

# INITIAL REVIEW DRAFT

## ENVIRONMENTAL ASSESSMENT/REGULATORY IMPACT REVIEW/ INITIAL REGULATORY FLEXIBILITY ANALYSIS

For a proposed Regulatory Amendment to the  
Fishery Management Plan for the Groundfish Fishery of the Gulf of Alaska

To Revise the Crab Sideboard Exemptions for the GOA Pacific Cod and  
Pollock Fishery

April 2008

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## 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 objects, 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 an 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 (OMB) 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 Act, the United States has exclusive fishery management authority over all marine fishery resources found within the EEZ. The management of these marine resources is vested in the Secretary of Commerce (Secretary) and in the Regional Fishery Management Councils. The groundfish fisheries in the Gulf of Alaska (GOA) EEZ are managed under the FMP for Groundfish of the GOA.

### 1.1 Purpose and Need

#### 1.1.1 Background

The crab rationalization program was implemented in March of 2005. The program allocates IFQ to harvesters in the crab fisheries. 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. 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 Pacific cod sideboarded crab vessels from GOA Pacific cod sideboards on November 1.

### **1.1.2 Purpose and Need Statement**

As noted above, the original purpose of the non-AFA crab sideboard limit was to prevent vessels with crab IFQ from disadvantaging participants in the GOA groundfish fisheries. To allow non-AFA crab vessels that were awarded small amounts of 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 excluded non-AFA crab vessels with significant GOA Pacific cod history because the vessels had slightly more than the maximum 500,000 lbs of snow crab quota. Similar to GOA Pacific cod exemption issue, the public also testified that the lack of an exemption for vessels with small amounts of snow crab quota and significant GOA pollock history is overly restrictive. Finally, it is not uncommon to see large amounts of Pacific cod go unharvested in both WGOA and CGOA during the B season for both the inshore and offshore. To address these GOA non-AFA crab sideboard issues and to guide the analysis of alternatives for this proposed action, presented below is a draft 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. In addition, given that considerable amounts of GOA Pacific cod B season TAC that has continually remained unharvested, an exemption from GOA Pacific cod sideboard limits could allow for a more fully utilized resource, which is consistent with Council policy and MSA National Standard 1.*

## **1.2 Alternatives Considered**

This section identifies the alternatives and options for consideration under the proposed action. Part 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, some with suboptions. Option 1 would allow non-AFA crab vessels that are qualified to participate in the GOA Pacific cod sideboard fishery to be exempt from GOA Pacific cod

sideboard limits if they forfeit BS snow crab shares. Options 2 through 4 would change the exemption requirements for non-AFA crab vessels that are qualified to participate in the GOA Pacific cod sideboard fishery. The four options apply different BS snow crab and GOA Pacific cod catch thresholds during the 1996 to 2000 period. Vessels meeting the threshold requirements under the different options would be exempt from GOA Pacific cod sideboard limits.

Part II proposes to add a sideboard exemption for GOA pollock dependent non-AFA crab vessels. Alternative 1 is status quo, under which there would be no change to the exempt status for the GOA pollock fishery for the non-AFA crab vessels. Alternative 2 would exempt those non-AFA crab vessels that met the catch history requirement from GOA pollock sideboard limits.

Part III proposes to exempt non-AFA crab vessels from B season Pacific cod sideboard limit after November 1. Alternative 1 is status quo, which would not change the B season GOA Pacific cod sideboard limits. Alternative 2 would exempt non-AFA crab vessels from GOA Pacific cod sideboard limits after November 1. Options include exempting all non-AFA crab vessels able to participate in the GOA groundfish fisheries or limit the exemption only to vessels qualified to participate in the GOA Pacific cod sideboard fishery.

### 1.2.1 Part 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: To receive exempted status, the vessel/LLP would forfeit all BS opilio shares.<sup>1</sup>

Suboption 2.1.1: To receive exempted status, the vessel/LLP would forfeit their BS opilio shares that are in excess of the 100,000 pound landing threshold during the qualifying years 1996-2000.

Option 2.2: Exempt non-AFA crab vessels from GOA Pacific cod sideboards if the vessel's Bering Sea opilio catch history is less than 0.22%<sup>2</sup> **from 1996-2000** and the vessel landed more than 500 mt of GOA Pacific cod from 1996-2000.

Suboption 2.2.1: To receive exempted status, the vessel/LLP would forfeit their BS opilio shares that are in excess of the 100,000 pound landing threshold during the qualifying years 1996-2000.

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 **from 1996-2000** and the vessel landed more than 2,500 mt of GOA Pacific cod from 1996-2000.<sup>3</sup>

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<sup>1</sup> This option and suboption 2.1.1 would maintain status quo catch criteria for qualification for the exemption, but require forfeiture of the requisite amount of Bering Sea *C. opilio* quota shares. Under the status quo, vessels are exempt that landed less than 100,00 pounds of Bering Sea *C. opilio* and more than 500 metric tons of Gulf of Alaska Pacific cod from January 1, 1996 to December 31, 2000.

<sup>2</sup> **Note, that percent is of total Bering Sea *C. opilio* catch history, including both qualified and unqualified pounds.**

<sup>3</sup> **The Council should clarify that if this provision is adopted, vessels meeting the status quo catch criteria, but not meeting the catch criteria of this option, would continue to qualify for the sideboard exemption.**

Option 2.4: 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 **from 1996-2000** and the vessel has landed **more than** 680 mt of GOA Pacific cod landings from 1996-2000.<sup>4</sup>

Suboption 2.4.1: In addition to above, must also have 20 GOA pollock trawl landings during 1996-2000.

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

### 1.2.2 Part 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%<sup>5</sup> **from 1996-2000** and the vessel had: 1) five pollock deliveries **from 1996-2000**, 2) 10 pollock deliveries **from 1996-2000**, and 3) 20 pollock deliveries from 1996-2000.

All these exemptions only apply to those non-AFA crab vessels/LLPs that are eligible to participate in the GOA groundfish fisheries (have appropriate LLP).

### 1.2.3 Part III: Proposed Exemption from B Season Pacific Cod Sideboard Limit after November 1

Alternative 1: No changes to B season Pacific cod sideboard limit

Alternative 2: Options to include lifting sideboard restriction from 1) those that have a GOA Pacific cod sideboard and 2) those that have GOA groundfish sideboard. This exemption only applies to those non-AFA crab vessels/LLPs that are eligible to participate in the GOA Pacific cod fishery (have appropriate LLP).

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<sup>4</sup> The Council should clarify that if this provision is adopted, vessels meeting the status quo catch criteria, but not meeting the catch criteria of this option, would continue to qualify for the sideboard exemption.

<sup>5</sup> Note, that percent is of total Bering Sea *C. opilio* catch history, including both qualified and unqualified pounds.

### 1.3 Description of the Pacific Cod Fishery

The Gulf of Alaska Pacific cod resource is targeted by multiple gears, principally by pot, trawl and hook-and-line catcher vessels and hook-and-line catcher processors. Smaller amounts of cod are taken by other sectors, including catcher vessels using jig gear. After pollock, Pacific cod is the second most dominant species in the commercial groundfish catch in the Gulf of Alaska, accounting for about 35,100 mt or 19.0% of the total 2005 commercial groundfish catch (Hiatt et al. 2006). About 15% of the total commercial Pacific cod catch off Alaska is harvested in the Gulf of Alaska, with the remaining 85% harvested in the Bering Sea and Aleutian Islands.

**Table 1-1 Pacific cod catch (mt) by gear type in the Federal and State fisheries in the Gulf of Alaska, TAC and ABC, 2000-2006**

Year	Federal				Total Federal Catch	Federal TAC	State		Total Catch
	Trawl	Longline	Pot	Other			Pot	Other	
2000	25,442	11,659	17,351	40	54,492	58,715	10,388	1,643	66,523
2001	24,382	9,910	7,171	151	41,614	52,110	7,836	2,084	51,534
2002	19,809	14,666	7,694	176	42,345	44,230	10,423	1,714	54,482
2003	18,912	9,591	12,679	88	41,270	40,540	8,031	3,429	52,730
2004	17,584	10,371	14,884	344	43,183	48,033	10,117	2,804	56,104
2005	14,489	5,722	14,617	203	35,031	44,433	9,712	2,673	47,416
2006	13,111	10,163	14,397	116	37,787	52,264	9,269	590	47,646

Source: 2006 Groundfish SAFE Report, Pacific cod stock assessment (Thompson et al., 2006), and NMFS Blend and Catch Accounting databases (2000-2006 federal catch).

In the Gulf of Alaska, 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 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 Gulf of Alaska 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 42,733 mt in 2006. Total federal catch as a percentage of the federal TAC has declined since Steller sea lion regulations went into effect in 2001. From 1995-2000, 99% of the federal TAC was harvested, and from 2001-2006, only 86% of the federal TAC was fished. Table 1-1 provides GOA Pacific cod catch by gear from 2000-2006.

Fishing effort for Pacific cod is widely distributed along the shelf edge in the Gulf of Alaska. Trawl effort was also located near Chirikof, Cape Barnabus, Cape Chiniak, and Marmot Flats. The hook-and-line fishery primarily occurs at depths of 25 to 140 fathoms over gravel, cobble, mud, sand, and rocky bottoms (Livingston et al. 2002).

Additional descriptions of the Gulf of Alaska Pacific cod fisheries are included in the Groundfish Economic Stock Assessment and Fishery Evaluation (SAFE) report (Hiatt et al. 2007) 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.

### 1.4 Description of the Pollock Fishery

The fishery for pollock in the GOA is entirely shore-based with approximately 90% 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 Pollock catch (mt) by gear type in the Gulf of Alaska from 2000-2006**

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

Source: Stock Assessment and Fishery Evaluation Report, 2007.

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 season between mid-January and autumn during which some 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% of the total TAC allocated each season.

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

## 1.5 Management of the GOA Pacific Cod and Pollock Fishery

Three separate area TACs are identified for Pacific cod: Western Gulf, Central Gulf, and Eastern Gulf. Final 2006 harvest specifications apportioned 55% of the Gulf catch to the Central Gulf (28,405 mt) and 39% to the Western Gulf (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 1st for fixed gear vessels, and on January 20th for trawl vessels. The A season ends on June 10th, but NMFS usually closes the season much earlier when the TAC has been fully fished. The B season begins on September 1st for all gear types, and ends November 1st for trawl vessels and December 31st 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 PSC halibut restrictions. The TAC, actual catch, and percentage of TAC harvested in the federal Pacific cod fisheries in the Western and Central GOA are summarized in Table 1-3.

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 Regulatory

Areas of the GOA is apportioned into four equal seasonal allowances of 25 percent. 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 Regulatory Areas of the GOA are apportioned among Statistical areas 610, 620, and 630. In these individual Statistical areas, the A and B seasons apportionment 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 years, 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 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 1-4.

**Table 1-3 Total allowable catch (mt) of Pacific cod in the federal Pacific cod fisheries in the Western and Central Gulf of Alaska, 2000-2006**

Year	Western Gulf			Central Gulf		
	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	25,058	101.1
2003	15,450	16,235	105.1	22,690	24,828	109.4
2004	16,957	15,554	91.7	27,116	27,464	101.3
2005	15,687	12,402	79.1	25,086	22,595	90.1
2006	20,141	14,742	73.2	28,405	23,011	81.0

Source: NMFS Blend (2000-2002) and Catch Accounting (2003-2006) databases.

**Table 1-4 Total allowable catch (mt) of Pollock in the pollock fisheries in the Statistical Area 610, 620, and 630, 2000-2006**

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%

Source: NMFS

Inseason managers monitor catch in the fishery and time the closure of the 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 by other directed fisheries. Incidental catch continues to accrue to the A season TAC until the A season ends on June 10th. Any A season overage or incidental catch between the end of the A season (June 10th) and the beginning of the B season (September 1st) counts toward the B season TAC. Incidental catch when the directed fishery is closed 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 all directed species is 20 percent. There is currently no MRA for Pacific cod or pollock in the directed Arrowtooth Flounder fishery, but the Council is considering options for implementing an MRA. When 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.<sup>6</sup> 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.

### 1.5.1 Total catch of Pacific cod in the Gulf of Alaska

In some recent years, the Gulf of Alaska Pacific cod TACs have not been fully harvested (Table 1-5 and Table 1-6). During 3 of the last 6 years, the inshore sector in the Western Gulf harvested less than 90 percent of the TAC. In contrast, in the Central Gulf, the inshore sector harvested more than 90 percent of the TAC in all but one of the last six years. During 2004 through 2006, the offshore sector in both management areas has harvested 75 percent or less of the TAC.

**Table 1-5 Pacific cod catch (mt) and percentage of the TAC harvested in the inshore and offshore sectors in the Western Gulf of Alaska, 2001-2006**

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	2,205	142.7
2004	15,261	14,274	93.5	1,696	1,281	75.5
2005	14,118	11,978	84.8	1,569	423	27.0
2006	18,127	13,648	75.3	2,014	1,095	54.4

Source: NMFS Catch Accounting database (2003-2006) and Blend database (2001-2002).

**Table 1-6 Pacific cod catch (mt) and percentage of the TAC harvested in the inshore and offshore sectors in the Central Gulf of Alaska, 2001-2006**

Year	Inshore			Offshore		
	TAC	Catch	Percent Harvested	TAC	Catch	Percent Harvested
2001	27,255	25,255	92.7	3,025	2,066	68.3
2002	22,311	22,665	101.6	2,479	2,393	96.5
2003	20,421	22,601	110.7	2,269	2,228	98.2
2004	24,404	25,533	104.6	2,712	1,931	71.2
2005	22,577	22,234	98.5	2,509	361	14.4
2006	25,565	21,609	84.5	2,840	1,402	49.4

Source: NMFS Catch Accounting database (2003-2006) and Blend database (2001-2002).

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 and roe peaks, is typically fully harvested. In recent years, A season catches have substantially exceeded A season TACs in both the Western and Central

<sup>6</sup> Pacific cod and pollock catch is also retained in the halibut and sablefish IFQ program. Vessels fishing IFQ are required to retain Pacific cod and pollock up to the MRA, except if Pacific cod or pollock is on PSC status.

Gulf. Most of this overage is a result of incidental catch after the A season has closed to directed fishing, but prior to June 10th, when the A season ends. Incidental catch between the A and B seasons is substantial, particularly by the inshore sector in the Central Gulf. 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 Gulf, 2003-2006**

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	2040	220.1	618	165	26.7
2004	9,157	10,536	115.1	6,104	3,738	61.2	1017	626	61.6	679	655	96.5
2005	8,471	10,298	121.6	5,647	1,686	29.9	941	123	13.1	628	300	47.8
2006	10,876	12,299	113.1	7,251	1,349	18.6	1208	666	55.1	806	429	53.2

Source: NMFS Annual Catch Reports, 2003-2006.

**Table 1-8 Pacific cod catch (mt) during the A and B seasons by the inshore and offshore sectors in the Central Gulf, 2003-2006**

Year	Inshore						Offshore					
	A season			B season			A season			B season		
	TAC	Catch	Percent harvested									
2003	12,253	15679	128.0	8,168	6,922	84.7	1361	1,440	105.8	788	908	115.2
2004	14,643	15673	107.0	9,761	9,860	101.0	1627	1,347	82.8	1,085	584	53.8
2005	13,547	12688	93.7	9,660	9,660	100.0	1414	91	6.4	1,003	270	26.9
2006	15,339	15529	101.2	10,226	6,083	59.5	1679	25	1.5	1,136	1,378	121.3

Source: NMFS Annual Catch Reports, 2003-2006.

Short season lengths are another indication that the GOA Pacific cod fishery is fully utilized. In recent years, the A seasons for the Gulf Pacific cod fisheries have closed approximately one month after the trawl gear opening on January 20th because the TAC has been fully harvested (see Table 1-9). In 2005 in the Central Gulf, the A season inshore TAC was fully fished just 7 days after the trawl season opened. Halibut PSC restrictions have occasionally limited A season harvests by the trawl sector. During the B season, the trawl fishery has been closed due to halibut PSC restrictions in 4 of the past 6 years (see Table 1-10 and Table 1-11). The hook-and-line sector's B season has been closed twice in the past 6 years due to halibut PSC limits.

**Table 1-9 Pacific cod A season closures for the Western and Central Gulf of Alaska, 2001-2007**

Year	Western Gulf				Central Gulf			
	Inshore		Offshore		Inshore		Offshore	
	Date	Reason	Date	Reason	Date	Reason	Date	Reason
2001	27-Feb	TAC	24-May	TAC	4-Mar	TAC	24-May (TRW)	HAL
2002	26-Feb	TAC	9-Feb	TAC	9-Mar	TAC	25-Mar	TAC
2003	17-Feb	TAC	20-Mar	TAC	9-Feb	TAC	1-Feb	TAC
2004	24-Feb	TAC	8-Mar	TAC	31-Jan	TAC	2-Feb	TAC
2005	24-Feb	TAC	22-Feb	TAC	26-Jan	TAC	22-Feb	TAC
2006	23-Feb (TRW) <sup>1</sup>	HAL	19-Feb	TAC	23-Feb (TRW) <sup>2</sup>	HAL	19-Feb	TAC
2007	8-Mar	TAC	14-Feb	TAC	27-Feb	TAC	14-Feb	TAC

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

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

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 Gulf of Alaska, 2001-2006**

Year	Inshore		Offshore		Inshore		Offshore	
	Trawl				Hook-and-line			
	Date	Reason	Date	Reason	Date	Reason	Date	Reason
2001	21-Oct	HAL	21-Oct	HAL	4-Sep	HAL	4-Sep	HAL
2002	13-Oct	HAL	3-Oct	TAC	23-Nov	TAC	3-Oct	TAC
2003	12-Sep	HAL	not opened	TAC	25-Sep	TAC	not opened	TAC
2004	1-Oct	HAL	1-Oct	HAL	2-Oct	HAL	2-Oct	HAL
2005	1-Oct	HAL	1-Oct	HAL	31-Dec	n/a	31-Dec	n/a
2006	8-Oct	HAL	8-Oct	HAL	31-Dec	n/a	31-Dec	n/a

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 Gulf of Alaska, 2001-2006**

Year	Inshore		Offshore		Inshore		Offshore	
	Trawl				Hook-and-line			
	Date	Reason	Date	Reason	Date	Reason	Date	Reason
2001	21-Oct	HAL	21-Oct	HAL	4-Sep	HAL	4-Sep	HAL
2002	not opened	TAC	8-Oct	TAC	26-Sep	TAC	8-Oct	TAC
2003	3-Sep	TAC	14-Oct	TAC	3-Sep	TAC	14-Oct	TAC
2004	1-Oct	HAL	1-Oct	HAL	2-Oct	HAL	2-Oct	HAL
2005	1-Oct	HAL	1-Oct	HAL	31-Dec	n/a	31-Dec	n/a
2006	8-Oct	HAL	8-Oct	HAL	31-Dec	n/a	31-Dec	n/a

Source: NMFS Alaska region season closures summary.

## 1.6 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 included GOA groundfish sideboard limits for non-AFA vessels that qualified for the Bering Sea snow crab IFQ fishery.

Figure 1-1 provides a diagram of these sideboard limits for the non-AFA crab vessels. GOA groundfish (other than Pacific cod and fixed-gear sablefish) sideboard limits for non-AFA crab vessels are based on GOA groundfish landings by qualified vessels<sup>7</sup> relative to groundfish landings by all vessels from 1996 to 2000. For GOA Pacific Cod, the sideboard limit is based on retained catch of Pacific cod by qualified vessels, excluding BSAI snow crab qualified vessels that are prohibited from participating in the GOA Pacific cod fishery and vessels exempt from GOA sideboards limits, divided by the total retained catch of Pacific cod by all groundfish vessels. These same GOA groundfish sideboard restrictions apply in the State of Alaska parallel groundfish fisheries for those qualified BSAI snow 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 2007 sideboard limits.

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**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 quota 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 that generated Bering Sea snow crab fishery quota share.

There is an exemption from GOA Pacific cod sideboard limits for qualified vessels. Exempt BSAI snow crab qualified vessels must have landed less than 100,000 lbs of Bering Sea snow crab and more than 500 mt of GOA Pacific cod between 1996 and 2000. The exemption was developed for non-AFA crab vessels that demonstrated dependence on the GOA fisheries. The catch history of the exempt vessels was not included in the sideboard calculations. Since their historic 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 LLPs can move among vessels, it is possible that the sideboard limits on a vessel could differ from those associated with the license assigned to that vessel. In cases where vessels are subject to one sideboard (i.e., GOA Pacific cod sideboard) and the LLP license used on that vessel is more restrictive (i.e., prohibited from fishing GOA Pacific cod) the more restrictive measure applies. The converse is true as well, LLP licenses subject to GOA Pacific cod sideboard and used on a vessel prohibited from fishing GOA Pacific cod would not relieve that vessel from the sideboard limit prohibiting GOA Pacific cod fishing.

There are 227 non-AFA crab vessels that made a landing of BS snow crab during the 1996 to 2000 period. Of the 227 non-AFA crab vessels, 137 are prohibited from fishing for GOA Pacific cod, 85 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 a LLP that originated on a qualified non-AFA crab vessel is also limited by the GOA groundfish sideboards. There are 57 groundfish LLP licenses that originated on non-AFA crab vessels. Of the 57 licenses, 12 licenses prohibit the vessel using that license from directed fishing in the GOA Pacific cod fishery, 40 licenses limit the vessel using that LLP license to the GOA Pacific cod sideboard, and 5 licenses would exempt the vessel using the license from the GOA Pacific cod sideboard limit.

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<sup>7</sup> Any non-AFA vessel that made a landing of Bering Sea snow crab between January 1, 1996, and December 31, 2000 and any vessel named on an LLP licenses that was generated in whole or part by the fishing history of a qualified vessel.

NMFS manages the sideboard limits by setting a single sideboard cap for each GOA groundfish species. That amount is then made available to all qualified vessels subject to the cap on a seasonal basis at the beginning of the year. All targeted or incidental catch of sideboard species made by the non-AFA crab vessels will be deducted from the sideboard limit.

NMFS will close the directed fisheries to those non-AFA BSAI snow crab vessels subject to the cap that qualify to participate in the GOA groundfish fisheries when sideboard amounts are inadequate to support a directed fishery. The exception would 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 is open.

Sideboard limit closures will be 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 caps 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 of that species in other fisheries and the directed fishery harvest. In 2006 and 2007, only the Western and Central GOA Pacific cod were open for directed fishing for the qualified non-AFA crab vessels. The remaining GOA groundfish fisheries were closed as the sideboard limits were necessary for incidental catch to support Pacific cod fishery.

**Table 1-12 Final 2007 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	Proposed 2007 TAC (mt)	2007 non-AFA crab vessel sideboard limit (mt)
Pollock	<b>A Season (W/C areas only)</b>			
	<b>January 20 - March 10</b>			
	Shumagin (610)	0.0098	4,511	44
	Chirikof (620)	0.0031	7,357	23
	Kodiak (630)	0.0002	3,320	1
	<b>B Season (W/C areas only)</b>			
	<b>March 10 - May 31</b>			
	Shumagin (610)	0.0098	4,511	44
	Chirikof (620)	0.0031	8,924	28
	Kodiak (630)	0.0002	1,753	0
	<b>C Season (W/C areas only)</b>			
	<b>August 25 - October 1</b>			
	Shumagin (610)	0.0098	7,995	78
	Chirikof (620)	0.0031	2,304	7
	Kodiak (630)	0.0002	4,889	1
	<b>D Season (W/C areas only)</b>			
	<b>October 1 - November 1</b>			
	Shumagin (610)	0.0098	7,995	78
	Chirikof (620)	0.0031	2,304	7
	Kodiak (630)	0.0002	4,889	1
<b>Annual</b>				
WYK (640)	0	1,398	0	
SEO (650)	0	6,157	0	
Pacific cod	<b>A Season</b>			
	<b>January 1 - June 10</b>			
	W inshore	0.0902	10,876	981
	W offshore	0.2046	1,208	247
	C inshore	0.0383	15,339	587
	C offshore	0.2074	1,704	353
	<b>B Season</b>			
	<b>September 1 - December 31</b>			
	W inshore	0.0902	7,251	654
	W offshore	0.2046	806	165
	C inshore	0.0383	10,226	392
	C offshore	0.2074	1,136	236
	<b>Annual</b>			
	E inshore	0.011	3,346	37
	E offshore	0	372	0

Table 1-13 provides annual total catch of GOA Pacific cod, pollock, and other groundfish from 1995 to 2007 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 the 2006 fishing year, the GOA Pacific cod sideboard catch was 5,037 mt, while the limit was 3,615 mt. The reason the 2006 sideboard catch exceeded the sideboard limit was due to the regulations being implemented in March 2006, which was after the A season was completed. The 2007 GOA sideboard limit for Pacific cod was 3,652 mt, while the sideboard catch was approximately 3,264 mt.

Table 1-14 provides a brief summary of the Western and Central GOA Pacific cod sideboard fishery closures during 2006 and 2007. The important point of this table is that it shows Pacific cod in both areas during the A season closed prematurely as a result of the sideboard limit being reached during the early February period. The B season sideboard fishery also closed prior to the end of the fishing season as a result of the sideboard limit being reached.

**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

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 does not include State water Pacific cod catch and sablefish and halibut IFQ bycatch of Pacific cod IFQ fisheries.

**Table 1-14 Sideboard fishery closure dates for Western and Central GOA Pacific cod during 2006 and 2007**

Area	Season	Inshore		Offshore	
		2006	2007	2006	2007
Western GOA	A	2 Mar (TAC)	18 Feb (TAC)	19 Feb (TAC)	14 Feb (TAC)
	B	21 Aug (TAC)	14 Oct (TAC)	12 Oct (TAC)	
Central GOA	A	28 Feb (TAC)	24 Jan (TAC)	19 Feb (TAC)	14 Feb (TAC)
	B	21 Aug (TAC)	11 Oct (TAC)		

Source: NMFS

Table 1-15 provides an annual vessel count of the non-AFA crab vessels by sideboard category and a vessel count of the non-crab vessels in the GOA Pacific cod fishery from 1995 to 2007 that caught GOA Pacific cod. The number of Pacific cod exempt non-AFA crab vessels ranged between 4 and 5 during this period. For Pacific cod prohibited non-AFA crab vessels, the numbers ranged from 15 vessels in 1995 to 2 vessels in 1997. For Pacific cod sideboard non-AFA crab vessels, the vessel numbers ranged from 60 in 2000 to 15 in 1997. Since implementation of the sideboards on the non-AFA crab vessels, only 22 vessels

recorded GOA Pacific cod catch. Finally, the number of non-crab vessels that caught GOA Pacific cod has ranged from 476 in 1995 to 258 in 2006.

**Table 1-15 Vessel count of non-AFA crab vessels by sideboard category and vessel count of non-crab vessels**

Year	Pacific Cod Exempt Vessels	Pacific Cod Prohibited Vessels	Pacific Cod Sideboard Vessels	Non-Crab 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	22	276

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.

Table 1-16 provides GOA Pacific cod catch for non-AFA crab vessels by sideboard category and GOA Pacific cod catch for non-crab vessels, while Table 1-17 provides annual percent of GOA Pacific cod caught by each vessel group. Catch data does not include State waters Pacific cod and sablefish and halibut IFQ bycatch of Pacific cod. Overall, the total catch of GOA Pacific cod has declined during the 1995 to 2007 period. In 1995, the combined catch of GOA Pacific cod by all vessels was 68,182 mt, while the combined catch in 2004 was 34,353 mt. However, catch of GOA Pacific cod by non-AFA crab vessels does not follow this trend; rather the decline in catch appears to be limited to the non-crab vessels. For the Pacific cod exempt non-AFA crab vessels, on average their percent of the total GOA Pacific cod catch is 3.5 percent with a catch range of 1,016 mt in 2001 to approximately 2,762 mt in 1996. For Pacific cod prohibited non-AFA crab vessels, on average their percent of the total GOA Pacific cod catch is 1.3 percent with catch ranging from 53 mt in 1998 to 1,632 mt in 2005. Note that since 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 sideboards, on average their percent of the total GOA Pacific cod catch is 8.7 percent with catch ranging from 2,422 mt in 1997 to 10,724 mt in 2000. In more recent years, catch for this group of vessels has ranged from 3 to 5 thousand mt. Finally, GOA Pacific cod for non-crab vessels on average account for 86.6 percent of all GOA Pacific cod catch, which ranged from 65,214 mt to 25,383 mt in 2005.

**Table 1-16 GOA Pacific cod catch (mt) of non-AFA crab vessels by sideboard category and non-crab vessels**

Year	Pacific Cod Exempt Vessel Catch	Pacific Cod Prohibited Vessel Catch	Pacific Cod Sideboard Vessel Catch	Non-crab 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

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 does not include State water Pacific cod catch and sablefish and halibut IFQ bycatch of Pacific cod.

\*Concealed for confidentiality

**Table 1-17 Percent of GOA Pacific cod catch by sideboard category and non-crab vessels**

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	Non-crab 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%
<b>Average</b>	<b>3.5%</b>	<b>1.3%</b>	<b>8.7%</b>	<b>86.6%</b>

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 does not include State water Pacific cod catch and sablefish and halibut IFQ bycatch of Pacific cod.

\*Concealed for confidentiality

### 1.6.1 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 2002–2006 (see Table 1-18). During this same time period, prices for the

trawl sector ranged from \$0.234 – \$0.369 per pound round weight. Ex-vessel prices for GOA pollock by the fixed gear sectors ranged from \$0.060-\$0.086 per pound round weight during the 2002 to 2006 period.

**Table 1-18 Ex-vessel prices (dollars) in the Gulf of Alaska Pacific cod fisheries**

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	0.396	0.369

Source: 2007 Economic SAFE

**Table 1-19 Ex-vessel prices (dollars) in the Gulf of Alaska pollock fisheries**

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

Source: 2007 Economic SAFE

### 1.6.2 First wholesale prices and revenues

Table 1-20 and Table 1-21 provides price per pound for Pacific cod and pollock products in the fisheries off Alaska by processing mode from 2002 to 2006. First wholesale revenues for Pacific cod and pollock in the Gulf of Alaska are estimated in the 2007 Economic SAFE (Hiatt et al., 2007). In 2006, the average price per pound for all cod products was \$1.66 per pound for at-sea processors and \$1.76 per pound for shoreside processors, while all pollock products 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 of all product prices.

**Table 1-20 Price per pound of Pacific cod products in the fisheries off Alaska by processing sector, 2002-2005 (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	2.2	2.13	1.02	0.8	1.09	1.26
2005	0.56	0.58	1.29	1.5	2.07	2.72	1.32	0.81	1.29	1.65
2006	0.67	0.79	1.67	1.38	3.37	3.12	1.31	0.94	1.66	1.76

Source: 2006 Economic SAFE (Hiatt et al., 2006).

**Table 1-21 Price per pound of pollock products in the fisheries off Alaska by processing sector, 2002-2005 (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	0.25	0.28	0.58	0.54	5.08	3.62	1.01	0.8	1.27	1.00

Source: 2006 Economic SAFE (Hiatt et al., 2006).

## 1.7 Expected Effects of the Alternatives

### 1.7.1 Implementation of the Action

A detailed description of the implementation of the options granting exemptions to additional licenses and vessels 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 a license) in the Bering Sea *C. opilio* fisheries and the groundfish fisheries in which the sideboard exemption would apply. Yet, license exemptions are also effected by this action. The nexus between the qualification of a vessel and its associated license for the exemption is necessary to ensure that the exemptions are fully defined.

In the absence of additional clarification from the Council, the provision can be implemented as follows:

**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, question arises concerning whether the associated license should also qualify for the exemption. If the exempt vessel is the only vessel that contributed to the qualified catch of the associated license, then its 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.**

Other approaches to implementing the provision would require examination of qualification on both license and vessel bases, which would substantially complicate implementation of the action and increase uncertainty of the effects of the action. If the Council wishes to adopt another method of implementing the provision for licenses, that method should be specified.

### 1.7.2 Part I. Exempted vessel status of GOA Pacific cod

#### *Alternative 1 – Status Quo*

Under Alternative 1, there would be no change to the current GOA Pacific cod sideboard exemption qualifications for non-AFA crab vessels. The number of non-AFA crab vessels that are exempt from GOA Pacific cod sideboards would remain at five and the number of exempt 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 85, while the number of licenses qualified for the GOA Pacific cod fishery but limited by sideboard restrictions would be 40. These GOA Pacific cod qualified non-AFA crab vessels would continue to be limited to the GOA Pacific cod sideboard limit. As noted in Table 1-14, the GOA sideboard fishery has close prematurely during the

2006 and 2007 fishing years. For those non-AFA crab vessels qualified to participate in the GOA Pacific cod sideboard fishery that have been constrained in their catch of GOA Pacific cod, will likely continue to be constrained under status quo.

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

Alternative 2, which includes several options, would change the exempted status requirements for the GOA Pacific cod fishery for non-AFA crab vessels. Option 2.1 would maintain the current catch criteria for exemption of non-AFA crab vessels from GOA Pacific cod sideboards but would require a vessel to forfeit all or a portion of its BS snow crab shares to maintain the exemption. Options 2.2 through 2.4 would change the exemption requirements for non-AFA crab vessels that are qualified to participate in the GOA Pacific cod sideboard fishery by applying different BS snow crab and GOA Pacific cod catch thresholds during the 1996 to 2000 period. Non-AFA crab vessels meeting the threshold requirements under the different options would be exempt from GOA Pacific cod sideboard limits.

***Option 2.1 To receive exempted status, the vessel/LLP would forfeit all BS C. opilio shares***

***Suboption 2.1.1 To receive exempted status, the vessel/LLP would forfeit their BS C. opilio shares that are in excess of the 100,000 pound landing threshold during the qualifying years 1996-2000.***

Under Option 2.1, if a vessel is eligible for the exemption from GOA Pacific cod sideboard limits, all of the crab quota share of the vessel/LLP would be required to be forfeited to receive the exemption. Under Suboption 2.1.1, if a vessel is eligible for the exemption, all crab quota share of the vessel/LLP in excess of 100,000 pounds would be forfeited.

There are a number of issues with Option 2.1 and Suboption 2.1.1 that make implementation of these options problematic, some of which require further clarification by the Council.

First, and most problematic, initial allocations of crab quota shares were calculated at the individual level based on catch histories of vessels, as attributed to licenses. To determine amounts of quota that must be forfeited will require recalculation of the Bering Sea *C. opilio* 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. Additional difficulties relate to the interpretation of the provision, which must be clarified to understand the effects of the action and to allow for implementation.

One of these difficulties is that vessels, LLP licenses, and crab quota shares are all freely and independently transferrable. Although the crab quota is derived from the landings of a vessel and given to the holder of an LLP crab license, the quota share is its own permit, separate and distinct from the vessel or the LLP license. Crab quota share is held by a person and it is transferable from person to person without regard for 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 quota when this proposed action is implemented may not be the person initially issued the crab quota. Since crab quota share was issued to the LLP holder, it is also possible that the person who owns the vessel may not necessarily have received the crab quota shares. As a consequence, implementation of this provision may require coordination of the forfeiture among multiple persons, some of which may perceive no benefit from the exemption.

If the Council elects to proceed with this provision, the following situations will need to be clearly addressed:

- if a vessel is currently exempt from the sideboard, but its owner holds no crab quota shares (or fewer quota shares than were received in the initial allocation), will the vessel exemption be withdrawn (or can the vessel owner take some action to maintain the sideboard exemption);
- similarly, if LLP license currently exempt from the sideboard, but its holder does not hold crab quota shares (or holds fewer quota shares than were received in the initial allocation), will the LLP exemption be withdrawn (or can the LLP holder take some action to maintain the exemption sideboard);
- if a vessel and the LLP license that the vessel contributed to the catch history of both qualify for the exemption, but are held by different persons, to retain the exemption, will one or both of these persons be required to forfeit the request amount of quota shares

To implement this provision will require the Council to fully specify the forfeiture provision with respect to vessels and licenses that otherwise meet the catch requirements for the exemption.

Under **Suboption 2.1.1**, a vessel and LLP would be required to forfeit any quota shares in excess of the amount of quota share arising from 100,000 pounds of qualifying catch to retain the exemption.

**Implementation of this provision is not possible in its current form.** Initial allocations of QS to a license holder in the rationalization program were based on the average annual percentage of qualified catch history. Under this method, the contribution of catch history to the initial allocation of quota share varies year to year. In years of low TACs, 100,000 pounds of qualified catch would yield substantially more QS than 100,000 pounds of catch in high TAC years. **If the Council wishes to proceed with an option to forfeit a portion of the initial allocation of QS, it will need to identify the portion of QS that is not required to be forfeited in a different manner.**

**Given the complexities that will be confronted in implementing either of these provisions (Option 2.1 and Suboption 2.1.1), the cost of implementing this provision could exceed the value of the quota shares forfeited.**

*Option 2.2: Exemption based on snow crab history less than 0.22%<sup>8</sup> from 1996-2000 and 500 mt of GOA Pacific cod from 1996-2000*

Option 2.2 would qualify non-AFA crab vessels with less than 0.22 percent of the snow crab history<sup>9</sup> and 500 mt of GOA Pacific cod from 1996 to 2000 for an exemption from GOA Pacific cod sideboard limits. Applying these exemption thresholds, approximately six vessels and six licenses would be exempt from GOA Pacific cod sideboard limits in addition to the 5 vessels and 5 licenses that are currently exempt<sup>10</sup>. Looking at the catch history of the six new exempt vessels under this option, their total combined GOA Pacific cod catch during the 1996 to 2000 period was 6,484 mt or approximately 15 percent of the total Pacific cod catch for all of the non-AFA crab vessels combined (42,166 mt). In contrast, their combined snow crab catch relative to the total snow crab catch during the same period is 0.68 percent. The differences in the historical catch for GOA Pacific cod and BS snow crab indicate that the six exempt vessels likely focused on GOA Pacific cod to a much greater extent than BS snow crab during the 1996 to 2000 period.

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<sup>8</sup> Note, that percent is of total Bering Sea *C. opilio* catch history, including both qualified and unqualified pounds.

<sup>9</sup> Note, that percent is of total Bering Sea *C. opilio* catch history, including both qualified and unqualified pounds.

<sup>10</sup> Note, that ongoing crab adjudication could continue to change the denominator used to determine a vessel's percent of total qualified snow crab harvest for this option. As a result, the exact number of vessels and license exempt from GOA Pacific cod sideboard limits could change prior to implementation of this action.

Based on the historical catch of the new qualified vessels under this proposed action during the 2001 to 2005 period, it is likely these vessels would likely increase fishing effort in the GOA Pacific cod fishery to levels seen prior to the implementation of sideboard limits. Table 1-22 provides historical catch of GOA Pacific cod from 1995 to 2007 for new exempt vessels and the current exempt vessels. During the 1995 to 1999 period, catch of GOA Pacific cod for the new exempt vessels ranged from 206 mt in 1997 to 1,647 mt in 1999. In more recent years (2000-2005), aggregated catch history ranged between 2,395 in 2000 and 775 mt in 2003. In contrast, during the sideboard years, the aggregated Pacific cod catch was 807 mt in 2006 and 627 mt in 2007. Relative to the total catch of GOA Pacific cod, the new exempt vessels caught on average 1.6 percent. Combined with the current exempt vessels (Table 1-17), on average these vessels caught approximately 5.1 percent of the total GOA Pacific cod.

**Table 1-22 Historical GOA Pacific cod catch (mt) and vessel count for the six non-AFA crab vessels meeting the exemption requirements under Option 2.2 and current exempt vessels**

Year	New Exempt Vessels		Current Exempt Vessels	
	Pacific Cod Catch	Vessel Count	Pacific Cod Catch	Vessel Count
1995	*	*	2,141	4
1996	*	*	2,762	5
1997	206	2	1,710	4
1998	1,413	6	2,508	4
1999	1,647	4	2,488	5
2000	2,395	6	1,388	5
2001	827	4	1,016	5
2002	1,448	4	1,077	4
2003	775	4	1,317	4
2004	808	3	1,080	4
2005	1,188	3	2,210	4
2006	807	3	1,807	4
2007	627	3	1,567	4

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 does not include State water Pacific cod catch and sablefish and halibut IFQ bycatch of Pacific cod IFQ fisheries.

\*Concealed for confidentiality

As noted in the management of the sideboard fishery, the catch history of the qualified vessels is not included in the sideboard limit calculation for GOA Pacific cod sideboard limit. One of the effects of exempting these vessels from the GOA Pacific cod sideboard limit is the sideboard amount for GOA Pacific cod will be reduced proportional to the exempt vessels GOA Pacific cod history during the 1996 to 2000 period. Finally, since the historic catch 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.

Using aggregated catch of GOA Pacific cod for Pacific cod qualified vessels minus exempt vessels under this option yields an estimated recalculated sideboard ratio of 0.0510. Applying this sideboard ratio to the 2008 GOA Pacific cod TAC of 54,194 mt yields a sideboard limit of 2,764 mt. By comparison, an estimate of the current Gulf wide sideboard ratio is 0.0646, which when multiplied by the 2008 GOA Pacific cod TAC for all areas combined yields a sideboard limit for Pacific cod of 3,501 mt. Note that these sideboard ratios and limits are a crude sideboard calculation given that Pacific cod sideboard ratios and limits are disaggregated by area, season, and processor. Disaggregated sideboard ratio and limits will be provided in time for final review.

Significantly reducing the amount of GOA Pacific cod available for those qualified exempt non-AFA crab vessels is the pending Council action on GOA Pacific cod splits. In April 2008, the Council will conduct an initial review of the GOA Pacific cod sector splits that analyzes the impacts of allocating Western and Central GOA Pacific cod TACs among the fixed gear sectors (hook-and-line catcher processors, hook-and-line catcher vessels, pot catcher processors,  $\geq 60'$  pot catcher vessels, and pot vessels  $< 60'$  in length), jig sector, and trawl sectors based on recent sector catch histories. GOA Pacific cod sectors allocations would be based on the sector's historic catch levels. For example, the allocations for Western GOA Pacific cod TAC for the pot catcher vessels ranges from 29 percent to 43 percent, while the range for Central GOA Pacific cod TAC is between 25 percent and 30 percent. Currently, GOA Pacific cod is not apportioned between sectors, so sector splits will ultimately reduce the total amount of GOA Pacific cod available for the non-AFA crab vessels throughout the fishing year.

*Suboption 2.2.1: To receive exempted status, the vessel/LLP would forfeit their BS opilio shares that are in excess of the 100,000 pound landing threshold during the qualifying years 1996-2000.*

Option 2.2 includes Suboption 2.2.1, which would require vessels exempt under this option to forfeit their BS snow crab shares that are in excess of the 100,000 pound landing threshold during the qualifying years 1996-2000. Currently, six vessels (and 6 licenses) qualify for the exemption from the GOA Pacific cod sideboard limits. The amount of QS that would need to be forfeited by these vessels cannot be estimated. These vessels and licenses, however, have approximately 0.68 percent of the Bering Sea *C. opilio* qualified catch during the 1996 to 2000 qualifying period.<sup>11</sup> **The difficulty noted in Option 2.1 and Suboption 2.1.1 above makes implementation of this provision not possible in its current form.** If the Council wishes to proceed with an option to forfeit a portion of the initial allocation of QS, it will need to identify the portion of QS that is not required to be forfeited in a different manner. **However, given the complexities that will be confronted in implementing this suboption, which are similar to those noted in Option 2.1 and Suboption 2.1.1, the cost of implementing this provision could exceed the value of the quota shares forfeited.**

*Option 2.3: Exemption based on snow crab history less than 500,000 pounds from 1996- 2000 and more than 2,500 mt of GOA Pacific cod from 1996-2000*

Option 2.3 would qualify non-AFA crab vessels with less than 500,000 pounds of BS snow crab and more than 2,500 mt of GOA Pacific cod from 1996 to 2000 to be exempt from GOA Pacific cod sideboard limits. Applying these exemption thresholds to the non-AFA crab database, only one non-AFA crab vessel appears to qualify for the exemption. Applying these same thresholds to the group of non-AFA crab vessels that are currently exempt from GOA Pacific cod sideboard limit would only qualify two of the original five vessels. Given it appears that the intent of the this action is to exempt those vessels that were not included in the original exemption and to leave in place the original exemption for the 5 qualified non-AFA crab vessels, the analysis for this option only focuses on the additional exempt vessels. **To clarify its intent, the Council should clearly state that it does not intend to disqualify any currently exempt vessels or licenses based on this action.**

Looking at the catch history of the additional exempt vessel from this option, the total GOA Pacific cod catch for this qualified vessel during the 1996 to 2000 period was 2,910 mt, which is approximately 7

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<sup>11</sup> It should be noted that, initial allocations of QS in the program were based on the average annual percentage of qualified catch history attributed to a license. Consequently, these catch history estimates should not be viewed as a direct estimate of the initial allocation of QS attributable to a vessel or its associated license.

percent of the total GOA Pacific cod catch for all of the non-AFA crab vessels combined (42,166 mt). In contrast, the qualified vessel caught approximately 447,304 pounds or 0.08% of snow crab relative to the total snow crab catch by all non-AFA crab vessels during the same period. The differences in catch history for both GOA Pacific cod and BS snow crab indicate that the qualified vessel likely focused on GOA Pacific cod to a much greater extent than BS snow crab during the 1996 to 2000 time period and is likely more economically dependent on GOA Pacific cod fishery than the BS snow crab fishery.

Based on the historical catch of the qualified vessel under this option, it is likely that fishing effort for the vessel will be similar to levels seen prior to implementation of the Pacific cod sideboard limits. Table 1-23 provides historical catch of GOA Pacific cod from 1995 to 2007 for the new exempt vessel and the current exempt vessels. Catch of GOA Pacific cod for the new exempt vessel ranged from 113 mt in 1996 to 1,131 mt in 1999 during the 1995 to 1999 period. In more recent years, catch levels of the new exempt vessel ranged between 116 mt in 2001 to 508 mt in 2005. In contrast, the catch of GOA Pacific cod in the sideboard fishery was 249 mt in 2006 and 165 mt in 2007. Relative to the total catch of GOA Pacific cod, the new exempt vessel caught on average 0.71 percent. Combined with the current exempt vessels (Table 1-17), on average these vessels caught approximately 4.2 percent of the total GOA Pacific cod catch between 1995 and 2007.

**Table 1-23 Historical GOA Pacific cod catch (mt) and vessel count for the new non-AFA crab vessel meeting the exemption requirements under Option 2.3 and current exempt vessels**

Year	New Exempt Vessels		Current Exempt Vessels	
	Pacific Cod Catch	Vessel Count	Pacific Cod Catch	Vessel Count
1995	245	1	2,141	4
1996	113	1	2,762	5
1997	205	1	1,710	4
1998	896	1	2,508	4
1999	1,131	1	2,488	5
2000	270	1	1,388	5
2001	116	1	1,016	5
2002	283	1	1,077	4
2003	322	1	1,317	4
2004	200	1	1,080	4
2005	508	1	2,210	4
2006	249	1	1,807	4
2007	165	1	1,567	4

Source: non\_afa\_snow\_crab\_cvs.xls from ADF&G Fish Tickets. Data does not include State water Pacific cod catch and sablefish and halibut IFQ bycatch of Pacific cod IFQ fisheries.

As noted in the management of the sideboard fishery, the catch history of the qualified vessel is not included in the sideboard calculation for GOA Pacific cod sideboard limit. One of the effects of exempting the qualified vessel from the GOA sideboard limits for Pacific cod will be reduced proportional to the Pacific cod catch history of the qualified vessel during the 1996 to 2000 period for the remaining sideboarded vessels. In addition, catch of the qualified vessel will not be counted towards the sideboard caps nor will the qualified vessel be required to stop fishing when the sideboard limit is reached, if the directed fishery is open.

Using aggregated catch of GOA Pacific cod for Pacific cod qualified vessels minus exempt vessels under this option yields an estimated sideboard ratio of 0.0566. Applying this sideboard ratio to the 2008 GOA Pacific cod TAC of 54,194 mt yields a sideboard limit of 3,067 mt. By comparison, an estimate of the current Gulf wide Pacific cod sideboard ratio is 0.0646, which when multiplied by the 2008 GOA Pacific

cod TAC for all areas combined yields a sideboard limit of 3,501 mt. Note that these sideboard ratios and limits are a crude sideboard calculation given that Pacific cod sideboard ratios and limits are disaggregated by area, season, and processor. Disaggregated sideboard ratio and limits will be provided in time for final review.

Option 2.3 does not include a suboption that would require the qualified exempt vessel to forfeit their BS snow crab shares that are in excess of the 100,000 pound landing threshold during the qualifying years 1996-2000. The amount of QS that would need to be forfeited by this vessel cannot be estimate. These vessel and its license, however, have approximately 0.063 percent of the Bering Sea *C. opilio* qualified catch during the 1996 to 2000 qualifying period.<sup>12</sup> As noted in the previous options, implementation of this provision, if added, would not be possible in any form similar to the other forfeiture options. If the Council wishes to proceed with an option to forfeit a portion of the initial allocation of QS, it will need to identify the portion of QS that is not required to be forfeited in a different manner. However, given the complexities that will be confronted in implementing this suboption, which are similar to those noted in Option 2.1 and Suboption 2.1.1, the cost of implementing this provision could exceed the value of the quota shares forfeited.

Significantly reducing the amount of GOA Pacific cod available for those qualified exempt non-AFA crab vessels is the pending Council action on GOA Pacific cod splits. In April 2008, the Council will conduct an initial review of the GOA Pacific cod sector splits that analyzes the impacts of allocating Western and Central GOA Pacific cod TACs among the fixed gear sectors (hook-and-line catcher processors, hook-and-line catcher vessels, pot catcher processors,  $\geq 60'$  pot catcher vessels, and pot vessels  $< 60'$  in length), jig sector, and trawl sectors based on recent sector catch histories. GOA Pacific cod sectors allocations would be based on the sector's historic catch levels. For example, the allocations for Western GOA Pacific cod TAC for the pot catcher vessels ranges from 29 percent to 43 percent, while the range for Central GOA Pacific cod TAC is between 25 percent and 30 percent. Currently, GOA Pacific cod is not apportioned between sectors, so sector splits will ultimately reduce the total amount of GOA Pacific cod available for the non-AFA crab vessels throughout the fishing year.

Option 2.4: *Exemption based on snow crab history less than 500,000 pounds from 1996-2000 and landed more than 680 mt of GOA Pacific cod from 1996-2000*

Option 2.4 would qualify non-AFA crab vessels with less than 500,000 pounds of BS snow crab and more than 680 mt of GOA Pacific cod from 1996 to 2000 for an exemption from GOA Pacific cod sideboard limits. Applying these exemption thresholds to the non-AFA crab database, the two vessels, would qualify to be exempt from GOA Pacific cod sideboard limits. Applying these same thresholds to the group of non-AFA crab vessels that are currently exempt would qualify four of the five vessels. Given it appears that the intent of the this action is to exempt those vessels that were not included in the original exemption and to leave in place the original exemption for the 5 qualified non-AFA crab vessels, the analysis for this option only focuses on the additional exempt vessels. **To clarify its intent, the Council should clearly state that it does not intend to disqualify any currently exempt vessels or licenses based on this action.**

Looking at the catch history of the two new exempt vessels under this option, the total GOA Pacific cod catch during the 1996 to 2000 period was 3,671 mt, which is equivalent to 8.7 percent of the total Pacific cod catch for all non-AFA crab vessels combined. In contrast, the catch history of BS snow crab for the

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<sup>12</sup> It should be noted that, initial allocations of QS in the program were based on the average annual percentage of qualified catch history attributed to a license. Consequently, these catch history estimates should not be viewed as a direct estimate of the initial allocation of QS attributable to a vessel or its associated license.

two new qualified exempt vessels during the 1996 to 2000 period was 555,589 pounds, which is equivalent to 0.10% of the total snow crab catch for all non-AFA crab vessels. The differences in catch history for both GOA Pacific cod and BS snow crab indicates that the two qualified vessels likely focused on GOA Pacific cod to a much greater extent than BS snow crab during the 1996 to 2000 time period and thus more economically dependent on the GOA Pacific cod fishery.

Based on the historical catch of the two new qualified vessels, removing Pacific cod sideboard limits for these vessels would likely result an increase in catch levels seen prior to the implementation of Pacific cod sideboards. Table 1-24 provides historical catch of GOA Pacific cod from 1995 to 2007 for the new exempt vessels and the current exempt vessels. Fishing effort for the two new qualified vessels during the 1995 to 1999 period has ranged from a low of 113 mt in 1996 to a high of 1,293 mt in 1999. In more recent years (2000 to 2005), Pacific cod catch has ranged from 200 mt in 2001 and 876 mt in 2005. In contrast, catch of GOA Pacific cod was 412 mt in 2006 and 454 mt in 2007. Relative to the total catch of GOA Pacific cod, the two new exempt vessels caught on average 1.02 percent during the 1995 to 2007 period. Combined with the current exempt vessels (Table 1-17), on average these vessels caught approximately 4.52 percent of the total GOA Pacific cod catch between 1995 and 2007.

**Table 1-24 Historical GOA Pacific cod catch (mt) and vessel count for the two new non-AFA crab vessels meeting the exemption requirements under Option 2.4 and current exempt vessels**

Year	New Exempt Vessels		Current Exempt Vessels	
	Pacific Cod Catch	Vessel Count	Pacific Cod Catch	Vessel Count
1995	245	1	2,141	4
1996	113	1	2,762	5
1997	205	1	1,710	4
1998	1,015	2	2,508	4
1999	1,293	2	2,488	5
2000	398	2	1,388	5
2001	200	2	1,016	5
2002	355	2	1,077	4
2003	600	2	1,317	4
2004	628	2	1,080	4
2005	876	2	2,210	4
2006	412	2	1,807	4
2007	454	2	1,567	4

Source: non\_afa\_snow\_crab\_cvs.xls from ADF&G Fish Tickets. Data does not include State water Pacific cod catch and sablefish and halibut IFQ bycatch of Pacific cod IFQ fisheries.

As noted in the management of the sideboard fishery, the catch history of the two new qualified vessels are not included in the sideboard calculation for GOA Pacific cod sideboard limit. One of the effects of exempting the new qualified vessels from the GOA sideboard limits for Pacific cod will be reduced proportional to the Pacific cod catch history of the qualified vessel during the 1996 to 2000 period for the remaining sideboarded vessels. In addition, catch of the two new qualified vessels will not be counted towards the sideboard caps nor will the qualified vessel be required to stop fishing when the sideboard limit is reached, if the directed fishery is open.

Using aggregated catch of GOA Pacific cod for Pacific cod qualified vessels minus exempt vessels under this option yields an estimated sideboard ratio of 0.0545. Applying this sideboard ratio to the 2008 GOA Pacific cod TAC of 54,194 mt yields a sideboard limit of 2,954 mt. By comparison, an estimated of the current Gulf wide Pacific cod sideboard ratio is 0.0646, which when multiplied by the 2008 GOA Pacific

cod TAC for all areas combined yields a sideboard limit of 3,501 mt. Note that these sideboard ratios and limits are a crude sideboard calculation given that Pacific cod sideboard ratios and limits are disaggregated by area, season, and processor. Disaggregated sideboard ratio and limits will be provided in time for final review.

Option 2.4 does not include an option require forfeit of all crab quota share or BS snow crab shares that are in excess of the 100,000 pound landing threshold during the qualifying years 1996-2000. However, the amount of QS that would need to be forfeited by this vessel cannot be estimated. These two new qualified vessels, however, have approximately 0.1 percent of the Bering Sea *C. opilio* qualified catch during the 1996 to 2000 qualifying period and 0.06 percent of the Bering Sea *C. opilio* qualified catch over 100,000 pounds.<sup>13</sup> As noted in the previous options, implementation of this provision, if added, would not be possible in a form similar to the above forfeiture options. If the Council wishes to proceed with an option to forfeit a portion of the initial allocation of QS, it will need to identify the portion of QS that is not required to be forfeited in a different manner. However, given the complexities that will be confronted in implementing this suboption, which are similar to those noted in Option 2.1 and Suboption 2.1.1, the cost of implementing this provision could exceed the value of the quota shares forfeited.

Suboption 2.4.1 would include the additional qualification of having 20 GOA pollock trawl landings during the 1996 to 2000 period in conjunction with those required in Option 2.4. Applying the additional pollock threshold, no non-AFA crab vessels appear to qualify for an exemption from the GOA Pacific cod sideboard limits under this suboption.

Significantly reducing the amount of GOA Pacific cod available for those qualified exempt non-AFA crab vessels is the pending Council action on GOA Pacific cod splits. In April 2008, the Council will conduct an initial review of the GOA Pacific cod sector splits that analyzes the impacts of allocating Western and Central GOA Pacific cod TACs among the fixed gear sectors (hook-and-line catcher processors, hook-and-line catcher vessels, pot catcher processors,  $\geq 60'$  pot catcher vessels, and pot vessels  $< 60'$  in length), jig sector, and trawl sectors based on recent sector catch histories. GOA Pacific cod sectors allocations would be based on the sector's historic catch levels. For example, the allocations for Western GOA Pacific cod TAC for the pot catcher vessels ranges from 29 percent to 43 percent, while the range for Central GOA Pacific cod TAC is between 25 percent and 30 percent. Currently, GOA Pacific cod is not apportioned between sectors, so sector splits will ultimately reduce the total amount of GOA Pacific cod available for the non-AFA crab vessels throughout the fishing year.

### **1.7.3 Part II. Exempted vessel status for GOA pollock**

#### ***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 GOA pollock sideboard fishery will continue to be closed to directed fishing on January 1 for fixed gear and January 20 for trawl gear. Given that the GOA pollock sideboard fishery for non-AFA crab vessels will continued to be closed to directed fishing on January 1 and January 20 for the foreseeable future, those non-AFA crab vessels limited by the pollock sideboard will continue to be constrained under status quo.

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<sup>13</sup> It should be noted that, initial allocations of QS in the program were based on the average annual percentage of qualified catch history attributed to a license. Consequently, these catch history estimates should not be viewed as a direct estimate of the initial allocation of QS attributable to a vessel or its associated license.

**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%<sup>14</sup> and the vessel had: 1) five pollock deliveries from 1996-2000, 2) 10 pollock deliveries from 1996-2000, and 3) 20 pollock deliveries from 1996-2000**

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 history<sup>15</sup> and the vessel had a specific number of GOA pollock deliveries from 1996 to 2000. The alternative includes three GOA pollock deliveries options: 5, 10, or 20. Applying these qualification thresholds to the non-AFA crab snow crab and groundfish database, 4 vessels meet the snow crab qualification and made at least 5 pollock deliveries during the 1996 to 2000 period. These same four vessels also qualify if 10 deliveries of GOA pollock were required for a sideboard exemption. Only one vessel qualifies for the GOA pollock sideboard exemption if 20 pollock deliveries are required. Looking at the catch of the one vessel qualified, the vessel made 47 landings of GOA pollock for a total GOA pollock catch during the 1996 to 2000 period of 3,828 mt (see Table 1-25)<sup>16</sup>. During this same period, the snow crab catch of the qualified vessel relative to the total snow crab catch by all non-AFA crab vessels during the same period was 0.12 percent. Note, annual catch history and number of landings for the 4 qualified vessels that qualified under the first two options cannot be reported due to few vessels in the annual observations.

Based on the historical catch of the one qualified vessel, it is likely that fishing effort for the vessel will be similar to levels seen prior to implementation of the GOA pollock sideboard limits if the vessel is exempt from the GOA pollock sideboard limits. Table 1-25 provides historical catch of GOA pollock from 1995 to 2007. Catch of pollock ranged from 0 mt in 1995 and 1996 to 1,328 mt in 1999 during the 1995 to 1999 period. In more recent years, catch levels ranged between 920 mt in 2004 to 2,544 mt in 2001. Relative to the total catch of GOA pollock, the qualified exempt vessel caught on average 1.9 percent of the GOA pollock catch during the 1995 to 2007 period.

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<sup>14</sup> Note, that percent is of total Bering Sea *C. opilio* catch history, including both qualified and unqualified pounds.

<sup>15</sup> Note, that percent is of total Bering Sea *C. opilio* catch history, including both qualified and unqualified pounds.

<sup>16</sup> Under normal circumstances, the catch information associated with the qualified vessel could not be published, but the permit holder of the qualified vessel waived his confidentiality to provide to the Council the data necessary to make an informed decision on this alternative.

**Table 1-25 GOA pollock landings and catch for qualified vessel and vessel count and catch (mt) of all GOA pollock vessels from 1995 to 2007**

Year	Qualified Vessel		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	185	67,419
2007	20	1,710	224	50,444

Source: non\_afa\_snow\_crab\_cvs.xls from ADF&G Fish Tickets.

<sup>1</sup>The qualified fishing vessel was under appeal during most of the 2007 year. During this time non-AFA crab vessel sideboard limits did not apply.

Note, 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, thus the GOA sideboard limits for pollock will be reduced proportional to the pollock catch history of the qualified vessels during the 1996 to 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 qualified vessel 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 and 2007 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 direct pollock fishery. Note, that due to time constraints in completing the analysis, recalculated sideboard ratios and sideboard limits were not included in the document. Recalculated sideboard ratios and sideboard limits will be included in the analysis in time for final review.

#### **1.7.4 Part III. Proposed Exemption from B season Pacific cod sideboard limit after November 1**

##### ***Alternative 1 – Status Quo***

Under Alternative 1, there would be no change to the B season Pacific cod sideboard limit after November 1 for non-AFA crab vessels. The number of non-AFA crab vessels that are exempt from GOA Pacific cod sideboards could vary from 11 vessels (6 new exempt vessels and 5 current exempt vessels) if the Council also selected Option 2.2 to 6 vessels (1 new exempt vessel and 5 current exempt vessels) if the Council selected Option 2.3. The number of non-AFA crab vessels that are qualified to participate in the GOA Pacific cod sideboard fishery would remain at 85, while the number of licenses would remain at 40. Under status qua, participation levels by GOA Pacific cod qualified non-AFA crab vessels would likely remain at the current level. As noted in Table 1-14, the GOA sideboard fishery has closed prematurely during the 2006 and 2007 fishing years. As a result, those non-AFA crab vessels that have been constrained in their catch of GOA Pacific cod in the sideboard fishery during the 2006 and 2007

years, will likely continue to be constrained in the future under status quo despite B season GOA Pacific cod quota still being available. As noted in Table 1-26 for 2005 and 2006, a large amount of the B season inshore Pacific cod quota was left unharvested for both Western and Central Gulf. Given that the trawl sectors are prohibited from fishing for GOA Pacific cod after November 1 due to Steller sea lion regulations, it is likely that some amount of B season Pacific cod will remain unharvested in the future.

**Table 1-26 Gulf of Alaska Seasonal Catch Report for 2005 and 2006**

			2005			2006		
			Total Catch	Quota	Remaining Quota	Total Catch	Quota	Remaining Quota
Western Gulf	Inshore	A	10,298	8,471	-1,827	12,299	10,876	-1,423
		B	1,619	5,647	4,028	1,320	7,251	5,931
	Offshore	A	123	941	818	666	1,208	542
		B	238	628	390	363	806	443
Central Gulf	Inshore	A	12,688	13,547	859	15,529	15,339	-190
		B	8,104	9,031	927	4,723	10,226	5,503
	Offshore	A	91	1,505	1,414	25	1,704	1,679
		B	77	1,003	926	1,125	1,136	11

**Alternative 2 – Options to include lifting sideboard restriction from 1) those that have a GOA Pacific cod sideboard and 2) those that have GOA groundfish sideboard. This exemption only applies to those non-AFA crab vessels/LLPs that are eligible to participate in the GOA Pacific cod fishery (have appropriate LLP).**

Alternative 2 would exempt non-AFA crab vessels from GOA Pacific cod sideboards after November 1. Included in Alternative 2 are two options for exempting non-AFA crab vessels from GOA Pacific cod sideboards: 1) exempt those vessels/LLPs qualified to participate in the GOA Pacific cod sideboard fishery or 2) exempt all non-AFA crab vessels/LLPs that qualified for Bering Sea snow crab IFQ fishery. Currently, there are 85 non-AFA crab vessels and 40 LLPs that qualify to participate in the GOA Pacific cod sideboard fishery and therefore, under Option 1, would be exempt from GOA Pacific cod sideboard limits after November 1. In contrast, under Option 2, 227 non-AFA crab vessels and 57 LLPs qualified for Bering Sea snow crab IFQ and therefore would be exempt from GOA Pacific cod sideboard limit after November 1. Under each of the options, each vessel would need a GOA LLP to participate in the GOA Pacific cod fishery.

Although it is difficult to determine how many of the non-AFA crab vessels will target GOA Pacific cod if the sideboard limits are removed after November 1, over the past twelve years there has been little effort in the GOA Pacific cod fishery after November 1 by non-AFA crab vessels. Table 1-27 provides a vessel count of GOA Pacific cod after November 1 from 1995 to 2007 for Pacific cod prohibited vessels, Pacific cod sideboard vessels non-AFA crab vessels, and non-crab vessels. Of the two groups of non-AFA crab vessels, Pacific cod qualified vessels have had the greatest vessel count and catch over 1995 to 2007 period. The largest number of GOA Pacific cod qualified vessels that caught GOA Pacific cod after November 1 was six in 2002. In contrast, the total number of non-crab vessels has ranged from 1 in 1999 to 99 vessels in 2007. In recent years, the number of non-crab vessels has increased significantly.

**Table 1-27 Vessel count in the GOA Pacific cod fishery after November 1 for Pacific cod prohibited vessels, Pacific cod sideboard vessels, and non-crab vessels from 1995 to 2007**

Year	Pacific Cod Prohibited Vessel Count	Pacific Cod Sideboard Vessel Count	Non-crab Vessel Count
1995		5	15
1996			3
1997	1		18
1998		5	11
1999	1		1
2000		1	9
2001	1	1	7
2002	1	6	25
2004	1	4	15
2005		5	41
2006	1	1	85
2007		2	99

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 does not include State water Pacific cod catch and sablefish and halibut IFQ bycatch of Pacific cod IFQ fisheries.

Looking at the Pacific cod catch history during the November/December months (Table 1-28) shows that in recent years, non-crab vessel catch has increased, while at the same time Pacific cod sideboard vessel catch has remain relatively the same during the 1995 to 2007 period. For the non-crab vessels, GOA Pacific cod catch during the November/December period has ranged from 3 mt in 1996 to 2,970 mt in 2006, while the catch by the Pacific cod sideboard vessels has ranged from 46 mt in 1995 to 373 mt in 2005. Since only one Pacific cod prohibited vessel participated in the Pacific cod fishery during the November/December period, the catch data for that vessel is confidential. In recent years, one factor that could contribute to low effort in the GOA Pacific cod sideboard fishery is premature closure of the B season. As noted in Table 1-13, the GOA inshore Pacific cod B season sideboard fishery for non-AFA crab vessels was closed prior to the end of the fishing season during the 2006 and 2007 season. Exempting non-AFA crab vessels from the GOA Pacific cod sideboard after November 1 could increase effort in the fishery. However, the limited effort by non-AFA crab vessels in the November/December 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 under either of the options.

**Table 1-28 GOA Pacific cod catch (mt) for Pacific cod prohibited vessels, Pacific cod sideboard vessels, and non-crab vessels during November and December from 1995 to 2007**

Year	Pacific Cod Prohibited Vessel Catch	Pacific Cod Sideboard Vessel Catch	Non-Crab Vessel Catch
1995		46	176
1996			3
1997	*		252
1998		267	252
1999	*		0
2000		*	110
2001	*	*	47
2002	*	296	1,553
2004	*	396	406
2005		372	925
2006	*	*	2,970
2007		*	2,700

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 does not include State water Pacific cod catch and sablefish and halibut IFQ bycatch of Pacific cod IFQ fisheries.

\*Concealed for confidentiality

One potential factor that could influence effort in the GOA Pacific cod fishery if there were no sideboard limits after November 1 is the rationalization of the BSAI crab fisheries. The BSAI crab rationalization could provide opportunities for fishermen to alter their crab fishing patterns in order to take advantage of the GOA Pacific cod fishery if there were no sideboard limits after November 1. However, as noted above, it is not known how many of the non-AFA crab vessels would change their crab fishing patterns to target GOA Pacific cod after November 1 if the sideboard limit was removed.

Significantly reducing the amount of GOA Pacific cod available for non-AFA crab vessels after November 1 is the pending Council action on GOA Pacific cod splits. In April 2008, the Council will conduct an initial review of the GOA Pacific cod sector splits that analyzes the impacts of allocating Western and Central GOA Pacific cod TACs among the fixed gear sectors (hook-and-line catcher processors, hook-and-line catcher vessels, pot catcher processors,  $\geq 60'$  pot catcher vessels, and pot vessels  $< 60'$  in length), jig sector, and trawl sectors based on recent sector catch histories. GOA Pacific cod sectors allocations would be based on the sector's historic catch levels. For example, the allocations for Western GOA Pacific cod TAC for the pot catcher vessels ranges from 29 percent to 43 percent, while the range for Central GOA Pacific cod TAC is between 25 percent and 30 percent. Currently, GOA Pacific cod is not apportioned between sectors, so sector splits will ultimately reduce the total amount of GOA Pacific cod available after November 1 for the non-AFA crab vessels.

## 1.8 Effects on Net Benefits to the Nation

A minor overall net benefit to the Nation is likely to accrue from this action. Changing the exemption qualifications for the non-AFA crab vessels in the GOA Pacific cod fishery and pollock could result in reduced amounts of unharvested GOA Pacific cod and pollock ITAC, ensuring the TAC for these species is more fully utilized to the extent practicable.

## 2 ENVIRONMENTAL ASSESSMENT

The purpose of this EA is to analyze the environmental impacts of the proposed Federal action to allocate the Central and Western Gulf of Alaska Pacific cod TACs among the various gear and operation types. 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 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, and 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 soci-economic 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 groundfish fisheries in the Exclusive Economic Zone (3 to 200 miles offshore) of the Gulf of Alaska are managed under the Gulf of Alaska Fisheries Management Plan (FMP), developed by the North Pacific Fishery Management Council under the Magnuson-Stevens Fishery Conservation and Management Act. The Gulf of Alaska FMP was approved by the Secretary of Commerce and became effective in 1978.

This document is an Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis (EA/RIR/IRFA) for proposed revisions to the GOA Pacific cod and pollock sideboard limits for non-AFA crab vessels to include: 1) exempt non-AFA Pacific cod sideboarded crab vessels from GOA Pacific cod sideboards on November 1; 2) revise the GOA Pacific cod sideboard exemption qualifications for non-AFA crab vessels; and 3) exempt qualified non-AFA crab vessels from GOA pollock sideboards.

An environmental assessment is required by the National Environmental Policy Act of 1969 (NEPA) to determine whether the proposed action will result in a significant impact on the human environment. If the action is determined not to be significant based on an analysis of the relevant considerations, the environmental assessment (EA) and finding of no significant impact (FONSI) would be the final environmental documents required by NEPA. An environmental impact statement (EIS) must be prepared for major federal actions significantly affecting the human environment.

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 crab rationalized vessels. 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 socio-economic 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 crab rationalization program was implemented in March of 2005. The program allocates IFQ to harvesters in the crab fisheries. 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. 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. In April 2007, the Council began developing options for adjusting the GOA sideboards for non-AFA crab vessels. 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 on November 1.

### **2.1.2 Purpose and Need Statement**

As noted above, the original purpose of the non-AFA crab sideboard limit was to prevent vessels with crab IFQ from disadvantaging participants in the GOA groundfish fisheries. To allow non-AFA crab vessels that were awarded small amounts of 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 excluded non-AFA crab vessels with significant GOA Pacific cod history because the vessels had slightly more than the maximum 500,000 lbs of snow crab quota. Similar to GOA Pacific cod exemption issue, the public also testified that the lack of an exemption for vessels with small amounts of snow crab quota and significant GOA pollock history is overly restrictive. Finally, it is not uncommon to see large amounts of Pacific cod go unharvested in both WGOA and CGOA during the B season for both the inshore and offshore. To address these GOA non-AFA crab sideboard issues and to guide the analysis of alternatives for this proposed action, presented below is a draft 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. In addition, given that considerable amounts of GOA Pacific cod B season TAC that has continually remained unharvested, an exemption from GOA Pacific cod sideboard limits could allow for a more fully utilized resource, which is consistent with Council policy and MSA National Standard 1.*

## **2.2 Alternatives Considered**

This section identifies the alternatives and options for consideration under the proposed action. Part 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, some with suboptions. Option 1 would allow non-AFA crab vessels that are qualified to participate in the GOA Pacific cod sideboard fishery to be exempt from GOA Pacific cod sideboard limits if they forfeit BS snow crab shares. Options 2 through 4 would change the exemption requirements for non-AFA crab vessels that are qualified to participate in the GOA Pacific cod sideboard fishery. The four options apply different BS snow crab and GOA Pacific cod catch thresholds during the 1996 to 2000 period. Vessels meeting the threshold requirements under the different options would be exempt from GOA Pacific cod sideboard limits.

Part II proposes to add a sideboard exemption for GOA pollock dependent non-AFA crab vessels. Alternative 1 is status quo, under which there would be no change to the exempt status for the GOA pollock fishery for the non-AFA crab vessels. Alternative 2 would exempt those non-AFA crab vessels that met the catch history requirement from GOA pollock sideboard limits.

Part III proposes to exempt non-AFA crab vessels from B season Pacific cod sideboard limit after November 1. Alternative 1 is status quo, which would not change the B season GOA Pacific cod sideboard limits. Alternative 2 would exempt non-AFA crab vessels from GOA Pacific cod sideboard limits after November 1. Options include exempting all non-AFA crab vessels able to participate in the GOA groundfish fisheries or limit the exemption only to vessels qualified to participate in the GOA Pacific cod sideboard fishery.

### **2.2.1 Part 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: To receive exempted status, the vessel/LLP would forfeit all BS opilio shares.<sup>17</sup>

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<sup>17</sup> This option and suboption 2.1.1 would maintain status quo catch criteria for qualification for the exemption, but require forfeiture of the requisite amount of Bering Sea *C. opilio* quota shares. Under the status quo, vessels are exempt that landed less than 100,00 pounds of Bering Sea *C. opilio* and more than 500 metric tons of Gulf of Alaska Pacific cod from January 1, 1996 to December 31, 2000.

Suboption 2.1.1: To receive exempted status, the vessel/LLP would forfeit their BS opilio shares that are in excess of the 100,000 pound landing threshold during the qualifying years 1996-2000.

Option 2.2: Exempt non-AFA crab vessels from GOA Pacific cod sideboards if the vessel's Bering Sea opilio catch history is less than 0.22%<sup>18</sup> **from 1996-2000** and the vessel landed more than 500 mt of GOA Pacific cod from 1996-2000.

Suboption 2.2.1: To receive exempted status, the vessel/LLP would forfeit their BS opilio shares that are in excess of the 100,000 pound landing threshold during the qualifying years 1996-2000.

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 **from 1996-2000** and the vessel landed more than 2,500 mt of GOA Pacific cod from 1996-2000.<sup>19</sup>

Option 2.4: 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 **from 1996-2000** and the vessel has landed **more than** 680 mt of GOA Pacific cod landings from 1996-2000.<sup>20</sup>

Suboption 2.4.1: In addition to above, must also have 20 GOA pollock trawl landings during 1996-2000.

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

## 2.2.2 Part 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%<sup>21</sup> and the vessel had: 1) five pollock deliveries **from 1996-2000**, 2) 10 pollock deliveries **from 1996-2000**, and 3) 20 pollock deliveries from 1996-2000.

All these exemptions only apply to those non-AFA crab vessels/LLPs that are eligible to participate in the GOA groundfish fisheries (have appropriate LLP).

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<sup>18</sup> Note, that percent is of total Bering Sea *C. opilio* catch history, including both qualified and unqualified pounds.

<sup>19</sup> The Council should clarify that if this provision is adopted, vessels meeting the status quo catch criteria, but not meeting the catch criteria of this option, would continue to qualify for the sideboard exemption.

<sup>20</sup> The Council should clarify that if this provision is adopted, vessels meeting the status quo catch criteria, but not meeting the catch criteria of this option, would continue to qualify for the sideboard exemption.

<sup>21</sup> Note, that percent is of total Bering Sea *C. opilio* catch history, including both qualified and unqualified pounds.

**2.2.3 Part III: Proposed Exemption from B Season Pacific Cod Sideboard Limit after November 1**

Alternative 1: No changes to B season Pacific cod sideboard limit

Alternative 2: Options to include lifting sideboard restriction from 1) those that have a GOA Pacific cod sideboard and 2) those that have GOA groundfish sideboard. This exemption only applies to those non-AFA crab vessels/LLPs that are eligible to participate in the GOA Pacific cod fishery (have appropriate LLP).

## 2.3 Gulf of Alaska Environment

The action area includes the entire Gulf of Alaska. 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.fakr.noaa.gov/index/analyses/analyses.asp>.

Alaska Groundfish Harvest Specifications Final Environmental Impact Statement (NMFS 2007a). 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 Gulf of Alaska and the Bering Sea and Aleutian Islands management areas. The EIS examines alternative harvest strategies that comply with Federal regulations, the GOA FMP, and the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). These strategies are applied to the best available scientific information to derive the total allowable catch 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 (NPFMC 2007). 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 (Final PSEIS, NMFS 2004). A Final 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 Final PSEIS on August 26, 2004, effectively implementing a new management policy that is ecosystem-based and more precautionary when faced with scientific uncertainty. The PSEIS serves as the primary environmental document for subsequent analyses of environmental impacts on the groundfish fisheries. Chapter 3 of the Final 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 Final PSEIS and related documents at <http://www.fakr.noaa.gov/sustainablefisheries/seis/default.htm>.

### 2.3.1 Pacific cod

Pacific cod (*Gadus macrocephalus*) is widely distributed in the Gulf of Alaska (GOA) and occurs at depths from shoreline to 500 m (Thompson et al. 2006). Pacific cod are moderately fast growing, and females reach 50% maturity at approximately 5.8 years old. Spawning occurs during January through April in the Gulf of Alaska. Cod are demersal and concentrate on the shelf edge and upper slope at depths of 100-250 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 Gulf of Alaska: the Western Gulf TAC, the Central Gulf TAC, and the Eastern Gulf 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 and Western Gulf management subareas. Final 2006 harvest specifications apportioned 55% of the GOA TAC to the Central Gulf (28,405 mt) and 39% to the Western Gulf (20,141 mt). Table 2-2 provides a history of acceptable biological catch (ABC), total allowable catch (TAC), and actual catch of Pacific cod in the federal and state fisheries in the Gulf of Alaska from 2000 to 2006. Total catch in the federal and state Pacific cod fisheries averaged 85% 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), 2000-2006**

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 (1995-2006 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 shark, northern fur seals, Steller sea lions, harbor porpoises, various whale species, and tufted puffin.

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, total allowable catch 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 2007a).

### ***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 2007a). 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 first proposed action would change the exemption requirements for non-AFA crab vessels participating in the GOA Pacific cod sideboard fishery potentially allowing up to a half dozen more vessels in the Pacific cod exempt fishery. This increase in the number of vessels in the sideboard exempt Pacific cod fishery could slightly increase fishing effort in the GOA Pacific cod fishery. Effort in the GOA Pacific cod could also increase under Part III of this action, under which non-AFA crab vessels would be exempt from GOA Pacific cod sideboards after November 1. Looking specially at the third proposed action, the Pacific cod catch history during the November/December months (Table 1-28)

shows that in recent years non-crab vessel catch has increased, while at the same time Pacific cod sideboard vessel catch has remain relatively the same during the 1995 to 2007 period. For the non-crab vessels, GOA Pacific cod catch during the November/December period has ranged from 3 mt in 1996 to 2,970 mt in 2006, while the catch by the Pacific cod sideboard vessels has ranged from 46 mt in 1995 to 373 mt in 2005. Since only one Pacific cod prohibited vessel participated in the Pacific cod fishery during the November/December period, the catch data for that vessel is confidential. Exempting non-AFA crab vessels from the GOA Pacific cod sideboard after November 1 could increase effort in the fishery. However, the limited effort by non-AFA crab vessels in the November/December 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 under either of the options. Finally, the actions 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 actions are 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 Bering Sea and Aleutian Islands.

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 pollock from 2000 to 2006.

**Table 2-3 Walleye pollock TAC and catch in the Gulf of Alaska, 2000-2006**

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 some 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% 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% 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 2007a). 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 4 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 will be similar to levels seen prior to implementation of the GOA pollock sideboard limits if the vessel is exempt from the GOA pollock sideboard limits. For example, relative to the total catch of GOA pollock, the qualified exempt vessel<sup>22</sup> under one of the landing options caught on average 1.9 percent of the GOA pollock catch during the 1995 to 2007 period. Further, the proposed action would not change the annual harvest specifications process or the ability of NMFS to manage the fishery to 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

**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)

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<sup>22</sup> Under normal circumstances, the catch information associated with this qualified vessel could not be published, but the permit holder waived his confidentiality to provide to the Council the catch data necessary to make an informed decision on this alternative.

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. 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 new Section 7 consultation was initiated in 2006. NMFS is also currently consulting with USFWS on the distinct southwest Alaska population of northern sea otters.

**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

A Biological Opinion addressing Steller sea lion management issues was completed in 2001 (NMFS 2001b), and found that the 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 GOA pollock is divided into four periods. The objective was to limit the total amount of 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).

***Effects of the Alternatives on Marine Mammals***

Impacts of the GOA Pacific cod and pollock fisheries on Steller sea lions were analyzed in the Programmatic SEIS (NOAA 2004a) and in the 2001 Biological Opinion. 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 first two proposed actions would change the exemption requirements for non-AFA crab vessels participating in the GOA Pacific cod and pollock sideboard fisheries potentially allowing up to a half dozen more vessels in the Pacific cod exempt fishery and up to four vessels in a pollock exempt fishery. Under the third proposed action, non-AFA crab vessels would be exempt from GOA Pacific cod sideboard limits after November 1. Combined or individually, these proposed actions could increase fishing effort slightly in the 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, and there will be no changes in the harvest specification process. Therefore, annual mortality of Steller sea lions is not expected to change under the proposed action.

#### **2.3.4 Seabirds**

Various species of seabirds occur in the Gulf of Alaska, including resident and migratory species that nest in Alaska and migratory species that only occur in Alaska outside of the breeding season. The Groundfish PSEIS (NOAA 2004a) provides descriptions of the range, habitat, diet, abundance, and population status for these seabirds. The Groundfish PSEIS (NMFS 2004a) concluded that the current groundfish fisheries did not adversely impact ESA-listed seabird species. Biological Opinions by the USFWS (2003a and 2003b) concluded that the groundfish fisheries, including the GOA Pacific cod and pollock fishery, are unlikely to jeopardize populations of listed species or adversely modify or destroy critical habitat for listed species.

#### ***Effects of the Alternatives***

Based on current estimates of seabird bycatch, the status quo alternative is not likely to have significant impact on seabird populations. The first proposed action would change the exemption requirements for non-AFA crab vessels participating in the GOA Pacific cod sideboard fishery potentially allowing up to a half dozen more vessels in the Pacific cod exempt fishery. The second proposed action would exempt fewer than 5 non-AFA crab vessels from GOA pollock sideboard limits. Under the third proposed action, non-AFA crab vessels would be exempt from GOA Pacific cod sideboard limits after November 1. Combined or individually, these proposed actions could increase fishing effort in the GOA Pacific cod and pollock fisheries, but only a slight increase is anticipated. Looking specifically at third proposed action, the Pacific cod catch history during the November/December months (Table 1-28) shows that in recent years non-crab vessel catch has increased, while at the same time Pacific cod sideboard vessel catch has remain relatively the same during the 1995 to 2007 period. For the non-crab vessels, GOA Pacific cod catch during the November/December period has ranged from 3 mt in 1996 to 2,970 mt in 2006, while the catch by the Pacific cod sideboard vessels has ranged from 46 mt in 1995 to 373 mt in 2005. Since only one Pacific cod prohibited vessel participated in the Pacific cod fishery during the November/December period, the catch data for that vessel is confidential. Exempting non-AFA crab vessels from the GOA Pacific cod sideboard after November 1 could increase effort in the fishery. However, the limited effort by non-AFA crab vessels in the November/December 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 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 previous Biological Opinions (USFWS 2003a and 2003b), and are not likely to cause additional adverse effects to

ESA-listed species. The proposed actions are not likely to increase incidental takes of listed species. 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***

These current effects on benthic habitat are likely to continue under status quo, and are not considered to be significant.

Under the proposed action, overall level of fishing effort by non-AFA crab vessels could increase slightly. The location and timing of the fishing activity will essentially remain the same as under 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 Stock Assessment and Fisheries Evaluation report (NMFS 2007b) 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 Stock Assessment and Fisheries Evaluation report (NMFS 2007b) and in the Harvest Specifications SAFE report (NMFS 2007c). 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 described in the on 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 Alaska Groundfish Fisheries 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, essential fish habitat, 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 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 recency, GOA and BSAI trawl LLP recency, and possible revisions to the GOA Pacific cod sideboards.

### **3 Initial Regulatory Flexibility Analysis (IRFA)**

#### **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 proposed 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 an Initial Regulatory Flexibility Analysis (IRFA) that describes the impact of the proposed rule on small entities.

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

The IRFA must contain:

1. A description of the reasons why action by the agency is being considered;
2. A succinct statement of the objectives of, and the legal basis for, the proposed rule;
3. A description of, and where feasible, an estimate of the number of small entities to which the proposed rule will apply (including a profile of the industry divided into industry segments, if appropriate);
4. A description of the projected reporting, record keeping, and other compliance requirements of the proposed rule, including an estimate of the classes of small entities that will be subject to the requirement and the type of professional skills necessary for preparation of the report or record;
5. An identification, to the extent practicable, of all relevant Federal rules that may duplicate, overlap, or conflict with the proposed rule;
6. A description of any significant alternatives to the proposed rule that accomplish the stated objectives of the Magnuson-Stevens Act and any other applicable statutes, and that would minimize any significant adverse economic impact of the proposed rule on small entities. Consistent with the stated objectives of applicable statutes, the analysis shall discuss significant alternatives, such as:
  - a. The establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities;
  - b. The clarification, consolidation or simplification of compliance and reporting requirements under the rule for such small entities;
  - c. The use of performance rather than design standards;
  - d. An exemption from coverage of the rule, or any part thereof, for such small entities.

The “universe” of entities to be considered in an IRFA generally includes only those small entities that can reasonably be expected to be directly regulated by the proposed 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 an IRFA, an agency may provide either a quantifiable or numerical description of the effects of a proposed rule (and alternatives to the proposed 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 dominate 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 U.S., 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% 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% 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 venturers if the ostensible subcontractor will perform primary and vital requirements of a contract or if the prime contractor is unusually reliant upon the ostensible subcontractor. All requirements of the contract are considered in reviewing such relationship, including contract management, technical responsibilities, and the percentage of subcontracted work.

Small organizations: The RFA defines “small organizations” as any 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 Reason for considering the proposed action**

The Council developed a purpose and need statement defining the reasons for considering the proposed action (see Chapter 1). The original purpose of the non-AFA crab sideboard limit was to prevent those vessels with crab IFQ from disadvantaging participants in the GOA groundfish fisheries. To allow non-AFA crab vessels that were awarded small amounts of 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 excluded vessels with slightly more snow crab quota than allow but had significant GOA Pacific cod history. For non-AFA crab vessels with little snow crab quota and significant GOA pollock history, the Council did not exempt these vessels. Similar to GOA Pacific cod exemption, the public has testified that the lack of an exemption for vessels with little snow crab quota and significant GOA pollock history is overly restrictive. Finally, although A season GOA Pacific cod is fully harvested, B season cod is not. It is not uncommon to see large amounts of cod go unharvested in both WGOA and CGOA during the B season for both the inshore and offshore.

### **3.4 Objectives of, and the legal basis for, the proposed rule**

Under the current regulatory structure, BSAI groundfish species are managed by NOAA Fisheries, under the Bering Sea & Aleutian Islands Groundfish FMP. The authority for this action and the FMP are contained in the Magnuson-Stevens Act, as amended by the Magnuson-Stevens Fishery Conservation and Management Reauthorization (P.L. 109-479).

### **3.5 Number and Description of Small Entities Regulated by the Proposed Action**

The proposed action directly regulates vessels that participate in the Pacific cod and pollock fisheries in the Gulf of Alaska. Of the 227 non-AFA crab vessels that made BS snow crab landings during the 1996 to 2000 period, 70 were active in the BS snow crab fishery during the 2006/2007 fishery. Of these 70 active non-AFA crab vessels, 58 harvested snow crab for a cooperative and 12 vessels harvested snow crab quota outside a cooperative. Given that the 58 non-AFA crab vessels that were harvesting snow crab quota during the 2006/2007 fishery year for a cooperative and vessels in cooperative are considered large entities for purposes of the RFA, these 58 vessels would be considered large entities. The remaining 12 non-AFA crab vessels that harvested BS snow crab during the 2006/2007 fishing year outside a cooperative could make these vessels small entities. However, the annual receipts of these vessels will need to be considered before it is determined that these vessels are small entities. In addition, annual receipts for non-AFA crab vessels that were not active in the BS snow crab fishery during the most recent fishing year must also be included in this section. This information will be added to this section prior to final action.

### **3.6 Recordkeeping and Reporting Requirements**

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

### **3.7 Description of Significant Alternatives**

This section identifies the alternatives and options for consideration under the proposed action. Part I addresses the exempted vessel status of non-AFA crab vessels from GOA Pacific cod sideboard. 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, some with suboptions. Option 1 would allow non-AFA crab vessels that are qualified to participate in the GOA Pacific cod sideboard fishery to be exempt from GOA Pacific cod sideboard limits if they forfeit BS snow crab shares. Options 2 through 4 would change the exemption requirements for non-AFA crab vessels that are qualified to participate in the GOA Pacific cod sideboard fishery. The four options apply different BS snow crab and GOA Pacific cod catch thresholds during the 1996 to 2000 period. Those vessels meeting the threshold requirements under the different options would be exempt from GOA Pacific cod sideboard limits.

Part II addresses the exempted vessel status of non-AFA crab vessels from GOA pollock sideboard. Alternative 1 is status quo, under which there would be no change to the exempt status for the GOA pollock fishery for the non-AFA crab vessels. Alternative 2 would exempt those non-AFA crab vessels that met the catch history requirement from GOA pollock sideboard limits.

Part III addresses the proposed exemption from B season Pacific cod sideboard limit after November 1 for non-AFA crab vessels. Alternative 1 is status quo, which would not change the B season GOA Pacific cod sideboard limits. Alternative 2 would exempt non-AFA crab vessels from GOA Pacific cod sideboard limits after November 1. Options include exempting all non-AFA crab vessels able to participate in the GOA groundfish fisheries or limit the exemption only to vessels qualified to participate in the GOA Pacific cod sideboard fishery.

## **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 the GOA Pacific cod and pollock sideboard fisheries for the non-AFA crab vessels. 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 allowing participants to make full use of landed catch within the share allocations made under the program. The action will 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.

This action will improve efficiency in utilization of the resource. The action does not allocate shares, but simply allows qualified non-AFA crab vessel participants to be exempt from GOA Pacific cod and pollock 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 costs of enforcement actions 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 will 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 will have no effect on bycatch.

***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; 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 2 of this document. The impacts of these actions on participants in the fisheries are evaluated in the RIR, Chapter 3.

## 5 List of Preparers, Persons Consulted, and References

### Prepared by

Jon McCracken, NPFMC  
Mark Fina, Ph.D. NPFMC  
Jeannie Heltzel, NPFMC

### Persons Consulted

Mary Furuness – FAKR  
Glenn Merrill – FAKR  
Robert Keaton – FAKR  
Jessica Gharrett – FAKR  
Tracy Buck – FAKR  
Mike Poltnick, ADF&G

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