alternatives 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 small vessel Pacific cod CDQ fishery to mimic the current halibut CDQ fishery under an action alternative. 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 Alt. 2, but likely under Alt. 3 and 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 Alt. 2);
- redirect some portion of Pacific cod CDQ away from the freezer long-liner (FLL) fleet;
- reduce CDQ groups' revenue received from leasing quota to FLL fleet;
- 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.

Alternatives 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' LOA. All Pacific cod caught up to this amount on a federally permitted vessel must be retained and accrues towards the CDQ Pacific cod quotas.

Since this alternative is not held to the regulations of a Pacific cod directed fishery, vessels relevant to this proposal 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 SSL critical habitat and EFH.

This alternative still requires the consideration of SSL protected critical habitat before it can be determined that the current VMS regulation would still apply. Pacific cod is a prey species for SSLs, and the halibut CDQ fishery is able to prosecute a halibut fishery in some areas that are closed to hook-and-line Pacific cod fishing. Under Alternative 2, it is possible that a vessel could have the exact same Pacific cod/ halibut catch composition as a vessel that under the status quo, except that under the status quo that vessel would be required to carry VMS and adhere to SSL 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, the best estimate for Alternative 2 is anywhere from no Pacific cod up to the weight of the full halibut CDQ harvest (which, for example, provided a CDQ reserve of almost 800,000 lbs in 2014). It would be necessary to establish formal or informal consultation with the NMFS Office of Protected Resources Division under Section 7 of the U.S. Endangered Species Act if this was the preferred alternative.

There are several other important areas of discussion under Alterative 2. One concern 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 drop, as has been the trend since 2011, this complimentary source of income may not provide much benefit as the MRA proportionally drops.

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

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

Section 4.11 of the analysis first discusses the intent of the LLP and how this intent may or may not be compatible with the proposed action. This section compares and contrasts how the recently established CEQ LLP is designed with the current proposal. The two options for observer coverage and catch accounting are evaluated and the policy considerations for Council deliberation are highlighted.

In summary, the direct intention 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 (IFA). Therefore, the CDQ program already addresses most of the original fishery management concerns through the consequence of being a catch share program. Therefore, despite a clear inconsistency between an LLP's restriction of vessels 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, rather than exempting vessels from them, 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 mater'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 to accommodate this. However, any option of community license or permit will require some additional administrative effort on the part of the CDQ group in terms of 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 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 CDQ Pacific cod 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 CDQ Pacific cod under the authority of that groundfish license. This would include vessels 32 ft LOA and under that are currently exempt from the 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.

Under Alternative 3, the Council would need to determine the number and distribution of LLP licenses throughout the CDQ communities. 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 group have 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 moved this groundfish CDQ fishery category into the partial observer coverage category. All vessels groundfish CDQ fishing were placed into the full observer coverage category regardless of vessel size, because the CDQ groups' have the privilege of a transferable PSC catch limit, or PSQ. Therefore if this group of vessels Pacific cod CDQ fishing were placed into partial observer coverage category, the Council would need to determine the most appropriate way to account for halibut incidentally caught in a Pacific cod CDQ fishery.

Option 1: Under Option 1 of Alternative 3, any halibut incidentally caught while the vessel was targeting Pacific cod would accrue against the halibut PSQ. CDQ vessels would be required to discard incidentally caught halibut in the Pacific cod CDQ fishery, regardless of the availability of halibut CDQ or IFQ. This Option would consistency in the accounting of incidentally caught halibut; however, it would both create inefficiency in this fishery, as well as setting an unprecedented scenario of estimating halibut prohibited species catch (PSC) from observer data, that is then attributed to the CDQ groups' prohibited species quota (PSQ).

Option 2: Under Option 2, any halibut incidentally caught while the vessel was targeting Pacific cod would be required to be retained (unless other provision prevent its retention), and it would accrue against the halibut CDQ allocation. Broadly speaking, accounting for this Option would more likely be accurate and straightforward. Legal sized 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., they do not possess a halibut CDQ hires 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.

Overall, the creation of a CDQ LLP in Alternative 3 is a viable way to encourage a Pacific cod CDQ small vessel fishery. However, the Council will need to determine if it is an appropriate and necessary use of this management tool.

Alternatives 4, Direct Exemptions

Alternative 4 directly exempts hook-and-line catcher vessels less than or equal to 46 ft LOA participating in the Pacific cod CDQ fishery from groundfish LLP requirements. Consistent with current groundfish standards, all Pacific cod caught must be retained and accrues towards the CDQ Pacific cod allocation. Vessels would be in the partial coverage observer category. Alternative 4 is very similar to Alternative 3, with the distinction that it does not provide a mechanism for identification and at-sea enforcement.

An LLP license or federally issued form of identification may not be necessary if a CDQ group can create an internally-generated identification system that could satisfy requirement for at-seas enforcement. This may consist of as little as possessing a CDQ harvest contract onboard a trip, or as much as an online list

of active vessels participating in the Pacific cod CDQ fishery. Future consultation with NOAA Fisheries Office of Law Enforcement (OLE) could guide the appropriate documentation.

This alternative presents the same issues of catch accounting of incidental halibut during partial observer coverage that are presented in Alternative 3. Similar to Alternative 3, the more a new Pacific cod CDQ small vessel fishery was aligned with a halibut CDQ fishery, the more accurate and straight forward catch accounting would be for incidentally caught halibut.

Table ES 0-1Summary of alternatives and major impacts

Differences in Alternatives (Sections 2.1 and 2.2)	**Alternative 1:** No action	**Alternative 2:** Change the MRA for the Halibut CDQ Fishery	**Alternative 3:** Create a New LLP for CDQ Pacific Cod Participants	**Alternative 4:** Direct Exemptions
Options			2 Options about the retention requirements for incidentally caught halibut	
Management Impacts				
Vessel owner burden	No change	Requires vessels to hold or obtain an FFP	Requires vessels to hold or obtain an FFP Must obtain an LLP license for direct fishing Pacific cod at the beginning of the season Requires vessels to have or obtain a VMS	Requires vessels to hold or obtain an FFP Must obtain identification card for direct fishing Pacific cod Requires vessels to have or obtain a VMS
CDQ management burden	No change	Increased complexity in their responsibility of allocating and keeping track of quota distributed to their small vessel fleet Increased possibility of misreported CDQ which would require corrective action	Required to distribute and record count of LLPs allocated to their CDQ group annually Increased possibility of misreported CDQ which would require corrective action	Increased complexity in their responsibility of allocating and keeping track of quota distributed to their small vessel fleet Increased possibility of misreported CDQ which would require corrective action
Agency burden	No change	No change	Required to distribute and record count of LLPs allocated to each CDQ group annually	No change Possibly an online database for recordkeeping of vessel eligibility
Catch Accounting System	No change	Catch accounting for halibut would not change All Pacific cod retained incidentally to halibut would accrue off the CDQ groups' quota	If vessel fishing Pacific cod CDQ were in the partial observer coverage category, either: 1) Halibut incidentally caught while Pacific cod CDQ fishing would be required to be discarded and CDQ group's halibut PSC would be estimated from observer data, or 2) halibut incidentally caught would be required to be retained during season and by eligible vessels. Retained halibut would accrue to the group's halibut CDQ.	The Council would need to determine how to account for incidentally caught halibut will be accounted for in the Catch Accounting System. Options in Alternative 2 could be considered

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, difficult to enforce regulatory closures	Could identify vessels prosecuting Pacific cod CDQ fishery with LLP license during a vessel boarding	At-sea enforcement may be more of a challenge CDQ groups could provide harvest contract to demonstrate their eligibility for at-sea boarding Something more may be required
Precedent-setting management tool	None	Setting the MRA to a percentage of the target species to greater than 35 percent	Creating and allocating an LLP 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)	Allowing vessels with transferable PSQ be placed in the partial observer coverage category
Safety	No change	No change	No change	No change
Environmental Impacts				
Protected areas: SSL, EFH and HAPC area closures	No change	Potential for larger amounts of Pacific cod retained in protect 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	Could be prosecuted 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	Positive impact from increased fishery diversification for halibut CDQ participants	Positive impact from increased fishery diversification for CDQ participants	Positive impact from increased fishery diversification for CDQ participants
Direct net benefits to CDQ regions	No change	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	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	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
Indirect net benefits to other sectors	No change	Very minimal change since not a distribution of quota Freezer long-liner vessels that currently prosecute the majority of the Pacific cod CDQ may feel a negative impact from some quota redistributed to the small vessel fleet	Very minimal change since not a distribution of quota Freezer long-liner vessels that currently prosecute the majority of the Pacific cod CDQ may feel a negative impact from some quota redistributed to the small vessel fleet	Very minimal change since not a distribution of quota Freezer long-liner vessels that currently prosecute the majority of the Pacific cod CDQ may feel a negative impact from some quota redistributed to the small vessel fleet

1 Introduction

This document analyzes proposed management measures that would apply exclusively to Community Development Quota (CDQ) groups in the Bering Sea and Aleutian Islands (BSAI). The measurements under consideration include easing or exempting CDQ hook-and-line catcher vessels[2] that do not exceed 46' length overall (LOA) from certain regulatory requirements in order to promote harvest opportunities for Pacific cod (*Gadus macrocephalus*) by CDQ small vessel 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 BSAI (BSAI Groundfish FMP), as well as amendments to implementing regulations.

This document is an Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis (EA/RIR/IRFA). An EA/RIR/IRFA provides assessments of the environmental impacts of an action and its reasonable alternatives (the EA), the economic benefits and costs of the action alternatives, as well as their distribution (the RIR), and the impacts of the action on directly regulated small entities (the IRFA). This EA/RIR/IRFA addresses the statutory requirements of the Magnuson Stevens Fishery Conservation and Management Act, the National Environmental Policy Act, Presidential Executive Order 12866, and the Regulatory Flexibility Act. An EA/RIR/IRFA 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 CDQ Pacific cod that promotes harvest opportunities for the CDQ village small vessel fleets, and effectively allows CDQ and IFQ halibut harvesters, less than or equal to 46' in length the ability to retain CDQ Pacific cod in excess of the 20 percent MRA of halibut. The difference between the vessel requirements for directed CDQ halibut fishing and directed CDQ Pacific cod fishing means that any Pacific cod incidentally 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 efficiency in the halibut CDQ fishery. Particularly in light of recent declines in halibut quota, CDQ village fleets would benefit from the ability to retain their allocation of Pacific cod for commercial sale to supplement their income from CDQ halibut harvest. This action would be in line with Magnuson-Stevens Fishery Conservation and Management Act (MSA) policy objectives of supporting employment and growth in the villages.

The 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.*

[2] This analysis refers to small vessels and in all cases this indicates catcher vessels and not catcher/ processors.

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 adjacent communities 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. The National Marine Fisheries Service (NMFS), the State of Alaska (State), and the Western Alaska Community Development Association (WACDA) administer the CDQ Program. Its purpose, as specified in 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 Bering Sea and Aleutian Islands area (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 MSA. Eligibility requirements for a community to participate in the western Alaska Community Development Program are identified in the MSA at § 305(i)(1)(D).

There are 65 coastal Alaska villages[3] 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 villages in each group). The CDQ-villages 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 villages 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.

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

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

Norton Sound Economic Development Corporation (NSEDC): 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 3,120 people.

CDQ groups use the revenue derived from the harvest of their fisheries allocations as a basis both 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 (mt) 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 village residents. CDQ groups have had some successes 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 both continuing and additional employment opportunities for local residents.

1.2.2 History of this Action

In October 2013, during the staff tasking agenda item, 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 CDQ Pacific cod allocations in both a directed CDQ Pacific cod fishery and while targeting CDQ and Individual Fishing Quota (IFQ) halibut (Appendix A.2). 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 actively participate in a CDQ village Pacific cod 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 CDQ Pacific cod allocations. The changes requested in the proposal included:

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

2. exempting vessels up to 46’ 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 in February 2014 at the Seattle, WA Council meeting. The objective of the discussion paper was to outline the baseline for each of the four regulatory elements the CDQ groups considered to be 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 that 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 contrasting this with monitoring alternatives, such as Global Positioning System (GPS) electronic monitoring (EM).

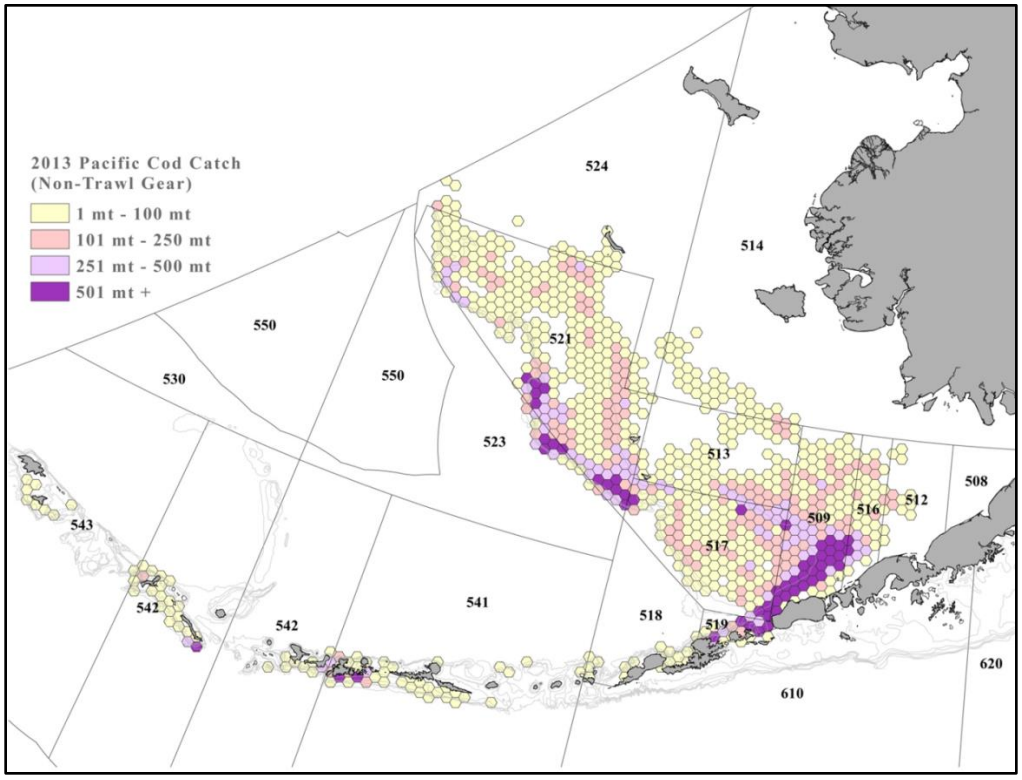
1.2.3 Description of Action Area

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 C/P > 46' LOA, or in the case of one CDQ group, two CV > 46' LOA Any of the proposed action alternatives could result in a redistribution of a portion of the CDQ Pacific cod quota from these C/P vessel > 46' LOA to hook-and-line CDQ vessels ≤ 46' 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 CVs and C/P > 46' LOA that have targeted CDQ Pacific cod have prosecuted areas: 509, 513, 516, 517, 521 with some additional harvest in are 514 in the Kuskokwim Bay region and some in 542 AI region (Figure 1-2).

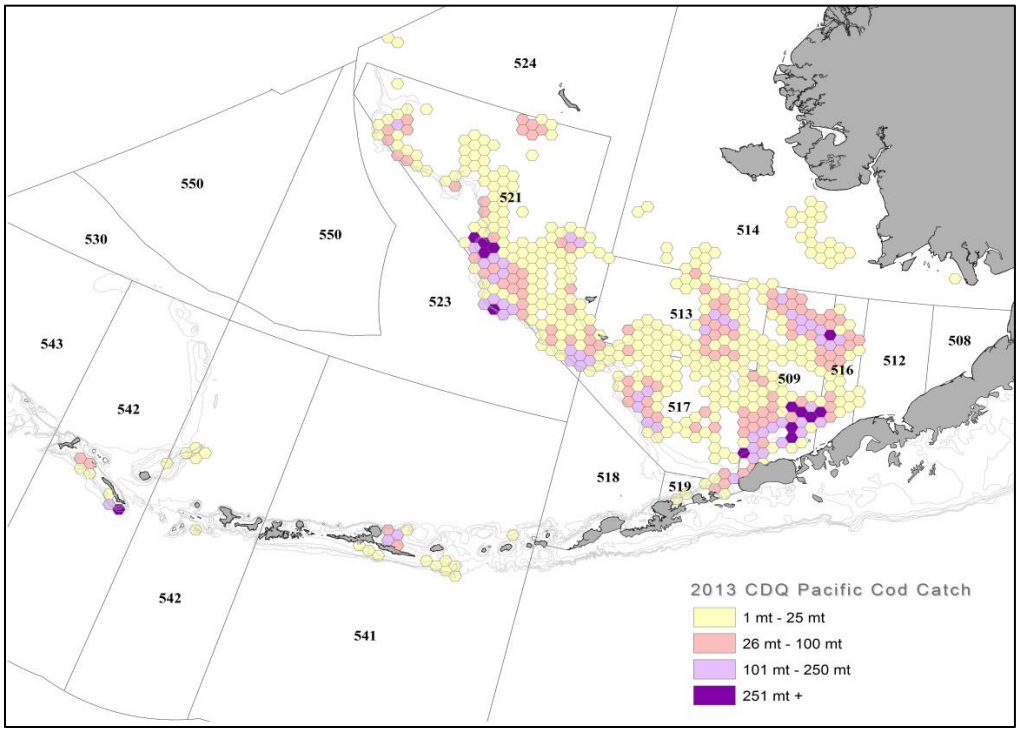
With Council action, a portion of CDQ Pacific cod directed fishery would likely adjust to be caught in nearshore water closer to local communities. Allowing for regulatory changes and exemptions for CDQ Pacific cod fishing will primarily impact CDQ groups in the Aleutian and Pribilof Islands and some Western Alaska village.

Figure 1-1 All 2013 BSAI Non-Trawl Pacific Cod Catch



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

Figure 1-2 All 2013 BSAI CDQ Pacific Cod 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 CDQ Pacific cod while harvesting CDQ halibut or in a Pacific cod directed 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. ADF&G fish tickets (and also eLandings) can prescribe 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 harvest 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 in the Yukon Delta region. This CDQ group is only allocated halibut quota in area 4D, which is not immediately adjacent to the YDFDA communities in the Bering Sea. YDFDA traditionally harvests their quota on the 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. These alternatives are listed here and described in detail in the sections that follow. The alternatives propose management measures that would apply exclusively to the CDQ fisheries in the BSAI.

Alternative 1. Status quo.

Alternative 2. Increase the maximum retainable amount (MRA) up to 100 percent of the CDQ halibut landings for hook-and-line catcher vessels ≤46' LOA that hold Pacific cod CDQ. All Pacific cod caught must be retained and accrues towards the CDQ Pacific cod quotas.

Alternative 3. Create a new CDQ LLP for participating hook-and-line catcher vessels ≤46' LOA. Vessels with the CDQ LLP can participate in the CDQ directed Pacific cod fishery. Limit the number of LLPs 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. Incidentally caught halibut would accrue against the CDQ PSQ allocation.
>
> Option 2: Place these vessels in the partial coverage observer category. Require vessels to retain any incidentally caught halibut. Incidentally caught halibut would accrue against the halibut CDQ allocation.

Alternative 4. Exempt hook-and-line catcher vessels participating in the CDQ Pacific cod fishery with ≤46' 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.

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 CDQ Pacific cod that promotes harvest opportunities for the CDQ village small vessel fleets, and effectively allows CDQ and IFQ halibut harvesters, less than or equal to 46' in length the ability to retain CDQ Pacific cod in excess of the 20 percent MRA.

2.1 Alternative 1, No Action

Under the no action alternative, the regulations of the CDQ fishery would remain consistent with the status quo.[4] In other words, directed Pacific cod CDQ fishing could only occur for a vessels of interest to the proposal (i.e., CDQ vessel less than or equal to 46 ft LOA using hook-and-line gear) if this this vessel was federally permitted (FFP) with a Pacific cod endorsement, held an LLP license, carried VMS and was subject to full observer coverage. Additionally, federally permitted vessels targeting CDQ halibut that do not meet all of the provisions to target Pacific cod are prohibited from retaining Pacific cod over the 20 percent MRA on board at any time during a trip.[5] CDQ vessels may also retain Pacific cod for personal bait.[6]

No vessel in the GOA or BSAI may fish for groundfish including groundfish bycatch without obtaining an FFP.[7] Any vessels 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.

In order to describe the status quo regulations more precisely, there are four different CDQ fishery categories defined in regulations: [8]

- "Halibut CDQ fishing" is using fixed gear, retaining halibut CDQ, and not retaining groundfish over the maximum retainable amounts specified Table 11 to §679.

- "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 species or species group.

- "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.

- "Groundfish CDQ fishing" which is fishing that results in the retention of any groundfish CDQ species[9], but that does not meet the definition of pollock CDQ fishing, sablefish CDQ fishing, or halibut CDQ fishing.

Therefore, 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

[4] For a detailed description of the regulatory structure of the status quo, see forthcoming addendum describing status quo of current regulations.
[5] 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 up the MRA.
[6] 50 CFR §679.27 (g)
[7] 50 CFR §679.4(b)1-2
[8] 50 CFR §679.2
[9] 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 provisions, catch accounting, and monitoring requirements for that particular CDQ fishery category. 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". Table 2-1 provides a reference for the regulatory requirements in halibut CDQ fishing and groundfish CDQ fishing. A forthcoming addendum provides more detailed description of these provisions and some of the rationale behind their creation.

Also as can be seen in Table 2-1, a CDQ vessel less or equal to 46 ft LOA using hook-and-line may directed fish for Pacific cod CDQ in a state-waters parallel fishery, without an FFP or LLP 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, or observer coverage if there was no retention of halibut and the vessel is exclusively prosecuting 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.[10] 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 do 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 do 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

[10] Regulations at 50 CFR § 679.7 (f)(11) prohibit the "discard 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".

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 CDQ halibut landings for hook-and-line catcher vessels less than or equal to 46' LOA that harvest Pacific cod CDQ in conjunction with halibut CDQ. All Pacific cod caught up to this amount must be retained and accrues towards the CDQ Pacific cod 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 CDQ Pacific cod directed fishery.

In other words, a participant's CDQ Pacific cod harvest would still be dependent on the amount of CDQ halibut harvested. This alternative does not necessarily allow 100 percent retention of Pacific cod, but instead the CDQ Pacific cod harvest could be retained for commercial sale only up to the proportional level of the CDQ halibut harvest.

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

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

In alternative 3 the National Marine Fisheries Service (NMFS) would create a new CDQ LLP for participating hook-and-line catcher vessels less than or equal to 46' LOA. Federally permitted vessels with the CDQ LLP licenses and VMS units would be able to participate in the CDQ directed Pacific cod 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 be used by one vessel and one vessel operator. If the vessel had a CDQ LLP license, then all Pacific cod caught 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.[11]

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 incidentally caught while a vessel was targeting Pacific cod would accrue against the applicable CDQ group's halibut PSQ allocation. In Option 2, any halibut incidentally caught while a vessel was targeting Pacific cod would be retained and accrue against the applicable CDQ group's halibut CDQ allocation.

2.4 Alternative 4, Direct Exemptions

Alternative 4 most closely resembles the proposal submitted to the Council by the CDQ groups. In this alternative, the Council would exempt federally permitted hook-and-line vessels participating in the CDQ Pacific cod fishery less than or equal to 46' LOA from groundfish LLP requirements.

The primary difference between Alternative 3 and 4 is that Alternative 4 does not provide a mechanism for identification and at-sea enforcement. The Council would need to determine whether all Pacific cod caught by federally permitted CDQ vessels with VMS would be required to be retained and would accrue towards the CDQ Pacific cod allocations or whether the CDQ groups would have control over their vessels that participant in the Pacific cod CDQ fishery on their behalf.

[11] 50 CFR §679.51(a)(2)

Vessels would be in the partial coverage observer category under this alternative. In addition, the Council would also need to proscribe how halibut incidentally in the directed Pacific cod fishery should be accounted for. Halibut could be considered a prohibited species, be subject to discard, and accrue towards a CDQ group's halibut PSQ allocation. Alternatively, halibut could be retained and accrue towards a group's halibut CDQ allocation.

2.5 Comparison of Alternatives

The action alternatives in this chapter represent the range of viable opportunities to accomplish the stated purpose and need for the analysis. Table 2-2 compares and contrasts management, environmental, and economic elements these alternatives.

Specifically there are many shared impact expected to result from the action alternatives (Alternative 2, 3, and 4). These shared impacts primarily relate to the required or inherent predisposition a small vessel Pacific cod CDQ fishery to mimic the current halibut CDQ fishery in many ways under an action alternative. 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 Alt. 2, but likely under Alt. 3 and 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 Alt. 2);
- redirect some portion of Pacific cod CDQ away from the freezer long-liner (FLL) fleet;
- reduce CDQ groups' revenue received from leasing quota to FLL fleet;
- 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, Table 2-2 illustrates the primary difference in the management techniques of the alternatives. Alternative 2 is the only action alterative that does not facilitate a directed fishery; however, it would still work 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. Alternative 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 already has an established, federally administered mechanism for at-seas identification and enforcement. Alternative 4 would rely on a CDQ groups' internally-generated identification to demonstrate their eligibility to prosecute a Pacific cod CDQ fishery without an LLP license, and in partial observer coverage category.

Table 2-2 Summary of alternatives and major impacts

Differences in Alternatives (Sections 2.1 and 2.2)	**Alternative 1:** No action	**Alternative 2:** Change the MRA for the Halibut CDQ Fishery	**Alternative 3:** Create a New LLP for CDQ Pacific Cod Participants	**Alternative 4:** Direct Exemptions
Options			2 Options about the retention requirements for incidentally caught halibut	
Management Impacts				
Vessel owner burden	No change	Requires vessels to hold or obtain an FFP	Requires vessels to hold or obtain an FFP Must obtain an LLP license for direct fishing Pacific cod at the beginning of the season Requires vessels to have or obtain a VMS	Requires vessels to hold or obtain an FFP Must obtain identification card for direct fishing Pacific cod Requires vessels to have or obtain a VMS
CDQ management burden	No change	Increased complexity in their responsibility of allocating and keeping track of quota distributed to their small vessel fleet Increased possibility of misreported CDQ which would require corrective action	Required to distribute and record count of LLPs allocated to their CDQ group annually Increased possibility of misreported CDQ which would require corrective action	Increased complexity in their responsibility of allocating and keeping track of quota distributed to their small vessel fleet Increased possibility of misreported CDQ which would require corrective action
Agency burden	No change	No change	Required to distribute and record count of LLPs allocated to each CDQ group annually	No change Possibly an online database for recordkeeping of vessel eligibility
Catch Accounting System	No change	Catch accounting for halibut would not change All Pacific cod retained incidentally to halibut would accrue off the CDQ groups' quota	If vessel fishing Pacific cod CDQ were in the partial observer coverage category, either: 1) Halibut incidentally caught while Pacific cod CDQ fishing would be required to be discarded and CDQ group's halibut PSC would be estimated from observer data, or 2) halibut incidentally caught would be required to be retained during season and by eligible vessels. Retained halibut would accrue to the group's halibut CDQ.	The Council would need to determine how to account for incidentally caught halibut will be accounted for in the Catch Accounting System. Options in Alternative 2 could be considered

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, difficult to enforce regulatory closures	Could identify vessels prosecuting Pacific cod CDQ fishery with LLP license during a vessel boarding	At-sea enforcement may be more of a challenge CDQ groups could provide harvest contract to demonstrate their eligibility for at-sea boarding Something more may be required
Precedent-setting management tool	None	Setting the MRA to a percentage of the target species to greater than 35 percent	Creating and allocating an LLP 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)	Allowing vessels with transferable PSQ be placed in the partial observer coverage category
Safety	No change	No change	No change	No change
Environmental Impacts				
Protected areas: SSL, EFH and HAPC area closures	No change	Potential for larger amounts of Pacific cod retained in protect 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	Could be prosecuted 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	Positive impact from increased fishery diversification for halibut CDQ participants	Positive impact from increased fishery diversification for CDQ participants	Positive impact from increased fishery diversification for CDQ participants
Direct net benefits to CDQ regions	No change	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	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	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

Indirect net benefits to other sectors	No change	Very minimal change since not a distribution of quota Freezer long-liner vessels that currently prosecute the majority of the Pacific cod CDQ may feel a negative impact from some quota redistributed to the small vessel fleet	Very minimal change since not a distribution of quota Freezer long-liner vessels that currently prosecute the majority of the Pacific cod CDQ may feel a negative impact from some quota redistributed to the small vessel fleet	Very minimal change since not a distribution of quota Freezer long-liner vessels that currently prosecute the majority of the Pacific cod CDQ may feel a negative impact from some quota redistributed to the small vessel fleet

2.6 Alternatives Considered but not Analyzed Further

The initial proposal submitted by CDQ representatives requested direct exemptions for vessel less than or equal to 46' LOA from VMS requirements. The February 2014 discussion paper identified significant enforcement and monitoring concern in the case of 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).

3 Environmental Assessment

There are four required components for an environmental assessment. The need for the proposal is described in Section 1.1 and the alternatives in Section 2. This section addresses the probable environmental impacts of the proposed action and alternatives. A list of agencies and persons consulted is included in Section 6.

This section evaluates the impacts of the alternatives and options on the various environmental components. The socio-economic impacts of this action are described in detail in the Regulatory Impact Review (RIR) and Initial Regulatory Flexibility Analysis (IRFA) portions of this analysis (Sections 4 and 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 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 environmental assessment or environmental impact statement must consider cumulative effects when determining whether an action significantly affects environmental quality. The Council on Environmental Quality (CEQ) regulations for implementing NEPA define cumulative effects as:

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

The 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 0.

Documents incorporated by reference in this analysis

This EA relies heavily on the information and evaluation contained in previous environmental analyses, and these documents are incorporated by reference. The documents listed below contain information about the fishery management areas, fisheries, marine resources, ecosystem, social, and economic elements of the groundfish fisheries. They also include comprehensive analysis of the effects of the fisheries on the human environment, and are referenced in the analysis of impacts throughout this 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 GOA and the Bering Sea and Aleutian Islands management areas and is referenced here for an understanding of the groundfish fishery.[12] The EIS examines alternative harvest strategies that comply

[12] 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 recur.

with Federal regulations, the Fishery Management Plan (FMP) for Groundfish of the GOA, the Fishery Management Plan (FMP) for Groundfish of the BSAI Management Area, and the Magnuson-Stevens Fishery Conservation and Management Act. These strategies are applied using the best available scientific information to derive the total allowable catch (TAC) estimates for the groundfish fisheries. The EIS evaluates the effects of different alternatives on target species, non-specified species, forage species, prohibited species, marine mammals, seabirds, essential fish habitat, ecosystem relationships, and economic aspects of the groundfish fisheries. This document is available from: 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 Bering Sea/Aleutian Islands (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 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 (EFH), or any ecosystem components of the environment. No effect is presumed for these components because none of the proposed actions 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 individual 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. There is expected to be insignificant ecosystem impacts 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 Section 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) EBS as well as in the AI area. Tagging studies (e.g., Lauth 2011) have demonstrated significant migration both 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 & Palsson 2013). This change allowed for the separate harvest specifications for the EBS and AI Pacific cod stocks beginning with the 2014 fishery.

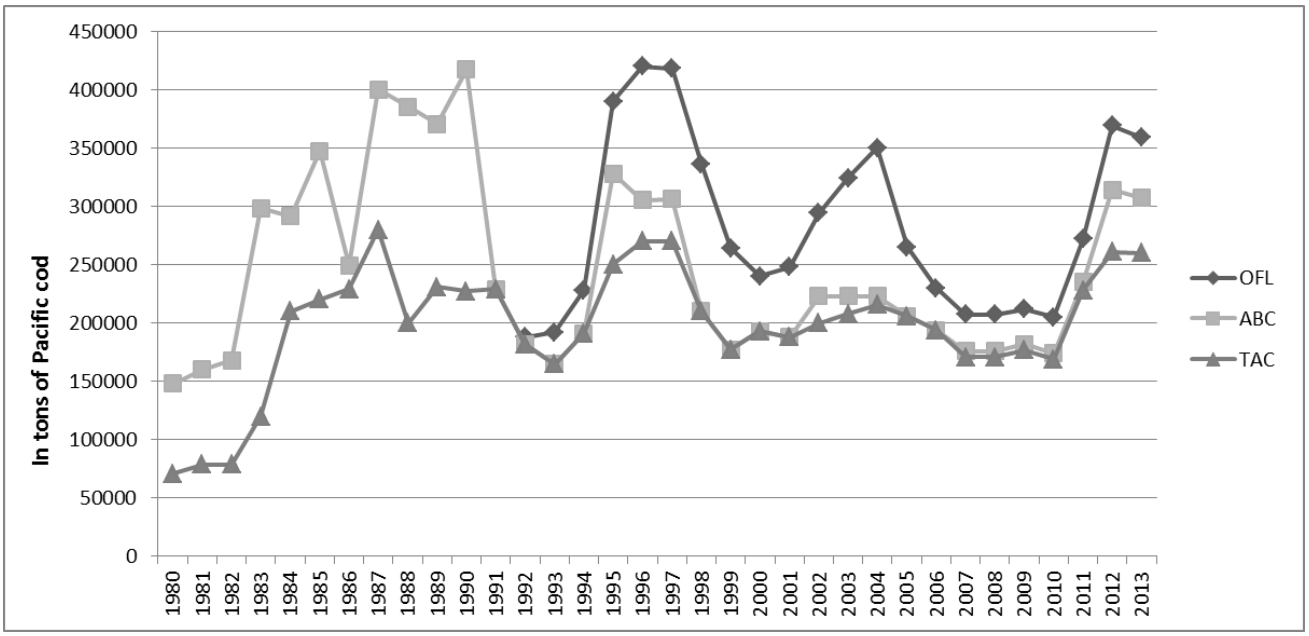
Estimates of total abundance for the EBS are obtained from the shelf bottom trawl surveys[13]. Survey results indicate that biomass remained relatively constant from 1982 through 1988. The highest biomass ever observed by the survey was the 1994 estimate of 1,368,120 mt. Following the high observation in 1994, the survey biomass estimate declined steadily through 1998. The survey biomass estimates remained in the 596,000-619,000 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% of the 2010 value for the last three years (Thompson 2013; Thompson & Palsson 2013).

[13] For more available data on biomass and abundance of Pacific cod in 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).

For the AI, both the biomass and numerical abundance data indicate very consistent declines throughout the time series, particularly in the Western Aleutians.[14] Between 1991 and 2012 estimates on biomass has 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 & Palsson 2013).

With the increase in Pacific cod stock in EBS outweighing declines in the AI, acceptable biological catch (ABC), overfishing level (OFL), and subsequently total allowable catch (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.

[14] For more available data on biomass and abundance estimates of Pacific cod in 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).

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,[15] with NMFS statistical areas 509, 513, 517, 519, and 521 each accounting for at least 5% of the average catch between 2008 and 2012 (Thompson 2013; Thompson & 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%, 19%, and 23%, respectively. For the period 2011-2013, the average distribution has been 82%, 18%, and 0%, respectively.[16]

The CDQ specific Pacific cod fishery is discussed thoroughly in Section 4.6. CDQ groups are allocated 10.7 percent of the total allowable catch 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

The effects of the BSAI Pacific cod fishery on the Eastern BS and AI Pacific cod stock are assessed annually in the BSAI SAFE report (Thompson 2013; Thompson & Palsson 2013), and are also evaluated in the Alaska Groundfish Fisheries Harvest Specifications EIS (NMFS 2007). Table 3-3 describes the criteria used to determine whether the impacts on Pacific cod stocks from the Council action are likely to be significant. The Pacific cod stock in the BS or AI is neither overfished nor subject to overfishing, and in fact the biomass levels are projected to increase for 2015 for the Pacific cod stock in the Eastern Bering Sea.[17] It is estimated that the BSAI Pacific cod fisheries under the status quo are sustainable for Pacific cod stocks.

[15]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).
[16] However, 2013 was not fully available at the time these percentages were calculated.
[17] 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 standing stock 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

The action alternatives allow for the redistribution CDQ Pacific cod 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 total allowable catch (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 chose to continue leasing their Pacific cod allocation to freezer longliners, rather than change their fishing operations to encourage a local, small vessel CDQ Pacific cod 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 (CVs), as an upper bound of Pacific cod they may choose to fish in near-shore water under an action alternative. The recent levels of Pacific cod harvested by CVs and catcher/ processors (C/Ps) are described in Section 4. The expectation is that the actual amount redistributed to the small CDQ 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 (FFP), license limitation program (LLP)

license, vessel monitoring system (VMS), 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 be considered insignificant on overall Pacific cod mortality.

Changes in temporal or spatial distribution are expected to occur from an action alternative, yet at an insignificant level. 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 villages. Current harvest from the FLL vessels and larger CVs is illustrated in Figure 4-5. Seasonal patterns may adjust to mimic or precede the halibut season. 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., Feb-March 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, 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 effect 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 propose complementing the current directed halibut CDQ fishery with opportunities to simultaneously retain more Pacific cod. This section considers whether the halibut stock would be impacted by Council 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 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 account 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 be account towards the groups' 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 (IPHC) and Table 4-8 the exploitable biomass of halibut, and ultimately the CDQ halibut allocation have declined fairly consistently, particularly in the last four years. The 2013 Pacific cod stock assessment cites this as a result

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

3.2.2 Effect of the Alternatives

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 potential Council 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 take of the prohibited species in question.
Adverse impact	There is an increase in incidental takes 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 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 vessel fleet, there may be proportional decrease in incidental halibut PSC by the FLL fleet. It is useful to consider the alternatives separately in order to understand potential halibut PSQ impacts from catching Pacific cod CDQ on small vessels. Under Alternative 2, all halibut catch would be attributed to the halibut CDQ allocation. Incidental catch of halibut would not occur in this scenario, because halibut would consistently be the targeted species. Under Alternative 3 and 4 since the Pacific cod and halibut targeted fisheries could be independent; there is a possibility that there would be incidental catch of halibut while a participant was Pacific cod CDQ fishing. Option 1 and 2 dictate whether this catch would automatically accrue towards the PSQ allocation or the halibut CDQ allocation, respectively. In other words, in the first option the CDQ participants would be required to target one species at a time, in which case they would be have the incentive to minimize their halibut catch in order to produce a lowest PSC rate possible. In Option 2, they could prosecute a multi-species fishery, targeting both Pacific cod and halibut as long as the allocation was available to them. Under Alternative 4, the Council would also need to determine if the halibut

incidentally caught in the Pacific cod fishery would be accounted for as PSQ or as debited from the CDQ groups' allocation of halibut CDQ.

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 Council action will not significantly impact the incidental take 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 current fishery management plans of the Council, and are the subjects of continuing research and monitoring to further define the nature and extent of fishery impacts on these species. Direct and indirect interactions between marine mammals and groundfish fishing vessels may occur due to overlap in the size and species of groundfish harvested, and due to temporal and spatial overlap in marine mammal occurrence and fishing activities.

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 Northern sea otter and Pacific walrus which are managed by FWS. 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 DPS of Steller sea lions may be adversely affected by the proposed action.

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 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.[18] 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

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

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 that may be affected by the proposed action in the BSAI.

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]
FWS 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 nearshore 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 nearshore 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 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 (W) Threatened (E)	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 2007b). Forages in the pelagic area of the Bering Sea during summer breeding season, but most leave the Bering Sea in the fall to spend winter and spring in the N. Pacific.
Harbor seal – Gulf of Alaska 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 (Figure 7-3).
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 (Figure 7-3).
Ribbon seal – Alaska	None	None	Reliable data on population trends are unavailable.	Found throughout the offshore Bering Sea waters (Figure 7-3).
Spotted seal - Alaska	Status under review	None	Reliable data on population trends are unavailable.	Found throughout the Bering Sea waters (Figure 7-3).
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 is shelf waters of the Bering Sea. Primarily males stay in the Bering Sea in the summer. Major haulout sites are in 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). Northern fur seal pup data available from http://www.fakr.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 (OSP) is unknown.	W. Pacific and C. North Pacific stocks occur in Alaskan waters and may mingle in the North Pacific feeding area shown in Figure 7-2. Humpback whales in the Bering Sea identity to western or Central North Pacific stocks, or to a separate, unnamed is stock 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 Figure 7-4 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 and coastal waters of the Aleutian Islands and the Alaska Peninsula, and 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 (Figure 7-1).
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 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 1990's 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 (CI)	Depleted (CI)	Cook Inlet estimate is 280 whales, declining at 1.1% per anum. BB – 1,600, EBS – 18,000, ECS – 3,700, BS – 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 (72 FR 68468). North Pacific right whale included based on NMFS 2006 and Salveson 2008 www.nmfs.noaa.gov/pr/species/mammals/cetaceans/spermwhale.htm				

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 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. An full description of critical habitat areas for Steller sea lions in provided in Section 3.12 of the SSL 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 diet of the WDPS diet. The AI subarea has extensive closures in place for Steller sea lions, including no transit zones at ESA designated rookery and fishery closures of critical habitat around rookeries and haulouts. These harvest restrictions on the Atka mackerel, pollock, and Pacific cod fisherie3s 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 cause JAM for Steller sea lions.

The WDPS decreased from an estimated 220,000-265,000 animals in the late 1970s to fewer than 50,000 in 2000 (Loughlin et al. 1984, Loughlin and York 2000, Burkanov and Laughlin 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, and 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% per year (Towell et al. 2012). In contrast, pup production on Bogoslof Island was 30.7% greater in 2011 than in 2007, and has increased at an annual rate of 11.7% 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 (Springer et al. 2010; Zeppelin and Orr 2010; Sinclair et al. 1994; Sinclair et al. 2008).

3.3.3 Fish-eating (resident) 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 NMML 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 has 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% 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

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 EA/FRFA. 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

The action alternatives under consideration here would redistribute CDQ Pacific cod 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 FLL or CV to a CDQ small vessel fleet. Although this percentage is expected to be insignificant on 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.

Action Alternatives 3 and 4 would require vessels to comply both 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 be insignificant. 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 result in an increase in the amount of Pacific cod caught within Steller sea lion critical habitat. This may have effects on Steller sea lions feeding within those areas of critical habitat, depending on the amounts of additional Pacific cod removed from CH. 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

The action alternatives under consideration here would redistribute CDQ Pacific cod 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 FLL or CV to a CDQ small vessel fleet. Although this percentage is expected to be insignificant on overall Pacific cod mortality (see Section 3.1), any redistribution of Pacific cod mortality to nearshore

environments could have potential to affect northern fur seals at these locations. However, because northern fur seals forage both nearshore 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 be insignificant to northern fur seals.

3.3.4.3 Resident (fish-eating) killer whales

The action alternatives under consideration here would redistribute CDQ Pacific cod 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 be insignificant.

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 a period of 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 are meaningful are potential effects on Pacific cod, 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 is 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 the halibut outside of what has been addressed in 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 Science and Statistical Committee (SSC) to improve conservation of the Aleutian Islands 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. AI Pacific cod can be harvested in the EBS, but EBS Pacific cod cannot be harvested in the AI.

The amount of Pacific cod that the CDQ groups can harvest is determined by the acceptable biological catch (ABC) established by the BSAI groundfish plan team and the analysis in the SAFE. Once the ABC is set, 3 percent of the summation of EBS and AI ABC is deducted from the ABC for EBS and then also from the ABC of the AI to account for the state guideline harvest level (GHL) fishery. 10.7 percent of the remaining amounts are allocated to the CDQ groups (see Appendix A.3 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 pre-established a percentage of the CDQ allocation (see Appendix A.4 for a 2014 example of group allocations), however once they receive that allocation they are able to establish transactions with other CDQ groups or lease the operation out to a non-CDQ vessel to fish on their 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 their 115.7 mt of Pacific cod associated with the AI inside or outside the AI. However, if they wanted more than 115.7 mt of Pacific cod inside of the AI, they could not draw from their 4,081.1mt reserve of EBS Pacific cod. Instead they 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 action alternatives; APICDA may be impacted if they wish to allocate a portion of their AI Pacific cod CDQ to their small vessel fleet in order to prosecute a fishery close to home. This RFFA is unlikely to be considered significant 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 includes the recent release of a Final Biological Opinion (BiOp) on SSL protection measures in the AI (NMFS 2014).[19] The impetus for this BiOp was a Court-ordered EIS on the 2011 Interim Final Rule (75 FR 77535, December 23, 2010, and corrected 75 FR 81921, December 29, 2010), a reasonable and prudent alternative (RPA) from the 2010 BiOp. Along with other sectors, this 2014 Final BiOp will have changed SSL protection measures that were in place for non-trawl Pacific cod fishing 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 SSL or adversely modifying designated critical habitat and simultaneously minimizes, to the extent practicable, economic impacts to the groundfish fisheries.

The Interim final rule created area, gear, and seasonal specific measures to protect SSL critical habitat (CH). Specifically, it prohibited the retention of Pacific cod (along with Atka mackerel) in Area 543. This

[19] This document was released on April 2, 2014 and presented to the Council in the April 2014 meeting.

area had experienced the most severe declines in SSL population and this measure was proposed to discourage competition for the biomass of the SSL prey species. The Interim final rule also included a seasonal closure of the Pacific cod non-trawl for Areas 542 and 541 from November 1 to December 31. Several areas were closed for non-trawl directed Pacific cod fishing in area 541 and 542 due to their proximity to SSL CH. Area 541 in waters 0 nm to 20 nm from SSL sites were closed from January 1 to March 1 and 0nm to 10 nm for the rest of the calendar year. In 542, there were closures in waters from 0 nm to 6 nm of SSL sites.

However, the Final BiOp released in April of 2014, will re-opened many of these closures after 2015. There are no changes to the proposed action relative to the action analyzed in the 2010 FMP BiOp for these gear types. Therefore this SSL RFFA is not excepted to significantly impact or comprise 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 reasonably foreseeable future actions 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 Community Development Quota (CDQ) Pacific cod harvest opportunities above the 20 percent Maximum Retainable Amount (MRA) allowed in the CDQ halibut target fishery. This specifically applies to CDQ hook-and-line vessels that do not exceed 46' length overall (LOA). This chapter includes a description of the current CDQ Pacific cod and CDQ halibut fisheries, an analysis of the potential effects of the proposed actions on achieving increased retention opportunities by adjusting the MRA or by promoting a CDQ Pacific cod direct 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 (Magnuson-Stevens Act) (16 USC 1801, *et seq*.), the United States has exclusive fishery management authority over all marine fishery resources found within the exclusive economic zone (EEZ). The management of these marine resources is vested in the Secretary of Commerce (Secretary) and in the regional fishery management councils. In the Alaska Region, the Council has the responsibility for preparing fishery management plans (FMPs) and FMP amendments for the marine fisheries that require conservation and management, and for submitting its recommendations to the Secretary. Upon approval by the Secretary, 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 fishery in the EEZ off Alaska is managed under the FMP for Groundfish of the BSAI. The proposed actions under consideration would amend this 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 regulations.

4.2 Purpose and Need for Action

The 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.*

4.3 Description of Alternatives

The alternatives that are analyzed in this package were adopted by the Council in February 2014. These alternatives are listed here and described in detail in Section 2. The alternatives propose management measures that would apply exclusively to the CDQ fisheries in the BSAI.

Alternative 1. No action.

Alternative 2. Increase the maximum retainable amount (MRA) up to 100 percent of the CDQ halibut landings for hook-and-line catcher vessels ≤46' LOA that hold Pacific cod CDQ. All Pacific cod caught must be retained and accrues towards the CDQ Pacific cod quotas.

Alternative 3. Create a new CDQ LLP for participating hook-and-line catcher vessels ≤46' LOA. Vessels with the CDQ LLP can participate in the CDQ directed Pacific cod fishery. Limit the number of LLPs 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. Incidentally caught halibut would accrue against the CDQ PSQ allocation.
>
> Option 2: Place these vessels in the partial coverage observer category. Require vessels to retain any incidentally caught halibut. Incidentally caught halibut would accrue against the halibut CDQ allocation.

Alternative 4. Exempt hook-and-line catcher vessels participating in the CDQ Pacific cod fishery with ≤46' 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.

Under all alternatives, the analysis will consider substitutes to Vessel Monitoring System (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 the No Action Alternative 1 with the action alternatives. The analyst then provides a qualitative assessment of the net benefit to the Nation of each alternative, compared to no action.

The data for this analysis was 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 NMFS Alaska Region using the Catch Accounting System (CAS) compiled by AKFIN in Comprehensive BLEND CA and Comprehensive PSC. ADFG/CFEC Fish Tickets compiled by AKFIN in Comprehensive FT were utilized to estimate the CDQ halibut fishery landings, value, and participation. This analysis also relied on NMFS, Alaska Region halibut Individual Fishing Quota (IFQ) data; the data source is utilized by the Restricted Access Management (RAM) Program and used as a second reference for the activity in the CDQ halibut fishery. The Gross Revenue Procedure prepared by AKFIN was also utilized 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 Magnuson-Stevens Act (MSA) currently establishes the western Alaska CDQ Program under which a percentage of the total allowable catch of any Bering Sea 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.

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 include:

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 onset 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 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 had 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 total allowable catch (TAC) limits or prohibited species catch (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 both 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 groups 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 total allowable catch for Pacific cod in a given season to be prosecuted without gear restrictions.[20] 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 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 addition 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 time 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 been subsequently established 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 up to 10 percent of the allocations in MSA Section 305(i)1(H)(ii).

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 2011-2013 compared to 2008-2010 as TAC increased for the whole fishery.

Table 4-1. CDQ Pacific cod 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: NOAA NMFS, Annual CDQ Group Quota Allocations

4.6.2 Participation in the Fishery

A CDQ group internally determines the percentage of their allocation to be used and set in reserve for incidental catch in other fisheries, and the percentage of the quota that will be remain for directed Pacific cod fishing. To an extent, the CDQ groups may adjust these apportionments throughout the season to avoid stranding fish 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 historical quota use, recent market conditions for

[20] 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% in with Amendment 85 in 2008.

Pacific cod, and a vessel's reputation for bycatch and PSC rates (Anne Vanderhoeven, personal communication, March 5, 2014).

The alternatives pursued in this action will not likely influence the internal allocation of CDQ Pacific cod set aside for incidental catch in other fisheries. A change in CDQ internal allocation is not expected to occur from the pool of quota used to directed fish for CDQ Pacific cod. Currently, without small local vessels participating in a directed CDQ Pacific cod fishery, the CDQ groups chiefly consolidate and harvest their allocation by targeting Pacific cod using a small number of freezer longline vessels (FLL). Quota consolidated onto a larger vessel that is not 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 group 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 CDQ Pacific cod has traditionally been prosecuted by three FLs: 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, personal communications, 3/5/2014).

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, personal communication, 3/5/2014).

3) CBSFA harvests their allocation of Pacific cod by directed Pacific cod CDQ fishing on 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, personal communication, 3/6/2014).

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, 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, personal communications, 3/5/2014).

6) YDFDA owns 85 percent and 41 percent ownership 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 CDQ directed Pacific cod 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 CDQ Pacific cod as a proportion of total BSAI Pacific cod revenue as well as a proportion of total revenue in federal and state fisheries. This 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 consistently comprises of 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. Implications about whether 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 participate in the CDQ Pacific cod fishery from 2008 to 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 shoreside deliveries and wholesale values for at-seas processing.

4.6.3 Harvests

In the recent past, between targeted and incidental Pacific cod 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 CDQ Pacific cod and CDQ allocations from 2008 to 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: NOAA NMFS, Catch Accounting Reports

As previously discussed, the vast majority of the CDQ Pacific cod allocation is harvested with hook-and-line gear on C/Ps. Table 4-4 demonstrates the magnitude of retained and discarded harvest prosecuted by hook-and-line gear compared to the other gear types.[21] Both retained and discarded Pacific cod that is reported accrues towards that group's Pacific cod CDQ. The primary species caught while targeting Pacific cod CDQ includes (in rank order): skates, pollock, "other species", yellowfin sole, and sculpins. The primary species retained while targeting Pacific cod CDQ includes (in rank order): pollock, skates, "other species", yellowfin sole, and rock sole.

Table 4-4. Retained and discarded catch of CDQ Pacific cod and incidental catch while directed fishing for CDQ Pacific cod by gear type from 2009 to 2013

Gear	Year	Count of unique vessels	Pacific Cod		Incidental 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: NOAA 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 prohibited species catch (PSC). The NMFS Alaska Region catch accounting system uses halibut discard mortality rates (DMRs) based on the region (i.e., BSAI, GOA, or CDQ BSAI), gear type, and targeted species.

The halibut DMRs are developed and recommended by the International Pacific Halibut Commission and the Council, and approved by NMFS, for use in monitoring halibut bycatch allowances. The document justifying the DMRs is available the SAFE reports. 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 caught and discarded, 100 kilograms is believed to be dead.

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

[21] 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 vessels counts by year, e.g., Table 4-2 and Table 4-4.

Table 4-5. PSC from Pacific cod CDQ directed fishery from 2009 to 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: NOAA NMFS, Catch Accounting
*No chinook salmon PSC was reported as incidental to the CDQ Pacific cod directed 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 their quota onto a vessel ≥ 60' LOA, that vessel would be required to follow the seasonal allowance specified for its gear type. For instance, the vast majority of Pacific cod directed fishing occurs on larger FLL vessels as was demonstrated in Table 4-2 and in Table 4-4. The A season for ≥ 60' LOA hook-and-line 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 < 60' LOA are permitted to directed fish Pacific cod without seasonal allowances.

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

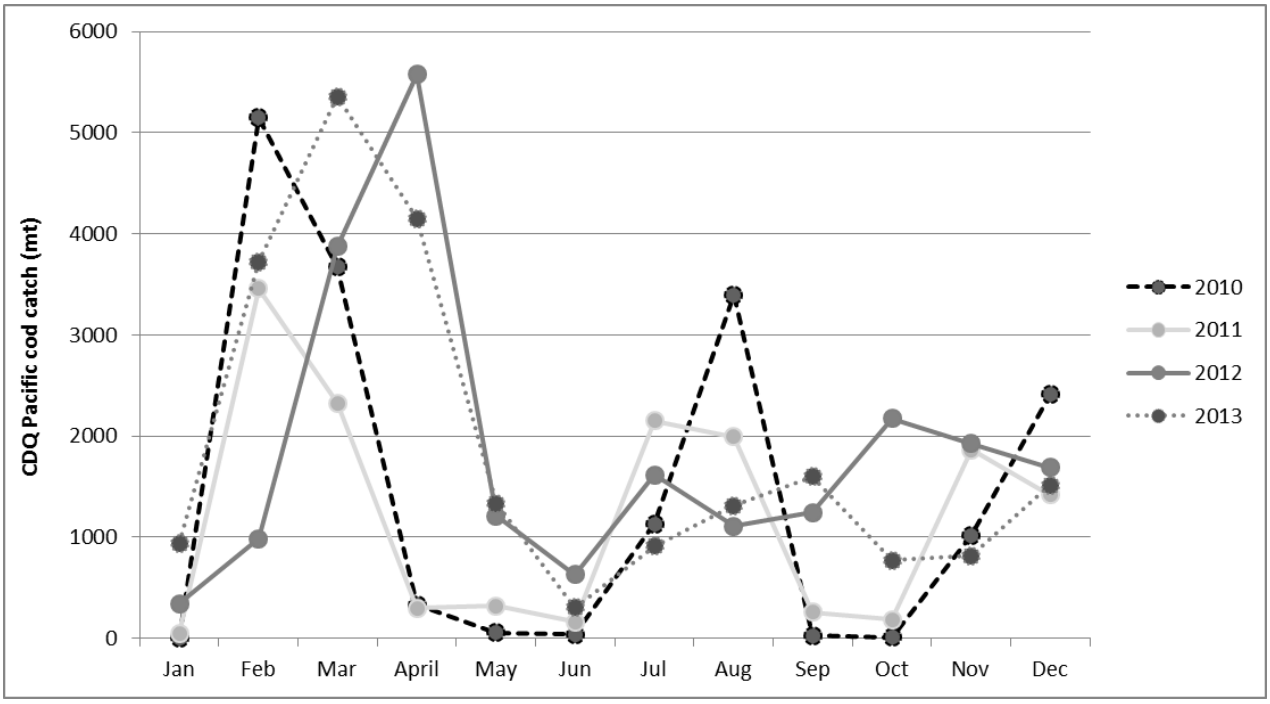
	Gear Type	A Season	B Season	C Season
CDQ	Trawl	Jan 20 - April 1	April 1 - June 10	June 10 - Nov 1
	Trawl CV	70%	10%	20%
	Trawl CP	50%	30%	20%
	Hook-and-line CP and hook-and-line CV ≥ 60' LOA	Jan 1 - June 10 (60%)	June 10 - Dec 31 (40%)	no C season
	Jig	Jan 1 - April 30 (40%)	April 30 - Aug 31 (20%)	Aug 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 (7)(i)(B), 679.20 (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 CV < 60' LOA).

Given that these seasonal allowances are required by the majority of the fleet prosecuting CDQ Pacific cod, 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 CDQ Pacific cod in the BS



Source: NOAA NMFS, Catch Accounting

The harvest rate associated with CDQ Pacific cod in the AI is more irregular than for the BS. One source of this inter-temporal variation in the AI includes the recent SSL protections measures. Beginning in 2011, SSL 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 gear vessels were able to fish Pacific cod in the AI until December 31.Beginning in 2011, the B season in regulatory Areas 541 and 542 ended on November 1 (McCracken 2014).

In addition to area closures, monthly participation in the AI Pacific cod fishery demonstrate 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 CDQ Pacific cod in the AI. The monthly trends are not displayed here 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.[22] 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. 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.

[22] 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 (§ 679.2).

In the AI, CDQ vessels are able to fish CDQ Pacific cod in state waters only when the parallel AI Pacific cod fishery is open. Thus, a CDQ Pacific cod 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 to 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 CDQ Pacific cod 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 and closes 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 closure. This is particularly relevant to the CDQ groups located further north along the coast, including BBEDC, CVRF, YDFDA, and NSEDC, since the small 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

Preliminarily reports have identified three[23] regulatory elements that could be altered to encourage opportunities for the harvest of CDQ Pacific cod by small hook-and-line catcher vessels. This section details the current landscape of management of these three elements: LLP licenses, observer coverage requirements, and the Pacific cod MRA for the CDQ halibut directed fishery. Table 2-1 in Section 2.1 compares the relevant regulations for hook-and-line catcher vessel 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 part 679.20(a)(2), except that demersal shelf rockfish east of 140° *W longitude* and sablefish managed under the IFQ program and fixed gear sablefish CDQ reserve are not considered license limitation groundfish. The LLP does not

[23] 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.

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.

There are four exceptions to the LLP license requirement:
Vessels that do not exceed 26' LOA in the GOA;
Vessels that do not exceed 32' LOA in the BSAI;
Vessels that do not exceed 60' 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 Community Development Quota (CDQ) fisheries.

Therefore, CDQ CVs in this proposal, that are less than or equal 32' LOA are not required to hold an LLP in BSAI.

Since January 2003, persons wishing to participate in the directed fishery for Pacific cod in the BS and/or AI with vessels ≥ 60' using pot or hook-and-line gear must have a gear-and-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 < 60'; 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 Pacific cod directed 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 §679.4(k)(9)(iv):

- Any vessel exempted from LLP
- Any CV < 60' LOA
- Any catch of Pacific cod for personal use bait

Therefore, CDQ CVs relevant to this proposal that are required to hold an LLP license (i.e., 32' to 46' 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 practical pool of groundfish LLPs available for use by small CDQ vessels is likely to be smaller than these counts may indicate. Generally LLPs 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' MLOA could be used on a vessel less than 60' LOA. However, under traditional market transfers it would be unlikely for a 46' LOA vessel owner to obtain a 120' MLOA LLP with the intention of participating in a Pacific cod fishery given the high demand and expense for 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 ≤ 46' LOA and without the need for a Pacific cod endorsement).

Table 4-7 Count of LLP groundfish licenses less than 60 feet 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 groundfish LLP licenses under 60' MLOA have been inactive (i.e., not made a landing in the state of Alaska) since 2012. About 64 percent of the BSAI groundfish LLP licenses with greater than or equal to 60' 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. Exclusive Economic Zone (EEZ) off Alaska and conducts research associated with sampling commercial fishery catches, estimation of catch and bycatch 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 and minimizing bycatch. 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.

In 2013, the restructured Observer Program went into effect and made changes to how observers are deployed in the groundfish and halibut fisheries. The new Observer Program defines a full coverage category for all C/Ps and CVs participating in programs with prohibited species catch (PSC) limits or transferable prohibited species quota (PSQ). The CDQ Program is a program with transferable PSQ limits. CVs 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 CDQ groundfish species, thereby creating an incentive to misreport. CVs using pot or jig gear to fish for CDQ groundfish 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 CVs 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 CV 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 (i.e., it is less than the minimum legal size) during halibut fishing is considered "wastage" and is not considered PSQ.

Prior to 2013, shoreside and stationary floating processors were required to have observer coverage if there was a CV CDQ groundfish delivery. In 2013, observer coverage requirements for shoreside or stationary floating processors not receiving or processing Bering Sea pollock changed under the new

observer program. These non-pollock shoreside or stationary floating processors are in the partial coverage category. Shoreside or stationary floating processors in the partial coverage category are only required to have a plant observer when they are selected by NMFS. 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 is 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 onboard a vessel. [24] 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 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 onboard the vessel. In this example, all incidental catch of arrowtooth flounder in excess of the 35 percent MRA must be discarded.

Most MRAs apply at any point in time during a fishing trip;[25] 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, 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 CDQ Pacific cod shoreside landings from 2003 to 2013 constrains the ability to report quantitative processing data in this specific fishery. The pool of vessels delivering CDQ Pacific cod to shore-based processors in the past ten years includes twelve vessels $\leq$ 46' LOA and seven vessels > 46' LOA vessels. This group all delivered a small amount of CDQ Pacific cod to shoreside processors, most of which is likely to be incidental catch. Additionally, this pool includes two CVs 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, the pot C/P sector and the Amendment 80 sector (which all have the ability to process catch on board) together comprise 64 percent of the non-CDQ TAC. Consequently, many shoreside 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

[24] 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.
[25] 50 CFR §679.2

Akutan, Dutch Harbor, and Adak make up about 98 percent of all BSAI shore-based processing for Pacific cod in 2012. [26]

4.6.7.1 Unalaska/ Dutch Harbor

Unalaska is not a CDQ community. It is located on Unalaska Island, 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 has certain specific fisheries (e.g., most of the vessels participating in the crab rationalization program depart out of Dutch Harbor). In 2010, there were seven shoreside processors (AFSC 2010). Between 2003 and 2013, four of these processors accepted Pacific cod and three facilities in Dutch Harbor processed some CDQ Pacific cod.

4.6.7.2 Akutan

Akutan is a member of the CDQ group APICDA. It is located on the Akutan Island, which is one of the Krenitzin Islands of the Fox Island group. Akutan is the site of the largest processing shoreplants 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 AEB 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 form the seafood processing plant some distance away from the residential concentration of the community site. They sought to show that the interaction between the community and the plant were of a limited nature, 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 form 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 action 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 the daily life (NPRB/NPFMC 2005). The Trident Seafoods's 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 CDQ Pacific cod.

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.

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

The Adak processing plant has experienced a number of changes in ownership, business restructures and periods of financial uncertainty. In September of 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 been renovating a transition 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, it is difficult to predict the exact characteristics of the small catcher vessel fleet. As described in the previous section, past participation in a CDQ Pacific cod directed fishery has been almost exclusively by C/P > 46' LOA. This fleet is inherently different than the ≤ 46' LOA hook-and-line catcher vessels represented in the proposed alternatives. They may prosecute different areas, demonstrate different seasonal patterns, and would certainly use different processing practices.

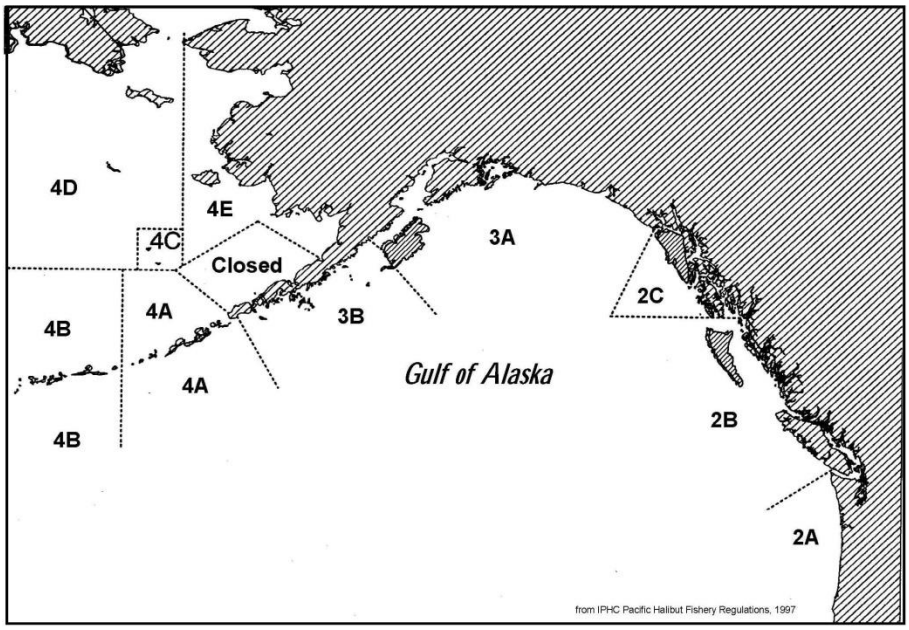
However, any action the Council chooses to pursue will have a connection with the CDQ small vessel halibut fishery. The intention of the CDQ groups' initial proposal was to provide a complementary source of income for the small vessel CDQ halibut participants that have been affected by recent declines in the halibut stock., 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 CDQ Pacific cod opportunity will likely be those currently participating in the CDQ halibut fishery. Therefore it is appropriate to examine the characteristics of the CDQ small vessel halibut fishery in order to understand behavior of small vessel CDQ Pacific cod fishery in the future.

4.7.1 Management

Pacific halibut fisheries are regulated by the International Pacific Halibut Commission (IPHC) and the the Coucil, as established under the terms of the Northern Pacific Halibut Act between the United States and Canada. In practice, the IPHC establishes total annual catch limits and other conservation measures, and the Council develops 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 2012). While the CDQ program first took effect in 1992, the allocations of halibut CDQ were established simultaneously with the implementation of the halibut/ sablefish Individual Fishing Quota (IFQ) in 1995. Halibut is allocated to CDQ groups in four regulatory areas: Area 4B, 4C, 4D, 4E (Figure 4-2).

Figure 4-2 Regulatory areas for halibut in Alaska



Source: IPHC Halibut Fishery Regulations, 1997

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." 20 percent of the halibut TAC in Area 4B 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." 50 percent of the halibut TAC in Area 4C 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." 30 percent of the halibut TAC in Area 4D 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." 100 percent of the halibut TAC in Area 4E is allocated to the CDQ groups.

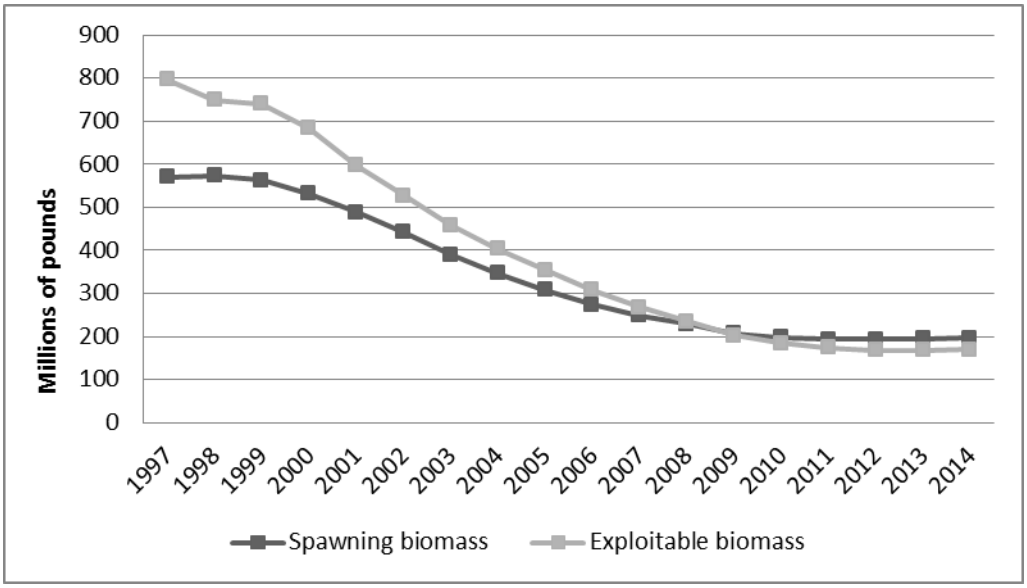
4.7.2 Annual Catch Limits

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 Individual Fishing Quota (IFQ) operations, subsistence users, charter fleets, individual

sport fishing, and as a limiting agent in other directed fisheries. Therefore the distinctly declining biomass levels (as demonstrated in Figure 4-3) have greatly impacted users from all backgrounds.

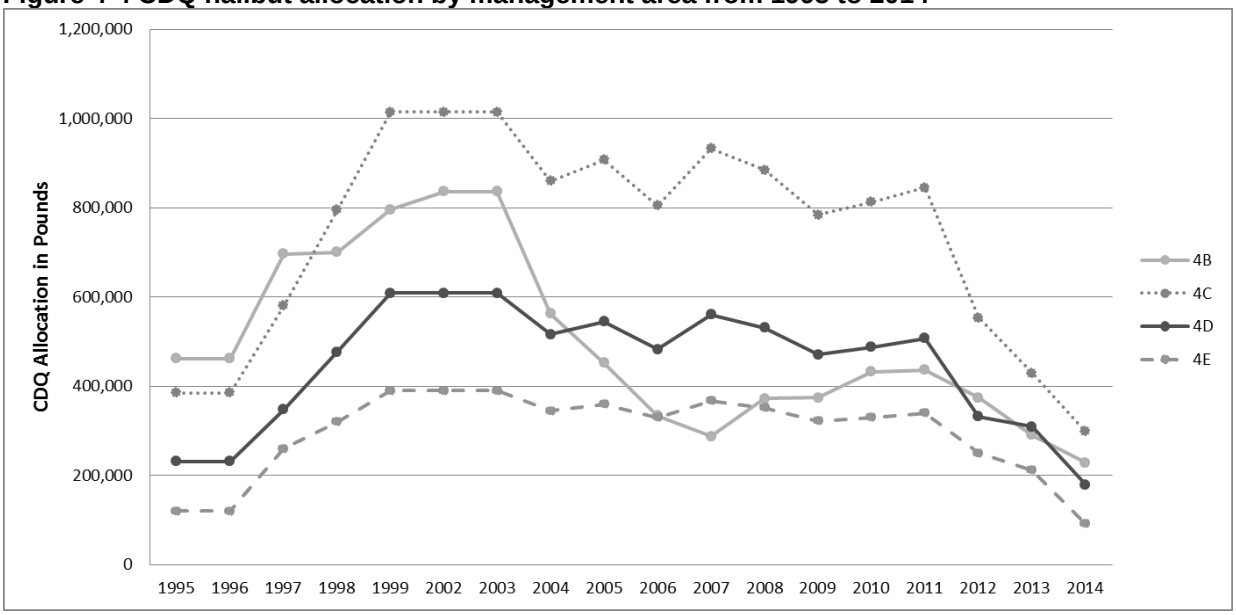
Figure 4-3 Median population estimates from the IPHC's ensemble approach to evaluate stock assessment from 1997 to 2014



Source: IPHC Report of Assessment and Research Activities 2013

Consequently, the declining stock has led to lower TAC in all four regions for which CDQ is assigned. This trend has been particularly prevalent over the last three years (Figure 4-4).

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



Source: NOAA Restricted Access Management

Values for 2000 and 2001 were omitted because apportionments for area 4D and 4E were combined in RAM reports.

4.7.2.2 CDQ Group Allocations

Allocations were 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 is split up 85 percent to St. Paul Island's CBSFA and 15 percent to APICDA, which includes St. George Island as a member. The large BS 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 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: NOAA NMFS, Annual CDQ group quota allocations 2008-2014

4.7.2.3 Seasons

The CDQ halibut season corresponds with the IFQ halibut season and is established by IPHC under the authority of the Halibut Act. This is generally a nine month season without and A and B seasonal allocations.

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 less 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 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 and 4D under-harvested. This is similar to 4C allocation which may be fished in 4C or 4D and subsequently 4D landings appear over-harvested and 4C under-harvested.

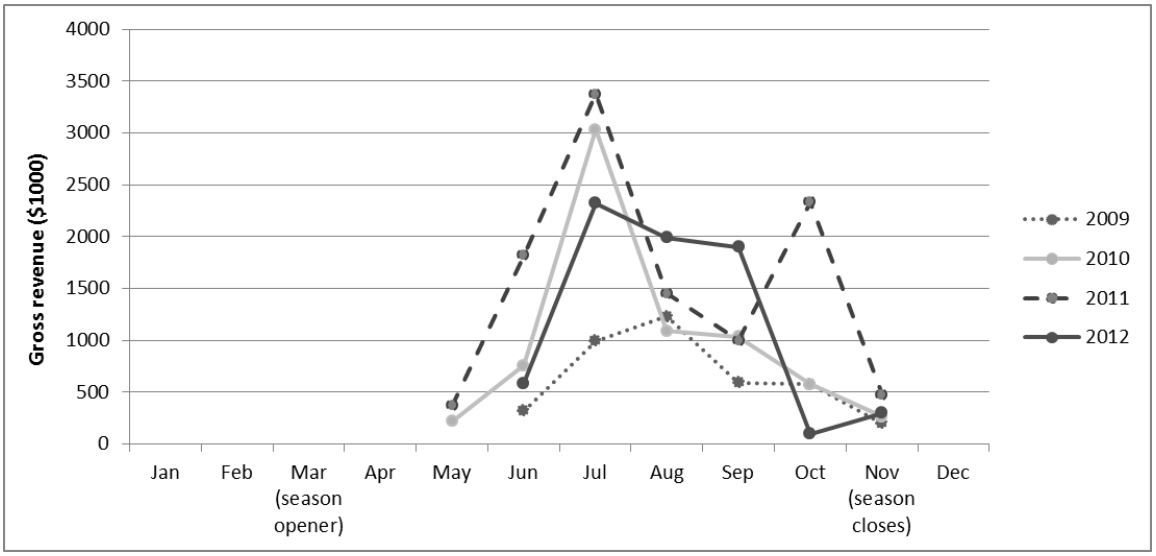
Table 4-10 Halibut CDQ retained catch, and allocations in headed and gutted pounds by regulatory area for 2008 to 2014

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
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 the ice and weather conditions in the harvest areas.

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



Source: ADF&G Fish Tickets

4.7.3.2 Non-target Catch in CDQ Halibut Fishery

One of the primary motivators for the proposal of allowing the additional retention of CDQ Pacific cod is that hook-and-line participants may catch Pacific cod incidentally 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 an FFP. CDQ Pacific cod that is not retained for commercial sale would be discarded or retained to be used as bait; although, given the very minimal data on these activities, it is suspected that this information is not well reported.

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 CDQ halibut fishery, since observer coverage on small vessels only began in 2013, it is difficult to speculate a distinct magnitude. This also 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.[27] Moreover, there is a lack of processing capacity in most of the plants that process CDQ halibut. In most cases, retained Pacific cod would need to be hand cut or shipped somewhere else for processing.

4.7.4 Participation in the Fishery

In contrast to the current operations of the CDQ Pacific cod fishery, the vast majority of halibut CDQ is prosecuted by fleet of CVs ≤ 46 ft LOA. From 2009 to 2012 the fishery was prosecuted with average of 95 percent of total vessels not exceeding 46 ft LOA and 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 CDQ halibut fleets within each CDQ group.

[27] All vessels that fish for CDQ from a group with an allocation of sablefish CDQ (all groups but CVRF) are required to retain CDQ sablefish. Therefore they must have a FFP. An FFP requires them to meet the IR/IU standards of retaining Pacific cod up to 20 percent of their halibut CDQ.

Table 4-11 Count of unique vessels in each CDQ group landing CDQ halibut from 2009 to 2012

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 continues to use the characterization of vessel LOA in order to demonstrate magnitude of harvest among participants.[28] Particularly, this table illustrates the targeted catch and average catch per

[28] There are some differences across Table 4-12, Table 4-11 and

Table 4-10. Tables

Table 4-10 and Table 4-12 both use RAM data, however the amount of pounds harvested is consistently larger in

vessel by vessel length. Table 4-12 continues to describe a fleet of vessels less than or equal to 46 ft LOA, and vessels greater than 46 ft LOA have the unsurprising ability to harvest a larger weight of CDQ halibut per vessel. For instance, in 2013 vessels greater than 46 ft LOA harvested an average of 20 times more than vessels less than 30 ft 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 CDQ Halibut by length of vessel in headed and gutted pounds from 2009 to 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

Table 4-10. It could be that the RAM reports are including halibut incidental caught in a groundfish or other fishery and is accruing to the CDQ. Additionally, the vessel count between Table 4-11 and Table 4-12 is slightly different. This could be due to a small amount of 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.

The CDQ halibut fleet is not only inherently different than the CDQ Pacific cod 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 to 59 feet LOA) (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 CDQ halibut are generally not also fishing IFQ halibut. In fact, of the 918 reported landings of CDQ halibut between 2009 and 2012 there were only 47 of those landing that additionally reported landing IFQ halibut. 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 CDQ halibut is the primary source of revenue from all fishing activity for vessels that do not exceed 32 ft LOA.29 As discussed in Section 4.7.3.2, there is a small amount of CDQ Pacific cod reportedly being landed by vessels in association with CDQ halibut.

Table 4-13. Diversification of gross revenue for vessels that participate in the CDQ halibut 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.

[29]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 CDQ halibut are generally not also fishing IFQ halibut. In fact, of the 918 reported landings of CDQ halibut between 2009 and 2012 there were only 47 of those landing that additionally reported landing IFQ halibut. 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 CDQ halibut 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 CDQ Pacific cod reportedly being landed by vessels in association with CDQ halibut.

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

4.7.5 Existing Processing Capacity for CDQ Halibut

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

Table 4-14 Port of CDQ halibut 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
*AK represents an Alaskan port not in a CDQ region.

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 occur for a vessels of interest to the proposal (i.e., CDQ vessel less than or equal to 46 ft LOA using hook-and-line gear) if this this vessel was federally permitted (FFP) with a Pacific cod endorsement, held an LLP license, carried VMS and was subject to full observer coverage. Additionally, federally permitted vessels targeting CDQ halibut that do not meet all of the provisions to target Pacific cod are prohibited from

retaining Pacific cod over the 20 percent MRA on board at any time during a trip.[30] CDQ vessels may also retain Pacific cod for personal bait.[31]
No vessel in the GOA or BSAI may fish for groundfish including groundfish bycatch without obtaining an FFP.[32] Any vessels 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.

Under the regulatory status quo, a CDQ vessel less or equal to 46 ft LOA using hook-and-line may directed fish for Pacific cod CDQ in a state-waters parallel fishery, without an FFP or LLP 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, or observer coverage if there was no retention of halibut and the vessel is exclusively prosecuting state waters.

While the no action alternative would keep existing regulations at status quo, there are several other elements to consider when comparing the no action alternative 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 prevent the no action alternative from resembling the status quo. Without a diversification of fisheries, the no action alternative may represent declining economic activity within those communities with a high reliance on the halibut resource. Moreover, with continued declines in halibut catch limit, total allowable MRA of Pacific cod caught incidentally to CDQ or IFQ halibut would proportionally decline. If this trend continues the no action alternative 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

The action alternatives result in several shared impacts for stakeholders and enforcement. This section describes a suite of possible economic-related impacts that are appropriate to consider, regardless of the action approach the Council considers pursuing. 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 recently participating in the Pacific cod CDQ fishery were generally greater than or equal to 60 ft LOA and therefore adhere to an A and B seasonal allocation. The A and B seasons for these vessels have historically been concurrent and open from January 1 to

[30] 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 up the MRA.
[31] 50 CFR §679.27 (g).
[32] 50 CFR §679.4(b)1-2

December 31. Thus, seasonal allocations have not limited the duration of the season any more than for those vessels less than 60 ft.

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, the Pacific cod CDQ fishery could occur before, during, and after halibut CDQ fishing. For instance, 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 the Section 3, regional fishing patterns may differ from the status quo with any potential Council action. A change from Pacific cod harvest on FLL vessels to small halibut CDQ vessels means that some harvest may shift from the areas describe in Figure 1-2 to near-shore waters closer to local communities and processors. Action alternatives 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 villages. 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 small CDQ vessels under an action alternative.

If the Council takes action under Alternative 3 and 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 may not be required to carry VMS.[33] The amount of Pacific cod retained after Council action would be able to be gleaned from landing data, however, there would be some uncertainty around the precise regions the harvest occurred.

4.9.3 Permit Requirements

FFPs are required for all vessels used to fish for groundfish in the GOA or BSAI or that retain any incidental catch of groundfish while targeting non-groundfish in the 3-200 mile zone off Alaska.[34]

Currently, there is a small number of halibut CDQ participants that hold an FFP. In 2013 there were only 17 federally permitted vessels that fished halibut CDQ and only 7 of them were less than 46 ft LOA. Therefore all vessels that did not previously have an FFP and would be participating in Pacific cod retention under any of the action alternatives would need to obtain an FFP. These permits are free and not restricted in number.[35]

4.9.4 Impacts on Reporting

When a vessel landing Pacific cod reports harvest on ADF&G fish ticket, 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.

[33] There are some exceptions. For instance, federally permitted vessels fishing halibut in the AI are required to carry VMS.
[34] 50 CFR §679.4(b)(1)
[35] Applications are available at: http://alaskafisheries.noaa.gov/ram/ffpapp.pdf

Misreporting a landing that is not CDQ or is the incorrect CDQ group's number is a type of error that can occur in the present NMFS catch accounting system. This has occurred in the past. For instance, a FLL vessel might fish for Pacific cod under two CDQ group's quota and incorrectly specify the CDQ number for each harvest on the fish ticket. This is something that can be retroactively corrected if agency or quota manager notice the error. However, with an increased number of vessels prosecuting this fishery there is increased likelihood for misreporting, since all the action alternatives introduce a greater frequency of entities using Pacific cod CDQ.

4.9.5 Impacts on Safety

It is unlikely that any action alternative the Council chooses to pursue will result in increased concerns 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 incident. Alternative 3 and 4 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/ 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 for which they may chose the appropriate time to participate, this increased risk is likely to be small.

4.9.6 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, and Atka mackerel are required to have an operating Vessel Monitoring System (VMS) unit during those times when these fisheries are open.[36] Therefore, under a no action alternative, any vessel wishing to participate in a Pacific cod CDQ directed fishery must install and carry a VMS unit onboard 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 NOAA Fisheries 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 SSL 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.

Any vessel that is required to be federally permitted and operating in the AI subarea, and adjacent state waters, are required to have VMS under §679.28(f)(6)(ii). This regulation was implemented under the final rule that identifies and describes EFH, designating habitat areas of particular concern (HAPC), and measures to minimize to the extent practicable adverse effects on EFH (71 FR 36694, July 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' 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.

[36] 50 CFR §679.28(f)(6)(i)

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

However, under Alternative 2 small vessels 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. For instance 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 carry 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.[37] 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. Protected Resources (PR) consultation 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 vessel less than 30 ft LOA has previously installed and used VMS in the North Pacific region to date.[38] 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 onboard in accordance with instructions provided by NMFS.[39] 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.[40] Participants are encouraged to communicate with NMFS-approved vendors to find a system that would work for their size and type of vessel.

A representative from the NMFS-approved vendor, Faria WatchDog 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, personal communication, 5/8/2014). This company provides sophisticated additions for the basic system (for example touch screen terminals, which can provide the user real-time information and send emergency notifications). However, CDQ vessels are not required to augment the basic system. As an example of the unit, Appendix A.5 contains a manual and diagram.[41] 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 they are 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

[37] 50 CFR §679.42(k)
[38] In the Alaska region, there is one vessel registered with VMS at 30 ft, two at 31 ft, and twelve at 32 ft LOA.
[39] 50 CFR §679.28(f) (3) Copies of the VMS installation and operation instructions are available from the Regional Administrator.
[40] The list is available on the website at http://www.nmfs.noaa.gov/ole/ak_faqs.html. Additionally McCracken (Dec 2012) provides an Appendix that describes the vendors and their products in more detail.
[41] For more information about this system see http://www.fariawatchdog.com/site/fwi_products_750_sb.php

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 do not require these units to be running when the vessel is in port.[42]

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. 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 anywhere from ten minutes to two hours.[43]

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 (PSMFC) administered, reimbursement program will aid eligible users up to $3,100 of that initial cost.[44] 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.[45]

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 fleet in the North Pacific. Table 4-15 displays some elements of the 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	No	No
Consistent coverage	Yes	No	Yes

[42] 50 CFR §679.28(f) (6)
[43] A Faria WatchDog representative suggested that larger vessel 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, personal communication, 5/8/2014).
[44] For more information on the reimbursement program see http://www.psmfc.org/program/vessel-monitoring-system-reimbursement-program-vms
[45] For a more thorough discussion of VMS see McCracken (2012).

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 15-40 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 is 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 from Internal Redistribution of CDQ

Should a CDQ group's small vessel fleet 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 CDQ to its small vessel fleet. Currently this allocation is split between their incidental catch for other fisheries and their Pacific cod CDQ directed 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 somewhere 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 FLs, 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 own all or a percent of the vessels used to prosecute this quota.

In all cases, it is the CDQ groups' responsibility and privilege to determine how to apportion the allocation of Pacific cod assigned to the group; however, the Council should be aware of the potential for constraining indirect effects on a semi-external 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 the restraint of a lease rate. The CDQ group will likely lose a percentage of revenue from this internal reallocation of their 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, personal communication, 12/14/2013).

4.9.9 Potential Processing Capacity

If an action alternative is to be successful in allowing the CDQ small vessel fleet additional opportunity to harvest and retain Pacific cod for commercial sale, this processing capacity will both need to exist and be within reasonable proximity of the communities. Since the small vessel fleet would likely stay within waters nearby their community, this capacity would only be available to the small vessel fleet if the processor is in or very near the community.

Depending on the action alternative the Council pursues, small vessel CDQ Pacific cod 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 a preferred alternative instigates a significant enough retention of Pacific cod by the CDQ small vessel fleet, processors may have even more of an opportunity to develop the economies of scale needed to process Pacific cod. Within the past ten years, 3,884 mt of CDQ Pacific cod[46] was landed in eight ports representing nine shoreside 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 shoreside processors.

Within APICDA's region:
If retention of Pacific cod is more practical to the small vessel fleet of APICDA, vessels in the AI would likely deliver to the shoreside processor in Atka. Atka is home to the processor, Atka Pride Seafoods, which serves 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 sometime in 2014 or 2015, the processing capacity of the shoreside processor will be up to and no more than 181 mt of Pacific cod per day (McCracken 2014; Luci Roberts, personal communication, 5/6/2014).

The portion of APICDA's halibut fleet that is located in St. George (approximately four or five vessels), generally tender their halibut harvest to St. Paul Island to be processed at the Trident Seafood's plant. These vessels may have the opportunity to tender Pacific cod to this processor as well if retention was more feasible for this fleet.

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, personal communication, 3/11/2014).

Within CBSFA's region:
The City of St. Paul, the one location represented by CBSFA, is the site of one shoreside processor. In 1994, Trident Seafoods purchased the processing plant previously owned by the company 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 they have custom processed the group's halibut CDQ in the past.

[46] This value omits CDQ Pacific cod harvested by one C/P that delivered to a shore side processor between 2003 and 2007.

Additionally, the plant has had some capacity for headed and gutted Pacific cod; the amount varies from year to year (Jeff Kaufman, personal communication, 5/6/2014).

Within CVRF's region:
Coastal Villages Seafoods (CVS), a subsidiary of CVRF, has six small halibut processors distributed throughout the 20 member villages 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 their 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 to be caught in just a few weeks to a month. Therefore if their small vessel fleet had increased opportunity to retain Pacific cod they may be able to expand their processing operations to make up for the diminished halibut quota. Under an action alternative 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, personal communication, 3/18/2014).

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 small vessel CDQ 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 their operations for Pacific cod capacity to accommodate this diversification by their community members (Simon Kinneen, personal communication, 5/12/2014).

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. As a small vessel halibut fishery does not exist here, it would not be able to compliment the revenue received from increased opportunities to retain CDQ Pacific cod. Stakeholders have indicated that this complementary source of revenue is necessary to sustain most small vessel fishing operations and that Pacific cod quota on its own, would not be sufficient.

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 development (Eric Olson, personal communication, 5/13/2014).

4.9.10 Economic Benefits

4.9.10.1 Direct and Indirect

It is clear there are potential benefits to be had by individuals, by regions, and even in catch accounting from any Council action that promotes increased catch and retention of CDQ Pacific cod 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, this marginal income may be enough to sustain their livelihood when augmented with income generated by the declining halibut stock. The ability to have species diversification would strengthen their operation.

Similarly, species diversification could strengthen processor operations. With declining halibut stock, processers will also suffer. Less halibut CDQ not only means less revenue from the product, but it also will mean the quota will be harvested quicker, giving the processors a shorter season of operation. If, under Alternative 3 or 4, 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 innovate in Pacific cod products.

These fishery participant and processor impacts will have multiplier effects throughout the region. Other economically connected sectors (e.g., fuel, lodging, food, retail, vessel equipment and maintenance services, et cetera), may indirectly benefit from increased or sustain economic activity in their region. These alternatives may provide some stability to regions that would otherwise be largely impacted by the declining halibut quotas.

Finally there may be management benefits to consider under all action alternatives. Currently Pacific cod is a known incidental catch species in the hook-and-line CDQ halibut fishery. However, catch accounting is not capturing all of this harvest. It is suspected that Pacific cod caught in this fishery is discarded or used as bait. A more efficient harvest of Pacific cod under any of the action alternatives could allow for improved record-keeping of this catch, since this Pacific cod would be retained, landed and reported as harvest for commercial sale.

While the resources to quantify the net benefits of the action alternatives are not available, it is understood that the benefits derived from small vessel retention of CDQ Pacific cod occur at relatively minimal cost.

4.9.10.2 Distributional Impacts

Any action alternative would directly impact some CDQ groups and some participants more than others. The individual and regional benefits derived from Council action depends on factors such as the current participation in the halibut CDQ fishery, future halibut TAC and CDQ, availability of Pacific cod stock and processing capacity. Focusing on these factors provides an initial understanding of the likelihood an individual in a CDQ group is to take advantage of increased opportunity to retain Pacific cod. Consultation with quota managers additionally affirms this evidence. Managers have stated that halibut CDQ participants in the APICDA, CBSFA, CVRF, and NSEDC regions, as well as the groups' associated geographical regions, would have the potential to benefit from an action alternative.

Due to the limited Pacific cod stock and processing capacity in their regions, neither BBEDC nor YDFDA anticipate small vessel fisherman deriving benefits an action alternative. However, while benefits from the proposed actions are variable across regions, increased burden or cost are not anticipated to incur in regions that would not directly benefit.

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' LOA. All Pacific cod caught up to this amount on a federally permitted vessel must be retained and accrues towards the CDQ Pacific cod quotas. 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 CDQ Pacific cod directed fishery. A participant's CDQ Pacific cod harvest would still be dependent on the amount of CDQ halibut 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 is not held to the regulations of a Pacific cod directed fishery, vessels relevant to this proposal 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 SSL critical habitat and EFH.

As discussed in Section 3.3, this alternative still requires the consideration of SSL protected critical habitat before it can be determined that the current VMS regulation would still apply. This is due the fact that Pacific cod is a prey species of the SSLs. The halibut CDQ fishery is able to prosecute in some areas that are closed to hook-and-line Pacific cod fishing without the use of a VMS. Under Alternative 2, it is possible that a vessel could have the exact same Pacific cod/ halibut catch composition as a vessel that under the status quo, except that under the status quo that vessel would be required to carry VMS and adhere to SSL closures. Since many of the halibut CDQ vessels are not required to carry VMS, it cannot be determined if halibut CDQ fishery participants are already or would be adhering to the area closures for Pacific cod fishing with hook-and-line gear. Additionally, since 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, the best estimate for Alternative 2 is anywhere from no Pacific cod up to the weight of the full halibut CDQ harvest (which, for example, provided a CDQ reserve of almost 800,000 lbs in 2014). Despite the expectation that Pacific cod would not be harvest intensively in one area of SSL CH, there would be no regulations to prevent or monitor this occurrence. Therefore while the impact on SSL area is likely to be minimal, the uncertain is large. It would be necessary to establish consultation with the NMFS Office of Protected Resources Division under Section 7 of the U.S. Endangered Species Act if this was the preferred alternative.

The language of this alternative stipulates that all Pacific cod caught up to this amount on a federally permitted vessel must be retained and accrues towards the CDQ Pacific cod quota. In other words,
CDQ groups would not have the ability to choose the vessels to use it on their behalf. Instead the MRA increase would be implemented consistently with the current practice of the MRA of groundfish in other CDQ fisheries. Increased retention would be required of all federally permitted vessels[47] 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 and how much halibut CDQ will be used by an individual.

This consistent application of the requirements across halibut CDQ participants, and 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 CDQ halibut permit as well as a CDQ hired master's license. Therefore enforcement would be able to identified 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

[47] 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 for CVRF.

percent.[48] 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 for CDQ Pacific Cod Participants

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

Vessels would either continue to be subject to the full coverage observer category consistent with existing requirements,[49] 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 CDQ groundfish 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 purposed 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 consideration the Council may want to deliberate on for Final Action of this alternative.

4.11.1 Purpose and Description of the License Limitation Program

The LLP was first proposed as a management tool for the Council as part of the comprehensive rationalization plan (CRP) in 1992.[50] 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 (FR Vol 62, No. 158 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.*

[48] 50 CFR §679 Table 11 BSAI Retainable Percentages
[49] 50 CFR §679.51(a)(2)
[50] 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.

(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.

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 a 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 vessel 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 there are 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 the Proposed Alternative

The immediate inconsistency between the purpose of the original LLP and the purpose of the action in Alternative 3 is that as the LLP's intention is to restrict the number of vessels in a particular fishery. This action would potentially allow additional vessels, which had previously held an LLP, 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 small vessel CDQ fleet does not propagate 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, rather than exempting vessels from them, 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 mater'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 to accommodate this. However, any option of community license or permit will require some additional administrative effort on the part of the CDQ group in terms of 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 instigated by a fixed gear recency action that first limited the number of LLP licenses in circulation in the GOA. These CQE LLPs 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 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 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 MLOA.

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 CDQ Pacific cod 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 CDQ Pacific cod under the authority of that groundfish license. This would include vessels 32 ft LOA and under that are currently exempt from the 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. The quota for targeting Pacific cod is currently harvested on a FLL fleet; therefore, 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 have 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,[51] or the Council may consider an unlimited license distribution, to be applied for annually without a cap.

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

[51] 50 CFR §679.4(k)(10)(vi)

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

Sources: ADF&G fish tickets

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 moved this groundfish CDQ fishery category into the partial observer coverage category. As outlined in Section 4.6.6.2, all vessels groundfish CDQ fishing were placed into the full observer coverage category regardless of vessel size, because the CDQ groups' have the privilege of a transferable PSC catch limit, or PSQ. Without an observer onboard, PSC would be estimated from observer data collected on vessels of the most similar sample. This is unprecedented for a catch share program because it would mean the quota would be debited from the CDQ regardless of its actual catch. This group of vessels can be moved to partial observer coverage, but the Council will need to determine the most appropriate way to account for halibut incidentally caught in a Pacific cod CDQ fishery.

Under Option 1, any halibut incidentally caught while the vessel was targeting Pacific cod would accrue against the halibut PSQ. This alternative would create fishing inefficiency in the opposite direction of the status quo. That is, CDQ vessels would be required to discard incidentally caught 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 catch and discards 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 onboard. This may be an over-estimate since the smaller vessels may have the ability to be more deliberate in their targeted catch. This estimated amount of PSC would be debited from the CDQ group's halibut PSQ.

Under Option 2, any halibut incidentally caught while the vessel was targeting Pacific cod would be required to be retained and accrue against the halibut CDQ allocation. Broadly speaking, accounting would likely be more to be accurate and straightforward under this option. Legal sized 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. 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.[52] 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 CDQ halibut, incidentally caught halibut would

[52] 50 CFR §679.4(e)

generally be able to be retained[53] and accrue off the halibut CDQ when landed. Only those small catcher vessels who are also receiving a distribution of the group's halibut CDQ would be eligible to receive Pacific cod CDQ. If eligibility to directed fish for Pacific cod CDQ extends to those individuals that do not meet the provisions to harvest halibut CDQ, they would be required to discard halibut, which would need to be self-reported for it to also accrue off of the halibut CDQ allocation.

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 incidentally 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 required to be discarded as PSQ. 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 PSQ from group's halibut PSQ account. When seasons are simultaneously open halibut would be required to be retained and landed weight would be deducted from the group's CDQ.

Therefore Option 2 may not just allow for a multi-species fishery, it may require it. If this option is considered, it may be useful to make participation in the halibut CDQ fishery a condition of eligibility and restrict the CDQ LLP license to the halibut CDQ season.

4.11.4 Decisions Needed for Final Action

The initial decision the Council would need to determine under Alternative 3 is if using the LLP license as a mechanism for identification and enforcement is necessary and appropriate under the proposed circumstances. If the Council does take this course of action, the next steps would include establishing the provisions for the program. Particularly, evaluating and determining if the details of the CQE LLP are all applicable and determining the number of LLP licenses each group would be allowed. Finally, the Council would want to consider the most appropriate option for observer coverage for this small vessel hook-and-line fleet.

4.12 Analysis of Impacts: Alternative 4, Direct Exemptions

Alternative 4 directly exempts hook-and-line catcher vessels less than or equal to 46 ft LOA participating in the Pacific cod CDQ fishery from groundfish LLP requirements. All Pacific cod caught must be retained and accrues towards the CDQ Pacific cod allocation.[54] Vessels would be in the partial coverage observer category. Alternative 4 is very similar to Alternative 3, with the distinction that it does not provide a mechanism for identification and at-sea enforcement.

Under Alternative 4, the Council would need to consider, if CDQ groups should have control over which of their vessels would fish Pacific cod on their behalf, similar to the halibut CDQ fishery, or if all eligible CDQ vessels (those with an FFP and VMS) who caught Pacific cod would be required to retain it; accruing to the group's quota. The latter scenario would be enforced by default if the CDQ participant was groundfish CDQ fishing because IR/IU requirement for a directed Pacific cod fishery would be

[53] Incidental halibut could be retained unless, for instance, it was outside of the halibut season.

[54] This is currently the standard for groundfish CDQ fishing due to the requirements in Improved Retention / Improved Utilization (IR/IU). Once the participants are federally permitted and meet all other requirements (i.e., satisfy the VMS and observer requirements), they are considered directed fishing for Pacific cod and are therefore required to retain Pacific cod.

triggered and the vessel operator would be required to retain all Pacific cod catch.[55] However, if the operator was halibut CDQ fishing, and they incidentally caught Pacific cod, the Council would need to determine the retention requirements.

If the CDQ groups are able to determine who participates in the Pacific cod CDQ fishery on their behalf, the groups could create their own form of identification to aid at-sea enforcement. For instance, CBSFA currently requires their CDQ halibut participants to sign and carry onboard a harvest contract (Jeff Kauffman, personal communication, 5/7/2014). Each CDQ group could design their own contract or identification card to distribute to their small vessel fleet. This would give enforcement an indication of legitimacy, and it also may aid CDQ groups in the internal management of their quota.

An internally-generated identification system would be effective if exemptions given to this small CDQ hook-and-line catcher vessel fleet do not foster at-sea incentives for the corresponding non-CDQ fleet to counterfeit these documents. If the small vessel Pacific cod CDQ fleet was exempt from the VMS requirement and the non-CDQ corresponding fleet is not this may create a need for a more formal identification process. As the Alternatives are presented, this analysis finds little motivation for a Pacific cod fishery participant to be deceptive about whether or not they are representing a CDQ group. Once a participant lands their harvest under a CDQ group's number, the quota manager can account for whether or not that vessel belonged to their group, and retroactive corrections can be made; therefore identification would be exclusively an issue for at-sea enforcement.

Future consultation with OLE would determine if this internally-generated identification system would be sufficient for at-seas enforcement of area closures and other requirements or something more formal or extensive is necessary. For instance, CDQ groups could need to provide an active, online documented list of participating vessels from their community for OLE to access.

Federal regulations used to include a requirement that the CDQ groups notify NMFS in advance with the names of the vessels that would be used to fish CDQ groundfish. In the "CDQ regulation of harvest" final rule (77 FR 6492: February 8, 2012) this requirement was removed because it was determined that this information was no longer necessary to manage the CDQ fisheries. Additionally, these regulations were changed to be consistent with the regulations of CDQ harvest addressed in the MSA at section 305(i)(1)(B)(iv). This paragraph 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.*

The statement "in a manner no more restrictive than the other participants in the applicable sector" from the MSA is interpreted to mean that the fishery management regulations associate with regulating the harvest of CDQ allocations should be no more costly, complex, or burdensome than those that apply to comparable non-CDQ sectors managed under the BSAI IFQ or the BSAI cooperative allocations. For this reason, a requirement was removed that the CDQ groups annually submit a request to NMFS to designate specific vessels as eligible to harvest groundfish CDQ on their behalf, as well as removing a prohibition against harvesting groundfish CDQ unless a vessel is designated as eligible to do so through NMFS. In the same vein, it may not be necessary for CDQ groups to notify NMFS which of their vessels will prosecute a small vessel Pacific cod CDQ fishery on their behalf.

Additionally, if the Council chose to pursue this action alternative, a rationale for why this group of vessels is able to be excluded from the standard requirements of the LLP would need to be developed in

[55] 50 CFR §679.27 (a) – (b)

order to justify this regulatory change. Similar to Alternative 3, an argument could be made on the grounds that the current catch share program already accomplishes the objectives of the CRP, and therefore introducing more vessels into the fishery would not comprise the sustainability of the fishery nor will it affect the competition in the open access non-CDQ fishery.

Alternative 4 does not specify observer coverage options as in Alternative 3; however, it does specify that these less than or equal to 46 ft CDQ vessels would be moved to the partial observer coverage category. Thus the options for Alternative 3 are also applicable here. The Council will need to determine how halibut PSC should be accounted for if Pacific cod CDQ is harvested on vessels without an observer and how much the Pacific cod CDQ fishery should be conditional on the halibut CDQ fishery.

Finally, similar to Alternative 3, if these vessels were able to meet the regulatory requirements (i.e., if the vessel had an FFP, if a VMS was onboard, and if the individual was deemed eligible to participate in the Pacific cod CDQ fishery by their CDQ group) they would be considered directed fishing for Pacific cod and the Pacific cod MRA would not need to be adjusted.

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

Although the changes this action will have distributional effects on individuals belonging to a CDQ group and 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 Initial Regulatory Flexibility Analysis

5.1 Introduction

This Initial Regulatory Flexibility Analysis (IRFA) addresses the statutory requirements of the Regulatory Flexibility Act (RFA) of 1980, as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (5 U.S.C. 601-612). This IRFA evaluates the potential adverse economic impacts on small entities directly regulated by the proposed action.

The RFA, first enacted in 1980, was designed to place the burden on the government to review all regulations to ensure that, while accomplishing their intended purposes, they do not unduly inhibit the ability of small entities to compete. The RFA recognizes that the size of a business, unit of government, or nonprofit organization frequently has a bearing on its ability to comply with a federal regulation. Major goals of the RFA are: (1) to increase agency awareness and understanding of the impact of their regulations on small business, (2) to require that agencies communicate and explain their findings to the public, and (3) to encourage agencies to use flexibility and to provide regulatory relief to small entities.

The RFA emphasizes predicting significant adverse economic impacts on small entities as a group distinct from other entities, and on the consideration of alternatives that may minimize adverse economic impacts, while still achieving the stated objective of the action. When an agency publishes a proposed rule, it must either 'certify' that the action will not have a significant adverse economic impact on a substantial number of small entities, and support that certification with the 'factual basis' upon which the decision is based; or it must prepare and make available for public review an IRFA. When an agency publishes a final rule, it must prepare a Final Regulatory Flexibility Analysis, unless, based on public comment, it chooses to certify the action.

In determining the scope, or 'universe', of the entities to be considered in an IRFA, NMFS generally includes only those entities that are directly regulated by the proposed action. If the effects of the rule fall primarily on a distinct segment, or portion thereof, of the industry (e.g., user group, gear type, geographic area), that segment would be considered the universe for the purpose of this analysis.

5.2 IRFA Requirements

Until the North Pacific Fishery Management Council (Council) makes a final decision on a preferred alternative, a definitive assessment of the proposed management alternatives cannot be conducted. In order to allow the agency to make a certification decision, or to satisfy the requirements of an IRFA of the preferred alternative, this section addresses the requirements for an IRFA. Under 5 U.S.C., section 603(b) of the RFA, each IRFA is required to contain:

- A description of the reasons why action by the agency is being considered;
- A succinct statement of the objectives of, and the legal basis for, the proposed rule;
- A description of and, where feasible, an estimate of the number of small entities to which the proposed rule will apply (including a profile of the industry divided into industry segments, if appropriate);
- A description of the projected reporting, record keeping, and other compliance requirements of the proposed rule, including an estimate of the classes of small entities that will be subject to the requirement and the type of professional skills necessary for preparation of the report or record;
- An identification, to the extent practicable, of all relevant federal rules that may duplicate, overlap, or conflict with the proposed rule;

- A description of any significant alternatives to the proposed rule that accomplish the stated objectives of the proposed action, consistent with applicable statutes, and that would minimize any significant economic impact of the proposed rule on small entities. Consistent with the stated objectives of applicable statutes, the analysis shall discuss significant alternatives, such as:

    1. The establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities;
    2. The clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities;
    3. The use of performance rather than design standards;
    4. An exemption from coverage of the rule, or any part thereof, for such small entities.

In preparing an IRFA, an agency may provide either a quantifiable or numerical description of the effects of a proposed action (and alternatives to the proposed action), or more general descriptive statements, if quantification is not practicable or reliable.

5.3 Definition of a Small Entity

The RFA recognizes and defines three kinds of small entities: (1) small businesses, (2) small non-profit organizations, and (3) small government jurisdictions.

Small businesses. Section 601(3) of the RFA defines a 'small business' as having the same meaning as 'small business concern', which is defined under Section 3 of the Small Business Act (SBA). 'Small business' or 'small business concern' includes any firm that is independently owned and operated and not dominant in its field of operation. The SBA has further defined a "small business concern" as one "organized for profit, with a place of business located in the United States, and which operates primarily within the United States or which makes a significant contribution to the U.S. economy through payment of taxes or use of American products, materials or labor…A small business concern may be in the legal form of an individual proprietorship, partnership, limited liability company, corporation, joint venture, association, trust or cooperative, except that where the firm is a joint venture there can be no more than 49 percent participation by foreign business entities in the joint venture."

The SBA has established size criteria for all major industry sectors in the United States, including fish harvesting and fish processing businesses. Effective July 22, 2013, a business involved in *finfish harvesting* is a small business if it is independently owned and operated and not dominant in its field of operation (including its affiliates) and if it has combined annual gross receipts not in excess of $19.0 million for all its affiliated operations worldwide. A business involved in *shellfish harvesting* is a small business if it is independently owned and operated and not dominant in its field of operation (including its affiliates) and if it has combined annual gross receipts not in excess of $5.0 million for all its affiliated operations worldwide. A *seafood processor* is a small business if it is independently owned and operated, not dominant in its field of operation, and employs 500 or fewer persons on a full-time, part-time, temporary, or other basis, at all its affiliated operations worldwide. A business that *both harvests and processes* fish (i.e., a catcher/processor) is a small business if it meets the criteria for the applicable fish harvesting operation (i.e., finfish or shellfish). A wholesale business servicing the fishing industry is a small business if it employs 100 or fewer persons on a full-time, part-time, temporary, or other basis, at all its affiliated operations worldwide.

The SBA has established "principles of affiliation" to determine whether a business concern is "independently owned and operated." In general, business concerns are affiliates of each other when one

concern controls or has the power to control the other, or a third party controls or has the power to control both. The SBA considers factors such as ownership, management, previous relationships with or ties to another concern, and contractual relationships, in determining whether affiliation exists. Individuals or firms that have identical or substantially identical business or economic interests, such as family members, persons with common investments, or firms that are economically dependent through contractual or other relationships, are treated as one party with such interests aggregated when measuring the size of the concern in question. The SBA counts the receipts or employees of the concern whose size is at issue and those of all its domestic and foreign affiliates, regardless of whether the affiliates are organized for profit, in determining the concern's size. However, business concerns owned and controlled by Indian Tribes, Alaska Regional or Village Corporations organized pursuant to the Alaska Native Claims Settlement Act (43 U.S.C. 1601), Native Hawaiian Organizations, or Community Development Corporations authorized by 42 U.S.C. 9805 are not considered affiliates of such entities, or with other concerns owned by these entities solely because of their common ownership.

Affiliation may be based on stock ownership when (1) a person is an affiliate of a concern if the person owns or controls, or has the power to control 50 percent or more of its voting stock, or a block of stock which affords control because it is large compared to other outstanding blocks of stock, or (2) if two or more persons each owns, controls or has the power to control less than 50 percent of the voting stock of a concern, with minority holdings that are equal or approximately equal in size, but the aggregate of these minority holdings is large as compared with any other stock holding, each such person is presumed to be an affiliate of the concern.

Affiliation may be based on common management or joint venture arrangements. Affiliation arises where one or more officers, directors, or general partners, controls the board of directors and/or the management of another concern. Parties to a joint venture also may be affiliates. A contractor and subcontractor are treated as joint venturers if the ostensible subcontractor will perform primary and vital requirements of a contract or if the prime contractor is unusually reliant upon the ostensible subcontractor. All requirements of the contract are considered in reviewing such relationship, including contract management, technical responsibilities, and the percentage of subcontracted work.

Small organizations. The RFA defines "small organizations" as any not-for-profit enterprise that is independently owned and operated, and is not dominant in its field.

Small governmental jurisdictions. The RFA defines "small governmental jurisdictions" as governments of cities, counties, towns, townships, villages, school districts, or special districts with populations of fewer than 50,000.

5.4 Reason for Considering the Proposed Action

The Council identified the following problem statement to originate this action. Further information on the detail and on the intent of the proposed action is provided in Section 1.

> *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.*

5.5 Objectives of Proposed Action and its Legal Basis

Under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), the Secretary of Commerce (NMFS Alaska Regional Office) and the North Pacific Fishery Management Council have the responsibility to prepare fishery management plans and associated regulations for the marine resources found to require conservation and management. NMFS is charged with carrying out the Federal mandates of the Department of Commerce with regard to marine fish, including the publication of Federal regulations. The Alaska Regional Office of NMFS, and Alaska Fisheries Science Center, research, draft, and support the management actions recommended by the Council. The Bering Sea and Aleutian Islands (BSAI) groundfish fisheries are managed under the Fishery Management Plan for Groundfish of the BSAI Management Area. The proposed action represents an amendment, as required, to the fishery management plan, as well as amendments to associated Federal regulations.

The principal objective of this action is to create a regulatory structure for the harvest of CDQ Pacific cod that promotes harvest opportunities for the CDQ village small vessel fleets, and effectively allows CDQ and IFQ halibut harvesters, less than or equal to 46' in length the ability to retain CDQ Pacific cod in excess of the 20 percent MRA of halibut. This action does not conflict with National Standards and it supports the MSA-stated objectives of the CDQ program to, "provide eligible western Alaska villages with the opportunity to participate and invest in fisheries in the Bering Sea and Aleutian Islands Management Areas; to support economic development in western Alaska; and to alleviate poverty and provide economic and social benefits for residents of western Alaska."[56]

5.6 Number and Description of Directly Regulated Small Entities

This section provides estimates of the number of harvesting vessels that are considered small entities. The RFA requires a consideration of affiliations between entities for the purpose of assessing if an entity is small. The estimates in Table 5-1 do not take into account all affiliations between entities. There is not necessarily a strict one-to-one correlation between vessels and entities; persons and firms could have ownership interests in more than one vessel, and these vessels with different ownership, could be otherwise affiliated with each other. For example, vessels in the American Fisheries Act (AFA) catcher vessel sectors are categorized as "large entities" for the purpose of the RFA under the principles of affiliation, due to their being part of the AFA pollock cooperatives. However, vessels that have other types of affiliation, (i.e., ownership of multiple vessel or affiliation with processors), not tracked in available data, may be misclassified as a small entity.

All proposed actions for this analysis could directly impact participates in the CDQ fisheries. If the Council choses Alternative 3 or 4 as a preferred alternative, the action will specifically apply to participants of a future Pacific cod CDQ fishery. Under Alternative 2, the pool of directly regulated entities is specifically restricted to the halibut CDQ participants, although a future Pacific cod CDQ fishery will also likely mimic the halibut CDQ fishery in participation. Therefore, Table 5-1 is populated with historical vessel counts for the halibut CDQ fishery, as the best prediction of the vessels directly impacted by any proposed actions.[57]

Participants of a CDQ groups have all been determined to represent small business entities, assumed to represent less than $19.0 million in total gross receipts from finfish fishing operations (including halibut

[56] 16 USC 1855(i)(A)(i)(ii)(iii) and (iv) of the MSA
[57] Vessel counts differ slightly between Table 5-1 and as represented in tables in Section 4.7. The variance in minor in all cases and can occur based on definitions used in data sources or omitted variables resulting in dropped observations

and Pacific cod) and less than $5.0 million in total annual gross receipts from shellfish. Table 5-1 clearly demonstrates that all entities directly impacted by action are expected to be considered small.

Table 5-1 Estimated numbers of directly regulated entities (vessels) in the Bering Sea/ Aleutian Islands (BSAI) between 2000 and 2013

Year	Count of small entities	Count of large entities
2000	270	0
2001	262	0
2002	254	0
2003	244	0
2004	199	0
2005	211	0
2006	211	0
2007	278	0
2008	258	0
2009	236	0
2010	223	0
2011	252	0
2012	238	0
2013	243	0
Average	241	0

Source: NOAA Restricted Access Management

5.7 Recordkeeping and Reporting Requirements

Federally used collections of information, using identical questions, by ten or more persons require approval from the Office of Management and Budget (OMB) in order to satisfy the Paperwork Reduction Act (PRA).[58] LLP, VMS, and the Observer Program all constitute programs that have been required to receive OMB clearance and approval and have previously been issued an OMB control number. Modifications to these requests, which include the removal of information collection in the form of exemptions, will likely require additional effort to satisfy the PRA. That effort may be as minimal as a "Change Request" form, reserved for minimal nonsubstantive changes and not usually associated with a rule. Depending on the actions taken, that effort may otherwise include a more comprehensive revision of and existing request along with the proposed rule.

Once the a preferred alternative has been chosen by the Council, this analysis will estimate the public reporting burden to comply with a change in these reporting measure across all directly regulated small entities. This burden may add cost, including capital costs (e.g., electronic broadcast costs, fax or phone costs), labor costs from potentially additional administrative effort.

[58] For more information about the PRA, see requirements at:
http://www.whitehouse.gov/sites/default/files/omb/assets/inforeg/PRAPrimer_04072010.pdf

5.8 Federal Rules that may Duplicate, Overlap, or Conflict with Proposed Action

Once the a preferred alternative has been chosen by the Council, this analysis will determine if Federal rules have been identified that duplicate or overlap with the proposed action.

5.9 Description of Significant Alternatives to the Proposed Action that Minimize Economic Impacts on Small Entities

Once a preferred alternative has been chosen by the Council, this analysis will identify any other significant alternatives that would accomplish the stated objectives and their potential to minimize any adverse economic impacts on small entities.

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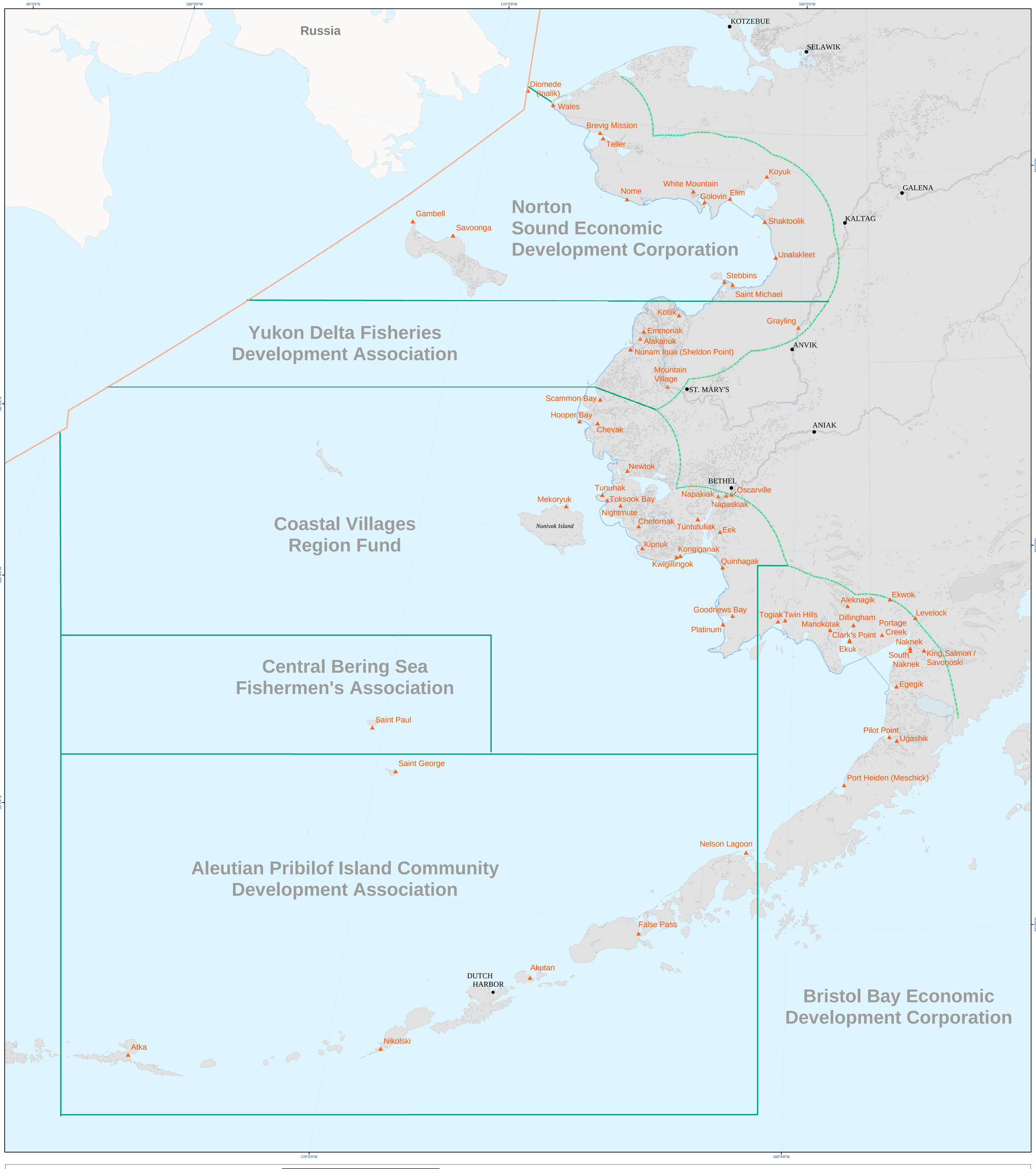
Appendices

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.

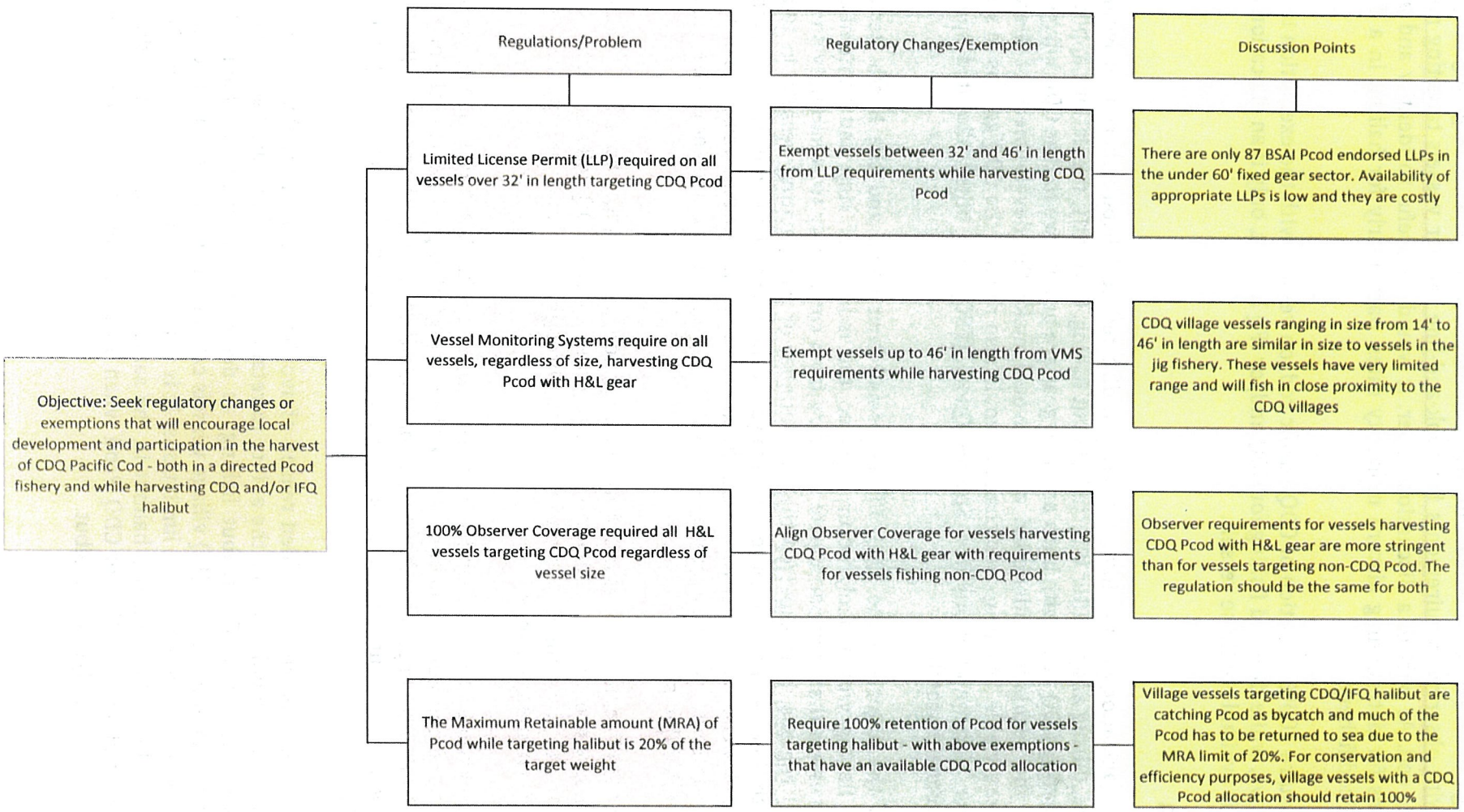
Because of the nature of the CDQ villages' small boat fleets and the harsh Bering Sea conditions, fishing would likely occur between the months of May and September. The number of vessels that may participate will vary from community to community and within the six CDQ regions. It is expected that the 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



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]

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

C7 Agenda
Pcod CDQ
June 2014

FWI

Satellite Communications & Tracking

Faria WatchDog™ VMS Tracking

(Single Band - Satellite E-MTU)

Installation Manual

wdim-0008 rev A 8/2010

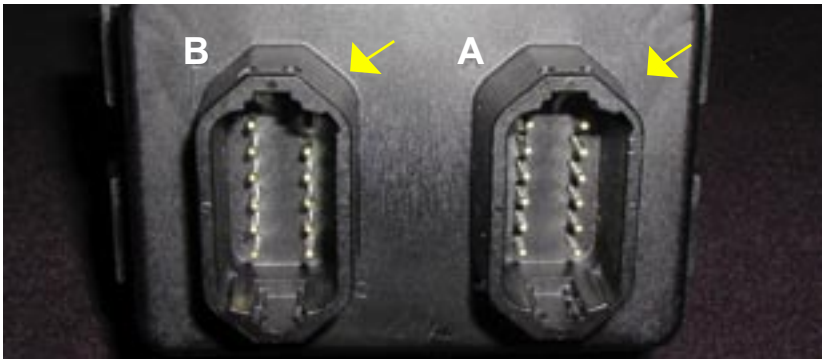
Notice - The Faria WatchDog VMS system is only an aid to operation of a boat. The performance of the system and the system performance specifications can be affected by many factors including but not limited to equipment failure, environmental conditions, improper installation, handling and/or use. This 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

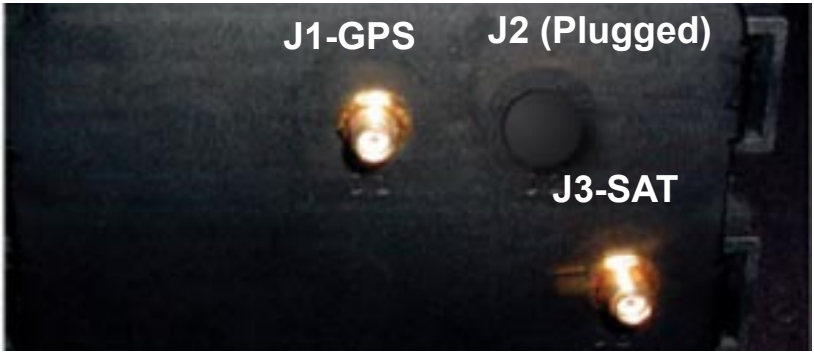
Installation:

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.

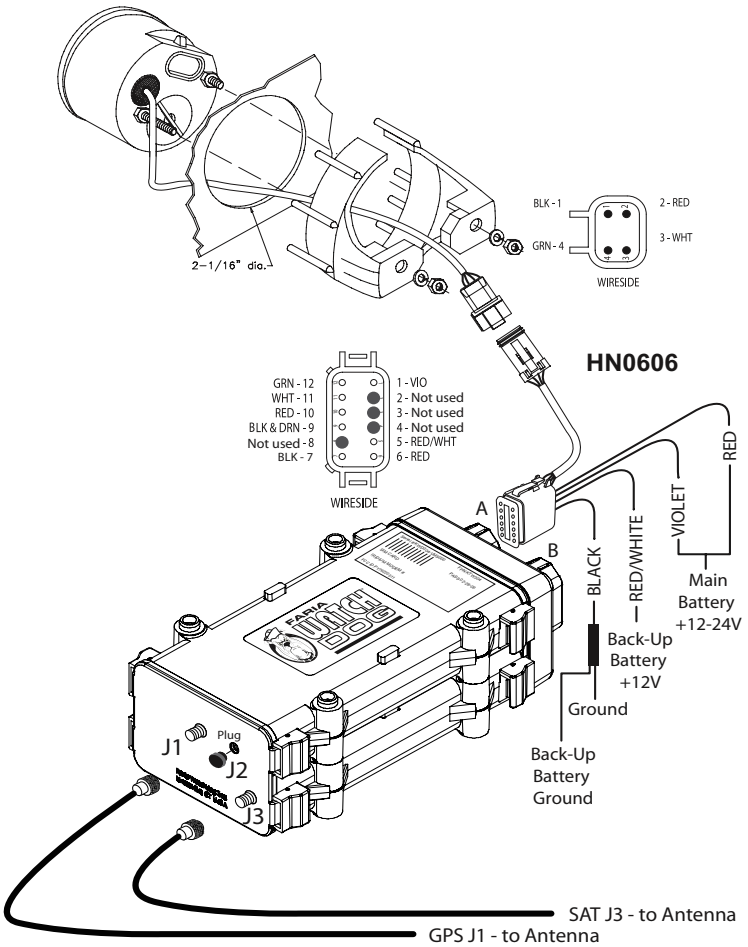


Figure 1

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”
