REGULATORY IMPACT REVIEW

and

INITIAL REGULATORY FLEXIBILITY ANALYSIS

OF A PROVISION
ALLOWING POST-DELIVERY TRANSFER
OF SHARES

For a proposed Regulatory Amendment to
Implement Amendment ___ to the Fishery Management Plan For Bering Sea and Aleutian Islands King and Tanner Crabs.

October 2007

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1 Introduction

In August of 2005, fishing in the Bering Sea and Aleutian Island crab fisheries began under a new share-based management program (the "rationalization program"). Under the program, allocations of IFQ to harvesters and IPQ to processors are binding without provision to cover any overage or compensate for any underage. This action considers allowing harvesters and processors to engage in post-delivery transfer of their respective shares to cover overages.

This document contains a Regulatory Impact Review (Section 2) and an Initial Regulatory Flexibility Analysis (Section 3) of the alternatives to allow post-delivery transfers of IFQ and IPQ. Section 4 contains a discussion of the Magnuson Stevens Act National Standards and a fishery impact statement.

This document relies on information contained in the Bering Sea/Aleutian Islands Crab Fisheries Final Environmental Impact Statement/Regulatory Impact Review/Initial Regulatory Flexibility Analysis/Social Impact Assessment (NMFS/NPFMC, 2004).

2 Regulatory Impact Review

This chapter provides an economic analysis of the action, addressing the requirements of Presidential Executive Order 12866 (E.O. 12866), which requires a cost and benefit analysis of federal regulatory actions.

The requirements of E.O. 12866 (58 FR 51735; October 4, 1993) are summarized in the following statement from the order:

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

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

2.1 Purpose and Need Statement

The Council has adopted the following the Purpose and Need Statement for this action:

Under the crab rationalization program, harvesters receive annual allocations of individual fishing quota that provide an exclusive privilege to harvest a specific number of pounds of crab from a fishery. Any harvest in excess of an individual fishing quota allocation is a regulatory violation punishable by confiscation of crab or other penalties. Precisely estimating of catch at sea during the fishery is difficult and costly due to variation in size of crab, and sorting and measurement requirements. Overages can result from inadvertent mistakes by participants attempting to accurately estimate catch. A provision allowing for post-delivery transfer of individual fishing quota to cover overages could reduce the number of inadvertent violations, allowing for more complete harvest of allocations, and reduce enforcement costs without increasing the risk of overharvest of allocations.

2.2 Description of Alternatives

The Council has identified three alternatives for this action. Alternative 1 is the status quo, under which no post-delivery transfers are permitted. Any overage at the time of landing is considered a violation subject to a potential enforcement action. Under Alternative 2, post-delivery transfers are relatively unlimited. Post-delivery transfers of all share types, including processor shares and catcher processor shares are permitted. The number of post-delivery transfers a person may receive and their size are not limited. Post-delivery transfers are limited to being used to cover overages. Two options for limiting the time period during which the transfer may be made are set out. Under the first, the transfer must take place within 30 days of the landing. Under the second, the transfer must take place by the end of the 'crab fishing year,' which occurs on June 30th each year. This alternative also includes two options for defining harvesters that may make post-delivery transfers. Under the first option, any person may make such a transfer. Under the second, only members of an inter-cooperative meeting certain criteria are permitted to engage in the transfer. Under Alternative 3, moderate limits are place on post-delivery transfers. All share types may be transferred, but exclusively to cover overages. Transfers are limited to two transfers of each species, which are limited to 10,000 pounds each. Two options limiting the time to make transfers are under consideration. Under the first, transfers are required to be made within 15 days of the landing with the overage. Under the second, transfers must be made by the end of the fishing year (which occurs on June 30th). Two options also define harvesters who may make post-delivery transfers. Under the first, any harvester may make a transfer. Under the second, only harvesters that are members of an inter-cooperative satisfying specific criteria are permitted to make post-delivery transfers.

Alternative 1 – Status Quo (no post-delivery transfers)

Alternative 2 – Unlimited post-delivery transfers

Purpose of post-delivery transfers

Post-delivery transfers would be allowed exclusively to cover overages.

Shares used for post-delivery transfers

Post-delivery transfers of the following shares are permitted:

- B share IFQ
- A share IFQ (provided a processor simultaneously commits matching IPQ)
- C share IFQ
- Catcher processor IFQ
- IPQ

Limits on the magnitude of a post-delivery transfer

None

Limits on the number of post-delivery transfers

None

Limits on the time to undertake a post-delivery transfer

A post –delivery transfer will be permitted after a landing for a catcher vessel (or weekending date for a catcher processor) for a period of 30 days.

Suboption: All post-delivery transfers must be completed by the end of the crab fishing year (June 30th).

Eligibility for post-delivery transfers:

1. All harvesters
2. Inter-cooperative members

The intercooperative must

a. Represent 30%, 50%, or 65% of the IFQ for the fishery
b. Have established reserve pool mechanisms
c. Have an authorized representative to manage transfers with RAM

Alternative 3 – Moderate limited post-delivery transfers

Purpose of post-delivery transfers

Post-delivery transfers would be allowed exclusively to cover overages.

Shares used for post-delivery transfers

Post-delivery transfers of the following shares are permitted:

B share IFQ
A share IFQ (provided a processor simultaneously commits matching IPQ)
C share IFQ
catcher processor IFQ
IPQ

Limits on the magnitude of a post-delivery transfer

Each post-delivery transfer shall be limited to 10,000 pounds of IFQ (or IPQ).

Limits on the number of post-delivery transfers

For each species, an IFQ (or IPQ) holder is limited to receiving post-delivery transfers to cover two overages.

No person shall be permitted to begin a fishing trip, unless the person holds unused IFQ.

Limits on the time to undertake a post-delivery transfer

Post –delivery transfers will be permitted after a landing for a catcher vessel (or weekending date for a catcher processor) for a period of 15 days.

Suboption: All post-delivery transfers must be completed by the end of the crab fishing year (June 30th).

Eligibility for post-delivery transfers:

1. All harvesters
2. Inter-cooperative members

The intercooperative must

a. Represent 30%, 50%, or 65% of the IFQ for the fishery

b. Have established reserve pool mechanisms
c. Have an authorized representative to manage transfers with RAM

2.3 Existing Conditions

This section describes the relevant existing conditions in the crab fisheries. The section begins with a brief description of the management of the fisheries under the rationalization program, followed by descriptions of the harvesting and processing sectors in the fisheries including only information relevant to this action. A brief description of communities dependent on the crab fisheries is also included as background concerning possible community effects of this action.

2.3.1 Management of the fisheries

The following nine crab fisheries are managed under the rationalization program:

Bristol Bay red king crab,
Bering Sea *C. opilio*,
Eastern Bering Sea *C. bairdi*,
Western Bering Sea *C. bairdi*,
Pribilof red and blue king crab,
St. Matthew Island blue king crab,
Western Aleutian Islands red king crab,
Eastern Aleutian Islands golden king crab, and
Western Aleutian Islands golden king crab.

Under the program, holders of LLP licenses endorsed for a fishery were issued vessel owner quota shares (QS), which are long term shares, based on their qualifying harvest histories in that fishery. Catcher processor license holders were allocated catcher processor vessel owner QS for their history as catcher processors; catcher vessel license holders were issued catch vessel QS based on their history as a catcher vessel. QS annually yield individual fishing quota (IFQ), which are privileges to harvest a particular amount of crab in pounds in a given season. The size of each annual IFQ allocation is based on the amount of QS held in relation to the QS pool in the fishery. So, a person holding 1 percent of the QS pool would receive IFQ to harvest 1 percent of the annual total allowable catch (TAC) in the fishery. Ninety percent of the catcher vessel owner IFQ are issued as "A shares" or "Class A IFQ," which must be delivered to a processor holding unused individual processor quota (IPQ).[1] The remaining 10 percent of these annual IFQ are issued as "B shares" or "Class B IFQ," which may be delivered to any processor.[2] Processor quota shares (PQS) are long term shares issued to processors. These PQS yield annual IPQ, which represent a privilege to receive a certain amount of crab harvested with Class A IFQ. IPQ are issued for 90 percent of the TAC, creating a one-to-one correspondence between Class A IFQ and IPQ.[3]

[1] Currently, the C shares issued to captains are an exception to this generalization. Those shares are not subject to IPQ landing privileges during the first three years of the program. During that period, the IPQ corresponding to the C share allocations are withheld. The council is considering an amendment that would indefinitely exempt C shares from IPQ and regional landing requirements.

[2] The terms "A share" and "Class A IFQ" are used interchangeably in this paper, as are the terms "B share" and "Class B IFQ".

[3] Although 90 percent of IFQ issued each year are issued as A shares, individual allocations can vary from 90 percent. Holders of PQS and their affiliates receive their IFQ allocations as A shares only to the extent of their IPQ holdings. The rationale for issuing only A shares to PQS holders and their affiliates to offset IPQ holdings is that these persons do not need the extra negotiating leverage derived from B shares. To maintain 10 percent of the IFQ pool as B shares requires that unaffiliated QS holders receive more than 10 percent of their allocation as B shares (and less than 90 percent A shares).

In addition to processor share landing requirements, Class A IFQ and IPQ are subject to regional landing requirements, under which harvests from those shares must be landed in specified regions. The following regional designations are defined for the different fisheries in the program:

Bristol Bay red king crab – North/South division at 56°20'N latitude
Bering Sea *C. opilio* – North/South division at 56°20'N latitude
Eastern Bering Sea *C. bairdi* – none (or undesignated)
Western Bering Sea *C. bairdi* – none (or undesignated)
Pribilof red and blue king crab – North/South division at 56°20' N latitude
St. Matthew Island blue king crab – North/South division at 56°20'N latitude
Western Aleutian Islands red king crab – South of 56°20'N latitude
Eastern Aleutian Islands golden king crab – South of 56°20'N latitude
Western Aleutian Islands golden king crab – undesignated and West of 174ºW longitude

Under the rationalization program, 97 percent of the initial allocation of QS was allocated to vessel owners. The remaining three percent of the initial allocation of QS was issued to captains as "C shares", based on their harvest histories as captains. Holders of harvest shares are permitted to form harvest cooperatives to coordinate the harvest of their allocations. If a harvester chooses to join a cooperative, the annual allocation of IFQ is made to the cooperative and fished in accordance with the cooperative agreement. Cooperative members are jointly and severally liable for the acts of the cooperative, including any overharvest of the cooperative's allocation. To ensure captains are an integral part of the overall fishery, C share holders are permitted to join cooperatives (see 50 CFR 680.21(a)(1)). As incorporated into regulation, this provision effectively removes any prohibition on leasing of and owner-on-board requirements for C shares. Once a C share QS holder joins a cooperative, any IFQ are allocated to the cooperative. Since almost all C share holders have elected to join cooperatives, the limit on transfer and owner-on-board are effectively inapplicable.

Under the program's allocation structure, the limitation on the landings of A shares led to the development of a system of price arbitration and share matching for A shares and IPQ. Under the system, eligibility for price arbitration is dependent on matching A shares to IPQ by a deadline that falls before or early in the season.

IFQ allocations are binding on participants at an individual (or cooperative level). In establishing the rationalization program for the crab fisheries, the Council recommended that overages of less than 3 percent of a harvester's available quota would be confiscated without further penalty, while overages in excess of that amount would be subject to additional penalties. Since the Council does not have the authority to set penalties, these aspects of the original Council motion are considered recommendations concerning appropriate penalties. The current management permits harvesters to discard catch. In some instances, harvesters have used permitted discards to match quota to catch (emptying pots in the water to avoid an overage). In setting the TAC, discard mortality is taken into account. Although discards are permitted, no individual incentive is created by the program for discard reduction. Instead, fishery participants, as a whole, have a disincentive through potential TAC reductions to reduce discards. For example, Alaska Department of Fish and Game reduced the 2006-2007 TAC in the Bristol Bay red king crab fishery by 4.58 percent to accommodate estimated mortality of legal size discards in the fishery (ADFG, 2006). This reduction in the TAC by managers has resulted in peer pressure within industry to reduce discards. These efforts are believed to be effective by participants in the fishery.

Currently, transfers are administered by National Marine Fisheries Service (NMFS) Restricted Access Management (RAM) Office. Transfers are required to be signed and notarized by both parties to the

transaction. Transfers are usually processed by RAM within two or three days of receipt of a complete application, but can take up to 10 days.[4] RAM is in the process of developing a system of electronic transfers. Once in place, users of this system will be able to engage in real time transfers through the internet. This system is unlikely to be fully implemented for at least two more seasons.

2.3.2 The harvest sector

Prior to the implementation of the rationalization program, the BSAI crab fisheries were prosecuted as a limited access, derby fishery, under which the participants raced for crab after the opening with the fishery closing once managers estimated that the guideline harvest level (GHL)[5] was fully taken. This limited access management creates an incentive for all license holders to participate in the fishery, since a person cannot receive a return from the fishery without participating. The results of this incentive were evident in the crab fisheries. For the last several years of limited access management, seasons in the two largest fisheries ranged from a few days to a few weeks, despite harvest levels near historic lows. From the 2000 season through 2004 season, Bristol Bay red king crab fishery harvests ranged from a low of 7.5 million pounds to high of 14.5 million pounds, while Bering Sea *C. opilio* harvests ranged from 22.2 million pounds to 30.8 million pounds. Between 150 and 250 vessels participated annually in each fishery.

Under the rationalization program, participants are allocated exclusive shares of the TAC. Since allocations are exclusive, participants do not need to race to prevent others from preempting their catch. To improve returns from the fisheries, participants have an incentive to reduce costs. One obvious means of reducing costs is fleet consolidation. Stacking quota on fewer vessels can save on costs not only of capital, but also on maintenance, insurance, crew, fuel, and other variable input costs. Examining data from the first two years of the program and the years immediately proceeding implementation shows a drastic reduction in the fleet under the program (see Table 1).

[4] Longer processing times typically occur, only if notice is given to a lien holder on the underlying shares.
[5] Historically, the GHL specified a range of allowable catch, providing in-season managers with some discretion to close the fishery based on their assessment of stock conditions. In making these assessments, managers would rely on survey information, as well as in-season and cross-season variations in catch rates. In recent years, managers have stated GHLs as specific amounts, managing the fishery in-season to allow harvest of that specific amount.

Table 1. Catch and number of vessels by operation type (2001 to 2006-2007).

Fishery	Season	Catch	Catch (as percent of total**) by		Number of vessels participating		
			catcher vessels	catcher processors	catcher vessels	catcher processors	all unique vessels
Bering Sea *C. opilio*	2001	22,940,704	86.5	13.5	201	8	207
	2002	29,609,702	94.4	5.6	182	9	190
	2003	25,410,122	96.8	3.2	185	5	190
	2004	21,939,493	97.0	3.0	183	6	189
	2005	22,655,777	97.1	2.9	161	6	167
	2005-2006	33,248,009	92.2	7.2	76	4	78
	2006-2007	32,699,911	90.9	8.4	66	4	70
Bristol Bay red king crab	2001	7,681,106	95.9	4.1	224	8	230
	2002	8,770,348	96.6	3.4	234	9	241
	2003	14,237,375	95.2	4.8	242	8	250
	2004	13,889,047	95.7	4.3	243	8	251
	2005-2006	16,472,400	96.7	3.3	88	4	89
	2006-2007	13,887,531	*	*	79	3	81
Eastern Bering Sea *C. bairdi*	2006-2007	1,267,106	*	*	33	3	36
Western Bering Sea *C. bairdi*	2005 - 2006	791,025	*	*	42	2	43
	2006-2007	633,910	*	*	34	2	36
Eastern Aleutian Islands golden king crab	2001 - 2002	3,128,409	100.0	0.0	19		19
	2002 - 2003	2,765,436	100.0	0.0	19		19
	2003 - 2004	2,900,247	100.0	0.0	18		18
	2004 - 2005	2,846,273	100.0	0.0	20		20
	2005-2006	2,569,209	*	*	6	1	7
	2006-2007	2,692,009	*	*	5	1	6
Western Aleutian Islands golden king crab	2001 - 2002	2,693,221	*	*	8	1	9
	2002 - 2003	2,605,237	*	*	5	1	6
	2003 - 2004	2,637,161	*	*	5	1	6
	2004 - 2005	2,639,862	*	*	5	1	6
	2005-2006	2,382,468	*	*	2	1	3
	2006-2007	2,002,186	*	*	2	1	3

Sources: ADFG fishtickets and NMFS RAM catch data (for 2005-2006 and 2006-2007)

* Withheld for confidentiality.

** Catch as a percent of IFQ allocations for 2005-2006 and 2006-2007 seasons.

Under the rationalization program, QS are allocated in two types. Vessel owner shares are allocated for 97 percent of the fishery; crew shares are allocated for the remaining 3 percent of the fishery. Both share types are divided among catcher vessels and catcher processors, depending on the type of operation that led to the initial allocation. Catcher vessel QS carry regional designations, which apply to annual allocations of Class A IFQ. The distribution of catcher vessel QS holdings varies substantially across fisheries (see Table 2 and Table 3). The regional distribution of shares differs with landing patterns that arise from the geographic distribution of fishing grounds and processing activities. In general, crew share holdings are more concentrated than vessel owner shares. This concentration arises both from the initial allocation and from consolidation that has occurred since implementation (see p. 23, RAM, 2006 and Table 2 and Table 3). In considering the distribution of crew shares, it is important to note that IPQ and regional landing requirements do not currently apply to IFQ arising from those shares. Regional distributions will be applicable beginning in the 2008-2009 fishing season, unless the Council elects to exempt C shares from those requirements. The Council is currently considering an amendment to exempt C shares from those landing requirements indefinitely.

Table 2. Quota share holdings by operation type, share type, and region as a percentage of the quota share pool.

QS percents

Fishery	Catcher Processor			Catcher vessel									
				Owner					Crew				
	Owner	Crew	Total	North	South	West	Undsg	Total	North	South	West	Undsg	Total
Bristol Bay red king crab	4.4	0.1	**4.5**	2.4	90.3			**92.6**	0.1	2.8			**2.9**
Bering Sea *C. opilio*	8.8	0.2	**9.0**	41.4	46.8			**88.2**	1.3	1.5			**2.8**
Eastern Aleutian Islands golden king crab	4.7	0.0	**4.7**	0.0	92.3			**92.3**	0.0	3.0			**3.0**
Eastern Bering Sea *C. bairdi*	6.5	0.2	**6.8**				90.5	**90.5**				2.7	**2.7**
Pribilof red and blue king crab	0.5	0.0	**0.5**	65.1	31.4			**96.5**	2.1	0.9			**3.0**
St. Matthew Island blue king crab	1.9	0.0	**1.9**	74.5	20.7			**95.1**	2.4	0.6			**3.0**
Western Aleutian Island golden king crab	44.8	1.3	**46.1**			26.1	26.1	**52.2**			0.8	0.9	**1.7**
Western Aleutian Island red king crab	37.9	0.4	**38.3**	0.0	59.1			**59.1**	0.0	2.6			**2.6**
Western Bering Sea *C. bairdi*	6.5	0.2	**6.8**				90.5	**90.5**				2.7	**2.7**

Source RAM QS file (2007-2008).

Note: Blanks represent inapplicable regional designations.

Undsg means undesignated.

Table 3. Number of quota share holders by operation type, share type, and region.

QS holders

Fishery	Catcher Processor		Catcher vessel							
			Owner				Crew			
	Owner	Crew	North	South	West	Undsg	North	South	West	Undsg
Bristol Bay red king crab	14	8	36	276			13	187		
Bering Sea *C. opilio*	18	9	237	244			148	147		
Eastern Aleutian Islands golden king crab	2	0	0	16			0	14		
Eastern Bering Sea *C. bairdi*	15	15				280				175
Pribilof red and blue king crab	1	0	88	81			34	32		
St. Matthew Island blue king crab	5	0	137	95			66	45		
Western Aleutian Island golden king crab	3	2			9	13			7	8
Western Aleutian Island red king crab	2	1	0	34			0	4		
Western Bering Sea *C. bairdi*	13	15				263				162

Source RAM QS file (2007-2008).

Note: Blanks represent inapplicable regional designations.

Undsg means undesignated.

Most harvesters have elected to join cooperatives, so most annual allocations are made to cooperatives (see Table 4). Owner shares held by cooperatives in all fisheries exceed 90 percent of the total IFQ allocation of owner shares. Fewer C share IFQ than owner IFQ are held by cooperatives in all fisheries. Cooperative membership effectively reduces the number of overages. Cooperative held IFQ is fished as a pool by members with no overage until the entire cooperative allocation is fully harvested. Consequently, individual harvesters in the cooperative may exceed their intended catch without an overage, provided the cooperative holds unused shares. Any consequence of these overharvests are internal to the cooperative (i.e., addressed under the terms of the cooperative agreement).[6]

Table 4 . Percent of IFQ held by cooperatives by operation type, share type, and region (2006-2007).

ifq in co-ops

Fishery	Number of cooperatives		Percentage of IFQ held by affiliated cooperatives	Catcher vessel						Catcher processor	
				Owner					Crew	Owner	Crew
	Total	Affiliated		A Share North	A Share South	A Share West	A Share Undesignated	B Share			
Bristol Bay red king crab	19	7	20.6	99.5	97.9			97.6	87.1	100.0	85.4
Bering Sea *C. opilio*	19	7	20.4	97.1	98.7			97.8	88.0	100.0	74.3
Eastern Aleutian Islands golden king crab	6	3	64.6		100.0			100.0	96.0	100.0	
Western Aleutian Islands golden king crab	5	2	39.3				96.4	95.8	75.8	100.0	75.0
Eastern Bering Sea *C. bairdi*	19	7	22.2			100.0	100.0	100.0	91.4	100.0	98.2
Western Bering Sea *C. bairdi*	19	7	22.2				96.4	95.8	75.8	100.0	74.9

Source: NMFS Restricted Access Management IFQ database, crab fishing year 2006-2007.

[6] It is important to note that although an overage may not occur when a person makes a landing in excess of the intended delivery, the excess catch must be covered by some share holdings. At times, these excesses may be covered by A shares intended to be harvested by another cooperative member (provided those A shares are (or may be)) committed to processor receiving the delivery; other times, B shares must be used for these excesses.

In the first two years of the program, participants have harvested most IFQ (see Table 5). The exceptions are the Western Bering Sea *C. bairdi* fishery in both years and the Eastern Bering Sea *C. bairdi* and the Western Aleutian Islands golden king crab fisheries in 2006-2007. The *C. bairdi* fisheries are reported by participants to be particularly difficult to prosecute because of low catch rates. Harvest of the Western Aleutian Islands golden king crab fishery is reported to be economically challenging because of low market prices for golden king crab. On a vessel basis, only the Western Aleutian Islands golden king crab fishery left a substantial amount of crab unharvested. In that fishery, approximately 150,000 pounds per participating vessel was left unharvested.

Table 5. Harvested and unharvested IFQ by fishery (2005-2006 and 2006-2007).

Season	Fishery	Landed pounds	IFQ allocation	Unharvested IFQ	Percent of IFQ unharvested	Unharvested IFQ per landing	Unharvested IFQ per participating vessel
2005 - 2006	Bristol Bay red king crab	16,472,400	16,496,103	23,703	0.1	93	266
	Bering Sea *C. opilio*	33,248,009	33,472,454	224,445	0.7	746	2,878
	Western Bering Sea *C. bairdi*	791,025	1,457,995	666,970	45.7	9,137	15,511
	Eastern Aleutian Islands golden king crab	2,569,209	2,669,970	100,761	3.8	3,149	14,394
	Western Aleutian Islands golden king crab	2,382,468	2,430,006	47,538	2.0	1,132	15,846
2006 - 2007	Bristol Bay red king crab	13,887,531	13,974,300	86,769	0.6	474	1,071
	Bering Sea C. opilio	32,699,911	32,909,400	209,489	0.6	770	2,993
	Eastern Bering Sea C. bairdi	1,267,106	1,687,500	420,394	24.9	7,507	11,678
	Western Bering Sea C. bairdi	633,910	984,600	350,690	35.6	5,845	9,741
	Eastern Aleutian Islands golden king crab	2,692,009	2,700,000	7,991	0.3	250	1,332
	Western Aleutian Islands golden king crab	2,002,186	2,430,000	427,814	17.6	13,800	142,605

Source: NMFS RAM IFQ database, crab fishing years 2005-2006 and 2006-2007.

While most participants have managed to harvest close to their full allocations, few overages have occurred in the first two years of the program (see Table 6). A slight increase in the number of overages occurred in the second year of the program, with an overall increase from 16 to 25 IFQ overages. A slight increase in the number of overages per vessel and per landing also occurred, as harvests were slightly more concentrated across vessels and landings in the second year. Overages remain a relatively small share of the TAC in the fisheries. In the Bering Sea *C. opilio* and Bristol Bay red king crab fisheries (the only fisheries for which data can be released), overages were approximately one-one thousandth of the TAC or less.

Table 6. Overages by fishery (2005-2006 and 2006-2007).

Season	Fishery	Number of participating vessels	Number of landings	Number of overages	Number of overages exceeding 3 percent	Weight of overages	Percent of landings with overage
2005 - 2006	Bristol Bay red king crab	89	255	8	4	10,912	3.1
	Bering Sea *C. opilio*	78	301	6	*	8,294	2.0
	Western Bering Sea *C. bairdi*	43	73	1	0	*	1.4
	Eastern Aleutian Islands golden king crab	7	32	0	0	0	0.0
	Western Aleutian Islands golden king crab	3	42	1	*	*	2.4
2006 - 2007	Bristol Bay red king crab	81	183	9	*	9,661	4.9
	Bering Sea C. opilio	70	272	9	5	40,763	3.3
	Eastern Bering Sea C. bairdi	36	56	3	*	*	5.4
	Western Bering Sea C. bairdi	36	60	0	0	0	0.0
	Eastern Aleutian Islands golden king crab	6	32	1	0	*	3.1
	Western Aleutian Islands golden king crab	3	31	3	0	*	9.7

Source: NMFS RAM IFQ database, crab fishing years 2005-2006 and 2006-2007.

* withheld for confidentiality.

Note: One overage during the 2005-2006 season was a catcher processor overage; three overages during the 2006-2007 season were catcher processor overages. A single IPQ overage occurred in the Eastern Bering Sea *C. bairdi* fishery in 2006-2007, which is not reflected in this table.

2.3.3 The processing sector

Under the crab program, crab harvested with Class A IFQ, which make up 90 percent of the catcher vessel owner share allocation, must be delivered to the holder of IPQ. The remaining 10 percent of harvests made with catcher vessel owner shares (harvest made with Class B IFQ) are open to competition among all processors (including those who do not hold processing shares). Currently, annual allocations arising from C share QS are subject to the same competition that exists for Class B IFQ. In the absence of Council action to the contrary, annual C share allocations will be divided in a manner similar to the Class A/Class B IFQ division of catcher vessel owner shares after the third year of fishing under the program. Processing QS holdings are substantially more concentrated than either catcher vessel owner or catch vessel crew QS holdings (see Table 7).

Table 7. Processing quota share holdings as a percent of the processing quota share pool.
pqs

Fishery	Share holdings by region					Across regions			
	Region	QS holders	Mean holding	Median holding	Maximum holding	QS holders	Mean holding	Median holding	Maximum holding
Bristol Bay red king crab	North	2	1.28	1.28	2.33	16	6.25	2.60	23.16
	South	16	6.09	2.60	20.83				
Bering Sea *C. opilio*	North	8	5.87	5.51	15.46	20	5.00	2.08	25.18
	South	18	2.95	0.25	9.72				
Eastern Bering Sea *C. bairdi*	Undesignated	23	4.35	0.83	24.26	23	4.35	0.83	24.26
Western Bering Sea *C. bairdi*	Undesignated	23	4.35	0.83	24.26	23	4.35	0.83	24.26
Eastern Aleutian Island golden king crab	South	8	12.50	6.04	45.91	8	12.50	6.04	45.91
Western Aleutian Island golden king crab	Undesignated	8	6.25	0.41	33.29	9	11.11	1.03	62.98
	West	9	5.56	0.49	29.69				
Western Aleutian Island red king crab	South	9	11.11	1.03	62.98	9	11.11	1.03	62.98
St. Matthew Island blue king crab	North	6	13.06	8.92	29.94	12	8.33	5.06	32.67
	South	9	2.41	1.76	7.81				
Pribilof red and blue king crab	North	6	11.26	12.01	23.28	14	7.14	3.17	24.49
	South	11	2.95	0.98	13.50				

Source: NMFS Restricted Access Management IFQ database, crab fishing year 2007-2008.
Note: These share holdings data are publicly available and non-confidential.

Processor share allocations are subject to up to three different geographic provisions. First, most shares are subject to regional landing requirements, under which the share holder must take delivery within a specified region. Second, most processor quota shares were subject to a "cooling off" provision, which required IPQ to be used in the "community of origin" (or community of the processing history that led to the initial allocation of those processing quota shares) subject to minor exceptions.[7] Third, most processor shares are subject to a 'right of first refusal' held by an entity designated by the community of origin. The right is triggered by the sale of shares for use outside the community of origin.[8] The right of first refusal is a weak protection in some respects. It does not apply to the use of shares outside the community of origin by the PQS holder. In addition, the right lapses after 3 consecutive years of use of IPQ outside of the community of origin by the PQS holder. The right also does not apply to transfers of IPQ, unless a person other than the PQS holder has used more than 20 percent of the IPQ outside the community of origin in three of the five years preceding the IPQ transfer. The permeability of the right of first refusal limits its potential to prevent the migration of processing from the community of origin.

Since the "cooling off" provision limited movement of processing from the community of origin during the first two years of the program, the distribution of processing of landings in the first two years of the

[7] Movement of the lesser of 10 percent of and 500,000 pounds of the IPQ in a community of origin may be moved annually during the cooling off period.
[8] In addition, the entity designated jointly by the City of Kodiak and Kodiak Island Borough has a right of first refusal on PQS initially allocated based on processing in communities in the Gulf of Alaska north of 56º20'N latitude.

program may not be representative of future landings distributions. The distribution of rights of first refusal should provide a reasonable indication of the starting point of the distribution of processing across communities.[9] In reviewing this distribution, it should be noted that changes are likely to occur as processors move shares to realize efficiencies in the fisheries. Since the right of first refusal does not apply to all transfers of IPQ and does not apply to the processing of shares by the PQS holder outside of the community of origin, that provision should be viewed as only a starting point for the examining the geographic distribution of processing. Changes in the distribution of processing are likely to vary with conditions in the fisheries and cannot be predicted.

Table 8. PQS regional and right of first refusal designations (2006-2007).

pqs/06-07

Fishery	Region	Community of Right of First Refusal	Number of PQS holders	Percent of PQS pool
Bristol Bay red king crab	North	St. Paul	2	2.6
	South	Akutan	1	19.9
		False Pass	1	3.7
		King Cove	1	12.8
		Kodiak	3	3.8
		None	3	2.7
		Port Moller	3	3.5
		Unalaska	11	51.1
		Total		97.4
Bering Sea *C. opilio*	North	None	3	1.0
		St. George	2	9.7
		St. Paul	6	36.3
		Total		47.0
	South	Akutan	1	9.7
		King Cove	1	6.3
		Kodiak	4	0.1
		None	4	1.8
		Unalaska	12	35.0
		Total		53.0
E. Aleutian Islands golden king crab	South	Akutan	1	1.0
		None	1	0.9
		Unalaska	7	98.1
Pribilof Island red and blue king crab	North	None	1	0.3
		St. Paul	5	67.3
		Total		67.5
	South	Akutan	1	1.2
		King Cove	1	3.8
		Kodiak	4	2.9
		Unalaska	5	24.6
		Total		32.5
St. Matthews blue king crab	North	None	5	64.6
		St. Paul	4	13.8
		Total	9	78.3
	South	Akutan	1	2.7
		King Cove	1	1.3
		Kodiak	1	0.0
		Unalaska	6	17.6
		Total		21.7
W. Aleutian Islands golden king crab	Undesignated	NA	9	50.0
	West	NA	10	50.0
W. Aleutian Islands red king crab	South	NA	10	100.0

Source: NMFS RAM PQS holdings 2006-2007.

[9] The distribution of community interests differ slightly under the cooling off period and the right of first refusal. Cooling off protections operate at the borough level, if a borough exists, and, if not, at the city level. The right of first refusal entity is jointly appointed by the city and borough, if both exist, and by the applicable community government, if only one exists.

2.3.4 Ex vessel pricing

Assessing ex vessel prices under the rationalization program is complicated by several factors. The two different catcher vessel owner IFQ types may bring different prices because of the different limitations on use of those shares and the effects of the arbitration program. The two different types of IFQ that are unrestricted by limits on landings (catcher vessel owner Class B IFQ and C share IFQ) could bring different prices because of the difference in negotiating leverage of their holders. Data limitations, however, complicate efforts to discern differences in ex vessel prices across the share types. The most obvious source of information for establishing such leverage would be price information from deliveries. Current data sources, however, do not provide final prices by share type. The only data that show price by share type are elandings data collected by NOAA Fisheries. These data are collected at the time of landing and do not include any post-landing adjustments or bonuses, which are reported to be an important part of pricing under current practices. Table 9 and Table 10 below show average ex vessel payments at the time of landing by share type from the different fisheries in the first two years of the program. The table suggests that on average B and C share landings received a slight premium relative to A share landings. The exception is the *C. bairdi* fishery in the first year of the program, when C shares received a lower price on landing than harvests by the other share types. The amount of any premium on B share and C share landings may not be accurately shown by the data in the table, since post-landing bonuses are not included in any prices.

Table 9. Average ex vessel payment at the time of landing by fishery and share type, 2005-2006 season (dollars per pound).

	Average ex vessel price of landings of		
	A shares	B shares	C shares
Bristol Bay red king crab	4.372	4.479	4.492
Bering Sea *C. opilio*	0.904	0.956	0.965
Western Bering Sea *C. bairdi*	1.311	1.316	1.237
Eastern Aleutian golden king crab	2.548	2.577*	**
Western Aleutian golden king crab	2.445	**	**

* Average ex vessel price of B share and C share landings combined

** Withheld for confidentiality.

Source: NMFS Restricted Access Management IFQ database, crab fishing year 2005-2006.

Table 10. Average ex vessel payment at the time of landing by fishery and share type, 2006-2007 season (dollars per pound).

	Average ex vessel price of landings of		
	A shares	B shares	C shares
Bristol Bay red king crab	3.535	3.594	3.601
Bering Sea C. opilio	1.476	1.572	1.575
Eastern Bering Sea C. bairdi	1.228	1.401	1.417
Western Bering Sea C. bairdi	1.509	1.664	1.645
Eastern Aleutian golden king crab	1.764	1.794*	**
Western Aleutian golden king crab	1.752	**	**

* Average ex vessel price of B share and C share landings combined

** Withheld for confidentiality.

Source: NMFS Restricted Access Management IFQ database, crab fishing year 2006-2007.

Participants in the fisheries report the extent to which B and C share deliveries have drawn a premium varies across processors and fisheries. Some processors (including processors not holding IPQ) are reported to have paid bonuses to attract deliveries of B share harvests. Participants report that premiums for B and C share deliveries are typically a few cents, but have ranged as high as approximately ten cents. Some processors have chosen not to compete for landings of B share and C share harvests, but have

accepted deliveries of B and C share harvests at the same price as A share landings.[10] Under these circumstances, the B and C share harvests received by the processor have typically come from the same fleet delivering A share harvests. In some cases, B and C share deliveries are reported to have brought lower prices than A share deliveries. This conclusion would appear to be supported by the average reported price for C share deliveries in the *C. bairdi* fisheries, which was lower than the average reported price for A share deliveries in the first season.

The absence of a substantial premium on B and C share landings in the first two years of the program could be explained by a few factors other than the utility of those unrestricted shares serving their purpose as competitive market shares. In the first two years of the program, crab markets have been at some of their lowest levels in recent years. In such a market, it is possible that the difference between a competitive price and the price arrived at through the arbitration standard is relatively small. Even in better markets, it is possible that the standard, under which the historic division of revenues is a primary consideration, would result in a price similar to the competitive price. Those historic prices were determined in a competitive market, but one under a different management structure that may have affected the distribution. In addition, some harvesters are reported to have used B and C shares to realize efficiencies in harvesting. B and C share harvests have supplemented a partial delivery of A shares to limit the need for an additional trip to harvest (and independently market) the B and C share catch. Also, when making A share harvests, some harvesters avoid underages that would require an additional trip, knowing that B and C shares can be used to cover any A share harvest overage. These uses of B and C shares clearly benefit harvesters, but detract from the use of B and C shares to pursue competitive markets.

2.3.5 First wholesale and consumer markets

This section briefly summarizes market conditions in the first two years of the program and the expected market condition in the coming year using the market report produced for participants in the arbitration system. A brief summary of recent first wholesale prices is also included.

Crab markets in general suffer from great volatility. In general, the red king crab market and prices are greatly influenced by Japanese demand, U.S. demand, and Russian production. In the first year of the program (2005), the Russian supply of red king crab increased substantially, pushing prices down substantially. In the second year, a drop in Russian production and a more aggressive Japanese market buoyed prices of red king crab. That recovery in prices has continued to date and is expected to continue (Sackton, 2007a).

Like red king crab prices, prices for *C. opilio* (snow crab) are greatly influenced by Japanese demand and U.S. demand. In the *C. opilio* market, however, the primary competition in production is the east coast of Canada. In the first year of the program prices for *C. opilio* reached extremely low levels due to poor demand in both the Japanese and U.S. markets. In the second year, the price recovered, approaching all time highs stimulated in part by demand from buyers drawn to the snow crab market by the low prices in the preceding year. In the coming year, it is possible that prices could decline significantly particularly from build up of Canadian inventories or if sellers of crab appear to eager to sell their product. *C. bairdi* prices have generally tracked closely with *C. opilio* prices with *C. bairdi* drawing a premium over *C. opilio* (Sackton, 2007c).

In the first year of the program, Aleutian Islands golden king crab prices declines substantially, tracking the price for red king crab products. In the second year an abundance of competing small sized red king

[10] Some participants have suggested that processors are reluctant to bid up the price for B shares in part because they fear that arbitrators may simply equate A share ex vessel prices with B share ex vessel prices.

crab imports further weakened prices. Going into the third year of the program it is thought that the price recovery could be stalled, as the increase in demand for golden king crab does not seems to have leveled. Overall, the increase in demand for crab products is expected to result in either stable or rising prices for golden king crab in the coming year (Sackton, 2007b).

First wholesale prices for red and golden king crab show a notable decline in 2005, the first year of the rationalization program (Table 11). The price drop is not evident in for *C. opilio*, likely because that fishery is prosecuted early in the year, so these data reflect prices for production from the January 2005 fishery.

Table 11. First wholesale prices of crab species by product type (2001-2005).

Species	Product	2001	2002	2003	2004	2005
Red King Crab	Shellfish Sections	8.93	11.58	9.82	9.25	8.52
	Whole	5.14	9.80	8.26	8.40	7.94
Golden King Crab	Shellfish Sections	6.95	7.58	7.89	6.02	6.00
	Whole	5.17	4.99	5.76	5.83	5.59
C. opilio (snow) crab	Shellfish Sections	3.73	3.58	4.40	4.79	3.85
	Whole	*	*	*	*	*

Source: ADFG COAR data.

*Prices with fewer than 4 observations are confidential.

2.3.6 Communities

Several communities have historically been home to processors that have taken delivery of crab from the Bering Sea and Aleutian Islands crab fisheries. Limited information concerning the geographic distribution of processing in the crab fisheries can be released because relatively few processors participate in the fishery in any location. In the years preceding implementation of the rationalization program, only data from the Bristol Bay red king crab and the Bering Sea *C. opilio* fisheries can be released (see Table 12). In addition, activity on floating processors may be associated with a particular community, but is not attributed to community in these records. Dutch Harbor processors received slightly less than a majority of the landings in both major fisheries. Discerning the landings of any other community in isolation is difficult because of aggregations required by confidentiality rules.

Table 12. Distribution of processing in the Bristol Bay red king crab and Bering Sea *C. opilio* fisheries prior to the rationalization program (2001-2005).

Fishery	Year	Communities	Number of processors	Pounds processed*	Percent of processed pounds
Bristol Bay red king crab	2001	Adak, Akutan, King Cove, Floaters	6	2,663,437	34.7
		Dutch Harbor	5	3,902,545	50.8
		Catcher processors	6	312,939	4.1
		Kodiak	6	798,932	10.4
	2002	Akutan, King Cove, Floaters	6	3,372,188	38.5
		Dutch Harbor	6	4,276,910	48.8
		Catcher processors	8	300,425	3.4
		Kodiak, St. Paul	4	820,497	9.4
	2003	Akutan, King Cove, Sand Point, Floaters	10	5,207,419	36.6
		Dutch Harbor	7	7,131,382	50.1
		Catcher processors	8	680,080	4.8
		Kodiak, St. Paul	5	1,218,494	8.6
	2004	Akutan, St. Paul, King Cove, Floaters	7	5,932,888	42.7
		Dutch Harbor	6	6,504,531	46.8
		Catcher processors	8	602,749	4.3
		Kodiak	4	848,879	6.1
Bering Sea *C. opilio*	2001	Akutan, King Cove, Kodiak	3	1,889,513	8.2
		Dutch Harbor	5	7,916,618	34.5
		Catcher processors	7	3,099,567	13.5
		St. Paul, Floaters	8	10,034,268	43.7
	2002	Dutch Harbor, King Cove, Kodiak	9	13,646,381	46.1
		Catcher processors	8	1,671,036	5.6
		St. Paul, Floaters	8	14,292,205	48.3
	2003	Akutan, King Cove, Kodiak	3	2,162,245	8.5
		Dutch Harbor	6	10,308,648	40.6
		Catcher processors	5	803,452	3.2
		St. Paul, Floaters	8	12,135,777	47.8
	2004	Akutan, King Cove, Kodiak	4	2,287,481	10.4
		Dutch Harbor	6	8,714,351	39.7
		Catcher processors	6	664,660	3.0
		St. Paul, Floaters	8	10,273,001	46.8
	2005	Akutan, King Cove, Kodiak	3	2,206,008	9.7
		Dutch Harbor	6	9,759,358	43.1
		Catcher processors	6	648,967	2.9
		St. Paul, Floaters	5	10,041,444	44.3

*Excludes deadloss.
Source: ADF&G fish ticket data

Rights of first refusal are granted to all communities with crab processing in recent history (see Table 8). The distribution of these rights is a general a starting point for the distribution of landings in communities in the various fisheries.

Seven Alaska communities have historically received substantion landings from the Bering Sea and Aleutian Islands crab fisheries: Unalaska, Akutan, King Cove, St. Paul, St. George, Adak, and Kodiak. These communities vary in their geographic relation to the fishery; their historical relationship to the fishery; and the nature of their contemporary engagement with the fisheries through local harvesting, processing, and support sector activity or ownership. Each of these factors influences the direction and magnitude of potential social impacts associated with the proposed action.

Commercial fishing and seafood processing play a significant role in the economic success of Unalaska. The community is home to the greatest concentration of processing and catcher vessel activity than any other Alaska community (EDAW, 2005). Pollock accounts for nearly 70 percent of the total wholesale value processed in Dutch Harbor in 2005. The second largest contributor to total wholesale value processed in Dutch Harbor is crab at nearly 20 percent. Of the crab species, red king crab provided the largest contribution at $51 million in the 2005 followed by snow crab at $33 million. Dutch Harbor based processors received a substantial share of the processor share allocations in most crab fisheries under the rationalization program. These shares are subject to rights of first refusal of the Dutch Harbor community

entity. These shares are unlikely to migrate out of the community because crab processing at most facilities plays an important part in an integrated operation that serves several fisheries.
Once heavily dependent upon salmon, the community of King Cove is now more diversified, processing groundfish and crab from the GOA and BSAI. The community is home to several large crab vessels, and is also home to Peter Pan Seafoods, the only shore based processor located in the community. The plant processes salmon, crab, halibut, and groundfish. Approximately 80 percent of King Cove's work force is employed full time in the commercial fishing industry (EDAW, 2005). This likely underestimates the dependency of the local economy on the importance of commercial fishing in the community. For several years now, the amount of crab and the total value of the crab processed in King Cove have been declining, while groundfish has increased. The decline in crab production was due primarily to a decline in quotas related to reduced stocks. In addition, AFA sideboards caps on BSAI crab have also limited the amount of crab that can be processed in King Cove. Under the rationalization program, crab processing has remained an important component of the diversified processing undertaken at the shore plant in King Cove. Yet, rapid fleet contraction under the program, particularly in the Bristol Bay red king crab and Bering Sea *C. opilio* fisheries, has affected King Cove. Between 10 and 15 crew jobs are estimated to have been lost in each of these two fisheries. Fleet contraction is also believed to have caused a drop in demand for harbor and moorage services and goods and services from fishery support businesses in King Cove. Attribution of these effects on the change in crab management is difficult, since data isolating spending of crab vessels and fishery participants from spending associated with other fishery and non-fishery activities are not available (see Lowe, et al., 2006).

The economy of Akutan is heavily dependent upon the groundfish and crab fisheries in the BSAI and GOA. The community is home to a one of the largest shore based seafood processing plants in the area and is also home to a floating processor. The community also provides some limited support services to the fishing community. In addition, Akutan is a Community Development Quota (CDQ) community. The vast majority of catch landed in Akutan comes from vessels based outside of the community. Most of those vessels focus primarily on pollock, Pacific cod, and crab. The large shore plant is operated by Trident Seafoods. The shore processor is a multi-species plant, processing primarily pollock, Pacific cod, and crab. Given that the plant is an AFA-qualified plant with its own pollock co-op, pollock is the primary species in terms of labor requirements and economic value. However, the shore plant also accounts for a significant amount of the regional crab processing and also provides for a significant amount of the processing value at the plant (EDAW, 2005). As with plants in Dutch Harbor and King Cove, crab has remained an important part of a diverse operation at the shore plant in Akutan since implementation of the rationalization program.

Although the economy of Kodiak is more diversified compared to King Cove and Akutan, fishing is a significant player in the community. Excluding the USCG, four of the top ten employers in Kodiak in 2003 were fish processors. Salmon and herring account for 42 percent of the total wholesale value during 2005. Halibut, sablefish, and other groundfish contributed 22 percent of the total wholesale value, while Tanner crab contributed less than 5 percent of the total wholesale value. Unlike Unalaska, King Cove, and Akutan, Kodiak is home to an extensive resident fishing fleet. The total number of vessels is less than 600, with less than 300 that actively fished in 2002. Total estimated gross revenue of Kodiak permit holders was $111 million for 2002. Kodiak is also home to numerous shore based processors. Species that typically contribute more than 10 percent of the total value are Pacific cod, pollock, and salmon. The processors located in Kodiak provide a large amount of diversity in size, volume, and species processed. The products produced by the shore plants range from large quantity canning of salmon to fresh and fresh-frozen products. The rapid fleet contraction under the crab rationalization program is also thought to have affected Kodiak. Kodiak crew are estimated to have lost 125 positions in the Bristol Bay red king crab and approximately 60 positions in the Bering Sea snow crab fishery in the first year of the program. A study of the effects of the rationalization program on Kodiak during the program's first year found

anecdotal evidence suggesting declines in spending at some businesses, but evidence of a broad decline in total local spending could not be identified. The study cautioned that effects may lag, so these findings should be viewed as preliminary (Knapp, 2006).

Unlike King Cove, Akutan, Unalaska, or Kodiak, St. Paul is primarily dependent upon the processing of snow crab harvested in the North Pacific. According to ownership data, all crab deliveries to the Pribilof Islands are made by non-resident vessels. Since 1992, the local shoreplant on St. Paul has been the primary processor for crab. St. Paul is a primary beneficiary of the North/South regional distribution of shares in the rationalization program. This limitation on landings should ensure that a substantial portion of the processing in the Bering Sea *C. opilio* fishery is undertaken in St. Paul. In the long run, it is possible that St. George could obtain a greater share of North landings, but most participants currently prefer St. Paul's harbor facilities to those available in St. George.

As with St. Paul, St. George has depended primarily on processing of crab from the Bering Sea *C. opilio* fishery. Processing of crab in St. George has been exclusively by floating processors. Since 2000, little or no crab processing has taken place in St. George. Prior to the rationalization program, the loss of processing activity is primarily attributable to the decline in crab stocks. Under the rationalization program, no processing has returned to St. George. Processing shares were subject to the 'cooling off' provision requiring the processing of landings with those shares to be undertaken in St. George. Yet, harbor breakwater damage caused by a storm has prevented deliveries to the community during the first two years of the program. Whether the community can attract crab landings in the future depends in large part on its ability to provide a harbor perceived to be safe by participants.

The community of Adak, until recently, had no direct or indirect ties to commercial fishing because the island was home to a Naval Air Station since the 1940s. However, the U.S. Navy closed the air station several years ago, leaving the island to the local residents. As a result, the Aleut Corporation is trying to transform the island into a commercial fishing center in the Western Aleutians area of the Bering Sea. Most commercial fishing deliveries to Adak are to a single processing plant from larger vessels from outside the area since the community has a very limited small boat residential fleet. Of the species processed, cod, halibut, and black cod are the primary species. A few aspects of the rationalization program are structured specifically to support Adak. First, ten percent of the TAC in the Western Aleutian Islands golden king crab fishery is allocated to a community entity representing Adak. This allocation is intended to support fishery development (including both harvesting and processing) in the community. Adak is also an intended beneficiary of a regional designation on one-half of the shares in the Western Aleutian Islands golden king crab fishery, which require crab harvested with those shares to be processed west of 174º West longitude. Currently, Adak is the only community in the West region with a shore-based processing plant. Processing of the West region allocation in Adak is not a certainty, since the rules in the fishery permit processing of those landings on floating processors.

2.3.7 Management and enforcement

Currently, the landing is offloaded and processed by the facility receiving the delivery. Once final weights have been determined, IFQ and IPQ are then assigned by the fisherman and processor. Any IFQ overage is noted and referred to NOAA Fisheries Office for Law Enforcement. The processor typically purchases the overage from the enforcement agency. This process avoids the unnecessary complication of attempting to segregate overage catch from other catch.

Enforcement actions are typically a matter of relying on catch accounting records that show the violation. Violations are often apparent and not disputed since reliable records of offloads are generated at the time of landings. In most instances, overages of less than 3 percent are subject to forfeiture of the overage,

with larger or repeat violations subject to additional penalties. Penalties, however, are fully within the discretion of NOAA General Counsel.

2.4 Analysis of alternatives

In a share-based fishery, participants catch is limited by individual fishing quota (or IFQ) holdings. During the fishery, participants attempt to limit catch to their available quota. Even if discards are permitted (such as the crab fisheries), overages occur at times due to errors in catch estimates. Precisely estimating catch onboard can be difficult (and costly) due to variation in size of crab or fish and sorting and measurement requirements.

In many share-based programs, some flexibility is built into the program structure to accommodate imprecision and uncertainty in catch. In the halibut and sablefish program, up to 10 percent of a person's annual IFQ allocation that is unharvested will be reissued in the following year. Conversely, overharvest of up to 10 percent of a person's allocation is permitted, with a deduction from the following year's allocation. These carryover provisions limit the need for precisely estimating or catching IFQ. No similar provisions exist for either underages or overages in the crab fisheries.

Allowing post-delivery transfers in the crab could mitigate potential overages, reducing enforcement costs and providing for more precise TAC management. Yet, some caution is warranted in the development of a system of post-delivery transfers. Too liberal reliance on post-delivery transfers could exacerbate overages. In addition, the system of post-delivery transfers could complicate management and oversight of share management and enforcement of overages that are not covered by a transfer. For example, short windows to cover overages could complicate enforcement, if timing of transactions is disputed.

Post-delivery transfer provisions have been used to mitigate potential overages in several share-based management programs outside of the U.S. In Nova Scotia, post-delivery transfers are generally permitted for up to 45 days after a landing has occurred. At the season's end, the transfer period is extended to 2 months.[11] Participants in British Columbia are permitted to cover overages with a post-delivery transfer for 30 days after the landing. In Iceland, fishermen are limited to 3 days after notice to cover an overage. Real-time monitoring, online catch accounting, and a system of electronic transfers make this brief period for post-delivery transfers possible. In New Zealand, post delivery transfers are permitted until the 15th day of the month following the landing. In addition, New Zealand's program includes a system of "deemed values," or scheduled charges for catch that is not covered by quota. These charges are refunded in the event a person receives a post-delivery transfer to cover the overage within 15 days of the season closing (see Sanchirico, et al., 2006). Each of these programs limits post-delivery transfers temporally, but does not limit the magnitude of transfers.

2.4.1 Effects on harvesters

Alternative 1 – No post-delivery transfers (status quo)

Under the status quo alternative, all overages are subject to an enforcement action and penalty. No provision for post-delivery transfers to cover overage is made under the status quo. The Council recommended that any overage of less than 3 percent of the IFQ used on the trip be subject only to confiscation, with higher overages subject to additional penalties. Enforcement actions, however, remain the discretion of agency enforcement officers and attorneys.

[11] Nova Scotia uses share-based management programs for different gear types. Transfers across gear types are permitted only after the season closing. The rationale for permitting these cross-gear transfers is to prevent potential TAC overruns and to reduce the incentive to discard.

Under the status quo, harvesters are likely to continue to have relatively few overages representing a relatively small share of the TAC. Notwithstanding few overages, most harvesters are likely to continue to harvest most of their IFQ allocations, with little IFQ left unharvested. In general, the fisheries will be fully utilized, to the extent that market conditions under the management structure support their full prosecution.

Harvesters who underestimate their catch relative to their IFQ will be subject to enforcement actions. In most cases, overages are likely to remain under three percent of the IFQ harvested on a trip. In the few instances of either repeated overage violations or excessive overages, harvesters could be subject to penalties beyond forfeiture of the overage.

Alternative 2 – Unlimited post-delivery transfers

Alternative 2 would establish a system of almost unlimited post-delivery transfers. Shares of any type, including processor shares, could be transferred to cover an overage. Although the alternative allows liberal post-delivery transfers, it is possible that few transfers would be made. Since transfers can be used only to cover an overage, only participants with overages would use the transfer. Given the current number of overages, it is possible that few persons would need to use the provision. The provision, however, would be important to participants facing a penalty for an overage, who are able to acquire shares to cover that overage and avoid a possible enforcement action and penalty.

If the provision is used in a limited way, participants will use post-delivery transfers to cover small overages of the magnitude currently observed. Overages at the time of landing could rise slightly from their current level, if participants gain confidence that they will be able to cover the overage with a transfer. Overages (not covered with a transfer and) subject to penalty should decline.

Prices for post-delivery transfers will likely be negotiated to be greater than current lease rates, but less than the expected penalty on the overage. Since small overages (less than 3 percent of a landing) are penalized by forfeiture, one would expect that the ex vessel price of the crab would be an upper bound on the price of most post-delivery transfers for small amounts. The lower bound is likely to be the prevailing lease rate in the fishery. Lease rates vary substantially by fishery. Data are not available showing lease rates, but some anecdotal information concerning lease rates is known.[12] In the first two years of the program, Bristol Bay red king crab lease rates ranged from 60 to 70 percent of the ex vessel price. Bering Sea *C. opilio* lease rates are approximately 40 to 50 percent of the ex vessel price. In the Bering Sea *C. bairdi* fishery, lease rates range from 25 to 35 percent of the ex vessel price. In some instances, lease rates may have been lower than this percent. The lower rate in this fishery is likely a reflection of the fact that the fishery has low catch rates and a relatively low TAC. Lease rates in the Eastern Aleutian Islands golden king crab fishery have ranged from 45 to 55 percent of the ex vessel prices. In the first year, lease rates in the Western Aleutian Islands golden king crab fishery were approximately 25 percent of the ex vessel price. The low price in the Western Aleutian Islands fishery likely has resulted from the high operating costs and low ex vessel price in that remote fishery. Demand for shares in the Western Aleutian Islands golden king crab fishery reportedly did not support a lease market in that fishery in the second year of the program.[13]

Some transfers to cover relatively large overages could have lease rates substantially higher than the ex

[12] Data collected through the economic data reports are undergoing a review assessing their quality. Those data will be available only after that review is completed.

[13] Generally, persons harvesting leased IFQ guarantee payment on the harvest of at least 95 percent of the IFQ. In the Bering Sea *C. bairdi* fisheries and the Western Aleutian Islands fisheries, not all leases contain these guarantees. Considering this factor (and that some lease IFQ may not be harvested), the effective lease rate is substantially lower in these fisheries.

vessel price of the crab. Persons responsible for unintended, large overages are likely to be in a relatively weak negotiating position when faced with a substantial penalty for the overage. It is possible that some large overages will be covered by transfers at a price similar to the prevailing lease rates, if those transfers are to cover an intentional overage with pre-negotiated terms of transfer. These arrangements are likely to occur as a part of inseason coordination of the harvest of allocations among vessels. For example, a person may elect not to send a vessel back out for a trip to harvest quota that is half of the vessel's capacity, if another vessel that is already on the grounds has space to handle that catch on its current trip. These transfers might occur as post-delivery transfers because of the time it takes to submit and process a transfer in writing. In the long run, the electronic, real time system of transfers currently under development should minimize the number of these pre-negotiated post-delivery transfers to cover large intended overages. Instead, transfers will be processed prior to landing (and in most cases prior to harvesting the crab to be covered by the transfer).[14]

Participants are likely to closely track use of IFQ during the season to gain knowledge of potential markets for shares in the event of an overage. For most of the harvest sector that participates in the arbitration system, this tracking is likely to be undertaken through the "Inter-Cooperative Exchange," the intercooperative that is used by harvesters that have no processor affiliation to negotiate ex vessel prices and participate in the arbitration system. Since this group currently monitors prosecution of the fisheries by its member cooperatives, it should be a convenient body for monitoring IFQ use and availability for post-delivery transfers. Depending on the extent of use of the post-delivery transfer ability, transfers and their negotiation might also be facilitated by the Inter-Cooperative Exchange. Since that group actively participates in the price setting market, it is possible that it could also be used to facilitate leases to cover overages. If exchanges are facilitated through a group that includes several different cooperatives, it is also possible that a more universal price mechanism could develop. In this case, it is possible that small transfers could be at a relatively low lease rate, provided they are infrequent. Larger, unintended overages and infrequent overages would likely be at a higher lease rates to discourage careless catch accounting practices.

Since the Inter-Cooperative Exchange includes only unaffiliated IFQ holders, IFQ holders with processor affiliation could face a more challenging market for post-delivery transfers. Their success in covering overages will depend on the willingness of unaffiliated harvesters to transact with affiliated harvesters and the ability of affiliated harvesters to coordinate trades among themselves. Further discussion of this issue appears below in the analysis of the options concerning "inter-cooperative requirements".

Despite the relative lack of constraints on transfers under this alternative, the likelihood of substantially more uncovered, large overages is relatively small. Penalties for violations are likely to increase with the magnitude of overages. Persons are unlikely to risk large overages without a known source of shares to cover that overage to avoid a potential enforcement action and penalty.

In some cases, the system of share matching and arbitration could complicate post-delivery transfers of A shares. Harvesters need to match their A shares with IPQ early in the season to access the arbitration system. Once these commitments are made, transferring shares might require the IPQ holder's consent. Although these barriers are not insurmountable, particularly for transfers of small amounts of IFQ, they will complicate the use of post-delivery transfers. In the long run, participants could develop general (unwritten) standards of practice simplifying post-delivery transfers of small amounts. Active

[14] It should be noted that beginning a fishing trip without quota is a violation. So, cases of transfers to cover intentional overages will only apply to situations where a person begins a trip with less quota, than is used on the trip. **For clarity, the Council should consider including a specific provision in Alternative 2 specifying that a person cannot begin a trip without unused IFQ. Alternative 3 already contains such a provision.**

participation of a broad-based group (such as the Inter-Cooperative Exchange) in the system is likely to aid in the development of those practices.[15]

The ability to use the post-delivery transfer system to coordinate the use of different share types is likely to be limited. The provision is unlikely to be useful for avoiding the use of B shares to cover minor A share overages. The provision applies only if a person holds no shares that can be used for the landing. So, if a person's A share holdings are exceeded when making a landing, but that person still holds B shares, those B shares will be applied to the landing.[16] Allowing the use of A shares to cover an overage, provided matching IPQ are available, and allowing post-delivery transfer of IPQ may help IFQ holders from committing B shares to a landing, but these transfers will only work, if the receiver of the landing holds IPQ or is able to secure a post-delivery transfer of IPQ.[17] The transfer market for IPQ could be less fluid than the market for IFQ, since processors are bound by IFQ matches. In most cases, IPQ transfers are likely to occur only if both IFQ and IPQ are simultaneously transferred.

Although post-delivery transfers have the potential to benefit catcher processors with overages, the relatively small number of catcher processors could limit its utility. Catcher processors are more likely to benefit from the formation of a single catcher processor cooperative in each fishery that could coordinate the harvest of all catcher processor shares. Using this arrangement, no catcher processor shares would be available to cover an overage, since they would all be held by a single cooperative. The single cooperative could more efficiency administer the distribution of catch among vessels in the sector to avoid an overage. While multiple overages could occur in a fishery, if more than one vessel is fishing at the end of the season, the potential to avoid overages is greatest if all catch is coordinated in a single entity.

The benefits to processors from post-delivery transfers of IPQ are largely a corollary of the post-delivery transfer of Class A IFQ. Processors should have few overages, since overages can be avoided by simply refusing delivery of landings in excess of IPQ holdings. Only when a harvester has an IFQ overage that would be covered by a post-delivery transfer of A shares should a processor need to obtain IPQ to cover an overage. In this instance, the benefit to the processor (who does not have an overage unless it wrongly accepts the delivery after the harvester acquires Class A IFQ) is secondary to the benefit to the harvester of covering the overage with newly acquired IFQ.

Overall, harvesters are likely to realize production efficiency gains under this alternative from allowing greater flexibility in harvesting. Allowing relatively large overages to be covered with post-delivery transfers will allow inseason on the grounds transactions to be accommodated that could not be accommodated because of the time to process transactions in the current transfer system. Some production efficiency gains should be realized by allowing harvesters to more precisely harvest the total IFQ allocation with fewer overages. Harvesters are also likely to benefit from a reduction in the number of overage violations, which should be reduced through post-delivery transfers. It is unlikely that

[15] Although some dispute over pricing of landings covered with post-delivery transfers could occur, it is likely to be at the prevailing price for the rest of the landing.

[16] It is possible that a group of IFQ holders could develop separate cooperatives for A shares and B shares to avoid applying B shares to A share overages. Whether such a system could effectively avoid use of B shares to cover A share overages would depend on the availability of A shares in the market to cover the overage and the ability of the harvester to obtain a processor commitment of IPQ for the landing. It is possible that a large cooperative could split into two cooperatives (or an inter-cooperative) could arrange for segregation of shares in this manner.

[17] It should be noted that if a processor that holds no IPQ were to accept a delivery of crab harvested A shares that processor would incur an IPQ overage. So, a post-delivery transfer of A shares to a harvester with an overage, will not resolve the landing unless the processor has also committed IPQ to the landing. The processor is unlikely to accept the A share post-delivery transfer to cover the overage, unless it has IPQ available to avoid it incurring an overage.

harvesters will have excessive overages by unreasonable reliance on the provision for post-delivery transfers.

Limits on the time to undertake a post-delivery transfer

The Council motion includes two options defining the time during which post-delivery transfers must be completed. Under the first option, a post-delivery transfer must be made within 30 days of the overage.[18] The second option would require the overage to be covered by the end of the "crab fishing year," which occurs on June 30th each year.[19] Establishing a time limit based on the time of the overage occurring might be supported to avoid harvesters believing that the extended season established by current management allows substantial time for finding shares to cover an overage. For example, if a person has an overage in late October in the Bristol Bay red king crab fishery, that person would have until June the following year to cover the overage. This lengthy period for covering an overage could lead the harvester to unreasonably delay finding shares to cover the overage, which could result in more uncovered overages. On the other hand, most participants in the fisheries know the timing of fishing (which is based on market conditions and meatfill). Given the cost of overage penalties, it is unlikely that many harvesters would delay covering an overage. In addition, most harvesters are cooperative members. Since members of a cooperative are jointly and severally liable for an overage, it is unlikely that cooperatives would be tolerant of outstanding uncovered overages. Delaying obtaining a post-delivery transfer needed to cover an overage until shares are unavailable for that transaction is unlikely to be a persistent problem.

Eligibility for post-delivery transfers

The Council motion includes two options defining harvesters eligible to engage in post-delivery transfers. Under the first option, all harvesters would be permitted to engage in post-delivery transfers. Although this provision would appear to allow a harvester to access all harvest shares for a post-delivery transfer, current rules prohibit transactions between cooperatives and non-members of cooperatives, dividing IFQ into two separate pools. Non-members of cooperatives will be greatly disadvantaged in the market for covering overages by this limitation, since almost all IFQ are allocated to cooperatives.

The second option requires a person to be a member of an inter-cooperative to be eligible to engage in post-delivery transfers. The inter-cooperative would be required to meet membership threshold of 30 percent, 50 percent, or 65 percent of the IFQ in the fishery. In addition, the inter-cooperative would be required to have a reserve pool of shares to use for covering overages and appoint an authorized representative with RAM to manage its transfers.

While an inter-cooperative will likely facilitate coordination of harvesting and post-delivery transfers, whether a strict requirement of inter-cooperative membership to engage in these transactions will have any benefit is questionable. First, an inter-cooperative would include only cooperative members, so IFQ holders that are not members of cooperatives (although holding a relative small portion of the quota) would be completely excluded from post-delivery transfers by this option. The establishment of a threshold membership level to qualify for post-delivery transfers could be used to exclude persons or leverage a position in the fishery. For example, the current inter-cooperative (the Inter-Cooperative Exchange) represents holders of approximately 70 percent of the unaffiliated IFQ in some fisheries (or approximately 60 percent of the IFQ in the fishery). Increasing the membership slightly would allow this

[18] Note, this is interpreted as requiring the complete and accurate transfer application to be filed within 30 days of the landing with the overage for catcher vessels (or weekending date of the weekly processing report with the overage for catcher processors). No revision or amendment of a transfer application would be permitted after June 30th. Any application that is not fully and accurately completed on that date would be rejected. For all other time limits, the filing of a complete and accurate application by the deadline is assumed to satisfy the requirement.

[19] It should be noted that all fisheries close by May 31th, so the provision allowing post-delivery transfers until June 30th will always have a period as long as the provision allowing transfers for 30days after the landing.

group to control formation of the inter-cooperative required for post-delivery transfers, if a 65 percent threshold is applied. If the Inter-Cooperative Exchange were the entity that was used to satisfy the inter-cooperative requirement, no affiliated cooperatives could belong to the inter-cooperative because of the price negotiating role played by the Inter-Cooperative Exchange. Although lower thresholds could decrease some of the leverage that can be asserted through the inter-cooperative requirement, circumstances could arise in which participants could be excluded from post-delivery transfers. To avoid anti-trust issues, the inter-cooperative would likely need to be solely for the purpose of engaging in post-delivery transfers. An additional organizational entity is an unreasonable cost in a management program already overburdened with organizational entities. Alternatively, the segregation of affiliated cooperatives from unaffiliated cooperatives would increase the potential for participants to assert leverage through the threshold requirement.

An effective post-delivery transfer will clearly depend on shares being available for transfer. A reserve pool, or a common pool made up of shares contributed by members of the inter-cooperative, that must be set aside specifically for post-delivery transfers could effectively ensure that shares are available for transfer at certain times. While participants may choose to establish a reserve pool for this purpose, monitoring of available IFQ and coordinating its harvest, which likely occurs to some degree through cooperatives, is the most critical aspect of ensuring the provision serves its purpose. Developing the specific requirements for a reserve pool would be somewhat intractable in regulation. The size of the pool would need to be defined; the type of shares that would need to be allocated to the pool would need to be specified; and the time during which the reserve must be available and untapped would need to be specified. These different factors are likely to depend on the TAC, the effort deployed in the fishery, and catch rates in the fishery among other things. Specifying a reserve pool requirement that is effective but not overly burdensome in regulation would be very challenging. The identification of a transfer agent with RAM could facilitate more rapid transfers among IFQ holders. The effectiveness of the provision will depend in part on how that requirement is defined. A transfer agent required to be used by participants, with signing authority for all participants could quickly prepare accurate transfer applications streamlining the application process.

Alternative 3 – Moderately limited post-delivery transfers

Alternative 3 is similar to Alternative 2, but imposes a few additional restrictions on post-delivery transfers. The effects of the two alternatives are largely the same, except for differences arising from these additional restrictions. Under Alternative 3, each post-delivery transfer is limited to 10,000 pounds of IFQ. This amount is likely sufficient to cover minor unintentional overages, which have averaged substantially less than 10,000 pounds in the first two years of the program (see Table 6). This limit, however, could reduce the effectiveness of the provision in addressing harvesting efficiencies that could be realized through inseason transfers used to coordinate harvesting activity that cannot be completed in a timely manner. For example, consolidation of catch on an active vessel at the end of a season might not be possible, if the transfer must be finalized prior to the landing.

The threshold could be effective in deterring unreasonable reliance on the post-delivery transfer ability to cover an excessive overage. The possibility of unreasonable reliance on a speculative post-delivery transfer to cover an excessive overage is limited. Participants are likely to realize that the cost of covering an overage will rise with the magnitude of the overage. Sellers of IFQ, who realize that the potential penalty facing a person with a substantial overage will be punitive, are likely to exploit that position offering shares for a higher price. In addition, covering a large overage is more likely to be complicated by the need to involve A share and IPQ commitments, bringing additional parties into the transaction.

This alternative would also limit each harvester to two post-delivery transfers per species.[20] This limit would allow a vessel to make a last trip harvesting its own IFQ with an overage, cover that overage, make a second 'sweep up' trip harvesting the remaining shares of others, and cover any overage on that trip. Although it is possible that a vessel could make more than two 'last trips' during which it has an overage, it is unlikely that the limit of two post-delivery transfers would be constraining unless a vessel developed a practice of intentionally having overages for purposes of managing the share holdings it harvests. Such an arrangement could have shares segregated into two accounts, one partner would have very minimal holdings and the other would hold the bulk of the shares to be harvested. The vessel would fish on the account of the holder of few shares. So, on each trip, the vessel would leave the dock with few shares, catch and deliver a full load (with an overage), then cover the overage with a transfer of shares held by its partner. Such an arrangement could be used to coordinate share use, possibly to avoid the use of B shares to cover overages. To be effective, the arrangement and transfers would need cooperation from IPQ holders receiving deliveries. Whether any harvesters would attempt to set up such an arrangement is uncertain and depends on the extent to which harvesters attempt to preserve their B shares and their ability to harvest A share allocations without overage. Anecdotal evidence suggests that some harvesters have made efforts to retain B shares for marketing purposes. Others generally use B shares to increase operational efficiency in their harvesting. Given these different uses of B shares, it is difficult to determine whether some participants may attempt to use a post-delivery transfer provision to manage their share usage. Aside from limiting the ability of participants to use these arrangements to manage their share use, the limit on the number of transfers is unlikely to constrain activity or affect harvesters.

Limits on the time to undertake a post-delivery transfer

This alternative includes two options for defining the time for completing a post-delivery transfer. Under one option, post-delivery transfers would need to be completed within 15 days of the landing with the overage. The restrictiveness of this option likely varies across fisheries. In the Bristol Bay red king crab fishery, in which most harvests are made over a brief period in the fall and early winter, requiring post-delivery transfers to be completed within 2 weeks of the landing should have little affect on participants. In fisheries with substantially longer periods of activity (such as the Aleutian Island golden king crab fisheries), it is possible that the relatively short time limit could prevent transfers, particularly those involving owner-operated vessels. The relatively short time for completing transfers could also stymie transactions that involve multiple share holders (such as transactions that involve transfers of A shares and IPQ, which may require approval of persons to whom those shares are committed). These transactions are likely to be complicated by the number of persons involved.

The extended time period, under the other option, would leave ample time to accommodate transfers. Allowing harvesters until June 30th each year to these complete transfers is not likely to lead to unreasonable reliance on the transfer provision and an increase in uncovered overages.

Eligibility for post-delivery transfers

The effects of options concerning eligibility to engage in post-delivery transfers under this alternative are the same as described under alternative 2 above.

2.4.2 Effects on the processing sector

Under each of the alternatives processors will be affected by two aspects of the alternative: the effects of the alternative on harvesters' ability to engage in post-delivery transfers and the effects of the alternative

[20] **As currently written, the motion would apply the limit on a "per species" basis. Since some species are fished in more than one fishery, it may be more appropriate to modify this limit to apply to each "fishery"**. Applying limits to the fishery would provide a more certain and fair limit on these transfers.

on processors' ability to engage in post-delivery transfers. These two effects are considered for each alternative.

Alternative 1 – No post-delivery transfers (status quo)

Under the status quo, no post-delivery transfers are permitted. Harvesters that have an overage at the time of landing cannot make a transfer to cover that overage. Processors are generally unaffected by this provision, since the overage is charged to the harvester and does not affect the processor's operations. Usually, the processor will process the crab and later purchase it from NOAA Fisheries enforcement at the prevailing price. Although processors cannot engage in post-delivery transfers to cover IPQ overages, those overages are extremely rare, as the processor can monitor landings and has no obligation to accept deliveries beyond its holdings.

Alternative 2 – Unlimited post-delivery transfers

Under this alternative, harvesters are permitted to cover IFQ overages with few limitations. Processors will be affected by this activity in a few minor ways. During the time period after the landing and before the harvester has reconciled its share account with a post-delivery transfer, the processor will have possession of the crab but not have an identified seller. If the overage is covered, the seller will be the person delivering the crab. If the overage is not covered, the processor has typically purchased the crab from NOAA Fisheries Office of Law Enforcement. This arrangement is likely to continue in the future.

Harvesters may elects to use a post-delivery transfer to cover an overage. If the harvester elects to use B shares, the transaction should be relatively straight forward for the processor. Although the processor could be argued to have an upper hand in price negotiations for these landings, since the program was implemented most processors are reported to pay the same price for all B share landings, regardless of whether those landings are negotiated prior to the delivery. If the processor is not purchasing B shares, it typically has matched its A share price for B share landings. Although processors could use their position to negotiate lower prices for these landings, most participants believe that such practices would hurt the processor's position in the long run and do not expect processors to attempt to leverage their position with respect to deliveries covered by a post-delivery transfer.

If a harvester elects to use A shares to cover an overage, the transaction could be substantially more complicated for a processor. In this instance, the processor must either use IPQ already committed to another IFQ holder or obtain IPQ from another processor.[21] In either instance, the processor must negotiate with others to commit IPQ to the overage. It is possible that these arrangements will be accommodated with little complication. On the other hand, it is possible that either IPQ or IFQ holders not directly involved in the delivery could assert their position as the holder of involved shares to exact some fee in the transaction. Whether that fee is sought from the processor or the harvester with the overage, the processor's cost of dealing with the transfer could be disproportionately high relative to the benefit that it would derive from working to address the overage. In time, these transaction costs should be minimal, but it is possible that persons in a position of leverage could periodically assert that leverage to the detriment of a processor who bears no responsibility for a harvester overage.

Limits on the time to undertake a post-delivery transfer

Two options would define the time period for completing post-delivery transfers. Under the first, these transfers must be completed prior to June 30th (the end of the 'crab fishing year'). Under the second, the transfer must be completed within 30 days of the landing with the overage. Limits on the time during for undertaking post-delivery transfers are unlikely to affect processors. Although the extended timeframe for

[21] If the processor does not have IPQ, it is unlikely to accept the Class A IFQ post-delivery transfer to cover the overage. Since accepting the delivery with Class A IFQ without IPQ would result in an overage for the processor.

completing transfers could induce some complacency, the provision is unlikely to lead to any additional uncovered overages. The shorter time frame is unlikely to be too restrictive for harvesters to complete transactions necessary to cover overages.

Eligibility for post-delivery transfers

Two options for eligibility for post-deliver transfers are included in this alternative. Under the first, all harvesters would be eligible. Under the second only cooperatives that are members of an intercooperative would be eligible. Three intercooperative size thresholds are proposed. Under any of these thresholds, some harvesters could be excluded from an intercooperative. Although processors are largely unaffected by harvester post-delivery transfers, it is possible that in circumstances that involve the use of A shares to cover an overage, the interaction of A share/IPQ landing requirements with the intercooperative requirement could create additional leverage for parties involved in the transaction. For example, if a processor affiliated cooperative is excluded from an intercooperative, it is possible that the processor could make intercooperative membership a condition of its commitment of IPQ to cover the overage. Although processors are largely unaffected by the intercooperative requirement, that requirement could add some contention to negotiations.

Alternative 3 – Moderately limited post-delivery transfers

The effects of Alternative 3 on processors are very similar to the effects of Alternative 2. The only differences arise under the option shortening the time permitted for post-delivery transactions.

Limits on the time to undertake a post-delivery transfer

Two options would define the time period for completing post-delivery transfers. As under Alternative 2, the first option requires post-delivery transfers to be completed prior to June 30th (the end of the 'crab fishing year'). The second option shortens the time to complete transfers to within 15 days of the landing with the overage. Transfers involving A shares are likely to be complicated by the need for relief from commitments involving those shares. In more complex cases, these commitments could involve several IFQ and IPQ holders. At the extreme, the relatively tight time could prevent a transaction from being completed.

2.4.3 Effects on communities

Although several communities are involved in the crab fisheries as home to harvesters, processors, and their crews, this action is unlikely to have any distributional effect on any communities. In general, these community members will benefit from any reduction of overages and more complete harvest of the TAC that is likely under Alternatives 2 and 3. These individual effects are unlikely to have any noticeable effect on any community.

2.4.4 Effects on management and enforcement

Alternative 1 – No post-delivery transfers (status quo)

Under the status, post-delivery transfers are not permitted. At the time of landing, offloads are weighed, assigned to IFQ and IPQ and credited against catch by RAM, and any overage is determined and reported to NOAA Fisheries Office of Law Enforcement. Overage prosecution is based on catch accounting records, so specific catch is not confiscated. Overage catches are processed with all other catch to prevent spoilage. If the overage is forfeited, as is typical practice, the processor purchases the overage from NOAA Fisheries Office of Law Enforcement at the prevailing price.

Alternative 2 – Unlimited post-delivery transfers and Alternative 3 – Moderately limited post-delivery transfers

Under the two alternatives allowing post-delivery transfers, harvesters are permitted to cover IFQ overages with few limitations. The effects of the two alternatives on management and enforcement are very similar, with slight differences arising under the different options. To streamline the analysis the discussion is consolidated into a single section here.

Since post-delivery transfers are permitted only to cover overages, the increase in administrative and record keeping requirements to address post-delivery transfers is somewhat limited. Yet, changes in the timing of administrative decisions and processes will pose challenges. As under the status quo, overages will typically be processed at the time of landing. If the overage is covered with a post-delivery transfer, the processor would pay the harvester for the landing. If not, the overage would be forfeited and the processor would purchase the overage from the NOAA Fisheries Office of Law Enforcement. While this process remains the same under the alternatives allowing overages to be covered with a post-delivery transfer, the timing of this process will differ from the status quo.

In general, RAM will oversee share accounts and share usage, as is currently done. At the time of landing, RAM will maintain a record of any overage, but instead of reporting overages to NOAA Fisheries Office of Law Enforcement immediately, RAM would defer reporting until the time permitted to cover the overage with a post-delivery transfer has lapsed. Under options that limit the time to cover overages from the date of landing (i.e., either 15 or 30 days from the landing), overages would be reported on a rolling basis as overages become final (or the time from each landing with an overage lapses). To administer this provision, a catcher vessel landing would be considered to have occurred at the time of the landing report submittal, which must occur within 6 hours of the end of the offload. A catcher processor landing would be considered to have occurred on the weekending date, on which the weekly processing report is filed. It is possible that using a time limit based on a landing could contribute to disputes. For example, some harvesters may contest the time limit on notice grounds, if they were not aware of the overage at the time of landing. Even if these disputes are unsuccessful, they could be considered mitigating circumstances when establishing penalties for overages. Requiring all overages to be covered by a specific date (such as the end of the crab fishing season) may help resolve potential conflicts concerning whether post-delivery transfers are timely. This deadline is clear and provides participants with ample time to resolve overages after fishing is ended, since all seasons close at least 30 days prior to June 30th.

A slight increase in the administrative burden will occur, if persons are required to be members of an inter-cooperative to engage in post-deliver transfers. The general requirement is clear on its face and could be satisfied with a simple filing with RAM. If the inter-cooperative is required to establish a reserve pool to be used to cover overages, the administrative burden could increase substantially. For example, if the inter-cooperative is required to reserve a certain portion of its members' holdings until either a date certain or until each member of the inter-cooperative has harvested a specific portion of its allocation, monitoring this reserve and possibly share usage during the season would be infeasible. While the reserve pool might effectively serve the interests of participants, establishing the requirement in regulation would create an excessive administrative burden.

Overall, allowing post-delivery transfers should reduce the number of enforcement actions prosecuting overages, since cooperative will have the opportunity to acquire shares to correct the pending violation.

2.4.5 Effects on consumers

This action is unlikely to have a noticeable effect on consumers. Very minor, additional amounts of harvests could be made under Alternatives 2 and 3. These additional harvests are likely to be indiscernible in consumer markets.

2.4.6 Net benefits to the Nation

A minor overall net benefit to the Nation is likely to arise from this action. The action is likely to reduce the number of overages by allowing participants to use post-delivery transfers. The risk of increasing the magnitude of any overage is also limited, since enforcement actions and the associated penalties are likely to deter careless overharvest of allocations. The action has the potential to reduce administrative and enforcement costs by reducing the number of enforcement actions for overages.

3 Regulatory Flexibility Analysis

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 pilot 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.

3.1.1 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) and 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.

3.2 A description of the reasons why action by the agency is being considered

The Council developed the following purpose and need statement defining its rationale for considering this action:

> *Under the crab rationalization program, harvesters receive annual allocations of individual fishing quota that provide an exclusive privilege to harvest a specific number of pounds of crab from a fishery. Any harvest in excess of an individual fishing quota allocation is a regulatory violation punishable by confiscation of crab or other penalties. Precisely estimating of catch at sea during the fishery is difficult and costly due to variation in size of crab, and sorting and measurement requirements. Overages can result from inadvertent mistakes by participants attempting to accurately estimate catch. A provision allowing for post-delivery transfer of individual fishing quota to cover overages could reduce the number of inadvertent violations, allowing for more complete harvest of allocations, and reduce enforcement costs without increasing the risk of overharvest of allocations.*

3.3 The objectives of, and the legal basis for, the proposed rule

Under the current regulatory structure, Bering Sea/Aleutian Islands crab resources are managed by NOAA Fisheries and the State of Alaska, under the FMP. The authority for this action and the FMP are contained in the Magnuson-Stevens Act, as amended by the Consolidated Appropriations Act of 2004.

3.4 A description of, and where feasible, an estimate of the number of small entities to which the proposed rule will apply

This action directly regulates holders of IFQ and IPQ, who could engage in post-delivery transfers to cover overages. Estimates of the number of small entities holding IFQ are based on estimates of gross revenues. Since crab prices vary year-to-year, the gross revenues of participants are difficult to predict. The best available approximation of crab prices is drawn from the market analysis prepared as a part of the arbitration system.

[Estimates of the number of directly regulated small entities will be provided in the future]

3.5 A description of the projected reporting, record keeping, and other compliance requirements of the proposed rule

The reporting, record keeping, and other compliance requirements of the proposed rule will not change. As such, this action requires no additional reporting, record keeping, or other compliance requirements.

3.6 An identification, to the extent practicable, of all relevant Federal rules that may duplicate, overlap, or conflict with the proposed rule

The analysis uncovered no Federal rules that would conflict with, overlap, or be duplicated by the alternatives.

3.7 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

The Council has identified three alternatives for this action. Alternative 1 is the status quo, under which no post-delivery transfers are permitted. Any overage at the time of landing is considered a violation subject to a potential enforcement action. Under Alternative 2, post-delivery transfers are relatively unlimited. Post-delivery transfers of all share types, including processor shares and catcher processor shares are permitted. The number of post-delivery transfers a person may receive and their size is not limited. Post-delivery transfers are limited to being used to cover overages. Two options for limiting the time period during which the transfer may be made are set out. Under the first, the transfer must take place within 30 days of the landing. Under the second, the transfer must take place by the end of the 'crab fishing year,' which occurs on June 30th each year. This alternative also includes two options for defining harvesters that may make post-delivery transfers. Under the first option, any person may make such a transfer. Under the second, only members of an inter-cooperative meeting certain criteria are permitted to engage in the transfer. Under Alternative 3, moderate limits are place on post-delivery transfers. All share

types may be transferred, but exclusively to cover overages. Transfers are limited to two transfers of each species, which are limited to 10,000 pounds each. Two options limiting the time to make transfers are under consideration. Under the first, transfers are required to be made within 15 days of the landing with the overage. Under the second, transfers must be made by the end of the fishing year (which occurs on June 30th). Two options also define harvesters who may make post-delivery transfers. Under the first, any harvester may make a transfer. Under the second, only harvesters that are members of an inter-cooperative satisfying specific criteria are permitted to make post-delivery transfers.

The effects of this action on large and small participants are similar. Allowing post-delivery transfers should facilitate a reduction in overages that result in forfeiture of catch and other penalties. Small entities, however, could be disadvantaged depending on the options selected by the Council. The options with shorter time periods for completing a post-delivery transfer to cover an overage (either 15 or 30 days after the landing) could disadvantage small entities, who are less likely to have internal administrative capacity to quickly locate shares to cover the overage. This disadvantage is especially likely for participants who harvest their own IFQ, who may be unable to search for shares while actively fishing.

Small harvesting entities could also be disadvantaged by provisions requiring inter-cooperative membership to engage in post-delivery transfers. Most small entities regulated by this action will be individual IFQ holders. A provision that requires inter-cooperative membership for eligibility to engage in post-delivery transfers would effectively disqualify individual IFQ holders from the benefits of the action.

4 National Standards and Fishery Impact Statement

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 Bering Sea and Aleutian Island crab fisheries. 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 participants to make more complete use of their catch and share allocations.

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 Bering Sea and Aleutian Island crab 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 could reduce 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 could reduce bycatch by allowing participants to cover overages that might otherwise be discarded.

National Standard 10

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

The rationalization program should reduce the incentives for crab fishermen to fish in inclement weather, or fish in a manner that compromises safety. The alternatives considered under this action do not affect any potential benefits arising out of those incentives.

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

Section 303(a)(9) of the Magnuson-Stevens Act requires that any management measure submitted by the Council take into account potential impacts on the participants in the fisheries, as well as participants in adjacent fisheries. The impacts of the alternatives on participants in the harvesting sector and processing sector have been discussed in previous sections of this document. This action will have no effect on participants in other fisheries.

5 References

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