ANALYSIS OF
TERMS OF AN ENTRY LEVEL LOAN PROGRAM
FOR THE BERING SEA AND
ALEUTIAN ISLANDS
KING AND TANNER CRAB FISHERIES

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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[1] (the "program" or the "rationalization program"). The program includes provision for a loan program to aid entry level fishermen and persons who fish from small vessels. At its October 2007 meeting, based on public testimony and input from the Advisory Panel, the Council directed staff to analyze elements and options defining terms of the loan program that could be used by the Council to recommend terms of the loan program. Council recommendations would be forwarded to NOAA Fisheries Financial Service Division for consideration during the rule making process.

This document is staff response the Council's requested analysis. Section 2 contains a description of possible terms of the loan program for Council consideration. Section 3 provides a background description of portions of the crab rationalization program relevant to the definition of terms of the loan program. Section 4 analyzes the specific terms under consideration by the Council.

2 Loan program elements under the Magnuson Stevens Act

Under the Magnuson Steven Act, loan programs are authorized to fund the purchase of shares in a share based management program by entry level and small vessel fishermen. At the time the crab program was adopted, the following provisions of Section 303(d)(4)(A) of the Magnuson Stevens Act governed the establishment of these loan programs:

> *A Council may submit, and the Secretary may approve and implement, a program which reserves up to 25 percent of any fees collected from a fishery under section 304(d)(2) [fee collection] to be used, pursuant to section 1104A(a)(7) of the Merchant Marine Act, 1936 (46 U.S.C. App. 1274(a)(7)), to issue obligations that aid in financing the–*
>
> > *(i) purchase of individual fishing quotas in that fishery by fishermen who fish from small vessels; and*
> > *(ii) first-time purchase of individual fishing quotas in that fishery by entry-level fishermen.*

As a part of the reauthorization, Congress included a specific provision defining application of the law to existing quota (or share-based management) programs. The section provides that the reauthorization does not apply to programs in existence at the time of the reauthorization and that instead Section 303(d)(4) applies. Specifically, Section 303A of the reauthorization provides:

> *(i) TRANSITION RULES.--*
> > *(1) IN GENERAL.--The requirements of this section [Section 303A] shall not apply to any quota program, including any individual fishing quota program, cooperative program, or sector allocation for which a Council has taken final action or which has been submitted by a Council to the Secretary, or approved by the Secretary, within 6 months after the date of enactment of the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, except that–*
> > > *(A) the requirements of section 303(d) of this Act [MSA] in effect on the day before the date of enactment of that Act [MSRA] shall apply to any such program.*

[1] Share-based programs allocate participants (or groups of participants) exclusive portions of the TAC for harvest.

As a part of the development of the rationalization program, the Council included the following provision for a loan program to support the purchase of quota by active captains and crew:

Loan program for crab QS

A low-interest rate loan program consistent with MSA provisions, for skipper and crew purchases of QS, shall be established for QS purchases by captains and crew members using 25% of the Crab IFQ fee program funds collected. These funds can be used to purchase A, B, or C shares.

Loan funds shall be accessible by active participants only.

Any A or B shares purchased under the loan program shall be subject to any use and leasing restrictions applicable to C shares (during the period of the loan).

Since several aspects of the program were not authorized by the general provisions of the Magnuson Stevens Act, Congress adopted specific legislation authorizing the rationalization program. That legislation provided specifically that:

(1) By not later than January 1, 2005, the Secretary shall approve and hereafter implement by regulation the Voluntary Three-Pie Cooperative Program for crab fisheries of the Bering Sea and Aleutian Islands approved by the North Pacific Fishery Management Council between June 2002 and April 2003, and all trailing amendments including those reported to Congress on May 6, 2003. This section shall not preclude the Secretary from approving by January 1, 2005, and implementing any subsequent program amendments approved by the Council.

(4) The loan program [ ] shall be carried out pursuant to the authority of sections 1111 and 1112 of title XI of the Merchant Marine Act, 1936 (46 U.S.C. App. 1279f, 1279g).

To maintain consistency with both the general provisions of the Magnuson Stevens Act and the rationalization program (as subsequently incorporated into the Magnuson Stevens Act), the Council could recommend specific terms defining loan eligibility. Under the rationalization program provisions, the loan is intended to be available for purchase of quota by captains and crew meeting active participation requirements. Under the general provisions governing loan programs in the Magnuson Stevens Act, loan funds should be available to two classes of purchases 1) purchases for use on small vessels and 2) first-time purchases by entry-level participants. The Council has identified the following possible terms for the loan program, circumscribing these requirements:

Crew definition:

Define crew as currently in regulation. Under the existing definition, crew encompasses captains and crew.

Active participation definition:

1. is a U.S. citizen,
2. has at least 150 days sea time, as part of a harvesting crew in any U.S. commercial fishery,
3. has made at least one delivery in a fishery subject to the crab rationalization program in:
a. 2 of the 3 years prior to the ***application for the***[2] *loan, or*
b. the 3 years prior to the ***application for the*** *loan.*

[2] This change is suggested to improve administration of the program by NOAA Fisheries Financial Services Division.

Fishermen who fish from small vessels:

In the Bering Sea and Aleutian Islands rationalized crab fisheries, this is to be defined as "fishermen who fish from any or all vessels".

First time purchase of individual fishing quota by entry-level fishermen is to be defined through the following options:

Maximum threshold quota share holdings to qualify for the loan program, by fishery:

Bristol Bay red king crab, Bering Sea C. opilio, and Eastern and Western Bering Sea C. bairdi fisheries share holdings thresholds:

a) *0.05 percent*
b) *0.10 percent*
c) *0.25 percent*
d) *0.50 percent*

Pribilof red and blue king crab and St. Matthew Island blue king crab fisheries share holdings thresholds:

a) *0.10 percent*
b) *0.20 percent*
c) *0.50 percent*
d) *1.00 percent*

Western Aleutian Islands red king crab, Western Aleutian Islands golden king crab, and Eastern Aleutian Islands golden king crab fisheries share holdings thresholds:

a) *0.5 percent*
b) *1.0 percent*
c) *2.5 percent*
d) *5.0 percent*

Loan cap amounts per individual:

a) *$150,000 per year*
b) *$300,000 per year*
c) *$450,000 per year*

Additionally, the Council directs staff to develop a range of possible loan cap amounts per individual, across all fisheries and years. A program-wide loan cap amount per individual would limit the total loan amount an individual could receive under the Bering Sea and Aleutian Islands crab rationalization loan program across the life of the program.

In developing recommendations for the loan program, the Council should consider that a borrowing threshold should be defined for the purchases for use on small vessels. These thresholds could be the same as those applicable to entry level borrowers, but larger thresholds might be appropriate for persons who already have share holdings.

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. The description of the harvesting sector includes information concerning captains and crew and the allocations of C shares necessary to

understand the conditions in the fishery related to this action.

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 catcher 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).[3] The remaining 10 percent of these annual IFQ are issued as "B shares" or "Class B IFQ," which may be delivered to any processor.[4] 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.[5]

In addition to processor share landing requirements, Class A IFQ (along with 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)

[3] Currently, C shares are an exception to this generalization. Those shares are not subject to IPQ landing requirements 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 to extend the exemption of IPQ landing requirements on C shares indefinitely.

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

[5] 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 to the extent of their IPQ holdings (and are not allocated B shares). The rationale for issuing only A shares to PQS holders and their affiliates 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).

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

The A share/B share allocation structure has the effect of limiting market choices of participants, since only the 10 percent allocation of B shares are free to be sold to any buyer. Under this structure, the 90 percent A share allocation (with corresponding IPQ) is intended primarily to add stability to the processing sector and provide a means for compensated removal of processing capacity from the fisheries. The 10 percent B share allocation is intended to provide negotiating leverage to harvesters, an opportunity for entry to the processing sector, and a check on the processing market (by providing a negotiated market price)[6]. To aid participants in resolving price disputes relative to A share landings, the Council developed a binding arbitration program. The arbitration program is established through a set of private contracts that must meet requirements set out in the regulation. Holders of Class A IFQ and holders of IPQ must join arbitration organizations. These organizations, in turn, must enter contracts that define the arbitration program and select arbitrators. The arbitration program is an elaborate structure that serves several functions, including establishing a system for more orderly matching of Class A IFQ with IPQ, developing a market report and non-binding price formula to inform price negotiations, and providing a binding arbitration process to resolve impasses in negotiations.

Under the rationalization program, 97 percent of the initial allocation of QS was allocated to vessel owners. Vessel owner shares may be acquired by any individual who is a U.S. citizen with at least 150 days of sea time in a harvest capacity in a U.S. commercial fishery. Corporations and partnerships can also acquire these shares provided a U.S. citizen who meets the 150 day sea time requirement owns at least 20 percent of the corporation. The remaining three percent of the initial allocation of QS was issued to captains as "C shares", based on their harvest histories as captains. C share allocations are subject to management provisions not applicable to owner shares to ensure that active fishermen receive the benefits of those shares. C shares may only be acquired by individuals who meet the sea time requirement and are active in the fisheries, where 'active' is defined as having participated in a landing within 365 days of the share acquisition. An owner-on-board provision and leasing prohibition are also applied to C shares, intended to ensure that C shares would benefit active captains and crew. The Council recognized that logistical complications would likely arise early in the program, as a result of the interaction of owner-on-board requirements, leasing prohibitions, fleet contraction, and the landing requirements on A shares. To aid in overcoming these complications, the Council exempted C shares from the landing requirements of A shares and prohibitions on leasing for the first three seasons under the program (see 50 CFR 680.41(e) and 50 CFR 680.42(b)(6) and (c)(5)).[7] Since the arbitration system applies only to A shares, the exemption of C shares from the 90/10 A share/B share split effectively exempts C share from the arbitration system. The Council is currently considering an amendment to the program that would indefinitely exempt C shares from the A share/B share division, effectively removing any processor share and regional landing requirements from C shares. The effects of an amendment exempting C shares from processor share and regional landing requirements currently under consideration are discussed where relevant in this analysis.

[6] It should be noted that the limitation on the market resulting from the 90 percent A share/IPQ allocation dampens the market for B share landings by limiting the size of the open market for landings. So, the B share price (while providing an indication of the free market price) may not reflect the price that would exist in the absence of the A share/IPQ allocations.

[7] Although the owner-on-board exemption is not explicitly created, by allowing leasing of C share IFQ for the first three years of the program, a holder of those shares is effectively relieved of the owner-on-board requirement.

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. To ensure captains and crew 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. The leasing prohibition and owner-on-board requirements apply only to individual holders of C share IFQ; separate use provisions apply to IFQ held by a cooperative (see 50 CFR 680.21(c)(2)).

3.2 The harvest sector

Under the rationalization program, QS are allocated in two types. 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 QS holdings among these share types varies substantially across fisheries (see Table 1 and Table 2). 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.[8] This concentration arises both from the initial allocation and from consolidation that has occurred since implementation (see p. 23, RAM, 2006 and Table 1 and Table 2).

Table 1. Owner quota share holdings as a percent of the owner share pool.

Fishery	Share holdings by region						Across regions			
	Region/Catcher processor	QS holders	Percent of pool	Mean holding	Median holding	Maximum holding	QS holders	Mean holding	Median holding	Maximum holding
Bristol Bay red king crab	North	32	8.9	0.1	0.0	0.2	245	0.41	0.34	3.44
	South	234	46.7	0.4	0.3	3.4				
	Catcher processor	12	44.4	0.4	0.3	1.0				
Bering Sea *C. opilio*	North	202	18.4	0.2	0.2	1.2	231	0.43	0.41	2.59
	South	205	20.5	0.2	0.2	2.6				
	Catcher processor	13	61.1	0.7	0.7	2.2				
Eastern Bering Sea *C. bairdi*	Undesignated	234	43.5	0.4	0.3	2.6	244	0.41	0.31	2.91
	Catcher processor	13	56.5	0.5	0.5	1.1				
Western Bering Sea *C. bairdi*	Undesignated	234	43.5	0.4	0.3	2.7	244	0.41	0.31	2.91
	Catcher processor	13	56.5	0.5	0.5	1.1				
Eastern Aleutian Island golden king crab	South	13	86.7	13.0	7.3	6.6	15	6.67	5.97	20.35
	Catcher processor	2	13.3	2.0	2.4	2.4				
Western Aleutian Island golden king crab	Undesignated	13	10.1	2.1	1.0	11.0	16	6.25	1.74	45.73
	West	9	14.6	3.0	1.3	13.5				
	Catcher processor	3	75.3	15.4	0.5	45.7				
Western Aleutian Island red king crab	South	32	8.9	1.9	0.5	13.5	33	3.03	0.62	45.16
	Catcher processor	2	91.1	19.5	19.5	37.8				
St. Matthew Island blue king crab	North	121	49.5	0.6	0.6	3.4	136	0.74	0.62	4.45
	South	84	19.8	0.3	0.1	2.2				
	Catcher processor	5	30.8	0.4	0.3	0.9				
Pribilof red and blue king crab	North	85	45.5	0.8	0.5	3.1	113	0.88	0.52	3.42
	South	76	24.5	0.4	0.3	2.8				
	Catcher processor	1	30.0	0.5	0.5	0.5				

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

[8] It should be noted that the Council at its December 2007 meeting adopted an amendment to the program that would exempt C shares from all regional landing requirements. Once that amendment is approved by the Secretary of Commerce, regional designations will be removed from C shares.

Table 2. C share quota share holdings as a percent of the C share pool.

Fishery	Share holdings by region						Across regions			
	Region/Catcher processor	QS holders	Percent of pool	Mean holding	Median holding	Maximum holding	QS holders	Mean holding	Median holding	Maximum holding
Bristol Bay red king crab	North	13	15.4	0.2	0.2	0.3	156	0.64	0.54	2.00
	South	153	49.3	0.6	0.5	2.0				
	Catcher processor	8	35.3	0.4	0.4	1.2				
Bering Sea *C. opilio*	North	129	22.1	0.3	0.3	1.8	136	0.74	0.66	1.99
	South	127	24.7	0.4	0.3	1.5				
	Catcher processor	7	53.3	0.8	0.7	2.0				
Eastern Bering Sea *C. bairdi*	Undesignated	150	52.8	0.6	0.6	1.9	156	0.64	0.57	2.00
	Catcher processor	15	47.2	0.5	0.4	1.5				
Western Bering Sea *C. bairdi*	Undesignated	150	52.8	0.6	0.6	1.9	156	0.64	0.57	2.00
	Catcher processor	15	47.2	0.5	0.4	1.5				
Eastern Aleutian Island golden king crab	South	11	100.0	9.1	9.2	20.1	11	9.09	9.18	20.14
	Catcher processor	0	0.0	0.0	0.0	0.0				
Western Aleutian Island golden king crab	Undesignated	8	12.8	3.7	2.8	10.5	9	11.11	6.17	41.74
	West	7	13.8	4.0	2.8	11.2				
	Catcher processor	2	73.4	21.3	21.3	41.7				
Western Aleutian Island red king crab	South	4	61.3	21.6	14.3	49.5	4	25.00	20.84	49.46
	Catcher processor	1	38.7	13.6	13.6	13.6				
St. Matthew Island blue king crab	North	63	73.8	1.3	1.3	2.7	69	1.45	1.41	3.32
	South	42	26.2	0.5	0.2	2.6				
	Catcher processor	0	0.0	0.0	0.0	0.0				
Pribilof red and blue king crab	North	33	69.0	2.1	2.1	4.8	39	2.56	2.55	4.84
	South	31	31.0	1.0	0.8	4.0				
	Catcher processor	0	0.0	0.0	0.0	0.0				

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

Annual harvest allocations are also issued in various classes (see Table 3), which limit the operation type and define share holder type and applicable landing restrictions.

Table 3. IFQ allocation by share type (2006-2007).

	Catcher vessel			Catcher processor		Total
	Owner		Captain/ crew	Owner	Captain/ crew	
Fishery	Class A	Class B				
Bristol Bay red king crab	11,647,090	1,294,110	402,768	615,655	14,669	13,974,292
Bering Sea *C. opilio*	26,121,324	2,902,364	929,338	2,898,453	57,982	32,909,461
Eastern Bering Sea *C. bairdi*	1,374,311	152,697	46,358	109,989	4,146	1,687,501
Western Bering Sea *C. bairdi*	801,857	89,097	27,047	64,175	2,419	984,595
Eastern Aleutian Islands golden king crab	2,245,212	249,468	80,075	125,227	0	2,699,982
Western Aleutian Islands golden king crab	1,140,787	126,752	41,914	1,089,563	30,989	2,430,005

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

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)[9] 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.

[9] 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 more recent years, managers specified GHLs as specific amounts, managing the fishery in-season to allow harvest of that specific amount.

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 4). Although precise estimates of crew are not currently available, industry participants believe that most vessels are operated by a crew of six (including the captain). The fleet contraction that occurred after implementation of the rationalization resulted in substantial losses of crew positions in the crab fisheries, as those positions declined proportionally with fleet contraction. At the start of the program, C shares were allocated only to captains. Given the level of fleet consolidation, it is likely that many initial recipients of these shares have lost their captain positions under the program. This relatively high level of inactivity may explain the consolidation of C shares in cooperatives.

Under the rationalization program fleets (and likely corresponding captains and crews) declined to between one-half and one-third of their pre-rationalization levels. Assuming that each vessel employs 6 crew (including the captain)[10], annual average captain and crew participation in the Bering Sea *C. opilio* and Bristol Bay red king crab fisheries dropped from in excess of 1000 to 500 or fewer. Captain and crew participation in the Eastern Aleutian Islands golden king crab fishery dropped from in excess of 100 to fewer than 40. Captain and crew participation in the Western Aleutian Islands golden king crab fishery dropped from annual averages of approximately 40 to approximately 20.

[10] This estimate is consistent with preliminary review of data from the Economic Data Reporting datasets and estimates used in other analyses (see Knapp, 2006).

Table 4. 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	2000	7,468,240	97.2	2.8	238	6	244
	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	2000 - 2001	3,086,890	*	*	15	0	15
	2001 - 2002	3,128,409	100.0	0.0	19	0	19
	2002 - 2003	2,765,436	100.0	0.0	19	0	19
	2003 - 2004	2,900,247	100.0	0.0	18	0	18
	2004 - 2005	2,846,273	100.0	0.0	20	0	20
	2005 - 2006	2,569,209	*	*	6	1	7
	2006 - 2007	2,692,009	*	*	5	1	6
Western Aleutian Islands golden king crab	2000 - 2001	2,902,518	*	*	11	1	12
	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
All fisheries	2000 - 2001				246	10	253
	2001 - 2002				235	11	243
	2002 - 2003				238	11	247
	2003 - 2004				245	9	254
	2004 - 2005				247	9	256
	2005 - 2006				100	5	101
	2006 - 2007				87	5	91

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.

Note: "All fishery" participation in a season includes all fisheries prosecuted between August 1 and July 31.

For 2005-2006 and 2006-2007, catcher processor vessel count include all vessels harvesting catcher processor shares.

Most harvesters (including C share holders) have elected to join cooperatives, so most annual allocations are made to cooperatives (see Table 5). In excess of 80 percent of the C share pool by fishery is held by cooperative members. As cooperative shares, these shares may be more easily consolidated, since transfers among cooperative members are administered by the cooperative (rather than by NOAA Fisheries).

Table 5. IFQ held by cooperatives by share type and fishery (2006-2007).

Fishery	Catcher vessel					
	Owner			Crew		
	Cooperative held	Total	Percent held by cooperatives	Cooperative held	Total	Percent held by cooperatives
Bristol Bay red king crab	16,771,150	16,979,337	98.8	497,688	528,407	94.2
Bering Sea *C. opilio*	49,779,135	50,034,349	99.5	1,520,136	1,601,490	94.9
Eastern Bering Sea *C. bairdi*	2,781,890	2,805,644	99.2	74,247	85,165	87.2
Western Bering Sea *C. bairdi*	1,757,159	1,772,163	99.2	46,896	53,792	87.2
Eastern Aleutian Islands golden king crab	2,492,311	2,492,311	100.0	77,738	80,995	96.0
Western Aleutian Islands golden king crab	1,267,539	1,267,539	100.0	38,303	41,914	91.4

Fishery	Catcher processor					
	Owner			Crew		
	Cooperative held	Total	Percent held by cooperatives	Cooperative held	Total	Percent held by cooperatives
Bristol Bay red king crab	807,708	807,708	100.0	19,247	19,247	100.0
Bering Sea *C. opilio*	4,994,834	4,994,834	100.0	99,922	99,922	100.0
Eastern Bering Sea *C. bairdi*	202,073	202,073	100.0	6,113	7,623	80.2
Western Bering Sea *C. bairdi*	127,637	127,637	100.0	3,859	4,812	80.2
Eastern Aleutian Islands golden king crab	126,663	126,663	100.0	0	0	NA
Western Aleutian Islands golden king crab	1,089,563	1,089,563	100.0	30,427	30,989	98.2

Source: NMFS Restricted Access Management IFQ database, crab fishing year 2007-2008.

In the first three calendar years since allocation of QS, substantial portions of the QS pools have been transferred (see Table 6). Share transfers that total over 10 percent of the QS pool have occurred in six of the fisheries in the first three years of the program. The transfer market seems to have slowed in the third year, which may be a reflection of persons no longer employed in the fisheries, who have decided to leave the fisheries, divesting of their shares in the first two years. In most years and fisheries, a substantially larger portion of the total QS transfers have been transfers of vessel owner shares.

Table 6. Transfers of QS by year and fishery.

Year	Fishery	Sector	QS transferred	
			units	as a percent of total QS pool
2005 - 2006	Bristol Bay red king crab	Catcher processor owner	1,569,702	0.4
		Catcher vessel owner	15,337,188	3.8
		Catcher vessel crew	1,434,287	0.4
	Bering Sea *C. opilio*	Catcher processor owner	11,997,148	1.2
		Catcher vessel owner	40,969,076	4.1
		Catcher vessel crew	3,082,755	0.3
	Bering Sea *C. bairdi**	Catcher processor owner	1,570,469	0.8
		Catcher processor crew	19,854	0.0
		Catcher vessel owner	11,870,491	5.9
		Catcher vessel crew	563,706	0.3
	Eastern Aleutian Islands golden king crab	Catcher vessel owner	1,021,237	10.2
		Catcher vessel crew	43,372	0.4
	Pribilof red and blue king crab	Cather vessel owner	387,936	1.3
	St. Matthew Island blue king crab	Catcher vessel owner	766,644	2.5
		Catcher vessel crew	57,443	0.2
	Western Aleutian Islands golden king crab	Catcher vessel owner	878,114	1.5
		Catcher vessel crew	75,643	0.1
2006 - 2007	Bristol Bay red king crab	Catcher processor owner	777,429	0.2
		Catcher vessel owner	28,744,461	7.2
		Catcher vessel crew	1,237,670	0.3
	Bering Sea *C. opilio*	Catcher processor owner	3,494,652	0.3
		Catcher processor crew	222,842	0.0
		Catcher vessel owner	60,901,248	6.1
		Catcher vessel crew	3,049,661	0.3
	Bering Sea *C. bairdi**	Catcher vessel crew	181,990	0.1
	Eastern Bering Sea *C. bairdi*	Catcher processor owner	460,039	0.2
		Catcher vessel owner	17,195,877	8.6
		Catcher vessel crew	491,486	0.2
	Pribilof red and blue king crab	Catcher vessel owner	960,391	3.2
		Catcher vessel crew	48,351	0.2
	St. Matthew Island blue king crab	Catcher vessel owner	1,620,414	5.4
		Catcher vessel crew	79,301	0.3
	Western Aleutian Islands red king crab	Catcher vessel owner	1,232,580	2.1
	Western Bering Sea *C. bairdi*	Catcher processor owner	460,039	0.2
		Catcher vessel owner	17,195,877	8.6
		Catcher vessel crew	491,486	0.2
2007 - 2008	Bristol Bay red king crab	Catcher vessel owner	4,734,563	1.2
		Catcher vessel crew	493,960	0.1
	Bering Sea *C. opilio*	Catcher vessel owner	18,434,596	1.8
		Catcher vessel crew	983,437	0.1
	Eastern Aleutian Islands golden king crab	Catcher processor owner	396,848	4.0
		Catcher vessel crew	35,191	0.4
	Eastern Bering Sea *C. bairdi*	Catcher vessel owner	2,886,182	1.4
		Catcher vessel crew	217,301	0.1
	Pribilof red and blue king crab	Catcher vessel owner	654,792	2.2
	St. Matthew Island blue king crab	Catcher vessel owner	1,374,990	4.5
		Catcher vessel crew	48,781	0.2
	Western Aleutian Island golden king crab	Catcher processor owner	190,857	0.5
	Western Aleutian Island red king crab	Catcher vessel owner	265,488	0.4
	Western Bering Sea *C. bairdi*	Catcher vessel owner	3,208,167	1.6
		Catcher vessel crew	217,301	0.1

Source: NMFS Restricted Access Management transfer data.

Note: Percentages are based on quota share pool as of 2008. Annual transfers fishery and sector transfers of less than 5,000 units are excluded.

Data for 2007-2008 are partial year data, as of January 2008.

* Uses Eastern Bering Sea *C. bairdi* for the QS pool denominator.

Price differentials on transfers of C share QS and owner QS vary across time and fisheries (see Table 7). In general, C share prices have been approximately one-third lower than the prices of owner shares in the first three years of the program. It should be noted that the extent of any price differential could change with the introduction of the loan program and the exemption of C shares from processor share and regional landing requirements. Similarly, stringency of active participation requirements is likely to affect C share prices in the future.[11]

Table 7. QS transfer prices by fishery and sector (2005-2006 to 2007-2008).

Crab Fishing Year	Fishery	Sector	Total amount paid ($)	Total QS units transferred	Number of transfers	Number of distinct transferors	Number of distinct transferees	Weighted average price per QS unit
2005 - 2006	Bristol Bay red king crab	CVC	873,724	1,221,051	21	19	14	0.72
		CVO	3,991,160	7,139,909	14	6	10	0.56
	Bering Sea *C. opilio*	CVC	683,516	2,793,091	25	14	12	0.24
		CVO	9,653,848	24,619,413	22	9	12	0.39
	Bering Sea *C. bairdi*	CVC	77,627	400,790	14	13	11	0.19
		CVO	1,523,445	5,203,128	10	8	9	0.29
2006 - 2007	Bristol Bay red king crab	CVC	774,159	1,130,330	24	20	17	0.68
		CVO	29,292,901	24,420,200	27	17	11	1.20
	Bering Sea *C. opilio*	CVC	543,372	2,864,463	35	17	15	0.19
		CVO	12,618,035	48,984,237	36	17	8	0.26
	Bering Sea *C. bairdi*	CVC	15,472	138,404	3	3	3	0.11
	Eastern Bering Sea *C. bairdi*	CVC	18,987	394,012	17	14	14	0.05
		CVO	432,038	6,577,526	17	13	8	0.07
	St. Matthew Island blue king crab	CVC	7,019	40,323	4	3	3	0.17
	Western Bering Sea *C. bairdi*	CVC	13,028	372,387	16	13	13	0.03
		CVO	699,338	8,511,781	22	18	9	0.08
2007 - 2008	Bristol Bay red king crab	CVO	620,603	662,170	6	4	4	0.94
	Bering Sea *C. opilio*	CVO	2,200,050	8,282,971	7	3	4	0.27
	Eastern Bering Sea C. bairdi	CVO	33,374	574,907	3	3	3	0.06
Total	Bristol Bay red king crab	CVC	1,647,883	2,351,381				0.70
		CVO	33,904,664	32,222,279				1.05
	Bering Sea *C. opilio*	CVC	1,226,888	5,657,554				0.22
		CVO	24,471,933	81,886,621				0.30
	Bering Sea *C. bairdi*	CVC	93,099	539,194				0.17
		CVO	1,523,445	5,203,128				0.29
	Eastern Bering Sea *C. bairdi*	CVC	18,987	394,012				0.05
		CVO	465,412	7,152,433				0.07
	St. Matthew Island blue king crab	CVC	7,019	40,323				0.17
	Western Bering Sea *C. bairdi*	CVC	13,028	372,387				0.03
		CVO	699,338	8,511,781				0.08

Notes: Includes only priced transfers through November of 2007. All transfers of Bering Sea *C. bairdi* occurred prior to division of those allocations into two areas and therefore include ransfers of both Eastern and Western Bering Sea *C.bairdi*. The crab fishing year begins on July 1 and ends on June 30. A portion of these transfers included accompanying IFQ for the current season.

Source: Restricted Access Management, NOAA Fisheries.

3.3 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

[11] In considering price information, it should also be noted that in some instances transfers included accompanying IFQ for the current season. The effect of the inclusion of IFQ on transfer prices was not examined for this analysis, in part, due to time constraints. In general, the inclusion of IFQ is expected to be a function of the timing of the transfer relative to the crab fishing season and

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. Those data suggest that on average B and C share landings received a premium relative to A share landings. The exception is the *C. bairdi* fishery in the first year of the program, when C shares appeared to receive a lower price on landing than harvests by the other share types. Specific elandings prices are not reported here because the amount of any premium on B share and C share landings may not be accurate, since post-landing bonuses are not included in any prices.

Final price data are available for the various species harvested in the program (see **Error! Reference source not found.**). These data, however, are not collected by fishery and include catch fisheries other than those subject to the rationalization program. Although catch from the rationalization program dominate these data, in some cases catch from other fisheries may affect final prices observed in these data. Overall, the data do show a declining price trend, which accurate characterizes price changes in recent years in the fisheries.

Table 8. Ex vessel prices by species, 2001 - 2006 (dollars/pound).

Year	Golden king crab	*C. opilio*	Red king crab	*C. bairdi*
2001	3.37	1.55	4.83	2.16*
2002	3.46	1.39	6.21	2.20*
2003	3.62	1.85	5.14	2.45*
2004	3.15	2.07	4.69	2.59*
2005	2.89	1.81	4.50	1.85
2006	2.18	1.15	3.85	1.52

* Bering Sea *C. bairdi* fishery was not open and did not contribute to this price.

Source: ADFG Commerical Operators Annual Reports

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.[12] 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 elandings data in the *C. bairdi* fisheries, which was lower than the average reported price for A share deliveries in the first season.

Any absence of a substantial premium on B and C share landings in the program to date could be explained by a few factors other than the utility of those unrestricted shares in 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 albeit a market under a different management structure. 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

[12] 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.

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.

3.4 First wholesale and consumer markets

This section briefly summarizes market conditions in the first two years of the program and the expected market conditions 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. 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 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 too 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 declined substantially, tracking the price for red king crab products. In the second year an abundance of competing small sized red king 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 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 show a notable declines in 2006, the first full year of the rationalization program (Table 9). It is believed that market conditions have improved more recently, but data are not available to show those improvements.

Table 9. First wholesale prices of crab species by product type (2001-2006).

Species	2000	2001	2002	2003	2004	2005	2006
Golden king crab	7.20	6.95	7.58	7.89	6.02	6.00	4.35
Red king crab	9.11	8.93	11.58	9.82	9.25	8.52	7.49
C. opilio	4.16	3.73	3.58	4.40	4.79	3.85	2.89
C. bairdi	5.83	5.12	5.22	6.13	6.60	4.37	3.94

Source: COAR data

3.5 The halibut and sablefish IFQ loan program

The halibut and sablefish IFQ program includes a loan program to fund QS purchase by fishermen who fish from small vessels and entry level fishermen. Under that program, 'fishermen who fish from small vessels' are defined as fishermen who wish to purchase IFQs for use on any catcher vessel, but who do not own an interest in a freezer vessel or a catcher vessel greater than 60 feet in length. These persons are

limited to holding QS that result in 50,000 pounds of halibut and sablefish IFQ in the year of the application. 'Entry level fishermen' are defined as persons holding no QS, who wish to acquire QS that result in no more than 8,000 pounds of halibut and sablefish IFQ in the year of the application.

4 Analysis of loan program terms

This analysis is intended to assist the Council's evaluation of possible loan term recommendations that could be use by NOAA Fisheries Financial Services Division to develop rules governing the loan program. This analysis independently examines the suggested definitions of each term under consideration by the Council.

To develop a comprehensive set of recommendations for provisions governing the loan program, the Council would need to develop definitions of the following terms:

1) crew,
2) active participants,
3) small vessels (including share thresholds), and
4) first time purchase by an entry level fisherman (including share thresholds), and
5) active participation requirements for loan holders.

To qualify for a loan a person will need to be a crewmember that meets active participation requirements. In addition, a person must also meet either be a small vessel participant or an entry level participant making a first time purchase of shares. Once a person holds shares, that person might be required to meet active participation requirement during the period of the loan.

Generally, entry level fisherman is defined as a limit on the amount of shares that the person would hold after the first time purchase. The various share thresholds proposed for Council review can be used to define entry level for purposes of eligibility under that provision. **In addition to the entry level provision, the Council should also develop separate recommendations for share purchase thresholds for persons purchasing share for use on small vessels. Given the breadth of share thresholds proposed for Council review in this analysis, those thresholds can also be considered for establishing the threshold for holders of shares for use on small vessels.** In addition to the above provisions, the Council should consider whether to establish active participation requirements for borrowers who choose to purchase owner QS that are not otherwise subject to active participation requirements. A brief discussion of that issue follows the analysis of other loan term provisions.

4.1 Crew definition

The Council motion defining the rationalization program provides that the loan program funds should be accessible to crewmembers. To further define that term, the Council has suggested that the crew definition applicable to the rationalization program in general should be applied to the loan program. Under that definition, crew includes any individual, other than fishery observers, working on a vessel that is engaged in fishing. Under this definition, both captains and deck crew would be considered crew for purpose of the loan program eligibility. This interpretation suggests that the Council's concern is that loan program funds are accessible to persons working on vessels, including both captains and deck crew.

To administer the crew requirement a person could be required to hold either a CFEC permit or crew license at the time of application for the loan. To actively participate as captain or crew in a fishery in the State of Alaska, a person is required to hold either a CFEC permit or crew license. The permit or license number would be required on a loan application and could be verified by NOAA Fisheries Financial Services through the State of Alaska to the extent necessary. It should be noted that this crew requirement would not require a person to be a crab fishery crewmember; the active participation requirement that

follows does require activity as a crewmember in the crab fisheries, however. **The Council recommendation should clearly state that a person is required to meet both the crewmember requirement and the active participation requirement to qualify for the loan program.**

4.2 Active participation definition

The Council motion defining the rationalization program includes a further provision limiting eligibility for the loan program to 'active participants' in the crab fishery. The regulations contain no specific definition of 'active participation'; however, to be eligible to acquire C shares a person is required to demonstrate activity in the fishery – one landing at most 365 days prior to the share acquisition (see 680.41(c)).

For loan eligibility, the Council has suggested that a different standard be applied for determining active participation. Specifically, the Council suggests that a person:

1. *be a U.S. citizen,*
2. *have at least 150 days sea time as part of a harvesting crew in any U.S. commercial fishery, and*
3. *have made at least one delivery in a fishery subject to the crab rationalization program in:*
   *Option A. 2 of the 3 years prior to the **application for the** loan, or*
   *Option B. the 3 years prior to the **application for the** loan.*

Estimating the effects of this provision is complicated by several data shortcomings. Currently, no individual crew identifiers associated with catch information are available for determining the number of unique crewmembers active in the fisheries.[13] In addition, the program has been in effect for only two years, preventing any estimation of participation over a three year period under the program. In the first two years of the program, a total of 112 unique vessels participated in the fisheries; and 80 vessels participated in both years. If each vessel is assumed to employ 6 persons (including the captain) with each vessel employing one unique person for each position in all years it participated, approximately 480 persons would meet the two year participation requirement for loan eligibility, based solely on participation in the first two years of the program. Approximately 670 persons would meet a one year participation requirement for loan eligibility, based on participation during the first two years. The estimate provide here for the one year participation requirement is likely an underestimate, as some vessels likely employ more than one person for some positions in a single year. The estimate of persons eligible based on the two year participation may be an overestimate, depending on the turnover that occurs from year to year.[14]

To administer loans, NOAA Fisheries Financial Service Division will likely require captain or vessel owner verification of participation as a part of a crewmember's loan application. **The Council recommendation should include a statement that, in the absence of a demonstration of active participation as a permit holder on a fish ticket, vessel owner or captain verification of participation by a loan applicant will be required.**

[13] Crew identifiers are requested as a part of the Economic Data Collection program, which would allow estimation of the total number of unique persons employed in the crab fisheries in a given year. The data would not reveal any distinct levels of participation for those persons. Economic Data Collection data are currently unavailable for use in this analysis. Those data will be available, once the Council reviews and approves of the quality of the data and confidentiality protections.

[14] It should be noted that the rationalization program will have been in effect for three years by the time the loan program is implemented.

4.3 Small vessel definition

Under the general Magnuson Stevens Act loan provisions a loan program should support purchase of shares by persons fishing from small vessels. For purposes of determining loan eligibility, the Council has suggested that "small vessels" include all vessels in the crab fisheries. A few general bases could be considered to justify adopting this broad definition for loan eligibility purposes. First, an examination of the vessels currently participating in the crab fisheries shows that a large majority of the vessels are similar in size (see Table 10). In excess of three-fourths of the vessels registered to participate in the fisheries in each of the first three years of the program are between 85 and 150 feet in length. The relative absence of small vessels in the fleet suggest that limiting the loan program to only persons fishing on the smallest vessels in the fishery would be overly constraining, limiting eligibility for the loan program to only a few persons able to secure positions on those vessels.

A second justification for the broad definition of 'small vessels' is that increasing incentives for entering small vessels into the fishery (which could arise, if loan funds are accessible to persons fishing on small vessels) could compromise safety in the fisheries. The Bering Sea and Aleutian Islands crab fisheries are generally prosecuted in the fall, winter, and early spring. Safety is among the greatest concerns in these fisheries. Development of a loan program to encourage persons to operate smaller vessels in the fishery is antithetical to the safety standards that the Council supports for these fisheries. Making loan funds accessible to persons for operations on larger vessels that are often safer in these fisheries is consistent with safety objectives of the Council.

Production methods and economic dynamics in the crab fisheries also suggest that 'small vessels' be defined as 'all vessels' for purposes of loan eligibility. Since the production process and fishing power of pot fishing varies less with vessel size than for other gear types, the rationale for distinguishing small vessels has less applicability to this gear type.[15] In addition, distinguishing by vessel size in the crab fisheries, where all operations are relatively large scale, is unlikely to benefit persons with limited access to capital. Persons with less access to capital can be better distinguished by other measures, such as share holdings.

Table 10. Number of registered vessels for Bering Sea and Aleutian Islands crab fisheries by length (2005-2006 to 2007-2008 seasons).

Year	Under 85 feet	85 feet to 99 feet	100 feet to 149 feet	150 feet or greater	Total
2005-2006	3	18	82	14	117
2006-2007	2	23	94	15	134
2007-2008	2	18	89	11	120

Source: RAM, Alaska region, NOAA Fisheries.

4.4 First time purchase by entry level fishermen definition

The Magnuson Stevens Act loan provision requires that loan funds be available for first time purchase of shares by entry level fishermen. In considering the different aspects of this requirement, the Council should bear in mind that the relatively broad definition of 'small vessel' suggested by the Council may reduce the importance of the definition of 'first time purchase for entry level fishermen'. Specifically, if funds are available for purchase of shares for use on any vessel, with a relatively high share holdings

[15] Clearly, larger vessels benefit from larger hold space and larger decks; however, the catch power differential with vessel size for pot gear in the Bering Sea and Aleutian Islands crab fisheries is likely substantially less than for other gear types.

threshold for loan eligibility, loan funds could be broadly accessible to a person who might otherwise consider applying as first time purchasers who are entry level fishermen.

The first aspect of this requirement—'first time purchase'—is largely self defining; however, some interpretation is necessary for application of that requirement. In general, managers of the loan funds have interpreted 'first time purchase' literally, considering funds under this category to be available only to persons making their first purchase of shares, regardless of whether those persons already hold shares received through an initial allocation or gift. The nature of the crab rationalization program requires some further clarification of when a purchase is 'first time'. Specifically, **the Council should clearly indicate whether it believes that the rule is appropriately applied independently to each fishery (so a person who purchased shares in only one fishery would be considered a first time purchaser in all other fisheries).** Alternatively, the rule could be applied to all fisheries collectively (so that a person who purchased shares in any fishery would no longer be considered a first time purchaser in any fishery). Applying the rule independently to each fishery could be justified, if the Council believes that entry under the program occurs on a fishery by fishery basis. Applying the rule across all fisheries is appropriate, if a person is believed to enter the program through any acquisition of shares. As noted, if broad eligibility under the small vessel provision is permitted, this determination may have little tangible effect on a person's loan eligibility.

4.5 Share thresholds

For both first time purchases by entry level fishermen and for purchases of shares to be used on small vessels, share thresholds will need to be specified. Entry level limits would be expected to be lower, as that would appear to identify a group of participants with lesser share holdings in the fisheries.

One approach to simplify the application of limits would be to specify an amount of shares that a person may hold on completing purchases with loan funds. This approach simplifies application of the threshold by effectively specifying a single level that governs both eligibility to access loan funds and a share holding that may be achieved using loan funds. Alternatively, the Council could recommend one threshold on share holdings at the time of application for purposes of determining loan eligibility and a second share threshold limiting the amount of shares that may be acquired with loan funds.

To recommended provisions defining a share threshold, the Council has suggested the following provisions:

> *Maximum threshold quota share holdings to qualify for the loan program, by fishery:*
>
> *Bristol Bay red king crab, Bering Sea* C. opilio*, and Eastern and Western Bering Sea* C. bairdi *fisheries share holdings thresholds:*
>
> *a) 0.05 percent*
> *b) 0.10 percent*
> *c) 0.25 percent*
> *d) 0.50 percent*
>
> *Pribilof red and blue king crab and St. Matthew Island blue king crab fisheries share holdings thresholds:*
>
> *a) 0.10 percent*
> *b) 0.20 percent*
> *c) 0.50 percent*
> *d) 1.00 percent*

Western Aleutian Islands red king crab, Western Aleutian Islands golden king crab, and Eastern Aleutian Islands golden king crab fisheries share holdings thresholds:

a) 0.5 percent
b) 1.0 percent
c) 2.5 percent
d) 5.0 percent

Loan cap amounts per individual:

a) $150,000 per year
b) $300,000 per year
c) $450,000 per year

Additionally, the Council directed staff to develop a range of possible loan cap amounts per individual, across all fisheries and years. A program-wide loan cap amount per individual would limit the total loan amount an individual could receive under the Bering Sea and Aleutian Islands crab rationalization loan program across the life of the program.

These provisions could establish three types of limitations. The first set would establish limits on share holdings in each fishery that would govern loan eligibility and borrowing in that fishery alone, not affecting eligibility for loan funds in other fisheries. The second type of limit would establish an annual borrowing limit for any person accessing loan funds. The third limit would establish a share threshold based on share holdings in all fisheries that would disqualify a person from further access to loan funds for any share purchases. This section addresses the single fishery limits first. The section goes on to discuss the development of an aggregate limit that could be applied across all fisheries. The section concludes with a discussion of annual borrowing limits.

4.5.1 Individual fishery thresholds

Examining the cost of shares and the revenues generated by landings in the different fisheries provides a starting point for the development of share holdings thresholds for purposes of limiting access to loan funds (see Table 11). To allow comparison across fisheries, these costs and revenues are shown based on share holdings equal to the owner use cap in the applicable fishery. Of the fisheries with share price information available, two fisheries carry substantially higher value than others. Specifically, purchase of shares in the Bristol Bay red king crab and the Bering Sea *C. opilio* fisheries up to the owner share cap are approximately $4 million and $3 million, respectively. Of fisheries with share price information available, it is only these two that have maintained steady TACs in the first two years of the program. When considering the ex vessel revenues returned from catching IFQ allocated to the owner QS cap, these two fisheries, together with the two Aleutian Island golden king crab fisheries, each return between approximately $750,000 and $900,000. Each of the other fisheries returns substantially less at the most recent TAC.

Table 11. Share costs and ex vessel revenues of persons holding QS at the owner share cap by fishery.

Fishery	Most recent TAC (pounds)	QS pool (units)	Owner QS cap		Share price ($/QS unit)	Cost of shares to the cap ($)	Annual IFQ at owner QS cap and most recent TAC (pounds)	Ex vessel revenues from IFQ at owner QS cap and most recent TAC ($)
			as a percent of pool	in QS units				
Bristol Bay red king crab	18,334,699	401,552,838	1	3,880,000	1.05	4,082,582	177,159	862,526
Bering Sea *C. opilio*	56,730,595	1,004,573,205	1	9,700,000	0.30	2,898,859	547,782	896,701
Eastern Aleutian Islands golden king crab	2,699,969	10,000,145	10	970,000	NA	NA	261,893	814,721
Eastern Bering Sea *C.bairdi*	3,100,505	200,554,131	1	1,940,000	0.07	126,237	29,992	50,598
Western Aleutian Islands golden king crab	2,430,005	40,000,058	10	3,880,000	NA	NA	235,710	733,269
Western Bering Sea *C.bairdi*	1,958,404	200,586,422	1	1,940,000	0.08	159,393	18,941	31,955
Pribilof red and blue king crab*	1,164,375	30,049,010	2	582,000	NA	NA	22,552	109,798**
St. Matthew Island blue king crab*	3,726,000	30,258,358	2	582,000	0.03	20,361	71,667	348,923**
Western Aleutian Islands red king crab*	450,000	60,001,459	10	5,820,000	NA	NA	43,649	212,511**

*Estimated based on TAC in most recent fishery.

** Estimated based on average price of the species (2001-2006), except for St. Matthew Island blue king crab and Pribilof red and blue king crab, which are

The most direct way to examine the proposed loan share limits is through share prices and cost of purchasing those shares. Since the rationalization program is relatively new, prices do not appear to be particularly stable. In addition, with relatively few trades in some fisheries, prices are not available for all shares. To aid the Council in considering the proposed thresholds, estimated ex vessel revenues that would be received by landing the amount of IFQ that would generated by quota shares in the amount of the threshold are also presented. These estimates were calculated based on current (or most recent TACs) and average ex vessel price from 2001 to 2006 in the applicable fishery. In evaluating these estimates, the Council should also consider that IFQ lease rates and harvest costs vary across the fisheries. Generally, costs are inversely related to lease rates, as a larger share of the ex vessel price will be captured by the harvester of the shares in fisheries with higher harvest costs. Based on anecdotal evidence, lease rates are believed to be approximately 60 to 70 percent in the Bristol Bay red king crab fishery, approximately 45 to 50 percent in the Bering Sea *C. opilio* fishery, and approximately 35 to 40 percent in the Bering Sea *C. bairdi* fisheries, and approximately 45 to 50 percent in the Eastern Aleutian Island golden king crab fishery. Lease rates in the Western Aleutian Island golden king crab fishery are reported to be substantially lower. Lease contracts for both *C. bairdi* and Western Aleutian Island golden king crab may now include a contingency for withholding payments to the lessor in the event the shares are not harvested.

The large range of thresholds suggested for consideration create a large spread in costs of purchasing shares to the proposed thresholds (see Table 12).[16] In the Bristol Bay red king crab and Bering Sea *C. opilio* fisheries, costs of buying to the proposed thresholds range from less than $150,000 to approximately $2.0 million and $1.5 million, respectively. Harvest of annual IFQ based on the current TAC and average ex vessel price from recent years would generate between approximately $50,000 and $450,000, depending on the threshold. Both share costs and ex vessel revenues of purchasing shares to the proposed thresholds are substantially lower in the Bering Sea *C. bairdi* fisheries, due largely to the low TACs in those fisheries, market conditions, and difficulties confronted prosecuting the fishery.[17] Prior to a precipitous stock decline in the 90s, the Bering Sea *C. bairdi* was a major crab fishery. Whether the fishery will return to its historic importance in the future is not known.

[16] Tables 12, 13, and 14 estimate caps as a percent of owner and crew shares combined.

[17] Although *C. bairdi* prices historically exceeded *C. opilio* prices, that premium has declined substantially with the extended closure of the *C. bairdi* fisheries. In addition, low catch rates reported in the fisheries have led some participants to have difficulty harvesting their allocations in the fisheries.

Table 12. QS units, share costs, IFQ pounds, and ex vessel revenues related to proposed loan thresholds for the Bristol Bay red king crab, Bering Sea *C. opilio*, Eastern Bering Sea *C. bairdi*, and Western Bering Sea *C. bairdi* fisheries.

Fishery	Most recent IFQ TAC (pounds)	Share price ($/QS unit)	0.05 percent loan threshold				0.1 percent loan threshold			
			in QS units	Cost at average price ($)	IFQ pounds at current TAC	Ex vessel revenues at current TAC ($)	in QS units	Cost at average price ($)	IFQ pounds at current TAC	Ex vessel revenues at current TAC ($)
Bristol Bay red king crab	18,334,699	1.05	200,000	210,442	9,132	44,460	400,000	420,885	18,264	88,920
Bering Sea *C. opilio*	56,730,595	0.30	500,000	149,426	28,236	46,222	1,000,000	298,851	56,472	92,443
Eastern Bering Sea *C.bairdi*	3,100,505	0.07	100,000	6,507	1,546	2,608	200,000	13,014	3,092	5,216
Western Bering Sea *C.bairdi*	1,958,404	0.08	100,000	8,216	976	1,647	200,000	16,432	1,953	3,294

Fishery	0.25 percent loan threshold				0.5 percent loan threshold			
	in QS units	Cost at average price ($)	IFQ pounds at current TAC	Ex vessel revenues at current TAC ($)	in QS units	Cost at average price ($)	IFQ pounds at current TAC	Ex vessel revenues at current TAC ($)
Bristol Bay red king crab	1,000,000	1,052,212	45,659	222,300	2,000,000	2,104,424	91,319	444,601
Bering Sea *C. opilio*	2,500,000	747,129	141,181	231,109	5,000,000	1,494,257	282,362	462,217
Eastern Bering Sea *C.bairdi*	500,000	32,535	7,730	13,041	1,000,000	65,070	15,460	26,082
Western Bering Sea *C.bairdi*	500,000	41,081	4,882	8,236	1,000,000	82,161	9,763	16,472

Source: RAM, NOAA Fisheries.

Notes: The C share cap in these fisheries is 0.06 percent of the QS pool. Share price is average vessel owner share price in the first three years of the program. Ex vessel revenues are based on the average ex vessel price from 2001-2006.

Since share price estimates for the Aleutian Island fisheries are not available due to a lack of trades and confidentiality protections, only estimated ex vessel revenues can be presented for these fisheries (see Table 13). Based on recent TACs, ex vessel revenues generated by harvests of IFQ at the proposed thresholds in the Aleutian Islands golden king crab fisheries are comparable to those in the Bristol Bay red king crab and Bering Sea *C. opilio* fishery. The ex vessel revenues that would be generated by share holdings at the thresholds in the Western Aleutian Islands red king crab fishery would be approximately one-quarter of the amount in the golden king crab fisheries (but would still be substantially greater than the amounts in the *C. bairdi* fisheries).

Table 13. QS units, share costs, IFQ pounds, and ex vessel revenues related to proposed loan thresholds for the Eastern Aleutian Islands golden king crab, Western Aleutian Islands golden king crab, and Western Aleutian Islands red king crab fisheries.

Fishery	Most recent IFQ TAC (pounds)	0.5 percent loan threshold			1.0 percent loan threshold		
		in QS units	IFQ pounds at current TAC	Ex vessel revenues at current TAC ($)	in QS units	IFQ pounds at current TAC	Ex vessel revenues at current TAC ($)
Eastern Aleutian Islands golden king crab	2,699,969	50,000	13,500	41,996	100,000	26,999	83,992
Western Aleutian Islands golden king crab	2,430,005	200,000	12,150	37,797	400,000	24,300	75,595
Western Aleutian Islands red king crab*	450,000	300,000	2,250	10,954	600,000	4,500	21,908

Fishery	2.5 percent loan threshold			5.0 percent loan threshold		
	in QS units	IFQ pounds at current TAC	Ex vessel revenues at current TAC ($)	in QS units	IFQ pounds at current TAC	Ex vessel revenues at current TAC ($)
Eastern Aleutian Islands golden king crab	250,000	67,498	209,980	500,000	134,996	419,959
Western Aleutian Islands golden king crab	1,000,000	60,750	188,987	2,000,000	121,500	377,974
Western Aleutian Islands red king crab*	1,500,000	11,250	54,771	3,000,000	22,499	109,542

Source: RAM, NOAA Fisheries.

Notes: The C share cap in these fisheries is 0.5 percent of the QS pool. Share prices are unavailable. Ex vessel revenues are based on the average ex vessel price from 2001-2006.

To the extent available, estimates of share costs and revenues from harvest of IFQs at the various thresholds in the Pribilof and St. Matthew Island fisheries are comparable to those in the Western Aleutian Island red king crab and Bering Sea *C. bairdi* fisheries (see Table 14). **Estimates of IFQ**

revenues are likely overestimates, since they rely on average red king crab ex vessel prices (rather than blue king crab prices). Historically, prices of red king crab exceeded prices of blue king crab by 20 to 100 percent. The potential for blue king crab markets, should these fisheries reopen, is not known.

Table 14. QS units, share costs, IFQ pounds, and ex vessel revenues related to proposed loan thresholds for the Pribilof red and blue king crab and St. Matthew Island blue king crab fisheries.

Fishery	Most recent IFQ TAC (pounds)	Share price ($/QS unit)	0.1 percent loan threshold				0.2 percent loan threshold			
			in QS units	Cost at average price ($)	IFQ pounds at most recent TAC	Ex vessel revenues at most recent TAC ($)	in QS units	Cost at average price ($)	IFQ pounds at most recent TAC	Ex vessel revenues at most recent TAC ($)
Pribilof red and blue king crab*	1,164,375	NA	30,000	NA	1,162	5,660	60,000	NA	2,325	11,319
St. Matthew Island blue king crab*	3,726,000	0.03	30,000	900	3,694	17,986	60,000	1,800	7,388	35,971

Fishery	0.5 percent loan threshold				1.0 percent loan threshold			
	in QS units	Cost at average price ($)	IFQ pounds at most recent TAC	Ex vessel revenues at most recent TAC ($)	in QS units	Cost at average price ($)	IFQ pounds at most recent TAC	Ex vessel revenues at most recent TAC ($)
Pribilof red and blue king crab*	150,000	NA	5,812	28,298	300,000	NA	11,625	56,597
St. Matthew Island blue king crab*	150,000	4,500	18,471	89,929	300,000	9,000	36,942	179,857

Source: RAM, NOAA Fisheries.

Notes: Most recent TACs are from 1998. The C share cap in these fisheries is 0.12 percent of the QS pool. Share price is average vessel owner share price in the first three years of the program. Ex vessel revenues are based on the average ex vessel price of red king crab from 2001-2006.

Based on the cost and revenue information from the various fisheries, the Council could establish loan limits for each fishery. In establishing these limits, the Council might wish to consider adopting a provision that **limits the amount of shares a person can hold after completing purchases with loan funds. In addition, the Council recommendation should clearly state that a person who reaches the threshold in a fishery may continue to access loan funds for the acquisition of shares in another fishery provided the person's holdings are below the limit in that other fishery. The Council should also clearly indicate that a person's holdings shall be determined using the individual and collective rule.[18] Lastly, the Council should clearly identify different threshold levels for entry level borrowers and for small vessel borrowers.**

4.5.2 Aggregate share thresholds

An aggregate loan threshold is a share holding limit calculated across multiple fisheries, which if reached by a person would disqualify that person from borrowing loan program funds in any fishery. The development of aggregate limits on borrowing is complicated by the number of fisheries in the program. The most comprehensive approach to aggregate limits would be to establish a threshold for a weighted sum of share holdings. Share holdings in each fishery would be weighted based on fishery and market characteristics. A person's weighted share holdings summed across all fisheries would be required to remain under a specific threshold for the person to be permitted to access loan funds. Although this approach is comprehensive, it would likely prove complex and not fully transparent to either the administrators or borrowers.

A simplified approach that relies on a weighted sum of share holdings might be adopted by considering only the four fisheries that currently have high share costs or ex vessel revenues ('primary fisheries,' which are the Bristol Bay red king crab, the Bering Sea *C. opilio*, the Eastern Aleutian Island golden king crab, and the Western Aleutian Island golden king crab fisheries). Arguably, each of the other fisheries can currently be overlooked in establishing the aggregate cap, since they currently are of little value.

[18] Under the individual and collective rule, a person is credited with holding all shares directly held. For shares indirectly held, a person is credited with a percentage of the share holding equal to his or her interest in the share holding entity.

Although it is possible that stock rebounds could occur, there is no current indication that any of these fisheries will approach the value of the primary fisheries in the near future. Crab stocks are known to be quite volatile, so circumstances could change rapidly. Based on ex vessel revenues, the current share caps seem to provide reasonable weighting of shares across these fisheries, with holdings at the current cap providing between $700,000 and $900,000 in each of these fisheries (see Table 11). So, if the Council wishes to pursue an aggregate cap based on holdings in these fisheries alone, it could weight share holdings from the fisheries based on the existing use caps.

To illustrate the workings of a weighted threshold, consider establishing a threshold that allows a person to hold up to one-quarter of the share cap in each of the primary fisheries, prior to losing loan eligibility (see Table 16). For each fishery, a person's holdings would need to be multiplied by a factor that accounts for the relative differences in the quota share pools and caps across the fisheries. Under this example, a person could choose to distribute the holdings equally across all fisheries (see Example #1). Alternatively, a person could choose to acquire shares in only two of the fisheries (Example #2) or in just a single fishery (Example #3). In each case, the weighted sum of share holdings equals the threshold. It should be noted that the share weighting factor here assumes that the Council wishes to weight shares proportionally to the caps in the fisheries. These weightings favor certain fisheries over others, when considering estimated revenues from the different fisheries at the cap. These differences are based on the underlying TACs and historic ex vessel prices in the fisheries that are used to estimate the revenues.

Table 15. Example of weighted threshold allowing holdings to one-quarter of the <u>owner</u> share cap in each primary fishery.

Fishery	Share weighting factor	Example #1 threshold holdings		Example #2 threshold holdings		Example #3 threshold holdings	
		share holdings	revenues	share holdings	revenues	share holdings	revenues
Bristol Bay red king crab	2.5	970,000	44,290	1,940,000	88,579	0	
Bering Sea *C. opilio*	1	2,425,000	136,945	4,850,000	273,891	0	
Eastern Aleutian Islands golden king crab	10	242,500	65,473	0		0	
Western Aleutian Islands golden king crab	2.5	970,000	58,928	0		3,880,000	235,710
Weighted sum of share holdings		9,700,000	305,636	9,700,000	362,470	9,700,000	235,710
Weighted threshold	9,700,000						

An alternative approach can be developed by examining existing share holdings (see Table 16). Most participants with substantial holdings in primary fisheries have substantial interests in no more than two of the fisheries.[19] This pattern likely arises from the timing of the fisheries, as it is difficult for a vessel to effectively participate in more than two of the fisheries. The Council could fashion its aggregate cap in a manner similar to this pattern by allowing a person to acquire a threshold interest in two of the four primary fisheries. Upon reaching the threshold in two fisheries, the person could be disqualified from obtaining additional loan funds in all fisheries. These 'aggregate thresholds' should be set independently for each of the four primary fisheries at levels substantially lower than the respective 'individual fishery' thresholds (e.g., one-half of the individual fishery threshold). Using this method, a person could exceed the aggregate threshold in one fishery (possibly acquiring shares to the individual fishery threshold) and continue to access loan funds to acquire shares in each of the other primary fisheries. On reaching the aggregate threshold in one of the other fisheries, the person would be prevented from borrowing loan funds for all other fisheries. The advantage of this threshold is that specific 'aggregate caps can be set for each of the primary fisheries allowing for easy administration and transparent limits for borrowers. To be clear, the threshold would allow a person to acquire to the individual cap in one fishery, then acquire to just shy of the aggregate cap in the three other primary fisheries prior to losing eligibility to access loan

[19] It should be noted that share holdings are aggregated for single named holders. Some persons hold substantial interests in multiple companies that hold shares, so this table underestimates consolidation in the fisheries.

funds. If this type of threshold is adopted, the 'aggregate thresholds' for the primary fisheries should be set accordingly. As under the weighted threshold example, loan funds for shares in the other smaller fisheries would be limited by the individual fishery cap, but would not be considered in determining whether a person has reached an aggregate threshold, that disqualifies the person from accessing all loan funds. **Under any of the propose aggregate caps, the Council should be clear to state that all thresholds would be applied using the individual and collective rule. In addition, for all share caps, the Council should state whether the cap is a percentage of the entire (owner and crew) share pool.**

Table 16. Share holders and holdings by fishery.

Fishery	Share holders		Number with large holdings* that have large holdings in		
	Total	Number with large holdings*	one other primary fishery**	two other primary fisheries**	three other primary fisheries**
Bristol Bay red king crab	391	66	47	3	0
Bering Sea *C. opilio*	356	81	49	4	0
Eastern Aleutian Islands golden king crab	26	8	2	4	0
Eastern Bering Sea *C.bairdi*	389	78	-	-	-
Western Aleutian Islands golden king crab	25	4	1	2	0
Western Bering Sea *C.bairdi*	389	78	-	-	-
Pribilof red and blue king crab	146	36	-	-	-
St. Matthew Island blue king crab	204	35	-	-	-
Western Aleutian Islands red king crab	37	4	-	-	-

Source: Restricted Access Management, NOAA Fisheries.

*Large holdings are defined as holding one-half or more of the share cap.

** Primary fisheries are defined as Bristol Bay red king crab, Bering Sea *C. opilio*, Eastern Aleutian Islands golden king crab, and Western Aleutian Islands golden king crab.

4.6 Annual borrowing limits

The Council has suggested that a provision be incorporated into the loan program that would limit the amount of funds a person could borrow in a given year. This provision would be intended to ensure that loan funds are available to a reasonable number of persons each year. **Although the Council suggests direct dollar limitations on the amount of funds that could be borrowed, NOAA Fisheries Financial Services Division has suggested that these limitations be defined as a percentage of the available funds in the year. This approach will allow the limit to fluctuate with the available funds in the program.** This analysis provides information that could be used for either method of defining annual borrowing limits. In addition, the Council should consider the number of persons who would be able to access funds under any suggested annual borrowing limit. For example, under the current $3 million in annual loan funding, a 10 percent limit on a person's borrowing would allow a person to borrow $300,000 and would ensure that at least 10 persons could access loan funds. A 20 percent cap would allow a person to borrow up to $600,000 and that at least 5 persons could access loan funds. A lower cap would ensure that funds are available for more borrowers, each of which would be limited to a smaller annual borrowing limit.

4.7 Active participation requirements for loan holders

The Council's original motion defining the rationalization program suggested that persons accessing loan funds meet C share active participation requirements during the term of the loan. Under the current rules, C share holders fishing their shares as personally held IFQ (rather than through a cooperative) are required to be on board the vessel harvesting those IFQ. C share holders who join a cooperative have no on board requirement under the current rules. As a separate action, the Council is considering an amendment to require a C share holder to be active as crew, but not necessarily on board the vessel harvesting the IFQ yielded by the holder's C share QS. Specifically, the Council is considering a requirement that a C share holder be on board a vessel harvesting crab under the program in the three

years prior to applying for IFQ to receive a C share IFQ allocation. A workable and enforceable means of applying this requirement to QS purchases with loan funds is not clear.

The only workable means for monitoring the requirement is likely through supplementing NOAA Fisheries RAM Division's oversight of C share active participation requirements with loan program active participation requirements. Additional definition will be needed for this monitoring to be effective. Specifically, the specific requirement will need to be clearly articulated for the effective administration. The Council could suggest that the requirement parallel the requirement of annual statements of active participation (as described in its proposed action concerning active participation requirements for C share IFQ allocations). Although this could formalize a process for verification of participation, applying consequences for failure to participate could be complicated.

The mechanism for establishing the active participation requirement will contribute to its effects. Intertwining active participation as a loan condition with IFQ allocations would likely be unworkable. Specifically, requiring a person to be active as a condition for receiving IFQ yielded by QS purchased with loan funds could jeopardize loan repayment and contribute to payment defaults. Alternatively, the active participation requirement could be incorporated as a loan provision under which failure to comply would be a loan default. Monitoring participation for loan default purposes would require extensive coordination between NOAA Fisheries RAM Division and Financial Services Division concerning outstanding loans and the QS subject to liens arising out of those loans. This coordination would likely take substantial time and effort to develop. In addition, applying the requirement as a loan condition might raise questions of whether failure to be active is a curable default. If so, time consuming administrative efforts could be expended to act on the default prior to the borrower curing the default. Although it might be possible to establish some active participation requirement for borrowers, the development of a workable, efficient system for administering those requirements could take some time and delay implementation of the loan program.

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