

ENVIRONMENTAL ASSESSMENT/REGULATORY IMPACT REVIEW/
FINAL REGULATORY FLEXIBILITY ANALYSIS

Amendment 34 to the Fishery Management Plan for
Bering Sea/Aleutian Islands King and Tanner Crabs

Revise Crab Sideboard Exemptions for the
Gulf of Alaska Pacific Cod and Pollock Fishery

May 2011

Prepared by staff of the
North Pacific Fishery Management Council
605 W. 4th Avenue, Suite 306
Anchorage, Alaska 99501
(907) 271-2809

Executive Summary

Introduction

The Bering Sea and Aleutian Islands (BSAI) crab rationalization program was implemented in March of 2005. The program allocated quota share (QS) to harvesters in nine BSAI crab fisheries. Each year, a person who holds QS may receive individual fishing quota (IFQ) to harvest BSAI crab. Recognizing that rationalizing the BSAI crab fisheries could provide opportunities for fishermen to alter their crab fishing patterns and take greater advantage of other fisheries, the North Pacific Fishery Management Council (Council) established Gulf of Alaska (GOA) groundfish sideboard limits for vessels and License Limitation Program (LLP) licenses that had Bering Sea snow crab (*Chionoecetes opilio*) history and generated crab QS. At its December 2006 meeting, the Council heard public testimony that the GOA sideboard limits, stemming from the crab rationalization program, had overly restricted historical participants in the GOA Pacific cod fishery. In response, the Council tasked staff to prepare a discussion paper of all GOA sideboards for non-American Fisheries Act (AFA) crab vessels. In April 2007, the Council began developing options for adjusting the GOA sideboards. In December 2007, the Council initiated an amendment to adjust the GOA Pacific cod sideboard exemption qualifications for non-AFA crab vessels, exempt qualified non-AFA crab vessels from GOA pollock sideboards, and exempt non-AFA crab vessels from GOA Pacific cod sideboards, from November 1 to December 31 of each year. In October 2008, the Council selected Alternative 2, Option 2.4, as its preferred alternative for Action I. The Council also selected Alternative 2, Option 3, as its preferred alternative for Action II. Finally, the Council removed the third action from the current regulatory package and repackaged it as a separate action for future consideration.

Purpose and Need

The purpose of the non-AFA crab sideboard limits was to prevent vessels with crab QS from disadvantaging non-crab participants in the GOA groundfish fisheries. To allow non-AFA crab vessels that were awarded small amounts of Bering Sea snow crab quota, but had significant GOA Pacific cod history, to continue fishing in the GOA Pacific cod fishery unrestricted, the Council exempted qualified vessels from GOA Pacific cod sideboard limits. However, based on public testimony, the exemption qualifications implemented with the crab rationalization program in 2005, excluded non-AFA crab vessels with significant GOA Pacific cod history, because the vessels had slightly more than the maximum allowable 100,000 pounds of snow crab landings. Similar to the GOA Pacific cod exemption issue, the public also testified that lack of a sideboard exemption for vessels with small amounts of Bering Sea snow crab quota and significant GOA pollock history is overly restrictive. To address these GOA non-AFA crab sideboard issues and to guide the analysis of alternatives for this proposed action, the Council developed the following problem statement:

Recognizing that rationalizing the BSAI crab fisheries could provide opportunities for fishermen to alter their crab fishing patterns and take greater advantage of other fisheries, the Council included GOA groundfish sideboard limits for non-AFA vessels that qualified for the Bering Sea snow crab IFQ fishery. To protect crab vessels that demonstrated dependence on the GOA Pacific cod fisheries, an exemption from GOA Pacific cod sideboard limits was included in the rationalization program. However, in the application of the exemption and sideboard limits, some historical participants in Gulf of Alaska groundfish fisheries may have been unduly prevented from participating in the GOA groundfish fisheries. The permanent nature of the sideboard does not allow for participants to opt out of the crab program (i.e. receive no “benefit”) and remove the sideboard restriction. GOA Pacific cod sector splits may further complicate apportionment of crab sideboard amounts. Adjusting the GOA Pacific cod sideboard exemption qualifications for non-AFA crab vessels in addition to including a GOA pollock sideboard exemption could allow historical GOA groundfish participants that

were unduly restricted by GOA sideboard limits to return to pre-rationalized fishing levels without disadvantaging other GOA groundfish fishery participants.

Alternatives

Action I: Exempted Vessel Status of GOA Pacific Cod

Alternative 1: No changes to exempted status requirements

Alternative 2: Change the exempted status requirements

Option 2.1: Exempt non-AFA crab vessels from GOA Pacific cod sideboards if the vessel's Bering Sea opilio catch history is less than 0.22 percent of the total over the period 1996 through 2000 and the vessel landed more than 500 mt of GOA Pacific cod over the period 1996 through 2000. The percent is of total Bering Sea *C. opilio* catch history, including both qualified and unqualified catch history pounds from non-AFA crab vessels.

Option 2.2: Exempt non-AFA crab vessels from the GOA Pacific cod sideboards if the vessel's Bering Sea opilio catch history is less than 500,000 pounds over the period 1996 through 2000 and the vessel landed more than 2,500 mt of GOA Pacific cod over the period 1996 through 2000. The total Bering Sea *C. opilio* catch history includes both qualified and unqualified catch history pounds from non-AFA crab vessels.

Option 2.3: Exempt non-AFA crab vessels from the GOA Pacific cod sideboards if the vessel's Bering Sea opilio catch history is less than 500,000 pounds over the period 1996 through 2000 and the vessel has landed more than 680 mt of GOA Pacific cod over the period 1996 through 2000. The total Bering Sea *C. opilio* catch history includes both qualified and unqualified catch history pounds from non-AFA crab vessels.

Suboption 2.3.1: In addition to above, must also have 20 GOA pollock trawl landings during the 1996 through 2000 period.

Option 2.4 (**Council preferred option**): Exempt non-AFA crab vessels from the GOA Pacific cod sideboards if the vessel's Bering Sea opilio catch history is less than 750,000 pounds over the period 1996 through 2000 and the vessel has landed more than 680 mt of GOA Pacific cod over the period 1996 through 2000. The total Bering Sea *C. opilio* catch history includes both qualified and unqualified catch history pounds from non-AFA crab vessels.

All these exemptions only apply to those non-AFA crab vessels/LLP licenses that are eligible to participate in the GOA Pacific cod fishery (i.e., have appropriate LLP license) and would leave in place the original GOA Pacific cod sideboard exemption for non-AFA crab vessels/LLP licenses.

Action II: Exempted Vessel Status of GOA Pollock

Alternative 1: No changes to exempted status requirements

Alternative 2: Exempt non-AFA crab vessels from GOA pollock sideboards if the vessel's Bering Sea opilio catch history is less than 0.22 percent of the total from 1996 through 2000 and the vessel had:

Option 1 - 5 pollock deliveries from 1996 through 2000

Option 2 - 10 pollock deliveries from 1996 through 2000

Option 3 (**Council preferred option**)- 20 pollock deliveries from 1996 through 2000.

All these exemptions only apply to those non-AFA crab vessels/LLP licenses that are eligible to participate in the GOA groundfish fisheries (i.e., have appropriate LLP license). The percent is of the total Bering Sea *C. opilio* catch history, including both qualified and unqualified catch history from non-AFA crab vessels.

Impacts of the Alternatives

Action I: Exempted Vessel Status of GOA Pacific Cod

Although sideboard limits for non-AFA crab vessels have only recently been implemented, there are indications that sideboard limits have been negatively impacting some non-AFA crab vessels. Prior to the implementation of GOA sideboard limits, non-AFA crab vessels that are dependent on the GOA Pacific cod fishery would have been permitted to continue fishing for Pacific cod until the regular A or B season fishery closed. However, the sideboard limits have resulted in a shorter fishing season, which prevents Pacific cod-dependent crab vessels from maintaining their historical catch of GOA Pacific cod. Under Alternative 1, five vessels and LLP licenses qualify for an exemption from the Pacific cod sideboards and may conduct directed fishing for GOA Pacific cod.

Under Alternative 2, there are a number of options that change the catch criteria for exempting non-AFA crab vessels from GOA Pacific cod sideboards. Each of the options defines different catch criteria. In addition to the five vessels and LLP licenses that currently qualify for an exemption from the Pacific cod sideboards, from one to six vessels and LLP licenses would qualify for an exemption under the Alternative 2 options. Based on the historical catch of the vessels that would qualify for the sideboard exemption under the different options during the 2001 to 2005 period, it is likely these vessels would increase fishing effort in the GOA Pacific cod fishery to levels seen prior to the implementation of sideboard limits or greater, thereby impacting other Pacific cod fishery participants. Unfortunately, it is not possible to determine with any certainty the extent to which the new exempt vessels would impact other Pacific cod fishery participants, given that it is not possible to predict future effort by the exempt vessels. However, differences in the options can provide some indication of upper limits of effects on GOA Pacific cod fishery participants. Option 2.1 has the greatest potential of impacting the other GOA Pacific cod fishery participants, given that six vessels qualify for the sideboard exemption, while Option 2.2 has the least potential of impacting these participants, because only one vessel qualifies. Option 2.3 and Option 2.4 would exempt two and three vessels, respectively.

One of the effects of exempting vessels from the GOA Pacific cod sideboard limit is that the sideboard catch limit for GOA Pacific cod will be reduced proportional to the exempt vessels' GOA Pacific cod history during the 1996 to 2000 period. In addition, since the historical catch of exempted vessels is not included in the sideboard limits, catch of these vessels will not count towards the sideboard caps, nor are the exempt vessels required to stop fishing when the sideboard limit is reached, if the directed fishery is open.

Action II: Exempted Vessel Status of GOA Pollock

The limited catch history of GOA pollock from 1996 to 2000 by non-AFA crab vessels has resulted in a small sideboard catch limit, and the National Marine Fisheries Service (NMFS) has closed the sideboard fishery to directed fishing since it was implemented in the 2006 season. NMFS has determined that participants in the GOA pollock sideboard fishery would likely harvest the relatively small catch limit quickly, and it is unlikely that NMFS could close the directed pollock sideboard fishery before the catch

limit was exceeded. With the likelihood of no pollock sideboard fishery for the foreseeable future, any GOA pollock-dependent non-AFA crab vessels would likely be negatively impacted under status quo.

Alternative 2 would exempt qualified non-AFA crab vessels from the GOA pollock sideboard limit. Included in the alternative are three options, each defining a different pollock landing threshold. Applying the different qualification thresholds to the non-AFA crab vessels, four vessels qualify under the first two options, while only one vessel qualifies under the third option. Based on the historical catch of these qualified vessels during the 2001 to 2005 period, it is likely that these vessels would increase fishing effort in the GOA pollock fishery to levels seen prior to the implementation of sideboard limits or greater. As a result, the addition of a sideboard exemption could have an impact on non-crab GOA pollock participants.

In comparing the impacts of Options 1 and 2 relative to Option 3, the first two options have a greater potential of impacting non-crab GOA pollock participants, due to the number of vessels that qualify for a sideboard exemption. Under these two options, each of the four qualified non-AFA crab vessels could increase effort in the GOA pollock fishery beyond their historical level, thereby impacting non-crab pollock participants to a greater extent than under Option 3, which only exempts one vessel.

An effect of this action is that the catch history of those vessels that are exempt from GOA pollock sideboard limits will not be included in the sideboard calculation for GOA pollock. As a result, the GOA sideboard limit for pollock will be proportionally reduced by the pollock catch history of the exempted vessels during the 1996 to 2000 period. In addition, catch of the qualified vessels will not be counted towards the sideboard caps, nor will the qualified vessels be required to stop fishing when the sideboard limit is reached, if the directed fishery is open.

TABLE OF CONTENTS

1	REGULATORY IMPACT REVIEW.....	8
1.1	Purpose and Need	8
1.1.1	Background.....	8
1.1.2	Purpose and Need Statement.....	9
1.2	Alternatives Considered	10
1.2.1	Action I: Exempted Vessel Status of GOA Pacific Cod.....	10
1.2.2	Action II: Exempted Vessel Status of GOA Pollock.....	11
1.2.3	Options Considered but Later Rejected.....	11
1.3	Background	12
1.3.1	Description of the Pacific Cod Fishery	12
1.3.2	Description of the Pollock Fishery.....	13
1.3.3	Management of the GOA Pacific Cod and Pollock Fishery	14
1.3.4	Total catch of Pacific cod in the Gulf of Alaska	15
1.3.5	Management of the GOA non-AFA snow crab sideboards	19
1.3.6	Ex-vessel prices and gross revenues	26
1.3.7	First wholesale prices and revenues.....	26
1.4	Expected Effects of the Alternatives	27
1.4.1	Implementation of the Action	27
1.4.2	Action I. Exempted vessel status of GOA Pacific cod.....	28
1.4.3	Action II. Exempted vessel status for GOA pollock.....	36
1.5	Effects on Net Benefits to the Nation	39
2	ENVIRONMENTAL ASSESSMENT.....	41
2.1	Purpose and Need	41
2.1.1	Background.....	41
2.1.2	Purpose and Need Statement.....	42
2.2	Alternatives Considered	42
2.2.1	Action I: Exempted Vessel Status of GOA Pacific Cod.....	43
2.2.2	Action II: Exempted Vessel Status of GOA Pollock.....	44
2.3	Gulf of Alaska Environment.....	44
2.3.1	Pacific cod	45
2.3.2	Pollock	46
2.3.3	Marine Mammals	47
2.3.4	Seabirds.....	49
2.3.5	Benthic Habitat and Essential Fish Habitat	52
2.3.6	Ecosystem	52
2.3.7	Economic Impacts.....	53
2.3.8	Cumulative Effects.....	53
3	Final Regulatory Flexibility Analysis (FRFA).....	54
3.1	Introduction.....	54
3.2	Definition of a Small Entity	55
3.3	Need for and Objective of the Rule	56
3.4	Public Comments on the Initial Regulatory Flexibility Analysis.....	57
3.5	Number and Description of Small Entities Regulated by the Final Action	57
3.6	Recordkeeping and Reporting Requirements.....	57
3.7	Description of Significant Alternatives.....	57
4	Consistency with Applicable Law and Policy	59
4.1	National Standards.....	59
4.2	Section 303(a)(9) – Fisheries Impact Statement	60
5	List of Preparers, Persons Consulted, and References	61
6	References.....	61

LIST OF FIGURES

Figure 1-1 Diagram of Non-AFA crab vessel sideboard program for the GOA..... 20

LIST OF TABLES

Table 1-1 Pacific cod catch (mt) by gear type in the Federal and State fisheries in the Gulf of Alaska and Federal TAC from 2000 to 2009..... 13

Table 1-2 Pollock catch (mt) by gear type in the Gulf of Alaska 2000 to 2009 13

Table 1-3 Total allowable catch (mt) of Pollock in the pollock fisheries in the Statistical Area 610, 620, and 630, 2000 to 2009 15

Table 1-4 Total allowable catch (mt) of Pacific cod in the Federal Pacific cod fisheries in the western and central GOA, 2000 to 2009..... 16

Table 1-5 Pacific cod catch (mt) and percentage of the TAC harvested in the inshore and offshore sectors in the western GOA, 2001 to 2009 16

Table 1-6 Pacific cod catch (mt) and percentage of the TAC harvested in the inshore and offshore sectors in the central GOA, 2001 to 2009 17

Table 1-7 Pacific cod catch (mt) during the A and B seasons by the inshore and offshore sectors in the western GOA, 2003 to 2009..... 17

Table 1-8 Pacific cod catch (mt) during the A and B seasons by the inshore and offshore sectors in the central GOA, 2003 to 2009 18

Table 1-9 Pacific cod A season closures for the western and central GOA, 2001 to 2009 18

Table 1-10 Pacific cod B season closures for the trawl and hook-and-line sectors in the western GOA, 2001 to 2009 19

Table 1-11 Pacific cod B season closures for the trawl and hook-and-line sectors in the central GOA, 2001 to 2009 19

Table 1-12 Final 2010 GOA non-AFA crab vessel groundfish harvest sideboard limitations for pollock and Pacific cod 22

Table 1-13 Total catch (mt) of non-AFA crab vessels limited to sideboard limits 23

Table 1-14 Sideboard fishery closure dates for western and central GOA Pacific cod during 2008 and 2009..... 23

Table 1-15 Number of vessels fishing in the GOA Pacific cod fishery by sideboard category, 1995 to 2009..... 24

Table 1-16 GOA Pacific cod catch (mt) of non-AFA crab vessels by sideboard category, 1995 to 2009..... 25

Table 1-17 Percent of GOA Pacific cod catch by sideboard category, 1995 to 2009 25

Table 1-18 Ex-vessel prices (dollars) in the Gulf of Alaska Pacific cod fisheries, 2002 to 2008 26

Table 1-19 Ex-vessel prices (dollars) in the Gulf of Alaska pollock fisheries, 2002 to 2008..... 26

Table 1-20 Price per pound of Pacific cod products in the fisheries off Alaska by processing sector, 2002 to 2008 (dollars) 27

Table 1-21 Price per pound of pollock products in the fisheries off Alaska by processing sector, 2002 to 2008 (dollars) 27

Table 1-22 Number of additional qualifying vessels/LLP licenses that would be exempt from GOA Pacific cod sideboards 30

Table 1-23 Annual participation of qualified vessels from 1995 to 2009 by option 31

Table 1-24 GOA Pacific cod catch (mt) of qualified vessels for each option, 1995 to 2009 32

Table 1-25 GOA Pacific cod catch as a percent of the total GOA Pacific cod catch for qualified vessels by each option, 1995 to 2009..... 33

Table 1-26 Historical annual central GOA Pacific cod catch as a percent of the total GOA Pacific cod catch by option, 1995 to 2009..... 34

Table 1-27 Historical annual western GOA Pacific cod catch as a percent of the total GOA Pacific cod catch by option, 1995 to 2009 34

Table 1-28	Potential sector allocations (percent of the central and western GOA TAC) for combined pot CP and CV sector.....	35
Table 1-29	Recalculated sideboard ratios, recalculated 2010 sideboard limit, difference between existing 2010 sideboard limit and recalculated 2010 sideboard limit by option	36
Table 1-30	Catch of other groundfish, Pacific cod, pollock, and total GOA groundfish for one of the four qualified exempt vessels ¹	37
Table 1-31	GOA pollock landings and catch for the qualified vessel under Option 3 and vessel count and catch (mt) of all GOA pollock vessels from 1995 to 2009	39
Table 2-1	Criteria Used to Evaluate the Alternatives.	41
Table 2-2	Total allowable catch (TAC), total catch in the Federal and State GOA Pacific cod fisheries, and acceptable biological catch (ABC), 2000 to 2006.....	45
Table 2-3	Walleye pollock TAC and catch in the GOA, 2000 to 2006	46
Table 2-4	ESA-listed marine mammal species that occur in the Gulf of Alaska.	49
Table 2-5	ESA-listed and candidate seabird species that occur in the GOA and BSAI	51
Table 3-1	IRFA comparison of alternatives/options for Action I	58
Table 3-2	IRFA comparison of alternatives/options for Action II	58

1 REGULATORY IMPACT REVIEW

This chapter provides information on the economic and socioeconomic impacts of the alternatives, as required by Executive Order 12866 (E.O. 12866). This chapter includes a description of the purpose and need for the action and the management objectives, a description of the alternatives proposed to meet those objectives, identification of the individuals or groups that may be affected by the action, the nature of those impacts (quantifying the economic impacts where possible), and discussion of the tradeoffs.

The preparation of a Regulatory Impact Review (RIR) is required under E.O. 12866 (58 FR 51735; October 4, 1993). The requirements for all regulatory actions specified in E.O. 12866 are summarized in the following statement:

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.

Under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), 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 and in the Regional Fishery Management Councils. The groundfish fisheries in the Gulf of Alaska (GOA) EEZ are managed under the Fishery Management Plan for Groundfish of the Gulf of Alaska (GOA FMP).

1.1 Purpose and Need

1.1.1 Background

The Bering Sea and Aleutian Islands (BSAI) crab rationalization program was implemented in March of 2005. Among other things, the program allocated quota share (QS) to harvesters in nine BSAI crab fisheries. Each year, a person who holds QS may receive individual fishing quota (IFQ) to harvest BSAI crab. Recognizing that rationalizing the BSAI crab fisheries could provide opportunities for fishermen to alter their crab fishing patterns and take greater advantage of other fisheries, the North Pacific Fishery Management Council (Council) established GOA groundfish sideboard limits for vessels and License

Limitation Program (LLP) licenses that had Bering Sea snow crab (*Chionoecetes opilio*) history and generated crab QS. At its December 2006 meeting, the Council heard public testimony that the GOA sideboard limits, stemming from the crab rationalization program, had overly restricted historical participants in the GOA Pacific cod fishery. In response, the Council tasked staff to prepare a discussion paper of all GOA sideboards for non-American Fisheries Act (AFA) crab vessels. In April 2007, the Council began developing options for adjusting the GOA sideboards. In December 2007, the Council initiated an amendment to adjust the GOA Pacific cod sideboard exemption qualifications for non-AFA crab vessels, exempt qualified non-AFA crab vessels from GOA pollock sideboards, and exempt non-AFA crab vessels from GOA Pacific cod sideboards, from November 1 to December 31 of each year. In October 2008, the Council selected Alternative 2, Option 2.4, as its preferred alternative for Action I. The Council also selected Alternative 2, Option 3, as its preferred alternative for Action II. Finally, the Council removed the third action from the current regulatory package and repackaged it as a separate action for future consideration.¹

1.1.2 Purpose and Need Statement

The purpose of the non-AFA crab sideboard limit was to prevent vessels with crab QS from disadvantaging non-crab participants in the GOA groundfish fisheries. To allow non-AFA crab vessels that were awarded small amounts of Bering Sea snow crab quota, but had significant GOA Pacific cod history, to continue fishing in the GOA Pacific cod fishery unrestricted, the Council exempted qualified vessels from GOA Pacific cod sideboard limits. However, based on public testimony, the exemption qualifications implemented with the crab rationalization program in 2005 excluded some non-AFA crab vessels with significant GOA Pacific cod history, because these vessels had slightly more than the maximum allowable 100,000 pounds of snow crab landings. Similar to the GOA Pacific cod exemption issue, the public also testified that lack of a sideboard exemption for vessels with small amounts of Bering Sea snow crab quota and significant GOA pollock history is overly restrictive. To address these GOA non-AFA crab sideboard issues, and to guide the analysis of alternatives for this proposed action, the Council developed the following problem statement:

Recognizing that rationalizing the BSAI crab fisheries could provide opportunities for fishermen to alter their crab fishing patterns and take greater advantage of other fisheries, the Council included GOA groundfish sideboard limits for non-AFA vessels that qualified for the Bering Sea snow crab IFQ fishery. To protect crab vessels that demonstrated dependence on the GOA Pacific cod fisheries, an exemption from GOA Pacific cod sideboard limits was included in the rationalization program. However, in the application of the exemption and sideboard limits, some historical participants in Gulf of Alaska groundfish fisheries may have been unduly prevented from participating in the GOA groundfish fisheries. The permanent nature of the sideboard does not allow for participants to opt out of the crab program (i.e. receive no “benefit”) and remove the sideboard restriction. GOA Pacific cod sector splits may further complicate apportionment of crab sideboard amounts. Adjusting the GOA Pacific cod sideboard exemption qualifications for non-AFA crab vessels, in addition to including a GOA pollock sideboard exemption, could allow historical GOA groundfish participants that

¹ At its June 2010 meeting, the Council reviewed an initial draft of this regulatory package. The Council voted to take no further action until such time as the GOA fixed gear LLP recency action and the GOA Pacific cod sector split regulations are effective. When the regulations for these actions are effective, the Council will evaluate the need to further develop the regulator package. The fixed gear recency action would further restrict participation in GOA directed Pacific cod fisheries, and the GOA Pacific cod sector split action would allocate Pacific cod total allowable catches among several sectors.

were unduly restricted by GOA sideboard limits to return to pre-rationalized fishing levels without disadvantaging other GOA groundfish fishery participants.

1.2 Alternatives Considered

This section identifies the alternatives and options for consideration under the proposed action. Given the differences in the alternatives under consideration, the alternatives are divided into two separate actions, labeled as Action I and Action II. Each action is independent of the other. In other words, the Council may select any of the alternatives under each action.

Action I addresses the proposed change to the GOA Pacific cod sideboard exemption for non-AFA crab vessels. In this proposed action, there are two alternatives. Alternative 1 is status quo, under which there would be no change to the sideboard exemption criteria for the GOA Pacific cod fishery for non-AFA crab vessels. Alternative 2 would change the GOA Pacific cod exemption requirements for non-AFA crab vessels. Under this alternative there are four options that apply different Bering Sea snow crab and GOA Pacific cod catch thresholds, during the 1996 through 2000 period. Vessels meeting these threshold requirements under the different options would be exempt from GOA Pacific cod sideboard limits. The Council clarified in June 2008 that this action is not intended to disqualify any crab vessels or LLP licenses that are currently exempt from GOA Pacific cod sideboards.

Action II proposes to add a sideboard exemption for GOA pollock-dependent non-AFA crab vessels. In this proposed action there are two alternatives. Alternative 1, the no action alternative, would not add an exemption for non-AFA crab vessels from the GOA pollock sideboard limits. Alternative 2 would create an exemption for qualified non-AFA crab vessels from GOA pollock sideboard limits. Within Alternative 2, there are three options. Each option has a different threshold of GOA pollock landings from 1996 through 2000 that would be required to qualify for the exemption.

1.2.1 Action I: Exempted Vessel Status of GOA Pacific Cod

Alternative 1: No changes to exempted status requirements

Alternative 2: Change the exempted status requirements

Option 2.1: Exempt non-AFA crab vessels from GOA Pacific cod sideboards if the vessel's Bering Sea *C. opilio* catch history is less than 0.22 percent of the total Bering Sea *C. opilio* catch over the period 1996 through 2000 and the vessel landed more than 500 mt of GOA Pacific cod over the period 1996 through 2000. The percent is of total Bering Sea *C. opilio* catch history, including both qualified and unqualified catch history pounds from non-AFA crab vessels.

Option 2.2: Exempt non-AFA crab vessels from the GOA Pacific cod sideboards if the vessel's Bering Sea *opilio* catch history is less than 500,000 pounds over the period 1996 through 2000 and the vessel landed more than 2,500 mt of GOA Pacific cod over the period 1996 through 2000. The Bering Sea *C. opilio* catch history includes both qualified and unqualified catch history from non-AFA crab vessels.

Option 2.3: Exempt non-AFA crab vessels from the GOA Pacific cod sideboards if the vessel's Bering Sea *opilio* catch history is less than 500,000 pounds over the period 1996 through 2000 and the vessel has landed more than 680 mt of GOA Pacific cod over the period 1996 through 2000. The Bering Sea *C. opilio* catch history includes both qualified and unqualified catch history from non-AFA crab vessels.

Suboption 2.3.1: In addition to above, must also have 20 GOA pollock trawl landings during the 1996 through 2000 period.

Option 2.4: (**Council preferred option**) Exempt non-AFA crab vessels from the GOA Pacific cod sideboards if the vessel's Bering Sea opilio catch history is less than 750,000 pounds over the period 1996 through 2000 and the vessel has landed more than 680 mt of GOA Pacific cod over the period 1996 through 2000. The Bering Sea *C. opilio* catch history includes both qualified and unqualified catch history from non-AFA crab vessels.

All these exemptions only apply to those non-AFA crab vessels/LLP licenses that are eligible to participate in the GOA Pacific cod fishery (i.e., have appropriate LLP license).

1.2.2 Action II: Exempted Vessel Status of GOA Pollock

Alternative 1: No changes to exempted status requirements

Alternative 2: Exempt non-AFA crab vessels from GOA pollock sideboards if the vessel's Bering Sea opilio catch history is less than 0.22 percent of the total Bering Sea *C. opilio* catch over the period 1996 through 2000 and the vessel had:

Option 2.1 - 5 pollock deliveries from 1996 through 2000

Option 2.2 - 10 pollock deliveries from 1996 through 2000

Option 2.3 (**Council preferred option**) - 20 pollock deliveries from 1996 through 2000.

All these exemptions only apply to those non-AFA crab vessels/LLP licenses that are eligible to participate in the GOA groundfish fisheries (i.e., have appropriate LLP license). The percent is of the total Bering Sea *C. opilio* catch history, including both qualified and unqualified catch history from non-AFA crab vessels.

1.2.3 Options Considered but Later Rejected

In June 2008, the Council removed from consideration two options that would have required a vessel to forfeit all or a portion of its Bering Sea snow crab QS to maintain a GOA sideboard exemption. Under the first option, if a vessel was eligible for the exemption from GOA Pacific cod sideboard limits, all crab QS held by the vessel owner or holder of the LLP license assigned to the vessel would have to be forfeited in order to receive the sideboard exemption. Under the second option, if a vessel was eligible for the exemption, all crab QS of the vessel and LLP license assigned to the vessel in excess of 100,000 pounds would have to be forfeited.

There were a number of issues with these options that made implementation problematic. First, initial allocations of crab QS were calculated at the individual level, based on catch histories of vessels, as attributed to LLP licenses. To determine amounts of QS that must be forfeited would require recalculation of the Bering Sea snow crab initial allocation. These recalculations would be very time consuming and costly to administer, and could delay implementation of the action considerably. In addition, the inherent need to estimate initial allocations could contribute to appeals, further delaying the complete implementation of the provision.

Another difficulty relates to the interpretation of the provision. One of these difficulties is that vessels, LLP licenses, and crab QS are all freely and independently transferrable. Although the crab QS is derived from the landings of a vessel and given to the holder of a crab LLP license, the QS is its own permit, separate and distinct from the vessel or the LLP license. Crab QS is held by a person and it is transferable

from person to person without regard to who owns the vessel that made the landings during the qualifying years, or who holds the LLP license. As a result, the person holding the crab QS may not be the person initially issued the crab QS. Since crab QS was issued to the LLP license holder, it is also possible that the person who owns the vessel may not have received the crab QS. As a consequence, implementation of this provision may require coordination of the forfeiture among multiple persons, some of whom may perceive no benefit from the GOA sideboard exemption.

A final difficulty associated with the second option was that a vessel owner or holder of an LLP license associated with a vessel would be required to forfeit any QS in excess of the amount of QS arising from 100,000 pounds of qualifying catch to retain the exemption. Initial allocations of QS to a license holder in the rationalization program were based on the average annual percentage of qualified catch history that was calculated over a number of years. Under this method, the contribution of catch history to the initial allocation of QS varies year to year. In years of low total allowable catches (TACs), 100,000 pounds of qualified catch would yield substantially more QS than 100,000 pounds of catch in high TAC years.

1.3 Background

1.3.1 Description of the Pacific Cod Fishery

The GOA Pacific cod resource is targeted by operators using multiple gear types, principally pot, trawl, and hook-and-line, or longline, catcher vessels and hook-and-line catcher processors. Smaller amounts of Pacific cod are taken by other sectors, including catcher vessels using jig gear. Pacific cod is the second most dominant species in the commercial groundfish catch in the Gulf of Alaska, accounting for about 35,100 metric tons (mt) or 19.0 percent of the total 2006 commercial groundfish catch (Hiatt 2009). About 15 percent of the total commercial Pacific cod catch off Alaska is harvested in the GOA, with the remaining 85 percent harvested in the BSAI.

In the GOA, trawl landings of Pacific cod have been declining since they peaked in 1990 and 1991 at nearly 60,000 mt per year. Harvests by hook-and-line during this same period have fluctuated between 6,000 mt and 15,000 mt per year. Vessels using pot and jig gear began to make significant landings in the early 1990s. Pot and jig landings increased substantially when the State waters Pacific cod fishery, which only allows the use of pot and jig gear, was initiated in 1997. Since 2003, vessels using pot gear have harvested a larger share of GOA Pacific cod than the trawl or hook-and-line sectors. Total catch of Pacific cod peaked in 1999, at 81,785 mt, but has since declined to 47,646 mt in 2006. Total Federal catch as a percentage of the Federal TAC has declined since Steller sea lion protection measures went into effect in 2001. From 1995 to 2000, 99 percent of the Federal TAC was harvested, and from 2001 to 2009, only 84 percent of the Federal TAC was harvested. Table 1-1 provides GOA Pacific cod catch by gear from 2000 to 2009.

Table 1-1 Pacific cod catch (mt) by gear type in the Federal and State fisheries in the Gulf of Alaska and Federal TAC from 2000 to 2009

Year	Federal				Total Federal Catch	Federal TAC	State		Total Catch
	Trawl	Longline	Pot	Other			Pot	Other	
2000	25,441	11,500	17,274	50	54,266	58,715	10,399	1,638	66,303
2001	24,382	9,825	7,171	155	41,532	52,110	7,841	2,076	51,499
2002	19,809	14,667	7,694	176	42,306	44,230	10,505	1,706	54,516
2003	18,913	9,475	12,675	90	41,152	40,540	8,132	3,291	52,575
2004	17,472	10,317	14,884	345	43,017	48,033	10,874	2,731	56,622
2005	14,509	5,730	14,684	203	35,127	44,433	10,020	2,694	47,840
2006	13,111	10,167	14,412	118	37,807	52,264	9,248	690	48,145
2007	14,746	11,411	13,523	41	39,721	52,264	10,576	674	50,971
2008	20,287	12,052	11,308	62	43,709	50,269	13,438	1,827	58,974
2009	11,951	11,588	10,119	121	33,779	41,807	10,082	2,785	46,646

Source: NMFS Blend and Catch Accounting databases.

Fishing effort for Pacific cod is widely distributed along the shelf edge in the GOA, though pockets of trawl effort are located near Chirikof, Cape Barnabus, Cape Chiniak, and Marmot Flats. The hook-and-line fishery primarily occurs at depths of 25 fathoms to 140 fathoms, over gravel, cobble, mud, sand, and rocky bottoms (NMFS 2009a).

Additional descriptions of the GOA Pacific cod fisheries are included in the Groundfish Economic Stock Assessment and Fishery Evaluation (SAFE) report (Hiatt 2009) and the Alaska Groundfish Fisheries Programmatic Supplemental Environmental Impact Statement (Groundfish PSEIS) (NOAA 2004a). The SAFE document includes information on catch and revenues from the fisheries, the numbers and sizes of fishing vessels and processing plants, and other economic variables that describe or relate to the performance of the fisheries.

1.3.2 Description of the Pollock Fishery

The fishery for pollock in the GOA is, by FMP amendment, entirely shore-based, with approximately 90 percent of the catch taken with pelagic trawls. During winter months, fishing effort is targeted at pre-spawning aggregations of pollock in Shelikof Strait and near the Shumagin Islands. Fishing in summer is less predictable, but typically occurs on the east side of Kodiak Island and in nearshore waters along the Alaska Peninsula. Table 1-2 provides GOA pollock catch, by gear, from 2000 to 2009.

Table 1-2 Pollock catch (mt) by gear type in the Gulf of Alaska 2000 to 2009

Year	Longline	Pot	Trawl	Total	TAC
2000	302	21	69,442	69,765	94,960
2001	104	5	68,025	68,134	90,690
2002	95	4	48,794	48,893	53,490
2003	52	9	50,619	50,680	49,590
2004	26	6	63,658	63,823	65,660
2005	15	2	80,811	80,829	86,100
2006	139	18	71,839	71,997	81,300
2007	179	19	51,640	51,838	68,307
2008	188	16	51,599	51,803	60,180
2009	154	10	42,215	42,379	49,900

Source: 2009 Stock Assessment and Fishery Evaluation Report and NMFS catch reports by gear type.

Since 1992, the GOA pollock TAC has been apportioned spatially and temporally, to reduce potential impacts on Steller sea lions. The general objective is to allocate the TAC to management areas, based on the distribution of surveyed biomass, and to establish three or four seasons between mid-January and autumn, during which only a specified fraction of the TAC can be taken. The Steller sea lion protection measures were implemented in 2001, and established four seasons in the central and western GOA, beginning January 20, March 10, August 25, and October 1, with 25 percent of the total TAC allocated to each season.

Kodiak is the major port for pollock deliveries in the GOA, with 61 percent of the 2002 to 2006 landings. In the western GOA, Sand Point, Dutch Harbor, King Cove, and Akutan are important ports, sharing 38 percent of 2002 to 2006 landings. Secondary ports, including Cordova, Seward, and Homer, account for the remaining 1 percent of the 2002 to 2006 landings.

Incidental catch in the GOA directed pollock fishery is low. For tows classified as pollock targets in the GOA between 2004 and 2006, about 94 percent of the catch by weight consisted of pollock. The most common managed species in the incidental catch are arrowtooth flounder, Pacific cod, flathead sole, Pacific ocean perch, rex sole, and species in the shortraker/rougheye rockfish complex.

Additional descriptions of the GOA pollock fisheries are included in the Economic SAFE (Hiatt 2009) and the Groundfish PSEIS (NOAA 2004a). The SAFE document includes information on catch and revenues from the fisheries, the numbers and sizes of fishing vessels and processing plants, and other economic variables that describe or relate to the performance of the fisheries.

1.3.3 Management of the GOA Pacific Cod and Pollock Fishery

Three separate area TACs are specified for GOA Pacific cod: western GOA, central GOA, and eastern GOA. Final 2006 harvest specifications apportioned 55 percent of the GOA catch to the central GOA (28,405 mt) and 39 percent to the western GOA (20,141 mt). The GOA Pacific cod TACs are not divided among gear types, but are apportioned to the inshore and offshore processing sectors, with 90 percent allocated to the inshore component and 10 percent to the offshore component. In addition, the TACs are apportioned seasonally, with 60 percent of the TACs allocated to the A season and 40 percent to the B season. The A and B seasons were implemented in 2001, as a Steller sea lion protection measure. The A season begins on January 1 for fixed-gear vessels, and on January 20 for trawl vessels. The A season ends on June 10, but the National Marine Fisheries Service (NMFS) usually closes the season much earlier when the TAC has been fully fished. The B season begins on September 1 for all gear types, and ends November 1 for trawl vessels and December 31 for non-trawl vessels. However, the B season usually closes much earlier for the trawl sector, and often closes early for the hook-and-line sector as well, due to the sectors reaching their respective limit of halibut prohibited species catch (PSC).

In the GOA, pollock is apportioned by season and area, and is further allocated for processing by inshore and offshore components. The total annual pollock TAC specified for the western and central GOA is apportioned into four equal seasonal allowances of 25 percent each. The A, B, C, and D season allowances are available from January 20 to March 10, March 10 to May 31, August 25 to October 1, and October 1 to November 1, respectively. Pollock TACs in the western and central GOA are apportioned among statistical areas 610, 620, and 630. In these individual statistical areas, the A and B season apportionments are in proportion to the distribution of pollock biomass, based on the four most recent NMFS winter surveys. In the C and D seasons, the apportionments are in proportion to the distribution on the four most recent NMFS summer surveys. Within any fishing year, the underage and overage of a seasonal allowance may be added to, or subtracted from, subsequent seasonal allowances in a manner to

be determined by the NMFS Regional Administrator. The TAC, actual catch, and percentage of TAC harvested in the Federal pollock fisheries in areas 610, 620, and 630 are summarized in Table 1-3.

Table 1-3 Total allowable catch (mt) of Pollock in the pollock fisheries in the Statistical Area 610, 620, and 630, 2000 to 2009

Year	Area 610			Area 620			Area 630		
	TAC	Catch	Percent of TAC Harvested	TAC	Catch	Percent of TAC Harvested	TAC	Catch	Percent of TAC Harvested
2000	26,378	22,074	84%	7,815	699	90%	21,978	21,139	96%
2001	31,056	30,471	98%	8,059	1,742	22%	23,583	17,026	72%
2002	17,840	17,455	98%	25,233	20,535	81%	6,995	10,902	156%
2003	16,788	16,510	98%	19,685	19,642	100%	10,339	12,435	120%
2004	22,930	23,455	102%	26,490	24,661	93%	14,040	14,444	103%
2005	30,380	30,973	102%	34,404	27,904	81%	18,718	19,329	103%
2006	28,918	24,738	86%	30,492	27,156	89%	18,448	17,056	92%
2007	25,012	17,731	71%	20,980	19,362	92%	14,850	14,477	97%
2008	17,602	17,255	98%	19,181	19,058	99%	13,640	14,384	105%
2009	15,249	14,936	98%	14,098	14,000	99%	11,058	12,232	111%

Source: NMFS Blend (2000 to 2002) and Catch Accounting (2003 to 2009) databases.

Inseason managers monitor catch in the fishery, timing the closure of a directed fishery to allow full harvest of the TAC. To meet that goal, the closure must be timed to leave only enough of the TAC to support incidental catch in other fisheries during the remainder of the season. Managers attempt to time the A season closure to leave a sufficient portion of the A season TAC available for incidental catch in other directed fisheries. Incidental catch continues to accrue to the A season TAC until the A season ends. Any overage or incidental catch between the A season and the B season is deducted from the B season TAC. When the directed fishery is closed, incidental catch of that species is limited to a maximum retainable allowance (MRA). An MRA limits the amount of non-directed species catch that may be retained, to a percentage of directed species catch. For Pacific cod and pollock, the MRA with respect to most directed species is 20 percent. When the Pacific cod or pollock fishery is not open for directed fishing, a vessel may retain Pacific cod or pollock in an amount up to 20 percent of its catch of species that are open for directed fishing.² Pacific cod and pollock are also an improved retention/improved utilization (IR/IU) species. All catch of IR/IU species must be retained when the fishery is open for directed fishing, and all catch up to the MRA must be retained when the fishery is closed to directed fishing.

1.3.4 Total catch of Pacific cod in the Gulf of Alaska

In recent years, the GOA Pacific cod TACs have not been fully harvested. The TAC, actual catch, and percentage of TAC harvested in the Pacific cod fisheries in the western and central GOA are summarized in Table 1-4. As indicated in Table 1-5, during five of the last nine years, the inshore sector in the western GOA harvested less than 90 percent of the TAC. In contrast, Table 1-6 indicates that in the central GOA, the inshore sector harvested more than 90 percent of the TAC in all but one of the last nine years. During 2004 through 2008, in both management areas, the offshore sector harvested 75 percent or less of its allocated TAC.

² Pacific cod and pollock are also retained in the halibut and sablefish IFQ program. Unless Pacific cod or pollock is on PSC status and must be discarded, vessels fishing IFQ are required to retain all catch of Pacific cod and pollock if open to directed fishing or up to the MRA if the species is closed to directed fishing.

Table 1-4 Total allowable catch (mt) of Pacific cod in the Federal Pacific cod fisheries in the western and central GOA, 2000 to 2009

Year	Western GOA			Central GOA		
	Federal TAC	Total Catch	Percent of TAC Harvested	Federal TAC	Total Catch	Percent of TAC Harvested
2000	20,625	21,867	106.0	34,080	32,188	94.4
2001	18,300	14,161	77.4	30,250	27,324	90.3
2002	16,849	17,168	101.9	24,790	25,057	101.1
2003	15,450	16,235	105.1	22,690	24,869	109.6
2004	16,957	15,614	92.1	27,116	27,421	101.1
2005	15,687	12,470	79.5	25,086	22,751	90.7
2006	20,141	14,754	73.3	28,405	23,171	81.6
2007	20,141	13,416	66.6	28,405	26,355	92.8
2008	19,449	14,902	74.9	28,426	28,309	99.6
2009	16,175	13,887	85.9	23,150	23,083	99.7

Source: NMFS Blend (2000 to 2002) and Catch Accounting (2003 to 2009) databases.

Table 1-5 Pacific cod catch (mt) and percentage of the TAC harvested in the inshore and offshore sectors in the western GOA, 2001 to 2009

Year	Inshore			Offshore		
	TAC	Catch	Percent Harvested	TAC	Catch	Percent Harvested
2001	16,470	12,461	75.7	1,830	1,700	92.9
2002	15,164	15,541	102.5	1,685	1,627	96.6
2003	13,905	14,029	100.9	1,545	2,206	142.8
2004	15,261	14,333	93.9	1,696	1,281	75.5
2005	14,118	12,046	85.3	1,569	424	27.0
2006	18,127	13,659	75.4	2,014	1,095	54.4
2007	18,127	12,285	67.8	2,014	1,132	56.2
2008	17,504	13,435	76.8	1,945	1,467	75.4
2009	14,558	12,817	88.0	1,618	1,070	66.2

Source: NMFS Blend (2001 to 2002) and Catch Accounting (2003 to 2009) databases.

Table 1-6 Pacific cod catch (mt) and percentage of the TAC harvested in the inshore and offshore sectors in the central GOA, 2001 to 2009

Year	Inshore			Offshore		
	TAC	Catch	Percent Harvested	TAC	Catch	Percent Harvested
2001	27,255	25,259	92.7	3,025	2,066	68.3
2002	22,311	22,665	101.6	2,479	2,393	96.5
2003	20,421	22,629	110.8	2,269	2,240	98.7
2004	24,404	25,490	104.5	2,712	1,931	71.2
2005	22,577	22,390	99.2	2,509	361	14.4
2006	25,565	21,768	85.1	2,840	1,402	49.4
2007	25,565	25,284	98.9	2,840	1,071	37.7
2008	25,583	27,048	105.7	2,837	1,262	44.5
2009	20,835	21,285	102.2	2,315	1,798	77.7

Source: NMFS Blend database (2001 to 2002) and Catch Accounting (2003 to 2009) databases.

The A and B season TACs are not utilized equally (see Table 1-7 and Table 1-8). The A season TAC, which is harvested when Pacific cod are aggregated on the fishing grounds, is typically fully harvested. In recent years, A season catches have typically exceeded A season TACs in both the western and central GOA. Most of this overage is a result of incidental catch after the A season has closed to directed fishing, but prior the official end of the A season on June 10. Incidental catch made between the A and B season accrues to the B season TAC, but due to limited directed fishing effort during the B season, much of the B season TACs have remained unharvested.

Table 1-7 Pacific cod catch (mt) during the A and B seasons by the inshore and offshore sectors in the western GOA, 2003 to 2009

Year	Inshore						Offshore					
	A season			B season			A season			B season		
	TAC	Catch	Percent harvested	TAC	Catch	Percent harvested	TAC	Catch	Percent harvested	TAC	Catch	Percent harvested
2003	8,343	10,057	120.5	5,562	3,972	71.4	927	2,040	220.1	618	165	26.8
2004	9,157	10,589	115.6	6,104	3,744	61.3	1,017	625	61.5	679	656	96.6
2005	8,471	10,296	121.5	5,647	1,750	31.0	941	123	13.1	628	300	47.8
2006	10,876	12,309	113.2	7,251	1,351	18.6	1,208	666	55.1	806	429	53.2
2007	10,876	10,836	99.6	7,251	1,449	20.0	1,208	643	53.2	806	489	60.7
2008	10,502	10,557	100.5	7,002	2,878	41.1	1,167	1,190	101.9	778	277	35.6
2009	8,735	9,349	107.0	5,823	3,468	59.6	971	545	56.2	647	525	81.1

Source: NMFS seasonal catch reports.

Table 1-8 Pacific cod catch (mt) during the A and B seasons by the inshore and offshore sectors in the central GOA, 2003 to 2009

Year	Inshore						Offshore					
	A season			B season			A season			B season		
	TAC	Catch	Percent harvested	TAC	Catch	Percent harvested	TAC	Catch	Percent harvested	TAC	Catch	Percent harvested
2003	12,253	15,714	128.3	8,168	6,915	84.7	1,361	1,453	106.7	908	788	86.8
2004	14,642	15,585	106.4	9,762	9,905	101.5	1,627	1,347	82.8	1,085	584	53.8
2005	13,546	12,687	93.7	9,031	9,704	107.5	1,505	91	6.0	1,004	270	26.9
2006	15,339	15,602	101.7	10,226	6,167	60.3	1,704	25	1.5	1,136	1,377	121.2
2007	15,339	15,242	99.4	10,226	10,042	98.2	1,704	43	2.5	1,136	1,028	90.5
2008	15,350	15,996	104.2	10,233	11,051	108.0	1,702	1,149	67.5	1,135	113	9.9
2009	12,501	14,276	114.2	8,334	7,009	84.1	1,389	1,322	95.2	926	476	51.4

Source: NMFS seasonal catch reports.

Short season lengths are another indication that the GOA Pacific cod fishery is fully utilized. In recent years, the A seasons for the Pacific cod fisheries have closed approximately one month after the trawl gear opening on January 20, because the TAC has been fully harvested (see Table 1-9). In 2005, in the central GOA, the A season inshore TAC was fully fished just seven days after the trawl season opened. Halibut PSC restrictions have occasionally limited A season harvests by the trawl sector. During the B season, the inshore and offshore trawl fisheries have been closed due to halibut PSC restrictions in each of the past nine years (see Table 1-10 and Table 1-11). The hook-and-line sector's B season has been closed in four of the past nine years due to halibut PSC limits.

Table 1-9 Pacific cod A season closures for the western and central GOA, 2001 to 2009

Year	Western GOA				Central GOA			
	Inshore		Offshore		Inshore		Offshore	
	Date	Reason	Date	Reason	Date	Reason	Date	Reason
2001	Feb 27	TAC	May 24	TAC	Mar 4	TAC	May 24 (TRAWL)	HAL PSC
2002	Feb 26	TAC	Feb 9	TAC	Mar 9	TAC	Mar 25	TAC
2003	Feb 17	TAC	Mar 20	TAC	Feb 9	TAC	Feb 1	TAC
2004	Feb 24	TAC	Mar 8	TAC	Jan 31	TAC	Feb 2	TAC
2005	Feb 24	TAC	Feb 22	TAC	Jan 26	TAC	Feb 22	TAC
2006	Feb 23 (TRAWL)*	HAL PSC	Feb 19	TAC	Feb 23 (TRAWL)**	HAL PSC	Feb 19	TAC
2007	Mar 8	TAC	Feb 14	TAC	Feb 27	TAC	Feb 14	TAC
2008	Feb 29	TAC	Mar 4	TAC	Feb 20***	TAC	Mar 9	TAC
2009	Feb 25	TAC	Jun 10	Regulation	Jan 27	TAC	Feb 19	TAC

* Season closed to other gear groups on March 2 when TAC was reached.

** Season closed to other gear groups on Feb 28 when TAC was reached.

*** Season opened for inshore component from Feb 29 through Mar 1 to fully use the A season allowance.

Source: NMFS Alaska Region season closures summary.

Table 1-10 Pacific cod B season closures for the trawl and hook-and-line sectors in the western GOA, 2001 to 2009

	Inshore		Offshore		Inshore		Offshore	
	Trawl				Hook-and-line			
Year	Date	Reason	Date	Reason	Date	Reason	Date	Reason
2001	Oct 21	HAL PSC	Oct 21	HAL PSC	Sep 4	HAL PSC	Sep 4	HAL PSC
2002	Oct 13	HAL PSC	Oct 3	TAC	Nov 23	TAC	Oct 3	TAC
2003	Sep 12	HAL PSC	not opened	TAC	Sep 25	TAC	not opened	TAC
2004	Sep 10	HAL PSC	Sep 10	HAL PSC	Oct 2	HAL PSC	Oct 2	HAL PSC
2005	Sep 4	HAL PSC	Sep 4	HAL PSC	Dec 31	Regulation	Dec 31	Regulation
2006	Oct 8	HAL PSC	Oct 8	HAL PSC	Dec 31	Regulation	Dec 31	Regulation
2007	Oct 31	Regulation	Oct 31	Regulation	Dec 31	Regulation	Dec 31	Regulation
2008	Oct 31	Regulation	Oct 31	Regulation	Oct 16	TAC	Oct 16	HAL PSC
2009	Oct 31	Regulation	Oct 31	Regulation	Dec 31	Regulation	Dec 31	Regulation

Source: NMFS Alaska Region season closures summary.

Table 1-11 Pacific cod B season closures for the trawl and hook-and-line sectors in the central GOA, 2001 to 2009

	Inshore		Offshore		Inshore		Offshore	
	Trawl				Hook-and-line			
Year	Date	Reason	Date	Reason	Date	Reason	Date	Reason
2001	Oct 21	HAL PSC	Oct 21	HAL PSC	Sep 4	HAL PSC	Sep 4	HAL PSC
2002	Sep 1	HAL PSC	Oct 8	TAC	Sep 26	TAC	Oct 8	TAC
2003	Sep 3	TAC	Oct 14	TAC	Sep 3	TAC	Oct 14	TAC
2004	Sep 10	HAL PSC	Sep 10	HAL PSC	Oct 2	HAL PSC	Oct 2	HAL PSC
2005	Sep 4	HAL PSC	Sep 4	HAL PSC	Dec 31	Regulation	Dec 31	Regulation
2006	Oct 8	HAL PSC	Oct 8	HAL PSC	Dec 31	Regulation	Dec 31	Regulation
2007	Oct 31	Regulation	Oct 31	Regulation	Dec 31	Regulation	Dec 31	Regulation
2008	Oct 3	TAC	Oct 31	Regulation	Oct 3	TAC	Oct 16	HAL PSC
2009	Sep 2	HAL PSC	Oct 31	Regulation	Oct 1	TAC	Dec 31	Regulation

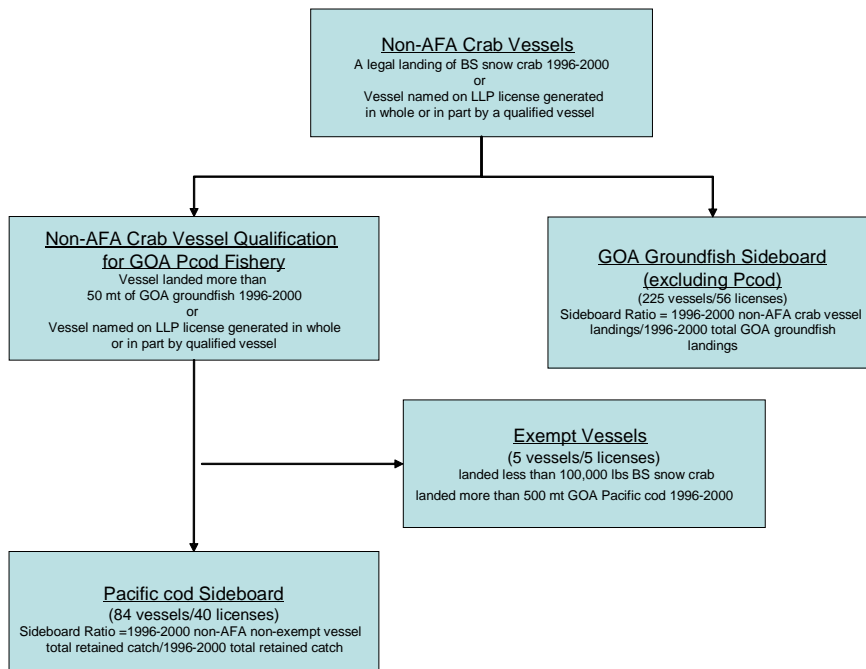
Source: NMFS Alaska Region season closures summary.

1.3.5 Management of the GOA non-AFA snow crab sideboards

Recognizing that rationalizing the BSAI crab fisheries could provide opportunities for fishermen to alter their crab fishing patterns and take greater advantage of other fisheries, the Council established GOA groundfish sideboard limits for vessels and LLP licenses that had Bering Sea snow crab history and generated crab QS.

Figure 1-1 provides a diagram of these sideboard limits. GOA groundfish (including pollock, but excluding Pacific cod and fixed-gear sablefish) sideboard limits for non-AFA crab vessels are based on GOA groundfish landings by vessels subject to the sideboard, relative to GOA groundfish landings by all vessels from 1996 to 2000. For GOA Pacific cod, the sideboard limit is based on retained catch of GOA Pacific cod by vessels subject to the sideboard limit, excluding non-AFA crab vessels that are prohibited from participating in the GOA Pacific cod fishery and vessels exempt from GOA sideboard limits, divided by the total retained catch of GOA Pacific cod by all groundfish vessels. The same GOA groundfish sideboard restrictions apply in the State of Alaska parallel groundfish fisheries for non-AFA crab vessels with a Federal Fisheries Permit or LLP license. Table 1-12 shows the Pacific cod and pollock GOA sideboard ratios for the non-AFA crab vessels and the 2010 sideboard limits.

Figure 1-1 Diagram of Non-AFA crab vessel sideboard program for the GOA



In addition to the GOA groundfish sideboards for the non-AFA crab vessels, participation in the GOA Pacific cod fishery is restricted. Vessels that qualified for Bering Sea snow crab QS must have landed more than 50 mt of groundfish harvested from the GOA between January 1, 1996, and December 31, 2000, in order to qualify to participate in the GOA Pacific cod fishery. This restriction also applies to any vessel named on an LLP license that generated Bering Sea snow crab fishery QS.

There is an exemption from GOA Pacific cod sideboard limits for qualified vessels. Exempt Bering Sea snow crab qualified vessels must have landed less than 100,000 pounds of Bering Sea snow crab and more than 500 mt of GOA Pacific cod during the 1996 to 2000 period. The exemption was developed for non-AFA crab vessels that demonstrated a higher level of participation in, or dependence on, the GOA Pacific cod fishery. The catch history of the exempt vessels was not included in the sideboard calculations. Since their historical catch was not included in the sideboard limits, catch of these vessels does not count towards the sideboard caps, nor are the exempt vessels required to stop fishing when the sideboard limit is reached, if the directed fishery is open.

Since LLP licenses can move among vessels, it is possible that the sideboard limits on a vessel could differ from those associated with the LLP license assigned to that vessel. In cases where vessels are subject to one sideboard (e.g., GOA Pacific cod sideboard) and the LLP license used on that vessel is more restrictive (e.g., prohibited from fishing GOA Pacific cod), the more restrictive measure applies. The converse is true as well, LLP licenses subject to GOA Pacific cod sideboards and used on a vessel prohibited from fishing GOA Pacific cod would not relieve that vessel from the prohibition on GOA Pacific cod fishing.

There are 226 non-AFA crab vessels that made a landing of Bering Sea snow crab during the 1996 to 2000 period that generated QS. All non-AFA crab vessels are subject to the sideboard limits for pollock and other GOA groundfish except Pacific cod and fixed-gear sablefish. Of the 226 non-AFA crab vessels, 136 are prohibited from fishing for GOA Pacific cod, 84 are allowed to target GOA Pacific cod but are limited by GOA Pacific cod sideboards, and 5 are exempt from the GOA Pacific cod sideboard limits. Any vessel that uses an LLP license that originated on a qualified non-AFA crab vessel is also

subject to the GOA groundfish sideboard limits. There are 56 groundfish LLP licenses that originated on non-AFA crab vessels and therefore subject to GOA groundfish sideboard limits. Of these 56 LLP licenses, 11 LLP licenses prohibit the vessel using that LLP license from conducting directed fishing in the GOA Pacific cod fishery, 40 LLP licenses limit the vessel using that LLP license to the GOA Pacific cod sideboard, and 5 LLP licenses exempt the vessel using the LLP license from the GOA Pacific cod sideboard limits.

NMFS manages the sideboard limits by setting a single sideboard cap for each GOA groundfish species. If NMFS determines that amount can support incidental catch needs as well as a directed fishery, that amount is made available to all vessels subject to the sideboard limits, on a seasonal basis, at the beginning of the year. All targeted or incidental catch of the sideboard species made by the non-AFA crab vessels subject to the sideboard limits is deducted from the sideboard limit.

However, when sideboard amounts are inadequate to support a directed fishery, NMFS will close a sideboard species to directed fishing by non-AFA crab vessels that are subject to the sideboard limits. The exception would be for those non-AFA crab vessels that are exempt from GOA Pacific cod sideboards. These exempt vessels are allowed to fish for GOA Pacific cod, as long as directed fishing for Pacific cod is open.

Sideboard limit closures are timed so that adequate amounts of the species are available for bycatch needs in other directed fisheries. This is done to help ensure that no sideboard limits are exceeded. NMFS will only open directed fishing for a species when adequate sideboard amounts exist at the start of the fishing year to cover both the bycatch needs for that species in other fisheries and the directed fishery harvest. From 2006 through 2010, there were insufficient sideboard amounts for most GOA groundfish species for NMFS to open them to directed fishing. The western and central GOA Pacific cod fisheries were the only GOA groundfish fisheries open for directed fishing to the non-AFA crab sideboard vessels subject to the sideboard limits.

Table 1-12 Final 2010 GOA non-AFA crab vessel groundfish harvest sideboard limitations for pollock and Pacific cod

Species	Apportions and allocations by area/processor/gear	Ratio of 1996-2000 non-AFA crab vessel catch to 1996-2000 total harvest	2010 TAC (mt)	2010 non-AFA crab vessel sideboard limit (mt)
Pollock	A Season (W/C areas only)			
	January 20 - March 10			
	Shumagin (610)	0.0098	5,551	54
	Chirikof (620)	0.0031	8,414	26
	Kodiak (630)	0.0002	4,403	1
	B Season (W/C areas only)			
	March 10 - May 31			
	Shumagin (610)	0.0098	5,551	54
	Chirikof (620)	0.0031	9,925	31
	Kodiak (630)	0.0002	2,891	1
	C Season (W/C areas only)			
	August 25 - October 1			
	Shumagin (610)	0.0098	7,577	74
	Chirikof (620)	0.0031	4,878	15
	Kodiak (630)	0.0002	5,912	1
	D Season (W/C areas only)			
	October 1 - November 1			
	Shumagin (610)	0.0098	7,577	74
	Chirikof (620)	0.0031	4,878	15
	Kodiak (630)	0.0002	5,912	1
Annual				
WYK (640)	0	2,031	0	
SEO (650)	0	9,245	0	
Pacific cod	A Season			
	January 1 - June 10			
	W inshore	0.0902	11,212	1,011
	W offshore	0.2046	1,246	255
	C inshore	0.0383	19,862	761
	C offshore	0.2074	2,207	458
	B Season			
	September 1 - December 31			
	W inshore	0.0902	7,475	674
	W offshore	0.2046	831	170
	C inshore	0.0383	13,242	507
	C offshore	0.2074	1,471	305
	Annual			
	E inshore	0.011	1,815	20
E offshore	0	202	0	

Table 1-13 provides annual total catch of GOA Pacific cod, pollock, and other groundfish from 1995 to 2009 for non-AFA crab vessels that are subject to the GOA Pacific cod sideboard limits. Prior to implementation of the crab sideboard limits, total catch of GOA Pacific cod by the sideboarded non-AFA crab vessels ranged from 2,301 mt to 10,724 mt. During 2006, these vessels had a total catch of 5,037 mt of GOA Pacific cod, which exceeded the 3,615 mt sideboard limit for that year.

Table 1-13 Total catch (mt) of non-AFA crab vessels limited to sideboard limits

Year	Pacific Cod	Pollock	Other Groundfish
1995	3,293	62	66
1996	2,556	760	2
1997	2,422	580	5
1998	3,377	1,495	98
1999	6,962	1,328	45
2000	10,724	1,374	50
2001	2,301	2,547	109
2002	3,073	1,923	81
2003	4,384	1,296	173
2004	5,313	920	112
2005	5,128	2,539	80
2006	5,037	2,258	204
2007	3,264	1,711	61
2008	2,801	105	359
2009	2,135	759	95

Source: [non_afa_snow_crab_cvs.xls](#) and [non_afa_snow_crab_cp5.xls](#) from ADF&G fish tickets for catcher vessels and blend data/catch accounting for catcher processors. Data do not include State water Pacific cod catch; nor sablefish and halibut IFQ bycatch of Pacific cod in IFQ fisheries.

*Confidential

Table 1-14 provides a brief summary of the western and central GOA Pacific cod sideboard fishery closures during 2008 and 2009. This table shows that the A season Pacific cod fishery in the western and central GOA typically closed before the end of the fishing season, as a result of participants reaching the sideboard limit. The inshore B season sideboard fishery also closed prior to the end of the fishing season in 2008 and 2009, as a result of the sideboard limit being reached.

Table 1-14 Sideboard fishery closure dates for western and central GOA Pacific cod during 2008 and 2009

Inshore					
Area	Season	Season closure		Sideboard closure	
		2008	2009	2008	2009
Western GOA	A	Feb 29	Feb 25	Feb 4 (TAC)	Feb 22 (TAC)
	B	Dec 31	Dec 31	Oct 3 (TAC)	Sep 1 (TAC)
Central GOA	A	Feb 28	Jan 27	Feb 9 (TAC)	Jan 13 (TAC)
	B	Oct 3	Oct 1	Sep 26 (TAC)	Sep 1 (TAC)
Offshore					
Area	Season	Season closure		Sideboard closure	
		2008	2009	2008	2009
Western GOA	A	Mar 4	Jun 10	Feb 27 (TAC)	Jun 10
	B	Dec 31	Dec 31	Dec 31	Sep 1 (TAC)
Central GOA	A	Mar 9	Feb 19	Feb 26 (TAC)	Feb 19 (TAC)
	B	Dec 31	Dec 31	Dec 31	Sep 1 (TAC)

Source: NMFS status of fisheries summary.

Table 1-15 provides an annual count of the non-AFA crab vessels, by GOA Pacific cod sideboard category, that caught GOA Pacific cod in the directed fishery from 1995 to 2009. Participation by non-AFA crab vessels that are exempt from the Pacific cod sideboard limit ranged between four and five vessels during this period. For non-AFA crab vessels that are prohibited from participating in the directed GOA Pacific cod fishery, the historical participation numbers ranged from 15 vessels in 1995, to 2 vessels in 1997. For non-AFA crab vessels that are subject to the Pacific cod sideboard limits, the vessel numbers ranged from a low of 12 in 2009, to a high of 60 in 2000. Since implementation of the sideboard limits on the non-AFA crab vessels starting in 2006, only 22 of the 84 vessels authorized to fish under the GOA Pacific cod sideboards have recorded GOA Pacific cod catch. Finally, the number of other non-crab vessels that caught GOA Pacific cod has ranged from 476 in 1995, to 247 in 2009.

Table 1-15 Number of vessels fishing in the GOA Pacific cod fishery by sideboard category, 1995 to 2009

Year	Pacific Cod Exempt Vessels	Pacific Cod Prohibited Vessels	Pacific Cod Sideboard Vessels	Other Pacific Cod Vessels
1995	4	15	42	476
1996	5	8	28	414
1997	4	2	15	419
1998	4	6	26	412
1999	5	8	35	383
2000	5	11	60	399
2001	5	3	25	348
2002	4	7	20	287
2003	4	3	20	265
2004	4	6	21	281
2005	4	8	18	260
2006	4	6	22	258
2007	4	2 ¹	22	276
2008	4	2 ¹	22	262
2009	4	2 ²	12	247

Source: [non_afa_snow_crab_cvs.xls](#) and [non_afa_snow_crab_cp5.xls](#) from ADF&G fish tickets for catcher vessels and blend data/catch accounting for catcher processors.

¹The exemption status of the subject fishing vessels was under appeal during most of the 2006 through 2008 period. During this time, non-AFA crab vessel sideboard limits did not apply to these vessels.

²The appeals were not successful and these participants were prohibited from conducting directed fishing for Pacific cod in 2009.

Table 1-16 provides GOA Pacific cod catch for non-AFA crab vessels by sideboard category, while Table 1-17 provides the annual percent of GOA Pacific cod caught by each vessel group. Overall, the total catch of GOA Pacific cod has declined during the 1995 to 2009 period. In 1995, the combined catch of GOA Pacific cod by all vessels was 68,182 mt, while the combined catch in 2009 was 29,926 mt. For the Pacific cod exempt non-AFA crab vessels, on average their percent of the total GOA Pacific cod catch is 3.4 percent, with a catch range of 2,762 mt in 1996, to 1,016 mt in 2001. For non-AFA crab vessels prohibited from targeting GOA Pacific cod, on average, their percent of the total GOA Pacific cod catch is 1.2 percent, with catch ranging from 53 mt in 1998, to 1,632 mt in 2005. Note that the sideboard regulations were not implemented until March 2006, which may explain the 2006 sideboard catch of 1,434 mt for this group of vessels. For the non-AFA crab vessels that are restricted by Pacific cod sideboard limits, on average, their percent of the total GOA Pacific cod catch is 8.6 percent, with catch ranging from 2,301 mt in 2001, to 10,724 mt in 2000. Finally, GOA Pacific cod for other Pacific cod vessels, on average, account for 86.8 percent of all GOA Pacific cod catch, which ranged from 65,214 mt in 1997, to 25,383 mt in 2005.

Table 1-16 GOA Pacific cod catch (mt) of non-AFA crab vessels by sideboard category, 1995 to 2009

Year	Pacific Cod Exempt Vessel Catch	Pacific Cod Prohibited Vessel Catch	Pacific Cod Sideboard Vessel Catch	Other Pacific Cod Vessel Catch	Total Catch
1995	2,141	358	3,293	62,389	68,182
1996	2,762	62	2,556	63,447	68,827
1997	1,710	*	*	65,214	69,357
1998	2,508	53	3,377	57,470	63,409
1999	2,488	689	6,962	57,624	67,764
2000	1,388	429	10,724	41,456	53,997
2001	1,016	1,163	2,301	37,255	41,735
2002	1,077	1,142	3,073	35,429	40,721
2003	1,317	570	4,384	33,884	40,154
2004	1,080	563	5,313	34,768	41,724
2005	2,210	1,632	5,128	25,383	34,353
2006	1,807	1,434	5,037	28,186	36,464
2007	1,567	*	*	33,107	38,144
2008	*	*	2,801	29,405	33,177
2009	*	*	2,136	26,897	29,926

Source: non_afa_snow_crab_cvs.xls and non_afa_snow_crab_cp5.xls from ADF&G fish tickets for catcher vessels and blend data/catch accounting for catcher processors. Data do not include State water Pacific cod catch; nor sablefish and halibut IFQ bycatch of Pacific cod.

*Confidential

Table 1-17 Percent of GOA Pacific cod catch by sideboard category, 1995 to 2009

Year	Pacific Cod Exempt Vessel Percent of Total Catch	Pacific Cod Prohibited Vessel Percent of Total Catch	Pacific Cod Sideboard Vessel Percent of Total Catch	Other Pacific Cod Vessels Percent of Total Catch
1995	3.1%	0.5%	4.8%	91.5%
1996	4.0%	0.1%	3.7%	92.2%
1997	2.5%	*	*	94.0%
1998	4.0%	0.1%	5.3%	90.6%
1999	3.7%	1.0%	10.3%	85.0%
2000	2.6%	0.8%	19.9%	76.8%
2001	2.4%	2.8%	5.5%	89.3%
2002	2.6%	2.8%	7.5%	87.0%
2003	3.3%	1.4%	10.9%	84.4%
2004	2.6%	1.3%	12.7%	83.3%
2005	6.4%	4.8%	14.9%	73.9%
2006	5.0%	3.9%	13.8%	77.3%
2007	4.1%	*	*	86.8%
2008	*	*	8.4%	89.9%
2009	*	*	7.1%	86.8%
Average	3.4%	1.2%	8.6%	86.8%

Source: non_afa_snow_crab_cvs.xls and non_afa_snow_crab_cp5.xls from ADF&G fish tickets for catcher vessels and blend data/catch accounting for catcher processors. Data do not include State water Pacific cod catch; nor sablefish and halibut IFQ bycatch of Pacific cod.

*Confidential

1.3.6 Ex-vessel prices and gross revenues

Ex-vessel prices for GOA Pacific cod, landed by the fixed-gear sectors, ranged from \$0.267 to \$0.396 per pound round weight, during 2002 to 2006 (see Table 1-18). During this same time period, prices for the trawl sector ranged from \$0.234 to \$0.369 per pound round weight. Ex-vessel prices for GOA fixed-gear pollock ranged from \$0.060 to \$0.086 per pound round weight, during the 2002 to 2006 period. Pollock prices ranged from \$0.095 to \$0.135 per pound round weight for the trawl sector during the same time period.

Table 1-18 Ex-vessel prices (dollars) in the Gulf of Alaska Pacific cod fisheries, 2002 to 2008

Year	Fixed-Gear	Trawl Gear
2002	0.287	0.234
2003	0.304	0.282
2004	0.267	0.251
2005	0.297	0.269
2006	0.397	0.369
2007	0.487	0.494
2008	0.560	0.429

Source: Economic SAFE (Hiatt 2009).

Table 1-19 Ex-vessel prices (dollars) in the Gulf of Alaska pollock fisheries, 2002 to 2008

Year	Fixed-Gear	Trawl Gear
2002	0.068	0.107
2003	0.081	0.095
2004	0.060	0.102
2005	0.086	0.124
2006	0.081	0.135
2007	0.110	0.145
2008	0.108	0.181

Source: Economic SAFE (Hiatt 2009).

1.3.7 First wholesale prices and revenues

Table 1-20 and Table 1-21 provide price per pound for Pacific cod and pollock products in the fisheries products in the fisheries off Alaska, by processing mode, from 2002 to 2006. First wholesale revenues for Pacific cod and pollock off Alaska are estimated in the Economic SAFE (Hiatt 2009). In 2006, the average price for all cod products was \$1.66 per pound for at-sea processors and \$1.76 per pound for shoreside processors, while for all pollock products the average was \$1.27 per pound for at-sea processors and \$1.00 per pound for shoreside processors. The “all products” price estimate is a weighted average across all product forms.

Table 1-20 Price per pound of Pacific cod products in the fisheries off Alaska by processing sector, 2002 to 2008 (dollars)

Year	Whole fish		Head & gut		Filletts		Other products		All products	
	At-sea	Shoreside	At-sea	Shoreside	At-sea	Shoreside	At-sea	Shoreside	At-sea	Shoreside
2002	0.29	0.41	0.97	0.99	1.58	2.28	1.03	0.79	0.98	1.31
2003	0.41	0.56	1.13	0.98	2.29	2.18	0.89	0.56	1.14	1.26
2004	0.43	0.54	1.09	1.04	2.20	2.13	1.11	0.74	1.09	1.26
2005	0.56	0.58	1.29	1.50	2.07	2.72	1.36	0.74	1.30	1.65
2006	0.65	0.79	1.67	1.38	3.36	3.12	0.89	0.78	1.69	1.76
2007	0.66	0.92	1.86	1.64	3.67	3.63	1.06	0.82	1.86	1.81
2008	0.56	0.67	1.91	1.65	4.12	3.88	0.98	0.65	1.89	1.73

Source: Economic SAFE (Hiatt 2009).

Table 1-21 Price per pound of pollock products in the fisheries off Alaska by processing sector, 2002 to 2008 (dollars)

Year	Whole fish		Head & gut		Roe		Surimi		All products	
	At-sea	Shoreside	At-sea	Shoreside	At-sea	Shoreside	At-sea	Shoreside	At-sea	Shoreside
2002	0.64	0.32	0.36	0.52	6.16	3.94	0.81	0.64	1.09	0.82
2003	0.33	0.26	0.53	-	6.12	4.31	0.71	0.70	1.03	0.86
2004	0.34	0.38	0.45	0.44	6.68	4.91	0.75	0.66	1.16	0.87
2005	0.39	0.29	0.53	0.44	6.77	5.42	1.03	0.90	1.28	1.00
2006	0.28	0.28	0.58	0.54	5.09	3.62	1.01	0.84	1.28	1.00
2007	0.28	0.28	0.67	0.62	4.61	3.07	1.08	0.88	1.29	1.06
2008	0.27	0.39	0.78	0.79	6.16	4.35	2.28	1.79	1.93	1.56

Source: Economic SAFE (Hiatt 2009).

1.4 Expected Effects of the Alternatives

This section identifies the expected effects of the alternatives and options under consideration by the Council. Given the differences in the alternatives under consideration, the alternatives are divided into two separate actions, labeled as Action I and Action II. Each action is independent of the other.

Note that throughout this section, catch data are presented for one or two vessels. Under normal circumstances, the catch information associated with these vessels could not be published, due to confidentiality restrictions. However, through the assistance of the Alaska Department of Fish and Game, confidentiality waivers were signed by four LLP license holders and/or vessel owners that would qualify under the options considered for Actions I and II, allowing catch data for these vessels to be published.

1.4.1 Implementation of the Action

A detailed description of the implementation of the options granting exemptions to additional vessels and LLP licenses is necessary to fully understand the implications of those options. Under most of the options, exemptions are defined based on the catch history of a vessel (not an LLP license) in the Bering Sea snow crab fisheries and the groundfish fisheries in which the sideboard exemption would apply. Yet, LLP license exemptions are also affected by this action. The nexus between the exemption qualification of a vessel and its associated LLP license is necessary to ensure that the exemptions are fully defined. In June 2008, the Council added the following provision:

To qualify for an exemption, a vessel must meet the catch criteria defined for the exemption. Once a vessel is determined to qualify for the exemption, it must be determined whether the associated license would also qualify for the exemption. If the exempt vessel is the only vessel

that contributed to the qualified catch of the associated license, then that license would be deemed to qualify for the exemption, as well. Using this approach would prevent a license that drew its catch history from multiple vessels from qualifying for the exemption, based on the history of a single vessel.

1.4.2 Action I. Exempted vessel status of GOA Pacific cod

Action I addresses the proposed change to the GOA Pacific cod sideboard exemption for non-AFA crab vessels. In this proposed action, there are formally two alternatives, although with the suite of options and suboptions, the effective number of alternatives is substantially larger. Alternative 1 is the status quo, under which there would be no change to the sideboard exemption requirements for the GOA Pacific cod fishery for non-AFA crab vessels. Alternative 2 would change the GOA Pacific cod exemption requirements for non-AFA crab vessels. Under this alternative there are four options that apply different Bering Sea snow crab and GOA Pacific cod catch qualification thresholds during the 1996 to 2000 period. Vessels meeting these threshold requirements under the different options would be exempt from GOA Pacific cod sideboard limits.

1.4.2.1 Alternative 1 – Status Quo

Under Alternative 1, there would be no change to the current GOA Pacific cod sideboard exemption requirements for non-AFA crab vessels. The number of non-AFA crab vessels that are currently exempt from GOA Pacific cod sideboards would remain at five, and the number of exempt LLP licenses would also remain at five. From the perspective of fishing effort, participation levels by the exempt vessels are likely to continue to vary annually with changes in the GOA Pacific cod fishery and market conditions. Under this alternative, the number of non-AFA crab vessels that are permitted to fish in the GOA Pacific cod fishery, but are limited by GOA Pacific cod sideboard restrictions, would remain at 84, while the number of LLP licenses qualified for the GOA Pacific cod fishery, but limited by sideboard restrictions, would be 40.

Although sideboard limits for non-AFA crab vessels have only recently been implemented, there are indications that these sideboard limits have been negatively impacting some non-AFA crab vessels, to the point that some of these operations have not been able to maintain historical catch. In discussions in April 2008 with a few non-AFA crab vessel owners subject to the sideboard, the closure of the 2007 western GOA and central GOA inshore A and B season Pacific cod sideboard fisheries created financial hardship and lost fishing opportunity for them. As indicated in Table 1-14, the central GOA inshore A season Pacific cod sideboard fishery was closed on January 24, due to participants reaching the sideboard limit (587 mt). In contrast, the central GOA inshore A season Pacific cod fishery closed on February 27, due to TAC restrictions. In the 2007 central GOA inshore B season Pacific cod sideboard fishery, the season closed on October 11, due to sideboard restrictions (392 mt), while the fixed-gear Pacific cod fishery remained open until December 31. In the 2007 western GOA inshore A season Pacific cod sideboard fishery, the season closed February 18, due to sideboard restrictions (981 mt), while the regular season closed March 8, due to TAC restrictions. For the B season, the sideboard fishery closed October 14, due to sideboard restrictions (654 mt), while the fixed-gear fishery remained open until December 31.

Prior to the implementation of GOA sideboard limits in 2006, non-AFA crab vessels would have been permitted to continue fishing for Pacific cod until the regular A or B season fishery closed. However, the closure of the sideboard fishery before the regular GOA Pacific cod fishery represents lost fishing opportunity and, thus, potential lost revenue from Pacific cod catch for those vessels subject to the sideboard. With more fishing days available, these vessels could have fished longer, thereby catching more Pacific cod. Depending on the vessel's cost of fishing, the vessel's success at catch Pacific cod, and

the ex-vessel price of Pacific cod, having more time to fish could have resulted in greater revenue for the vessels subject to the sideboard.

In addition to the potential hardship caused by shortened fishing seasons under the sideboard, there is the potential that some vessels subject to the Pacific cod sideboard would be negatively impacted under the sideboard if the number of vessels participating in the GOA Pacific cod sideboard fishery increases. As noted in Table 1-15, of the 84 vessels qualified to participate in the GOA Pacific cod sideboard fishery, only 22 vessels were active in 2007. A change in biological conditions for Bering Sea snow crab or a change in market conditions for Bering Sea snow crab or GOA Pacific cod could make the GOA Pacific cod sideboard fishery more financially attractive, and result in greater numbers of non-AFA vessels participating in the sideboard fishery. A large influx of vessels into the GOA Pacific cod sideboard fishery could impact Pacific cod-dependent vessels subject to the sideboard by reducing their catch.

1.4.2.2 Alternative 2 – Change exempt status requirements for GOA Pacific cod sideboard fishery

Option 2.1: Exempt non-AFA crab vessels from GOA Pacific cod sideboards if the vessel's Bering Sea C. opilio catch history is less than 0.22 percent of total Bering Sea C. opilio catch history³, including both qualified and unqualified catch history (i.e., pounds) for non-AFA crab vessels from 1996 through 2000; and the vessel landed more than 500 mt of GOA Pacific cod from 1996 through 2000.

Option 2.2: Exempt non-AFA crab vessels from GOA Pacific cod sideboards if the vessel's Bering Sea C. opilio catch history is less than 500,000 pounds in aggregate during the 1996 through 2000 period; and the vessel landed more than 2,500 mt of GOA Pacific cod from 1996 through 2000. The total Bering Sea C. opilio catch history includes both qualified and unqualified catch history (i.e., pounds) from non-AFA crab vessels.

Option 2.3: Exempt non-AFA crab vessels from the GOA Pacific cod sideboards if the vessel's Bering Sea C. opilio catch history is less than 500,000 pounds from 1996 through 2000; and the vessel has landed more than 680 mt of GOA Pacific cod from 1996 through 2000. The total Bering Sea C. opilio catch history includes both qualified and unqualified catch history (i.e., pounds) from non-AFA crab vessels.

Suboption 2.3.1: In addition to the options above, the operator must also have had 20 GOA pollock trawl landings during the 1996 through 2000 period.

Option 2.4 (Council preferred option): *Exempt non-AFA crab vessels from the GOA Pacific cod sideboards if the vessel's Bering Sea C. opilio catch history is less than 750,000 pounds from 1996 through 2000; and the vessel has landed more than 680 mt of GOA Pacific cod from 1996 through 2000. The total Bering Sea C. opilio catch history includes both qualified and unqualified catch history (i.e., pounds) from non-AFA crab vessels.*

³ Based on the best available catch information, this is approximately 1,200,000 pounds.

Alternative 2 presents four options that would change the non-AFA crab vessel sideboard exemption status requirements for the GOA Pacific cod fishery. Non-AFA crab vessels meeting the threshold requirements would be exempt from GOA Pacific cod sideboard limits. The Council developed the options for Alternative 2 from testimony provided by non-AFA crab vessel owners that are subject to the GOA Pacific cod sideboards. These non-AFA crab vessel owners provided Bering Sea snow crab and GOA Pacific cod catch history information for their operations to the Council and suggested specific threshold amounts based on these data that the Council could consider for revising the GOA Pacific cod sideboard exemption. The Council utilized this input from affected participants to develop the options for Alternative 2.

Table 1-22 provides the number of qualified vessels and LLP licenses that would be exempt from GOA Pacific cod sideboards, in addition to the five vessels and five licenses that are currently exempt. Option 2.1, the least restrictive of the four options, would exempt an additional six vessels/LLP licenses⁴, while the most restrictive, Option 2.2, would exempt only one additional vessel/LLP license. For Options 2.3 and Option 2.4, an additional two vessels/LLP licenses and three vessels/LLP licenses, respectively, would be exempt from GOA Pacific cod sideboards. No vessels qualified for exemption from GOA Pacific cod sideboards under Suboption 2.3.1. Note, vessels that qualify under a more restrictive option also qualify under a less restrictive option. For example, the vessel qualified under Option 2.2, also qualifies under Options 2.1, 2.3, and 2.4.

Table 1-22 Number of additional qualifying vessels/LLP licenses that would be exempt from GOA Pacific cod sideboards

	Option 2.1	Option 2.2	Option 2.3	Suboption 2.3.1	Option 2.4 (Preferred Option)
Number of additional qualified vessels/LLP licenses	6	1	2	0	3

Source: Sideboards SF 92605 update 121205.xls

Among the six vessels that qualify for exemption of GOA Pacific cod sideboards under Option 2.1, four are pot catcher vessels, while the remaining two vessels are a trawl catcher vessel and a hook-and-line catcher processor. As for the homeport of these six vessels, three of the owners list Kodiak, Alaska, as their address, while the remaining three vessel owners list Petersburg, Alaska; Bellingham, Washington; and Reedsport, Oregon, as their addresses, respectively.

Examining the annual fishing activity in the GOA Pacific cod fishery for the six qualified vessels shows that not all vessels have been active consistently during the 1995 through 2009 period. Table 1-23 provides an annual vessel count in the GOA Pacific cod fishery during the 1995 through 2009 period for each option. Most apparent in the table is that only three of the qualified vessels have been active in the GOA Pacific cod fishery since 2003. In contrast to the inconsistent vessel activity under Option 2.1, activity for qualified vessels under Option 2.2, 2.3, and 2.4 show a higher level of consistency from year to year.

⁴ Ongoing crab adjudication could change the denominator used to determine a vessel's percent of total qualified Bering Sea snow crab harvest for this option. As a result, the exact number of vessels and LLP licenses exempted from GOA Pacific cod sideboard limits could change prior to implementation of this action.

Table 1-23 Annual participation of qualified vessels from 1995 to 2009 by option

Year	Participation of the 6 qualified vessels for Option 2.1	Participation of the 1 qualified vessel for Option 2.2	Participation of the 2 qualified vessels for Option 2.3	Participation of the 3 qualified vessels for Option 2.4	Participation of Pacific cod sideboard exempt vessels	All other Pacific cod vessels
1995	*	1	1	1	4	476
1996	*	1	1	1	5	414
1997	2	1	1	2	4	419
1998	6	1	2	3	4	412
1999	4	1	2	3	5	383
2000	6	1	2	3	5	399
2001	4	1	2	3	5	348
2002	4	1	2	3	4	287
2003	4	1	2	3	4	265
2004	3	1	2	3	4	281
2005	3	1	2	3	4	260
2006	3	1	2	3	4	258
2007	3	1	2	3	4	276
2008	3	1	2	2	4	268
2009	4	1	2	3	4	254

Source: non_afa_snow_crab_cvs.xls and non_afa_snow_crab_cp5.xls from ADF&G fish tickets for catcher vessels and blend data/catch accounting for catcher processors. Data do not include State water Pacific cod catch; nor sablefish and halibut IFQ bycatch of Pacific cod in IFQ fisheries.

*Confidential

Vessels that qualify for a sideboard exemption under each of the options may increase fishing effort in the GOA Pacific cod fishery to levels seen prior to the implementation of sideboard limits, thereby impacting other Pacific cod participants. In comparing the options under consideration, Option 2.1 would likely have the greatest impact on non-crab vessels and vessels that are currently exempt from the Pacific cod sideboard, given that six vessels would qualify for the exemption. In contrast, Option 2.2 would likely have the smallest impact on non-crab and currently exempt Pacific cod participants, since only one vessel would qualify for the exemption.

Any increase in GOA Pacific cod catch by the vessels that would qualify for a sideboard exemption, over their average GOA Pacific cod catch history from 1996 through 2000, would leave less GOA Pacific cod for other participants, thus resulting in some economic loss for these participants, all else equal.

Unfortunately, it is not possible to determine with any certainty the extent to which the new exempt vessels would increase their GOA Pacific cod catch over their current history, thereby impacting other GOA Pacific cod participants. It is possible to get some indication of future GOA Pacific cod catch by looking at the historical catch of the vessels that would qualify for the sideboard exemption, recognizing that qualified vessels could always exceed their historical catch, once exempt from the sideboard. Table 1-24 and Table 1-25 provide annual GOA Pacific cod catch and the percent of total catch during the 1995 through 2009 period for vessels that would qualify under the different options. Looking at the GOA Pacific cod catch history, relative to the total GOA Pacific cod catch on an annual basis, for the six qualified vessels combined, their lowest percent of total Pacific cod catch was in 1996, at less than 1 percent, and their greatest percent of total Pacific cod catch was in 2000, at 5.12 percent. In comparison, GOA Pacific cod catch of the six qualified vessels during the sideboard years (2006 through 2009) averaged 2.0 percent.

Table 1-26 and Table 1-27 provide historical catch of the vessels that would qualify for a sideboard exemption by subarea. Under Option 2.1, the vessels historically caught a larger share of the western GOA total Pacific cod catch than the central GOA. In contrast, the vessels that would qualify under Options 2.2 and 2.3 caught a higher portion of the total central GOA Pacific cod catch than in the western GOA.

Overall, the six vessels that would qualify for an exemption from the Pacific cod sideboard under Option 2.1 caught approximately 1.5 percent of the total GOA Pacific cod harvest from 1995 through 2009. Combined with the currently exempt vessels (Table 1-17), these vessels caught approximately 5.0 percent of the total GOA Pacific cod harvest during the 1995 through 2009 period. For Option 2.2, the one vessel that would qualify had its lowest percent of Pacific cod total catch in 1996, at 0.17 percent, while its highest percent of Pacific cod total catch in 1999, at 1.72 percent. By comparison, the average catch of the vessel that would qualify during the sideboard years (2006 through 2009) was 0.49 percent. Overall, the vessel caught, on average, 0.70 percent of the total GOA Pacific cod harvest during the 1995 through 2009 period. Combined with the currently exempt vessels, these vessels caught approximately 4.1 percent of the total GOA Pacific cod harvest between 1995 and 2009, inclusive. For Options 2.3 and 2.4, the percent of total catch of GOA Pacific cod from 1995 through 2009 for the vessels that would qualify was 1.12 percent and 1.59 percent, respectively.

Table 1-24 GOA Pacific cod catch (mt) of qualified vessels for each option, 1995 to 2009

Year	Catch of 6 qualified vessels for Option 2.1	Catch of 1 qualified vessels for Option 2.2	Catch of 2 qualified vessels for Option 2.3	Catch of 3 qualified vessels for Option 2.4	Catch of Pacific cod sideboard exempt vessels	Catch of all other Pacific cod vessels
1995	*	245	245	245	2,141	62,389
1996	*	113	113	113	2,762	63,447
1997	*	205	205	206	1,710	65,214
1998	1,413	896	1,015	1,020	2,508	57,470
1999	1,647	1,131	1,293	1,630	2,488	57,624
2000	2,395	270	398	877	1,388	41,456
2001	827	116	200	529	1,016	37,255
2002	1,448	283	355	877	1,077	35,429
2003	775	322	600	651	1,317	33,884
2004	808	200	628	808	1,080	34,768
2005	1,188	508	876	1,188	2,210	25,383
2006	807	249	412	807	1,807	28,186
2007	627	165	454	627	1,567	33,107
2008	659	135	349	349	949	31,339
2009	505	99	192	210	812	28,769

Source: [non_afa_snow_crab_cvs.xls](#) and [non_afa_snow_crab_cp5.xls](#) from ADF&G fish tickets for catcher vessels and blend data/catch accounting for catcher processors. Data do not include State water Pacific cod catch; nor sablefish and halibut IFQ bycatch of Pacific cod in IFQ fisheries.

*Confidential

Table 1-25 GOA Pacific cod catch as a percent of the total GOA Pacific cod catch for qualified vessels by each option, 1995 to 2009

Year	Percent of catch for the 6 qualified vessels for Option 2.1	Percent of catch for the 1 qualified vessel for Option 2.2	Percent of catch for the 2 qualified vessels for Option 2.3	Percent of catch for the 3 qualified vessels for Option 2.4	Percent of catch for Pacific cod sideboard exempt vessels	Percent of catch for all other Pacific cod vessels
1995	*	0.37	0.37	0.37	3.27	95.23
1996	*	0.17	0.17	0.17	4.14	95.16
1997	*	0.30	0.30	0.30	2.52	96.26
1998	2.20	1.39	1.58	1.59	3.90	89.35
1999	2.50	1.72	1.96	2.48	3.78	87.56
2000	5.12	0.58	0.85	1.88	2.97	88.61
2001	2.07	0.29	0.50	1.32	2.54	93.27
2002	3.67	0.72	0.90	2.22	2.73	89.77
2003	2.06	0.86	1.60	1.73	3.51	90.24
2004	2.11	0.52	1.64	2.11	2.82	90.80
2005	3.79	1.62	2.79	3.79	7.05	80.96
2006	2.50	0.77	1.28	2.50	5.60	87.35
2007	1.72	0.45	1.24	1.72	4.29	90.59
2008	1.95	0.40	1.03	1.03	2.81	92.77
2009	1.65	0.32	0.63	0.69	2.66	94.06

Source: [non_afa_snow_crab_cvs.xls](#) and [non_afa_snow_crab_cp5.xls](#) from ADF&G fish tickets for catcher vessels and blend data/catch accounting for catcher processors. Data do not include State water Pacific cod catch; nor sablefish and halibut IFQ bycatch of Pacific cod in IFQ fisheries.

*Confidential

Table 1-26 Historical annual central GOA Pacific cod catch as a percent of the total GOA Pacific cod catch by option, 1995 to 2009

Year	Percent of catch for the 6 qualified vessels for Option 2.1	Percent of catch for the 1 qualified vessel for Option 2.2	Percent of catch for the 2 qualified vessels for Option 2.3	Percent of catch for the 3 qualified vessels for Option 2.4	Percent of catch for Pacific cod sideboard exempt vessels	Percent of catch for all other Pacific cod vessels
1995	*	0.12	0.12	0.12	*	96.72
1996	*	0.00	0.00	0.00	*	96.37
1997	0.01	0.01	0.01	0.01	*	97.42
1998	*	1.92	2.20	2.21	*	87.08
1999	*	2.27	2.65	2.72	*	85.56
2000	*	0.96	1.42	1.42	*	88.72
2001	*	0.01	0.33	0.34	*	97.44
2002	*	0.67	0.98	0.98	*	93.57
2003	1.57	1.02	1.51	1.57	*	91.50
2004	0.13	0.00	0.13	0.13	*	96.83
2005	3.83	2.22	3.82	3.83	*	78.24
2006	1.89	1.14	1.89	1.89	*	86.59
2007	1.80	0.65	1.80	1.80	*	88.71
2008	3.13	0.64	1.66	1.66	*	89.00
2009	2.88	0.58	1.13	1.13	*	89.60

Source: non_afa_snow_crab_cvs.xls and non_afa_snow_crab_cp5.xls from ADF&G fish tickets for catcher vessels and blend data/catch accounting for catcher processors. Data do not include State water Pacific cod catch; nor sablefish and halibut IFQ bycatch of Pacific cod in IFQ fisheries.

*Confidential

Table 1-27 Historical annual western GOA Pacific cod catch as a percent of the total GOA Pacific cod catch by option, 1995 to 2009

Year	Percent of catch for the 6 qualified vessels for Option 2.1	Percent of catch for the 1 qualified vessel for Option 2.2	Percent of catch for the 2 qualified vessels for Option 2.3	Percent of catch for the 3 qualified vessels for Option 2.4	Percent of catch for Pacific cod sideboard exempt vessels	Percent of catch for all other Pacific cod vessels
1995	*	0.86	0.86	0.86	*	92.36
1996	*	0.49	0.49	0.49	*	92.83
1997	0.79	0.79	0.79	0.79	*	94.37
1998	*	0.31	0.31	0.32	*	93.99
1999	*	0.69	0.69	1.95	*	87.75
2000	*	0.00	0.00	2.66	*	91.48
2001	*	0.82	0.82	3.18	*	83.47
2002	*	0.81	0.81	4.09	*	86.77
2003	2.07	0.54	1.78	2.07	*	88.67
2004	5.87	1.51	4.51	5.87	*	79.33
2005	3.69	0.00	0.00	3.69	*	88.36
2006	3.77	0.00	0.00	3.77	*	88.95
2007	1.53	0.00	0.00	1.53	*	94.79
2008	0.00	0.00	0.00	0.00	*	100.00
2009	0.13	0.00	0.00	0.13	*	99.74

Source: non_afa_snow_crab_cvs.xls and non_afa_snow_crab_cp5.xls from ADF&G fish tickets for catcher vessels and blend data/catch accounting for catcher processors. Data do not include State water Pacific cod catch; nor sablefish and halibut IFQ bycatch of Pacific cod in IFQ fisheries.

*Confidential

The addition of new vessels that are exempt from the Pacific cod sideboard has the potential to increase fishing pressure for the individual sectors, if GOA Pacific cod is allocated between sectors in the future. In December 2009, the Council recommended implementation of GOA Pacific cod sector splits to allocate western and central GOA Pacific cod TACs among the fixed-gear sectors (hook-and-line catcher processors (CPs), hook-and-line catcher vessels (CVs), pot CPs, pot CVs greater than or equal to 60 feet in length, and pot CVs less than 60 feet in length), jig vessels, and trawl vessels. GOA Pacific cod sector allocations would be based on each sector’s historical catch levels. As noted in Table 1-28, the Council recommended an allocation to the pot CV and CP sector of western GOA Pacific cod TAC of 38 percent. In the central GOA, the Council recommended an allocation to the pot CV and CP sector range of 27.8 percent. Implementation of a sector split could reduce the total amount of GOA Pacific cod available for non-AFA crab vessels and non-crab vessels sharing a sector allocation throughout the fishing year if the allocation to the pot sector is reduced from the current levels of catch by pot vessels. In general, the smaller the allocation of Pacific cod to the pot sector, the greater potential for non-crab pot CVs to be adversely impacted by exempting additional vessels from the GOA Pacific cod sideboards, while larger pot sector allocations would lessen the impact that newly exempt vessels would have on non-crab vessels. The Council’s recommended allocation percentages are similar to the pot sector’s historical average catch percentages in the western and central GOA from 2000 through 2006 of 40.5 percent and 25.2 percent, respectively. Therefore, it is unlikely that a sector split with the Council’s recommended allocation percentages would significantly reduce or increase the amount of Pacific cod available for non-AFA crab vessel and non-crab vessels.

Table 1-28 Potential sector allocations (percent of the central and western GOA TAC) for combined pot CP and CV sector

Central GOA Pot CP and CV Sector	Western GOA Pot CP and CV Sector
27.8	38.0

Source: December 2009 Council GOA Pacific cod sector allocation motion

Management of the GOA Pacific cod sideboard likely would not change under a Pacific cod sector split. NMFS would continue to set a single sideboard cap for Pacific cod. That amount would then be made available to all vessels subject to the cap, on a seasonal basis, at the beginning of the year. All targeted or incidental catch of Pacific cod made by the non-AFA crab vessels that are restricted to the sideboard would be deducted from the Pacific cod sideboard limit. NMFS would close the directed GOA Pacific cod sideboard fishery when sideboard amounts are inadequate to support that aspect of the GOA Pacific cod fishery. The exception would be for those vessels that are exempt from GOA Pacific cod sideboards. These exempt vessels would be allowed to fish for GOA Pacific cod, as long as directed fishing for Pacific cod for the sector remained open.

As noted in Section 1.3.5, the catch history of vessels that are exempt from the sideboard is not included in the sideboard limit calculations for GOA Pacific cod. One of the effects of this action is that the sideboard amount for the Pacific cod fishery would be reduced proportional to the 1996 to 2000 catch history of the vessels that would qualify for the sideboard exemption. Finally, since the historical catch of the vessels that would qualify for an exemption under this action would not be included in the sideboard limit calculations, Pacific cod catch by these vessels would not count towards the sideboard caps.

Table 1-29 provides recalculated sideboard ratios, after removal of catch history for the vessels that would qualify for the sideboard exemption under each option. Having the largest change to sideboard limits,

Option 2.1 would result in a recalculated inshore western GOA and central GOA Pacific cod ratio of 0.0724 and 0.0320, respectively. If these recalculated sideboard ratios are applied to the 2010 A and B season western GOA Pacific cod TACs of 11,212 mt and 7,475 mt, a sideboard limit of 812 mt and 541 mt, respectively, would have been established for 2010. In comparison to the current sideboard limits for the A and B seasons in the western GOA, the recalculated estimates would represent a decline of 199 mt for the A season and 133 mt for the B season. For the central GOA, if the recalculated sideboard ratio was applied to the 2010 inshore A and B season central GOA Pacific cod TAC of 19,862 mt and 13,242 mt, an inshore sideboard limit of 636 mt and 424 mt, respectively, would have been established for 2010. Comparing these new inshore sideboard limits to current sideboard limits, the recalculated estimates represent a decline of 125 mt for the A season and 83 mt for the B season. In contrast to Option 2.1, Option 2.2 would result in the smallest change to the GOA Pacific cod sideboard limits. Recalculated sideboard ratios for the western GOA and central GOA would be 0.0861 and 0.0380, respectively. These new ratios would yield an inshore western GOA A and B season sideboard limit of 965 mt and 644 mt, respectively. In comparison to the current inshore sideboard limits for the A and B seasons in the western GOA, the recalculated estimates would represent a decline of 46 mt for A season and 30 mt for B season. For the central GOA, the new ratios would yield sideboard limits of 755 mt and 503 mt, respectively. Comparing these new inshore sideboard limits to current sideboard limits, the recalculated estimates would represent a decline of 6 mt for the A season and 4 mt for the B season. Options 2.3 and 2.4 would result in sideboard ratios and sideboard limits that fall between Options 2.1 and 2.2.

Table 1-29 Recalculated sideboard ratios, recalculated 2010 sideboard limit, difference between existing 2010 sideboard limit and recalculated 2010 sideboard limit by option

Option	New Sideboard Ratio		New 2010 Sideboard Limit (mt)				Difference in 2010 Sideboard Limit (mt)			
			WGOA		CGOA		WGOA		CGOA	
	WGOA	CGOA	A Season	B Season	A Season	B Season	A Season	B Season	A Season	B Season
2.1	0.0724	0.0320	812	541	636	424	199	133	125	83
2.2	0.0861	0.0380	965	644	755	503	46	30	6	4
2.3	0.0861	0.0366	965	644	727	485	46	30	34	22
2.4	0.0852	0.0345	955	637	685	457	56	37	76	50

Finally, Option 2.3 includes Suboption 2.3.1, which would include the additional threshold qualification of having 20 GOA pollock trawl landings during the 1996 through 2000 period in conjunction with the GOA Pacific cod landing requirements under Option 2.3. No non-AFA crab vessels appear to qualify for an exemption from the GOA Pacific cod sideboard limits under this suboption when the additional pollock threshold is applied to the existing thresholds from Option 2.3.

1.4.3 Action II. Exempted vessel status for GOA pollock

1.4.3.1 Alternative 1 – Status Quo

Under Alternative 1, there would be no change to the GOA pollock sideboard fishery for non-AFA crab vessels. No non-AFA crab vessels would be exempt from GOA pollock sideboard limits. The 1996 to 2000 catch history of GOA pollock by non-AFA crab vessels has resulted in a very small sideboard limit. Given the insufficient amount of GOA pollock sideboard limit for non-AFA crab vessels, NMFS did not open the sideboard fishery for directed fishing on January 1 for fixed-gear and January 20 for trawl gear from 2006 through 2010. NMFS will likely continue closing the GOA pollock sideboard fishery for non-AFA crab vessels due to insufficient GOA pollock sideboard limits in the foreseeable future.

Selecting Alternative 1 will likely continue to negatively impact the vessels qualified for the sideboard exemption under Alternative 2 of this action. The vessel that qualifies under Option 3 will be negatively impacted, since the largest portion of GOA groundfish catch for that vessel is from the GOA pollock fishery. As shown in Table 1-30, over 80 percent of the vessel catch was GOA pollock in most years from

1997 to 2009. With the likelihood of the GOA pollock sideboard fishery being closed to directed fishing at the beginning of each fishing year, this GOA pollock-dependent vessel would be prohibited from targeting GOA pollock and, thus, would be negatively impacted from this sideboard limit. Catch data cannot be presented for the vessels that qualify under Options 1 and 2 under Alternative 2, due to confidentiality restrictions.

Table 1-30 Catch of other groundfish, Pacific cod, pollock, and total GOA groundfish for one of the four qualified exempt vessels¹

Year	Other groundfish (mt)	Pacific cod (mt)	Pollock		Total GOA (mt)
			Catch (mt)	% of Total	
1997	3	1	526	99.29%	529
1998	71	5	646	89.50%	722
1999	3	337	1,328	79.62%	1,668
2000	15	479	1,371	73.49%	1,866
2001	81	329	2,544	86.12%	2,954
2002	22	522	1,921	77.92%	2,465
2003	14	51	1,291	95.22%	1,356
2004	8	180	920	82.99%	1,109
2005	30	312	2,539	88.12%	2,881
2006	65	394 ²	2,257 ²	83.10%	2,717
2007	54	173 ²	1,710 ²	88.27%	1,937
2008	0	0	0	0	0
2009	19	18	757	95.34%	794

Source: non_afa_snow_crab_cvs.xls from ADF&G Fish Tickets. Data do not include State water Pacific cod catch; nor sablefish and halibut IFQ bycatch of Pacific cod in IFQ fisheries.

¹The permit holder of one of the qualified vessels waived his right to catch confidentiality to provide the Council with data necessary to make an informed decision on this alternative.

²The exemption status of the subject fishing vessel was under appeal during most of the 2006 and 2007 period. During this time, non-AFA crab vessel sideboard limits did not apply.

1.4.3.2 Alternative 2 – Exempt non-AFA crab vessels from GOA pollock sideboards if the vessel’s Bering Sea *C. opilio* catch history is less than 0.22 percent of total Bering Sea *C. opilio* catch history, including both qualified and unqualified pounds and the vessel had:

Option 1 - 5 pollock deliveries from 1996 through 2000.

Option 2 - 10 pollock deliveries from 1996 through 2000.

Option 3 (**Council preferred option**) 20 pollock deliveries from 1996 through 2000.

Alternative 2 would exempt non-AFA crab vessels from GOA pollock sideboards if the vessel had less than 0.22 percent of total Bering Sea snow crab catch history⁵ and the vessel had a specific number of GOA pollock deliveries from 1996 through 2000. The alternative includes three GOA pollock delivery options: 5, 10, or 20 landings. Applying these qualification thresholds to the non-AFA snow crab and groundfish database, four vessels meet the snow crab qualification threshold and made at least five pollock deliveries during the 1996 through 2000 period. These same 4 vessels would also qualify if 10 deliveries of GOA pollock were required for a sideboard exemption. Only 1 vessel would qualify for the

⁵ The percent is of total Bering Sea *C. opilio* catch history, including both qualified and unqualified pounds.

GOA pollock sideboard exemption if 20 pollock deliveries are required. Of the four qualified vessels, two vessel owners listed Bellingham, Washington, as their address, while the two remaining vessel owners listed Anchorage, Alaska, and King Cove, Alaska, as their addresses.

Based on the historical catch of the qualified vessels under each of the options during the 2001 through 2009 period, these vessels could increase fishing effort in the GOA pollock fishery to levels equal to or greater than seen prior to the implementation of sideboard limits, thereby impacting other GOA pollock participants. In comparing the impacts of Options 1 and 2, relative to Option 3, the first two options have a greater potential of impacting other GOA pollock participants. Under Options 1 and 2, each of the four qualified non-AFA crab vessels could increase effort in the GOA pollock fishery beyond their historical levels, thereby potentially impacting other GOA pollock participants to a greater extent than Option 3, which only exempts one vessel.

Any increase over their current history in GOA pollock catch by the vessels that would qualify for the exemption would leave less GOA pollock for other participants, thus resulting in some economic loss for the latter group of participants. Unfortunately, it is not possible to determine with any certainty the likelihood that, and/or extent to which, the qualified exempt vessels would increase their pollock catch over their current history. That said, it is possible to get some indication of future GOA pollock catch by looking at the historical catch of the qualified exempt vessels, recognizing that qualified vessels could always exceed their historical catch, once exempt from the sideboards. Table 1-31 provides historical catch of GOA pollock, from 1995 through 2009, for the qualified vessel under Option 3.⁶ As previously noted, catch information associated with the qualified vessel has been made available by the permit holder of the qualified vessel, waiving his right to confidentiality, to provide to the Council with the data necessary to make an informed decision on this alternative. Looking at the historical catch of the vessel qualified under the third option, the vessel made 47 landings of GOA pollock, for a total GOA pollock catch during the 1996 through 2000 period of 3,828 mt. Catch of pollock ranged from 0 mt in 1995 and 1996, to 1,328 mt in 1999. In more recent years, catch levels ranged from 920 mt in 2004, to 2,544 mt in 2001. The qualifying exempt vessel caught, on average, 1.9 percent of the total GOA pollock catch from 1995 through 2009.

⁶ NMFS set the non-AFA crab sideboard directed fishing allowance for GOA pollock to zero from 2006 through 2010, which effectively prohibited non-AFA crab vessels subject to the GOA pollock sideboard from directed fishing for GOA pollock during those years. The qualified vessel under Option 3 appealed its GOA pollock sideboard restriction in 2006. The qualified vessel's appeal was adjudicated in 2006 and 2007, during which time this vessel was not subject to the GOA pollock sideboards.

Table 1-31 GOA pollock landings and catch for the qualified vessel under Option 3 and vessel count and catch (mt) of all GOA pollock vessels from 1995 to 2009

Year	Qualified Vessel ¹		All Vessels	
	Landings	Catch	Vessel Count	Catch
1995	0	0	199	64,658
1996	0	0	183	47,356
1997	6	526	236	78,449
1998	10	646	218	123,333
1999	16	1,328	215	91,501
2000	15	1,371	207	69,868
2001	25	2,544	215	69,448
2002	22	1,921	172	49,687
2003	13	1,291	169	49,027
2004	9	920	147	62,244
2005	27	2,539	146	77,147
2006	29	2,257 ²	185	67,419
2007	20	1,710 ²	224	50,444
2008	0	0	189	27,739
2009	7	757	184	26,061

Source: [non_afa_snow_crab_cvs.xls](#) from ADF&G Fish Tickets.

¹The permit holder of the qualified vessel waived his right to catch confidentiality to provide the Council with data necessary to make an informed decision on this alternative.

²The exemption status of the subject fishing vessel was under appeal during most of the 2006 and 2007 period. During this time, non-AFA crab vessel sideboard limits did not apply.

Because the catch history of those vessels that qualify for the GOA pollock sideboard exemption would not be included in the sideboard calculation for GOA pollock, the GOA sideboard limits for pollock would be reduced proportional to the pollock catch history of the qualified vessels during the 1996 through 2000 period for the remaining sideboarded vessels. In addition, catch of the qualified vessels will not be counted towards the sideboard caps, nor will the qualified vessels be required to stop fishing when the sideboard limit is reached, if the directed fishery is open.

Given that the vessel that qualifies for the exemption from the sideboard under Option 3 contributes a significant portion of the GOA pollock catch history for the non-AFA crab vessels, the recalculated GOA pollock sideboard ratio, without the qualified vessel's pollock catch history, will likely be significantly lower. Further, the 2006 through 2010 GOA pollock sideboard limits were insufficient for a directed pollock fishery, so a significantly lower recalculated pollock sideboard limit will continue to be insufficient for a directed pollock fishery, for the foreseeable future.

1.5 Effects on Net Benefits to the Nation

Other than some general observations of the possible effects of the proposed action on net National benefits, any quantitative cost/benefit analysis is not possible. Cost data for non-AFA crab vessels that qualify for GOA Pacific cod and pollock exemption options under the proposed actions are not currently available. For this reason, a quantitative cost/benefit examination of the alternatives, or comparative net benefits conclusions concerning the alternatives and options under each of the two proposed actions, is not possible.

On the basis of the foregoing analysis, it appears reasonable to conclude that the proposed action will have small impacts on national welfare, because of the limited number of vessels affected by this action

and the minor impact on harvest of Pacific cod and pollock. However, this program does contribute to the distributional objectives of the Council, and thus, contributes to the net welfare of the Nation, defined in this broader sense. An overall net benefit to the Nation is likely to accrue from enabling non-AFA crab QS recipients with significant historical participation in GOA Pacific cod and pollock fisheries to maintain their historical participation levels. This is consistent with the Council's intent in establishing the GOA groundfish sideboard limits. The Council intended for BSAI crab fishery participants with significant participation in, or dependence on, GOA groundfish fisheries to maintain historical participation levels.

Under Action I, the change in the exemption qualifications for the non-AFA crab vessels in the GOA Pacific cod fishery would increase the number of exempt vessels from their current level of 5, to as many as 11, depending on the option. Action II, creation of a GOA pollock sideboard exemption for non-AFA crab vessels, would exempt from one to four vessels from pollock sideboards.

2 ENVIRONMENTAL ASSESSMENT

The purpose of this environmental assessment (EA) is to analyze the environmental impacts of the proposed Federal action to change the GOA Pacific cod sideboard exemption for non-AFA crab vessels and add a GOA pollock sideboard exemption for qualified non-AFA crab vessels. An EA is intended to provide sufficient evidence of whether or not the environmental impacts of the action are significant (40 CFR 1508.9).

This chapter analyzes the alternatives for their effects on the biological, physical, and human environment. Each section discusses the environment that would be affected by the alternatives and then describes the impacts of the alternatives. The following components of the GOA environment are discussed: the Pacific cod fishery, other groundfish and prohibited species caught incidentally in the Pacific cod target fishery, pollock fishery, other groundfish and prohibited species caught incidentally in the pollock target fishery, marine mammals, seabirds, benthic habitat, essential fish habitat, the ecosystem, economic impacts and management considerations, and cumulative effects.

The criteria listed in Table 2-1 are used to evaluate the significance of impacts. If significant impacts are likely to occur, preparation of an environmental impact statement (EIS) is required. Although economic and socioeconomic impacts must be evaluated, such impacts by themselves are not sufficient to require the preparation of an EIS (see 40 CFR 1508.14).

Table 2-1 Criteria Used to Evaluate the Alternatives.

Component	Criteria
Fish species	An effect is considered to be significant if it can be reasonably expected to jeopardize the sustainability of the species or species group.
Habitat	An effect is considered to be significant if it exceeds a threshold of more than minimal and not temporary disturbance to habitat.
Seabirds and marine mammals	An effect is considered to be significant if it can be reasonably expected to alter the population trend outside the range of natural variation.
Ecosystem	An effect is considered to be significant if it produces population-level impacts for marine species, or changes community- or ecosystem-level attributes beyond the range of natural variability for the ecosystem.

The purpose of the EA is to analyze the environmental impacts of the proposed Federal action to revise the GOA Pacific cod and pollock sideboards for vessels that qualified to participate in rationalized crab fisheries. The human environment is defined by the Council on Environmental Quality as the natural and physical environment and the relationships of people with that environment (40 CFR 1508.14). This means that economic or social effects are not intended by themselves to require preparation of an EA. However, when an EA is prepared and socioeconomic and natural or physical environmental impacts are interrelated, the EA must discuss all of these impacts on the quality of the human environment. NEPA requires a description of the purpose and need for the proposed action as well as a description of alternatives which may address the problem. This information is provided below.

2.1 Purpose and Need

2.1.1 Background

The BSAI crab rationalization program was implemented in March of 2005. Among other things, the program allocated QS to harvesters in nine BSAI crab fisheries. Each year, a person who holds QS may receive IFQ to harvest BSAI crab. Recognizing that rationalizing the BSAI crab fisheries could provide

opportunities for fishermen to alter their crab fishing patterns and take greater advantage of other fisheries, the Council established GOA groundfish sideboard limits for vessels and LLP licenses that had Bering Sea snow crab history and generated crab QS. At its December 2006 meeting, the Council heard public testimony that the GOA sideboard limits, stemming from the crab rationalization program, had overly restricted historical participants in the GOA Pacific cod fishery. In response, the Council tasked staff to prepare a discussion paper of all GOA sideboards for non-AFA crab vessels. In April 2007, the Council began developing options for adjusting the GOA sideboards. In December 2007, the Council initiated an amendment to adjust the GOA Pacific cod sideboard exemption qualifications for non-AFA crab vessels, exempt qualified non-AFA crab vessels from GOA pollock sideboards, and exempt non-AFA crab vessels from GOA Pacific cod sideboards, from November 1 to December 31 of each year. In October 2008, the Council selected Alternative 2, Option 2.4, as its preferred alternative for Action I. The Council also selected Alternative 2, Option 3, as its preferred alternative for Action II. Finally, the Council removed the third action from the current regulatory package and repackaged it as a separate action for future consideration.

2.1.2 Purpose and Need Statement

The purpose of the non-AFA crab sideboard limit was to prevent vessels with crab QS from disadvantaging non-crab participants in the GOA groundfish fisheries. To allow non-AFA crab vessels that were awarded small amounts of Bering Sea snow crab quota, but had significant GOA Pacific cod history, to continue fishing in the GOA Pacific cod fishery unrestricted, the Council exempted qualified vessels from GOA Pacific cod sideboard limits. However, based on public testimony, the exemption qualifications implemented with the crab rationalization program in 2005 excluded non-AFA crab vessels with significant GOA Pacific cod history, because the vessels had slightly more than the maximum allowable 100,000 pounds of snow crab landings. Similar to the GOA Pacific cod exemption issue, the public also testified that lack of a sideboard exemption for vessels with small amounts of Bering Sea snow crab quota and significant GOA pollock history is overly restrictive. To address these GOA non-AFA crab sideboard issues and to guide the analysis of alternatives for this proposed action, the Council developed the following problem statement:

Recognizing that rationalizing the BSAI crab fisheries could provide opportunities for fishermen to alter their crab fishing patterns and take greater advantage of other fisheries, the Council included GOA groundfish sideboard limits for non-AFA vessels that qualified for the Bering Sea snow crab IFQ fishery. To protect crab vessels that demonstrated dependence on the GOA Pacific cod fisheries, an exemption from GOA Pacific cod sideboard limits was included in the rationalization program. However, in the application of the exemption and sideboard limits, some historical participants in Gulf of Alaska groundfish fisheries may have been unduly prevented from participating in the GOA groundfish fisheries. The permanent nature of the sideboard does not allow for participants to opt out of the crab program (i.e. receive no “benefit”) and remove the sideboard restriction. GOA Pacific cod sector splits may further complicate apportionment of crab sideboard amounts. Adjusting the GOA Pacific cod sideboard exemption qualifications for non-AFA crab vessels, in addition to including a GOA pollock sideboard exemption, could allow historical GOA groundfish participants that were unduly restricted by GOA sideboard limits to return to pre-rationalized fishing levels without disadvantaging other GOA groundfish fishery participants.

2.2 Alternatives Considered

This section identifies the alternatives and options for consideration under the proposed action. The alternatives are divided into two separate actions labeled as Action I and Action II. Each action is

independent of the other. In other words, the Council may select any of the alternatives under each of action.

Action I addresses the proposed change to the GOA Pacific cod sideboard exemption for non-AFA crab vessels. In this proposed action, there are two alternatives. Alternative 1 is status quo, under which there would be no change to the exempt status for the GOA Pacific cod fishery for non-AFA crab vessels. Alternative 2 would change the GOA Pacific cod exemption requirements for non-AFA crab vessels. Under this alternative there are four options that apply different Bering Sea snow crab and GOA Pacific cod catch thresholds, during the 1996 through 2000 period. Vessels meeting these threshold requirements under the different options would be exempt from GOA Pacific cod sideboard limits. The Council clarified in June 2008, that this action is not intended to disqualify any crab vessels or LLP licenses that are currently exempt from GOA Pacific cod sideboards.

Action II proposes to add a sideboard exemption for GOA pollock-dependent non-AFA crab vessels. In this proposed action there are two alternatives. Alternative 1, the no action alternative, would not add an exemption for non-AFA crab vessels from the GOA pollock sideboard limits. Alternative 2 would create an exemption for qualified non-AFA crab vessels from GOA pollock sideboard limits. Within Alternative 2, there are three options. The options vary by the number of GOA pollock landings from 1996 through 2000, necessary to qualify for the exemption.

2.2.1 Action I: Exempted Vessel Status of GOA Pacific Cod

Alternative 1: No changes to exempted status requirements

Alternative 2: Change the exempted status requirements

Option 2.1: Exempt non-AFA crab vessels from GOA Pacific cod sideboards if the vessel's Bering Sea *C. opilio* catch history is less than 0.22 percent of the total Bering Sea *C. opilio* catch over the period 1996 through 2000 and the vessel landed more than 500 mt of GOA Pacific cod over the period 1996 through 2000. The percent is of total Bering Sea *C. opilio* catch history, including both qualified and unqualified catch history pounds from non-AFA crab vessels.

Option 2.2: Exempt non-AFA crab vessels from the GOA Pacific cod sideboards if the vessel's Bering Sea *opilio* catch history is less than 500,000 pounds over the period 1996 through 2000 and the vessel landed more than 2,500 mt of GOA Pacific cod over the period 1996 through 2000. The Bering Sea *C. opilio* catch history includes both qualified and unqualified catch history from non-AFA crab vessels.

Option 2.3: Exempt non-AFA crab vessels from the GOA Pacific cod sideboards if the vessel's Bering Sea *opilio* catch history is less than 500,000 pounds over the period 1996 through 2000 and the vessel has landed more than 680 mt of GOA Pacific cod over the period 1996 through 2000. The Bering Sea *C. opilio* catch history includes both qualified and unqualified catch history from non-AFA crab vessels.

Suboption 2.3.1: In addition to above, must also have 20 GOA pollock trawl landings during the 1996 through 2000 period.

Option 2.4: **(Council preferred option)** Exempt non-AFA crab vessels from the GOA Pacific cod sideboards if the vessel's Bering Sea *opilio* catch history is less than 750,000 pounds over the period 1996 through 2000 and the vessel has landed more than 680 mt of GOA Pacific cod over the period 1996 through 2000. The Bering Sea *C. opilio*

catch history includes both qualified and unqualified catch history from non-AFA crab vessels.

All these exemptions only apply to those non-AFA crab vessels/LLP licenses that are eligible to participate in the GOA Pacific cod fishery (i.e., have appropriate LLP license).

2.2.2 Action II: Exempted Vessel Status of GOA Pollock

Alternative 1: No changes to exempted status requirements

Alternative 2: Exempt non-AFA crab vessels from GOA pollock sideboards if the vessel's Bering Sea opilio catch history is less than 0.22 percent of the total Bering Sea *C. opilio* catch over the period 1996 through 2000 and the vessel had:

Option 2.1 - 5 pollock deliveries from 1996 through 2000

Option 2.2 - 10 pollock deliveries from 1996 through 2000

Option 2.3 (**Council preferred option**) - 20 pollock deliveries from 1996 through 2000.

All these exemptions only apply to those non-AFA crab vessels/LLP licenses that are eligible to participate in the GOA groundfish fisheries (i.e., have appropriate LLP license). The percent is of the total Bering Sea *C. opilio* catch history, including both qualified and unqualified catch history from non-AFA crab vessels.

2.3 Gulf of Alaska Environment

The action area includes the entire GOA. The documents listed below contain extensive information about the fishery management areas, fisheries, marine resources, ecosystem, social, and economic elements of the GOA groundfish fisheries. Rather than duplicate an affected environment description here, readers are referred to these documents. This list is a partial listing of NEPA documents that have been prepared for GOA fishery management measures. Internet links to these documents, as well as a comprehensive list of NEPA documents that have been prepared by NMFS, Alaska Region, and the Council are at <http://www.alaskafisheries.noaa.gov/index/analyses/analyses.asp>.

- Alaska Groundfish Harvest Specifications Final Environmental Impact Statement (NMFS 2007). This EIS provides decision makers and the public with an evaluation of the environmental, social, and economic effects of alternative harvest strategies for the federally managed groundfish fisheries in the GOA and the BSAI management areas. The EIS examines alternative harvest strategies that comply with Federal regulations, the GOA FMP, and the Magnuson-Stevens Act. These strategies are applied to the best available scientific information to derive the 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 GOA fisheries.
- Stock Assessment and Fishery Evaluation (SAFE) Report for the Groundfish Resources of the Gulf of Alaska (NMFS 2009a). Annual SAFE reports contain a review of the latest scientific analyses and estimates of each GOA species' biomass and other biological parameters. This includes the acceptable biological catch specifications used by NMFS in the annual harvest specifications. The SAFE report also includes summaries of the available information on the GOA ecosystem and the economic condition of the groundfish fisheries off Alaska. This document is available from <http://www.afsc.noaa.gov/refm/stocks/assessments.htm>.

- Alaska Groundfish Fisheries Final Programmatic Supplemental Environmental Impact Statement (Groundfish PSEIS) (NOAA 2004a). The Groundfish PSEIS was prepared to evaluate the fishery management policies embedded in the BSAI and GOA groundfish FMPs against policy-level alternatives. NMFS issued a Record of Decision for the Groundfish PSEIS on August 26, 2004, effectively implementing a new management policy that is ecosystem-based and more precautionary when faced with scientific uncertainty. The Groundfish PSEIS serves as the primary environmental document for subsequent analyses of environmental impacts on the groundfish fisheries. Chapter 3 of the Groundfish PSEIS provides a detailed description of the affected environment, including extensive information on fishery management areas, marine resources, and marine habitat in the North Pacific Ocean. For more information, see the Groundfish PSEIS and related documents at <http://www.alaskafisheries.noaa.gov/sustainablefisheries/seis/default.htm>.

2.3.1 Pacific cod

Pacific cod (*Gadus macrocephalus*) is widely distributed in the GOA and occurs at depths from shoreline to 500 m (Thompson et al. 2006). Pacific cod are moderately fast growing, and females reach 50 percent maturity at approximately 5.8 years old. Spawning occurs during January through April in the GOA. Cod are demersal and concentrate on the shelf edge and upper slope at depths of 100 to 250 m in the winter, and move to shallower waters (<100 m) in the summer.

The Pacific cod resource is managed under three discrete TACs in the GOA: the western GOA TAC, the central GOA TAC, and the eastern GOA TAC. In addition, the GOA Pacific cod TACs are divided between the A season (60 percent) and B season (40 percent), and apportioned to the inshore processing component (90 percent) and offshore component (10 percent). Historically, the majority of the GOA Pacific cod catch has come from the central GOA and western GOA management subareas. Final 2006 harvest specifications apportioned 55 percent of the GOA TAC to the central GOA (28,405 mt) and 39 percent to the western GOA (20,141 mt). Table 2-2 provides a history of acceptable biological catch (ABC), TAC, and actual catch of Pacific cod in the Federal and State fisheries in the GOA from 2000 to 2006. Total catch in the Federal and State Pacific cod fisheries averaged 85 percent of the ABC from 2000 to 2006.

Table 2-2 Total allowable catch (TAC), total catch in the Federal and State GOA Pacific cod fisheries, and acceptable biological catch (ABC), 2000 to 2006

Year	Federal TAC (mt)	Federal Catch (mt)	Percentage of TAC Harvested	State Catch (mt)	Total Catch (mt)	ABC (mt)	Percentage of ABC Harvested
2000	58,715	54,492	92.8	12,031	66,560	76,400	87.1
2001	52,110	41,614	79.9	9,920	51,541	67,800	76.0
2002	44,230	42,345	95.7	12,137	54,482	57,600	94.6
2003	40,540	41,270	101.8	11,460	52,497	52,800	99.4
2004	48,033	43,183	89.9	12,921	56,194	62,810	89.5
2005	44,433	35,031	78.8	12,385	47,416	58,100	81.6
2006	52,264	37,787	72.3	9,859	47,646	68,859	69.2

Source: 2006 Groundfish SAFE Report, Pacific cod stock assessment (Thompson et al. 2006), and NMFS Blend and Catch Accounting databases (1995 to 2006 Federal catch).

Changes in the abundance of major predator or prey species may affect Pacific cod abundance and recruitment. Pacific cod prey on polychaetes, amphipods, crangonid shrimp, walleye pollock, fishery offal, yellowfin sole, and crustaceans. Predators of Pacific cod include Pacific cod, halibut, salmon sharks, northern fur seals, Steller sea lions, harbor porpoises, various whale species, and tufted puffins.

Effects of the proposed action depend to some extent on current and future abundance of the Pacific cod stock. Model projections indicate that the Pacific cod stock is not overfished. However, TAC is projected to decline over the next several years due to below average recruitment levels during a series of recent years. A comprehensive description of recent survey data and biomass projections is available in the groundfish SAFE report (NMFS 2009a).

Effects of the Alternatives

Current management of the GOA Pacific cod fishery was analyzed in detail in the Groundfish PSEIS (NOAA 2004a). This analysis is updated annually during the harvest specifications process for the groundfish fisheries (NMFS 2007). These analyses concluded that the Pacific cod stock is currently being managed at a sustainable level, and that the probability of overfishing occurring is low. The status quo management of Pacific cod is not expected to have a significant impact on the long-term sustainability of the GOA Pacific cod stock.

The proposed action would change the sideboard exemption requirements for non-AFA crab vessels subject to the GOA Pacific cod sideboard limits, potentially exempting up to a half dozen more vessels from sideboard limits in the GOA Pacific cod fishery. This increase in the number of vessels in the sideboard exempt Pacific cod category could slightly increase fishing effort in the GOA Pacific cod fishery. However, the limited effort by non-AFA crab vessels in the GOA Pacific cod fishery prior to implementation of sideboard limits is likely an indication that fishing effort will be similar to levels seen prior to implementation of the GOA Pacific cod sideboards limits. Finally, the action would not change the annual harvest specifications process, which sets TACs at appropriate levels to prevent the stock from being overfished. As a result, the proposed action is not expected to have a significant effect on the sustainability of the Pacific cod stock.

2.3.2 Pollock

Walleye pollock (*Theragra chalcogramma*) is a semi-pelagic schooling fish widely distributed in the North Pacific Ocean. Pollock in the GOA are managed as a single stock independently of pollock in the BSAI.

The commercial fishery for walleye pollock in the GOA started as a foreign fishery in the early 1970s. Catches increased rapidly during the late 1970s and early 1980s. A large spawning aggregation was discovered in Shelikof Strait in 1981, and a fishery developed for which pollock roe was an important product. The domestic fishery for pollock developed rapidly in the GOA with only a short period of joint venture operations in the mid-1980s. The fishery was fully domestic by 1988. Table 2-3 provides TAC and catch of GOA pollock from 2000 to 2006.

Table 2-3 Walleye pollock TAC and catch in the GOA, 2000 to 2006

Year	TAC (mt)	Catch (mt)	Percent of TAC Harvested
2000	94,960	73,080	77
2001	90,690	72,076	79
2002	53,490	51,937	97
2003	49,590	50,666	102
2004	65,660	63,913	97
2005	86,100	80,876	94
2006	81,300	71,998	89

Source: NPFMC Gulf of Alaska SAFE

Since 1992, the GOA pollock TAC has been apportioned spatially and temporally to reduce potential impacts on Steller sea lions. The details of the apportionment scheme have evolved over time, but the general objective is to allocate the TAC to management areas based on the distribution of surveyed biomass, and to establish three or four seasons between mid-January and autumn during which a specified fraction of the TAC can be taken. The Steller Sea Lion Protection Measures implemented in 2001 established four seasons in the central and western GOA beginning January 20, March 10, August 25, and October 1, with 25 percent of the total TAC allocated to each season. Allocations to management areas 610, 620, and 630 are based on the seasonal biomass distribution as estimated by groundfish surveys.

The fishery for pollock in the GOA is entirely inshore with approximately 90 percent of the catch taken with pelagic trawls. During winter, fishing effort is targeted towards pre-spawning aggregations in Shelikof Strait and near the Shumagin Islands. Fishing in summer is less predictable, but typically occurs on the east side of Kodiak Island and in nearshore waters along the Alaska Peninsula.

Effects of the Alternatives

Current management of the GOA pollock fishery was analyzed in detail in the Groundfish PSEIS (NOAA 2004a). This analysis is updated annually during the harvest specifications process for the groundfish fisheries (NMFS 2007). These analyses concluded that the pollock stock is currently being managed at a sustainable level, and that the probability of overfishing occurring is low. The status quo management of pollock is not expected to have a significant impact on the long-term sustainability of the GOA pollock stock.

The proposed action could allow up to four non-AFA crab vessels to be exempt from GOA pollock sideboard limits, which could result in a minor increase in fishing effort in the GOA pollock fishery. Looking at the historical catch of the qualified vessels, it is likely that fishing effort for the vessels would be similar to levels seen prior to implementation of the GOA pollock sideboard limits if the vessels are exempt from the GOA pollock sideboard limits. For example, relative to the total catch of GOA pollock, a qualified exempt vessel⁷ under one of the landing options caught, on average, 1.9 percent of the GOA pollock catch during the 1995 through 2009 period. Further, the proposed action would not change the annual harvest specifications process or the ability of NMFS to limit harvests to the TACs set in that process. As a result, the proposed action is not expected to have a significant effect on the sustainability of the GOA pollock stock.

2.3.3 Marine Mammals

Marine mammals occur in diverse habitats in the GOA, and include both resident and migratory species. Marine mammal species that occur in the GOA are listed below (NOAA 2004b). The Groundfish PSEIS (NOAA 2004a) provides descriptions of the range, habitat, diet, abundance, and population status for these marine mammals. Annual stock assessment reports prepared by the National Marine Mammal Laboratory provide population estimates, population trends, and estimates of potential biological removals (Angliss and Outlaw 2006).

NMFS Managed Species

⁷ Under normal circumstances, the catch information associated with this qualified vessel could not be published, but the permit holder waived his right to catch confidentiality to provide the Council with data necessary to make an informed decision on this alternative.

Pinnipeds: Steller sea lion (Western U.S., Eastern U.S.), Northern fur seal (Eastern Pacific), Harbor seal (Southeast Alaska, Gulf of Alaska, Bering Sea), Spotted seal (Alaska), Bearded seal (Alaska), Ringed seal (Alaska), Ribbon seal (Alaska).

Cetaceans: Beluga Whale (Beaufort Sea, Eastern Chukchi Sea, Eastern Bering Sea, Bristol Bay, Cook Inlet), Killer whale (Eastern North Pacific Northern Resident, Eastern North Pacific transient), Pacific White-sided dolphin (North Pacific), Harbor porpoise (Southeast Alaska, Gulf of Alaska), Dall's porpoise (Alaska), Sperm whale (North Pacific), Baird's beaked whale (Alaska), Cuvier's beaked whale (Alaska), Stejneger's beaked whale (Alaska), Gray whale (Eastern North Pacific), Humpback whale (Western North Pacific, Central North Pacific), Fin whale (Northeast Pacific), Minke whale (Alaska), North Pacific right whale (North Pacific)

USFWS Managed Species

Northern sea otter (Southeast Alaska, Southcentral Alaska, Southwest Alaska), Pacific walrus (Alaska)

Direct and indirect interactions between marine mammals and the groundfish fisheries result from temporal and spatial overlap between commercial fishing activities and marine mammal occurrence. Direct interactions include injury or mortality due to entanglement in fishing gear. Indirect interactions include overlap in the size and species of groundfish important both to the fisheries and to marine mammals as prey. The GOA Pacific cod target fisheries are classified as Category III fisheries under the Marine Mammal Protection Act. Category III fisheries are unlikely to cause mortality or serious injury to more than 1 percent of the marine mammal's potential biological removal level, calculated on an annual basis (50 CFR 229.2). Taking of marine mammals is monitored by the North Pacific observer program.

Marine mammals listed under the Endangered Species Act (ESA) that may be present in the GOA are listed in Table 2-4. All of these species are managed by NMFS, with the exception of Northern sea otter, which is managed by U.S. Fish and Wildlife Service (USFWS). A Biological Opinion evaluating impacts of the groundfish fisheries on the endangered species managed by NMFS was completed in November 2000 (NMFS 2000). The western population segment of Steller sea lions was the only ESA-listed species identified as likely to be adversely affected by the groundfish fisheries. A Biological Opinion addressing Steller sea lion management issues was completed in 2001 (NMFS 2001b), and found that under the new suite of protection measures, the GOA groundfish fisheries were unlikely to jeopardize the continued existence of the western population of Stellar sea lions or adversely modify critical habitat. Protection measures include area-specific closures around rookeries and haulouts and seasonal divisions of TACs to disperse fishing effort throughout the year. The Pacific cod fishing season was divided into two periods, while the GOA pollock fishery season is divided into four periods. The objective was to limit the total amount of Pacific cod and pollock harvested in the first half of the year. Pacific cod and pollock are two of the four most important prey items of Steller sea lions and are especially important to sea lions during winter (Sinclair and Zeppelin 2002). A new Section 7 consultation was initiated in 2006 but has not yet been completed.

NMFS also consulted with the USFWS in 2006 on the effects of Alaska federal groundfish, crab, and scallop fisheries, and the State of Alaska parallel groundfish fisheries on the distinct southwest Alaska population of northern sea otters. The USFWS determined, and NMFS concurred, that formal consultation was not required because the Alaska fisheries are not likely to adversely affect the southwest Alaska population of northern sea otters by incidental take and disturbance.

Table 2-4 ESA-listed marine mammal species that occur in the Gulf of Alaska.

Common Name	Scientific Name	ESA Status
Steller Sea Lion (Western Population)	<i>Eumetopias jubatus</i>	Endangered
Steller Sea Lion (Eastern Population)	<i>Eumetopias jubatus</i>	Threatened
Blue Whale	<i>Balaenoptera musculus</i>	Endangered
Fin Whale	<i>Balaenoptera physalus</i>	Endangered
Humpback Whale	<i>Megaptera novaeangliae</i>	Endangered
Right Whale	<i>Balaena glacialis</i>	Endangered
Sei Whale	<i>Balaenoptera borealis</i>	Endangered
Sperm Whale	<i>Physeter macrocephalus</i>	Endangered
Northern Sea Otter	<i>Enhydra lutris</i>	Threatened

Effects of the Alternatives on Marine Mammals

Impacts of the GOA Pacific cod and pollock fisheries on marine mammals, including Steller sea lions, were analyzed in the Groundfish PSEIS (NOAA 2004a) and in the 2001 Steller Sea Lion Protection Measures Final EIS (NMFS 2001a). Current management practices were found to have no adverse impacts on marine mammals, including Steller sea lions. As a result, the status quo alternative is not expected to have a significant impact on Steller sea lions or other marine mammals.

The proposed actions would change the exemption requirements for non-AFA crab vessels participating in the GOA Pacific cod and pollock sideboard fisheries, potentially exempting up to a half dozen more vessels from sideboard limits in the Pacific cod exempt fishery and up to four vessels from pollock sideboard limits. These proposed actions could increase fishing effort slightly in the general (non-sideboard) GOA Pacific cod and pollock fisheries. However, the timing and location of fishing effort in the GOA Pacific cod and pollock fisheries are not expected to change, there will be no changes in the harvest specification process, and harvests will continue to be limited to the TACs set in the harvest specification process. Therefore, annual mortality of marine mammals is not expected to change under the proposed action.

2.3.4 Seabirds

Various species of seabirds occur in the GOA, including resident species, migratory species that nest in Alaska, and migratory species that occur in Alaska only outside of the breeding season. A list of species is provided below.⁸ The Groundfish PSEIS (NMFS 2004a) provides descriptions of the range, habitat, diet, abundance, and population status for these seabirds.

More information on seabirds in Alaska's EEZ may be found in several NMFS, NPFMC, and USFWS documents:

- The USFWS Migratory Bird Management program webpage may be accessed at: <http://alaska.fws.gov/mbsp/mbm/index.htm>.
- The USFWS Birds of Conservation Concern 2008 may be accessed at: <http://www.fws.gov/migratorybirds/NewReportsPublications/SpecialTopics/BCC2008/BCC2008.pdf>. This list identifies species, subspecies and populations of all migratory nongame birds that

⁸Source: (USFWS web site "Seabirds. Species in Alaska. Accessed at <http://alaska.fws.gov/mbsp/mbm/seabirds/species.htm> on August 31, 2007).

without additional conservation action are likely to become candidates for listing under the ESA of 1973.

- Section 3.7 of the PSEIS (NMFS 2004a) provides background on seabirds in the action area and their interactions with the fisheries. This may be accessed at http://www.alaskafisheries.noaa.gov/sustainablefisheries/seis/final062004/Chaps/chpt_3/chpt_3_7.pdf.
- The annual Ecosystems Considerations chapter of the SAFE reports has a chapter on seabirds. Back issues of the Ecosystem SAFE reports may be accessed at <http://www.afsc.noaa.gov/REFM/REEM/Assess/Default.htm>.
- The Seabird Fishery Interaction Research webpage of the Alaska Fisheries Science Center may be accessed at <http://www.afsc.noaa.gov/refm/reem/Seabirds/Default.php>.
- The NMFS Alaska Region's Seabird Incidental Take Reduction webpage may be accessed at <http://www.alaskafisheries.noaa.gov/protectedresources/seabirds.html>.
- The BSAI and GOA Groundfish FMPs each contain an "Appendix I" dealing with marine mammal and seabird populations that interact with the fisheries. The FMPs may be accessed from the Council's home page at <http://www.alaskafisheries.noaa.gov/npfmc/default.htm>.
- Washington Sea Grant has several publications on seabird takes, and technologies and practices for reducing them: <http://www.wsg.washington.edu/communications/onlinepubs.html>.
- Seabirds and fishery impacts are also described in Chapter 9 of the Alaska Groundfish Harvest Specifications EIS (NMFS 2007).

The information in the PSEIS and in the above sources is adopted by reference for purposes of this analysis.

Species nesting in Alaska

Tubenoses-Albatrosses and relatives: Northern Fulmar, Fork-tailed Storm-petrel, Leach's Storm-petrel

Kittiwakes and terns: Black-legged Kittiwake, Red-legged Kittiwake, Arctic Tern, Aleutian Tern

Pelicans and cormorants: Double-crested Cormorant, Brandt's Cormorant, Pelagic Cormorant, Red-faced Cormorant

Jaegers and gulls: Pomarine Jaeger, Parasitic Jaeger, Long-tailed Jaeger, Bonaparte's Gull, Mew Gull, Herring Gull, Glaucous-winged Gull, Glaucous Gull, Sabine's Gull

Auks: Common Murre, Thick-billed Murre, Black Guillemot, Pigeon Guillemot, Marbled Murrelet, Kittlitz's Murrelet, Ancient Murrelet, Cassin's Auklet, Parakeet Auklet, Least Auklet, Whiskered Auklet, Crested Auklet, Rhinoceros Auklet, Tufted Puffin, Horned Puffin

Eiders: Common, King, Spectacled, Steller's

Species that visit Alaska waters

Tubenoses: Short-tailed Albatross, Black-footed Albatross, Laysan Albatross, Sooty Shearwater, Short-tailed Shearwater

Gulls: Ross's Gull, Ivory Gull

Several species of conservation concern occur in the GOA and the BSAI as well (Table 2-5). Short-tailed albatrosses are listed as endangered under the ESA, while Kittlitz's Murrelet is a candidate species for listing under the ESA, and the USFWS is currently working on a 12-month finding for black-footed albatrosses. The USFWS determined that listing of Yellow-billed loon was warranted but not a priority.

Table 2-5 ESA-listed and candidate seabird species that occur in the GOA and BSAI

Common Name	Scientific Name	ESA Status
Short-tailed Albatross	<i>Phoebastria albatrus</i>	Endangered
Yellow-billed Loon	<i>Gavia adamsii</i>	Listing warranted but not priority
Spectacled Eider	<i>Somateria fischeri</i>	Threatened
Steller's Eider	<i>Polysticta stelleri</i>	Threatened
Kittlitz's Murrelet	<i>Brachyramphus brevirostris</i>	Candidate
Black-footed Albatross	<i>Phoebastria nigripes</i>	FWS working on 12 month finding

The USFWS has primary responsibility for managing seabirds, and has evaluated effects of the BSAI and GOA FMPs and the harvest specifications process on currently listed species in two Biological Opinions (USFWS 2003a and 2003b). Both Biological Opinions concluded that the groundfish fisheries are unlikely to jeopardize populations of listed species or adversely modify or destroy critical habitat for listed species.

The GOA groundfish fisheries have direct and indirect impacts on seabirds. Seabird take is the primary direct effect of fishing operations. Incidental takes of seabirds occurs primarily in the hook-and-line and the trawl fisheries. Hook-and-line and trawl gear accounts for up to 97% of seabird bycatch in the BSAI and GOA groundfish fisheries combined (AFSC 2006). Seabirds are taken in the hook-and-line fisheries in two ways. While hooks are being set, seabirds attracted to bait may become entangled in fishing lines. Seabirds are also caught directly on baited hooks. Seabirds are taken in the trawl fisheries when they are attracted by offal or discarded fish and become entangled in fishing gear. Indirect effects include impacts to food sources and disturbance of the birds that may prevent reproduction or affect foraging activities. Some groundfish fisheries may reduce the biomass of prey species available to seabird populations. Fishing gear may disturb benthic habitat used by seabirds that forage on the seafloor and reduce available prey. Trawl gear is the primary source of benthic habitat disturbance in the groundfish fisheries (NMFS 2005). Fishing activities may also create feeding opportunities for seabirds, for example when catcher processors discard offal.

Effects of the Alternatives

Based on current estimates of seabird bycatch, potential disturbance, and effects on prey availability, the status quo alternative is not likely to have a significant impact on seabird populations (NMFS 2007). The first proposed action would change the exemption requirements for non-AFA crab vessels participating in the GOA Pacific cod sideboard fishery, potentially exempting up to a half dozen more vessels from sideboard limits in the GOA Pacific cod fishery. The second proposed action would exempt up to four non-AFA crab vessels from GOA pollock sideboard limits. These proposed actions could increase fishing effort in the general (non-sideboard) GOA Pacific cod and pollock fisheries, but only a slight increase is anticipated. The limited effort by non-AFA crab vessels in the GOA Pacific cod and pollock fisheries prior to implementation of sideboard limits is likely an indication that overall fishing effort would be similar to levels seen prior to implementation of the GOA Pacific cod sideboard limits under either of the options.

In addition, the timing and location of fishing effort in the GOA Pacific cod and pollock fisheries are not expected to change. The proposed actions will not modify the management practices analyzed in the Alaska Groundfish Harvest Specifications EIS (NMFS 2007) or in previous Biological Opinions (USFWS 2003a and 2003b), and are not likely to cause additional adverse effects to seabirds, including ESA-listed species. The proposed actions are not likely to increase incidental takes of seabirds. Consequently, the proposed actions are not likely to have a significant impact on seabird populations.

2.3.5 Benthic Habitat and Essential Fish Habitat

Benthic habitat is potentially impacted by fishing practices that contact the seafloor. The impacts of fishing gear on benthic habitat are discussed in the Groundfish PSEIS (NOAA 2004a). Essential fish habitat (EFH) is defined as those areas necessary to fish for spawning, breeding, feeding, or growth to maturity. Maps and descriptions of EFH for the GOA groundfish species are available in the EFH EIS (NMFS 2005). That document also describes the importance of benthic habitat to different groundfish species and the impacts of different types of fishing gear on benthic habitat. The effects of the GOA Pacific cod and pollock fisheries on benthic habitat and EFH were analyzed in the EFH EIS (NMFS 2005). Year-round area closures protect sensitive benthic habitat. Current fishing practices have minimal or temporary effects on benthic habitat and essential fish habitat.

Effects of the Alternatives

The current effects on benthic habitat are likely to continue under status quo, and therefore, the status quo alternative is not expected to have a significant impact on benthic habitat or EFH.

Under the proposed action, the overall level of fishing effort by non-AFA crab vessels could increase slightly. However, the method, location and timing of the fishing activity would not change from status quo. As a result, impacts on benthic and essential fish habitat under this alternative are not expected to be significant.

2.3.6 Ecosystem

Ecosystems consist of communities of organisms interacting with their physical environment. Within marine ecosystems, competition, predation, and environmental disturbance cause natural variation in recruitment, survivorship, and growth of fish stocks. Human activities, including commercial fishing, can also influence the structure and function of marine ecosystems. Fishing may change predator-prey relationships and community structure, introduce foreign species, affect trophic diversity, alter genetic diversity, alter habitat, and damage benthic habitats. The GOA Pacific cod fishery potentially impacts the GOA ecosystem by relieving predation pressure on shared prey species (i.e., species which are prey for both Pacific cod and other species), reducing prey availability for predators of Pacific cod, altering habitat, imposing bycatch mortality, or by “ghost fishing” caused by lost fishing gear. Further information may be found in the Ecosystems Considerations Appendix to the SAFE report (NMFS 2009b) and the Groundfish PSEIS (NOAA 2004a). An evaluation of the effects of the GOA Pacific cod and pollock fisheries on the ecosystem is conducted annually in the Ecosystem Assessment section of the SAFE report (NMFS 2009b) and in the Harvest Specifications SAFE report (NMFS 2009a). These analyses conclude that the current GOA Pacific cod and pollock fisheries do not produce population-level impacts to marine species or change ecosystem-level attributes beyond the range of natural variation.

Effects of the Alternatives

The effects on ecosystem are likely to continue under the status quo. Consequently, status quo is not expected to have a significant impact on the ecosystem.

The proposed actions will likely result in a minor increase in the overall level of Pacific cod and pollock harvest compared to status quo, whereas, the location and timing of fishing activities are not expected to change significantly. As a result, the proposed actions are not likely to have a significant impact on the ecosystem.

2.3.7 Economic Impacts

A detailed description of the economic and socioeconomic components of the GOA Pacific cod and pollock fisheries and an analysis of the effects of the proposed action are found in Chapter 1.

2.3.8 Cumulative Effects

Analysis of the potential cumulative effects of a proposed action and its alternatives is a requirement of NEPA. Cumulative effects result from the incremental impact of the proposed action in addition to past, present, and reasonably foreseeable future actions. The Groundfish PSEIS (NOAA 2004a) assesses the potential direct and indirect effects of groundfish FMP policy alternatives in combination with other factors that affect physical, biological, and socioeconomic components of the BSAI and GOA environment.

Beyond the cumulative impacts analysis documented in the Groundfish PSEIS, no additional past, present, or reasonably foreseeable cumulative negative impacts on the natural and physical environment (including fish stocks, EFH, ESA-listed species, marine mammals, seabirds, or marine ecosystems), fishing communities, fishing safety, or consumers have been identified that would occur as a result of the proposed action. The proposed action, in combination with other actions, may have additional economic effects on non-AFA crab vessels participating in the GOA Pacific cod and pollock fishery. In recent years, several regulatory changes that were implemented to protect Steller sea lions have had economic effects on participants in the GOA Pacific cod fisheries. Several reasonably foreseeable future actions are expected to have additional social and economic effects on these sectors, including GOA non-trawl LLP license recency, GOA and BSAI trawl LLP license recency, GOA Pacific cod sector splits, and possible revisions to the GOA Pacific cod sideboards for AFA vessels.

3 Final Regulatory Flexibility Analysis (FRFA)

3.1 Introduction

The Regulatory Flexibility Act (RFA), first enacted in 1980, and codified at 5 U.S.C. 600-611, 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 impacts on small entities as a group distinct from other entities and on the consideration of alternatives that may minimize the impacts, while still achieving the stated objective of the action. When an agency publishes a rule, it must either (1) “certify” that the action will not have a significant adverse effect on a substantial number of small entities, and support such a certification declaration with a “factual basis,” demonstrating this outcome, or (2) if such a certification cannot be supported by a factual basis, prepare and make available for public review a Final Regulatory Flexibility Analysis (FRFA) that describes the impact of the final rule on small entities.

Based upon a preliminary evaluation of the program alternatives, it appears that “certification” would not be appropriate. Therefore, this FRFA has been prepared. Analytical requirements for the FRFA are described below in more detail.

Under 5 U.S.C., Section 604(a), each FRFA is required to contain:

- (1) a succinct statement of the need for, and objectives of, the rule;
- (2) a summary of the significant issues raised by the public comments in response to the initial regulatory flexibility analysis, a summary of the assessment of the agency of such issues, and a statement of any changes made in the final rule as a result of such comments;
- (3) a description of, and an estimate of, the number of small entities to which the rule will apply or an explanation of why no such estimate is available;
- (4) a description of the projected reporting, recordkeeping, and other compliance requirements of the rule, including an estimate of the classes of small entities which will be subject to the requirement and the type of professional skills necessary for preparation of the report or record; and
- (5) a description of the steps the agency has taken to minimize the significant economic impact on small entities consistent with the stated objectives of applicable statutes, including a statement of the factual, policy, and legal reasons for selecting the alternative adopted in the final rule and why each one of the other significant alternatives to the rule considered by the agency which affect the impact on small entities was rejected.

The “universe” of entities to be considered in a FRFA generally includes only those small entities that can reasonably be expected to be directly regulated by the final action. If the effects of the rule fall primarily on a distinct segment of the industry, or portion thereof (e.g., user group, gear type, geographic area), that segment would be considered the universe for purposes of this analysis.

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

3.2 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 a “small business concern,” which is defined under Section 3 of the Small Business Act. A “small business” or “small business concern” includes any firm that is independently owned and operated and not dominant in its field of operation. The U.S. Small Business Administration (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 form 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. A business “involved in fish 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 receipts not in excess of \$4.0 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 (including its affiliates), and employs 500 or fewer persons, on a full-time, part-time, temporary, or other basis, at all its affiliated operations worldwide. A business involved in both the harvesting and processing of seafood products is a small business if it meets the \$4.0 million criterion for fish harvesting operations. 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 have 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 control 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 ventures 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 nonprofit 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.

3.3 Need for and Objective of the Rule

The purpose of non-AFA crab sideboard limit is to prevent those vessels with crab QS from disadvantaging participants in the GOA groundfish fisheries. To allow non-AFA crab vessels that were awarded small amounts of Bering Sea snow crab quota, but had significant GOA Pacific cod history to continue fishing in the GOA Pacific cod fishery unrestricted, the Council exempted qualified vessels from GOA Pacific cod sideboard limits. The original exemption qualifications excluded owners of vessels whose snow crab QS amount was slightly greater than the exemption criteria, but that had significant GOA Pacific cod history. The Council determined that the original exemption criteria were too restrictive on vessels that showed significant dependence on the GOA Pacific cod fishery. The Council did not originally exempt non-AFA crab vessels with insignificant snow crab catch history and significant GOA pollock history from the pollock sideboard limit. Similar to the GOA Pacific cod sideboard exemption, the Council determined that the lack of an exemption for vessels with little snow crab quota and significant GOA pollock history is overly restrictive.

The principal objective of this action is to rectify an unintentional economic burden imposed on a small group of non-AFA vessels by the original sideboard action. Under the status quo, operations that are clearly dependent upon GOA Pacific cod or GOA pollock, but which have relatively small amounts of Bering Sea snow crab quota, in excess of the original sideboard limit, have been excluded from the sideboard exemptions.

3.4 Public Comments on the Initial Regulatory Flexibility Analysis

The proposed rule for this action was published in the Federal Register on March 28, 2011 (76 FR 17088), and the public comment period closed on April 27, 2011. An Initial Regulatory Flexibility Analysis was prepared for the proposed rule and described in the classification section of the preamble to the proposed rule.

NMFS received two unique comment letters, neither of which related to the IRFA. No changes were made between the proposed rule and final rule.

3.5 Number and Description of Small Entities Regulated by the Final Action

The entities directly regulated by this action are those non-AFA crab vessels that target GOA Pacific cod and pollock in the EEZ of the GOA. Earnings from all fisheries in and off Alaska for 2007 were matched with the non-AFA crab vessels that participated in the GOA Pacific cod and pollock fisheries for that year. Of the six vessels and associated LLP licenses directly regulated by Action 1 to revise the criteria for exemption from the GOA Pacific cod sideboard, five catcher vessels had gross earnings less than \$4 million, thus categorizing them as small entities. The remaining vessel, a catcher/processor, had gross earnings greater than \$4 million, categorizing the vessel as a large entity. Of the four vessels and associated LLP licenses directly regulated by Action 2 to establish criteria for exemption from the GOA pollock sideboard, all four vessels are estimated to be small entities. One small entity qualifies for exemptions from both the GOA Pacific cod and pollock sideboards under the final rule.

3.6 Recordkeeping and Reporting Requirements

Implementation of the final action to change the GOA Pacific cod and pollock sideboard limit exemptions would not change the overall reporting structure and recordkeeping requirements for vessels in the GOA Pacific cod and pollock fisheries.

3.7 Description of Significant Alternatives

The Council has identified two separate actions for this amendment. Action I will change the GOA Pacific cod sideboard exemption requirements for non-AFA crab vessels. Action II will add a sideboard exemption for GOA pollock-dependent non-AFA crab vessels.

The preferred alternative for Action 1 eliminates an unanticipated economic burden that was imposed on three non-AFA crab vessels that were awarded small amounts of Bering Sea snow crab quota share and had significant GOA Pacific cod catch history. The status quo sideboards restricted access to the GOA Pacific cod fishery that these three vessels were clearly dependent on. The Council considered several alternatives including the status quo, but relative to the preferred alternative, they were determined to impose burdens on small entities by either easing sideboard restrictions to the extent that other vessels participating in the GOA Pacific cod fishery would be impacted, by the entrance of six newly qualified vessels exempt from the sideboards, or by continuing to restrict access to the Pacific cod fishery for one or two vessels that were clearly dependant on that fishery.

Under Action 2 the Council determined that the status quo sideboard restriction for the GOA Pollock fishery imposed an unreasonable burden on one vessel with insignificant Bering Sea snow crab catch history and significant GOA Pollock catch history. In addition to the status quo, the Council considered several alternatives that would have exempted from one to four vessels from the sideboard restrictions, but determined that alternatives exempting four vessels would impose a burden on other participants in

the GOA Pollock fishery. The preferred alternative recognized that a single vessel with insignificant Bering Sea snow crab catch history showed adequate dependence on the GOA Pollock fishery to not be subject to a shortened Pollock season under the sideboard restriction.

Table 3-1 and Table 3-2 summarize the impacts of these alternatives/options on small entities for Actions I and II, respectively.

Table 3-1 FRFA comparison of alternatives/options for Action I

	Alternative 1 : no action	Alternative 2			
		Option 2.1	Option 2.2	Option 2.3	Option 2.4 (preferred option)
Impacts on small entities	Some small entities restricted by sideboards would be negatively impacted due to shortened GOA Pacific cod season.	Six newly qualified vessels would not be restricted by a shortened GOA Pacific cod sideboard season.	One newly qualified vessel would not be restricted by a shortened GOA Pacific cod sideboard season.	Two newly qualified vessels would not be restricted by a shortened GOA Pacific cod sideboard season.	Three newly qualified vessels would not be restricted by a shortened GOA Pacific cod sideboard season.
Why chosen or not chosen?	Some small entities restricted by sideboards negatively impacted, due to shortened GOA Pacific cod season.	Option is too inclusive, exempting vessels that are not dependent on GOA Pacific cod to the level deemed necessary by the Council.	Option is too narrow, not exempting vessels that are dependent on GOA Pacific cod from the sideboards.	Option is too narrow, not exempting vessels that are dependent on GOA Pacific cod from the sideboards.	Option appropriately applies GOA Pacific cod sideboard exemption to vessels deemed dependent on resource by Council.

Table 3-2 FRFA comparison of alternatives/options for Action II

	Alternative 1 : no action	Alternative 2		
		Option 1: 5 pollock deliveries	Option 2: 10 pollock deliveries	Option 3: 20 pollock deliveries (preferred option)
Impacts on small entities	One small entity restricted by sideboard would be negatively impacted, due to shortened GOA pollock season.	Four newly qualified vessels would not be restricted to a shortened season by GOA pollock sideboard.	Four newly qualified vessels would not be restricted to a shortened season by GOA pollock sideboard.	One newly qualified vessel would not be restricted to a shortened season by GOA pollock sideboard.
Why chosen or not chosen?	One small entity excluded from sideboard exemption program for GOA pollock season.	Option is too inclusive, exempting vessels that are not dependent on GOA pollock to the level deemed necessary by the Council.	Option is too inclusive, exempting vessels that are not dependent on GOA pollock to the level deemed necessary by the Council.	Vessel qualified for GOA pollock sideboard exemption was deemed dependent on resource by Council.

4 Consistency with Applicable Law and Policy

4.1 National Standards

Below are the ten National Standards as contained in the Magnuson-Stevens Act, and a brief discussion of the consistency of the proposed alternatives with each of those National Standards, as applicable.

National Standard 1

Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery.

Nothing in the proposed alternatives would undermine the current management system that prevents overfishing.

National Standard 2

Conservation and management measures shall be based upon the best scientific information available.

The analysis draws on the best scientific information that is available, concerning sideboard fisheries by the non-AFA crab vessels for GOA Pacific cod and pollock. The most up-to-date information that is available has been provided by the managers of these fisheries, as well as by members of the fishing industry.

National Standard 3

To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.

The proposed action is consistent with the management of individual stocks as a unit or interrelated stocks as a unit or in close coordination.

National Standard 4

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

The proposed alternatives would treat all participants the same, regardless of their residence. The proposed change would be implemented without discrimination among participants and is intended to contribute to the fairness and equity of the program, by providing participants with minimal dependence on the Bering Sea snow crab fisheries and demonstrated participation in, and dependence on, the GOA Pacific cod and pollock fisheries, an opportunity to maintain historical participation levels in the GOA fisheries. The action would not contribute to an entity acquiring an excessive share of privileges.

National Standard 5

Conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources, except that no such measure shall have economic allocation as its sole purpose.

The proposed actions would have the overall effect of exempting additional non-AFA crab vessels from GOA Pacific cod and pollock sideboard limits. This could result in some participants moving from the GOA sideboard fisheries to the general fisheries, but the overall harvest levels, location, and timing of the GOA general groundfish fisheries would not change under this action. The Council determined that

participants affected by the proposed actions were unduly restricted by the GOA groundfish sideboard limits in fisheries on which they had historical dependence and should be exempt from the sideboard limits. Exempting these vessels from the sideboard limits would not change the overall harvest levels in the GOA Pacific cod and pollock fisheries. This rationale is consistent with Council's intent in establishing the GOA sideboard limits.

National Standard 6

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

None of the alternatives would be expected to affect changes in the availability of GOA groundfish resources each year. Any such changes would be addressed through the annual allocation process, which is not affected by the alternatives.

National Standard 7

Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.

This action does not duplicate any other measure and does not increase enforcement costs in the fisheries.

National Standard 8

Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities.

This action would not have adverse effects on communities or affect community sustainability.

National Standard 9

Conservation and management measures shall, to the extent practicable, (A) minimize bycatch, and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.

This action would have no effect on bycatch beyond what has already been considered in previous analyses.

National Standard 10

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

The alternatives considered under this action do not affect safety of human life at sea.

4.2 Section 303(a)(9) – Fisheries Impact Statement

Section 303(a)(9) of the Magnuson-Stevens Act requires that any plan or amendment include a fishery impact statement which shall assess and describe the likely effects, if any, of the conservation and management measures on (a) participants in the fisheries and fishing communities affected by the plan or amendment, and (b) participants in the fisheries conducted in adjacent areas under the authority of another Council, after consultation with such Council and representatives of those participants taking into account potential impacts on the participants in the fisheries, as well as participants in adjacent fisheries.

The alternative actions considered in this analysis are described in Chapter 1 of this document. The impacts of these actions on participants in the fisheries are evaluated in Chapter 1.

5 List of Preparers, Persons Consulted, and References

Prepared by

Jon McCracken – North Pacific Fishery Management Council
Mark Fina, Ph.D. –North Pacific Fishery Management Council
Jeannie Heltzel – North Pacific Fishery Management Council
Lewis E. Queirolo, Ph.D. – NOAA Fisheries, Alaska Region
Rachel Baker – NOAA Fisheries, Alaska Region

Persons Consulted

Diana Evans – Pacific Fishery Management Council
Joe McCabe – NOAA General Counsel, Alaska Region
Mary Furuness – NOAA Fisheries, Alaska Region
Glenn Merrill – NOAA Fisheries, Alaska Region
Robert Keaton – NOAA Fisheries, Alaska Region
Jessica Gharrett – NOAA Fisheries, Alaska Region
Tracy Buck – NOAA Fisheries, Alaska Region
Mike Plotnick – Alaska Department of Fish and Game

6 References

- Angliss, R. P., and R. B. Outlaw. 2006. Alaska marine mammal stock assessments, 2005. U.S. Department of Commerce, NOAA Technical Memorandum NMFS-AFSC-161.
- Hiatt, T. 2009. Stock Assessment and Fishery Evaluation Report for the Groundfish Fisheries of the Gulf of Alaska and Bering Sea/Aleutian Island Area: Economic Status of the Groundfish Fisheries Off Alaska, 2008.
- NMFS. 2009a. Stock Assessment and Fishery Evaluation Report for the Groundfish Resources of the Gulf of Alaska Region, 2009. NPFMC Plan Team for the Groundfish Fisheries of the GOA.
- NMFS. 2009b. Stock Assessment and Fishery Evaluation Report. Ecosystem Considerations. NPFMC Plan Team for the Groundfish Fisheries of the BSAI and the GOA.
- NMFS. 2007. Alaska Groundfish Harvest Specifications Final Environmental Impact Statement. NOAA NMFS Alaska Regional Office. Juneau, Alaska.
- NMFS. 2005. Environmental Impact Statement for the Essential Fish Habitat Identification and Conservation in Alaska. April 2004. U.S. Dept. of Commerce, NOAA Fisheries, Alaska Region.
- NOAA. 2004a. Alaska Groundfish Fisheries Final Programmatic Supplemental Environmental Impact Statement, U.S. Dept. of Commerce, NOAA Fisheries, Alaska Region.
- NOAA. 2004b. Alaska Groundfish Fisheries Final Programmatic Supplemental Environmental Impact Statement, Appendix B, Section 5.2, U.S. Dept. of Commerce, NOAA Fisheries, Alaska Region.

- NMFS. 2003. Supplement to the Endangered Species Act – Section 7 Consultation: Biological Opinion and Incidental Take Statement of October 2001. U.S. Dept. of Commerce, NOAA Fisheries, Alaska Region.
- NMFS. 2001a. Steller Sea Lion Protection Measures Final Supplemental Environmental Impact Statement (SEIS). U.S. Dept. of Commerce, NOAA Fisheries, Alaska Region.
- NMFS. 2001b. Endangered Species Act – Section 7 Consultation: Biological Opinion and Incidental Take Statement (Biological Opinion). U.S. Dept. of Commerce, NOAA Fisheries, Alaska Region.
- Sinclair, E., and T. Zeppelin. 2002. Seasonal and spatial differences in diet in the western stock of Steller sea lions (*Eumetopias jubatus*). *Journal of Mammalogy* 83(4).
- Thompson, G., M. Dorn, and D. Nichol. 2006. Assessment of the Pacific Cod Stock in the Gulf of Alaska. Stock Assessment and Fishery Evaluation Report for the Groundfish Resources of the Gulf of Alaska Region. NPFMC Plan Team for the Groundfish Fisheries of the GOA.
- USFWS. 2003a. Programmatic Biological Opinion on the effects of the Fishery Management Plans (FMPs) for the Gulf of Alaska (GOA) and Bering Sea/Aleutian Islands (BSAI) groundfish fisheries on the endangered short-tailed albatross (*Phoebastria albatrus*) and threatened Steller's eider (*Polysticta stelleri*). Anchorage U.S. Fish and Wildlife Field Office.
- USFWS. 2003b. Biological Opinion on the Effects of the Total Allowable Catch (TAC)-Setting Process for the Gulf of Alaska (GOA) and Bering Sea/Aleutian Islands (BSAI) Groundfish Fisheries to the Endangered Short-tailed Albatross (*Phoebastria albatrus*) and Threatened Steller's Eider (*Polysticta stelleri*). Anchorage U.S. Fish and Wildlife Field Office.

FRBowers

G:\FMGROUP\Amendment 34 (KTC) revise GOA sideboards\FR\KTC 34 FR.ea.doc

R:\region\2010\sf\may\KTC 34 FR.ea.doc