

**BSAI Pacific Cod Allocations**  
**Discussion paper**  
**November 3, 2004**

In October 2004, the Council modified the elements and options for BSAI Amendment 80 and removed Pacific cod allocations from that amendment package. The intent was to streamline the analysis and shift it back to its original intent, to provide the non-AFA trawl catcher processor sector with a tool to meet the groundfish retention standards adopted in BSAI Amendment 79. The Council also reaffirmed that modifications to the Pacific cod allocations could be addressed in a separate amendment. To that end, the Council initiated a discussion paper as a starting point for a new plan amendment to alter the current BSAI Pacific cod allocations.

The current BSAI Pacific cod allocations were established through a series of amendments using a step-wise approach. Federal regulations at 50 CFR 679.20(a)(7) authorize BSAI Pacific cod allocations for the following sectors:

- Jig vessels
- Trawl vessels
- Trawl catcher processors
- Trawl catcher vessels
- Hook-and-line catcher processors
- Hook-and-line catcher vessels
- Pot catcher processors
- Pot catcher vessels
- Hook-and-line and pot catcher vessels <60' LOA<sup>1</sup>
- Jig vessels

The action under a new amendment could be limited to modifying the apportionment among the trawl, fixed, and jig gear sectors, or it could be expanded to include modifying the allocations among the fixed gear sectors that the Council approved in 2003 and implemented in 2004. It could also make further splits of the trawl allocation between non-AFA trawl catcher processors and AFA trawl catcher processors, or non-AFA catcher vessels and AFA catcher vessels. This paper outlines prior Council actions regarding the BSAI Pacific cod allocations, the relevant problem statements associated with these actions, and potential decision points related to structuring new alternatives and options for analysis.

**Table 2 (attached) provides a reference sheet for each of the past amendments and its primary provisions. It is anticipated that the Council could adopt a problem statement and alternatives and options for a new analysis at this meeting.**

The BSAI Pacific cod fishery is targeted by multiple gear types, primarily by trawl gear and hook-and-line catcher processors, and smaller amounts by hook-and-line catcher vessels, jig, and pot gear. (Estimates of Pacific cod catch in the Bering Sea and Aleutian Islands is attached as **Table 3**.) This is a fully prosecuted fishery, with a 2004 TAC of 199,338 mt (excluding the 7.5% CDQ reserve). The BSAI Pacific cod TAC has been apportioned among the different gear sectors since 1994, and a series of amendments have modified or continued the allocation system. The next several sections of this paper outline the amendments that have authorized the various BSAI Pacific cod allocations.

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<sup>1</sup>Note that while the <60' hook-and-line and pot catcher vessels receive a separate sector allocation of BSAI Pacific cod, these vessels fish off the general hook-and-line catcher vessel and pot catcher vessel allocations, respectively by gear type, when those fisheries are open.

## Cod allocations among the trawl, fixed gear, and jig sectors - BSAI Am. 24 and BSAI Am. 46

Beginning in 1994, **BSAI Amendment 24** allocated 2% of the total allowable catch (TAC)<sup>2</sup> for non-CDQ BSAI Pacific cod to vessels using jig gear, 54% to trawl gear, and 44% to fixed gear (hook-and-line and pot). These percentages roughly represented the existing harvests of each sector during **1991 - 1993**, with the exception of the jig sector. The two percent jig allocation exceeded the existing historical harvest by that sector and was intended to allow for growth in the jig sector. The Council designed this allocation such that it would expire in three years, at the end of 1996. Am. 24 also authorized NMFS to divide the fixed gear allocation of Pacific cod into three seasons of four months duration. The intent of Am. 24 was to provide stability in the trawl, fixed, and jig gear fisheries by establishing designated allocations of the Pacific cod TAC, which were expected to increase the net benefits received from the harvest of Pacific cod.

In 1995, the Council initiated **BSAI Amendment 46**, to extend the allocations authorized by Amendment 24 beyond 1996. To guide the analysis of alternatives for Am. 46, the Council adopted the following problem statement:

*The BSAI Pacific cod fishery continues to manifest many of the problems that led the Council to adopt Amendment 24 in 1993. These problems include compressed fishing seasons, periods of high bycatch, waste of resource, and new entrants competing for the resource due to crossovers allowed under the Council's moratorium program. Since the allocation of BSAI Pacific cod TAC between fixed gear, jig, and trawl gear was implemented in January 1994 when Amendment 24 went into effect, the trawl, jig and fixed gear components have harvested the TAC with demonstrably differing levels of PSC mortality, discards, and bycatch of non-target species. Management measures are needed to ensure that the Pacific cod TAC is harvested in a manner which reduces discards in the target fisheries, reduces PSC mortality, reduces nontarget bycatch of Pacific cod and other groundfish species, takes into account the social and economic aspects of variable allocations and addresses impacts of the fishery on habitat. In addition, the amendment will continue to promote stability in the fishery as the Council continues on the path towards comprehensive rationalization.*

Under Am. 46, the general BSAI Pacific cod allocations were modified as follows:

- 51% fixed gear
- 47% trawl gear  
(50% trawl catcher vessels)  
(50% trawl catcher processors)
- 2% jig gear

**The overall allocations were the result of an industry negotiating committee appointed by the Council, which selected percentages that closely represented the current harvest percentages taken by the trawl and fixed gear sectors under the current halibut PSC limits.** The 2% jig allocation was also retained as part of this agreement. In addition to the overall split among sectors, Am. 46 also split the trawl sector portion of the BSAI Pacific cod TAC between trawl catcher processors (50%) and trawl catcher vessels

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<sup>2</sup>Note that the "BSAI Pacific cod TAC" referenced throughout this document means the amount of the TAC that is distributed to various gear sectors less the CDQ reserve (7.5%) and the ICA (500 mt in 2004) for the fixed gear fleets targeting BSAI groundfish other than Pacific cod.

(50%), meaning each sector receives 23.5% of the annual BSAI Pacific cod TAC. The further trawl apportionments were a result of a separate negotiation by representatives of the different trawl fleets. This action also included authorization for NMFS to reallocate any portion of the Pacific cod allocations that were projected to remain unused among the various sectors if necessary.<sup>3</sup>

The allocations under Am. 46 have been in place since 1997. While there is no sunset provision or regulatory requirement to review or modify these allocations, the Council's motion on Am. 46 included a provision to review the allocations four years after implementation. This review, originally intended at the end of 2000, has not yet occurred.

### **Cod allocations among the fixed gear sectors - BSAI Am. 64 and BSAI Am. 77**

Vessels began fishing in Federal waters off Alaska under the License Limitation Program (LLP) on January 1, 2000. Since the LLP was approved, changes in the fixed gear fleets prompted industry to petition the Council to further allocate cod in the BSAI among the various sectors of the fixed gear fleets. The following problem statement guided the analysis of alternatives for BSAI **Amendment 64**:

*The hook-and-line and pot fisheries for Pacific cod in the BSAI are fully utilized. Competition for this resource has increased for a variety of reasons, including increased market value of cod products and a declining acceptable biological catch and total allowable catch.*

*Longline and pot fishermen who have made significant long-term investments, have long catch histories, and are significantly dependent on the BSAI cod fisheries need protection from others who have little or limited history and wish to increase their participation in the fishery. This requires prompt action to promote stability in the BSAI fixed gear cod fishery until comprehensive rationalization is completed.*

**Amendment 64**, approved by the Council in October 1999, further apportioned the 51% of the BSAI Pacific cod TAC allocated to fixed (hook-and-line and pot) gear as follows:

- 80% hook-and-line catcher processors
- 0.3% hook-and-line catcher vessels
- 18.3% pot vessels (CP and CV)
- 1.4% hook-and-line and pot vessels <60' LOA

**The percentage allocations selected closely represent the harvests in this fishery during 1995 - 1998, with an additional allocation for catcher vessels <60' LOA in order to allow for growth in the small boat sector.** In addition to the fixed gear apportionments, Am. 64 addressed how to reallocate quota that was projected to remain unused by specific sectors. Any unused hook-and-line catcher vessel or <60' vessel allocation would be reallocated to the hook-and-line catcher processor sector, largely because that sector primarily 'funded' the <60' allocation. In addition, any unused jig or trawl allocations would be reallocated 95% to hook-and-line catcher processors and 5% to pot gear. This split reflected the actual harvest of reallocated quota from the trawl and jig sectors harvested by each sector during 1996 - 1998.

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<sup>3</sup>Am. 46 specified that any unused trawl allocation (catcher processor or catcher vessel) would first be made available to the other trawl sector before it would be reallocated to any other gear type.

At the same time the Council approved Am. 64, it acknowledged that a further split between the pot sectors might be necessary to stabilize the harvests of pot catcher processors and pot catcher vessels in the BSAI Pacific cod fishery. Concern was expressed that the pot sector needed the same stability of direct fleet allocations, such as was done for the hook-and-line fleets. With several years of reduced opilio guideline harvest levels, the BSAI Pacific cod fishery realized an influx of pot vessels that previously fished primarily crab in the BSAI. The pot catcher processor sector petitioned the Council for a further split between the pot sectors, recognizing that a pot split would enable the pot catcher processor sector to avoid competing with a fluctuating and increasing number of pot catcher vessels moving into the cod fishery, and allow the sector to determine its best time to fish due to marketing factors. Increased competition for 'A season' Pacific cod was the driving factor in the need for the overall pot split and the split between the pot sectors.

The fixed gear allocations under Amendment 64 became effective on Sept. 1, 2000. Because the amendment was designed to sunset on December 31, 2003, it necessitated approval of a new plan amendment to either continue or modify the fixed gear apportionments beyond 2003. Like the original action, **Amendment 77** was intended to respond to concerns that, absent a gear split, there is no mechanism to prevent one sector from increasing its effort in the fishery and eroding another sector's relative historical share. Amendment 77 proposed to continue the Pacific cod allocations among the fixed gear sectors, with an additional alternative that would create separate allocations for the pot catcher processor and pot catcher vessel sectors.<sup>4</sup>

Because Amendment 77 addressed both the overall fixed gear split and proposed to split the pot sectors' share of the TAC, the following two problem statements were adopted to guide analysis of **Amendment 77**:

***Problem Statement 1: Overall fixed gear allocations (formerly under Amendment 64)***

*The fixed gear fisheries for Pacific cod in the BSAI are fully utilized. The fishermen who hold licenses in the BSAI Pacific cod fisheries have made substantial investments and are significantly dependent on BSAI Pacific cod.*

*The longline and pot gear allocations currently in place for the BSAI Pacific cod fishery under Amendment 64 expire December 31, 2003. Without action by the North Pacific Fishery Management Council, serious disruption to the BSAI Pacific cod fixed gear fisheries will occur. Prompt action is required to maintain stability in the BSAI fixed gear Pacific cod fishery until comprehensive rationalization is completed.*

***Problem Statement 2: Separate allocations for pot catcher processors and pot catcher vessels: (Applicable to Alternative 4, formerly under Amendment 68)***

*The catcher processor and catcher vessel pot fisheries for Pacific cod in the Bering Sea/Aleutian Islands are fully utilized. Pot catcher processors who have made significant long-term investments, have long catch histories, and are significantly dependent on the BSAI cod fisheries need protection from pot catcher vessels who want to increase their Pacific cod harvest. This requires prompt action to promote stability in the BSAI pot cod fishery until comprehensive rationalization is completed.*

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<sup>4</sup>In June 2002, the Council considered BSAI Amendment 68 to create separate allocations for the pot catcher processor and pot catcher vessel sectors. Considering the pending expiration of Am. 64, the Council decided to take no action on this amendment, deferring action on pot allocations until they could be rolled into one amendment package that would also address the other fixed gear sectors (Am. 77).

**Under Amendment 77, the Council approved continuing the same overall fixed gear allocations under which the fixed gear Pacific cod fisheries had been operating since 2000. The apportionment among the hook-and-line catcher processors, hook-and-line catcher vessels, and pot vessels were based closely on 1995 - 1998 or 1995 - 1999 harvests by each sector, and the new apportionment between the pot sectors was based on catch history during 1998 - 2001.** The allocation to the <60' sector continued to represent an increase over historical harvests, in order to allow for growth in this small boat, shorebased sector. The allocations approved under **Amendment 77** are as follows:

- 80% hook-and-line catcher processors
- 0.3% hook-and-line catcher vessels
- 15.0% pot catcher vessels
- 3.3% pot catcher processors
- 1.4% hook-and-line and pot vessels <60' LOA

### Reallocated quota among gear sectors

In addition to the allocations, Am. 77 again addressed the issue of quota that is reallocated from one sector to another when it is projected to remain unused by the end of the fishing year. The regulations implementing Am. 46 and Am. 77 govern reallocations both between and among gear types. Since the BSAI Pacific cod allocations have been in effect, NMFS has reallocated quota each year from the trawl sectors and jig sector (due to insufficient effort) to the pot and the hook-and-line sectors. In addition, having received a separate allocation in 2000 and subject to new seasonal apportionments due to Steller sea lion measures, a reallocation occurred from the pot sector to the hook-and-line catcher processor sector in 2002. Reallocations between gear types (e.g., trawl CP to trawl CV, or hook-and-line CP to hook-and-line CV) have occurred less frequently and in lower amounts. See **Table 2** at the end of this paper for an overview of the current hierarchy for reallocating quota between and among gear sectors.

On average during 2000 - 2002, jig and trawl allocations (combined) accounted for a total of 50,900 mt of reallocated quota to the fixed gear sectors, which represented about 16% of the total fixed gear Pacific cod allocation during that time period. Reallocations from the trawl sector accounted for 82% (41,500 mt) of this rollover amount, or about 13% of the total fixed gear BSAI Pacific cod allocation during that time period.

In the past six years (1999 - 2004), NMFS has reallocated an average of about 8,300 mt from the trawl catcher processor sector; 4,400 mt from the trawl catcher vessel sector; and 3,200 mt from the jig sector each year. These reallocations have represented 12% - 25% of the trawl catcher processor sector's annual allocation; 0% - 34% of the trawl catcher vessel sector's allocation; and 84% - 94% of the jig sector's allocation. Recall that under Am. 64, the hook-and-line catcher processors were allocated the majority of this reallocated quota (95%), with the remainder (5%) allocated to the pot sector. See **Table 1** below for more details.

Table 1. Reallocations (in mt and as a % of the sector's annual allocation) of BSAI Pacific cod from the trawl sectors and jig sector, 1999 - 2004

Year	Trawl CP		Trawl CV		Jig	
	mt	%	mt	%	mt	%
1999	7,000	18	2,000	5	2,800	85
2000	9,000	21	0	0	3,000	84
2001	10,000	24	14,000	34	3,000	86
2002	6,500	15	2,000	5	3,400	92
2003	11,500	25	1,671	4	3,600	94
2004*	5,700	12	7,000	15	3,545	89
Average	8,283		4,445		3,224	

Source: NMFS, Sustainable Fisheries, information bulletins.

\*Reallocations as of 10/14/2004.

**The primary change from the status quo with regard to reallocations under Amendment 77 was to apportion the jig sector's allocation (2% of the BSAI Pacific cod TAC) on a trimester basis (40% - 20% - 40%) and reallocate any unused jig quota to the <60' vessels using hook-and-line or pot gear near the end of each jig season.** This allows for the <60' pot and hook-and-line vessels, which first harvested their entire annual allocation in 2002 and 2003, to receive additional quota during the spring and summer months when it is most advantageous for the small boat fleet. It was also intended to benefit the small boat fleet by increasing its quota at a time when the fleet has just started fishing for Pacific cod, reducing the risk of having to close the fishery intermittently while it waits for a potential reallocation from the jig sector. Previously, both unused jig and trawl quota was reallocated 95% to the hook-and-line catcher processors and 5% to pot sectors. Am. 77 retained this distribution for reallocating unused *trawl* quota, with an additional split for the pot sectors (0.9% to pot catcher processors; and 4.1% to pot catcher vessels).

Note that it may be more effective to view the hierarchy of reallocations as setting an order of preference of recipients of reallocated quota, and allow the Regional Administrator to make the inseason determination based on several variables such as remaining effort in the sector, remaining PSC for the sector, etc. One of the problems for the fleets in general is intermittent starting and stopping, and a fleet that is not based in Alaska may not want to return after the season has closed to fish a small amount of reallocated quota. Thus, it may be worthwhile to retain some flexibility regarding reallocated quota and allow the Regional Administrator to make the determination, considering the order of preference as determined by the Council and established in regulations. Note also that the more complex and greater the number of gear components involved, the more unwieldy the reallocations are to implement in-season.

### **Seasons and Prohibited Species Caps**

All of the allocations to the BSAI Pacific cod gear sectors are seasonally apportioned, with the exception of the <60' catcher vessels using hook-and-line or pot gear. The seasonal apportionments are primarily a result of Steller sea lion protection measures established in 2001. While the hook-and-line catcher processor sector was subject to seasonal apportionments prior to 2001, they were modified under the Steller sea lion measures to the existing seasons. For the fixed gear sectors  $\geq 60'$  LOA, the first season is allocated 60% and the second season is allocated 40%. For trawl gear, the first season is allocated 60%, and the second and third seasons are allocated 20% each.<sup>5</sup> As discussed in the previous section, under Amendment 77, the jig seasons were modified from a 60% - 40% seasonal split to a trimester basis (40% - 20% - 40%), in order to provide for seasonal reallocations to the <60' fixed gear catcher vessel fleets. With the exception of the jig sector, any unused portion of a seasonal Pacific cod allocation is reapportioned to the next season. **Table 4** provides more detail on the seasonal apportionments to each gear sector.

Prohibited species caps are also in place for the trawl and non-trawl fisheries. The trawl sectors that are fishing BSAI Pacific cod are governed by a BSAI halibut bycatch allowance (1,434 in 2004), as well as herring and crab bycatch allowances. The trawl sectors as a whole are subject to the same cap. The hook-and-line sectors are subject to a halibut bycatch allowance (775 mt in 2004), which is apportioned among three seasons. There is typically no halibut bycatch apportioned to the second season (June 10 - August 15), meaning the hook-and-line fisheries essentially cannot target Pacific cod during that time. Similar to the trawl fisheries, the hook-and-line sectors (catcher processors and catcher vessels) share the same halibut bycatch allowance. The jig and pot sectors are exempt from a halibut bycatch cap. **Table 5** shows the 2004 prohibited species bycatch allowances for the BSAI trawl and non-trawl fisheries.

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<sup>5</sup>The trawl catcher vessels' allocation is further allocated 70% in the first season, 10% in the second season, and 20% in the third season. The trawl catcher processors' allocation is further allocated 50% in the first season, 30% in the second season, and 20% in the third season.

## **Cod endorsements for the fixed gear fleets - BSAI Am. 67**

Amendment 67 created eligibility requirements for vessels  $\geq 60'$  LOA fishing for BSAI Pacific cod in Federal waters using fixed gear. Under Amendment 67, vessels that are engaged in directed fishing for BSAI Pacific cod in the Federal fisheries using fixed gear must qualify for a Pacific cod endorsement in addition to their area endorsement and general LLP license. Amendment 67 establishes the participation and landings criteria for each fixed gear type and vessel class that comprise the requirements for a Pacific cod endorsement. It is intended to provide a mechanism that would limit entry into the fishery by substantial numbers of fixed gear vessels that have not participated, or have not participated at a level that could constitute significant dependence on the fishery, in the past.

Amendment 67 was effective January 1, 2003. While there are still some unresolved appeals regarding individual applications for a cod endorsement, the endorsement requirement has significantly reduced the number of fixed gear vessels  $\geq 60'$  LOA that are eligible to target BSAI Pacific cod, particularly pot vessels.<sup>6</sup>

## **Pacific cod allocations and eligibility criteria proposed under BSAI Am. 80**

Part of the impetus for this discussion paper is related to the Council's action on BSAI **Amendment 80** at the October 2004 Council meeting. Prior to the October meeting, the components and options for Amendment 80 included allocations of all groundfish species (excluding AFA pollock and fixed gear sablefish) to all sectors fishing in the BSAI. In October, the Council approved eliminating Pacific cod from this analysis, and focused the analysis on establishing sector allocations for flatfish species only for the non-AFA trawl catcher processor sector. The Council initiated this discussion paper as a starting point for a separate amendment package to address BSAI Pacific cod allocations. The intent is to develop a problem statement and options for analysis at this meeting.

The problem statement that was adopted for **Amendment 80** is as follows:

*The Council's primary concern is to maintain a healthy marine ecosystem to ensure the long-term conservation and abundance of the groundfish and crab resources. To this end, the Council is committed to reducing bycatch, minimizing waste, and improving utilization of fish resources to the extent practicable in order to provide the maximum benefit to present generations of fishermen, associated fishing industry sectors, communities, and the nation as a whole, while at the same time continuing to look for ways to further rationalize the fisheries. The Council also recognizes that the fishing industry is made up of participants who have a vested interest in the continued improvement in the long-term conservation of the groundfish resources, but at times could be burdened with additional costs associated with management programs that improve conservation or reduce bycatch.*

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<sup>6</sup>As of November 3, 2004, the RAM database indicated that the number of vessel licenses endorsed for fishing BSAI Pacific cod with fixed gear were as follows: 44 hook-and-line catcher processors (6 interim licenses), 10 hook-and-line catcher vessels (1 interim), 9 pot catcher processors (3 interim), and 67 pot catcher vessels (13 interim). The interim status of the license is related to an appeal of the cod endorsement in 5 cases. Note that there are several exemptions from the Pacific cod endorsement requirement: catcher vessels  $<60'$  LOA; any vessel exempt from the LLP program; and any harvest of Pacific cod for personal use bait. (RAM, 2004). As of November 3, 2004, the RAM database indicates that 117 catcher vessels  $<60'$  hold BSAI non-trawl LLP groundfish licenses, which includes 8 licenses with interim status.

*The problem facing the Council is two fold. First, is to develop programs to slow the race for fish, and reduce bycatch and its associated mortalities, while maintaining a healthy harvesting and processing industry, recognizing long term investments in the fisheries, and promoting safety, efficiency, and further rationalization in all sectors. Second, is to fashion a management program that would mitigate the cost, to some degree, for those participants burdened with additional costs associated with management programs that improve conservation and reduce bycatch, while also continuing to reduce discards of groundfish and crab to practicable and acceptable levels.*

Given the above, it may be appropriate to review the two types of actions that were previously going to be considered under Amendment 80 related to Pacific cod allocations. **Amendment 80** included options for 1) sector allocations of BSAI Pacific cod, and 2) eligibility to participate in a sector, as follows:

#### Sector allocations for BSAI Pacific cod

- Options existed to create new sector allocations of BSAI Pacific cod for all sectors,<sup>7</sup> based on catch history from various series of years from 1995 to 2003. This option would supercede all existing allocations under Am. 46 and Am. 77.
- An option also existed to retain the same apportionments of BSAI Pacific cod as in current regulation with an additional split of the current trawl catcher processor apportionment (23.%): Non-AFA trawl catcher processors (18.3%) and AFA trawl catcher processors (5.2%). This option would maintain the current trawl - fixed gear - jig split under Am. 46 and the fixed gear allocations under Am. 77.
- Reallocations of unused quota among sectors would not have been affected.

#### Eligibility to Participate in a Sector

- Options existed to create eligibility requirements to participate in a sector.<sup>8</sup> The criteria was based on participation (one landing to 1,000 mt) during various series' of years from 1995 to 2002. An option existed for separate eligibility requirements for the <60' fixed gear sector. An option also existed to exempt the <60' fixed gear sector and jig sector from eligibility requirements.
- An option also existed to use the eligibility requirements established under BSAI Am. 67 (Pacific cod endorsement) for vessels ≥60' using fixed gear (hook-and-line and pot). Fixed gear vessels have been operating under the cod endorsement requirement since 2003.

In sum, there were options in Am. 80 that would have potentially created new Pacific cod allocations to all sectors that currently receive a cod allocation, superceding the overall allocations set forth under Amendment 46 and most recently, for the fixed gear fleets under Am. 77. There were also options to retain the current allocations.

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<sup>7</sup>The sectors included in Amendment 80 prior to the action taken in October 2004 were: non-AFA trawl CPs, AFA trawl CPs, non-AFA trawl CVs, AFA trawl CVs, hook-and-line CPs, hook-and-line CVs, pot CPs, pot CVs, jig, and <60' hook-and-line and pot CVs.

<sup>8</sup>Note that it is uncertain whether the eligibility criteria to participate in a sector would have been applied on an individual species basis or for all groundfish species in aggregate.



Options also existed to create a further split of the trawl allocations between AFA and non-AFA vessels. Currently, the trawl catcher processor sector and the trawl catcher vessel sector split the overall trawl allocation (47%) equally, and each sector receives 23.5% of the BSAI Pacific cod TAC. Several options in Amendment 80 would have further apportioned the trawl catcher processor allocation between non-AFA and AFA trawl catcher processors, and apportioned the trawl catcher vessel allocation between non-AFA and AFA trawl catcher vessels. One specific option existed to establish the non-AFA and AFA trawl catcher processor allocations at 18.3% and 5.2%, respectively.

In addition, there were options included that would change the *qualifications necessary* to participate in the BSAI Pacific cod fishery by sector. The fixed gear sectors, with the exception of the <60' vessels, currently must meet criteria in regulation under Amendment 67 in order to qualify for a *gear-specific* BSAI Pacific cod endorsement. The cod endorsements are issued for vessels  $\geq 60'$  LOA that are operating as hook-and-line catcher processors, hook-and-line catcher vessels, pot catcher processors, and pot catcher vessels. The cod endorsements are not severable from a vessel's license, and have been in effect since January 2003. The trawl and jig sectors do not currently have a similar species endorsement requirement to fish BSAI Pacific cod; these sectors must only have the correct groundfish LLP, trawl/non-trawl, and area endorsement. Thus, the options under Amendment 80 could potentially have modified the current eligibility requirements for the fixed gear sectors to participate in the BSAI Pacific cod fishery, and established new eligibility requirements for the trawl and jig sectors.

### **Consideration of a problem statement and alternatives for analysis**

Depending upon the problem the Council wants to address, the Council could review the problem statements of prior allocation actions and determine whether they are applicable. Upon development of a problem statement, appropriate alternatives and options could be developed. These may be similar to those proposed in Amendment 80, or they may represent a new suite of options more specific to each of the BSAI Pacific cod fisheries. **As stated previously, a new amendment could include one or more of the following actions:**

- modification of the apportionment among the trawl, fixed, and jig gear sectors (in place since 1997);
- modification of the allocations among the fixed gear sectors that were implemented in 2004;
- creation of a further split of the trawl allocations between non-AFA trawl catcher processors and AFA trawl catcher processors, and/or non-AFA trawl catcher vessels and AFA trawl catcher vessels;<sup>9</sup>
- modification of current eligibility requirements for participating in the fixed gear BSAI Pacific cod sectors; and/or establishment of eligibility requirements to participate in the jig and trawl sectors.

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<sup>9</sup>If this action was proposed, the Council would need to clarify how to address catch history from the non-AFA surimi fillet trawl catcher processors that left the U.S. fisheries in 1998. This history could be assigned to either (AFA or non-AFA) CP sector or not used at all in determining sector allocations. Note that this is a question only if the years selected to determine the AFA and non-AFA CP sector allocations included years prior to 1999.

Note that harvest data for the fixed gear BSAI Pacific cod allocation amendments (Am. 64 and 77) have been based on catch history by a sector excluding any harvest that resulted from reallocated quota from another sector. Depending upon the problem being addressed, the Council may want to consider whether any new allocation basis would exclude or include reallocated quota.<sup>10</sup> The Council could decide to use total retained catch (including reallocated quota) to determine the BSAI Pacific cod allocations for the general gear sector split among trawl, fixed, and jig gear, and alternatively, use catch history excluding reallocated quota to determine the allocations among the fixed gear fleets. Staff would use this methodology unless directed otherwise.

### Subdividing the BSAI TAC

**In addition, the Council may want to consider how to adapt either the existing or new Pacific cod allocations, in the case of future changes in the BSAI Pacific cod TAC groupings.** Staff provided a discussion paper addressing this issue at both the June and October 2004 Council meetings, and no action has been taken as of yet. The paper reviews three potential methodologies to use should the BSAI Pacific cod TAC be split into separate TACs for the BS and AI subareas in the future. The intent is to provide direction to NMFS regarding how to establish allocations in the BS and AI management areas prior to separate TACs being issued in the annual specifications process. Absent this direction, there is concern that the time necessary to undergo an analysis and notice and comment rulemaking after the TAC is divided would cause significant interruption of the cod fisheries.

The discussion paper provided three different approaches to this issue, noting that other reasonable options could also be developed. The options presented were as follows:

1. Allocations based on historic harvest in each area. This option would calculate the allocations (BS and AI) based on the sector's historic harvest in each area during the qualification period. This approach would likely result in sectors being allocated different percentages of the BS and AI TACs.
2. Equal allocations in both areas. This option would use the allocation the sector received in the BSAI and apply it to the separate BS and AI subareas. Thus, this option would result in a sector being allocated the same percentage of TAC in the BS and AI, regardless of historic harvest patterns. For example, under the current allocations, the hook-and-line catcher processor sector receives 40.8% of the overall BSAI Pacific cod TAC. Under Option 2, that sector would receive 40.8% of the BS TAC and 40.8% of the AI TAC.
3. No allocations by area. This option would not assign a specific amount of catch to the BS or the AI. Instead, sectors would be allowed to harvest their allocations from either area, and NMFS would close a BS or AI subarea to directed fishing when the TAC for that area is reached. All sectors could then only continue participating in the directed Pacific cod fishery in the subarea that remains open.

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<sup>10</sup>Note also that the sector allocations in several recent BSAI Pacific cod fixed gear amendments have been based on a sector's catch history in the directed (target) commercial BSAI Pacific cod fishery. This approach was used in order to capture harvests of the 'true' Pacific cod fixed gear fleets, with the intent not to include incidentally caught Pacific cod from halibut vessels or vessels targeting non-Pacific cod species. Staff will follow the same approach as previous analyses for the fixed gear allocations, unless directed otherwise. The overall allocation among the trawl, fixed, and jig gear sectors may be based on the retained legal catch of cod by each sector, whether in the directed Pacific cod fishery or not. This approach may make sense for the trawl sectors, which harvest Pacific cod incidentally during several of their target flatfish fisheries.

The Council may want to include one or more of these methodologies in a new amendment to address Pacific cod allocations, should it determine that future TAC changes are likely. The issue of whether to split the combined BSAI ABC (and TAC) by subarea has been raised at the Plan Team, SSC, and Council meetings during the last several years. The November 2003 BSAI SAFE Report noted that the BSAI Pacific cod ABC is not allocated by subarea, unlike pollock or sablefish. The BSAI Pacific cod ABC is based on an Eastern Bering Sea assessment model and expanded by a multiplier (1.17) into a BSAI-wide amount. In December 2003, the SSC recommended that the ABC should be split between BS and AI areas, but noted that management implications may preclude the Council from adopting separate area TACs in the specifications process. The SSC requested that the assessment authors evaluate potential methods for splitting the ABC and their potential management implications, so that specific recommendations could be made to the Council in the future.

In October 2004, the BSAI Plan Team and SSC recommended an approach (the Kalman filter) to estimate current biomass between areas because it has a strong theoretical justification and appears to result in sensible weights, with the most recent survey estimates receiving the highest weight (October 2004 SSC minutes). The Kalman filter approach results in subarea allocations of 85% for the BS and 15% for the AI of the combined BSAI ABC. However, the SSC noted that such weighting may no longer be necessary if a new, spatially disaggregated model is adopted for Pacific cod in the future, or if Pacific cod in the AI is managed separately under Tier 5.

Given the management implications related to the numerous sector allocations in the BSAI, the Pacific cod TAC has continued to be established for the entire BSAI management area. This same BSAI management system is anticipated in the 2005 TAC specifications process. However, if the Council determines that it is likely that the TAC groupings will be modified in the foreseeable future, it would be beneficial to provide direction to NMFS regarding the formula for allocating new subarea TACs. This formula could be included in this new amendment package as a general policy approach or as options.

Absent direction from the Council, NMFS could likely only implement Option 2 (equal allocations in both areas) without a regulatory or plan amendment. The other two approaches would require new legal authority and a new plan amendment. Thus, if the Council foresees separate BS and AI TACs in the near future and desires an approach other than Option 2, it will need to specify such direction and initiate a plan amendment to address this issue.

Table 2: Overview of BSAI Pacific cod Allocation and Endorsement Amendments

Amendments	Am. 24	Am. 46	Am. 64	Am. 67	Am. 77
<b>Action</b>	Allocation of BSAI P.cod TAC among trawl gear, fixed gear, and jig gear.	Allocation of BSAI P. cod TAC among trawl gear, fixed gear, and jig gear. Allocation between trawl CP and CV.	Allocation of <b>fixed gear</b> BSAI P.cod TAC (51%) among pot gear, longline CPs, longline CVs, and <60' vessels.	LLP Pacific cod endorsement requirements for <b>fixed gear vessels</b> in the directed BSAI P.cod fishery.	Allocation of <b>fixed gear</b> P.cod TAC (51%) among pot CPs, pot CVs, longline CPs, longline CVs, and <60' vessels.
<b>Allocations</b>	Trawl: 54% Fixed: 44% Jig: 2%	Trawl: 47% Trawl CP (23.5%) Trawl CV (23.5%) Fixed: 51% Jig: 2%	Of fixed gear 51%: longline CPs 80.0% longline CVs 0.3% pot (CP and CV) 18.3% <60' pot/longline 1.4%	Endorsement rqmt (based on participation and landings criteria) for the following sectors: longline CP, longline CV, pot CP and pot CV. Not required for <60' fixed gear vessels.	Of fixed gear 51%: longline CPs 80.0% longline CVs 0.3% pot CPs 3.3% pot CVs 15.0% <60' pot/longline 1.4%
<b>Allocation basis</b>	approximate harvest during 1991 - 1993, with exception of increased jig allocation	industry negotiation: based closely on current harvest percentages of each sector under current halibut PSC limits	based closely on 1995 - 1998 harvests by each sector, with the additional allocation to the <60' vessels.	N/A	Longline CP, longline CV, and pot gear split based closely on 1995-1998 harvests. Pot CP and CV split based on 1998-2001 harvests. Additional allocation to <60' vessels.
<b>Other actions</b>	Authorized three seasons for fixed gear sector. Reallocations: 1) Authorized NMFS to reallocate unused P.cod from trawl to fixed gear and vice versa.  2) Reallocation of unused jig allocation to other gear sectors on or about Sept. 1.	Authorized three seasons for fixed gear sectors. Reallocations: 1) Authorized NMFS to reallocate unused P.cod within gear types and then between trawl and fixed gear. 2) Reallocation of unused jig allocation to fixed gear sectors specified for Sept. 15.	Authorized three seasons for fixed gear sectors. Reallocations: 1) Unused longline CV and <60' vessel allocation will be reallocated to longline CP sector.  2) Reallocation of unused jig allocation to fixed gear sectors specified for Sept. 15.  3) Unused trawl or jig allocations are reallocated: 95% to longline CPs and 5% to pot gear.	N/A	Authorized three seasons for fixed gear sectors. Reallocations: 1) Unused longline CV and <60' vessel allocation will be reallocated to longline CP sector.  2) Established 3 seasons for jig gear allocation. Any unused portion of a seasonal allocation for jig gear will be reallocated to <60' CVs.  3) Unused trawl allocations are reallocated: 95% to longline CPs; 0.9% to pot CPs; 4.1% to pot CVs.  4) Unused pot CP or CV quota will be reallocated to the other pot sector before it is reallocated to other fixed gear sectors.
<b>Date effective</b>	Feb. 28, 1994	Jan. 1, 1997	Sept. 1, 2000	Jan. 1, 2003	Jan. 1, 2004
<b>Sunset date</b>	Dec. 31, 1996	none	Dec. 31, 2003	none	none

Note: The fixed gear allocations established under Am. 64 and Am. 77 were determined excluding quota reallocated from other gear (trawl or jig) sectors. Including reallocated quota would have reduced the percentage of catch harvested in 1995 - 1999 by the pot sector by about 0.5 percentage points (487 mt using the 2003 TAC) and increased the percentage of catch harvested by the longline catcher processor sector by the same amount.

Table 3. Historic fishing patterns of vessels in the Bering Sea and Aleutian Islands Pacific cod fishery by sector, 1995-2003.

Year	BS Harvest (mt)	AI Harvest (mt)	Total Harvest (mt)	Percent of Total BS Cod Catch	Percent of Total AI Cod Catch
<b>AFA Trawl Catcher Processor</b>					
1995	11,293	3,621	14,913	4.9%	21.9%
1996	8,170	4,122	12,292	3.9%	13.0%
1997	5,780	4,333	10,113	2.5%	17.3%
1998	5,033	3,973	9,006	3.1%	11.4%
1999	2,836	3,957	6,793	1.9%	14.1%
2000	1,959	1,838	3,797	1.3%	4.6%
2001	2,161	2,192	4,353	1.5%	6.4%
2002	2,633	1,388	4,021	1.6%	4.5%
2003	2,583	4,726	7,309	1.5%	14.6%
Avg. 95-03	4,716	3,350	8,066	2.5%	12.0%
<b>Non-AFA Trawl Catcher Processor</b>					
1995	30,770	4,189	34,959	13.5%	25.3%
1996	19,537	9,446	28,983	9.3%	29.9%
1997	28,026	1,820	29,846	12.1%	7.3%
1998	20,281	5,699	25,980	12.6%	16.3%
1999	20,199	5,167	25,366	13.9%	18.4%
2000	21,488	7,302	28,790	14.2%	18.4%
2001	18,831	6,854	25,685	13.2%	20.0%
2002	22,066	11,141	33,207	13.3%	36.2%
2003	17,578	12,481	30,058	9.9%	38.5%
Avg. 95-03	22,086	7,122	29,208	12.4%	23.4%

Year	BS Harvest (mt)	AI Harvest (mt)	Total Harvest (mt)	Percent of Total BS Cod Catch	Percent of Total AI Cod Catch
<b>Pot Catcher Processors</b>					
1995	3,608	1,021	4,629	1.6%	6.2%
1996	4,104	3,463	7,567	2.0%	11.0%
1997	4,037	406	4,443	1.7%	1.6%
1998	2,970	348	3,318	1.8%	1.0%
1999	2,256	917	3,174	1.5%	3.3%
2000	1,605	1,041	2,645	1.1%	2.6%
2001	2,649	492	3,141	1.9%	1.4%
2002	2,842	6	2,849	1.7%	0.0%
2003	5,181	0	5,181	2.9%	0.0%
Avg. 95-03	3,250	855	4,105	1.8%	3.0%
<b>Hook-and-Line Catcher Processors</b>					
1995	96,126	4,014	100,140	42.1%	24.3%
1996	89,903	5,788	95,692	43.0%	18.3%
1997	117,323	7,284	124,608	50.4%	29.0%
1998	86,260	13,757	100,016	53.7%	39.4%
1999	80,944	7,977	88,921	55.5%	28.4%
2000	81,185	15,508	96,693	53.6%	39.1%
2001	89,809	17,682	107,491	63.0%	51.7%
2002	99,141	2,759	101,900	59.8%	9.0%
2003	103,875	879	104,754	58.4%	2.7%
Avg. 95-03	93,841	8,405	102,246	53.3%	26.9%
<b>Non-AFA Surimi and Fillet Catcher Processors (Trawl)</b>					
1995	20,431	2,733	23,164	8.9%	16.5%
1996	9,033	5,422	14,455	4.3%	17.2%
1997	4,423	8,590	13,014	1.9%	34.3%
1998	2,144	9,871	12,016	1.3%	28.3%
Avg. 95-03	9,008	6,654	15,662	4.1%	24.0%
<b>Hook-and-Line Catcher Vessels</b>					
1995	1,104	920	2,024	0.5%	5.6%
1996	179	31	210	0.1%	0.1%
1997	129	33	163	0.1%	0.1%
1998	45	40	85	0.0%	0.1%
1999	169	142	311	0.1%	0.5%
2000	353	675	1,028	0.2%	1.7%
2001	551	135	686	0.4%	0.4%
2002	311	106	417	0.2%	0.3%
2003	496	96	592	0.3%	0.3%
Avg. 95-03	371	242	613	0.2%	1.0%

Year	BS Harvest (mt)	AI Harvest (mt)	Total Harvest (mt)	Percent of Total BS Cod Catch	Percent of Total AI Cod Catch
<b>Pot Catcher Vessels</b>					
1995	15,666	3	15,669	6.9%	0.0%
1996	23,001	1,148	24,149	11.0%	3.6%
1997	17,028	3	17,031	7.3%	0.0%
1998	10,016	37	10,053	6.2%	0.1%
1999	10,426	2,588	13,013	7.2%	9.2%
2000	14,278	2,066	16,344	9.4%	5.2%
2001	13,823	86	13,908	9.7%	0.3%
2002	12,812	0	12,812	7.7%	0.0%
2003	20,410	2	20,412	11.5%	0.0%
Avg. 95-03	15,273	659	15,932	8.5%	2.0%
<b>Trawl Catcher Vessels</b>					
1995	48,899	31	48,930	21.4%	0.2%
1996	54,870	2,189	57,060	26.2%	6.9%
1997	55,647	2,606	58,253	23.9%	10.4%
1998	33,684	1,214	34,898	21.0%	3.5%
1999	28,869	7,313	36,182	19.8%	26.0%
2000	30,431	11,221	41,652	20.1%	28.3%
2001	14,664	6,746	21,410	10.3%	19.7%
2002	25,927	15,393	41,320	15.6%	50.0%
2003	27,476	14,272	41,749	15.5%	44.0%
Avg. 95-03	35,608	6,776	42,384	19.3%	21.0%
<b>Jig Catcher Vessels</b>					
1995	599	0	599	0.3%	0.0%
1996	267	0	267	0.1%	0.0%
1997	173	0	173	0.1%	0.0%
1998	192	0	192	0.1%	0.0%
1999	100	69	169	0.1%	0.2%
2000	38	33	71	0.0%	0.1%
2001	52	19	71	0.0%	0.1%
2002	164	0	164	0.1%	0.0%
2003	155	0	156	0.1%	0.0%
Avg. 95-03	193	13	207	0.1%	0.0%

Source: NMFS Blend Data 1995-2002; NMFS Catch Accounting System 2003.

Note: This data includes both directed catch and incidentally caught Pacific cod. For the purpose of determining sector allocations in the analysis, only retained catch in the commercial BSAI Pacific cod fishery will be used, unless directed otherwise.

Note: This table does not delineate between cod harvested by fixed gear catcher vessels <60' and ≥60' LOA. In 1995 – 1999, the <60' fixed gear sector represented about 0.3% of the total fixed gear Pacific cod harvest. Since receiving a direct allocation, the <60' fixed gear CVs harvested <1% of the total fixed gear Pacific cod in 2000 and 2001, and about 1.4% in 2002. Note that under BSAI Am. 77, <60' fixed gear CVs fish off the Pacific cod allocations to the ≥60' CVs of their respective gear types, when the ≥60' CV fisheries are open.

TABLE 4.- 2004 GEAR SHARES AND SEASONAL APPORTIONMENTS OF THE BSAI PACIFIC COD TAC  
 [Amounts are in metric tons]

Gear sector	Percent	Share of gear sector total	Subtotal percentages for gear sectors	Share of gear sector total	Seasonal apportionment <sup>1</sup>	
					Date	Amount
<u>Total hook-and-line and pot gear allocation of Pacific cod TAC</u>	51	101,662				
Incidental catch allowance				500		
Processor and Vessel sub-total		101,162				
Hook-and-line Catcher/Processors			80	80,930	Jan 1 - Jun 10 Jun 10 - Dec 31	48,558 32,372
Hook-and-line Catcher Vessels			0.3	303	Jan 1 - Jun 10 Jun 10 - Dec 31	182 121
Pot Catcher/Processors			3.3	3,338	Jan 1 - Jun 10 Sept 1 - Dec 31	2,003 1,335
Pot Catcher Vessels			15	15,174	Jan 1 - Jun 10 Sept 1 - Dec 31	9,105 6,070
Catcher Vessels < 60 feet LOA using hook-and-line or pot gear			1.4	1,416		
<u>Trawl gear total</u>	47	93,689				
Trawl Catcher Vessel			50	46,844	Jan 20 - Apr 1 Apr 1 - Jun 10 Jun 10 - Nov 1	32,791 4,684 9,369
Trawl Catcher/Processor			50	46,844	Jan 20 - Apr 1 Apr 1 - Jun 10 Jun 10 - Nov 1	23,422 14,053 9,369
<u>Jig</u>	2	3,987			Jan 1 - Apr 30 Apr 30 - Aug 31 Aug 31 - Dec 31	1,595 797 1,595
<b>Total</b>	<b>100</b>	<b>199,338</b>				

<sup>1</sup> For most non-trawl gear the first season is allocated 60 percent of the ITAC and the second season is allocated 40 percent of the ITAC. For jig gear, the first season and third seasons are each allocated 40 percent of the ITAC and the second season is allocated 20 percent of the ITAC. No seasonal harvest constraints are imposed for the Pacific cod fishery by catcher vessels less than 60 feet (18.3 m) LOA using hook-and-line or pot gear. For trawl gear, the first season is allocated 60 percent of the ITAC and the second and third seasons are each allocated 20 percent of the ITAC. The trawl catcher vessels' allocation is further allocated as 70 percent in the first season, 10 percent in the second season and 20 percent in the third season. The trawl catcher/processors' allocation is allocated 50 percent in the first season, 30 percent in the second season and 20 percent in the third season. Any unused portion of a seasonal Pacific cod allowance will be reapportioned to the next seasonal allowance.



TABLE 5. – 2004 PROHIBITED SPECIES BYCATCH ALLOWANCES FOR THE BSAI TRAWL AND NON-TRAWL FISHERIES

Trawl Fisheries	Prohibited species and zone					
	Halibut mortality (mt) BSAI	Herring (mt) BSAI	Red King Crab (animals) Zone 1 <sup>1</sup>	C. opilio (animals) COBLZ <sup>2</sup>	C. bairdi (animals)	
					Zone 1 <sup>1</sup>	Zone 2 <sup>1</sup>
Yellowfin sole	886	171	33,843	2,776,981	340,844	1,788,459
January 20 - April 1	262	.....	.....	.....	.....	.....
April 1 - May 21	195	.....	.....	.....	.....	.....
May 21 - July 4	49	.....	.....	.....	.....	.....
July 4 - December 31	380	.....	.....	.....	.....	.....
Rock sole/other flat/flathead sole <sup>4</sup>	779	25	121,413	969,130	365,320	596,154
January 20 - April 1	448	.....	.....	.....	.....	.....
April 1 - July 4	164	.....	.....	.....	.....	.....
July 4 - December 31	167	.....	.....	.....	.....	.....
Turbot/arrowtooth/sablefish <sup>5</sup>	.....	11	.....	40,238	.....	.....
Rockfish	.....	.....	.....	.....	.....	.....
July 4 - December 31	69	9	.....	40,237	.....	10,988
Pacific cod	1,434	25	26,563	124,736	183,112	324,176
Midwater trawl pollock	.....	1,456	.....	.....	.....	.....
Pollock/Atka mackerel/other <sup>6</sup>	232	179	406	72,428	17,224	27,473
Red King Crab Savings Subarea <sup>3</sup> (non-pelagic trawl)	.....	.....	42,495	.....	.....	.....
Total trawl PSC	3,400	1,876	182,225	4,023,750	906,500	2,747,250
Non-trawl Fisheries						
Pacific cod - Total	775					
January 1 - June 10	320					
June 10 - August 15	0					
August 15 - December 31	455					
Other non-trawl - Total	58					
May 1 - December 31	58					
Groundfish pot and jig	exempt					
Sablefish hook-and-line	exempt					
Total non-trawl PSC	833					
PSQ reserve <sup>7</sup>	342	.....	14,775	326,250	73,500	222,750
PSC Grand total	4,575	1,876	197,000	4,350,000	980,000	2,970,000

<sup>1</sup> Refer to § 679.2 for definitions of areas.

<sup>2</sup> *C. opilio* Bycatch Limitation Zone. Boundaries are defined at 50 CFR part 679, Figure 13.

<sup>3</sup> In December 2003, the Council proposed limiting red king crab for trawl fisheries within the Red King Crab Savings Subarea (RKCSS) to 35 percent of the total allocation to the rock sole, flathead sole, and other flatfish fishery category (see § 679.21(e)(3)(ii)(B)).

<sup>4</sup> "Other flatfish" for PSC monitoring includes all flatfish species, except for halibut (a prohibited species), greenland turbot, rock sole, yellowfin sole and arrowtooth flounder.

<sup>5</sup> Greenland turbot, arrowtooth flounder, and sablefish fishery category.

<sup>6</sup> Pollock other than pelagic trawl pollock, Atka mackerel, and "other species" fishery category.

<sup>7</sup> With the exception of herring, 7.5 percent of each PSC limit is allocated to the CDQ program as PSQ reserve. The PSQ reserve is not allocated by fishery, gear or season.